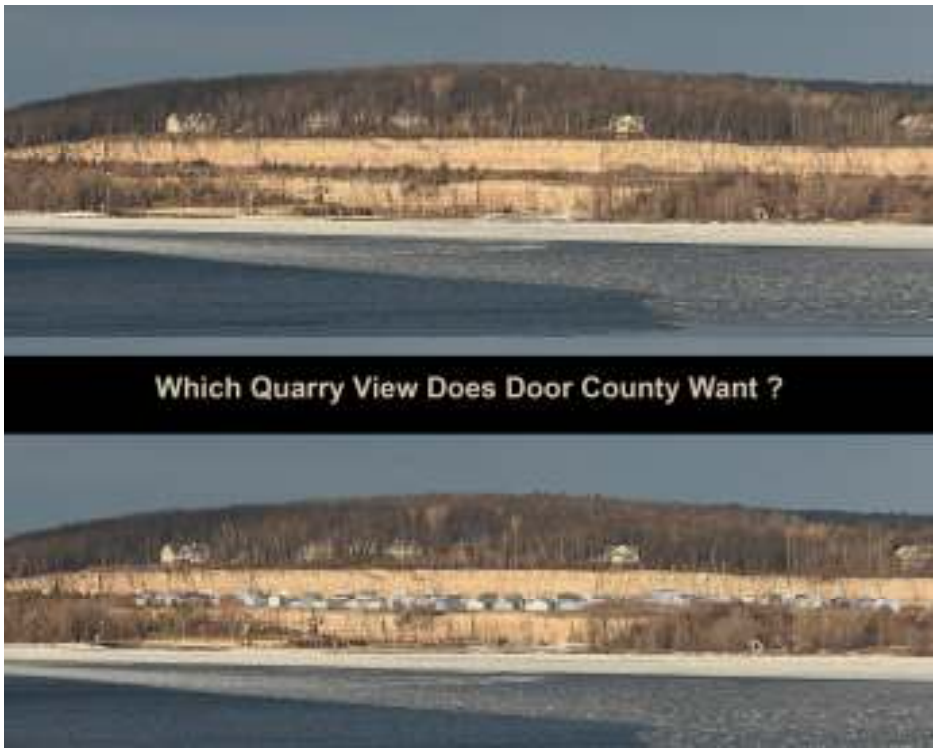
Challenge to Quarry Bluff LLC Conditional Use Permit Application

February 2020



Bay Shore
PROPERTY OWNERS ASSOCIATION

NO QUARRY
RV VILLAGE
Quarry Neighborhood Action Group

How to Use this Document

This document was created to challenge the Quarry Bluff LLC satisfaction of the 17 conditional use permit (CUP) criteria.

We are providing a large body of evidence that the application fails to satisfy the criteria for award of a conditional use permit, and should be denied.

We summarize which criteria fail, require more evidence, or if conditional acceptance is being considered, what conditions are necessary. This “scorecard” follows.

We are providing our summary for each of the 17 criteria, plus some that the Quarry Bluff application added. Some criteria have more than one summary as different aspects are combined in the application.

Evidence and deeper information and expert commentary are contained in attachments, which are provided after the summaries.

In two instances expert commentary is being provided on many or all the 17 criteria. For simplicity and clarity these attachments are being provided undivided by criterion number, and referred to by the following names with the page number internal to the document being referenced. The multi criterion commentary attachments are:

- Attachment EX-1: Lane Kendig, land use consultant and expert.
- Attachment EX-2: Dr. Roger Kuhns, geologist and renowned Niagara Escarpment researcher and author.

This challenge document is being provided in pdf format. If your pdf viewer supports bookmarks they are in the document to assist navigation.

Who are We?

We are members of the 20-year-old nonprofit Bay Shore Property Owners Association (BSPOA). Our association's purpose is to maintain the safe, natural and aesthetic character of the Bay Shore Drive area. Our mission is to provide a forum for discussion and action on issues that impact the residential character of the neighborhood and those that affect the character of Door County and/or the property rights of Bay Shore property owners. BSPOA has over 350 member households along the shore from Sturgeon Bay to Egg Harbor.

Some of us are also members of the Quarry Neighborhood Action Group, a group of 50 concerned citizens who live near the old Leathem Smith quarry site. Our purpose is to communicate about the proposed development to our friends, neighbors and the community at large, as well as to urge concerned individuals to make their voices heard on the many issues surrounding this project.

Why are We Doing This?

We are doing this because this project is a big deal. This is not just another CUP application. Proposing to build a massive, densely packed subdivision on a bedrock shelf of dolomite karst presents challenges and risks not encountered anywhere else in Door County. What is decided here matters. It will set precedent for every other development in the county and possibly across the state. It requires careful stewardship of this property, now in private hands, but still an integral part of the rich history of the county and a place that highlights its unique geology and natural beauty as no other location does.

Most of us live either surrounding the quarry or along Bay Shore Drive. For some, that makes us suspect in our intentions. As the developers have characterized us, we are simply "hypocrites" who "got ours" and now don't want anyone else to "get theirs." We do not accept that characterization. We have invested thousands of hours and dollars because we believe this project is not in the best interests of the citizens of Door County. We believe we are speaking for them and the legacy we leave behind.

Quarry Bluff CUP Application Scorecard

Evaluation Criterion	Fails	Substance & Burden of Proof NOT Provided	More info Required & New Review	Conditions Required
1) Property Value Impact	X	X	X	?
2) Similar Use.	X	X	N/A	N/A
3) Consistent with Plan	X	X	N/A	N/A
4) Sanitary Waste		X	X	X
5) Potable Water		X	X	X
6) Solid Waste				
7) Noise, odor, or dust.		X	X	X
8) Safe access.				X
9) Neighborhood Traffic	X	X	X	?
10) Emergency Services				
11) Surface Water		X	X	X
12) Visual Harmony	X	X		X
13) Lighting				
14) Natural Character	X	X	X	X
15) Financial Assurance		X	X	X
16) Site Specific Conditions		X		X
17) Public Health, Safety, Welfare	X	X	X	X

X Application fails or falls short

N/A Not Applicable - Applicant cannot satisfy

? Not enough known to provide more specifics

List of Videos (Version 2 2/18/20)

The format of this document does not lend itself to including videos.

There are 6 videos that may be of interest to the reader. We recommend viewing them through the links provided below.

A Drone Flight Over Leathem Smith Quarry

This 1 minute 24 second video gives a view of the subject property as it exists today, and points out several aspects that are referred to in this challenge document.

https://www.dropbox.com/s/s5d7m8vq617zuif/drone%20over%20quarry%20annotated.mp4?dl=0

Quarry Waterfalls, October 2019

This 42 second video documents waterfalls appearing on the quarry edge after rains in Fall 2019.

https://www.dropbox.com/s/cpcps5rx2wpxfns/Quarry%20Waterfall%202.mp4?dl=**0**

Hearthside Grove – Petoskey Approach – Northbound

This 1 minute 14 second video shows the vicinity of the Hearthside Grove-Petoskey Michigan. The applicants point to this as a comparable development to Quarry Bluff.

https://www.dropbox.com/s/n9sa4e6yhxdaeo0/HG%20Northbound.mp4?dl=0

Hearthside Grove – Petoskey Approach – Southbound

This 1 minute 5 second video drives past Hearthside Grove traveling southbound.

https://www.dropbox.com/s/rbs9mp2zuh17v1e/HG%20Southbound.mp4?dl=0

Aerial View of Hearthside Grove – Petoskey

An 12 second aerial view of the Hearthside Grove – Petoskey from a ZD metals promo video

https://www.dropbox.com/s/n09e36ykm00b29e/ZD%20products%20zoom.mp4?dl=0

Dr. Roger Kuhns Produced Video for his RPC Meeting Presentation

https://www.dropbox.com/s/xna6qbf6gp5eyo7/No%20Quarry%20CUP%20kuhns%20low-res.mp4?dl=0

How We Responded?

We understand that the developers, backed by the resources of their companies and private investors, have been working closely with the Land Use Department since April of 2018 to formulate, test, and amend their application. We learned of the possibility of an RV park in the former Leathem Smith Quarry purely by chance in April of 2019. We first saw their application on December 6, 2019. We then had 10 weeks, including the Christmas holidays, to finalize this Application Challenge by February 10, following the parameters set out in Wisconsin Act 67 and the Land Use Department protocols for Resource Planning Committee submissions.

Here is a list of the subject matter experts we consulted and/or who have contributed to our challenge report:

- **Jon P. Axelrod**, Attorney, DeWitt Law Firm, Madison, WI
- **Dan Collins**, Professional Engineer, Wisconsin
- **Stephen A. DiTullio**, Attorney, DeWitt Law Firm, Madison, WI
- **William Harder**, P.E., President, Board of Directors, Door County Maritime Museum
- **Lane Kendig**, Professional and Regional Planner & Founder, Kendig Keast Collaborative, Sturgeon Bay, WI
- **Allen Koenig,** Realtor, Sturgeon Bay, WI
- **Roger J. Kuhns**, Ph.D., Author, Scientist, Filmmaker, Performer
- **Dr. Donald MG, Mikulic,** Curator, Weis Earth Scientist & Retired Senior Paleontologist, University of Illinois, Champaign-Urbana
- **Charles Shabica,** Ph.D., P.G., President, Shabica & Associates, Inc.
- **John E. Stevenson,** MD, Sturgeon Bay, WI
- **Mark. R. Sewell**, Attorney, DeWitt Law Firm, Madison, WI
- **Dr. Ron Stieglitz,** Professor Emerti, Natural and Applied Sciences, UW-Green Bay
- **Jack W. Travis,** Ph.D., Certified Professional Geologist, Ellison Bay, WI
- **Vierbicher,** Planners/Engineers/Advisors, Milwaukee, WI

Why This Application Should Be Denied

Key Points:

- **Two Sevastopol government bodies, 8 citizen representatives voted unanimously to deny the Quarry Bluff CUP application.**
- **More than 3,000 people have signed an opposition position, 200 donated, 500 displayed yard signs opposing the development.**
- **Development violates Door County land use ordinances.**
- **Seven of the 17 evaluation criteria cannot be satisfied by the application.**
- **Application has failed the burden of proof of no impact on 13 of 17 criteria.**
- **Serious conditions are needed for 11 of 17 criteria.**

Recommendation:

Deny the CUP as not only failing to satisfy, but also cannot inherently satisfy, seven CUP acceptance criteria. The application is insufficient burden of proof on six other major criteria.

Why This Matters:

This is the wrong place in Door County for a development of this type.

Attachments:

- Attachment O-1: 17 Criteria Scorecard

The Application Itself

Key Points:

- **There are rockholes (depressions, fractures, sinkholes), but the applicant says "No" (p. 1, #8)**
- **As of February 5, 2020, neither the Door County Sanitary Department nor the Department of Safety and Professional Services (DSPS) online site have received a permit request for Sanitary Sewer, even though applicant says it has been "applied for". (p. 1, #6).**
- **There is Significant Removal of Vegetation and Major Alteration of Topography, but the applicant does not check either or provide a landscaping plan or a post-construction grading plan as requested. (P. 4, #14)**
- **Three lots are dual-zoned, yet the applicants have requested a MOD and Campground for all parcels despite their zoning. Parking lots, roads and holding tanks sit on zoned SF20 and SE lots.**
- **The 117 Typical Homesites with RV cement pads do not meet the Particular Use Requirements of the Door County Comprehensive Plan for <u>BOTH</u> MOD and Campground (lot size, impervious surfaces, etc.)**
- **Why are Shoreland zoning and Ordinary High Water Mark (OHWM) not considered? The intent of these designations is to protect public waters. Are Pond C and the Holding Tank in the OHWM?**

Recommendation:

Deny the CUP for failure to address many of the requirements in the Conditional Use Permit, Sevastopol Comprehensive Plan and/or Door County Comprehensive Plan.

Why This Matters:

Having an accurate and complete application preserves the integrity of the conditional use process and the letter and spirit of Door County plans and ordinances. The applicants have misrepresented in #6 whether they "applied for" a Sanitary permit. The applicants have misrepresented whether there are rockholes, resulting in the Door County Soil and Water request for a rockhole assessment. It is important because both issues are directly related to potential ground water contamination.

Regulations like the Shoreland Zoning Ordinance were created to protect public and private water in Door County. By not honoring the intent of the Shoreland Zoning requirements or OHWM regulations, the public welfare is at increased public health and safety risk.

Attachments:

- Attachment 0C-1: “No rockholes” declaration from the Quarry Bluff CUP application
- Attachment 0C-2: Comments on the application from property owners closest to the Quarry Bluff development
- Attachment 0C-3: Shoreland Zoning and OHWM Map
- Attachment 0C-4: Shoreline Zoning information
- Attachment 0C-5: Coulthurst Letter requesting rockhole assessment
- Attachment EX-2: Roger Kuhn’s review of the entire Quarry Bluff application pp 35-45

Important Legal Considerations

Key Points:

- **2017 Wisconsin Act 67 and the Door County Comprehensive Zoning Ordinance's provisions regarding conditional use permits ("CUP") places the burden of proof on the *applicant* to satisfy the 17 CUP criteria by presenting substantial evidence.**
- **County zoning ordinance provisions for multiple occupancy developments ("MODs") do not permit the creation of single-family residences. (*See* Zoning Ord. Sec. 13.02, definition of MOD). This 50-acre condominium proposes 115 single family homes.**
- **County zoning ordinances limit a "campground" to no more than two (2) dwelling units. (Zoning Ord. Sec. 4.07(2)(k)). Here, 115 are proposed.**
- **Driveways, parking lots, and holding tanks that solely serve the proposed MOD and campground may not be permitted on the SE or SF 20 zoning districts, which do not allow MODs or campgrounds as permitted or conditional uses.**
- **Project fails to comply with Zoning Ordinance Section 3.10(4), regarding landscape buffer tree requirements.**

Recommendation:

- Deny the CUP Application as failing to comply with Door County ordinances. Such action would be consistent with the unanimous votes to recommend denial of the CUP Application by the Town of Sevastopol Plan Commission and Town Board of Supervisors.

Why This Matters:

The letter and spirit of the Door County review process, ordinances, and plans must be preserved, or a dangerous precedent is being set for future development in the County.

Attachments:

- Attachment L-1: Door County conditional use permit information sheet
- Attachment L-2: Legal brief concerning land use for the Quarry Bluff application
- Attachment L-3: Vierbicher planning expert zoning issues
- Attachment L-4: Quarry area zoning map

Criterion #1-A: Nearby Property Values Will Be Reduced

Key Points:

- **"Comparable" properties in applicants' research are not comparable. They are located on secluded and/or heavily wooded lots far from residential neighborhoods. One is surrounded by land zoned "light industrial". None have adjacent homes whose values are based on unobstructed views and tranquil natural settings.**
- **Developments involving sinkhole generation and high renter concentration can lower nearby property values 14 to 30%.**
- **Realtors know that introducing new elements into neighborhoods that detract from features that created a property's desirability in the first place will lead to a <u>decrease</u> in that property's value.**
- **Bonified and real time examples show an immediate and negative effect on adjacent property values, which will create obstacles for future sales and valuation of the properties.**
- **Applicants tout economic impact to local businesses without factoring in offsetting negative impact of cancelled construction projects, lower assessed property values and taxes, and infrastructure costs that will result from the project.**

Recommendations:

Fail the application as inherently unable to meet this criterion.

Why This Matters:
In the marketing and sale of real estate, the desirability of a land parcel is a key determining factor in establishing its value. Neighbors are already seeing the impact of a proposed 10-year buildout of a huge, extremely dense RV development that is completely out of character and harmony with the surrounding neighborhoods. Citing other RV developments that are not comparable and dismissing neighbors' concerns as "hypocritical" NIMBY reactions does not alter the fact that property values will be negatively impacted.

Attachments:

- Attachment 1-A-1: Dahlke letter on cancelled buyer interest
- Attachment 1-A-2: Klinger letter on cancelled construction start
- Attachment 1-A-3: Tielens Construction letter on impact on employees and subcontractors
- Attachment 1-A-4: Hunt letter on property value
- Attachment 1-A-5: Roger Kuhns review of application material
- Attachment 1-A-6: Summary findings of neighborhood research
- Attachment 1-A-7: Harding Letter
- Attachment 1-A-8: Al Koenig testimony to Sevastopol Town Planning
- Attachment 1-A-9: Pan home value drags

- Attachment 1-A-10 Woodruff home value impacts
- Attachment EX1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 2

Criterion #1-B: Why Hearthside Grove is Not a Good Comparable

Key Points:

- **Applicant documents and presentations have used Hearthside Grove, Petoskey, MI as a "good comparable" to the Quarry Bluff Development.**
- **Hearthside Grove is in and surrounded by light industrial zone with no residences in the vicinity, not visible from US Highway 31, so it is not comparable for real estate impact.**
- **Hearthside Grove is a useful financial model and for homeowner rules and regulations, but not for envisioning the Quarry Bluff Development.**

Recommendations:

Disregard applicant criterion 1 real estate impact studies as not being comparable to the proposed Quarry Bluff Development.

Disregard applicant's use of Hearthside Grove as a preview of Quarry Bluff and its fit into the neighborhood.

Why This Matters:

Use of the Hearthside Grove development in Petoskey, Michigan, gives a distorted "through-a-soda-straw" preview of the Quarry Bluff Development. Decisions should be made based on the descriptions of the application alone. Hearthside Grove history and layout, while useful, present a very limited preview into a possible Quarry Bluff future. The lots there were cut out of existing forested land and many houses are 192 ft^2 compared to the proposed 1,220 to 2,400 ft^2 for Quarry Bluff.

Attachments:

- Attachment 1-B-1: Photos and videos of Hearthside Grove Petoskey neighborhood.
- Attachment 1-B-2: Hearthside Grove Google earth view
- Attachment 1-B-3: Hearthside Grove property and sales statistics spreadsheet
- Attachment 1-B-4: Hearthside Grove 192 ft^2 home for sale brochure (one of many available)

Criterion #2: Whether the Proposed Use is Similar to Other Uses in the Area

Key Points:

- **Quarry Bluff development is a dense RV park and associated structures in a residential neighborhood.**
- **All properties within a ½ mile are zoned and developed as residential.**
- **Quarry Bluff bedroom density considering all 50 acres is 4 times that of the homes in the ¼ mile vicinity.**
- **All established measures of density, volume ratio, and character show that the proposed development is not similar to the area.**
- **11,300 ft^2 proposed lots (only 6,300 ft^2 for the house on a MOD lot) are equated to surrounding 20,000 ft^2 to 1.5-acre zoning.**
- **All elevated density developments within 2 ½ miles, like Bay Shore Inn and Westwood Shores, are non-conforming "grandfathered" uses.**
- **The Quarry Bluff development would be the 5th largest shoreline village in Door County**

Recommendation:

Deny the CUP as an intensification of nearby non-conforming use and not similar to other uses in the area. This is an inherent and uncorrectable failure.

Why This Matters:

The proposed development, with its density, transient population, and elastic stretch of zoning and land use word and spirit does not belong where it is proposed. This severely disrupts the fundamental enjoyment, value, and reason for owning property in the area around the quarry.

Attachments:

- Attachment 2-1: Artist rendering of the view from the shoreline of the quarry with and without the Quarry Bluff development
- Attachment 2-2: Summary document of land use and density in the Quarry Bluff area
- Attachment 2-3: One-page summary of land use and density

- Attachment 2-4: Spreadsheet of land use and density for Quarry Bluff lots and surrounding area properties
- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 4
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application p 69

Criterion #3: Conformance to the Comprehensive Plan

Key Points:

- **Applicants completely ignore the 2019 Sevastopol 20-Year Comprehensive Plan – a multi-year revision that reflects substantial input from the community.**
- **Plan highlights Leathem Smith quarry property as a "land legacy location" identified by Wisconsin DNR as being ecologically significant.**
- **Plan cites Leathem Smith quarry property where Niagara Escarpment dolomite cliffs are revealed as "remarkable geological features." The Kuhns description substantiates this citation.**
- **Plan clearly designates Leathem Smith quarry property as "Parks & Recreation" in its 20-Year Land Use Plan.**
- **Plan urges ecotourism of threatened natural environments, such as Niagara Escarpment, as a way to conserve these treasures.**

Recommendation:

Deny the CUP as not in conformance with the current Sevastopol plan.

Why This Matters:

Sevastopol citizens worked for two years to update the 2008 Sevastopol Comprehensive Town Plan, including undertaking a survey in 2018. This update reflects the current vision of the town and its proper development objectives. The plan, which designates the quarry property as Parks & Recreation, makes recommendations that best represent the community's character and are in the best interests of the town and its citizens.

Attachments:

- Attachment 3-1: Analysis by Carol J. Konetzke, Retired Attorney
- Attachment 3-2: Sevastopol Comprehensive Town Plan pages reference in attachment 3-1
- Attachment 3-3: 2008 Sevastopol Comprehensive Plan (superseded) extract of portions relevant to the Leathem Smith quarry area
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application pp 45-69

Criterion #4 –Approved Sanitary Waste Disposal

Key Points:

- **This project requires an approved plan by the Department of Safety and Professional Services (DSPS).**
- **Spill protection and risks associated with the holding tank have not been addressed.**

Recommendation:

Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

A sanitary system supporting a small sub-division requires a complex design and adherence to sanitary permits and guidelines for the health, safety and general welfare of both the residents and guests of the development and the surrounding community.

Unanswered Questions:

- **What is the potential for sanitary waste problems during heavy rain/drainage**?
  Finished grade of the 40,000 gal holding tank is at an elevation of 597 ft and the flood level of Green Bay is 584 ft (projected to increase in 2020). During a heavy rain where significant drainage occurs due to the karst substructure, what is the potential of the tank to float or other sanitary waste problems?
- **What risks are if the frequency of pumping or problems with availability of tank trucks result in a full and pressurized holding tank**?
- **Has dolomite karst structure been taken into account in waste system design?** Total length of buried waste disposal piping is approximately a mile long for the main lateral, not including site connections to 117 individual properties with dual connections. Based on the project being constructed on the dolomite karst structure, many factors should be evaluated prior to construction:
  - Overall drainage slope of 1/8" per foot is code. Has that been considered with the flat quarry surface?
  - With the major and minor pipe sizes and the project planned for 8-month occupancy, will proper winterization be evaluated?
  - This system is in extended contact with the karst topography. Proper protection to buried lines needs to be defined and inspected.

Requirements:

- Obtain an approved Department of Safety and Professional Services (DSPS) sanitary permit meeting per WI Admin Code 383 prior to construction.
- Conduct a risk evaluation of the total sanitary plan.
- The Wisconsin Administrative Code DSPS 383 mandates the following requirements:
    - Submittal of project plans
    - Operation and Maintenance Manual
    - Contingency plan
    - Service contract with the hauler
- Plumber submit a state sanitary permit application.
- DSPS issue a State of WI sanitary permit.

Attachment

- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 32-34

Criterion #5: Provision for Potable Water

Key Points:

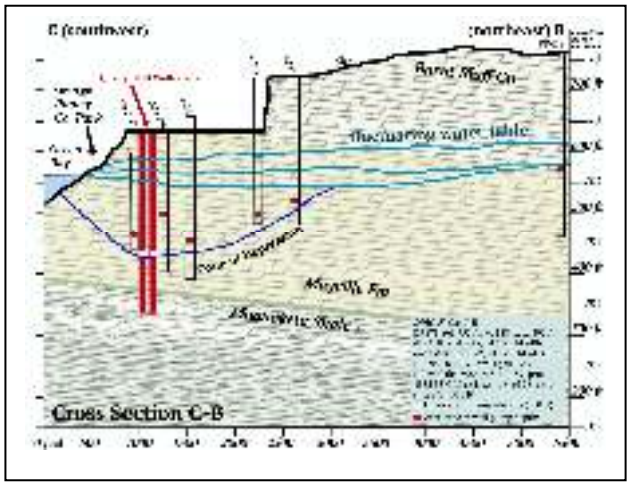
- **Karst topography of Door County and the impact for groundwater contamination for miles around the site is completed ignored. Excessive well use could cause sinkholes and land subsidence, and is non-recoverable.**
- **Developers misrepresented the site as solely a "campground" in their filings to the DNR Well Water Permitting Section, failing to mention the potential for 115 single family homes.**
- **Depth of the proposed high capacity wells poises potential capacity restrictions to neighboring residential wells.**
- **Water table should not be used to replenish pond levels.**

Recommendations:

Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

There is probably no bigger environmental/personal safety issue to Door County than protecting the groundwater. The entire county water supply is provided by wells. The water table in the Egg Harbor to Sturgeon Bay segment is tied closely together. This project does not just require "another well"; this would be a very dense community of 117 home/RV sites that could provide a significant risk to water quality and availability for miles around.



Background:

The application states that "based on discussions with the DNR regarding ownership and the type of use of the property, it will be a non-community water system." In the process of investigation with the DNR, it was discovered the developers represented the site as a "campground". After the DNR Public Water Engineering Section received specifics from Land Use Administrator Jeff Kussow and Bay Shore Property Owners Association, it changed the

permit structure to read a "community water system". **Examples such as this raise significant concern as to the veracity and completeness of information shared by the developers**.

The design is for two high capacity wells to a depth of 300 ft. Wells above the quarry are in the 280 ft depth range. This is roughly 70 ft higher than the project wells. That would seem to have the high capacity wells roughly 90 ft deeper than surrounding wells. **That raises a concern if the water table is lowered neighboring residential wells will be restricted.**

Unanswered Questions:

- **What will be the impact on surrounding well flows with any rate of drawdown?** High capacity wells running in tandem have unique draw down features.
- **What is the projected peak water usage at buildout?** The application speaks to an area mapped to have 200-400 gpm drawdown capacity in the aquifer as stated by Euclid Drilling. The project lists both 150 and 170 gpm peak water usage at build-out. Either use would appear very close to an assumed capacity without adjoining wells. The adjoining wells closest to the northern project well are a few hundred feet away.
- **What technical information supports the claim that there is plenty of water available?** A letter from Euclid Drilling indicates plenty of water available without any supporting documentation. This information needs to be validated before approval of the application.
- **How will water levels in wet ponds be replenished to meet minimum depths?** A DNR stormwater permit requirement is to maintain a minimum of 3-ft depth in the wet ponds. The fire protection plan is based on dry hydrants also requiring a minimum water depth. The total capacity of the wet ponds is roughly 2,805,000 gals. If the high capacity wells are used to replenish the ponds and 500,000 gals are required, pumping at 150 gpm, it would take 55 hours to replace the water at peak capacity projected in the application.
- **Should the water table ever be used to replenish a pond?**
- **What about water table disruptions?** The water level of Green Bay is listed at 582.2 feet in the application. The groundwater level is 584 ft, or 10ft below quarry surface. With plans to blast for wet pond A as deep as 20 ft, this raises concerns of the water table disruption.

Requirements:

- Require a sample well for groundwater monitoring.
- Require an in-depth evaluation of the capacity of the water table and potential impact to area wells.
- Confirm the available water table capacity.

Attachments:

- Attachment 5-1: by Ken Bradbury, Wisconsin Geological and Natural History Survey, UW-Madison, Extension on karst and groundwater contamination issues.
- Attachment 5-2: DNR Well type requirement email
- Attachment 5-3: Well cone diagram

- Attachment 5-4: Dr. Stieglitz geologists review
- Attachment 5-5: Dr. Roger Kuhns Well Diagram
- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 8
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 35-45

Item #6 Solid Waste Disposal

Key Points:

- **The applicant proposes an unnamed local trash hauling service**

Recommendation:

- None

Criterion # 7A: Will the Proposed Uses Create Noise & Odor?

Key Points – Noise:

- **Applicants identify extensive landscaping, "white noise" and the reflection of noise by the quarry face as mitigation strategies.**
- **They rely on landscaping without including any plan for trees that will survive in such meager soil conditions, their expected growth rates, or ability to muffle noise.**
- **Residents know from experience, and the quarry amphitheater topology causes noise to amplify. Suggesting the walls will mitigate noise by reflecting it back into the development defies logic.**
- **Noise from the extended construction period could reach pain inducing levels with massive amounts of blasting and continual rock crushing.**
- **How much noise will 232 units (117 RV's, 115 houses) air conditioners make?**
- **What about the noise of idling trucks for twice daily sewage pumping?**

Key Points – Odor:

- **When pumping septic tanks, what happens to the air in the holding tank as sewage flows into the 40,000-gallon tank?**
- **With +/- 360 tankers per year hauling sewage 5 miles to the Sturgeon Bay Treatment Plant, what daily smells and diesel exhaust will be impacting those along the route?**

Recommendation:

Deny the CUP as failing to satisfy criterion 7 on noise and odor.

Why This Matters:

The level of noise and odor is not controllable within and adjacent to the proposed development. The noise generated by the outdoor living of residents and guests of 115 homes and 117 RVs is exponentially higher than anything experienced in the surrounding neighborhoods.

Attachment:

- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 10

- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 79-88

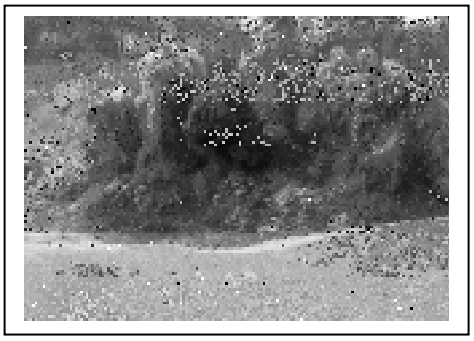
Criterion # 7B: Will Blasting Cause Damage?

Key Points

- **Blasting can easily cause rockfalls on the old quarry face, possibly leading to personal injury and property damage.**
- **Open fractures on the quarry floor can be opened further by blasting, creating easy communication between surface and groundwater resources.**
- **Applicants' plan showing distances between blasting locations and existing homes is incorrect due to failure to properly read the scale of the drawing. <u>This means that the entire blasting plan, charge sizes, etc. is incorrect</u>.**
- **Applicants contend that all homes overlooking the quarry utilized blasting to excavate basements. This was the case in only 2 of 16.**
- **Several of the adjacent homeowners own quarry walls and parts of the quarry floor. What if cliff collapse from blasting causes loss of their land? Applicants do not have any system in place to protect homeowners overlooking the quarry from property damage or loss.**

Recommendation:

Deny the application pending information and design details.



Why This Matters:

Protection of the karst topography of the quarry should be foremost. Once damage is done it cannot be undone. Likewise, the property of homeowners adjacent to the quarry must be protected.

Requirements:

- Submit a corrected drawing showing distances between blasting locations and existing homes with a corrected blasting plan.
- Demonstrate that blasting will not affect the old quarry face or floor.
- Show that there is a system in place to protect homeowners should cliff collapse caused by blasting result in loss of property.

Attachments:

- Attachment 7B-1: Rock Face Photo
- Attachment 7B-2: Balanced Rock Photo
- Attachment 7B-3: Rock Ledge Photo
- Attachment 7B-4: Blasting and Dust

Criterion #7C: Will Dangerous Dust Be Generated?

Key Points – Dust

- **Blasting and rock crushing will generate large amounts of dust. The Wisconsin DNR requires that a Dust Control Plan be submitted. The applicants have not done this.**
- **The applicants say that once the major construction is completed, there will be minimal dust generated. They admit, however, that only 20 units are expected to be sold in the first 24 months, meaning that construction dust for the remaining 95 units will continue to be generated for the next 8 years.**
- **The fine silica dust generated by the blasting and crushing is a known carcinogen and internal and external irritant. How will the applicants prevent this from being a health hazard for the residents of the 80+ properties with ¼ mile of the site?**

Recommendations:

Deny the application due to failure to satisfy criterion 7 dust.

Why This Matters:

Health and safety of residents needs to be foremost. Large particle dust will be an annoyance. The fine silica dust, easily carried out of the construction site by wind, is a definite health hazard.

Unanswered Questions:

- Does the applicant have a Dust Control Plan?

Requirements:

- Applicant submit a DNR approved Dust Control Plan that covers the full 10-year construction schedule.

Attachment:

- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 89-91

Criterion #8: Provision of Safe Vehicular and Pedestrian Access

Key Points:

- **Application focus is on sight lines for safe vehicle stopping and resort drive incline, while only four sentences are devoted to pedestrian foot traffic.**
- **Concern for safety of pedestrians walking up and down the hill to and from resort.**
- **Concern for safety of pedestrians crossing Bay Shore Drive to access waterfront of George E. Pinney Park.**

Recommendations:

Deny the application pending information and design details. Require full review in accordance with the Wisconsin Act 67 and Door County conditional use permit approval process.

Why This Matters:

Safety of residents and guests needs to be foremost. Most Class A RV owners will be of mature age. Walking down sloped blacktop driveways to exit and to return to the resort on foot is unsafe.

Marina, fishing tournaments, tourist and routine traffic in the George E. Pinney Park area from spring through fall is already heavy. With the addition of construction and pump out trucks, along with RV resort vehicles and motorhomes, traffic will intensify significantly. Estimates show that a large percentage of the resort residents and guests will cross Bay Shore Drive to access the water side and their safety needs to be ensured.

Requirements:

- Require steps the length of driveway for exiting and entering property and a three-foot paved roadway shoulder between resort entrance on Bay Shore Heights Road and Bay Shore Drive.
- Require stop signs on Bay Shore Drive for north and south bound traffic along with a painted, pedestrian walkway for entry and exit to the waterside of George E. Pinney Park.

Criteria #9: Neighborhood Traffic Flow and Congestion

Key Points:

- **Applicants' maximum flow calculation asks the wrong question and measures the wrong thing.**
- **Bay Shore Drive is not a typical rural collector road. It is a scenic road (identified as such in the Door County Comprehensive Plan) that serves as a local residential street and for other recreational uses.**
- **Total trips per hour increase dramatically when traffic generated by 115 single family homes <u>and</u> 117 RVs is considered, which applicants did not do.**
- **Critical safety risks such as heavy use by pedestrians and bicyclists, varying shoulder widths, distance to obstructions such as trees and mailboxes, parked vehicles, and the width/length of Class A RVs trailing vehicles are not considered or even discussed.**

Recommendation:

Deny the application pending information and design details. Require full review in accordance with the Wisconsin Act 67 and Door County conditional use permit approval process.

Why This Matters:

The developers' traffic study, while done by a reputable firm, asks the wrong questions. The issue is not maximum traffic volume because Bay Shore Drive is not a normal highway or local residential street. The problem is safety concerns from the increase in large vehicular traffic on this unique road. It is a winding, heavily wooded residential street that is a tourist attraction in and of itself. The wide range of mixed usage – cars, trucks, sightseeing, parked work vehicles, bicycles, and pedestrians – poises special challenges. Adding Class A RVs, semi-trailer septic haulers, and large heavy construction trucks will add to the risks to pedestrians and bicycle riders and increase the potential for vehicular accidents.

Unanswered Questions:

- What about traffic congestion and flow, as well as safety concerns, before the Class A RVs reach Highway B, particularly in the City of Sturgeon Bay downtown (the suggested GPS path from the south to the quarry)?

Requirements:

- Recalculate findings of Robert E. Lee study to reflect traffic generated by 115 single family homes AND 117 RVs for a more accurate picture.
- Specify alternative routes in marketing and promotion with warnings to stay off Bay Shore Drive.

- Expand scope of Robert E. Lee traffic study to include evaluation of potential safety risks to pedestrians and bicyclists on Bay Shore Drive.

Attachments:

- Attachment 9-1: Letter from Dan Collins, professional engineer, on flaws in traffic study
- Attachment 9-2: Testimony of Lane Kendig, professional city and regional planner, that refutes applicants' traffic study and alternative maximum capacity metrics
- Attachment 9-3: Actual measurements of the shoulder of Bay Shore Drive
- Attachment 9-4: Shoulder Width photos
- Attachment 9-5: Photo of Class A RV sharing the roadway with pedestrians
- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 12

Item #10: Emergency Services

We have concerns about several aspects of the emergency services description but are not taking a challenge position on this topic.

The concerns are:

1. The design of a single, steep narrow road access from Bay Shore Drive to the campsites and houses.
2. The seemingly tight turn radii of roads within the site for long firetrucks.
3. The limited exits for evacuation of the site.
4. The lack of any details of the fire chief's review of the project plan.

Criterion #11A: Provision for Surface Water Drainage

Key Points:

- **A DNR Stormwater permit has not been approved.**
- **Since the September 2019 permit submittal, the DNR has realized that this is a very sensitive karst topography, requiring an additional geological evaluation. This and other agencies now see that this may be the largest and most complex stormwater application in Door County history, certainly on such an exposed site.**
- **A recent project in the town of Gibraltar, where required permitting was not attained before construction ("It's common to do this," say applicants), resulted in a DNR citation for proceeding on a project without final permitting.**

Recommendation:

Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

There will be significant disruption to the quarry surface and below grade karst topography of the quarry. (Approximately 5 acres of surface (10%) and significantly more below grade). An approved stormwater permit would address a total site drainage plan of surface water. It is not clear what requirements need to be in place for karst interruption below grade for the approximate 5,000-ft utility trench, 117+ utility cuts to individual RV/ home sites. This needs to be understood before permits are approved or left to other government bodies.

The application projects development over 7-10 years as sales progress. The DNR and DCSW are not in favor of a "checkerboard" stormwater plan. How this site drains and looks should be a concern to all, including potential buyers.

The project proposes a poly liner for the wet ponds. While that might meet other construction conditions, the abrasive surface of karst topography, which may lead to failure, is a concern as the development ages and is managed by a Homeowners' Association.

The project proposes covering all unsurfaced acreage with up to 18" of mixed fill, high in aggregate, silica dust and exposed karst. How much erosion will take place as the site continues development and what impact to the graded drainage plan?

Requirements:

- Complete geology and hydrology survey.
- Complete and receive DNR permit.

Attachments:

- Attachment 11-A-1: Town of Gibraltar Cited for Failing to Acquire Proper Permit for Parking Lot Project", *Peninsula Pulse*, 3.16.18
- Attachment 11-A-2: Site map areas to be disrupted via blasting and rock cutting.
- Attachment 11-A-3: Charles Shabica, PhD letter to RPC on the need for further exploration of karst topography
- Attachment 11-A-4: Article "Why Karst Features Make Door County So Vulnerable"
- Attachment 11-A-5: Jack Travis testimony
- Attachment 11-A-6: Karst Features Photos
- Attachment 11-A-7: Coulthurst Letter
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 95-98

Criterion #11B: Is a New Mine Being Created?

Key Points:

- **The Quarry Bluff plan is to excavate ponds and utility trenches by blasting, then use quarry material to put down 18" of aggregate and topsoil. This involves an estimated 10% of the quarry surface.**
- **This amount of blasting, trenching, and grinding creates a new non-metallic mine.**
- **A new mine opening requires permits:**
    - **Door County Comprehensive Plan 4.05 Particular Use Ordinance regarding Non-metallic Mining**
    - **Wisconsin Statute 295**
    - **Federal requirements – "No person may operate a mine, pit or quarry unless the person complies with Title 30"**
    - **Wisconsin mine safety guidelines of the Department of Safety and Professional Services SPS 308**.

Recommendations:
Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why is This Important
Mining regulations are there to protect the environment and the people and property on or near new the mining operations. These procedures, permits, and management plans are needed for the massive undertaking proposed at Quarry Bluff.

Attachments:

- Attachment 11B-1 Narrative on mine reopening concerns
- Attachment 11B-2: Quarry RV Village and Door County Soil and Water Meeting Notes 12/18/2019
- Attachment 11B-3: Wisconsin Non-metallic Mining Advisory Committee email from Bruce Moore
- Attachment 11B-4: Door County Soil and Water Procedure Policy
- Attachment 11B-5: Wisconsin Statute 295 Non-metallic mine subchapter
- Attachment 11B-6: Wisconsin mine safety guidelines
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 71-78

Criteria #12: Visual Harmony in Scale and Design

Key Points:

- **Visual harmony must be viewed in context. The applicants only focus on individual structures. The entire development is of a scale and density completely out of harmony with the surrounding neighborhoods.**
- **Class A motorcoaches are a discordant visual element in and of themselves, due to their massive volume; diverse, multicolored and shiny exteriors; and sheer number of vehicles crammed on 1/5-acre lots that also may contain houses up to 2,400 sq. ft. and three stories high.**
- **Applicants propose a highly dense, auto-urban design in a residential neighborhood that is almost exclusively suburban and estate in character.**

Recommendation:

Deny the application for failing to show that the development contributes to visual harmony with the surrounding neighborhoods.

Why This Matters:

The vistas along Bay Shore Drive are a Door County treasure, attracting tourists and residents alike. The Town of Sevastopol 20-Year Comprehensive Plan Update singles out the former Leathem Smith quarry site for its unique geological features as part of the Niagara Escarpment. Once the site is converted into a multiple occupancy development/campground of the scale and density proposed in this application, it is gone forever.

Attachments:

- Attachment 12-1: Photo by John Harmon with views of present quarry vista contrasted with vista after development.
- Attachment 12-2: Before and After Quarry Shelf
- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 17
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, p 99

Criterion #13: Lighting

We are not taking a challenge position on this topic assuming the Door County guidelines are followed.

Criterion #14: Natural Character Change

Key Points

- **The quarry surface will have a major change in natural characteristics as all current trees and shrubs will be removed. No landscaping plan is submitted.**
- **Native wildlife including eagles and bats use the escarpment habitat.**
- **The applicants indicate BOTH 8 acres and "68% of the development will be landscaped". Since it is unclear whether quantity and quality of soil is accurate, any soil trucked to the sight must comply with Chapter 720.**
- **There are multiple types of soil contaminants, not just bacteria.**
- **Irrigation plans for new vegetation have not been provided.**
- **Campgrounds require tree barriers around the perimeter and trees require depth of soil, nutrients and moisture to grow. This is almost impossible on the bedrock limestone with limited soil.**
- **The applicant's soil report identifies problems with most of the soil components.**
- **The applicants plan to blast, crush and mine "all aggregate materials" onsite, dig four ponds and create a utility trench 10' square and almost a mile long with laterals rock-sawed to 117 RV sites and houses, and add aggregate. Of course this is a major change to the topography.**

Recommendation:

Deny the application because the natural character and topography would be changed dramatically and landscape plans have not been submitted as required.Require full review in accordance with the Wisconsin Act 67 and Door County conditional use permit approval process.

Why This Matters: The eco-system and natural habitat of the fragile karst surface of the Escarpment ledge will be forever changed and negatively impacted by the proposed project. Clearly, the natural vegetation and topography would be changed.

Requirements:

Require all incoming soil is tested for contaminants and soil provider is certified under Chapter 720.

Attachments:

- Attachment 14 -1 Paul Killian letter, GEI
- Attachment EX-2: Roger Kuhn's review of the entire Quarry Bluff application, pp 102-106

Criterion #15A: Tax Assessment and Impact

Key Points:

- **Applicants' basis for $40 million estimated taxation value is invalid.**
- **Comparable developments suggest a 10-year tax value of $12 million.**
- **In-depth comparison to existing neighboring properties estimates a $20 million value after 10 years.**
- **Tax impact will be relatively minor and take years to occur.**
- **Development will decrease other assessments and increase town and county costs.**

Recommendations:

Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

One of the few positives for this development noted in the application is the boost to the Town of Sevastopol tax base. The notion that this benefit and economic activity offsets the physical, environmental, and social costs that the project will cause is not supported by the evidence.

Unanswered Questions:

- What is the basis for the estimated tax assessment, including expected tax collections for each campground, MOD lot, and the common area?
- What is the expected schedule for development and realization of the tax assessment and tax impact for the 10-year project horizon?
- What are the expected increased costs to the town and county for police, fire, municipal services and to the county for road maintenance and upgrades?

Attachments:

- Attachment 15-A-1: Evaluation of applicants' tax estimation method and explanation of two other methods of tax assessment
- Attachment 15-A-2-: One sheet summary of results
- Attachment 15-A-3: Spreadsheet of comparable property (Hearthside Grove-Petoskey, MI) tax value
- Attachment 15-A-4: Tax and property data on neighbors within ¼ mile of Quarry Bluff
- Attachment 15-A-5: Spreadsheet of tax valuation based on neighboring properties

Criterion #15B: Financial Assurance Needs

Key Points:

- **Application's breakeven sales forecast seems to be based on Hearthside Grove-Petoskey history, but developers are trying to sell houses 10 times the size.**
- **Proforma estimates have many scenarios leading to development financial stress or failure.**
- **The Class A motorhome market declined 25% in 2019, accelerating a 4-year 14% market decrease. Projections are for a continued shrinking market.**
- **A failed development would lead to a defaced property with a nonworkable "checkerboard" pattern of developed lots.**
- **Homeowners' Associations must be prepared to maintain and pay for utilities upgrades or the continuing cost reverts to the town and county if they will not or cannot perform.**
- **Another Door County Homeowners' Association (Heritage Lakes) has encountered well bacterial contamination after 7 years that they had to address, so it can happen.**

Recommendations:

If accepted, require:

- Finance details including investor capitalization and project proforma calculations
- A $5 million site restoration fund or surety bond to make the site suitable for other uses and protect public health, welfare, and construction damage.
- Homeowners agreement is part of the lot deed so standards are upheld in a failing situation.

Why This Matters:

This development is in a highly visible location on the Door County shoreline. The project has a large up-front cost in blasting, grinding, and site changes. If sales projections do not meet goals, or development costs rise, the site would be left in a defaced condition that would need remediation conversion to another Sevastopol Town planned use.

Unanswered Questions:

- What are the sales and construction plan and assumptions?
- Who are the financial backers and what are their assumptions for success of this development?

Attachments:

- Attachment 15B-1: Narrative explanation of financial assurance concerns
- Attachment 15B-2: One sheet summary of concerns
- Attachment 15B-3: Example of Hearthside Grove-Petoskey 192 square foot dwelling, one of many on the cited website
- Attachment 15B-4: News article of the failure of a similar development
- Attachment 15B-5: Analysis and data of 4-year Class A Motorhome sales and industry association projection
- Attachment 15B-6: Heritage Lake Homeowners association minutes describing the well contamination problem and their response.
- Attachment 15B-7: Generational market trends from Jane Hillstrom

Criterion #16: Site Specific Conditions

Key Points:

- **The Quarry Bluff application makes many promises that hinge on the campground and MOD deed and Homeowners' Association agreement.**
- **Only part of the eventual legal document provisions is provided.**
- **Many other provisions are needed to be crystal clear and binding to ensure area safety and welfare and to protect the town and county from project failure or Homeowners' Association controlled changes.**
- **Many provisions from the model Hearthside Grove Petoskey Deed and Homeowner Bylaws must be in the Quarry Bluff agreements.**
- **These agreements need to be monitored and any changes approved by the town and county.**

Recommendation:

Deny the application as insufficient specification and proof of an adequate and binding Homeowners' Association Bylaws. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

Without clearly articulated, comprehensive and binding Quarry Bluff house and RV owner conditions, the promises about many of the CUP criteria cannot be assured.

Requirement:

The inclusion of the attached reasonable and applicable terms from the Hearthside Grove-Petoskey Deed and Homeowners' Association bylaws. (Some irrelevant provisions were stricken and minimum rental stay changed in the attachment). See attachment to this criterion.

Attachments:

- Attachment 16-1: Deed and Homeowners' Association Bylaw items from Hearthside Grove – Petoskey that must be in full deed and bylaw document submittal

Criterion #17: Public Health, Public Safety and the General Welfare

Key Points:

- **Only apparent benefit of this development is tax and economic impact, which is overstated or could be achieved in other more socially acceptable ways.**
- **Site and construction plans may result in health (silicosis) risks for the eighty residential properties within one-quarter mile of the quarry.**
- **Pollutants (asphalt sealants, gasoline, RV fluid leaks, septic spills, herbicides, pesticides, etc.) may threaten the fragile groundwater and flow to the Bay waters.**
- **Specific training, history, proof of insurance in the application for a project of this scope and density is needed.**
- **Unstable walls, pinnacles and overhangs are at risk of falling or collapsing from vibrations and shaking caused by blasting, resulting in property loss, damage to homes and/or personal injury.**

Recommendations:

Deny the application as insufficient specification and proof of adequacy, ordinance adherence, and basic information. Require full review under the Wisconsin Act 67 and Door County conditional use permit review process.

Why This Matters:

In reviewing the application, the developers do not discuss at any point the public health and safety the residential properties within a quarter mile of the quarry or any other residents or visitors who will be impacted, except to reference OSHA and MSHA. OSHA and MSHA are primarily related to occupational safety (workers). How will Door County ensure that residents and visitors are protected if this subdivision is built?

The ground water of hundreds of property owners within miles of the quarry may be at risk. The bay of Green Bay could be impacted as well, along with fish and other wildlife. As evidenced in the neighborhood community of Kewaunee, it is too late when your tap water runs brown or polluted to consider the effects of contaminants.

At increased risk for respiratory illness are children and citizens with current illnesses like asthma and COPD. Silicosis from respirable crystalline silica is debilitating and often deadly, per Dr. John Stevenson's letter.

Developers leave and the residents stay. These residents and the government agencies that stand behind them as the last resort need information and financial assurances that the public health, safety, and welfare impact will be considered, monitored and protected.

Requirements:

- Door County is in a "nonattainment" area of a National Ambient Air Quality Standard (NAAQS). Deny the CUP because the applicant does not propose an Air Quality Management Plan.
- OSHA and MSHA apply to occupational safety (workers). Eighty residential properties exist within ¼ mile of the quarry. Hundreds live downstream in the path of potential ground water contamination to wells. Require a surety bond to provide financial guarantees of coverage for personal health risks due to ground water contamination and respirable crystalline silica.
- Require MSHA Training for all operators and sub-contractors at the Quarry Bluff property prior to any approval of the CUP, including Paschke Drilling and Crushing as referenced in blasting.
- Require all contractors and sub-contractors to submit proof of insurance prior to approval of the CUP.
- Require sub-contractors for mining of aggregate to obtain a General Permit with DNR Air Quality Management Coordinator Erin Hansel prior to approving the CUP.
- Require a surety bond to provide financial guarantee of coverage for property loss and home damages related to blasting. Consider that damage to property could occur a reasonable time beyond the actual blasting due to the instability of the karst surface.

Attachments:

- Attachment 17-1: Ground Water Susceptibility Map
- Attachment 17-2: Capitol Aggregate Safety Data Sheet – Crushed Limestone
- Attachment 17-3: Erin Hansel DNR letter
- Attachment 17-4: Dr. John Stevenson letter
- Attachment 17-5: Photos of Karst Instability
- Attachment 17-6: Advocate – Pat and Mike Healy Blasting Damage
- Attachment 17-7: Applicant Permit History in Gibraltar
- Attachment 17-8: Wisconsin section 308 management plan
- Attachment 17-9: Unstable Walls
- Attachment EX-1: Lane Kendig review of the entire Quarry Bluff application, attachment internal page 26

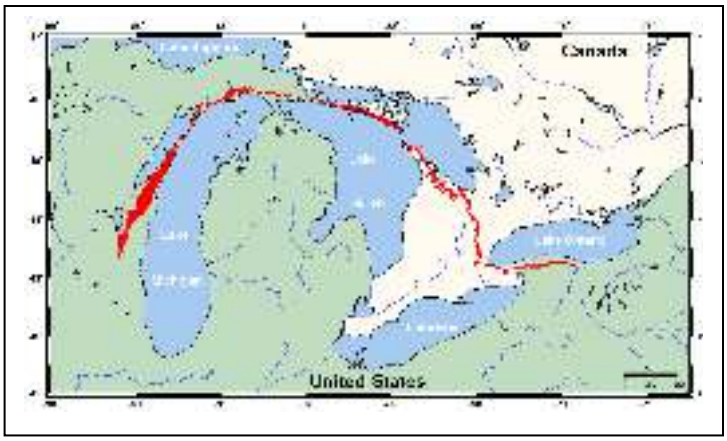
Criterion #18A: Historic Importance of the Quarry

Key Points:

- **The Niagara Escarpment, a geological wonder that attracts scientists and laymen alike, is uniquely revealed in both the cliffs and bedrock of the former Leathem Smith Quarry.**
- **Town of Sevastopol's 20-Year Comprehensive Plan calls for ecotourism as a way to protect threatened, natural environments, such as the Niagara Escarpment.**
- **Leathem Smith Quarry played an integral role in the history of Door County with particularly strong roots in the area's rich maritime history and that of coastal communities around the Great Lakes.**

Recommendation:

- Encourage landowner to explore all available options for the development of her land, particularly uses that better align with community interests and values.



Why This Matters:
The application says that property buyers and visitors will be provided information and displays to highlight the property historic nature. This is hardly enough to preserve and make available the history, as is envisioned in the Town of Sevastopol Comprehensive Plan.

Attachments:

- Attachment 18A-1: Brief history of the Leathem Smith Quarry

Criterion #18B: Economic Impact

Key Points:

- **The associated economic benefits claimed by the applicants can be achieved in more likely and publicly acceptable ways.**
- **Many opportunities exist to preserve the quarry, provide educational value, protect the environment and generate economic return, as illustrated by the attached proposal by the Door County Maritime Museum.**
- **Other places have made the Niagara Escarpment the centerpiece of very successful programs that both attract tourists and provide economic return.**

Recommendation:
Encourage landowner to explore all available options for the development of her land, particularly uses that better align with community interests and values.

Why This Matters:
Once the quarry becomes a subdivision/campground, it is gone forever. The CUP will follow the property, even if this proposed development fails or devolves into something quite different from the upscale project the developers envision. Even if safeguards are written into the HOA for this property when it transitions from the developers, it will be extremely difficult to police and enforce protections for the unique geological features of this property. Opportunities for educational outreach, ecotourism, wildlife habitats and outdoor recreation will be lost. The quarry site could become an iconic tourism attraction in Door County – but not as a backdrop to a densely packed, gated subdivision/RV park.

Attachments:

- Attachment 18B-1: Door County Maritime Museum Concepts for Niagara Escarpment Park
- Attachment 18B-2: William Harder's Leathem Smith Potential Use List
- Attachment 18B-3: UNESCO Niagara Escarpment Biosphere Reserve

Bay Shore Property Owners Association and
Quarry Neighborhood Action Group

Position Statement

Quarry Bluff Development

Recommended Vote: Deny

Reason for the Recommendation

There are too many missing or required analyses of environmental, safety and financial impact studies needed to evaluate and ensure the safety of the residents in the vicinity of the quarry and the Town of Sevastopol. In addition, there are issues relative to Door County safety, environmental protection, and benefit to public welfare. A list of studies required by the applicant is attached. We recommend that any further consideration of the proposed development be through a new CUP application to ensure Door County officials have sufficient information to understand and review the application properly.

Is the Application Consistent with the Town Plan?

No. The Town of Sevastopol Comprehensive Plan, adopted November 25, 2019, clearly marks the quarry property as being designated for parks and recreation. The Plan cites the historic and educational aspects of the Niagara Escarpment, most clearly revealed at the quarry.

Other

The questions raised concerning the Door County Comprehensive Zoning Ordinance and the Land Division Ordinance regarding this project have not been fully addressed. Approval of this CUP application and the permitted land use interpretation, without full consideration and the required, complete information sets a bad precedent for future development in Door County.

This position statement was unanimously adopted by the leadership of the Bay Shore Property Owners Association and Quarry Neighborhood Action Group

For Bay Shore Property Owners Association

Jim Mitsche Jim Schultz Dan Mathein Bryan Troutman Betty Parsons

For the Quarry Neighborhood Action Group

Brenda Lange Jeff Lange Sherry Mutchler Keith Mutchler Mary Moster

January 14, 2020

Quarry Bluff Recommended Conditions

Introduction

- Require corrections to the application concerning rockhole existence, density calculations, and conformance with land use ordinances for new review under the Door County and Act 67 process.

1 Real Estate Property Value

No conditions can remedy the inherent problem with the Quarry Bluff development

2 Similarity with Other Area Uses

No conditions can remedy the inherent problem with the Quarry Bluff development

3. Plan Compliance

No conditions can remedy the inherent problem with the Quarry Bluff development

4 Septic

- Obtain an approved DSPS sanitary permit meeting per WI Admin Code 383 prior to construction.
- Conduct a risk evaluation of the total sanitary plan.
- The Wisconsin Administrative Code DSPS (Department of Safety and Professional Services) 383 mandates the following requirements:
    - Submittal of project plans
    - Operation and Maintenance Manual
    - Contingency plan
    - Service contract with the hauler
- Plumber submit a state sanitary permit application
- DSPS would issue a State of WI sanitary permit

5. Potable Water Supply

- Require a sample well for groundwater monitoring.
- Require an in-depth evaluation of the capacity of the water table and potential impact to area wells.
- Confirm the available water table capacity.

6. Solid Waste Disposal

None

7. Noise, Odor, Dust, Blasting

- Applicant submit a DNR approved Dust Control Plan that covers the full 10-yearconstruction schedule.
- Submit a corrected drawing showing distances between blasting locations and existing homes with a corrected blasting plan.
- Demonstrate that blasting will not affect the old quarry face or floor.
- Show that there is a system in place to protect homeowners should cliff collapse caused by blasting result in loss of property.

8 Safe Traffic & Pedestrians

- Require steps the length of driveway for exiting and entering property and a three-foot paved roadway shoulder between resort entrance on Bay Shore Heights Road and Bay Shore Drive.
- Require stop signs on Bay Shore Drive for north and south bound traffic along with a painted, pedestrian walkway for entry and exit to the waterside of George E. Pinney Park.

9 Traffic Flow

- Recalculate findings of Robert E. Lee study to reflect traffic generated by 115 single family homes AND 117 RVs for more accurate picture.
- Specify alternative routes in marketing and promotion with warnings to stay off Bay Shore Drive.
- Expand scope of Robert E. Lee traffic study to include evaluation of potential safety risks to pedestrians and bicyclists on Bay Shore Drive.

10. Emergency Services

None

11. Surface Water Drainage

- Complete geology and hydrology survey
- Complete and receive DNR permit
- A new mine opening requires permits
    - Door County Comprehensive Plan 4.05 Particular Use Ordinance regarding Non-metallic Mining;
    - Wisconsin Statute 295;
    - Federal Requirements. “No person may operate a mine, pit or quarry unless the person complies with Title 30”;

- Wisconsin mine safety guidelines of the Department of Safety and Professional Services SPS 308.

12. Visual Harmony

No conditions can remedy the inherent problem with the Quarry Bluff development

13. Exterior Lighting

None

14. Exterior Lighting

- Require all incoming soil is tested for contaminants and soil provider is certified under Chapter 720.

15 Financial Assurance

- Finance details including investor capitalization and project proforma calculations
- What is the basis for the estimated tax assessment, including expected tax collections for each campground, MOD lot, and the common area?
- What is the expected schedule for development and realization of the tax assessment and tax impact for the 10-year project horizon?
- What are the expected increased costs to the town and county for police, fire, municipal services and to the county for road maintenance and upgrades?
- A $5 million site restoration fund or surety bond to make the site suitable for other uses and protect public health, welfare, and construction damage.
- Homeowners agreement is part of the lot deed so standards are upheld in a failing situation.

16. Site Specific Conditions

The inclusion of the attached reasonable and applicable terms from the Hearthside Grove-Petoskey Deed and Homeowners' Association bylaws. (Some irrelevant provisions were stricken and minimum rental stay changed in the attachment). See attachment to this criterion.

17. Public Health, Safety, and Welfare

- Door County is in a "nonattainment" area of a National Ambient Air Quality Standard (NAAQS). Propose an Air Quality Management Plan.
- Require a surety bond to provide financial guarantees of coverage for personal health risks due to ground water contamination and respirable crystalline silica;
- Require MSHA Training for all operators and sub-contractors at the Quarry Bluff property prior to any approval of the CUP, including Paschke Drilling and Crushing as referenced in Blasting;
- Require all contractors and sub-contractors to submit proof of insurance

- Require sub-contractors for mining of aggregate to obtain a General Permit with DNR Air Quality Management Coordinator Erin Hansel prior to approving the CUP;
- Require a surety bond to provide financial guarantee of coverage for property loss and home damages related to blasting. Consider that damage to property could occur a reasonable time beyond the actual blasting due to the instability of the karst surface.

18A Historic Resource

None

18B Economic Impact

none

More studies may be required as the results of these studies indicate, and as more details of the proposed development emerge.

Attachment EX-1 Lane Kendig

Lane Kendig
4089 Snake Island Road, Sturgeon Bay, WI

Professional City and Regional Planner
Founder, Kendig Keast Collaborative

My name is Lane Kendig. I reside at 4089 Snake Island Road, Sturgeon Bay, WI. I am a professional city and regional planner, the founder of Kendig Keast Collaborative from which I am retired. As a planner for 50 years, I have conducted a review of over 1,000 conditional use permits. My resume is attached. I have reviewed all the 17 criteria for approval of a CUP in the Door County Zoning Ordinance and the application for the Quarry Bluff LLC development. What follows is my complete review of all 17 criteria. The Door County Zoning 11.04 (5) requires that the developer address all 17 areas and present substantial evidence to the extent measurable that the criteria are met. Two of the criteria, 15 and 16, are open ended lists, so they are difficult to measure. I have added to each.

In my review, I found that the developer often failed to provide substantive or measurable information. In many too many cases, all that was submitted was materials gathered on the internet that increased the size of the application but was not directly related to the site, the neighborhood, or required action. In other cases, the material submitted was wrong. Thus, I strongly urge that the application be denied based on my review of the site and area. The following sections address each of the 17 criteria in detail.

Quarry Bluff LLC – CUP requirements

1) **Whether the proposed project will adversely affect property values in the area.**

The developers say that it will not. The application includes two documents taken from the internet to support their statement. Another study has recently been made available. The reports are either not relevant or the conclusions wrong. The development will have an adverse impact and fails the criterion.

The developer portrays the quarry as having a negative effect on property value. In fact, the opposite is true. Homes have located around the quarry, because it is inactive, and functions as borrowed open space providing great views. Developers routinely get increased prices for lots having borrowed open space. For existing residents, the proposed development will degrade the view and adversely affect property values.

The application contains two papers taken off the web, rather than written for this site. Neither of the reports is relevant since neither contains information about this site. The first is an incomplete "list of several things that can lower property values" which conveniently fails to mention adjoining zoning, adjoining land use, views, or storage of RV vehicles on a property. The second lengthy study looks at changes in value at distances of .5, .75. and 1 mile from non-residential uses. The question here is: Does it affect the value of neighboring properties? This report does not address the impact on neighbors and is thus irrelevant.

The recent report from the Forensic Appraisal Group looked at four, but contained material on only three, motor home parks. They asked real estate people around if the development had an adverse impact. None of the four were overlooked by expensive homes. A review of the four on google earth revealed the following. The Hearthside Grove development has no nearby estate or suburban subdivision and nearest neighbors are industrial, commercial, and vacant land. The nearest residential is separated by 300 feet of mature woodland and invisible. The Mountain Falls has a commercial neighbor on the highway but is otherwise surrounded by woodland with no residential subdivisions within 500 feet. The Bella Terra project is surrounded by farm and woodland. There is a subdivision 600 feet away separated by woodland. Thus, these three do not address the impact on immediate neighbors. The Desert Shores park for which no graphics were provided is in a built-up auto-urban environment. A mobile home park is to the east, and single-family subdivisions of 7,000 to 8,000 square foot lots are on the other three sides. On two sides a major road is the boundary between the development. **The analysis does not look at comparable site conditions and thus of no value.**

In my opinion as a professional planner with 50 years' experience, the proposed development will adversely affect values in the area, particularly those homes along Whitefish Bay Road, Harder Hill Road, and Bay Shore Heights Drive, where homes adjoin the site. The difference in elevation makes the proposed development on the site more visible since existing homes look down over the entire property. What was before dramatic borrowed space will be filled with 117 lots, 115 of which may have large motor homes and a house. **The development is dissimilar in use, density, and character and will appear chaotic. This degrades the borrowed space and will cause a reduction in property value. The difference in elevation rules out the developer providing a landscaped buffer to protect the existing property owners value.**

The blasting and stone crushing anticipated on the site will also have a detrimental impact on property values during construction, and blasting raises the potential to cause physical damage. Lowering water levels in wells is a potential problem that would cost existing landowners to pay for deepening their wells. The landscaping proposed is problematic and the lack of soils and moisture is likely to stunt growth preventing the development from having a canopy cover that hide the lots and provide inadequate ground water to create a landscape similar the neighborhood which will not create value.

2) Whether the proposed use is similar to other uses in the area.

The developers indicate that they are similar because there are similar uses within a couple of miles or similar densities in the area. The uses are dissimilar, and their metrics are wrong. The criterion is not met.

All the parcels surrounding the site are residential except the County boat ramp. Within ½ mile, all developed properties are residential or rural. Thus, the proposed use is inconsistent with the existing uses in the area.

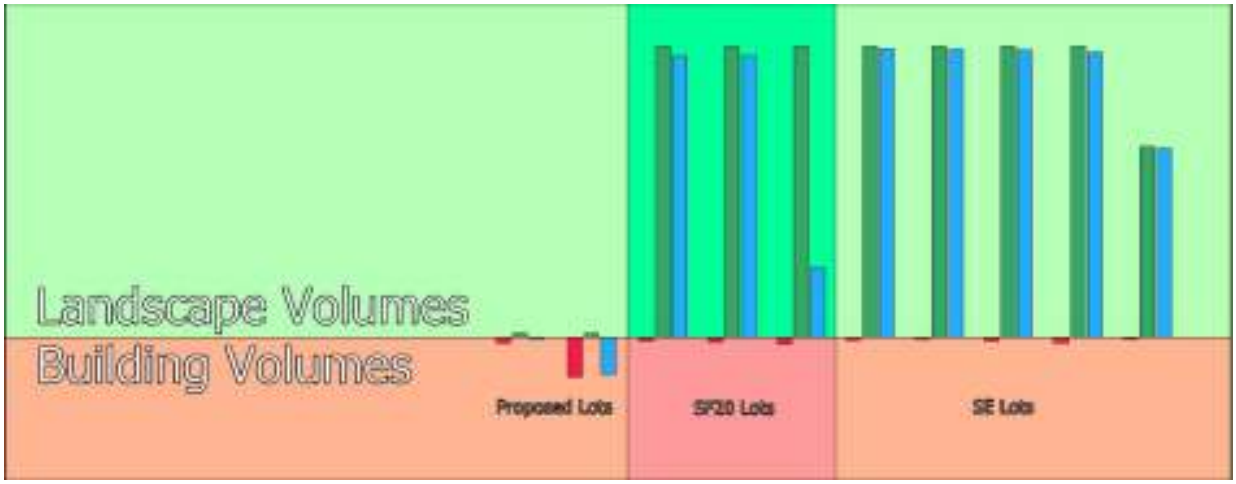
The applicants attempt to equate 60 x 150, 9,000 square foot lots for a dwelling and motor home with single family homes on 20,000 square foot lots or 1.5 acre lots as being similar. They are not similar in size or use.

They next attempt to use density as a metric to prove similarity. They compare the overall gross density of the proposed development with net-net density of the minimum size lot in the zoning ordinance. This is an apples to oranges comparison. They use the gross density of 2.21 and compare it to the net-net density of 2.18 for the SF20 district, which is minimum lot size and does not include roads or open space. The net-net density of the proposed development is 4.84, SF20 2.18, and SE 0.66 obviously not similar. The majority of homes adjoining the site are zoned SE so the proposed development has a 700 percent higher density.

There is another metric that addresses similarity using building, landscape, and site volume ratios to measure the actual visual difference providing an even more precise an analysis of similarity.

The ratios are determined by dividing the volume by the area of lot. The site volume ratio is the landscape volume ratio minus the building volume ratio. A negative site volume ratio means the buildings create the character of the site, while positive values indicate that the landscape provide the character.

The graph below shows the minimum and extreme conditions of the proposed site, the three SF 20 lots and a sample of the SE lots with the minimum tree cover on one lot and the range of building sizes.



All the neighboring sites are shown in the table below. The proposed development is not remotely similar.

Lot	Building Volume Ratio	Landscape Volume Ratio	Site Volume Ratio	Net-Net Density
RV only	5,355/9,000 = 0.595	3,695/9,000 = 0.411	-0.184	4.84
RV one story	15,600/9,000 = 1.733	3,695/9,000 = 0.411	-1.322	4.84
RV two story	26,400/9,000 = 2.933	3,695/9,000 = 0.411	-2.522	4.84
RV three story	37,200/9,000 = 4.133	3,695/9,000 = 0.411	-3.722	4.84
SF20 -1	30,000/25,087 = .408	2,208,492/25,807 = 30	29.6	.592
SF20 -2 *	39,672/30,928 = .509	2,339,172/30,928 = 30	29.4	.559
SF20 -3 *	47,405/38,768 = .707	536,659/38,768 = 8**	7.3	.649
SE-1	30,000/93,654 = .320	2,809,620/93,654 = 30	29.7	.465
SE-2	32,400/87,120 = .248	3,920,400/87,120 = 30	29.8	.333
SE-3	31,884/146,362 = .218	4,390,848/146,362 = 30	29.8	.298
SE-4	33,600/161,172 = .208	3,223,440/161,172 = 20**	19.8	.270
SE-5	36,768/87,120 = .422	2,613,600/87,120 = 30	29.6	.500
SE-6	93,840/152,460 = .616	4,473,800/152,460 = 30	29.4	.268
SE-7	27,912/67,954 = .411	2,038,608/67,954 = 30	29.6	.641
SE-8	32,400/98,446 = .329	2,953,368/98,446 = 30	29.7	.442
SE-9	25,800/136,343 = .185	4,090,284/136,343 = 30	29.8	.319

RVs are 8.5 x 14 x 45
The RV dwellings are assumed to have nine foot floor to floor heights and a roof that is three feet higher.
The single canopy tree on RV lot has a diameter of 14 feet and height of 24.
The houses in SF20 and SE are assumed to have an average height adjusted for roof pitch of 24 feet and lot with 75 percent canopy cover.
*One story with lower level garage.
** Lot coverage adjusted.

3) **Whether the proposed project is consistent with the Door County Comprehensive and Farmland Preservation Plan or any officially adopted town plan.**

The developers say it is consistent with the Door County Comprehensive Plan and the Farmland Preservation Plan and I agree. The Sevastopol Township plan calls for the site to be preserved as an important historical and geological site and the development is not consistent with the Sevastopol plan.

At the Sevastopol hearings, there was testimony about the history of the site about which I had no knowledge. This was a negative for the developer because nothing proposed mitigates the damage.

It should be noted that both the proposal and uses permitted by the County zoning are inconsistent with the Sevastopol Township Comprehensive Plan. The developers have a right to use their property, but their proposal makes no attempt to recognize the geologic and historical value for Door County.

4) Provision of an approved sanitary waste disposal system.

The developers indicate they have applied for approval. There are concerns and the County needs to apply conditions to any approval.

The holding tanks proposed are a legitimate approach in Door County but have not been approved at this point. There are concerns about the proposal which have not been addressed by the application. There will be a minimum of two tanker trucks per day hauling wastes from the site. These are semi-trailers that are much longer and heavier than normal septic tank trucks servicing area. There is concern about this traffic on Bay Shore Drive and they are not permitted on Third Street. A routing plan for these trucks should be required getting them off Bay Shore Drive as quickly as possible. I know from personal experience that even the normal septic trucks substantially buffet bicycle riders or pedestrians and create a hazardous situation. The County should determine the impact these trucks would have on the roads due the truck weight and require improvement if needed.

The design of access to the holding tank should be revised so that the T configuration drive is eliminated, and the truck exits to the old road to eliminate the T and preserve existing vegetation.

5) Provision for a potable water supply.

The application indicates that applications for permits have been submitted. There are concerns and the County needs to apply conditions to any approval.

While the deep wells proposed should work, there is no study indicating that the depressional cones associated with the high capacity wells will not adversely affect any existing wells. The wells are in the Niagara formation limestone where fissures or channels can result in many wells sharing the same localized aquifer. The two high capacity wells operating at the same time have the potential to create problems for individual private wells.

Since wells at the top of the escarpment are likely to be above the bottom of the new wells, the cone of depression could lower the aquifer level impacting the water level in neighboring wells. The impact of a high capacity well on neighbors could result in a need to deepen the well at considerable expense.

The design of the pump house does not appear to have a provision for a back-up generator in case of power failure. This should be provided. There is a social concern in terms of water quality. Well water often has high amounts of iron and a sulfur taste is a problem common to many Door County wells. The application contains lots of data on the wealth of class A motor homes users and they may not to like the taste. Since this is a common system, iron removal should be provided in the pump house and each site be provided with reverse osmosis system on the lot. This will reduce dependence on plastic bottled water.

6) Provisions for solid waste disposal.

The developer indicates that there is a large 16 x 30 storage building for dumpsters where presumably each resident will take their wastes. There are concerns and the County needs to apply conditions to any approval.

The application is silent on how this waste is transported to the storage building and the location of that building, although there are two possible locations – in the storage building area or at the club house. The tenants are projected to older individuals of high income, this is not a demographic that is likely to enjoy hauling wastes long distance to the storage building. Common dumpsters are typically found in apartment complexes, not luxury subdivisions. A more desirable system would be to use driveway pick-up as do nearby residents. The size of trucks used to haul dumpsters is another concern. Large vehicles should be prohibited to coming or leaving the site using Bay Shore Drive.

7) Whether the proposed use creates noise, odor, or dust.

The applicants indicate that noise, odor, or dust will not be a problem. They claim the landscaping will improve noise conditions from off-site noise. There are concerns and the County needs to apply conditions to any approval.

The discussion of landscaping as a noise reduction factor is misleading. It takes over 50 feet of forest to create a 3 db reduction in noise. The proposed landscaping is incapable of any noise reduction as it is unlikely to have trees taller than 20 feet.

While the developer discusses noise from the nearby marina, it does not discuss noise from the swimming pool, tennis, or pickle ball facilities. These noise sources are much closer to neighboring properties than the marina but are ignored. There is no discussion of hours of use.

This section does not really address construction noise. There will be a period of several months where noise from mining and dynamite will be a nuisance. Strict hours of operation for dynamiting and crushers must be set. Dust could also be a factor during the entire buildout unless the entire site is landscaped during the first phase. Recommendation that the entire site be planted in grasses and street and open space trees during the first phase to reduce dust.

8) Provision of safe vehicular and pedestrian access.

The applicant has submitted information primarily concerning access to the site and slope conditions and one short paragraph on pedestrian access. Pedestrian access to the marina should be provided.

They indicate that they expect no pedestrian access to the site. This is not a reasonable assumption given the fact that the County park offering fishing and boating is across the street and future residents can be anticipated to go there. A pedestrian access other than the street should be provided for this. The applicant should provide a paved five-foot sidewalk down the main access drive. They should pay for the enlargement of the paved shoulder to six feet or a paved five-foot sidewalk or suitable walking path from the entrance drives to the access to the park.

9) Whether the proposed project adversely impacts neighborhood traffic flow and congestion.

The applicants have submitted a traffic study and an additional letter. There are two average daily traffic counts taken in 2009 and 2015. They use capacity data for major rural collectors and there are traffic projections and graphics. They indicate that Bay Shore Drive has lots of capacity and meets the criteria. **The analysis is generic, not specific, and evidence submitted here indicates the conclusion is flawed and incorrect. The application fails to prove the criterion was met.** The following table compares the traffic study supplied by the developer with a detailed capacity analysis.

	Developers Report	Kendig Analysis
Type of Study	Average Daily Traffic (vpd)	Peak Hour (vph)
Measure of Capacity	Maximum Capacity	Level of Service Desired
Type of Road	Rural Collector	Scenic Highway and Local Residential
Level of Service	E	B
Local Conditions	Not Used	Used
Summer Traffic Adjustment	10% increase	50-125%
Rule of Thumb for Peak Hour	Used vpd	8-12% vpd

The only traffic data are average daily traffic counts from WDOT. This is not data that is relevant to congestion, because congestion occurs at peak hours, not at night. Bay Shore Drive or County Highway B is classified as a major rural collector by WDOT. This as a general classification for many Door County's rural roads. Bay Shore Drive is not really a rural collector serving rural areas where the land use is agriculture, woodlands, and widely scattered residences. The Door County Comprehensive Plan identifies County Highway B as a scenic highway. Bay Shore Drive also functions as a local residential street from the site to Sturgeon Bay.

Highways are classed as having a level of service level (LOS) ranging from A to F. LOS A has free flowing traffic, and maximum capacity occurs at LOS E with stop and go traffic. LOS F is gridlock and capacity declines. The developers engineer uses LOS E as the road's capacity. The chart below shows capacity of an ideal two-lane road in vehicles per hour.

Level of Service and Capacity on Ideal Two Lane Road						
Level of Service	A	B	C	D	E	F
Capacity	505	907	1,445	2,154	3,360	Less than 3,360

In transportation planning, a target level of service is used. In my experience around the nation suburban areas try to plan for a level of service C. In rural areas, where farm equipment often uses the roads, lower traffic volumes are needed for safety and LOS B is the desired level of service. A scenic highway should also use LOS B allowing for visitors to enjoy the driving experience and slow to stop at places of interest.

No traffic study for Bay Shore Drive has been conducted. In the absence of a local study, a rule of thumb sets peak hour traffic at 8-12 percent of average daily traffic. Traffic for 2020 must be estimated. I used the increase in traffic in the WDOT counts of 2009 and 2015 – 60 cars per year rather than three percent or the 1.5 percent of the engineer. Applying this rule of thumb to the average daily traffic estimated for 2000 would be 2,000 or 160 to 240 trips per peak hour.

The WDOT studies were taken in April and September but Door County is a tourist area with peak traffic in July and August. The developers traffic study projects a summer peak 10% higher with no data source. There is no direct traffic data for summer, so one needs to look at other sources. There are summer visitors and owners of summer homes. Visitors can stay in commercial lodging, campgrounds, and RV parks. Door County tourism data has seasonal room occupancy rates for all facilities paying the occupancy tax offering a surrogate. The peak room availability was 134,000 rooms in July 2019 with an occupancy rate of 75.1 percent. The April the occupancy was only 13,898 (16.9) percent of 82,000 rooms and September 71,190 (56.5) percent on 126,000 rooms. The summer peak was 525 percent and 41.7 percent higher respectively. The percentages do not include campgrounds, RV parks, or second homes. This suggests a 50 to 125% increase in traffic on summer weekends when occupancy peaks is reasonable visitors increase on weekends.

The actual capacity of any two-lane road is affected by the conditions of the road, including desired level of service, lane width, distance from travel lane to obstructions, percent no passing, directional split, and percent of trucks.

Bay Shore Drive has 11-foot travel lanes, varying paved shoulders and distances to obstructions so we have shown alternative conditions. Ninety-five percent of Bay Shore Drive does not permit passing, we have use 80 rather than 100 percent for the analysis. Year round there are service vehicles that park as shown in the application that block part of a

travel lane. In the table lane width was reduced to nine feet and clearance to zero feet to illustrate the effect on capacity.

Desired Level of Service	Lane width feet	Distance to Obstructions feet	Directional Split	Percent No Passing	Trucks	RV – Motor home	Maximum Capacity - vph
E	11	4	60/40	80	1%		2,911
B	11	4	60/40	80	1%		420
B	11	2	60/40	80	1%		354
B	11	0	60/40	80	1%		256
B	9	0	60/40	80	1%		174
B	9	0	60/40	80	1%	0.5%	172
B	9	0	60/40	100	1%	0.5%	162
B	9	0	70/30	100	1%	0.5%	154
This calculation is based on a level road.							

Using the rule of thumb on peak hour traffic is 160 and 240. The developers estimate summer peak would be 176 to 264. My analysis using 50 to 125 percent would result in 240 to 540 peak hour trips. Instead of Bay Shore Drive having plenty of capacity, the table above indicates that during peak summer periods the road probably exceeds capacity at LOS B today.

Bay Shore Drive, in addition to being scenic road, also serves as a local residential street. The highway capacity manual is designed to determine the capacity of stretches of two-lane collector roads with few intersections and a rural land use. It is not suitable for addressing the maximum capacity of residential streets and it is never used for this purpose. **Residential street safety must account for pedestrians and children in or adjacent to the street.** Traffic is a major concern for residents and they often petition for speed bumps and stop signs to retard traffic. Vehicles per hour and per minute are much better measures of capacity for streets serving as local residential streets as does Bay Shore Drive. A capacity at level of service E of 2,911 vehicles per hour is extremely hazardous at 48.5 vehicles per minute or one every 1.24 seconds. In zoning we set a maximum capacity of 240 vehicles per hour, or four vehicles per minute, after which our ordinances require a residential collector that does not permit individual driveways. **As a local residential street Bay Shore Drive is near or at capacity.**

Traffic will increase yearly whether this development occurs or not. It will only reduce capacity further. The real problem is large semi-trucks hauling septic wastes, motor homes, and large construction trucks. They make the road more dangerous for pedestrians and bicyclists and should be prohibited from using Bay Shore Drive except for a limited distance. A specific route should be specified. All advertising and directions for motor homes to approach should specify that route with warnings not to use Bay Shore Drive.

10) Adequacy of emergency services and their ability to service the site.

The developers have submitted letters from the Sturgeon Bay Fire Department indicating that they would serve the site. The drafting station should be located at the County ramp where it is more accessible.

The site is nearly five miles as the crow flies from the nearest Sturgeon Bay Fire Station, the hospital or other medical facilities. The drafting station on the site is an improvement for the area, but the County should require a station be installed at the launching area to avoid the trip up and downhill lengthening travel time.

There is a problem between where the two entrance roads join and where it intersects the loop road. An accident here can block the road. This section of 200 feet should be designed with a parkway of between eight and twelve feet of landscaped median between the up and down lanes. These should be extra-wide lanes a minimum of 16 feet in width.

11) Provision for proper surface water drainage.

The developers have submitted a full set of storm water plans and calculations. There are many serious issues regarding this.

The County standards are based on a 0.01 storm, what used to be called a 100-year storm. A 100-year storm is poor description; it in fact is a storm that has a one percent chance of occurring in any year. It is therefore possible to experience several 0.01 storms in a few years. This was the wettest fall and year in Wisconsin. Global warming is making storms more intense. The Great Lakes area is predicted to have greater than normal rainfall as result of climate change. It is prudent to increase the level of storm to be handled to a 0.005 storm. This would require a complete revision of the plans but will insure a more adequate storm water system.

The site is a limestone bench, and this creates concerns for landscaping, pollution, and storm water. To properly review the plans, current topography with six-inch contours and mapping of all fractures should be required to determine the current site conditions and a similar final topography showing building pads, roads, drainage features and future soil types.

The storm drainage system is to use streets with curbs as the primary storm water system. This ensures the most rapid form of storm water movement and washes any road pollutants into the detention basin with no filtration. This is the worst way to move storm water. It is recommended that the central spine waterway be designed to support grass or reed vegetation, to lengthen the channel with loops to carry most of the storm water to the detention ponds to slow and clean the water. Achieving this requires storm water grates every 200 to 300 feet to catch water in the gutter and release it into drainage channels that are grassed to convey storm water to the central spine. These areas need to be 10 to 16 feet wide with a grassed waterway and other landscape material. This type of system will better clean storm water and will slow the run-off rate. It will also serve as a visual interest.

Aeration is recommended to clean pond water and storm water release further than the minimum since it will be released almost directly into Green Bay. The proposed landscaping and soil to be provided on the bench is a major concern. There is no existing soil, nor is there a detailed description of exactly how and of what it will be constituted is of great importance. We know that gravel and sand produced in crushers will be used. The exact nature of this soil is important to understanding subsurface run-off and soil moisture retention (see 14 below) to determine the potential for soil erosion, lower water quality, and loss of capacity in the storm water ponds.

12) Whether proposed buildings contribute to visual harmony with existing buildings in the neighborhood, particularly as related to scale and design.

The developers say the development will be in harmony and show floor plans and elevations of the proposed building but provide no analysis as to harmony with the neighborhood. The evidence here indicates that the developer fails to meet the criteria.

The developers do not even address the topic of harmony. The floor plans and perspectives are eyewash. There are no photos of adjoining houses and lots with which to determine harmony. There are three illustrations in the front of the application that show a lot with motor homes (two of the three only show part of the motor home.) These are not at all in harmony with the neighboring area.

Harmony it is at one end of a continuum with chaos at the other end. In a block or neighborhood, a strong similarity in color, materials, height, style, landscape, and yards creates harmony. The existing development is harmonious because buildings, height, landscape and yards are all similar and the differences in building color and style are largely hidden by trees on the lots. Motor homes bring a discordant element in the neighborhood because they are long narrow objects with a volume 4,760 cubic feet a shape similar to a single wide mobile home or a 40-foot long shipping container and are highly visible on the front of each lot. There are many communities and developments that prohibit RVs and boats being stored on residential lots.

In the section on similarity (criteria 2) to adjoining development there is an extensive discussion of use, density, and volume measurements of the proposed development and neighboring development. The fact that the proposed development is not similar in land use to what exists indicates a lack of harmony.

When we get into the area of harmony, we look for a metric that can define the character of the neighborhood. Community character is a means of quantifying character in different communities using spatial relationships between buildings, space, skylines, scale, and the landscape. There are four community character four classes and nine-character types. The classes are rural, sub-urban, auto-urban, and urban. The residential zoning in the area has a suburban or estate character. Land use is often seen as a measure of harmony with a mix of residential and commercial seen as confused or even chaotic. In community character the spatial relationships can be used to create a character type regardless of land use.

The land surrounding the quarry site is sub-urban, of both estate and suburban character types. The area to the north and east of the site past the existing subdivisions is predominantly rural as seen in the following pictures. Space is dominant in rural area with views to the horizon unbroken by development and building in background.

Agriculture	Natural left and Countryside right	Agriculture in front Natural to rear

In sub-urban types buildings are surrounded by space and trees typically shelter the homes because the landscape volume is dominant in volume. The area adjoining the site is predominantly suburban and estate in character. Along the shoreline of Green Bay on either side of Bay Shore Drive suburban and estate are both found. The SE area is estate in character as seen in the pictures below.

Estate wood lot house invisible	Wooded lot house barely visible	Wooded lot house invisible
Wooded lot house barely visible	Wooded lot with substantial lawn	Wooded lot building very visible
	Shallow wooded lot house visible	

Suburban and estate character share the same spatial characteristics, but suburban lots are much smaller. They both share the characteristic that landscape volumes dominate the buildings shading and sheltering them. The three suburban lots backing the quarry are shown below.

Wooded lot note RV	Largely open lot with tree mass still sheltering home	Open front yard

Both the suburban and estate are harmonious with each other because they share same the spatial relationships of building to space and vegetative masses. Even though lot sizes and degree of tree cover change there are no jarring relationships and trees are consistently taller than the buildings.

There are large changes in character between the sub-urban types and the auto-urban and urban types. Sub-Urban character is defined by space surrounding buildings. This is reversed in urban and auto-urban where buildings surround and enclose space. Auto-urban and urban land use and density are similar, but character differs because the automobile occupy space weakening enclosure of space. Building facades are dominated by automobile and thus the name auto-urban.

Urban residential has small lots similar in size to auto-urban in use and size. The buildings have small front yards, so buildings are close to the street with garages in alley. Harmony is enhanced because the street is lined with mature street trees. The large trees are nearly twice the size of the building. Although the buildings have various styles, colors, and materials the consistent landscape creates a harmonious streetscape.

Urban narrow front yards building enclose space the automobile is garaged in alley to rear	Auto-urban driveway and garage for cars prevents enclosure and architecture limited by garage

Auto-urban also has a small lot but the 20-foot setback to the garage pushes the house 20 feet further back away from the street leaving little space for architectural treatment of the façade, most of which is a garage door. Because many cars are left in driveway, cars dominate the character. This type of development is often referred to as a snout house. In most development cars will be parked on the drive, in front of the garage.

The auto-urban and urban are not harmonious because of reduced enclosure and the dominance of space by the automobile. The proposed development adds a motor home in front of the building or garage which further destroys enclosure and adds to automotive nature of the streetscape as seen in the following pictures. The proposed development is auto-urban of a lower quality as can be seen below even though the homes to the rear are brick.

Cars dominate the auto-urban streetscape	Motor Homes degrade the auto-urban streetscape

Looking at the pictures of the suburban and estate development surrounding the property they are all harmonious with each each other. Introducing the proposed development into a sub-urban setting creates a chaotic element. Worse yet, neighbors must look down on auto-urban development. The pictures below indicate that what is proposed introduces chaos and destroys harmony. Lot size, vegetation, site volume ratios, and visibility of the homes introduces chaos to a harmonious neighborhood.

Chaos

13) Whether the proposed project creates excessive exterior lighting glare or spillover onto neighboring properties.

The developer has provided lots of material on dark-skies and various technical material on the proposed lighting. They indicate that lighting will be kept to an absolute minimum. This is incomplete in the absence of a lighting plan one cannot determine whether the criteria are met.

This is "feel good" material, there is no lighting plan, so no one knows what absolute minimum means. At the hearing in Sevastopol they said there would be no street lighting, but the application shows the proposed street lighting fixtures. If there are to be no street lighting this material should be deleted. They have shown acceptable and unacceptable lighting, but again no plan. They should have a specific lighting plan which shows the maximum lighting streets, and lots. In addition, entry lighting for the dwelling should be limited, and house lighting should be prohibited. Outdoor patios will likely have lighting and a maximum should be submitted and such lighting must go off after 11 PM. Also any lighting of the swimming pool and tennis areas needs specification and permitted hours of operation.

There is a discussion of LED lighting color, noting that it should not be in the blue range. This does not go far enough. While it notes that warm LED lighting is preferable it does not discuss LEDs in the red orange range. I have seen this in Australia, and it is superior for night vision and better for dark skies. Again, specifications are not provided.

14) Whether the proposed project leads to a major change in the natural character of the area through the removal of natural vegetation or alteration of the topography.

The developers statement indicates that the plan will not be change "the character by the removal of natural vegetation". They also include pages from the County Green Print, a page on non-metallic mining, an internet material on soils. Their statement is false, vegetation will be removed, and the lack of information on the actual composition of the restoration fails to meet the criteria.

First, they will remove natural vegetation and soils. The area containing the holding tank, drives for its access, and the lower detention pond is currently covered in natural vegetation all of which will be removed. In the construction section they indicate that there are 20,000 cubic yards of usable topsoil materials on site to be reused which comes from that location. The row of evergreens to screen the holding tank will not have a natural appearance. There is a second area in the shelf in the southwest corner where vegetation will also be removed for the storage buildings.

The erroneous statement about not removing natural vegetation means they fail to meet the standard.
The excerpts from the Green Print do not address restoring the site for vegetation. The information on nonmetallic does not address restoration for lawn and landscaping, nor does the material on soils, both are just fillers not a plan.

Beyond disturbing natural vegetation there needs to be a real plan for establishing vegetation on the site. There are unique problems of building and landscaping on an old quarry site with no existing soil cover. Many concerns about landscaping, water quality, noise, and pollution relate to the placement of soils on the limestone shelf. There are no details about the exact mix of soils and the suitability of the artificial soil for landscaping. The application is absent the material needed to assess the plan for final cover. This is important because the types and structure of the soils impacts storm water, pollution, and plant growth. There are many questions that detailed information would settle. These include the following: Will rain result in pollutants entering the aquifer through faults in the limestone? Will the soils dry out or hold moisture? How permeable will the soil be? What is the soil strength to resist uprooting of trees? Will the soil have adequate nutrients to support plant growth? Will fertilizing and watering be necessary? There is nothing in the application that indicates the answer to any of these. Because the application is incomplete, they have failed to prove they meet the criteria.

What we know is that the site preparation will provide rock of unknown size range, and sand made from limestone on site with no specifications to describe them. The 20,000 cubic yards of usable topsoil materials would provide less than a foot of soil cover on the bench. They have

indicated they may bring in soils from off site. The soil analysis of the on-site soils does not address the artificial soils from crushed limestone on site. From experience reviewing and designing development in suburban and urban environments we know that in urban areas, parking lots, and containers, plants grow more slowly, are subject to stresses that retard growth or lead to disease and death. It is predictable that such soils will be droughty, lack nutrients, and trees are unlikely establish the canopy cover on the site that the developers promise.

It is recommended that an initial site survey should be provide with six-inch contours and map the location of cracks and irregularities. A final landscape plan should provide final contours at that scale and depth of fill in six-inch increments. There should be detailed drawing that show sections of the new soil, with any layering that is proposed. The bedrock will serve as a barrier to water limiting the amount of water that can be held for plants. There is a real probability that this will be a droughty environment that will limit the health and growth of trees and grasses. Door County is known for its shallow rocky soils, nothing in application explains the differences between the natural Door County shallow soils and building on a limestone shelf. In natural soils there is a layer of fragmented rock over solid bedrock where soils that developed over the last 10,000 years fill all the space between rock and covered by a layer of topsoil of varying depth and rockiness. This allows roots to go deep to reach soil moisture and anchor the tree.
There is no landscape plan. The number, types, and sizes of trees, shrubs, and ground covers should be listed, and a landscape plan prepared that shows the location. Leaving the planting of the lots to future owners is unacceptable. There should be street trees and many more trees on-lot to shade homes and lowers the soil temperature.

15) Whether, and in what amount and form, financial assurance is necessary to meet the objectives of this ordinance.

The developers indicate meeting some normal requirements, addressing trivial safety issues and presents the homeowners restrictions. More assurance is required.

A number of off-site requirements are needed to provide insurance that construction does not damage nearby residents or to improve the development.

a. Any damage to other properties from dynamite to nearby properties, buildings, or wells.
b. Any damage to neighboring properties whose well water is lowered shall be compensated for the cost of deepening their wells.
c. Provide restricted routes for large construction, holding tank, and waste haulers to stay off Bay Shore Drive. The large motor homes should also be kept off Bay Shore Drive.
d. Improve the pavement on any roads used by septic waste hauler, mining equipment, or heavy construction equipment.
e. Require an off-site fire drafting station where water is unconstrained by detention basin construction. The station should be at the County park which eliminates the need for fire trucks to go up and down hill fill up.
f. Off-site pedestrian walks to enable tenants to safely walk to the County park.
g. All plant material should be guaranteed for a period of three years after installation. The County shall inspect the site at least annually and require the replacement of dead or severely damaged trees with a new guarantee.

16) Whether, and to what extent, site-specific conditions should be imposed to mitigate potentially problematic impacts of the use.

The following are site specific recommendations.

a. More detailed topography before and after should be provided.
b. A landscape plan and plant material list should be provided.
c. A lighting plan should be required.
d. The soil replacement on the site should occur with the first phase of development.
e. There are many concerns about landscaping, water quality, and pollution that relate to the placement of soils on the limestone shelf need to be clarified.
f. Street trees and trees in open space shall be planted in the first phase of development.
g. There needs to be supplemental irrigation to provide adequate moisture and nutrients for landscaping. The impact of irrigation on water usage needs to be taken into account.
h. Waste disposal pickup should be on each lot.

17) The impact of the proposed project on public health, public safety, or the general welfare of the County.

The proposal provides points on each of the three elements indicating that the project will improve the public health, public safety, and the general welfare. There is no significant advances for the first two items. The whole effort is to show a huge increase in assessed values as the reason that encourages approval. There is substantial evidence that this is overly optimistic projection. The burden of proof has not been met and the criterion is failed.

Public Health.
The developer believes the development lessens the risk of pollution.

There is little risk of pollutants of nutrients, hazardous wastes, water, or air from a vacant site. A proposed benefit is limiting occasional trash deposited on the site. This could be addressed with a fence without introducing other potential problems associated with the proposed development. It remains unclear whether the current plans prevent pollution that could damage the public health.

Public Safety.
The developer cites eliminating trespass and installing a drafting station as increasing public safety.

The elimination of trespass, while illegal, is not a major public safety issue and can be achieved with a fence. Development is not needed. While a drafting station is an improvement, one at the County launch ram could have greater capacity and a better location to serve the entire area. The one in the development is much more poorly located requiring going up onto the shelf. **The introduction of more large vehicles and more traffic to Bay Shore Drive is a safety issue created by the development, that requires action to eliminate it**.

General Welfare.
The developer cites economic benefits in property value, assessed value, tourism and sales tax as benefiting the general welfare. In justification there are two tourism data sheets on current conditions in Wisconsin and Door County, and five internet stories none of which mentions market conditions in Door County and all of which promote the industry.

There is no supporting market study to suggest that they will sell all their lots and 80 homes within the seven years. **What has been submitted are the developer's hopes. Hopes are not a sound basis upon which to predict revenue.** In the following sections we will look first at market trends for Class A motor coaches and parks. Second is a comparison of the proposed

park with Hearthside Grove upon which they have modeled the proposal. We will also look at the competition in Door County.

At the Sevastopol hearings opponents pointed out that there are national market conditions that indicate the market for Class A motor coaches is in decline. The motor home demographics are also a negative factor as younger cohorts may not follow the current pattern. Both these factors will adversely affect the market for the proposed development.

Comparison with Hearthside Grove

The developers cite and show pictures of the Hearthside Grove project in Petoskey, Michigan as a model for the proposed development, which was a major portion of the developer's presentation at the Sevastopol hearing. There are key differences between them. Hearthside Grove is a wooded 138-acre site with 165 sites with a density of 1.18 units per acre. The Hearthside Grove site has more wooded open space than motor home sites and recreation land. **The proposed site crams 117 sites on 53 acre a density of 2.05 units per acre, nearly twice the density. It is a barren site, where similar vegetative cover cannot be created. The cost of construction will be many times higher on the quarry site because the construction requires blasting and excavation of rock to prepare the site.** The woodland trees at Hearthside Grove are in excess of 40 feet in heights. Landscaping on the quarry site will grow slowly because it is on crushed rock that will have few nutrients. The proposed soils will drain rapidly leading to low soil moisture, and slow growth. At Hearthside Grove the lack of shade on some area has induced many of the sites to build pergolas to provide shade for outdoor eating. This will be needed even more at the quarry site but not shown on any of their drawing. The only positive of the site over Hearthside Grove is the elevated view over Green Bay and Sturgeon Bay. However, this is of limited value to all the interior sites. The developers have in fact acknowledged this limitation by proposing two and three-story homes, built at great expense to provide clear views. This ignores the tendency of the older cohort that represents the market to climb stairs for the view. **Only the sites on the outer edge will enjoy clear views with landscaping, motor coaches, and building block the view for all others.**

Quarry Bluff purchasers will have to pay $200,000 for a lot. More than the $110,000 at Hearthside Grove. Buyers can choose between a selection of one, two, and three-story houses. The amenities are club house and pool, tennis and pickle ball courts. The Hearthside site has mostly small buildings. They advertise small, 192 square foot bungalows, large bungalows up to 1,100 square feet and one-acre home sites starting at $150,000. A large percentage of the lots have 300 to 400 square foot buildings. Hearthside Grove has a pool area and club house similar to Quarry Bluff but also has a much larger clubhouse theatre building with extensive parking and offers cooking classes and large physical fitness facilities. If a house of 1,200 to 3,600 square feet is desired, Hearthside Grove offers a wooded one- acre lot for $150,000 versus $200,000 for a 9,000 square foot lot with no natural vegetation**. Clearly, Quarry Bluff is not competitive with Hearthside Grove despite higher costs.**

The two sites are very different in their sales prices and actual on proposed assessed value. The table below provide statistics on the two sites. Hearthside Grove still has vacant lots.

Site	Area	Cover	Units	Density	Building Size sf.	Sale Price
Hearthside Grove	**138 ac.**	**Wooded**	**165**	**1.18**	**300-600**	**$110,000**
Quarry Bluff	**53 ac.**	**Rock Ledge**	**117**	**2.05**	**1200-3600**	**$200,000**
The Hearthside Grove valuation is equal to the number of lots times the sales price. Applying this formula to the quarry site produces a value of only 23.4M.						

Another major difference is the cost of development. The quarry has costs that are many times that of that of Hearthside Grove where conventional construction was possible. The quarry requires blasting, crushing of rock, and establishment of soil, and then all the typical construction cost of roads, sewer, etc. Hearthside Grove construction involved more miles of road, parking, and more buildings.

Site	Soils	Improved Sites	Road Miles	Acres of Parking	Build out years	Assessed Value	Lot Sales Price	Lots For Sale
Hearthside Grove	**Wooded soils**	**165**	**2.1**	**1.07**	**12**	**$17,000,000**	**$110,000**	**17**
Quarry Bluff	**Rock ledge**	**117**	**1**	**.38**	**7**	**$40,000,000**	**$200,000**	**Na.**

Local Competition

There is competition for the proposed development. There are eight large RV parks south of Egg Harbor. All are in woodlands with most sites with shaded tree canopy. There are seven RV parks north of Egg Harbor, three of which are wooded and two more partially wooded. In addition, the County has three State Parks or natural areas with wooded camping sites and access to water from the sites. One can visit Door County and stay in a woodland setting many times with a motor home and not have to invest $200,000 in a permanent lot.

Conclusion of General Welfare

The developer points to great tax revenue and economic benefits of the site. All that is based on the sites selling at a premium price, building expensive homes, and selling rapidly. My experience tells me that these assumptions are overly optimistic. There is another possible explanation for these assumptions, the very high construction costs of the quarry site, require high value lots.

In my experience developers seeking the introduction of a new product often present it as high end. This is the build it and they will come theory. The result is an over-estimate of market

potential and future assessed value. This has occurred in Door County before. There are examples in Door County that should be cautionary in reviewing this proposal. While Door County should not worry if a developer fails, it needs to worry about failures impact of assessed values. When some development fail, new buyer pays less and assessments fall. To name just a few, the Wave Point marina/water park, which never reached completion and has gone through several owners with decreasing valuation. Stone Harbor just won in court a reduction in property value, Sonny's Pizza has gone through multiple owners each paying less. Centre Point, Little Sweden, and Horseshoe Bay are all behind expectations. Sturgeon Bay has uses that close resulting in lower assessed value. One should not accept the Quarry Bluff projections suitable evidence of improved general welfare without detailed market studies verifying the market.

ZONING ISSUES

My reading of the Door County zoning raises questions about the proposed development. The definition of Multiple Occupancy Dwelling provides two options. The first is a lot with three or more units. The second multiple buildings with two or more units each. I do not see how a single lot with one owner into a motor home pad and a convention single family unit meet this definition. Plane reading of the definition seem to indicate that the two units must be by different users. The condominium lots in the proposal are for a single user who may rent the pad if not in residence. The only way to meet the definition is to permit the dwelling and pad to be rented separately. This would double the number units in the development invalidating all the information projections on water, sewer, and traffic. A second problem is that the minimum lot area in Table 3.5 is 20,000 square feet for a mod and the proposed lots are a minimum of 9,000 square feet.

SUMMARY

I have conducted a comprehensive review of the applications 17 criteria. **The application in my opinion fails six important criteria 1, 2, 9, 12, 14, and 17 through incorrect evaluation and the submission of material from the internet that does not address the criteria on the site**.

In criteria 3, they correctly address consistency with the County plans but are inconsistent with the Town Plan. On criteria 7, I believe they cite noise suppression by their landscaping, which is both inaccurate as to effect and in the ability of landscaping to achieve the results. Their testimony is that operational standards assures performance, assuming all on site operations meeting all standards. As an ex-county planner, I can tell you that violations of dirt and dust are most often reported after the fact, rather than not occurring. What needs to be done here is provide monitoring so that violations do not occur. There are three criteria 4, 5, and 11 where final approval by others is required. There are serious questions and concerns that have been raised on these criteria. No approval should be granted until the permitting authorities address these concerns and indicate a permit will be issued.

On criteria 13 there are numerous pages of feel good information, but there is no lighting plan to enable one to determine lighting will not be a problem. Two of the criteria are basically lists of conditions or voluntary actions that cannot be evaluated until they are put forward. The code indicates that a "failure to demonstrate, by substantial evidence, that the application and all applicable requirements…… shall be grounds for denial". I strongly recommend denial as it is clear that six criteria have not been met and that on two others they have failed to provide adequate information about verifiable actions or plans that can measurably be evaluated, and there are three that need approval by others with no indication from those agencies that the approvals will be granted.

RESUME

LANE KENDIG

EMPLOYMENT

2009 to present Strategic Advisor.
Mr. Kendig retired as president of Kendig Keast Collaborative, a firm that he founded in 1983. He continues to advise and provide technical support as a Strategic Advisor. Since retirement he has provided expert witness testimony on zoning matters in state and federal courts and authored three planning books, seven issues of **Zoning Practice**, and been a speaker at numerous national conferences.

1983-2009 President of Kendig Keast Collaborative (Formally Lane Kendig, inc.) Mundelein Il.
As president he was involved in all elements of the firm's practice, comprehensive plans, special studies, zoning, planner for local governments under contract as village planner, designed developments, and providing legal testimony. Plans and zoning were written for over 50 communities including large metropolitan cities, cities, and counties. This include many high-profile communities, including Provincetown, MA; the Florida Keys; Teton County and Jackson, WY; and Milwaukee, WI. Mr. Kendig was noted for his expertise on environment issues. He is very familiar with the problems of karst environment from work in Door County; Williamson County, TN; Bucks County, PA; Jefferson County, WV; and aquifers in Lake County, IL. He was the author of a model zoning code for Florida springs. The entire state is over karst. In terms of development his plan for The Fields of Long Grove won a national association award. He designed numerous other residential developments, a super-regional mall, and other commercial developments.

1976 to 1983 Director of Planning. Lake County, IL
As the director of the Department of Planning, Zoning, and Environmental Planning he supervised the review of all development and zoning for the unincorporated area of the County. He provided staff and recommendations to the Zoning Board. The department managed and staffed the County's community block grant program that gave grant of 3.2M per year to local government. He provided staff for the County Economic Development Commission. The County adopted a new comprehensive plan in 1982. Mr. Kendig authored **Performance Zoning,** American Planning Association,1980.

1968 to 1975 Director of Local Planning, Bucks County Planning Commission. Doylestown, PA
Mr. Kendig began as a planner responsible for drafting a park and recreation plan, a natural resources plan that were adopted. He developed a primitive GIS used in those plans and for

land use maps. In 1972 he became Director of Local planning where he was responsible for the review of all subdivisions, zoning, plans, and land acquisitions in the 54 municipalities in the County. This was about 500 reviews a year. He was also responsible for consulting with the local municipalities to implement the County's plan. He authored plans and zoning ordinances for six communities, one of which was a single ordinance covering three townships and three boroughs, a new zoning approach upheld by the Pennsylvania Supreme court. He authored **Performance Zoning**, the concept and model ordinance, Bucks County Planning Commission 1973. He wrote four performance ordinances and the concept was upheld by the Pennsylvania Supreme Court.

1962 – 1965 United States Navy
Served aboard the Abbott DD 629 as Gunnery and Deck division officer until September 1964. He then served as Construction Advisor, to the Vietnamese Navy, U.S. Advisory Group, Vietnam. During this during period he was involved in evaluating Swift boats in Da Nang. He was then located and located and design five naval bases for U. S. Forces.

EDUCATION
Bachelor of Architecture, University of Michigan, 1962
Masters of City and Region Planning, University of North Carolina, Chapel Hill

MEMBERSHIP AND CERTIFICATION
American Planning Association
Certified Planner In-Charge Pennsylvania and Illinois

Attachment EX-2

Quarry Bluff RV Village Investigation

Old Leathem Smith Quarry, Town of Sevastopol

Door County, WI

(*an exclusive, gated Motor \Coach Resort*)

A critical review of serious concerns regarding geology, well water, drinking water threats, safety, blasting and mining, noise, dust, odor, environmental degradation, natural habitat preservation and restoration on the Niagara Escarpment, negative community impacts, and Door County land use planning.

By Roger J. Kuhns, PhD LEED GA

February 8, 2020

By
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This report is prepared for the Bay Shore Property Owners Association [BSPOA556@gmail.com / bspoa.org]

and the

Old Quarry Neighborhood Action Group [oldquarrydevelopment@gmail.com / noquarryvillage.com /P.O. Box 556, Sturgeon Bay, WI 54235].

Executive Summary

Door County is at a crucial phase in managing its land use planning, investing in the future, and protecting the natural resources and beauty that is the principal asset of the unique Door Peninsula.

It is on this template that an examination of the suitability (whether to be permitted or not) of the Quarry Bluff RV Village [QBRVV]. The project is proposed as an exclusive and gated, high-end motor coach village development for retirees in the age group 55 to 75. The proposed project is set in the old Leathem Smith Quarry site in the Town of Sevastopol on the shores of Green Bay. This report looks in detail at the various sections of the Conditional Use Permit (CUP) application.

Conclusions and Recommendations from the findings:

- The QBRVV proposal is a mining and construction project. A nonmetallic mine reclamation plan and permit should be required, and air / water quality permits.
- Because of the proposed mining activity, there are serious and unaddressed concerns about blasting, noise and dust impacts to area property owners.
- Noise abatement plans presented in the CUP application are incomplete and ineffective for the neighboring properties above the quarry walls.
- Findings show that the QBRVV will negatively impact property values.
- Finding show that the QBRVV is not like similar developments, as it it upscale, exclusive, gated, and unlike any development in the Town of Sevastopol.
- The QBRVV proposal does not in any way fit a conservation development definition, and there is an absence of sustainable practices (a goal in the Door County Comprehensive and Farmland Preservation Plan 2035 [DCCFPP]).
- The QBRVV proposal does not adequately preserve and protect the county's surface water, groundwater, wildlife habitats and natural features, such as the Niagara Escarpment, which is specifically focused on to protect in the Town of Sevastopol plan. A rare and endangered species survey should be conducted.

- Climate change impacts are not addressed at all in the CUP application in terms of stormwater management planning, since climate science has measured records of increased storm severity creating significant increases in rainfall events that could overwhelm the proposed ponds and water management plans.
- Potential problems were discovered regarding the siting and safety of the waste holding tank: the margin for error is very small (8.5%) for tank movement.
- The presence of karst features were not addressed in the CUP application. This presents a serious risk to groundwater safety and quality.
- Potential impact to neighboring private wells from The QBRVV proposal's two high-capacity wells could create a financial burden on surrounding property owners through drawdown and dry well problems. The CUP application does not present sufficient groundwater modeling, and no test well is proposed.
- The QBRVV proposal seeks to develop the Leathem Smith Quarry, which is a habitat in recovery and connected to the Niagara Escarpment, one of Door County's most treasured natural features.
- The QBRVV proposal, if approved, would create a village setting that is larger than five of Door Counties villages, and this is not contemplated in the DCCFPP nor the Town of Sevastopol plan.
- Safety protocols for people in and around high quarry walls has not been established in the QBRVV proposal.
- Safety protocols and the construction of sidewalks and crosswalks are omitted from the CUP proposal, creating a serious pedestrian safety concern.
- The QBRVV proposal is at serious odds with the visual harmony of the rural, wooded and shoreline single family homes and seasonal cottages.
- Town of Sevastopol planning commission on January 14, 2020. The town unanimously denied the Conditional Use Permit application.

It is recommended, from these findings, that the Quarry Bluff RV Village (Quarry Bluff, LLC) project **Conditional Use Permit be denied**.

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Introduction

Door County is at a crucial phase in managing its land use planning, investing in the future, and protecting the natural resources and beauty that is the principal asset of the unique Door Peninsula.

Perspective. Over the past couple of decades residents working with elected officials on the village, city, town, county and state levels have strived to create forward-looking planning documents. These documents are numerous, and have all recognized the need for protecting and preserving the natural landscapes, water quality, air quality, and other natural resources in this largely agricultural county that is visited by up to two million tourists annually. The villages and the county have sought (and some have gained) Green Tier designations. Planning documents urge moving towards sustainability. Resident-led environmental groups working with the Door County Soil and Water Conservation Department, the Regional Planning Commissions, Wisconsin Department of Natural Resources, Wisconsin Universities, and other committees and councils have identified the importance of significant habitats in that they are a key economic factor for the county. These groups have also stressed the necessity for surface and groundwater protection due to the fractured karst aquifers occurring on the peninsula.

In addition to natural resource concerns, the Door County Comprehensive and Farmland Preservation Plan 2035 (DCPD, 2015) addresses the need for Sustainability, diversity, livable wage jobs, affordable housing, reasonable transportation, the overuse of fossil fuels and the need for more renewable energy practices, and other key community factors contributing to quality of life for the county's residents.

It is on this template that we examine the suitability (whether to be permitted or not) of the Quarry Bluff RV Village. The project is proposed as an exclusive and gated, community high-end motor coach village development for retirees in the age group 55 to 75. The proposed project is set in the old Leathem Smith Quarry site in the Town of Sevastopol on the shores of Green Bay.

Purpose of This Report. This report was written at the request of the Bay Shore Property Owners Association [BSPOA556@gmail.com / bspoa.org] and the Old

Quarry Neighborhood Action Group [oldquarrydevelopment@gmail.com / noquarryvillage.com /P.O. Box 556, Sturgeon Bay, WI 54235].

This report looks in detail at the various sections of the Conditional Use Permit Application in order to address accuracy of data, completeness of presentation and plans, degree of awareness of impacts to the sensitive environment, and other aspects to fully assessing the project in light of the long-term goals of the people and policies of the County of Door.

Community Non-Support. The wooded community of single family homes and seasonal cottages reside along the Niagara Escarpment, a natural geologic-topographic feature that the Town of Sevastopol and the County of Door have deemed as a sensitive habitat that should be protected. The existing community is not in support of the Quarry Bluff RV Village for fears that surface water and ground water, as well as the Green Bay shore, are at risk from project related pollution, and the environment is threatened due to impacts to the naturally recovering habitats along the Niagara Escarpment and within the quarry, and the impacts of noise, blasting, dust, odors, stormwater runoff, waste systems, reactivating an old quarry mine, traffic, scenic overviews, and the high density of motor coaches on the existing residents quality of life, and other issues.

This could be seen as a "not in my backyard" issue, but it is not just that. It is a true test of the veracity of the long term planning in Door County and the Town of Sevastopol to preserve the character of communities and their natural resources.

The developers of the Quarry Bluff RV Village have said that their project will look nicer than the current appearance of the old quarry. That is an opinion, and one not shared by those requesting this report. In fact, with the natural restoration of Niagara Escarpment habitats in the quarry - on going since closure in 1944 - there is a recovered natural beauty to the site for those living in the area, and to thousands of visitors to the county.

Town of Sevastopol Non-Support. The first important phase of the Quarry Bluff RV Village proposal was the presentation of the project to the Town of Sevastopol planning commission on January 14, 2020. The town unanimously denied the Conditional Use Permit application to pass because of factual documentation describing the impacts to the town and local residents.

Overview Of Quarry Bluff Motor Coach RV Park

The Quarry Bluff RV Village is proposed as an exclusive gated community, high-end motor coach and cottage village development on 57 acres. The Application for Conditional Use Permit (CUP) was submitted to the Town of Sevastopol and the County of Door on December 2, 2019, signed by Michael J. Parent [*https://secureservercdn.net198.71.233.138/2vm.596.myftpupload.com*/wp-content/uploads/2019/12/Quarry-Bluff-Application-upload.pdf]

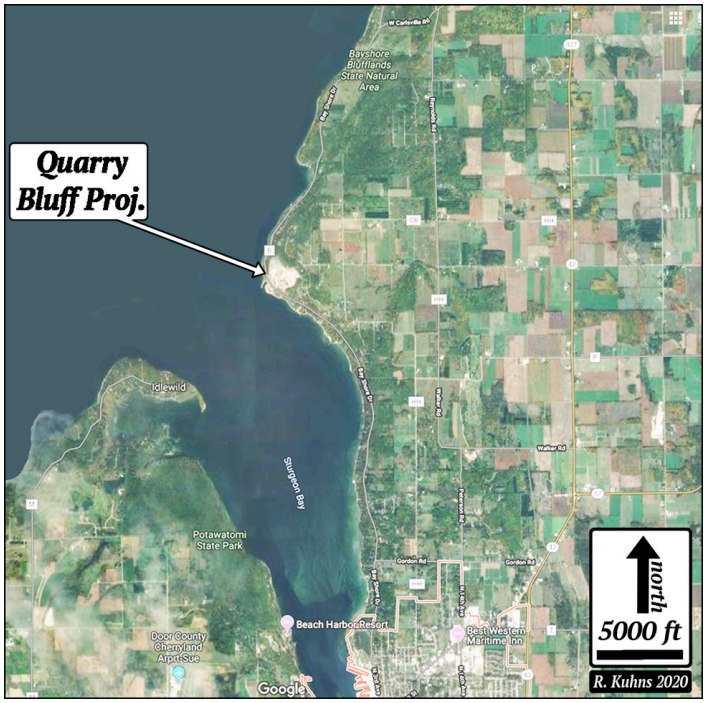


Figure 1. Location map for the Quarry Bluff project.

<u>*Project Location*</u>. The project is located along Bay Shore Drive in the disused Leathem Smith Quarry (closed in 1944) adjacent to George K. Pinney Park and the Green Bay shore, within the Town of Sevastopol. It is five miles northwest of the City of Sturgeon Bay.

Single family residential homes and seasonal cottages form the existing community, and have been developed in wooded lots above and below the quarry site, each with private wells and on-site waste systems (POWTS).

<u>*Property Owner, Developer, and Realtor*</u>. The old Leathem Smith Quarry is owned by Margaret Dreutzer Trust [4883 Harder Hill Road, Sturgeon Bay, WI, 54235]

The property developers are Tom Goelz and Mike Parent (Quarry Bluff, LLC, P.O.Box 54, Fish Creek, WI 54212 / 920-421-5200 / tom.goelz@gmail.com) Principal investor: Hearth Grove (Petoskey, MI).

The Petoskey, Michigan site is a similar development and can be used as a reference to what the final Quarry Bluff RV Village might look like.

The property realtor is ERA Star Realty, Peggy Dreutzer.

Planned Development. Details of development plans for the 57 acre site are in the CUP application (Figs. 2 and 3). The exclusive motor coach resort includes 117 RV Resort/Campground/village units, with the option on 115 lots for small house construction (Fig. 4). The development includes three large ponds (18 feet deep).

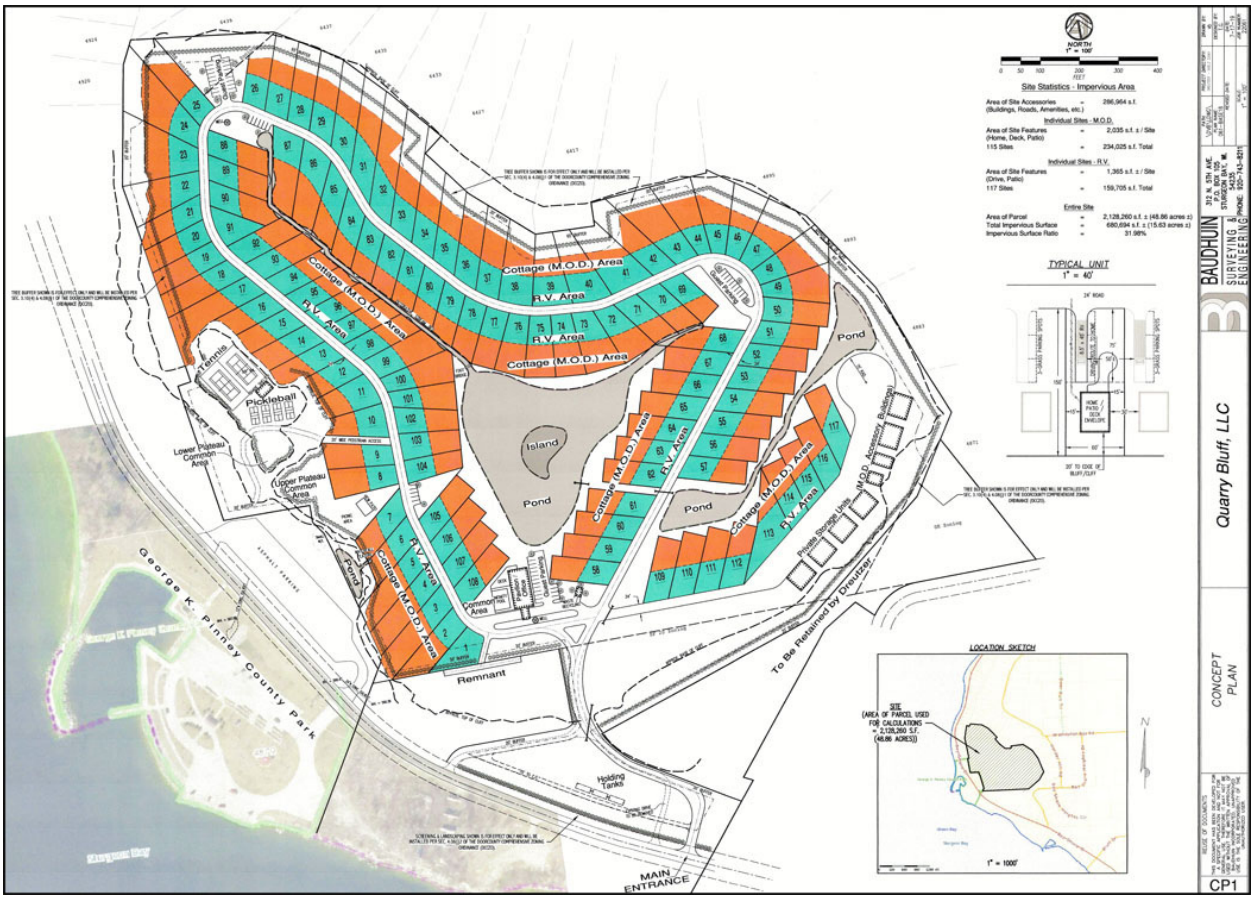


Figure 2. Proposed plan for development of the Quarry Bluff RV Park.

Figure 3. Rendering of the full buildout of the Quarry Bluff RV Village.

Small bungalows (192 sf; see Hearthside Grove notes below) and perhaps small houses (1,200 to 2,400), Pickle Ball Court, infinity pool, tennis courts, clubhouse, six storage buildings, 3 "baths", parking, picnic area and view patio, shade shelter (?), Class A motor coaches [40 feet long] cement pads for parking.

Price points are reported in the CUP as starting at $200,000 per parcel, plus optional $300,000 to $600,000 for a building (bungalow). Lots are planned to be 9,000 square feet, approximately 60 x 150 feet. Development would be over a 10 year period (from BSPOA website http://noquarryvillage.com).

Additional details are described in the sections of this report.

Conditional Use Permit Application Demonstrations. The Application for Conditional Use Permit (addendum) states: ". . . that the applicant must demonstrate that the application and all requirements and conditions established by the Resource Planning Committee relating to the conditional use are or shall be satisfied, all of which must be supported by substantial evidence. "Substantial evidence" means facts and information, other than merely personal preferences or

speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion."

Figure 4. Example of a large motor coach, bungalows, and setting of the Quarry Bluff RV Village.

The burden of proof required of the applicant is set out in the following sections of the CUP statements:

1. Whether the proposed project will adversely affect property values in the area.
2. Whether the proposed use is similar to other uses in the area.
3. Whether the proposed project is consistent with the Door County Comprehensive and Farmland Preservation Plan or any officially adopted town plan.
4. Provision of an approved sanitary waste disposal system.

5. Provision for a potable water supply.
6. Provision for solid waste disposal.
7. Whether the proposed use creates noise, odor, or dust.
8. Provision of safe vehicular and pedestrian access.
9. Whether the proposed project adversely impacts neighborhood traffic flow and congestion.
10. Adequacy of emergency services and their ability to service the site.
11. Provision for proper surface water drainage.
12. Whether proposed buildings contribute to visual harmony with existing buildings in the neighborhood, particularly as related to scale and design.
13. Whether the proposed project creates excessive lighting glare or spillover onto neighboring properties.
14. Whether the proposed project leads to a major change in the natural character of the area through the removal of natural vegetation or alteration of the topography.
15. Whether, and in what amount and form, financial assurance is necessary to meet the objectives of this ordnance.
16. Whether, and to what extent, site-specific conditions should be imposed to mitigate potentially problematic impacts of the use.
17. The impact of the proposed project on public health, public safety, or the general welfare of the County.

Responses to Sections of

Conditional Use Permit Application

Section #1

Whether the proposed project will adversely affect property values in the area.

Aspects of the Quarry Bluff RV Park's impact on the surrounding houses and developments and parks not considered in the CUP.

Applicants Statements'. in the CUP Application: Quarry is assessed at $250,000. The completed Quarry Bluff RV Park is estimated to be assessed in the $40 million range, with individual properties assessed between $450,000 to $750,000 range.

In Section #1 Property Values, pages 1 and 2, the Applicant states "The proposed project will not adversely affect property values in the area for the following reasons" and then states thirteen points. Those points are addressed here.

Applicants' Statements Regarding Old Mine Site: "The existing quarry site is an un-reclaimed mine site." That is true, to a degree. The site has been abandoned for 76 years (since 1944), and there is a slow natural restoration and recovery occurring of Niagara Escarpment habitats. This 76 years of natural recovery reveals the repopulation of cliff environments by nesting birds, use of the quarry area by migratory birds, presence of bats (hibernacula for bats), and the re-vegetation of some areas around and in the old quarry. Additionally the hydrology of the area has rebalanced over the past decades, and is now establishing this new equilibrium with the naturally recovering habitats. Development on the scale of the Quarry Bluff RV Park would disrupt all of this, and such activity could negatively influence surrounding property values.

Applicants' Incorrect Use of Referenced Studies. The Quarry Bluff RV Park CV CUP Application also references two studies, the first from Bill Gassett (2019), a ReMax executive, and the second a Dr. Jonathan Wiley (2001), a professor at Georgia State University.

The Applicants' first reference is to Bill Bassett's list of factors that can lower neighboring property values (Gassett, 2019). Gassett's factors include: (1) proximity to power lines, (2) proximity to a gun range, (3) proximity to train

tracks, (4) proximity to a highway, (5) registered sex offenders, (6) the hoarders next door, (7) unusual upgrades, (8) excessive noise pollution, (9) color and interior design, (10) in an undesirable school district, (11) billboards near the home, (12) located near fracking, (13) having noisy neighbors, (14) numerous foreclosures.

I called Mr. Gassett (January 30, 1:22pm in Rochester, MA), and outlined the Quarry Bluff RV Park layout, and its proximity to existing homes. I did so because RV parks are not mentioned in his list above.

Mr. Gassett said, "**I can't speak to details without seeing the plan, but if the existing homes can see the development, then it may have an impact on property values. It would not increase property values**."

Mr. Gassett's list does not include the impacts, positive or negative, to residential homes adjacent to an RV park development. He does address aspects that will be present in the Quarry Bluff RV Park, and these include #4 proximity to a highway, which in this case would be elevated traffic levels near and on the site; #8 excessive noise pollution, which will be present since the ambient noise level is very low, and potentially (13) having noisy neighbors, which may occur if some of the RV Park residents/visitors are noisy, or just an overall increase in noise from activity on 117 lots and as many vehicles or more, and as many people or more.

Woodruff (2013) and Pan (2016) present neighborhood situations that lower home values. The combined list includes: (1) Sinkhole damage, which can devalue neighbor's property by 30%; (2) High renter concentration, devalue neighbor's properties by 14%; (3) City dumps and power plants, devalue neighbor's property by 7%; (4) hoarders, devalue neighbor's properties by 5 to 10%; (5) Foreclosures in area devalue neighbor's properties by $7,200; (6) Noisy neighbors and their pets, devalue neighbor's properties by 5 to 10%; (7) Fracking, devalue neighbor's properties by 24%; (8) Registered sex offenders, devalue neighbor's properties by 12%; (9) Tacky billboards, devalue neighbor's properties by $30,000; (10) Bad schools, also devalue neighbor's properties.

As these data show, anything out of the expected, accepted, or somewhat normalized in development will likely decrease neighborhood property values.

Development Impacts on Neighboring Properties. The Applicant's second referenced study addresses commercial developments and affects on neighboring residential properties (p.4-21) (Wiley, 2015). This study looked at industrial, office and retail commercial properties, not RV parks, camp grounds, or high-density seasonal use motor homes and small house developments, nor did this study contemplate the overlook/view impacts, as well as other aspects discussed in this report. The study by Wiley also considers "the relative impact on residential transactions within a 0.75 mile radius of new industrial, office, and retail developments…". The quarry development is, in some cases, within 50 to 100 feet of existing residential home properties. This close proximity to development, and the fact that RV parks are not considered, renders the Wiley conclusions inappropriate for the Quarry Bluff RV Park impacts to existing residential properties, and therefore the development could negatively influence surrounding property values.

Crompton (2001), referring to green space parks, not RV park developments, states "The real estate market consistently demonstrates that many people are willing to pay a larger amount for a property located close to a park than a house that does not offer this amenity." He notes that property values can increase between 5% to 20% in proximity to a green space park, and this increase in property value benefits the city or town due to higher property taxes. Figure 5, below, is from Crompton's (2001) data, after Li & Brown (1980), and shows increased value of properties in proximity to green space (undeveloped) parks, and decreased market values in developed parks with nuisance factors. This developed park scenario considered over development of green spaces, but not to the degree of an RV park which, by Crompton's reasoning, negatively impact market values of properties to an even greater degree.

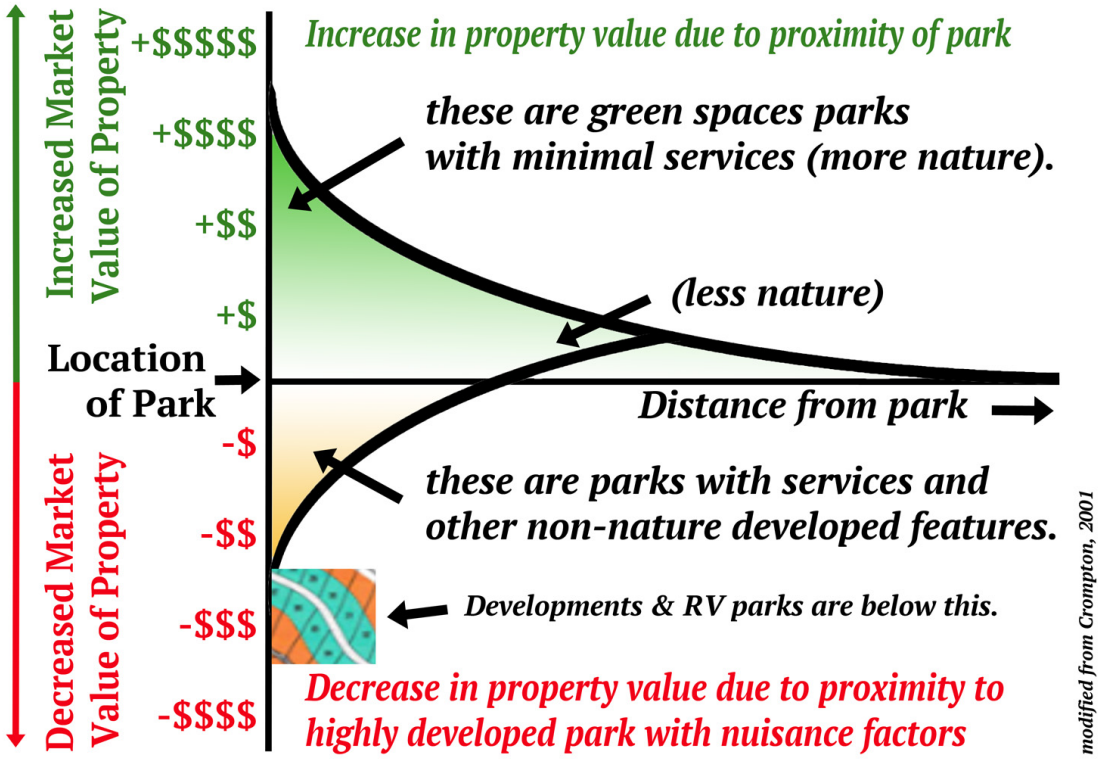


Figure 5. Negative impact of highly developed park with nuisance factors, on adjacent home property values (Crompton, 2001).

A study on trailer parks adjacent to single family residential homes shows that the farther away from a manufactured home, the higher the site-built property value (Wubneh and Shen, 2004).

<u>*Conclusion*</u>: The Quarry Bluff RV Village will not increase area property values, but will most likely decrease area property values.

Item #2

Whether the proposed use is similar to other uses in the area.

Applicants Statements. The following are the statements of the Quarry Bluff RV Village developers as to their interpretation regarding similar uses.

The Applicants state "…we are creating a vacation home destination, not unlike numerous homes located on County Hwy B and other nearby properties."

The Applicants describe the development as a multiple occupancy development (MOD) for Class A motor coaches (heavy duty tour bus type RVs). A typical owner will spend in excess of $1 million in combined value in their land, motor coach, residential structure and landscaping. They are proposing 117 lots, 115 of which would have dwelling units, with 240 to up to 378 bedrooms are proposed for the units.

The Applicants maintain that camping will not be allowed, and further state no tents, trailers, or wood campfires. The will insist natural gas be used for fire pit use. They state that "The only reason we have to apply for permits under the usage category of "campground" and use the term "campground" is due to the fact that under current zoning, it is the only usage category that allows owners to occupy their motor coach for more than 30 days in a given year."

The Applicants state: "The proposed use will definitely be a more desirable fit for the community than other uses permitted under the existing Recreational Commercial zoning district."

The Applicants maintain that the property allows for the following permitted uses: Bed and Breakfast, Boarding Houses/Employee Housing, Dwelling for agricultural and processing employees, conservation subdivision, and duplex developments. And that their Quarry Bluff RV Village is within one of those categories, with the granting of the CUP.

The Applicants are not building a conservation subdivision, conservation development, or any type of sustainable development community. There are no sustainable practices included in the development's design or operation.

Conservation Developments. As a point of reference, herein is a brief description of conservation development projects and types, as there was verbal reference that the Quarry Bluff RV Village will be such a development.

Conservation subdivisions, also known as conservation developments, controlled-growth land use and sustainable developments, are designed around the site's most significant natural and cultural resources. A key goal is to protect ecological resources and maintain biodiversity. Critical to this design is conserving at least 50% of the area for green spaces; so with open space networks are the first element to be "green-lined" in the design process.

Primary Conservation Areas (inherently unbuildable wetlands, floodplains, and steep slopes), are first to be designated, followed by 30-80% of the remaining Secondary Conservation Area unconstrained land, depending upon zoning densities and infrastructure availability. (Arendt, 1996, 2019, Pejchar, et al., 2007 Milder, 2007).

The design process follows four phases or steps: (1) demarcating project site resources into two categories: (A) Primary Conservation Areas (PCA), and (B) Secondary Conservation Areas (SCA), also known as the best of the rest. From 30 to 80% of the site is designated SCA, and there is no development occurs in these areas. (2) location of housing sites relative to protected open spaces. (3) design and layout of streets and trails. (4) finishing lot line designations and refinements.

Conclusions.

1. The greater use of natural gas in the Quarry Bluff RV Village for campsites is **in opposition with the Door County plan** to reduce the use of fossil fuels.

2. The Quarry Bluff RV Village, in the opinion of the current residents, **WILL NOT BE more desirable** for the community. The outcry of area property owners, many across Sevastopol Township and Door County, demonstrates that many do not see the Quarry Bluff RV Park as "more desirable". Because of this, potential buyers of existing adjacent homes may also perceive the development as less desirable, and this could negatively influence surrounding property values. The Quarry Bluff RV Village is not like other uses in the area.

3. There are no such exclusive, gated, RV villages in the Town of Sevastopol. The Quarry Bluff RV Village is also unlike any development in Door County.

4. The exclusivity (high-cost) of the Quarry Bluff RV Village further departs from the county's desire to increase affordable housing. The Quarry Bluff RV Village conflicts with the Door County plan goal.

5. There was some discussion regarding the Quarry Bluff RV Village being a conservation subdivision or conservation development. This is categorically not such a development, it is a non-sustainable, environmentally damaging, community altering exclusive, gated community RV village. The Quarry Bluff RV Village is not like other uses in the area.

Item #3

Whether the proposed project is consistent with the Door County Comprehensive and Farmland Preservation Plan or any officially adopted town plan.

Comprehensive Planning and The Niagara Escarpment Zone. The Door County Comprehensive and Farmland Preservation Plan 2035 (DCPD, 2015, p. 16) vision begins: "In the year 2035, Door County has an exceptional quality of life preserved for both present and future generations through a sustainable balance between its economic activities, the preservation of its natural environment, and its social systems. The county's beautiful scenery and rural character are maintained through both public and private preservation of large areas of undeveloped natural and pastoral open space."

The vision and the eight goals from the Door County Comprehensive and Farmland Preservation Plan 2035 clearly recognize the critical interrelationship between the science of the landscape and the policies that work hand in hand with it to provide a high quality of life, while working towards sustainability, for the people of Door County.

Conclusion Goal by Goal: The goals of the plan, and the response herein, are (reference to goals in DCPD, 2015, p. 18):

GOAL 1. Improve communication and knowledge regarding land use issues between all levels of government and residents, and support or initiate cooperative efforts on issues requiring multi- jurisdictional coordination.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan. The concern here is the lack of sustainable or green land use in the development of the Quarry Bluff RV Village. There is no education plan outlined regarding proper use of native species in landscaping, as well as the danger to groundwater contamination and Green Bay shore areas from the use of herbicides, pesticides and fertilizers, and the contamination from vehicles and other activities in the

development. There is not plan for community outreach to the existing wooded and shoreline community.

GOAL 2. Preserve and protect the county's surface water, groundwater, wildlife habitats, and natural features.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan (see later sections of this report - great concerns about water and habitat issues)

GOAL 3. Protect existing agriculture and promote sustainable agricultural operations.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan. The concern is contamination impacting ground water, and the lack of any sustainable practices on the site.

GOAL 4. Maintain, preserve, and enhance the community's rural atmosphere and agricultural heritage.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan (see later sections of this report). There is nothing like the Quarry Bluff RV Village in Door County. This will create a visual, health, and financial burden on the existing wooded and shoreline community.

GOAL 5. Preserve historic sites and community character, and support, as appropriate, cultural and historical festivals, events, and activities.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan (see later sections of this report). The quarry is an historic park adjacent to the George Pinney County Park, and provides a tourist and scientific site for naturalized restoration of Niagara Escarpment habitats - Natural History.

GOAL 6. Encourage quality affordable housing and economic opportunities for the current and future population.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan (see later sections of this report). The Quarry Bluff RV Village is a gated, exclusive and high-cost development that further exacerbates lack of affordable housing issue in the county.

GOAL 7. Support the development, maintenance, and up-grading of utilities, community facilities, and services in an efficient, coordinated, and cost-effective manner to service the current and future needs of the community's residential and commercial uses.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan. The concern is the lack of any sustainable practices on the site. No reference to renewable energy to lessen the impact to Door County's power grid, they expressly state they will not put in sidewalks or crosswalks, a necessary community safety action, and no bike trails along Bay Shore Drive and to George Pinney County Park, and no plan for quarry safety regarding quarry walls, sinkholes, or care of the sensitive habitats associated with the Niagara Escarpment, and the natural restoration occurring in the quarry itself.

GOAL 8. Support the development - at the lowest possible environmental and social cost - of a transportation system that is safe, economical, efficient, integrated, inter-modal, and interconnected, and adaptable to changes in demand and technology.

- The Quarry Bluff RV Village conflicts with this goal in the Door County plan. The concern is the lack of any sustainable practices on the site.

Further Cautions from the Door County Plan. The plan specifically states: "**Geology of county and water quality will (or should) affect how housing and economic development activities are established in order to manage increasing seasonal population and tourism levels**." (DCPD, 2015, p. 31, point 6 of General Issues under Housing and Economic Development Issues and Opportunities) (see below - Item #5 Provision for a potable water supply).

- The Quarry Bluff RV Village conflicts with this statement in the Door County plan.

Town of Sevastopol 20-Year Comprehensive Plan. In addition to the Door County Comprehensive and Farmland Preservation Plan 2035, the Town of Sevastopol 20-Year Comprehensive Plan Update (Town of Sevastopol, 2019, p. 12), specifically discusses the importance of the Niagara Escarpment: "The **Niagara Escarpment** runs along the western edge of Door County, right through Sevastopol. Its dolomite cliffs have been revealed at the former **Leathem & Smith quarry** property and the

adjacent George K. Pinney County Park on Bay Shore Drive, and are highlighted as remarkable geological features." *and* "Bay Shore Blufflands Nature Preserve is operated by the Door County Land Trust. It is a functioning preserve and also offers views from a bluff of the Niagara Escarpment." (See below - Item #5 Provision for a potable water supply).

In terms of sustainable land use practices, the Town of Sevastopol 20-Year Comprehensive Plan (Section 2, p.9) states:

- Regulate the type of commercial and industrial development in the Town to minimize the chances of groundwater contamination.
- Discourage development that will interfere with important natural resources, including area lakes and streams.
- Preserve and protect Sevastopol's groundwater to ensure a long-term, viable source of potable water for current and future residents of the Town.
- Preserve and enhance wildlife habitats.
- Preserve and protect the historic resources of the Town to promote the educational, cultural, and general welfare of residents of Sevastopol and provide for a more interesting, attractive and vital community.
- Encourage planning efforts with a resiliency mindset as a way to foster a town that would be able to withstand and recover from natural hazards.
- Explore efforts that will assist with adapting to a changing climate.
- Continue to work with advocates to protect and preserve the Niagara Escarpment.

The plan states land use strategies with objective to (Chpt 3, p. 16):

- Restore and preserve environmental corridors in order to protect water quality, provide wildlife habitat, and maintain rural character.
- Encourage conservation based development in the community.
- Promote energy efficient, sustainable development.

The Town of Sevastopol plan further recognizes the importance of the Niagara Escarpment, and states: "Consider Eco-tourism of threatened, natural environments in the town, such as the Niagara Escarpment, to support conservation efforts." (Future Land Use, p. 21).

- The Quarry Bluff RV Village conflicts with all of these statement in the Town of Sevastopol plan.

Door County Invasive Species Strategy. Additionally, Door County Invasive Species Strategy 2018-2023 states (Hagenow and Lutzke, 2018): "Invasive species are a growing environmental and economic threat to Door County and are defined as harmful alien species whose introduction or spread threatens the environment, the local economy, or society, including human health. Once established, invasive species are extremely difficult and costly to control and eradicate, and their ecological effects are often irreversible. The current threats posed by invasive species in Door County are significant."

For this reason care in all areas of surface and groundwater management, landscaping in or near naturally recovering habitats, and working towards sustainable land use practices that best serve the vision of Door County is of highest priority (see Item #5 Provision for a potable water supply).

- The Quarry Bluff RV Village plan does nothing to recognize or uphold any of the concerns about invasive species laid out in the Invasive Species Strategy.

Addressing CUP Statements in terms of re-opening an abandoned mine. The current mine sites across Wisconsin require reclamation plans. The Quarry Bluff RV Park development anticipates mining dolomite and crushing this as aggregate for backfill over the site. This marks a re-opening of the existing abandoned quarry, and would therefore fall within the existing Wisconsin state mining laws as requiring a reclamation plan (more on this below). Therefore the Quarry Bluff RV Park seems to require an approved mine reclamation plan and permit. Re-opening the mine would negatively influence surrounding property values (Fig. 5). The leaving of the site as is in natural restoration is in keeping with the character and setting of the existing homes and parks.

Item #4

Provision of an approved sanitary waste disposal system.

Applicants' Statements:

- The 117 site development is using an average of 41.6 gallons per day per bedroom.
- Estimated total daily flow of 12,192 gallons (gpd)
- Holding Tank design = 3x the estimated flow = 3 x 12,192 = 36,576 god
- Construction of a 40,000 gallon precast human waste holding concrete tank.
- Service with a 7,000 gallon tanker truck, pumping an ave. 2x per day (7,000 gallon tanker truck).
- The tank will be 90 feet from the centerline of CTH B and 400 feet from nearest home. It will be on Alpena soils (excessively well drained gravelly sandy loam), with the groundwater greater than 6 feet down, and depth to bedrock exceeding 60 inches. Mottling in soil was found at 591 elevation in soil boring, water table seasonal maximum 60 inches below existing grade.

Concerns Regarding Holding Tank Design. The Applicants propose the use of a 40,000 gallon precast concrete human waste tank. They propose burying this at the base of the quarried area just off Bay Shore Drive road, across from the George Pinney County Park. They anticipate an average of two tanker truck loads (7,000 gallons each) per day, more during busy times.

The concern is the location and stability of the holding tank. The concrete tank, if moved due to flooding or floating (buoyancy concerns in unusually heavy rainfall/ storm events), could potentially crack and introduce wastewater into the surface and groundwater systems.

The Applicants plan to emplace the base of the tank at an elevation of 582 feet, roughly the elevation of Bay Shore Drive at the quarry site, which puts the tank (11 ft 8in high) at 593.7 feet (Fig. 6) They plan to burry the tank with 4.5 feet of overburden with a finished grade at 599 feet elevation.

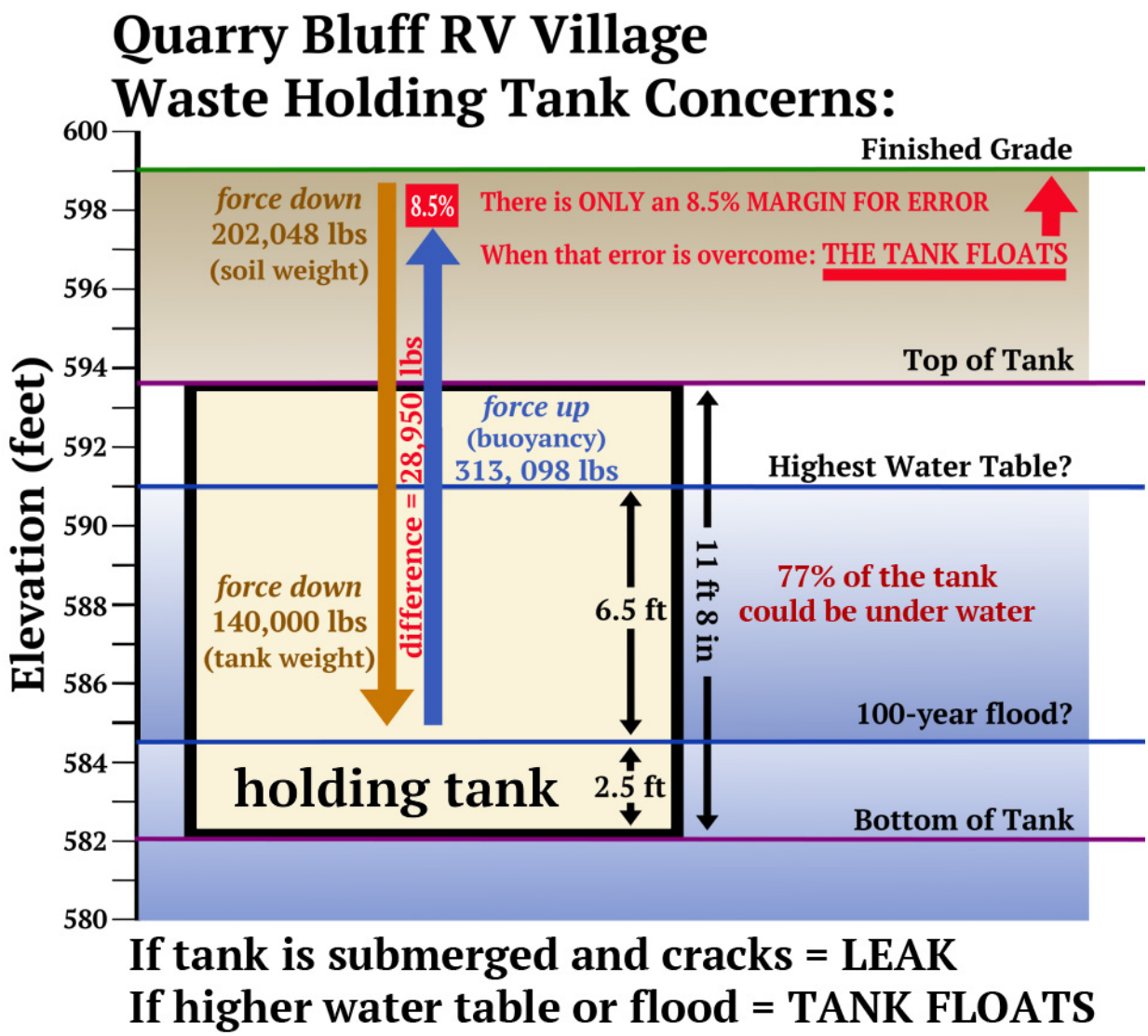


Figure 6. Holding tank conditions illustrating in the CUP, and here recognized that the margin for error in tank stability is only 8.5 percent (illustration by R. Kuhns).

The Applicants also consider a 100-year flood event as rising to 584.5 feet elevation, and the highest (worst case) water table level reaching 591 feet elevation (the flood estimates are based on 1969 data as a point of reference, as recommended by the Door County Soil and Water Conservation Department, but take no accounting of the proven record that climate change has produced more intense storms, higher rainfall, and more frequent flooding; more on climate change in the section on the stormwater plan).

The Applicants' calculations indicate that the potential exists for the tank to be 77 percent submerged. They have also calculated that the downward force (weight of the tank and weight of the overlying fill) exceeds the upward force of buoyancy for the tank by 28,950 pounds. They accept this as sufficient. This is only an 8.5 percent margin for error (Fig. 6).

Conclusions:

1. With the tank 77% submerged (or any level near that), and if cracks have developed, leakage of waste water will enter surface and groundwater resources.

2. The 8.5 margin for error on the tank buoyancy calculations is shockingly tight regarding the potential for tank movement, floating, and cracking. This could result in leakage of waste water to surface and groundwater resources.

3. The Applicants have not provided any statistical confidence intervals or error bars on any of their calculations, as well as inconsistent levels of accuracy (significant numbers behind the decimal). This is a concern because it seems they are assuming 100 percent accuracy and no possibility for accidents or unforeseen conditions. This is poor engineering.

4. It is unclear if the Applicants have considered, in addition to the on-site waste, any RV dumping that could lead to excessive volumes of waste to manage.

5. A more in-depth tank design and placement is needed.

Item #5

Provision for a potable water supply.

Water is Door County's most precious resource. It is also Door County's most threatened resource. The Door Peninsula resides on dolomite bedrock, a type of carbonate rock that is easily dissolved over time by rain water, surface water flow, and groundwater. The Quarry Bluff Project is the wrong type of land use for this sensitive location in Door County.

Water Quality: Karst environments resemble Swiss cheese in their porosity and permeability, and therefore are quick to become contaminated and very slow to repair or undergo self-purification of groundwater resources (Kresic, et al., 1992). This means groundwater resources in karst environments are extremely susceptible to pollution from surface sources. Once the pollution is in the aquifer, it can travel great distances in relatively short periods of times (Assad and Jordan, 1994). Of particular concern is the introductions of organic matter and pathogens into the groundwater resources (Maureen Muldoon, Stieglits, etc)

- Surface Water - downpours, cyclonic bombs, and inflow from fractures and outflow from site could be many gallons per minute flow (for example Horseshoe Bay Cave, south of Egg Harbor).
- Ground Water - at risk because of the introduction of pollutants, changing of localized groundwater flow, and expected water use.

Applicants' Statements: Quarry Bluff Project's portable water supply plan envisions the following:

- Two high capacity wells (non-community public water system and NR812 rules)
- Well locations: s.12, T28N, R25E,
    - Well #1 lat: 44.908300 long: -87.404100
    - Well #2 lat: 44.904800 long: -87.402237

- The wells and water system are considered a non-transient non community water system (>25 people for >60 days per year).
- Wells are 10-inch upper drill hole, 170 feet of 6-in diameter steel casing, and total approximate depth of 300 feet. Pumping 150 gallons per minute (gpm) at full capacity at full build out.
- The area is mapped to have between 200 to 400 gpm capacity aquifer.
    - Drawdown test: pump continuously for minimum 4.00 hours at least 85 gpm
    - Drawdown and recovery information to be recorded per s.NR811.12(16)(e)

The Applicants have calculated the peak water demand for 117 units as follows:

- 117 units x 2.5 people/unit x 70 gpd/person = 20,475 gpd average.
- Assume water use occurs over an 8-hour period = 20,475 / 8 = 2,559 gpa
- Assume peak demand = 4x average demand
- Peak demand = 2,569 gph x 4 = 10,236 gph / 60 min/hr = 170 gpm
- Service provided by 2 wells = 170 gpm / 2 = 85 gpm peak demand

Considering elevation and pressure head: At 85gpm, the TDH (total dynamic head calculation) = 200ft (depth to down-well pump) +57.09 (friction loss) + 127 (pressure head) = 384.14 feet.

Problems arise with these calculations. First, local single family home impacts have not been considered. There are over 50 private wells within 2,500 feet of the two high-capacity Quarry Bluff project wells (Fig. 7).

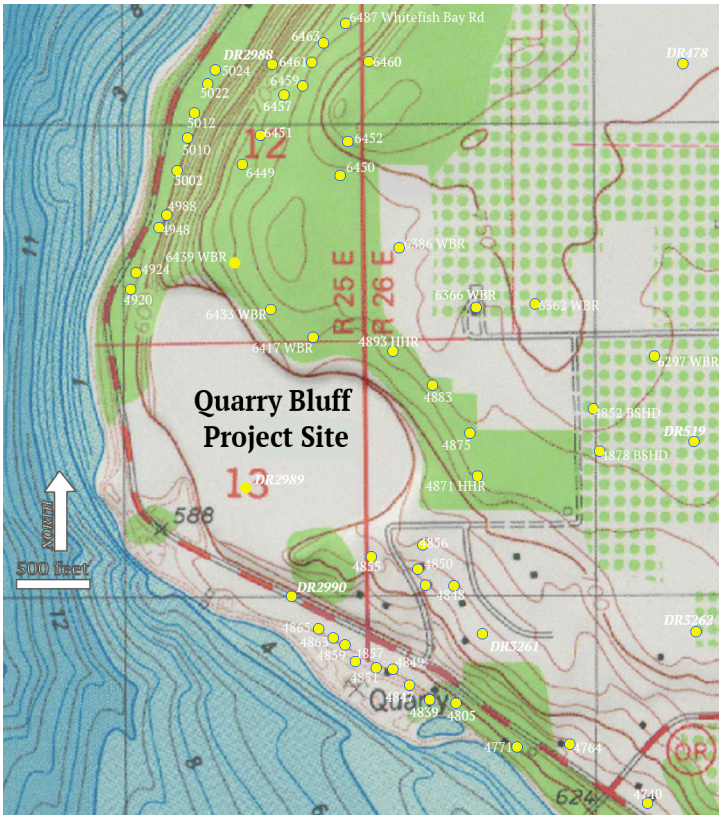


Figure 7. Map of private wells (yellow dots) from the within 2,500 of Quarry Bluff project area (from WGNHS data base https://wgnhs.wisc.edu/water-environment/well-records/].

<u>Problem #1: Dry Private Wells</u>. Potential to lower the groundwater table by forming a cones of depression that would cause surrounding wells to go dry. The cones of depression form as pumping on a well exceeds the aquifer's ability to rebound (Fig. 8).

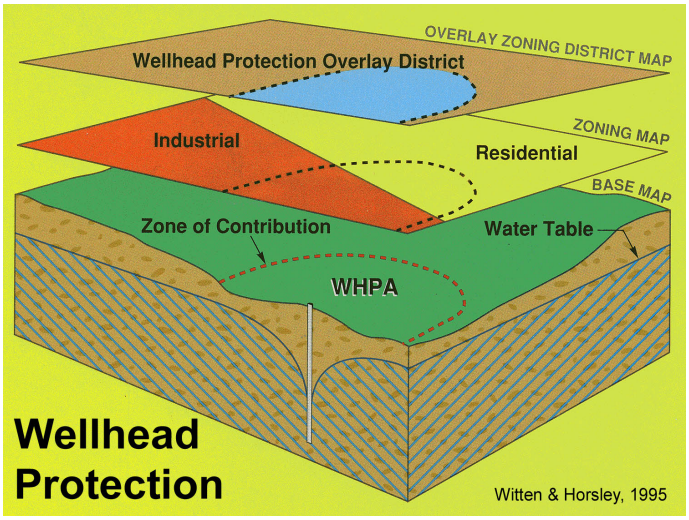


Figure 8. Illustration of a cone of depression forming in the water table (groundwater aquifer), and the potential to dry up adjacent wells (Witten & Horsley, 1995).

The worry with the Quarry Bluff Project is that it plans to develop in an area with numerous single family homes and seasonally used cottages.

To illustrate the concern of impacting neighboring wells, Figure 9 shows the location of four cross sections through the aquifer targeted by the Quarry Bluff Project. Cross sections are presented in Figures 10, 11, 12, and 13.

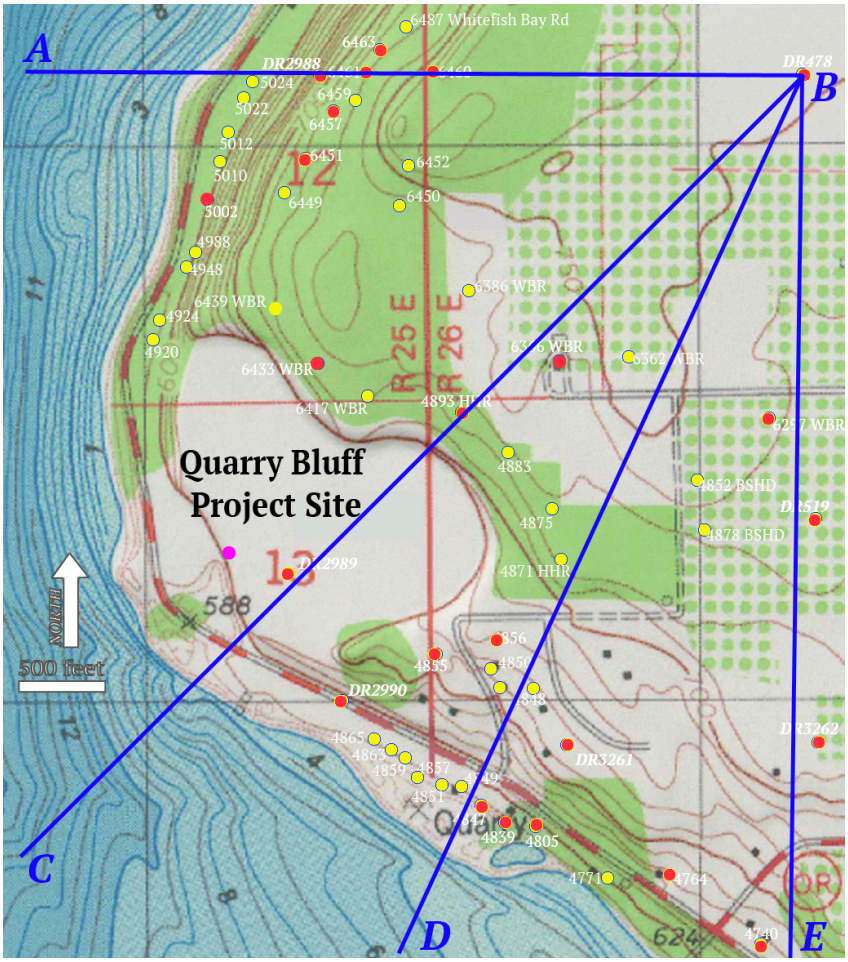


Figure 9. Cross sections over the Quarry Bluff project area.

The aquifer dominantly occurs in the Mayville Formation and lower Burnt Bluff Group, a series of Silurian aged, ancient seabed carbonate rocks comprised dominantly of dolomite. The dolomite is highly permeable due to the intersection of shallow east dipping bedding planes with vertical northwest and northeast fracture sets and with dissolution features (karst - caves, sinkholes, open fractures; more on this below).

The west-facing bluff is the Niagara Escarpment (more on that below).

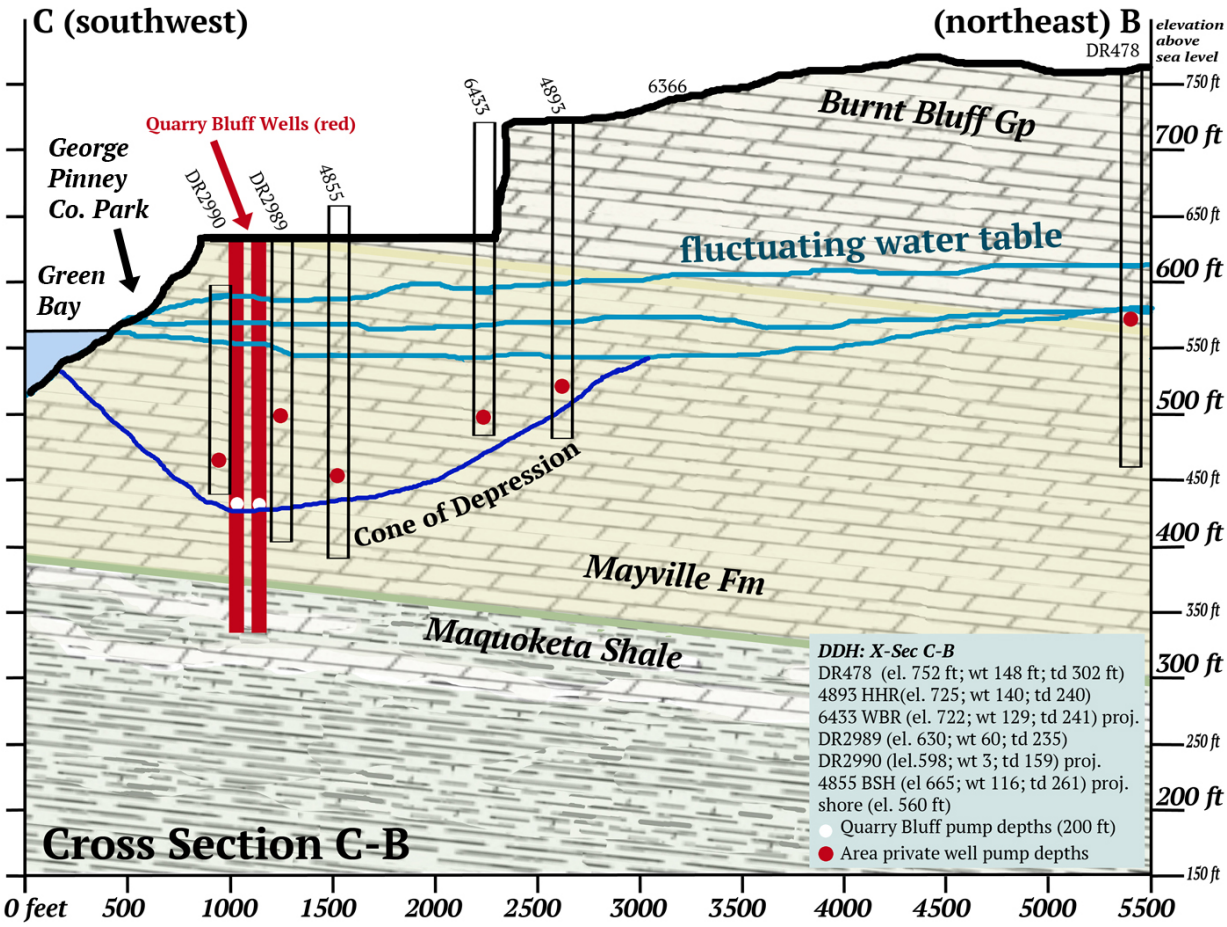


Figure 10. Cross section C-B through the quarry illustrates the concerns in the text.

Illustrated in the cross sections are the following concerns, based on well data from the WGNHS Wisconsin well data:

1. The water table (three light blue lines) fluctuates seasonally and over longer periods of time based on water levels measured when wells were installed between 1938 and 2010 (WHNHS, 2020). Depths to the water table fluctuates depending on:

    1. Weather and climate conditions, such as excessive precipitation or prolonged droughts,

    2. Pumping rates by well users, and

3. Nearby adjacent well-pumping rates.

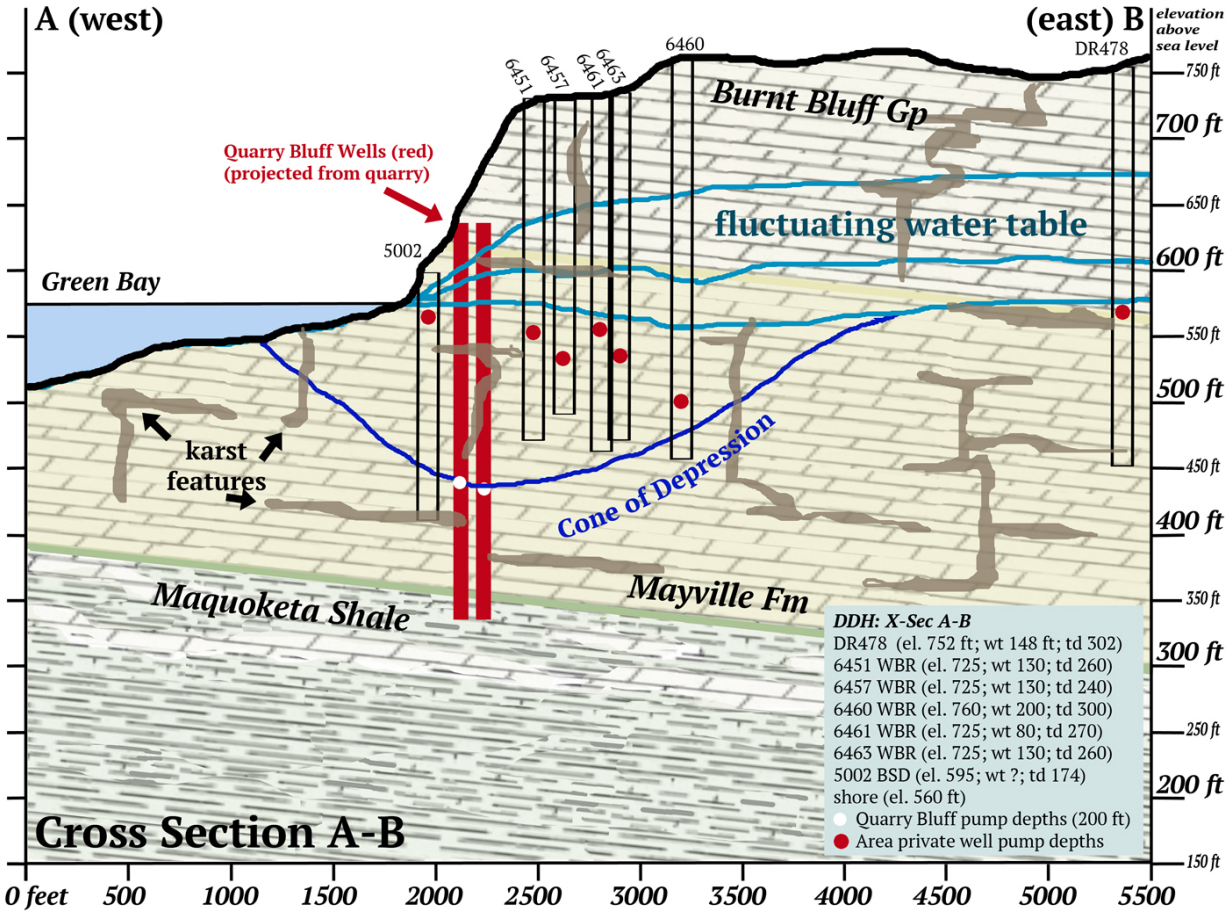


Figure 11. Cross section A-B north of the quarry, illustrating potential water withdrawals.

2. The aquifer is relatively thin at this site, compared to much of Door County, with most well pumps being placed within 200 to 300 feet of the bottom of the aquifer, marked by the impermeable Maquoketa Shale, a unit that acts as an aquatard - or barrier to groundwater movement. This means that high-withdrawals could create problems for private well owners.

3. The average flow rates in gallons per minute (gpm) for the fifty one wells examined is 18gpm. The Quarry Bluff Project wells will pump 170 gpm. This, it is predicted, will stress the aquifer.

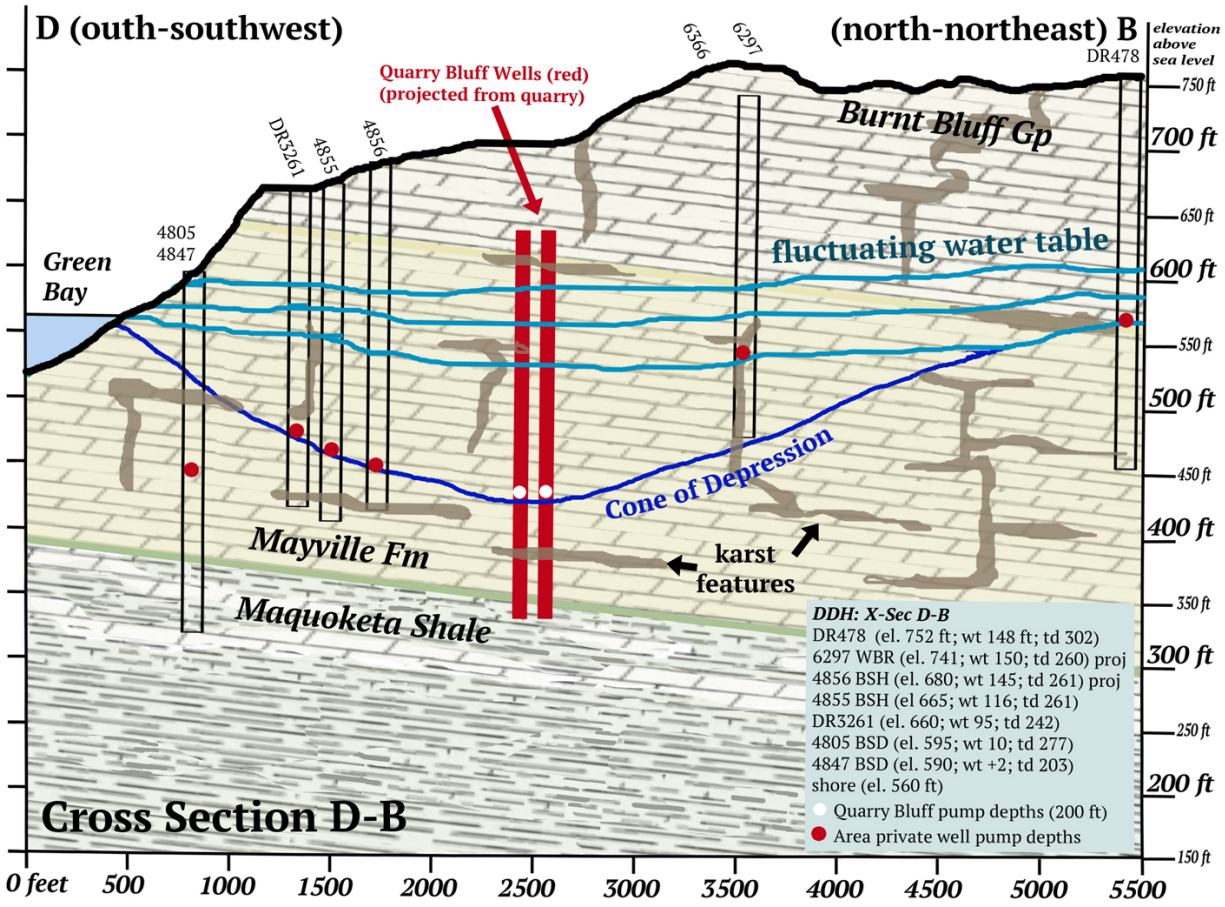


Figure 12. Cross section D-B east of the quarry, illustrating potential water withdrawals that would impact private wells thousands of feet away.

With the impact of high water withdrawals from the Quarry Bluff Project and surrounding private wells, especially in summer, this will stress the aquifer by potentially limiting its ability to fully recharge from snowmelt and rainwater that would impact private wells thousands of feet away. When an aquifer is over-used, such that recharge and rebound is slow, impeded, or does not occur, the permeability of the dolomite commonly is reduced by collapse of pore spaces. This happens because the aquifer water creates a buoyant property that helps hold pore spaces open, thereby maintaining the rock's permeability - a condition for normal water flow in aquifers. When high-withdrawal occurs, portions of the aquifer are pumped dry, creating an opportunity for aquifer collapse.

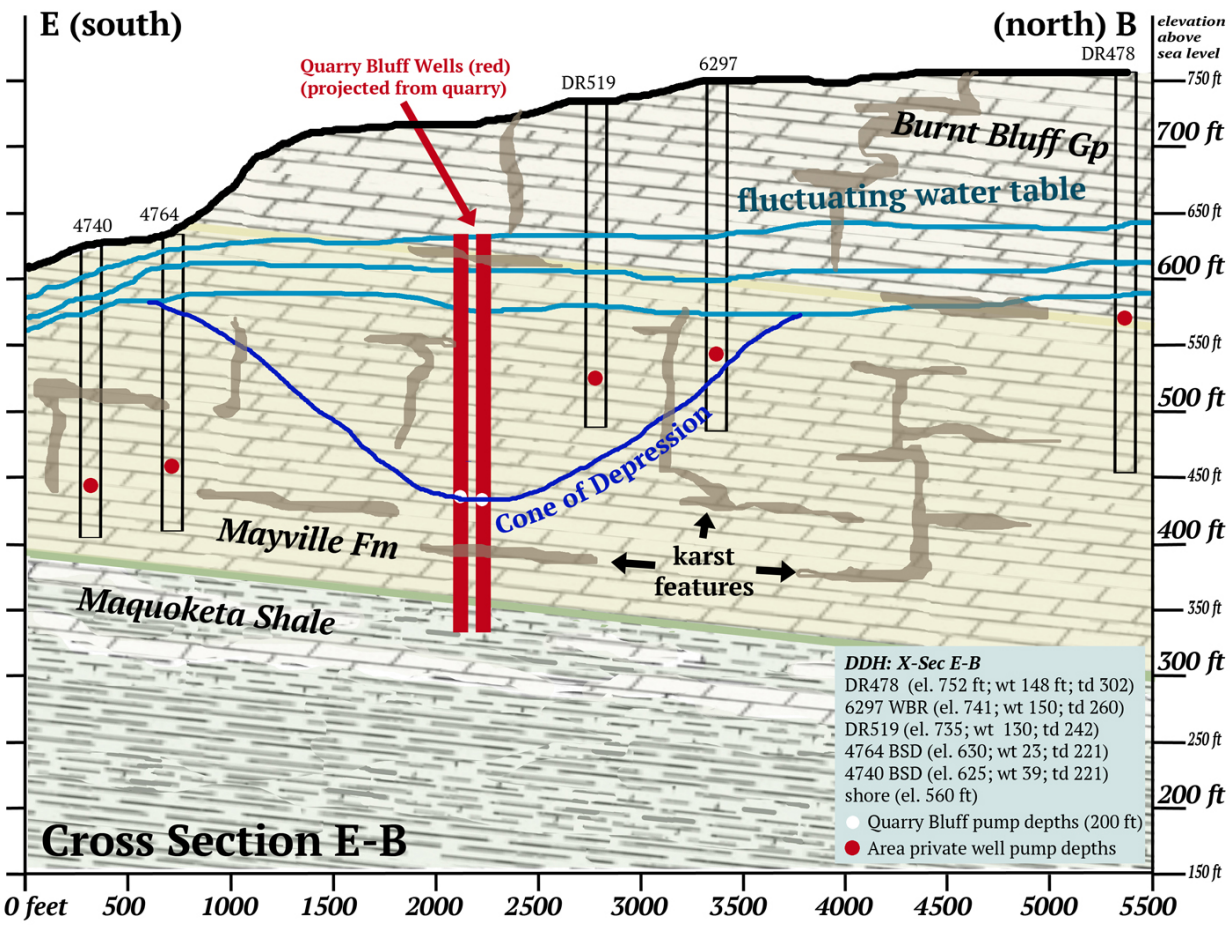


Figure 13. Cross section E-B east of the quarry, illustrating potential water withdrawals that would impact private wells thousands of feet away.

This can also lead to (Groundwater Foundation, 2020; see karst section below):

- Sink hole and land subsidence development,
- Further lowering of the water table,
- Increased costs,
- Reduced surface water supplies, and
- Water quality concerns.

The partial or complete collapse of an aquifer's porosity and permeability is a non-recoverable situation, and leads to a financial burden on private well owners. Very often well drilling companies simply advise homeowners to simply "drill a deeper well". This is a financial burden unfairly imposed on the private well holders by a project utilizing high-capacity wells.

Such situations have occurred in other places in Wisconsin, such as New Berlin, for example, where extreme measures to protect groundwater and surface water supplies have led to economic hardships for residents, and concerns about declining water quality (Gaumnitz, et al., 2004).

As portions or all of aquifers are pumped below natural capacity to recover, the water recovered commonly becomes increasingly lower in quality. This is because clays, minerals, and natural metals of concern that adhere to pore space surfaces are pulled away as the last water is pumped out. Private well owners will commonly experience offensive odors, cloudiness, bad tastes, and potential health concerns as this happens. It is akin to pulling the dregs from the bottom of a barrel. As water is drained, oxygenated atmosphere is pulled into the now dry spaces. This creates a situation where sulfide minerals, such as pyrite (FeS_2), marcasite (FeS_2), sphalerite (ZnS), galena (PbS), and trace metals along with iron, zinc, and lead, minerals common in carbonate rocks, are oxidized. This releases the metals into the remaining water and releases the sulfur as sulfur dioxide, giving the remaining well water a rotten eggs odor.

Additionally, as an aquifer is depleted it draws heavily on surface water recharge at lower dilution volumes, thereby creating a situation where surface contaminants significantly impact water quality and health safety of homeowners in and around the area (Kassulke and Chern, 2006). Common contaminant sources include:

- Vehicles - cars, RVs, campers, buses,
- Yard and garden fertilizers, including nitrates,
- Pesticides and herbicides, and other related chemical,
- Petroleum and solvents used in homes and RVs,
- Waste system spills and leaks.

- Roadway runoff.

The potential for addition of some or all of these contaminants from the Quarry Bluff project exists, even if to a small degree, thereby further increasing water quality and health safety concerns.

Conclusions from Problem #1 regarding impacts from Quarry Bluff project potable water plan:

1. High-withdrawals from the project could lead to significant lowering of seasonal water table levels, leading to drying of private wells.
2. High-withdrawals from the project could lead to partial aquifer collapse, land subsidence, and sinkhole development.
3. High-withdrawals from the project could lead to decreased groundwater quality and health safety concerns.
4. Changes in aquifer functionality could lead to increased harmful impacts from surface activities, leading to potential health safety concerns.
5. Any impacts to the aquifer affecting private wells will incur unfair financial burdens on private well owners.
6. The CUP should be denied on this basis because: The Applicant has not demonstrated through modeling (MODFLOW hydrologic models, see below) or actual measurements presented in the CUP how the projects high-capacity wells will impact the aquifer.

Problem #2: Open fractures and sinkholes - karst terrane. The impacts of high-capacity wells associated with the Quarry Bluff project on the water flow and water quality are further exacerbated by the project being located in a karst terrane.

Karst is a landscape defined by open fractures, sinkholes, caves, topographic depressions, vanishing streams and outflowing seeps and springs, and other water solution features (Fig. 14). The spaces in the carbonate rock dissolved out by rain and groundwater.

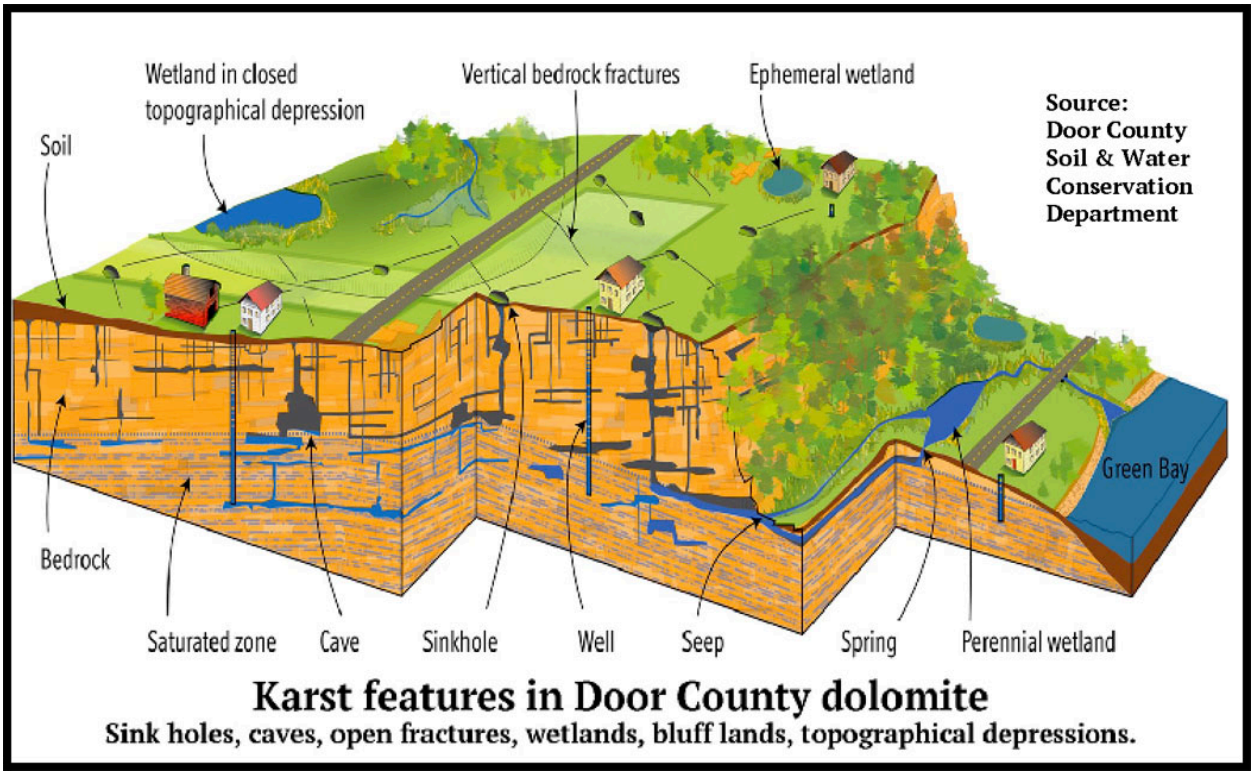


Figure 14. An illustration of karst terrane in Door County. The cliff represents the Niagara Escarpment along the Green Bay shoreline. Land Use and surface and groundwater interactions are shown (Door County Soil & Water Conservation Department). This diagram is drawn such that the viewer is looking southeast.

The dolomite carbonate rock shown in cross sections above (Figs. 10 through 13) illustrate schematically karst features. Karst features have been intersected during the drilling of private wells, as indicated from the very basic well logs filed with

the state (WGNHS, 2020). Features reported as broken rock well below ground indicate breccias, collapse areas, and cave formation. Existing well logs have identified conditions describing breccia at various depths, for example broken karst surfaces below clay, deeper breccia and open spaces.

To adequately understand the risk of a development such as the Quarry Bluff project, we need to understand the magnitude of the potable water supply in relationship to geology, natural environment and scale of project in the western portion of the Township of Sevastopol, and then examine trends in Sturgeon Bay, as an example of Zones of Contribution and Surface Water Impact Zones that threaten drinking water supplies, the local scale to the Old Leathem Smith Quarry (Quarry Bluff project site), and the scale relative to Door County villages.

1. Western portion of the Town of Sevastopol - Geologic controls on water supply and location in the Niagara Escarpment Zone of Influence and Green Corridor.

2. Zones of Contribution and Sturgeon Bay Municipal Wells.

3. Old Leathem Smith Quarry Site - karst terrane and natural habitat restoration.

4. Quarry Bluff Project - bigger than many Door County villages.

Western portion of the Town of Sevastopol - Geologic controls on water supply and location in the Niagara Escarpment Zone of Influence and Green Corridor.

The geologic and environmental setting in the western portion of the Town of Sevastopol ,in which the Quarry Bluff project is planned, is dominated by the Niagara Escarpment. This feature is a 1,000 mile long geologic, environmental, geomorphic feature occurring as a series of cliffs or bluffs (Fig. 15)

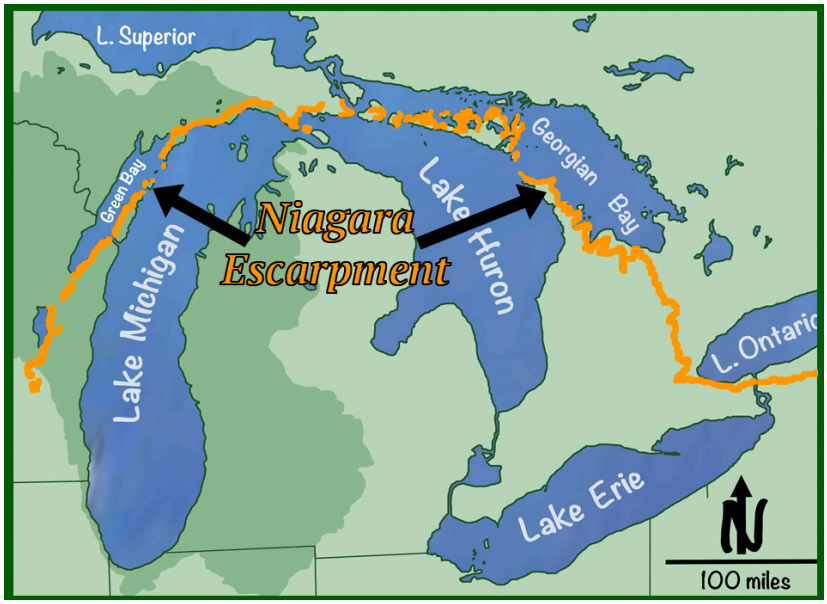


Figure 15. Map showing the extent of the Niagara Escarpment. It defines the west side of the Door Peninsula on Green Bay.

The Quarry Bluff project is located on the Niagara Escarpment, the old Leathem Smith Quarry was mined from 1893 to 1944. The quarry mined mostly in the Burnt Bluff Group dolomite, which occurs above the less competent Mayville formation, which is exposed along Bay Shore Drive and George Pinney County Park (Fig. 10). The extent of the cliff and its location at the quarry are shown in Figure 16. The bluff is from 100 to 120 feet high, and hosts a variety of unique and rare habitats and species therein. This setting is home to the largest number of endangered and threatened species, over 41, than in any county in Wisconsin (Chomeau, 2004; Kuhns, 2010, and Roy and Charlotte Lukes, 2010; Kuhns, 2017). The Niagara Escarpment has been called "Wisconsin's eighth natural wonder, and is considered a significant wildlife habitat and natural area by Door County (Burke, et al., 2003).

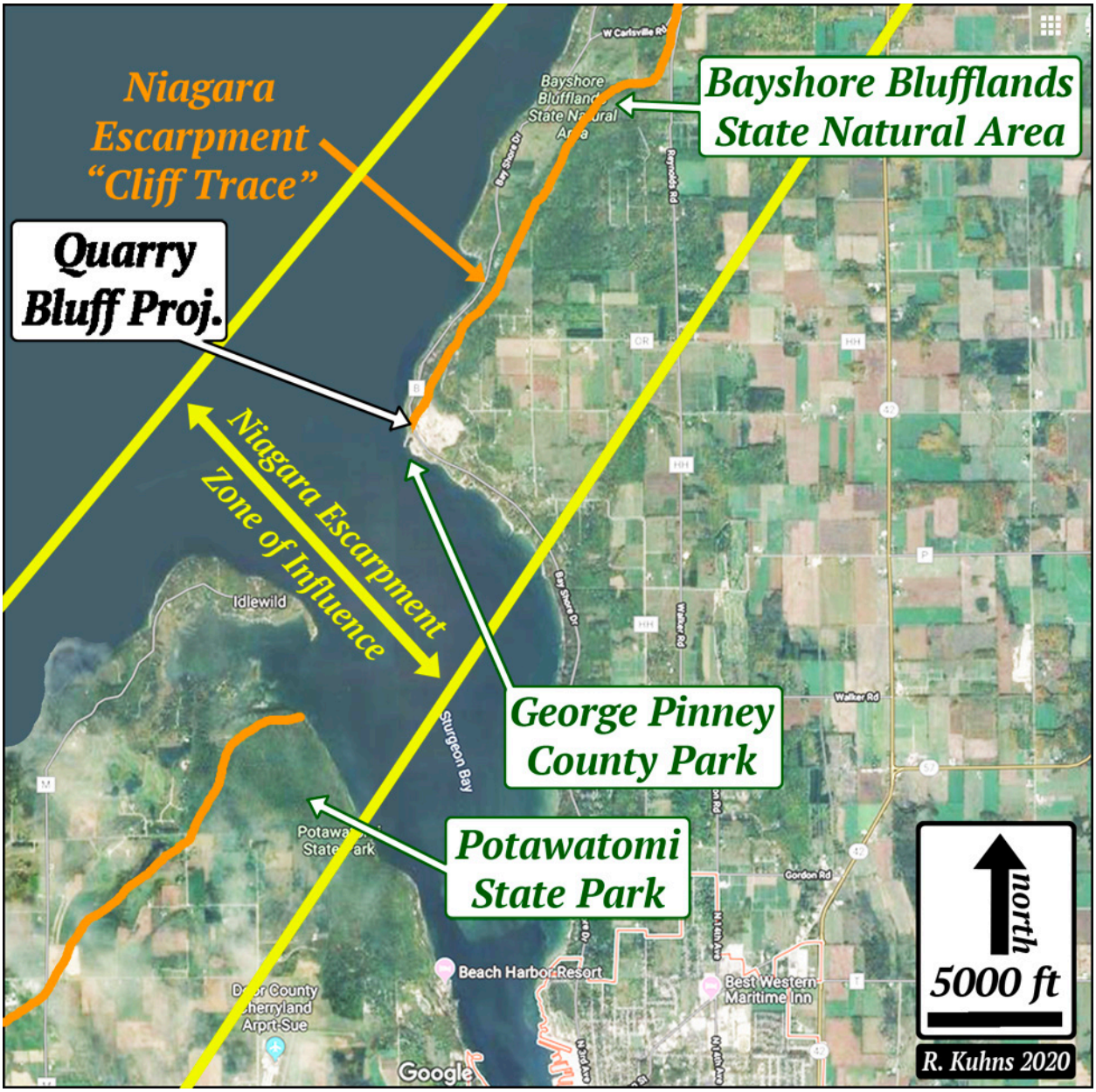


Figure 16. The location of the Quarry Bluff project in Leathem Smith Quarry on the Niagara Escarpment.

<u>The Niagara Escarpment Zone of Influence</u>. The Niagara Escarpment also marks an important topographic and hydrologic zone that heavily influences surface and groundwater flow and quality. For this reason, researchers of the Niagara

Escarpment consider its zone of influence to extend beyond the cliff face as much as a mile or more (Fig. 13). This zone also describes the area in which inappropriate development will cause harm to the natural resources of water, ecosystems, rural continuity, and visual appropriateness. The presence of private homes and cottages has allowed some degree of environmental continuity along the escarpment. This, combined with the presence of Bayshore Blufflands State Natural Area, George Pinney County Park, and Potawatomi State Park (Fig. 13), denote a partially intact Green Corridor along the Niagara Escarpment Zone of Influence, as shown in Figure 17.

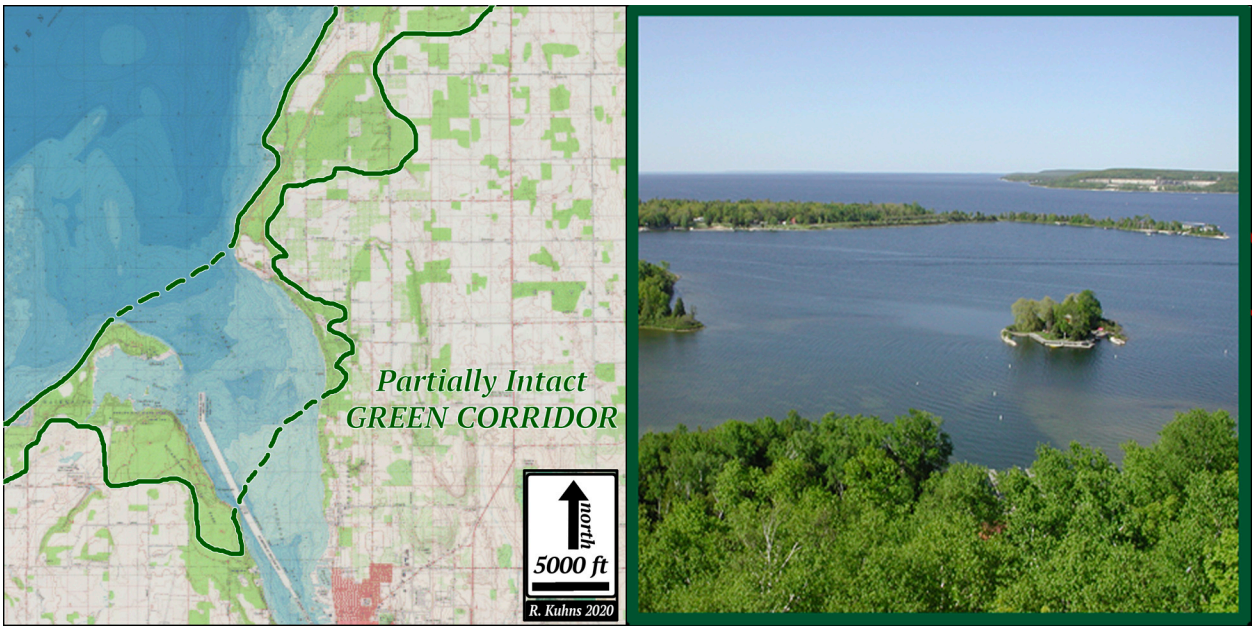


Figure 17. An informal partially intact Green Corridor coinciding with the Niagara Escarpment and its Zone of Influence. To the right is the view of this Green Corridor looking northeast from Potawatomi State Park towards Leathem Smith Quarry (distant right) and the Niagara Escarpment.

The Zone of Influence for the Niagara Escarpment and its Green Corridor provides, if wise land use practices are followed, a high quality of life in a rural environmentally linked setting.

Comprehensive Planning and The Niagara Escarpment Zone. The Door County Comprehensive and Farmland Preservation Plan 2035 (DCPD, 2015, p. 16) vision

begins: "In the year 2035, Door County has an exceptional quality of life preserved for both present and future generations through a sustainable balance between its economic activities, the preservation of its natural environment, and its social systems. The county's beautiful scenery and rural character are maintained through both public and private preservation of large areas of undeveloped natural and pastoral open space." (See above section - Item #3 Consistent with the Door County Comprehensive and Farmland Preservation Plan).

The goals of the plan that are relevant here include:

- **GOAL 2.** Preserve and protect the county's surface water, groundwater, wildlife habitats, and natural features.
- **GOAL 4.** Maintain, preserve, and enhance the community's rural atmosphere and agricultural heritage.
- **GOAL 6.** Encourage quality affordable housing and economic opportunities for the current and future population. (DCPD, 2015, p. 18) (See above section - Item #3 Consistent with the Door County Comprehensive and Farmland Preservation Plan):

The plan also specifically states: "**Geology of county and water quality will (or should) affect how housing and economic development activities are established in order to manage increasing seasonal population and tourism levels**." (DCPD, 2015, p. 31, point 6 of General Issues under Housing and Economic Development Issues and Opportunities).

The vision and the eight goals from the Door County Comprehensive and Farmland Preservation Plan 2035 are mentioned here to understand the interrelationship between the science of the landscape and the policies that work hand in hand with it to provide a high quality of life, while working towards sustainability, for the people of Door County.

In addition to the Door County Comprehensive and Farmland Preservation Plan 2035, the Town of Sevastopol 20-Year Comprehensive Plan Update (Town of Sevastopol, 2019, p. 12), specifically discusses the importance of the Niagara Escarpment: "The **Niagara Escarpment** runs along the western edge of Door County, right through Sevastopol. Its dolomite cliffs have been revealed at the former **Leathem & Smith quarry** property and the adjacent George K. Pinney

County Park on Bay Shore Drive, and are highlighted as remarkable geological features." *and* "Bay Shore Blufflands Nature Preserve is operated by the Door County Land Trust. It is a functioning preserve and also offers views from a bluff of the Niagara Escarpment."

In terms of sustainable land use practices, the Town of Sevastopol 20-Year Comprehensive Plan (Section 2, p.9) states (Restated from above section - Item #3 Consistent with the Door County Comprehensive and Farmland Preservation Plan):

- Regulate the type of commercial and industrial development in the Town to minimize the chances of groundwater contamination.
- Discourage development that will interfere with important natural resources, including area lakes and streams.
- Preserve and protect Sevastopol's groundwater to ensure a long-term, viable source of potable water for current and future residents of the Town.
- Preserve and enhance wildlife habitats.
- Preserve and protect the historic resources of the Town to promote the educational, cultural, and general welfare of residents of Sevastopol and provide for a more interesting, attractive and vital community.
- Encourage planning efforts with a resiliency mindset as a way to foster a town that would be able to withstand and recover from natural hazards.
- Explore efforts that will assist with adapting to a changing climate.
- Continue to work with advocates to protect and preserve the Niagara Escarpment.

The plan states land use strategies with objective to (Chpt 3, p. 16):

- Restore and preserve environmental corridors in order to protect water quality, provide wildlife habitat, and maintain rural character.
- Encourage conservation based development in the community.
- Promote energy efficient, sustainable development.

The Town of Sevastopol plan further recognizes the importance of the Niagara Escarpment, and states: “Consider Eco-tourism of threatened, natural environments in the town, such as the Niagara Escarpment, to support conservation efforts.” (Future Land Use, p. 21).

Additionally, Door County Invasive Species Strategy 2018-2023 states (Hagenow and Lutzke, 2018): “Invasive species are a growing environmental and economic threat to Door County and are defined as harmful alien species whose introduction or spread threatens the environment, the local economy, or society, including human health. Once established, invasive species are extremely difficult and costly to control and eradicate, and their ecological effects are often irreversible. The current threats posed by invasive species in Door County are significant.”

Without expert information and careful oversight in regards to landscaping, the use of exotic or invasive plants over the use of native species, and the sourcing of soil brought in from other sites (some property owners might bring soil, plants, and wood from other areas - all potential avenues of invasive species introduction. This could negatively impact the Niagara Escarpment that is part of the Leathem Smith Quarry and planned Quarry Bluff RV Park.

For this reason care in all areas of surface and groundwater management, landscaping in or near naturally recovering habitats, and working towards sustainable land use practices that best serve the vision of Door County is of highest priority.

Karst Terrane of the Niagara Escarpment Zone and the Quarry Area. With this important understanding of the uniqueness of the Niagara Escarpment, the goals of the comprehensive planning, the context for the importance of the geologic setting can be made. The karst terrane is host to a northeast and northwest series of vertical fracture groupings in the dolomite bedrock, creating a predictable array of structural complexity (Fig. 18).

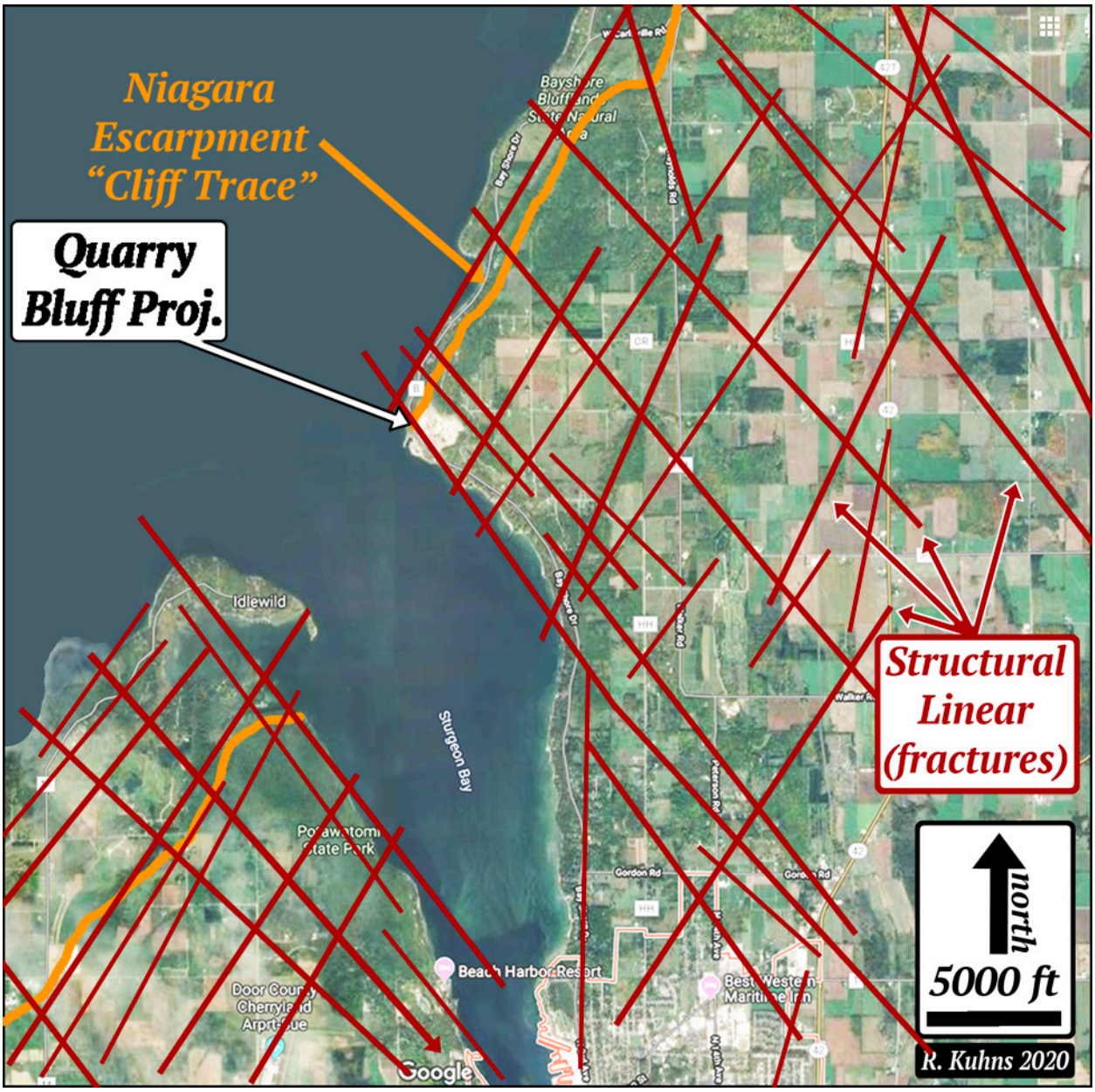


Figure 18. Major northeast and northwest fractures and fracture groupings in the western area of the Town of Sevastopol (Kuhns, 2017).

These fractures occur throughout the Door Peninsula, and in fact most of Eastern Wisconsin. They intersect the gently east-dipping bedding planes in the dolomite, thereby creating flagstone slabs so well known in the peninsula.

Found in association with the karst terrane and the fractures shown in Figure 18, are sinkholes (Fig. 19).

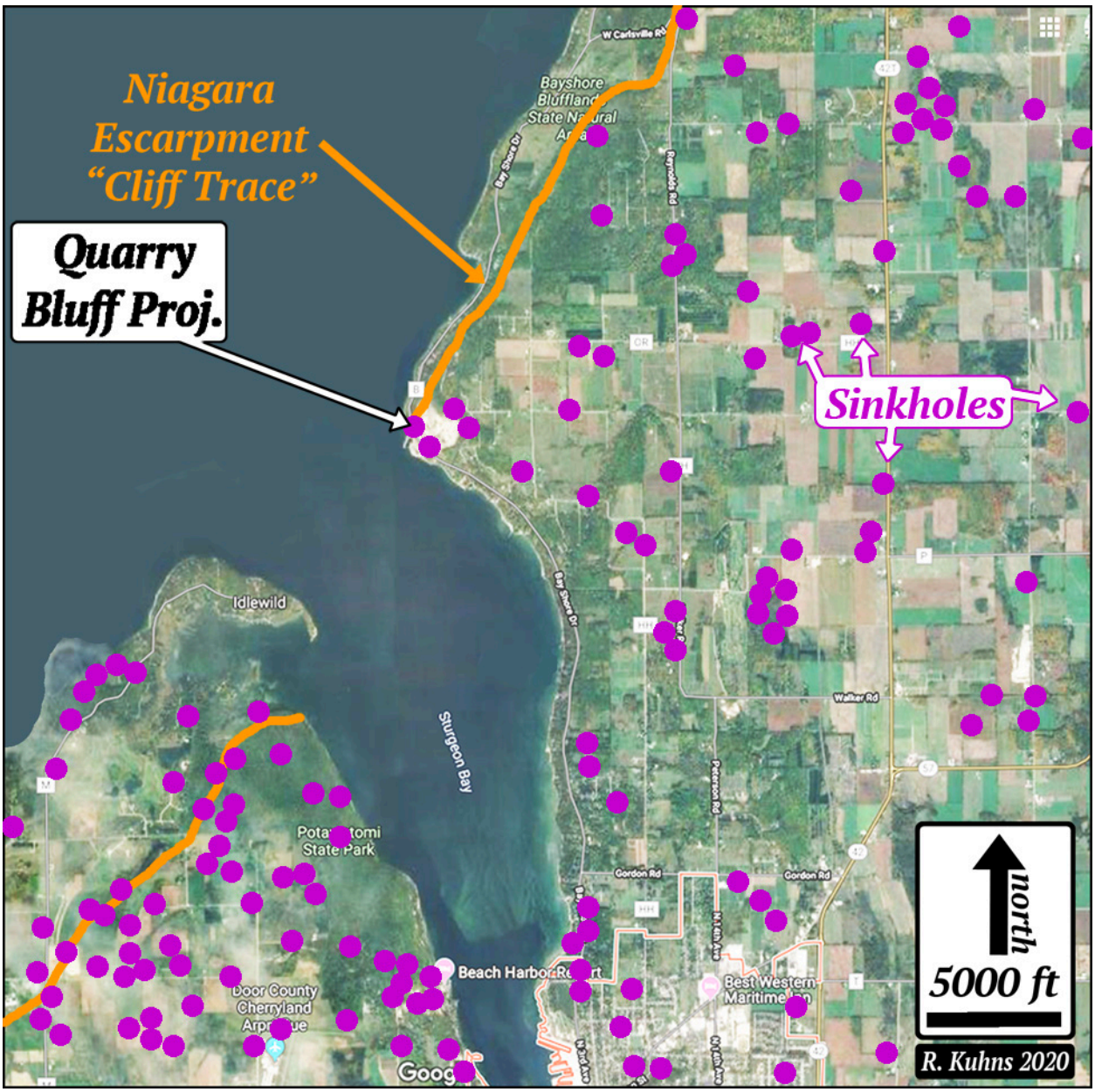


Figure 19. Sinkholes mapped within the western part of the Town of Sevastopol. These vary from small open-fracture collapses to large pits. Data from Door County Soil & Water Conservation Department, and R. Kuhns research.

The sinkholes occur where the dolomite rock has dissolved to a high degree from rainwater and groundwater action such that open spaces developed, became unstable and collapsed downward. They are intimately associated with the northeast and northwest large scale and local fractures, the trace of the Niagara Escarpment (hence the Zone of Influence), and overlaps with the informal Green Corridor, as shown in Figures 14 and 20.

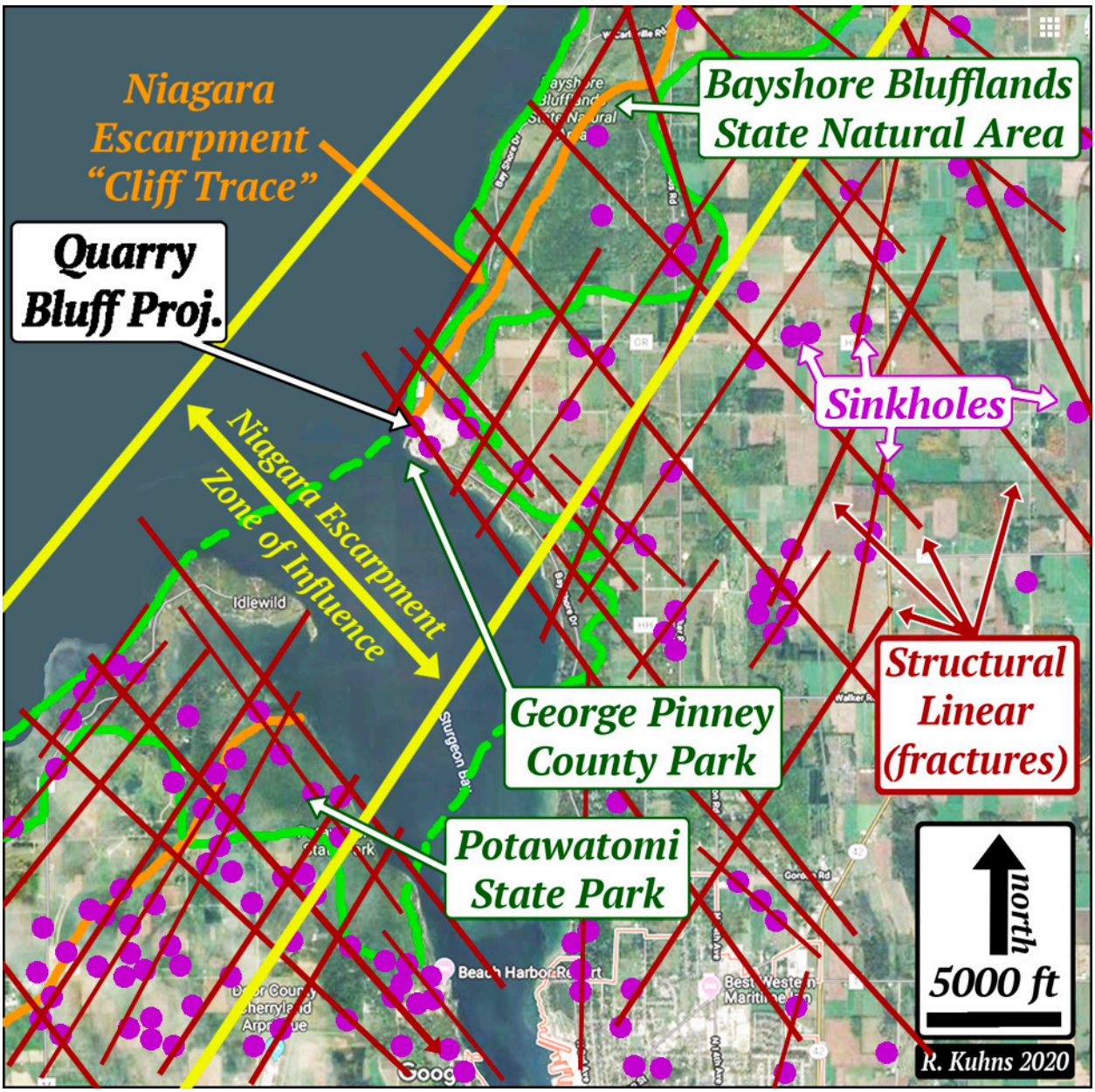


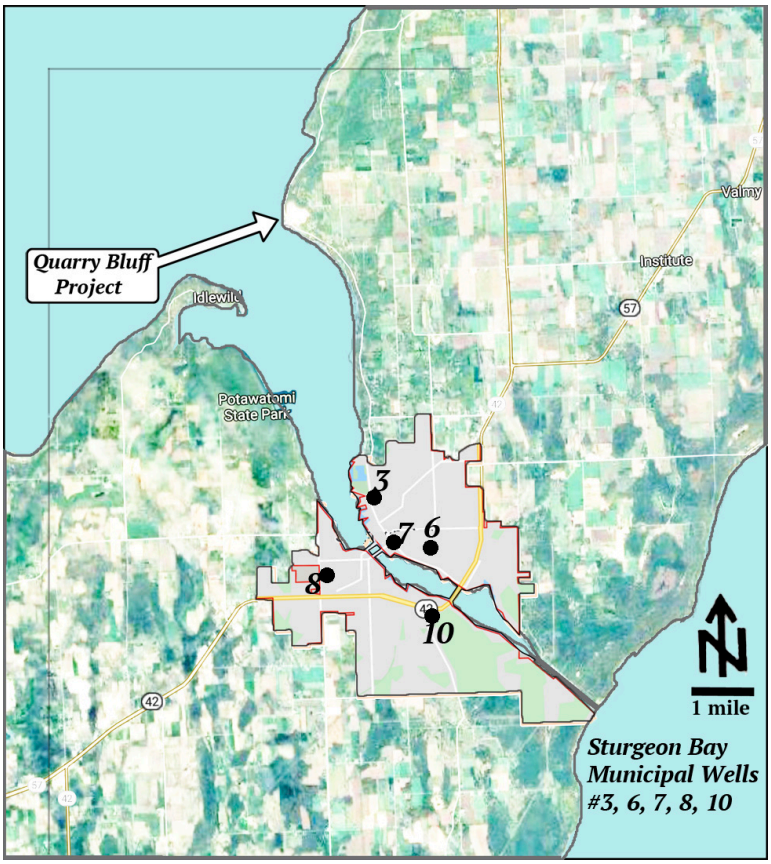
Figure 20. Combined geologic features in western portions of Sevastopol.

The data presented demonstrate the high permeability of the dolomite due to numerous fractures, open fractures, numerous sink holes, and the presence and linkage with the Niagara Escarpment. But to understand how the groundwater - our drinking water resource - flow, and how surface activity can threaten it, we turn to the City of Sturgeon Bay for information and experience.

Zones of Contribution and Sturgeon Bay Municipal Wells. The geologic controls on zones of contribution and surface water impact zones are fairly well understood for the cities municipal wells (Fig. 21). Sturgeon Bay is approximately five miles southeast of the Leathem Smith Quarry site that the Quarry Bluff Project is seeking approvals to develop into an exclusive motor coach RV park.

The City of Sturgeon Bay has installed eight municipal wells, but of these three became so contaminated that they were abandoned (SBU and DCSWCD, 2003). Of the remaining five wells, three have experienced contamination, and all five are regularly treated with ozone to kill pathogens (Fig. 22)

Figure 21. Map of the municipality of Sturgeon Bay and its five in-service municipal wells (SBU and DCSWCD, 2003).



The geology of these wells is the same as those in the Leathem Smith Quarry area, except the carbonate units are thicker (the units across the Door Peninsula dip gently eastward, so a more complete and thicker section of the Silurian carbonates exists on the east side of the peninsula as compared to the west side).

Table 1-1. Details of municipal wells and test wells within the City of Sturgeon Bay limits. Red indicates wells currently in service.

City Well #			Capacity (gpm)	Diam (in)	Total Depth (ft)	Casing Depth (ft)	
1	Redwood St	1918	375	9	1178	139	contaminated; abandoned 1996
3	N 3rd Ave	1935	1710	12	286	148	in service; no contamination
6	N 12th Ave	1951	710	15	425	212	in service; requires ozone treatment
7	Martin Park	1960	880	15	425	155	in service; no contamination
8	Duluth Ave	1966	660	17	452	150	in service; requires ozone treatment
9	S Neenah Ave	1972	n/a	17	507	150	contaminated; never used
10	Tacoma Beach Rd	1977	700	13	447	170	in service; requires ozone treatment
11	N 1st Ave	1984	650	12	228	200	contaminated; abandoned 1996

Potential contaminant sources	Regulatory/inventory organization(s)
Chemical storage	WEM
Land spreading of sewage treatment plant sludge	DNR
Road salt usage and storage	DNR
Animal feedlots	SWCD, DNR
Use and spillage of fertilizers and pesticides	DATCP
Accidental spills	DNR
Septic tanks and drain fields	Sanitarian's Dept.
Underground storage tanks	DNR, DOC
Underground pipelines and sewers	WPS, SBU
Landfills	DNR
Mines, pits and quarries	SWCD, DNR

Figure 22. Sturgeon Bay municipal well data showing the high percentage of contamination problems due to contamination of source areas for the wells (SBU and DCSWCD, 2003).

That means open fractures, sink holes, and easy communication through them of surface to groundwater (Fig. 23). The data also shows the sources of

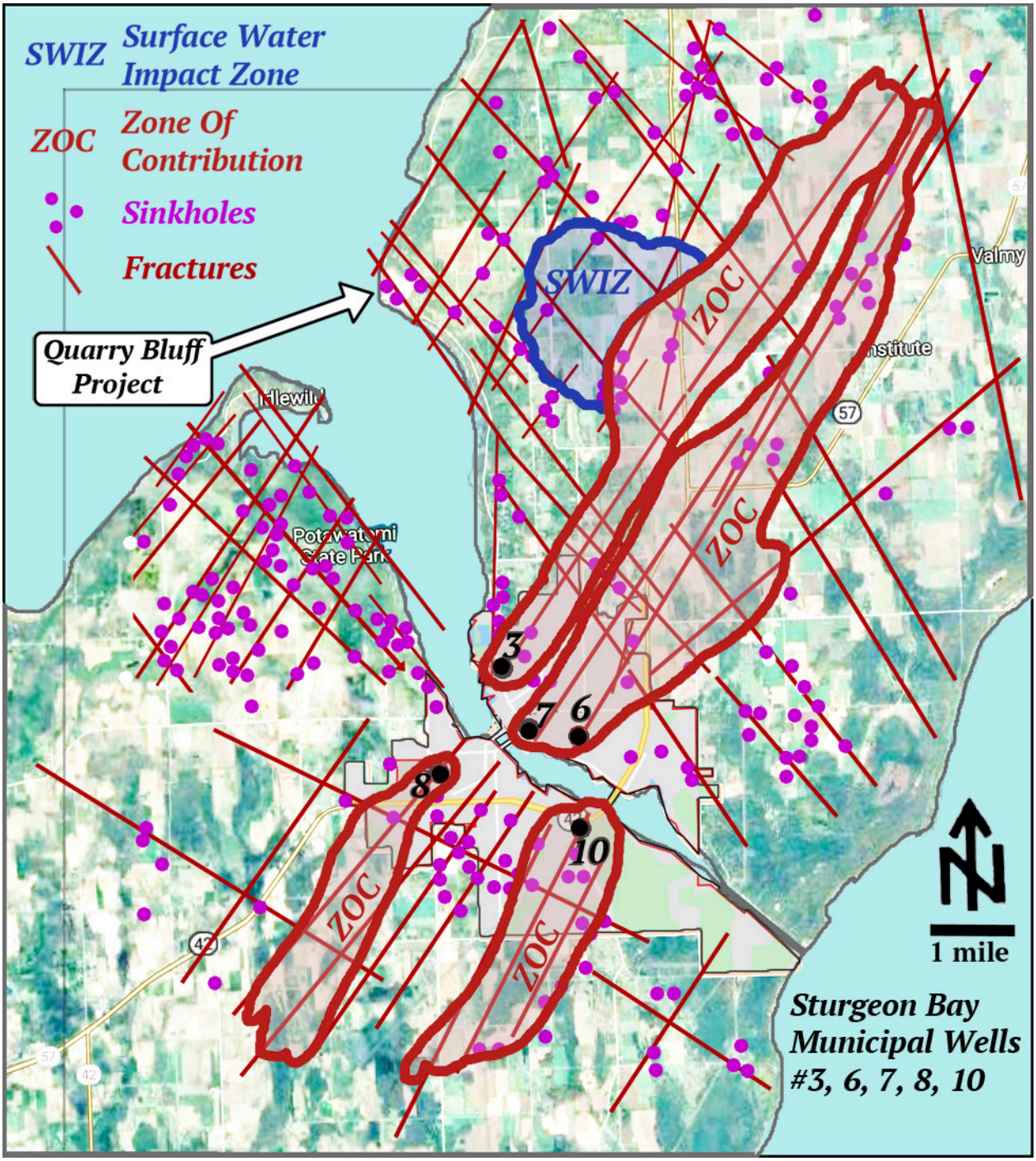


Figure 23. Sturgeon Bay's municipal wells, their zones of contribution, surface water impact zone, sinkholes and fractures, all impacting water quality.

contamination, and includes quarries, and this applies in particular to quarries being actively mined.

What is evident in Figure 23 is the abundance of large fracture systems in association with sink holes. Within these fractures, and other subterranean opens spaces from small pore spaces to caves large enough to crawl in, is the aquifer for City of Sturgeon Bay. The Zones of Contribution (ZOC) were determined though well data and using the numerical model MODFLOW, combined with a particle flow path program for aquifers called MODPATH. These models allow simulation of regional groundwater movement in the saturated zone, that is, the area below the water table (i.e. Fig. 7).

Very often the flow of water in aquifers is over generalized, over simplified, and more often just not well understood. Hydrogeologists were surprised to learn that the ZOCs for the municipal wells did not pull water from the Sturgeon Bay channel - the aquifer is relatively sealed from the channel by mud deposited in the bottom, including in some areas glacial till, which can have a high clay content. This acts as a liner, and although it may be leaky at times, most of the aquifer recharge comes from land surface areas. It was also discovered that the municipal wells pull water from northeast-trending fracture systems.

This is an important point. It means that wells can be contaminated from bad land use practices up to 15 miles away.

Sturgeon Bay municipality also discovered that there is a significant surface water impact zone (SWIZ) towards Green Bay, where poor land use decisions could further threaten the city's drinking water supplies (Fig. 23).

Groundwater Contamination Travels Far. In an unfortunate contamination event south of Egg Harbor, hydrologists tracked groundwater movement using eosin fluorescent dye to understand how 240 people fell ill at the Log Den Restaurant. The problem was a leaking sceptic system. They found that wastewater flowed 100 feet horizontally, and 170 feet vertically in six days, and private wells a half mile away were also impacted over longer time frames (Alexander, et al., 2008). Door County also found, in a county-wide test through the University of Wisconsin-Extension, that 20 percent of the wells tested contained evidence of coliform bacteria (Yancy, 2016). Furthermore, groundwater researchers have found that some pathogens and viruses can survive in the groundwater environment for periods of months to decades (John and Rose, 2005)

<u>Old Leathem Smith Quarry Site and Vicinity - karst terrane and natural habitat restoration</u>.

With the above understanding of the large open fracture zones, smaller open fractures, highly pervious bedding planes, sinkholes and caves we know that the entire area is a fractured karst aquifers. The rock is akin to Swiss cheese.

We will now see that the local area of the Leathem Smith Quarry is no different. As mentioned above, the quarry is part of the Niagara Escarpment Zone, and occurs on the shores of Green Bay and the Sturgeon Bay channel (Fig. 24).

Figure 24. The Old Leathem Smith Quarry and surrounding single family homes and summer cottages.

The large scale fractures evident on a regional scale are depicted on Figure 25. At least two of the fractures are visible on the floor of the quarry, and are filled with debris and plants in some areas.

The importance of these fractures and fracture zones (a grouping of parallel fractures) is that they provide high water flow zones from the surface to the groundwater. An example of such a situation can be found in the Horseshoe Bay Cave south of Egg Harbor (across from Frank Murphy Park), and nine miles north-northeast of the quarry. The author has witnessed outflow from that cave of approximately 300 to 400 gallons per minute during a spring storm.

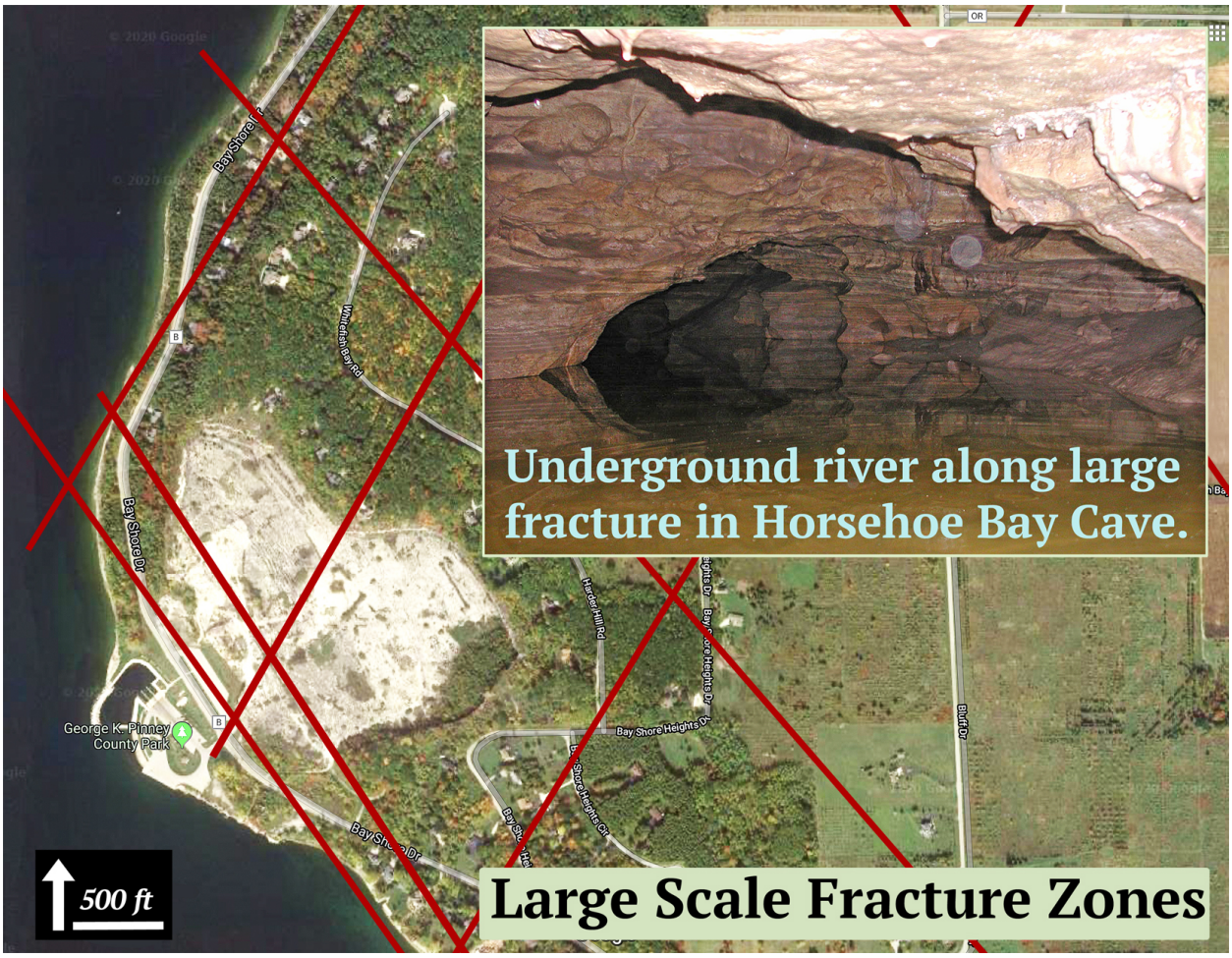


Figure 25. Large fracture traces in the immediate Leathem Smith Quarry area.

A full examination of the quarry is needed to identify and characterize all the fractures and potential sinkhole areas. That being said, these patterns seen in the large fractures (Fig. 25) are repeated in a fractal symmetry pattern at smaller scales as determined from air photo analysis. This is shown in an air photo of the northwest end of the quarry, where literally hundreds of smaller fractures exist adjacent to larger ones (Fig. 26).

Where these fracture intersections interact with rainwater and yield more rock surfaces for water to work on (dissolving the carbonate rock with slightly acidic rainwater). This forms open fractures, and if enough dissolution has occurred below the surface, then larger pore spaces are formed, ultimately creating caves.

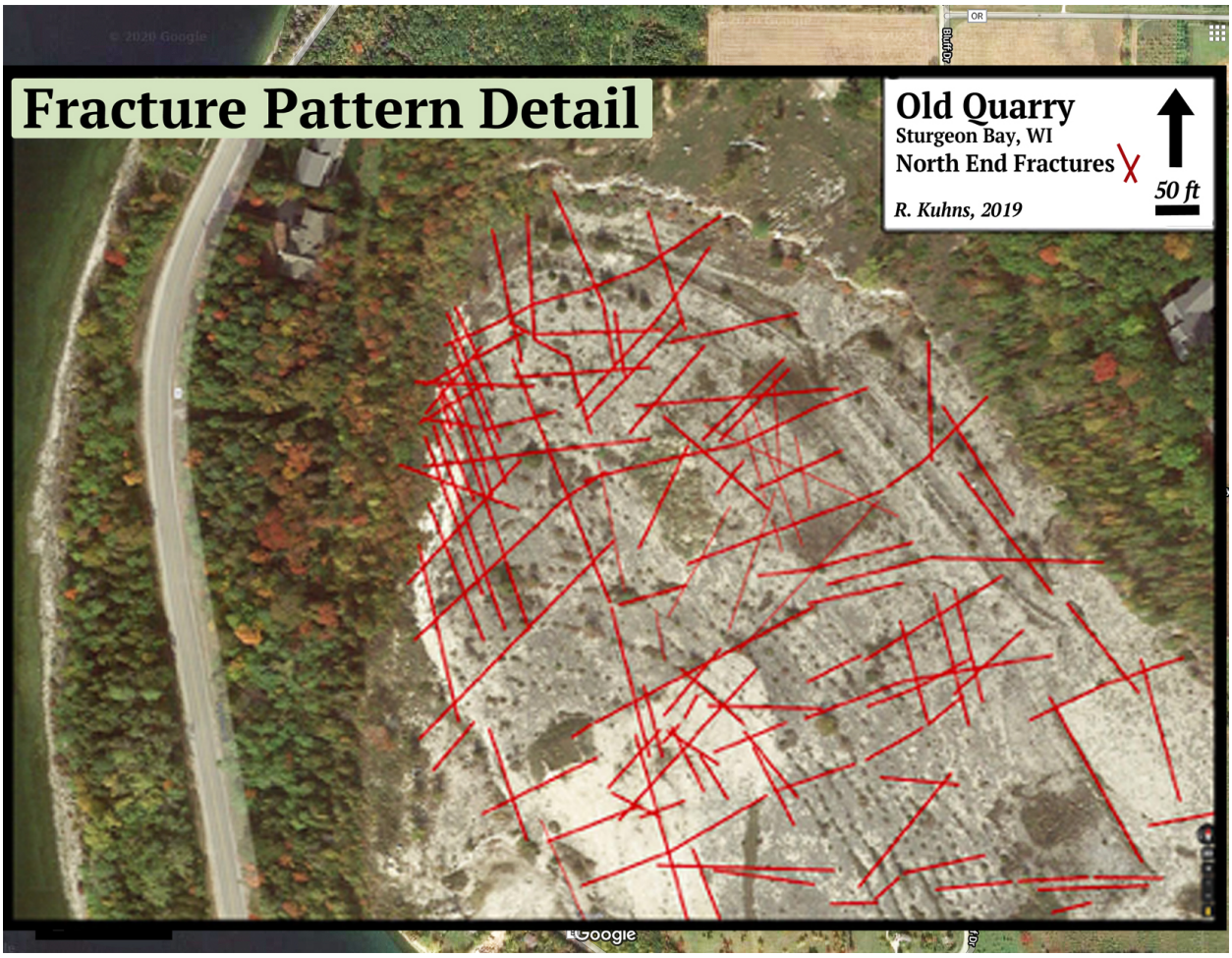


Figure 26. Small fractures mimicking the larger fracture geometry. These fractures are typically vertical to nearly vertical.

Sinkholes in Door County commonly begin as small opening, as seen in Figure 27 that depicts a sinkhole above the cliff face on the Niagara Escarpment. Such sinkholes gradually form larger features, some over forty feet across. A number of open fractures and sinkholes occur in the quarry area. (Fig. 28).

Figure 27. A sinkhole developed above the Niagara Escarpment .

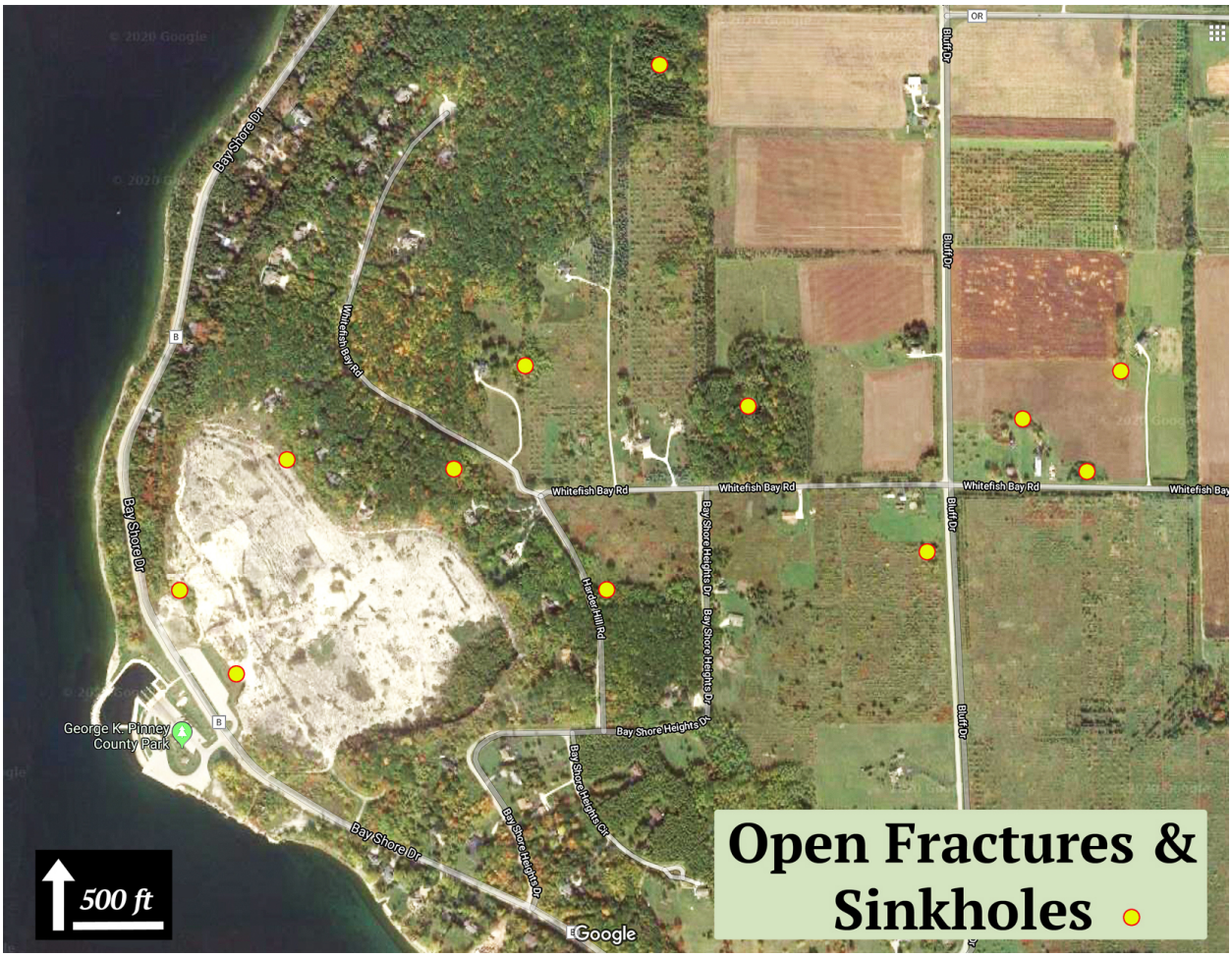


Figure 28. Sinkholes and open fracture intersections in the quarry area.

Although only about a dozen sinkholes are identified in the area, the prevalence of vertical fractures occurring at every scale (small to large), and the high number of sink holes in areas where more people have looked for them (Potawatomi State Park; Fig. 20), there are most certainly many more buried sinkhole features in the area.

Further example of this likelihood for unstable ground can be seen in the highly fractured walls of the quarry. In many areas advanced cave formation can be seen (Fig. 29).The presence of caves beneath zones of high fracture intensity is a recipe for sinkhole formation. This process can be (is) happening throughout the quarry area.

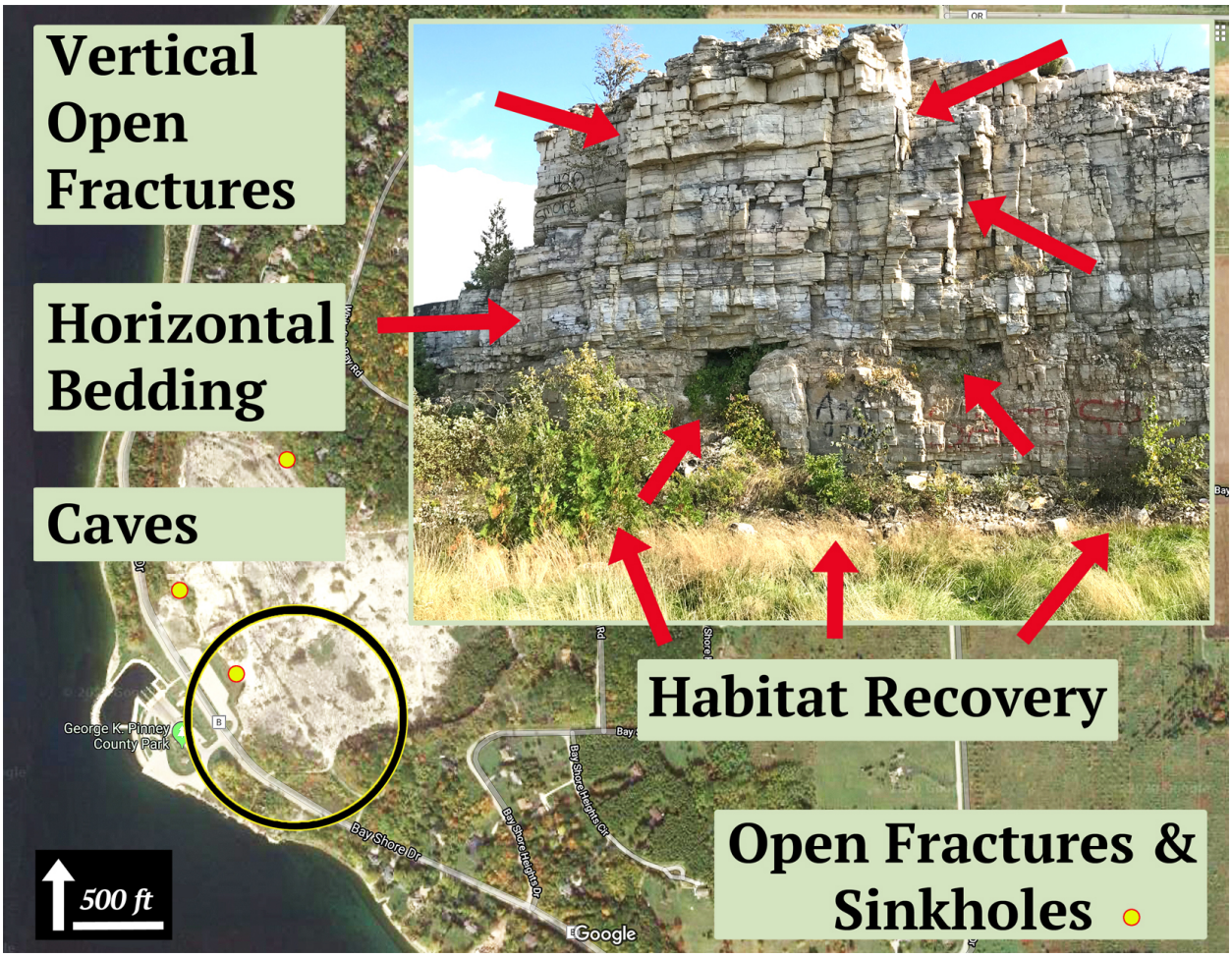


Figure 29. Highly fractured rock with the presence of caves. These areas in the quarry exhibit natural habitat restoration, and should not be disrupted.

Similarly, fractures can be seen extending across the quarry floor and traced up the vertical cliff faces of the quarry (Fig. 30 and 31).

Figure 30. Linear northeast and northwest fractures visible in the quarry floor.

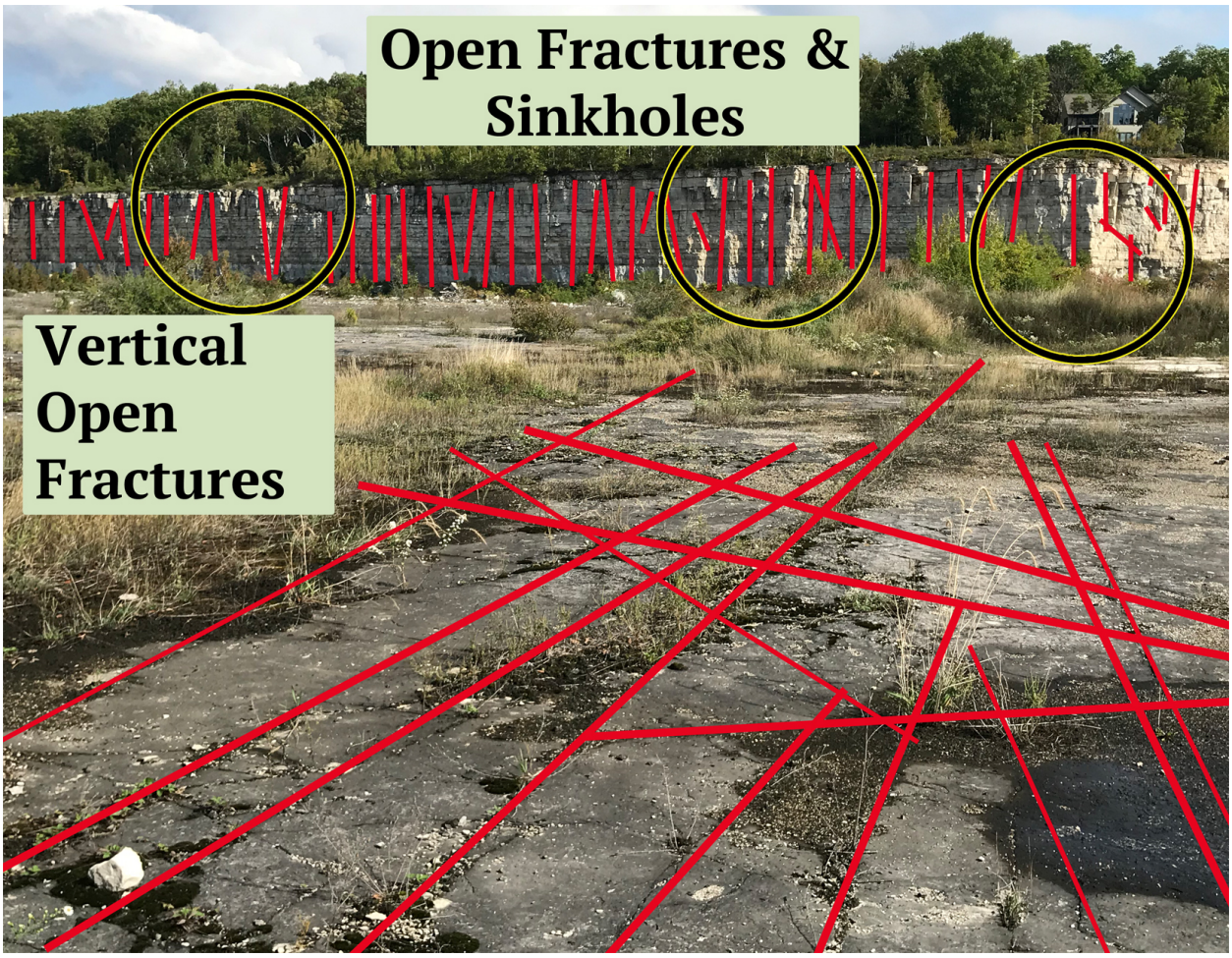


Figure 31. The author has delineated the fractures in red seen in Figure 27, and highlighted both those visible on the quarry floor and their extensions on the vertical cliff faces. The circled areas demarcate areas where quarry mining has intersected old sinkholes, or areas of sinkhole formation.

Sinkhole formation is clearly observable in the quarry's vertical walls. An abundant feature are stoped pipes or narrow shaft-like features where collapse is slowly working upward towards the surface (Fig. 32). Quarry mining has interrupted this process, but gives us a clear understanding of the fractured and karstic nature of the dolomite, and the potential high abundance of collapsing open fracture groupings, sinkholes, and unstable ground.

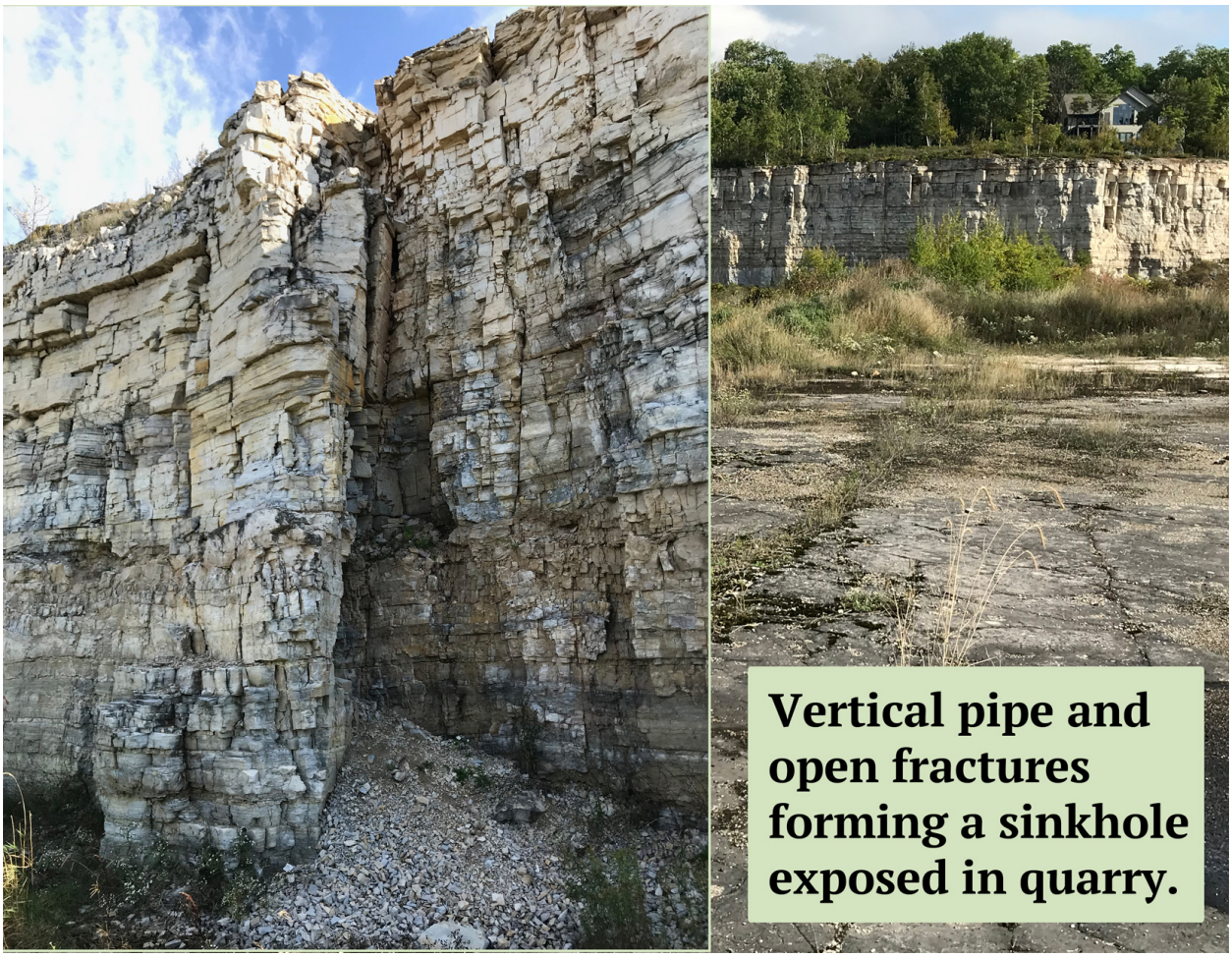


Figure 29. A pipe-like solution-collapse feature along fracture intersections is a step towards sinkhole formation. Also evident in this cliff face are the numerous solution pockets and open spaces along the horizontal bedding planes. These features significantly increase the permeability and porosity of the this fractured karst aquifer.

<u>*Conclusions from Problem #2.*</u> The features we see in and around the Old Leathem Smith Quarry, and throughout the single home rural homes and cottage set within wooded, minimally developed lots, are the following:

1. An abundance of open vertical fractures that trend dominantly to the northwest and northeast as structural sets. These occur at every scale, from very small (inch to foot scale) to very large (extending for miles).

2. An abundance of open spaces along bedding planes that intersect vertical fractures, thereby increasing porosity and permeability and groundwater connectivity.

3. Abundance of open fracture groupings and sinkholes at all stages of formation and size (from inches to many feet across), thereby increasing porosity and permeability and groundwater connectivity.

4. Indicators of high-volume flow through the fractures (Horseshoe Bay Cave example for Door County).

5. The overlapping complex hydrologic-geologic environments with sensitive habitats associated with the Niagara Escarpment Zone of Influence and the informal Green Corridor.

6. The presence of long, linear zones of contribution along northeast-trending fractures (Sturgeon Bay), illustrating the local to regional connectivity of the groundwater system.

7. The rapid rate of groundwater contamination (days to weeks; Plum Bottom / Log Den and Sturgeon Bay examples).

8. The potential for groundwater contamination from a variety of common activities on the surface, including quarry mining (Sturgeon Bay example).

The Quarry Bluff project should not be developed in this sensitive location, and if developed will likely at some point create groundwater contamination events.

Quarry Bluff Project - bigger than many Door County villages. The Quarry Bluff RV Village could have up to 300 people at peak times, and over longer periods of time depending on the many factors dictating when and for how long people visit Door County.

On that basis it is interesting to note that an itinerant population of 300 people is larger than five of Door County's quaint coastal villages, including Little Sturgeon, Ellison Bay, Egg Harbor, Baileys Harbor, and Ephraim (Fig 33).

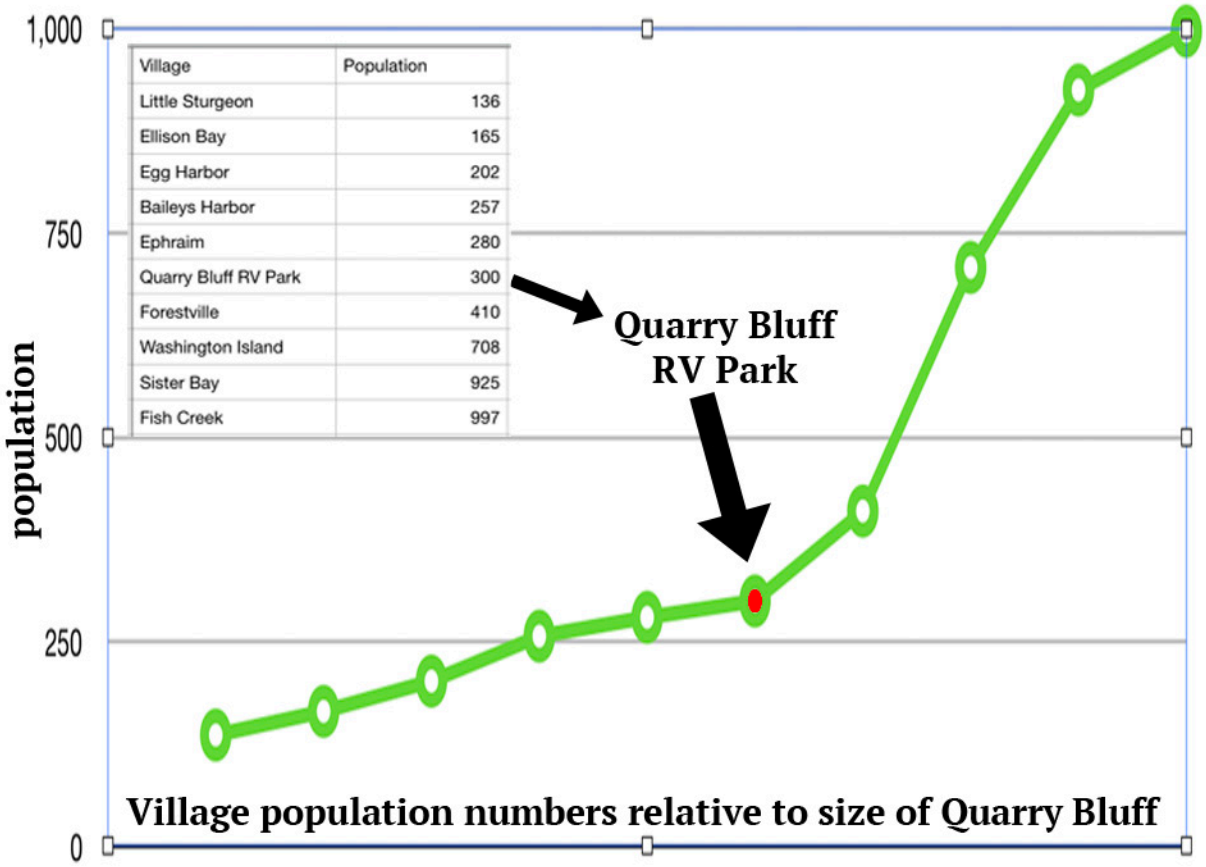


Figure 33. A relative comparison of some Door County villages with the potential population of Quarry Bluff RV Village.

The implications of this for existing property owners in the woodland and shoreline community is the sudden existence of a village at their feet.

Item #6

Provision for solid waste disposal.

Trash & recycling pick up. This is a transient community development, and therefore there will be an abundance of trash in the form of single use plastics, and other such items of convenience.

Conclusions. It is recommended that the development's covenants encourage sustainable practices to reduce trash along roadways and in green spaces. There is no reference to convenient trash cans around the project site, nor signage enlisting and encouraging environmental awareness, conservation, recycling, and the Door County sentiments and intents to keep the county trash free (See Door County Comprehensive and Farmland Preservation Plan 2035)

Item #7

Whether the proposed use creates noise, odor or dust.

Volumes of quarry stone planned to be mined from re-opened quarry. The Quarry Bluff RV Village Applicants have stated their intentions to conduct the following activities for the construction phase (also addressed in Section 18 in the CUP Application):

1. Blasting to create the planned water features (ponds)
2. Blasting for trenches (10' depth)
3. Crushing on-site aggregate
4. Screening stone, and production of screened stone on-site
5. Use of an estimated 20,000 cubic yards of on-site topsoil material
6. They cite following MSHA Federal guidelines for Mine Safety. This is because this is a mine.
7. Dust and noise management.

The Applicant does not specify the volume of aggregate (blasted or reclaimed from existing spoil piles), crushed rock and screened stone needed for the project. Estimates from third party sources (Bay Shore Property Owners Association, the Old Quarry Neighborhood Action Group, and the author) vary from 80,000 cubic yards to over 135,000 cubic yards. And if aggregate is needed to partially cover the quarry floor, then the needed amount could be five to eight times that amount.

To put this volume of rock in perspective, an average dump truck used on construction sites can haul approximately 15 cubic yards. The dolomite aggregate and crushed stone for the Quarry Bluff RV Village is equal to 5,300 to 9,000 dump

truck loads. Since this is on site, haul distances will be short, but moving the stone with bulldozers and graders will take months, or longer depending on mining and excavation rates.

Mining Operation. According to ch.NR135, Wis.AdminCode that addresses nonmetallic mining in Wisconsin, a nonmetallic mining and mine site mean the following:

"Nonmetallic mining" or "mining" means all of following:
(a) Operations or activities at a nonmetallic mining site for the extraction from the earth of mineral aggregates or nonmetallic minerals for sale or use by the operator. Nonmetallic mining includes use of mining equipment or techniques to remove materials from the in-place nonmetallic mineral deposit, including drilling and blasting, as well as associated activities such as excavation, grading and dredging. Nonmetallic mining does not include removal from the earth of products or commodities that contain only minor or incidental amounts of nonmetallic minerals, such as commercial sod, agricultural crops, ornamental or garden plants, forest products, Christmas trees or plant nursery stock.

(b) Processes carried out at a nonmetallic mining site that are related to the preparation or processing of the mineral aggregates or nonmetallic minerals obtained from the nonmetallic mining site. These processes include, but are not limited to stockpiling of materials, blending mineral aggregates or nonmetallic minerals with other mineral aggregates or nonmetallic minerals, blasting, grading, crushing, screening, scalping and dewatering.

(a) Nonmetallic mining sites means the following:

1. The location where nonmetallic mining is proposed or conducted.
2. Storage and processing areas that are in or contiguous to areas excavated for nonmetallic mining.
3. Areas where nonmetallic mining refuse is deposited.
4. Areas affected by activities such as the construction or improvement of private roads or haulage ways for nonmetallic mining.
5. Areas where grading or regrading is necessary.
6. Areas where nonmetallic mining reclamation activities are carried out or structures needed for nonmetallic mining reclamation, such as topsoil stockpile

areas, revegetation test plots, or channels for surface water diversion, are located.

(b) "Nonmetallic mine site" does not include any of the following areas:

1. Those portions of sites listed in par. (a) not used for nonmetallic mining or purposes related to nonmetallic mining after 8 months following December 1, 2000.
2. Separate, previously mined areas that are not used for nonmetallic mineral extraction after 8 months following December 1, 2000 and are not contiguous to mine sites, including separate areas that are connected to active mine sites by public or private roads.
3. Areas previously mined but used after 8 months following December 1, 2000 for a non-mining activity, such as stockpiles of materials used for an industrial process unrelated to nonmetallic mining.

Furthermore, NR135 states that a operator (of a mine) means: "any person who is engaged in, or who has applied for a permit to engage in, nonmetallic mining, whether individually, jointly or through subsidiaries, agents, employees, contractors or subcontractors."

NR135 also states: "Nonmetallic mining reclamation" or "reclamation" means the rehabilitation of a nonmetallic mining site to achieve a land use specified in an approved nonmetallic mining reclamation plan, including removal or reuse of nonmetallic mining refuse, grading of the nonmetallic mining site, removal, storage and replacement of topsoil, stabilization of soil conditions, reestablishment of vegetative cover, control of surface water and groundwater, prevention of environmental pollution and if practicable the restoration of plant, fish and wildlife habitat."

Summary of Clear Designation of Quarry Mining. These activities stated in NR135, which the Quarry Bluff RV Village intends to conduct, fall under the Wisconsin Nonmetallic Mining Law (NR135) (Fig. 34):

1. Extraction of dolomite - a nonmetallic rock
2. Use of drilling and blasting
3. Use of excavation, grading and dredging.

4. Stockpiling of materials
5. Crushing and screening
6. At a location where nonmetallic mining is proposed or conducted.
7. Storage and processing areas
8. Areas affected by activities (construction or improvement of private roads or haulage ways)
9. Considered an "Operator" - any person who is engages in nonmetallic mining.
10. Operations close to navigable waters (Sturgeon Bay channel and Green Bay).
11. Potential to permanently lower the water table (two high-capacity wells).

Figure 34. An active quarry in Wisconsin with conveyors, crushers and screening equipment.

To the knowledge of residents in the area, the Applicants have not complied with the Department of Safety and Professional Services (SPS) Chapter SPS 308, Mines, Pits and Quarries, where the general Federal requirement states No person may operate a mine, pit or quarry unless the person complies with Wisconsin's 30 USC 811 (957 and 961), which addresses mandatory safety and health standards, and the Federal safety and health standards in Title 30 CFR Parts 1 to 99.

Additionally, the Applicants' have put forward no quarry safety protocols for future residents in terms of proper safety and behaviors around vertical quarry cliff faces, cautions about falling rocks and collapsing walls, caution about talus and rock piles, and cautions about open fractures and sinkholes (Fig. 35).

Figure 35. Vertical and highly fractured quarry walls up to 60 feet high create a safety hazard to those not property educated in mining safety.

Hazards associated with unstable quarry walls, such as overhanging loose blocks called "widow makers" occur throughout the quarry (Fig. 36), and loose boulders and blocks (Fig. 37). There is no mention in the CUP Application of addressing such areas for the safety of persons in the quarry.

Figure 36. Quarry wall hazards, seen here as overhanging loose fractured blocks.

Figure 37. Loose and balancing boulders and extensive sections of the quarry wall present additional risks.

Sherry Mutchler contacted Bruce Moore (1/26/2020 e-mail), retired professor of engineering and former WDNR employee, and a member of the Wisconsin non-Metallic Mining Advisory Committee. He states the following:

1. Unless policy has changed (since 2017), a site-specific reclamation plan would be required, mandated by the state and administered by the county.
2. A project such as this [Quarry Bluff RV Village] would certainly trigger a State construction site stormwater permit.
3. There may be the potential for the project necessitating a non-metallic mining permit, as well as an air permit.

Professor Moore's remarks further demonstrate the need for the Quarry Bluff RV Village to be considered a mining project during its construction phase.

Summary of Necessary Permits and Permissions. Because the activities during the construction phase of the Quarry Bluff RV Village fulfill mining activities as defined by NR135, the developers are required to obtain the following permits and permissions, some including public forums, as well as permits that may be required.

With the above information, the Quarry Bluff RV Village project would need some or all of the following permits and permissions:

1. The WDNR's Storm Water Management Program (as per Chapter NR216) may require mine operations to have **Wisconsin Pollution Discharge Elimination System (WPDES) permits**.

2. The WDNR may require some mine operations to obtain air permits from the DNR **Air Management Program**. And compliance with particulate matter (including dust)emissions and pollution requirements.

3. The WDNR requires, under the DNR Nonmetallic Mining Program, a nonmetallic mining **reclamation plan** (under ch.NR135, Wis.AdminCode; http://docs.legis.wisconsin.gov/code).

4. NR135.07 addresses surface water and wetlands protection, and states: Nonmetallic mining reclamation shall be conducted and completed in a manner that **assures compliance with water quality standards for surface waters** and wetlands contained in chs. NR 102 through 105. (NR102-105 Water Quality Standards for Wisconsin Surface Waters; [https://docs.legis.wisconsin.gov/code/admin_code/nr/100/102]). Before disturbing the surface of a nonmetallic mining site and removing topsoil, all necessary measures for diversion and drainage of runoff from the site to prevent pollution of waters of the state shall be installed in accordance with the reclamation plans approved pursuant to an applicable reclamation ordinance. Diverted or channelized runoff resulting from reclamation may not adversely affect neighboring properties.

5. NR135.08 addresses Groundwater Protection, and states:

    1. Groundwater quantity. A nonmetallic mining site shall be reclaimed in a manner that ***does not cause a permanent lowering of the water table*** that

results in adverse effects on surface waters or a significant reduction in the quantity of groundwater reasonably available for future users of groundwater.

2. Groundwater quality. Nonmetallic mining reclamation shall be conducted in a manner which does not cause groundwater quality standards, in ch. (Chapter NR140 Groundwater Quality), to be exceeded at a point of standards application.

7. The WDNR states: "No mining may be conducted without a valid reclamation permit unless exempt from NR135. NR135 states that counties and municipalities are required to issue permits (if application is approved). A reclamation plan is required, and requires public hearings. Post mining land use can be included as part of that plan (a developer can't just say they're reclaiming a site; permits are required). The Wisconsin Department of Natural Resources (WDNR) states: "Counties and local governments have responsibility for siting nonmetallic mines through existing zoning processes and for regulating mine operations." (https://dnr.wi.gov/topic/mines/nonmetallic.html).

Impact to Residents from Quarry Bluff RV Village Development. A number of impacts to neighbors are identified through the CUP process. The CUP Application recognizes noise, dust and odor. To these three impactors are added blasting and vibration as subsets of noise, and sinkhole collapse, which may result from blasting.

Noise. Unwanted noises are typically those above natural ambient noises. This project will introduce an abundance of new noise sources that will periodically rise above ambient levels, and therefore cause distress to surrounding residents. Increased noise could negatively influence surrounding property values.

The Applicants' Statements include:

1. "Comments have been made that property owners living above the subject property can hear casual conversations from the adjacent boat launch when the wind is "just right. "
2. "Exposed bedrock provides very little, if any, absorption of sound waves."
3. "This project will be protected from unwanted noises and nuisance through implementing extensive restrictive use and building covenants." The Applicants' solutions draw upon "extensive landscaping" (est. 60% of area).
4. "Create white noise with construction of waterfalls and pond fountains." (problem: increases ambient noise)
5. Construction of noise absorbing structures - elevations basically make this impossible. Applicant will build structures that "… will reflect noise and keep sound waves within the development."
6. Applicant maintains the quarry walls will act as noise barriers located along freeways.
7. Activities in the quarry area during construction will include operation of mining equipment (trucks, graders, conveyors, crushing, screening

Sources and Amplification of Noise. Noise is often described as unwanted sound. This is a scale beginning at the human threshold of hearing, which is 0 Decibels (db)), and up from there where 120db on the decibel scale is equal to a million-fold increase in pressure. This is important, because noise is pressure, and can be felt as sound waves and as vibrations from, for example, blasting, heavy equipment, and increased traffic.

Ambient noise level increases above 60db, according to the Federal Interagency Commission on Noise (FICON), achieves a "negative reaction". Such a reaction means the noise is too loud, disrupts activities, causes medical and emotional problems, and the like. "Negative reaction" leads to what is called thresholds of significance. Significant thresholds of impact, for example, include persons being exposed to noise levels in excess of local standards or customs, excessive ground-borne vibrations or ground-borne noise levels, a substantial increase (seasonal or long term) in ambient noise levels, and periodic or temporary increase in ambient noise levels in the vicinity (Benchmark Resources, 2011) It is a quality of life issue (Fig. 38).

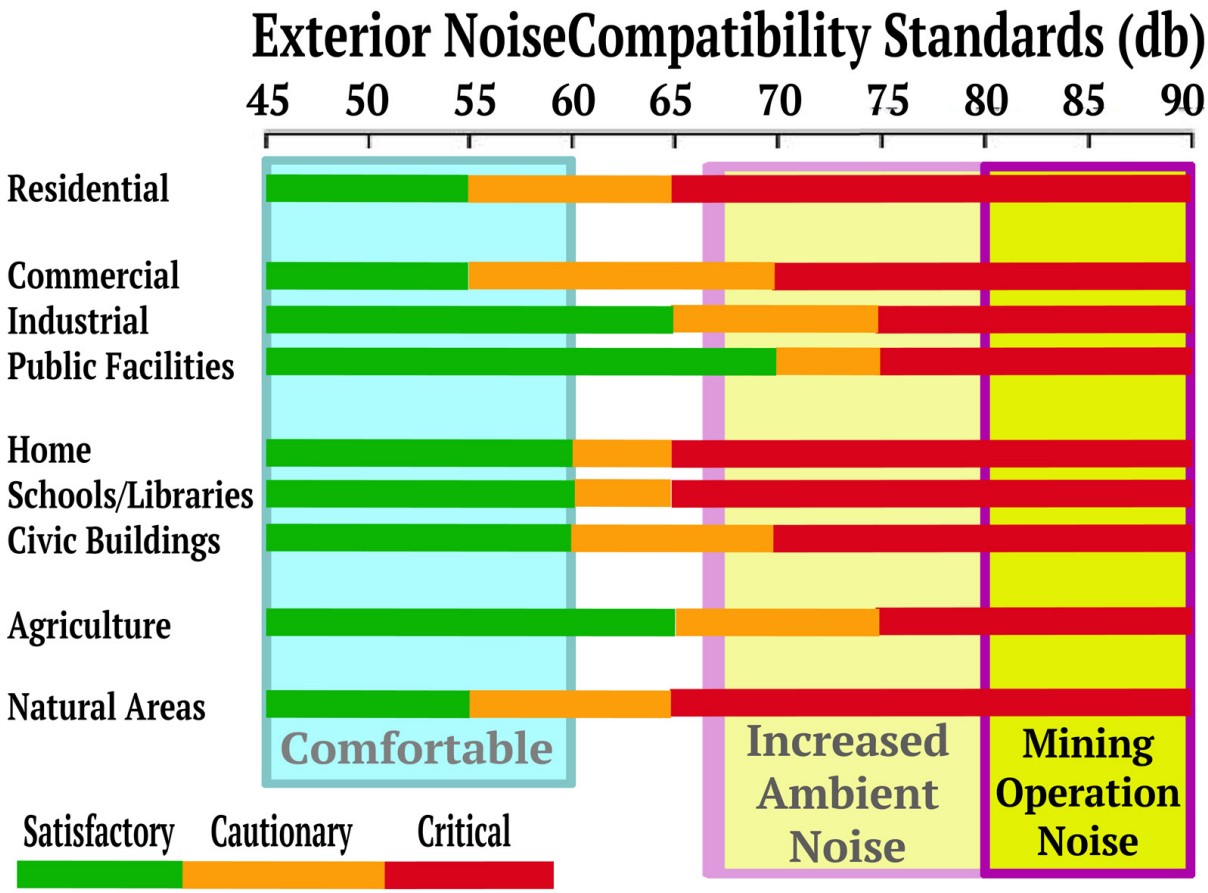


Figure 38. Exterior Noise Compatibility Standards (in Decibels) for common situations in day to day life.

The highlighted light blue area in Figure 38 identifies noise levels that are comfortable and acceptable. As more activity from outside influences, unexpected events, and other causes increases (shown in very light yellow), then the ambient noise levels increase as well, and can lead to all the complications we experience when life is just too loud. At issue in the development of the Quarry Bluff RV Village is the increase in ambient noise to levels where existing residents' quality of life is impacted. Also associated with the proposed development are mining activities, which thrust sound levels in critical levels (shown in darker yellow) for human ears.

The topography of the old quarry is in the form of an amphitheater. Noise from site activities during all phases of construction and operation will be amplified by this topographic geometry (Fig. 39.

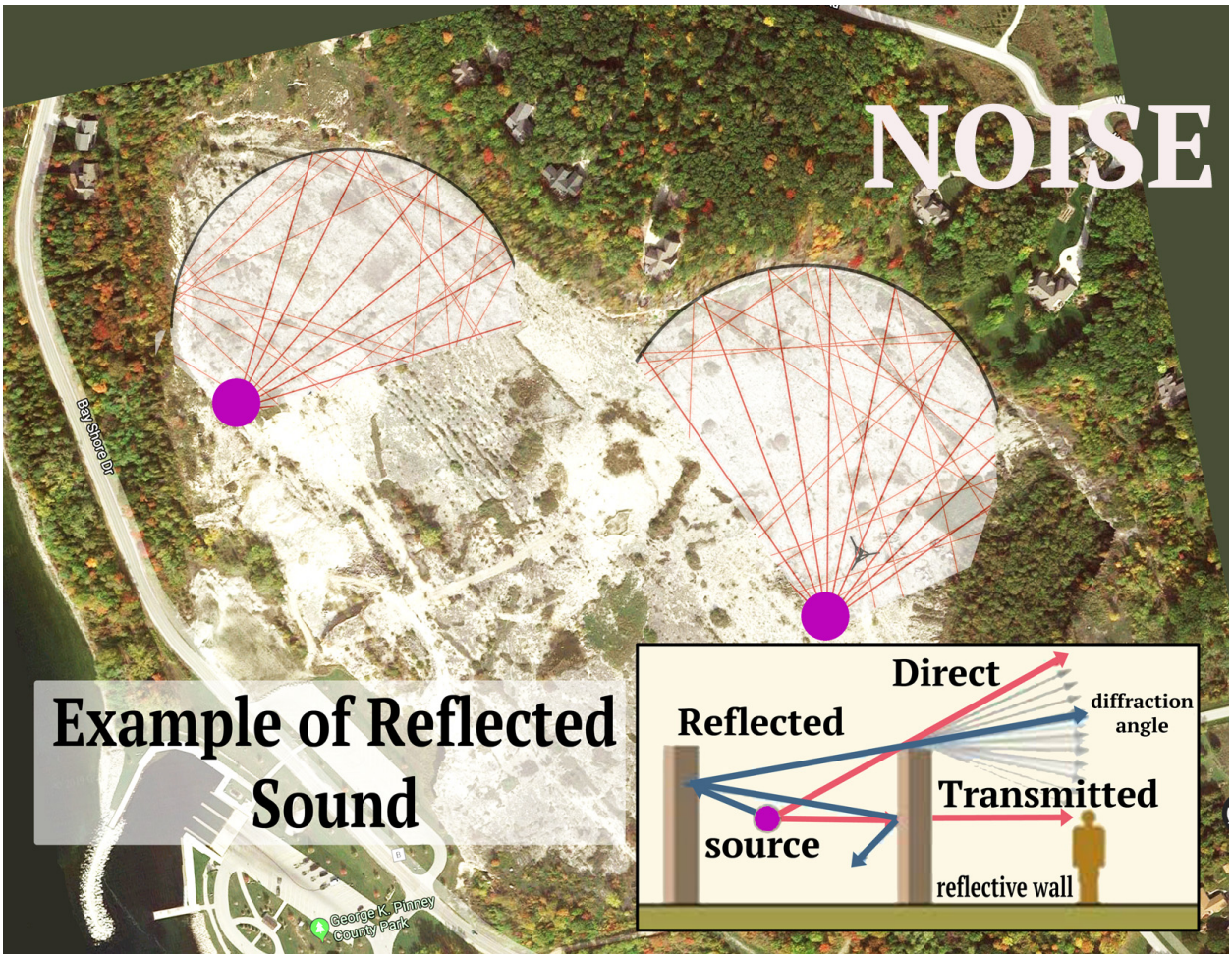


Figure 39. Reflected sound off quarry walls from activities within the quarry.

The current ambient background noise is low within the quarry. Some sound from the quarry is called direct sound, and are those noises reaching neighboring property owners directly (Fig. 40).

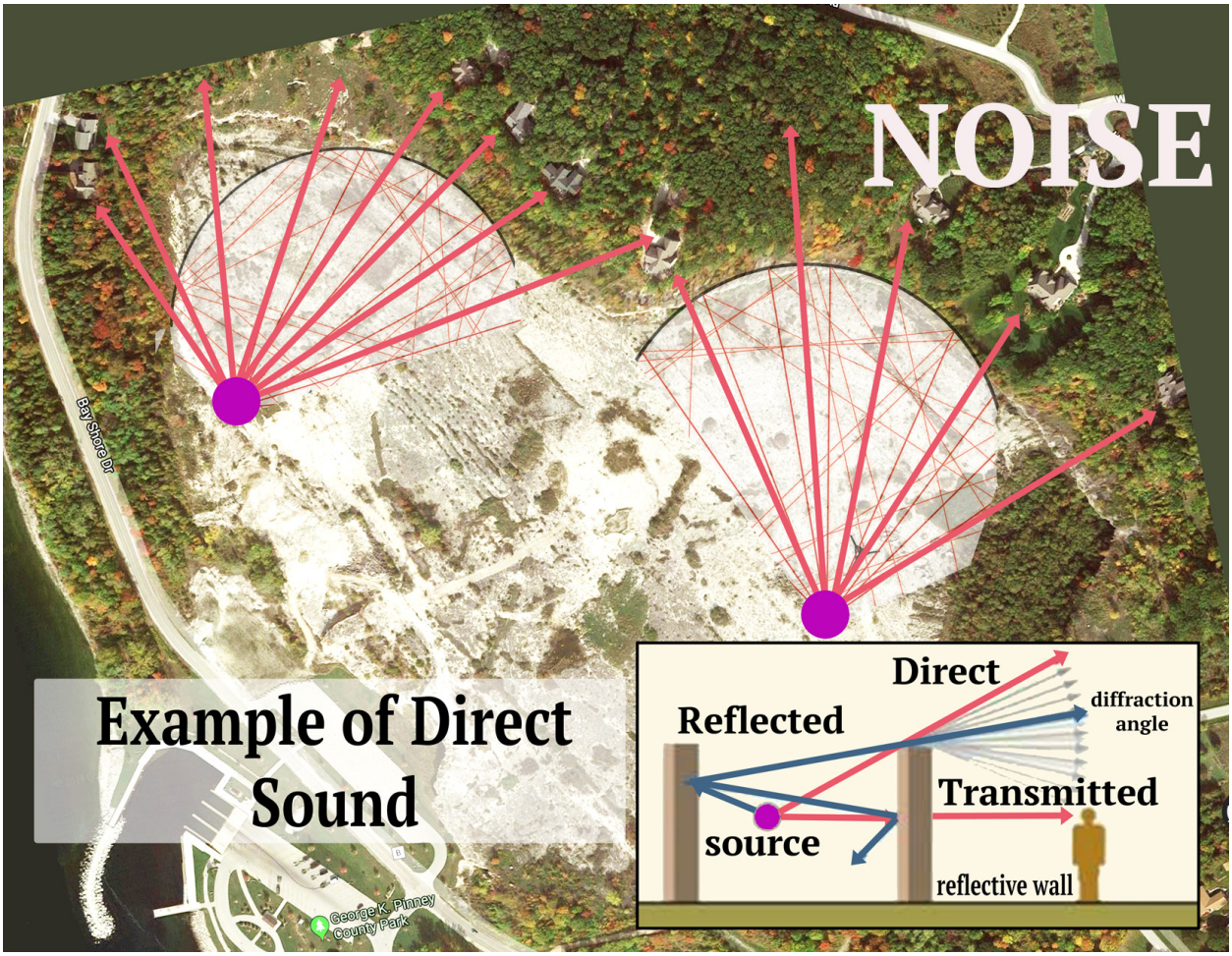


Figure 40. Direct sound from activities within the quarry. The two source points are illustrative of direct sound, understanding that the entire quarry plans to be utilized, creating innumerable noise sources.

The proposed construction and occupation activities will profoundly impact the quality of life for residents living adjacent to and near the site because of the greater levels of noise above natural or accustomed levels. Ambient noises are comprised of an accumulation of noises, often with no single identifiable source (a combination of birds, wind, rain, shoreline waves, occasional car, occasional voices) (Fig. 41).

Noise Source	Distance (feet)	Noise Levels (Decibels)	Human Judgement of Noise Loudness
Military Jet	50	140	128x as loud
Civil Defense Siren	100	130	64x as loud
Commercial Jet	200	120	32x as loud
threshold of pain			
Quarry air blasting	**100**	**108 to 114**	**>10x as loud**
Ambulance siren	100	100	8x as loud
Gas Lawn Mower	3	100	8x as loud
Quarry blasting	**100**	**80 to 95**	**2x to 6x as loud**
very loud			
Diesel truck	**150**	**90**	**4x as loud**
Compressor	**50**	**90**	**4x as loud**
Concrete Truck	**50**	**85**	**3x as loud**
Quarry jaw crusher	**100**	**85**	**3x as loud**
Quarry rock processing	**100**	**85**	**3x as loud**
Quarry excavation	**100**	**80**	**2x as loud**
Garbage Disposal	3	80	2x as loud
Pneumatic Drill	50	80	2x as loud
Passenger Car 65 mph	25	70	Reference Loudness
Freeway traffic	100	70	Reference Loudness
Living room stereo	15	70	Reference Loudness
Vacuum cleaner	10	70	Reference Loudness
moderately loud			
Normal conversation	5	60	1/2 as loud
Light traffic	100	50	1/4 as loud
quiet			
Home / hospital criteria	**(indoor spaces)**	**40 to 45**	**±1/8 as loud**
Bird calls	100	40	1/8 as loud
Soft whisper	5	30	1/16 as loud
just audible			

Figure 41. Examples of various sound levels in Decibels compared with mining related noises.

Noises associated with mining in the quarry (blasting, stone crushing, loading, dumping and grading), installation and construction of infrastructure and buildings, associated use of trucks and equipment, back up and other alarms are all specific identifiable noises, and, as noted by the USGS: "The perception of noise will probably be great" (Langer, 2001).

Blasting. Blasting will be used to break up the dolomite bedrock for over 5,000 feet of 10-foot deep utility trenches and a series of 18-foot deep constructed ponds, as well as other infrastructure needs, resulting in between 80,000 and 135,000 cubic yards of crushed rock. A blast detonation releases loud and disruptive audible noise, and a sub-audible air concussion as from the blast (Fig. 41). This impacts homes, especially if doors and windows are closed (Figs. 42 and 43).

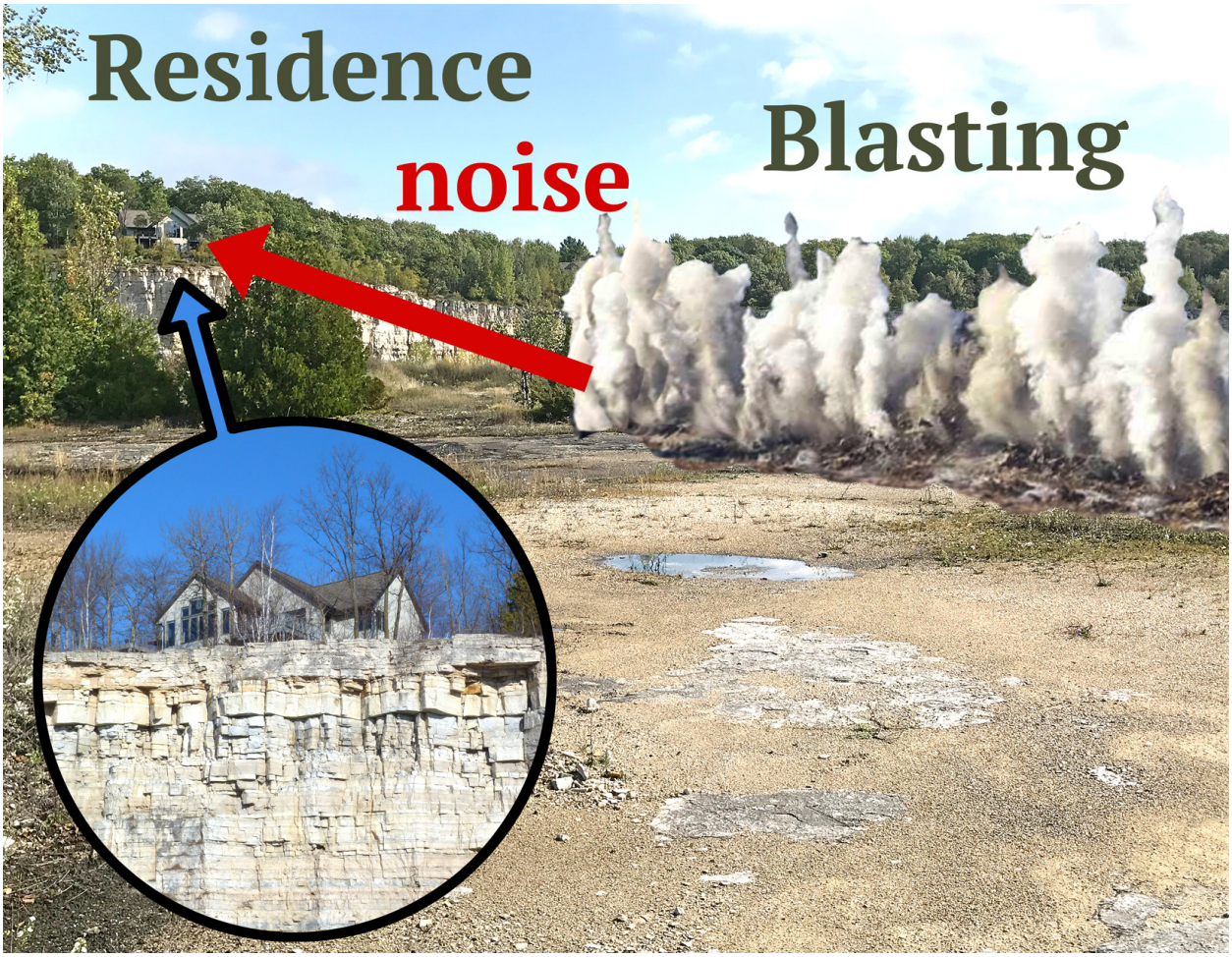


Figure 42. Rendition of blasting in the quarry floor and proximity to homes.

Figure 43. Rendition of what a quarry floor blast might look like from the porch of one of the homes situated above the quarry but near the quarry vertical wall.

The blast commonly causes flying rocks to create a safety risk in the area, and no matter the degree of caution, accidents happen. The high degree of bedrock variability in karst has the potential to complicate blasting dynamics and increase the risk for flyrock.

Vibration. Vibrations will be felt though the rock interface, into the foundations of homes, and in the homes themselves. The vibrations are caused by noise transmitted through the rock. Vibrations are monitored in terms of peak particle

velocities (inches/second), and vary from barely perceptible to damaging to structures.

Blast-induced vibrations and shockwaves, i.e. earthquakes, have the potential to cause structural damage to buildings, modify surface and groundwater flow akin to fracking impacts, and change permeability and infiltration pathways. Blasting also impacts the habitats in the area. Blasting can impact groundwater quality by dislodging or shaking loose clay, organic and mineral particles, introducing these into the groundwater system.

Effects on Structures and People	Peak Vibration Threshold (in./sec. ppv)
Structural damage to commercial structures	6
Structural damage to residential structures	2
Architectural damage to structures (cracking, etc.)	1
General threshold of human annoyance	0.1
General threshold of human perception	0.01

Sources:
Survey of Earth-borne Vibrations due to Highway Construction and Highway Traffic, Caltrans, 1976

Figure 44. Types of impacts to property and people from vibrations related to blasting.

Noise Mitigation Targets. To achieve noise reduction through distance mitigation for quarry equipment producing 80 to 85 Decibels, operations must be between 1,400 to 2,200 feet away for 55db, which is the daytime mitigation target, and 2,200 to 3,200 feet away for 50db, which is the night time mitigation target. Target home environments are noise levels between 40db (night time) to 45db (daytime). Compiled from sources: Benchmark Resources (2011); Walker Industries (2008); Page, et al. (2018); Lee, et al. (2018); USDOT (2017); and USEPA (1974, 1978, 2009) (also see Figures 38 and 41).

The major noise disturbances from quarry operations, infrastructure/utility installing, and general construction (which is slated to continue for up to ten years) comes from vibrations and noise caused by (USDOT, 2017):

- heavy equipment operation and other engine noises,
- crushers , screening equipment, and conveyors,
- excavating and dumping,
- drilling and blasting, and alarms and horns,
- slamming of doors/tailgates.

The major noise disturbances from the post-quarrying phase, and into the use phase by lot owners, as well as on-going construction (which is slated to continue or up to 10 years) includes:

- tanker truck activity to empty waste tank (2 or more trips daily) ,
- traffic noises from up to 117 40-foot long motor coach RV buses,
- traffic noise from lot owners second vehicles,
- the presence of up to 300 people, larger than 5 Door Co. villages see Fig.33,
- other miscellaneous activities within the Quarry Bluff RV Village.

The Applicants' propose noise baffling measures, such as mounds, plantings, and the like. These will have little if any effect on subduing noises during all phases of the proposed quarry mining, project construction, and use within the quarry, and the surrounding residents live above those activities (up to 60-70 higher), and well above any meaning attempts to impede sound waves (see Figs. 39, 40, 42, and 43).

Sinkhole Collapse. Quarrying can lead to sinkhole collapse (Fig. 45), and further modify surface and groundwater flow conditions, cones of depression from prolonged pumping and large volume pumping (features highlighted in Section #5). Sinkholes periodically open up in farm fields and yards around Door County. Triggering mechanisms for sinkhole collapse, or other structural adjustments in the dolomite include excessive water withdrawals from bedrock aquifers.

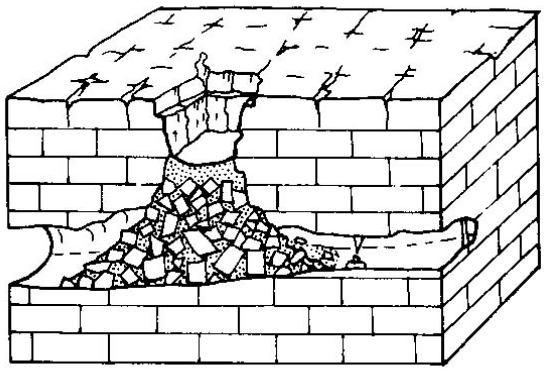


Figure 45. Simplified sinkhole formation sketch illustrating collapse of unstable dolomite into a cavern. Rock layers can be shaken loose by blasting, thereby forming sinkholes (sketch by Jennings).

Even in deep wells, although effects might not be visible at the surface, collapse occurs and can cause changes in aquifer flow and recharge. Sinkholes can also be triggered by heavy equipment and farm equipment, such as this example:

- Groundwater withdraws
- Triggering mechanisms
- Mining and Construction activities
- Analysis of triggering mechanisms
- Sinkhole size, occurrence, and area impacted
- Predicting collapse sinkholes

The aquifer porosity and permeability are in part kept open by buoyant support of the aquifer water. Loss of that water can lead to subsidence or collapse.

Conclusions. There are serious concerns about the impacts on neighboring properties regarding noise, blasting, and potential sinkhole collapse, as well as odor and dust. The data suggests the Quarry Bluff RV Village plan is not thorough enough to ensure health and safety in the area.

Odor. Air Pollution, gases including nitrogen oxide, sulfur dioxide, carbon monoxide, and volatile organic compounds (VOCs) generated by the exhaust from heavy equipment vehicles (See section above on Summary of Necessary Permits

and Permissions for air quality permits). The radius of influence from traffic and impaired air quality can impact related to a quarry mine site and construction can extend as much as five miles out from the site.

Potential exist for odors from holding tank pumping station. This has been addressed to some degree in the CUP application.

Dust - We can see, smell and taste dust particles. It sticks in our throats, causes eye irritation, and can permeate our living spaces as a fine layer of dust. Larger dust particles, called "nuisance dust" are on the larger range, equal to or larger than PM10 (10 micron particulate matter). Fine dust, in the range of PM2.5 (2.5 micron particulate matter). These sizes are inhaled and can go into our lungs and into our bloodstream. For comparison a human hair is approximately 50 microns thick (Fig. 46).

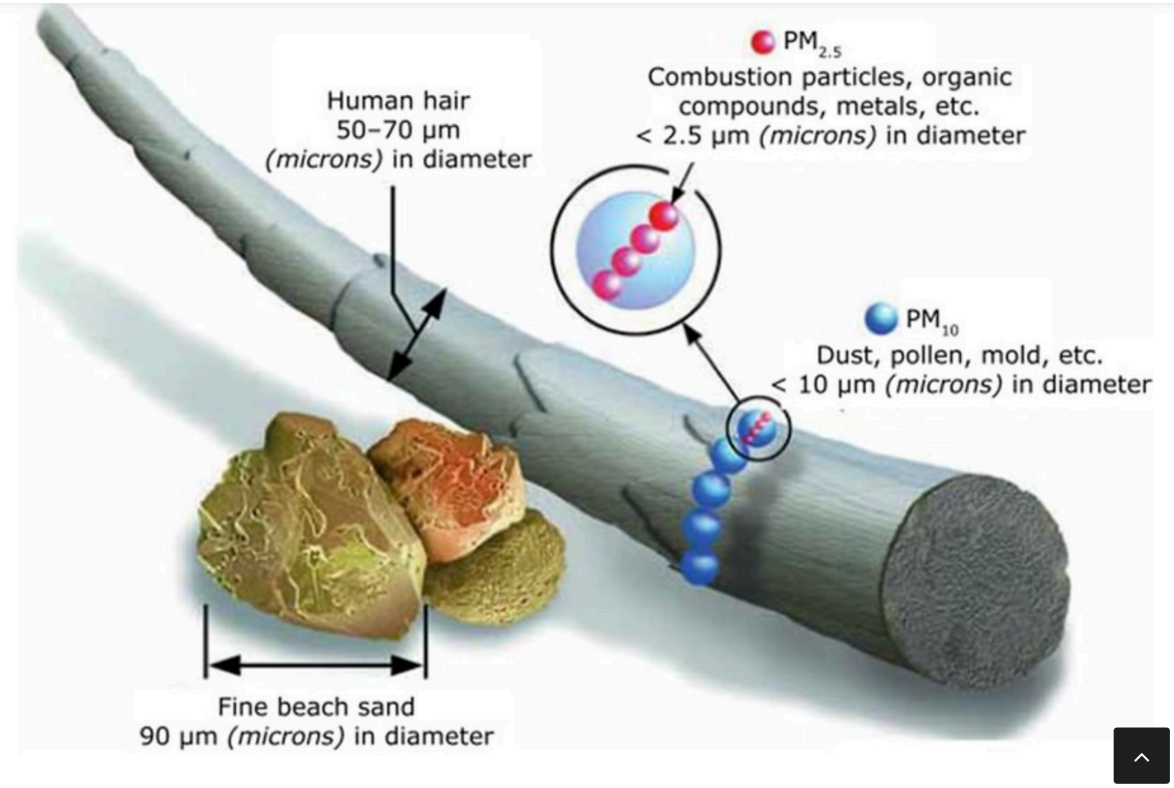


Figure 46. Size of dust particles relative to a human hair (Stop3009, 2019).

During mining operations, infrastructure installation and construction, and other heavy equipment activities cause dust to be stirred up. Fugitive dust from drilling, blasting, excavating, crushing, screening, hauling, and vehicular traffic. This is called total suspended particulate (TSP), and is a measure of all suspended particles in the air around a project site that may impact surrounding communities (Aeroqual, 2018). Monitoring of this dust typically involves a high volume air sampler that samples 1,500 cubic meters of air over a 24-hour period. Measurements of TSP, PM10 and/or PM2.5 are collected. Analyses of results might take days or weeks, and lead to slower response time to problems than real time monitoring. Real time monitoring is considerably more effective (see Wisc. Admin Code NR415).

Health Dust Concerns. Rock dust is comprised of crushed mineral particles from the quarried rock. At the Old Quarry site are stratigraphic layers of dolomite (Ca, $Mg(CO_3)_2$, quarts (SiO_2) in veins, siliceous (SiO_2) replacement layers, and chert (SiO_2) layers and nodules, and lesser amounts of various shale and clay layers. In addition to the carbonate and silicate dust particles, the dolomite contains very small amounts of sulfide and oxide minerals. These minerals include pyrite (FeS_2), marcasite (FeS_2), sphalerite (ZnS), galena (PbS),hematite (Fe_2O_3), limonite ($FeO(OH)\cdot nH_2O$), goethite ($FeO(OH)$), magnesite ($MgCO_3$), pyrolusite (MnO_2) and other trace mineral species.

These mineral species in quarry dust have been associated with respiratory and other diseases and health risks (Stop3009, 2019). Potential human health complications include:

Silicosis	Atherosclerosis and heart disease
Pulmonary disease	Heart failure and cardiac arrest
Dysrhythmia	Stroke and cognitive disorders
Leukemia	Reduction in lung functions
Asthma	Fertility problems

Dust released into the air, or accumulating on machinery, equipment, homes, and other surfaces, is accumulated by rainfall and stormwater runoff, and this dust and all of its components are flushed to the shoreline of Green Bay, and into rock

fractures leading to the groundwater aquifers. Additionally, some of the dust is deposited into intermediate surface deposition sites (ponds, ditches, less exposed areas), and this can be re-blown (reactivated) into the air after the sediment has dried in the sun.

Conclusion: The Applicants have not demonstrated adequate dust control. For operating this mine, according to NR415, Wis. Add Code, permitting is required.

Item #8

Provision of safe vehicular and pedestrian access.

The Applicants' States: "There will be minimal, in any, access to the development by foot traffic. At this point in time we do not anticipate constructing any type of sidewalks."

Conclusions. This declaration highlights one of the main flaws of developments, and that is to assume or demand that people drive rather than walk. Bay Shore Drive is extensively used by people walking and biking, and during high season, tourists exploring the shoreline drive along the Sturgeon Bay channel and Green Bay shore below the Niagara Escarpment.

Case in point: With 117 lots and the potential for 378 bedrooms, situations will arise where children and grandchildren will want to walk down to the George Pinney County Park and waterfront area, or walk or bicycle into Sturgeon Bay, or north along Bay Shore Drive. There is no allowance for sidewalks up and down the hill entering the property from Bay Shore Drive, nor any cross walks with flashing lights to ensure safe crossing. Also, children and grand children, and in fact some of the 55-75 aged target group will undoubtably have bicycles, and will want to ride these down the hill to Bay Shore Drive, and along the highway. This is particularly critical since motor coach traffic and tanker truck activity will be increased on Bay Shore Drive.

No sidewalks or bike paths on Bayshore Drive are a critical emission in the CUP application. More on this topic is covered in other reports.

Item #9

Whether the proposed project adversely impacts neighborhood traffic flow and congestion.

This topic is covered in other reports.

Item #10

Adequacy of emergency services and their ability to service the site.

This topic is covered in the CUP and other reports.

Item #11

Provision for proper surface water drainage.

Stormwater Plan. The fundamental requirement in designing a realistic stormwater management plan is accurate rainfall and outflow data. There have been a number of intense storms and trends indicating greater rainfall events not taken into consideration in the CUP application.

One such event occurred in October, 2019, and produced a thunderous waterfall over the quarry wall (Fig. 47).

Figure 47. Waterfall at the Leathem Smith Quarry in October, 2019.

Climate Change Impacts and Considerations. Climate change impacts to Northeastern Wisconsin are seen as (1) Greater storm intensity and greater precipitation over short durations, and (2) Warmer summers, with more days above 90°F and warmer, shorter winters.

Severe storm frequency is also increasing during Northeast Wisconsin's summer months (NOAA):

2000-2005 average 1 severe storm per summer

2006-2010	average 1 or less severe storm per summer
2011-2015	average 1.4 severe storms per summer
2016-2019	average 4.25 severe storms per summer

Some storm highlights include:

- August 28, 2018 in Northeast and East Central Wisconsin. A severe storm with 65-75mph winds, produced 4in rain in 2 hours.
- June 12, 2017 in Northeast Wisconsin [NOAA]. A severe storm dumped 5.34 inches in 24-hours on, which exceeds the 4.9 inches over 24hours used in the Quarry Bluff RV Village stormwater calculations.
- June 26, 2016 in Northeast Wisconsin severe storms produced straight-line and downburst winds up to 75mph, 90mph tornado, and sudden downpours in Carlsville (1.89 inches in 1 hour), Marinette (1.72 inches in one hour), and Forestville (1.88 inches in 2 hours).

NOAA also reports the period from February 2019 to January 2020 was the wettest year on record for Northeast Wisconsin.

There is a concern not addressed in the CUP application that the highest numbers of people staying at the proposed Quarry Bluff RV Village will be during summer months when (1) periods of drought are more common, and (2) storm intensity in greater than in the past. This means there could be greater need to keep ponds full (due to high evaporation) using the high-capacity water wells, thereby further impacting the aquifer and threatening neighboring private wells. This all means that during storms of greater than normal intensity, the designed stormwater plan will be flooded, and the potential of contaminated water reaching the shores of Green Bay and infiltrating through karst features in the dolomite and reaching the aquifer. The greater storm intensity causes wet microbursts and cyclonic bombs. The 2018 National Climate Assessment project determined that there is a 5% to 15% increase from the 1901-1960 compared to the period from 1986 to 2015, and is projected to increase to 300% by the end of the century

Wisconsin is experiencing increases in precipitation (up to 10%), increases in hot (>90°F) and very hot (>100°F) days. There are concerning changes in Lake Michigan (3°F to 7°F by 2090; a 63% decrease in ice cover since 1970). There is

also a shifting of forest species such that our paper birch, aspen, balsam fir and black spruce are declining, and oak, hickory and pine are increasing, except where invasive species are impacting the trees. There is a change in migratory bird behavior as they arrive in the Midwest earlier in spring than 40 years ago. The warming of the atmosphere reduces air quality by increasing the formation of ground-level ozone and pollution-based smogs (National Climate Assessment, 2018).

The impacts of climate change are scientifically documented, and as increased rainfall and flooding are a key part of this change, it argues for updated, more resilient stormwater management planning.

Conclusions.

- The DCSWCD states 18 inches of subsoil is required (meeting with Quarry RV Village and DCSWCD, Dec. 18, 2019).
- Problem: The Applicants refer to an "Exemption from infiltration requirements with the quarry due to a bedrock surface (Sec. II Design Methodology). This is, in fact, an erroneous call. The bedrock in the quarry is highly fractured, and infiltration will occur rapidly unless significant care is taken to protect the interface between installed soils and subsoil and the karst bedrock (see Section 5).
- Problem: In reference to the potential or actual issuance of a "Short Duration Discharge General Permit", there is concern that as the proposed project develops considerable debris, dissolved solids, sediment, and soluble contaminants, especially oil and grease, could flow to the shores of Green Bay, as well as infiltrating into the karst bedrock (see Section 5). The Applicant should obtain the appropriate discharge permits for mining and construction.
- There is concern that the four proposed ponds could incite sinkhole collapse if (1) they leak and accelerate dissolution and collapse, and (2) are placed over open spaces or caverns, and the weight of the ponds accelerates collapse (see Section 5).

- In consideration of climate change impacts, the Quarry Bluff RV Village should collect weather and climate data over several years to better model precipitation events, outflow, and erosion, and their impacts on groundwater and Green Bay.

Item #12

Whether proposed buildings contribute to visual harmony with existing buildings in the neighborhood, particularly as related to scale and design.

The Applicants' Statement: "Bare rock surfaces will be replaced with soil and greater than two-thirds of the site established in landscaped green space and decorative ponds" Point #7), and "Homes and motor coach areas will receive extensive landscape treatments" (Point #8).

Assumptions and Realities. These statements assumes that such a development is better than the existing naturally recovering habitats of the Niagara Escarpment in and around the quarry.

In fact, the planting of lawns and construction of decorative ponds is out of character for this area in Door County and Sevastopol Township.

The green spaces may or may not be planted with native species, and if not will introduce exotics and invasive that will impact the Niagara Escarpment ecosystem zone, of which the quarry is a part of. Pond development on the karst environment is not recommended due to potential water quality impacts to both surface and ground water resources. Such impact from exotic and invasive species and water quality concerns could/would negatively influence surrounding property values.

Conclusions. The Quarry Bluff RV Village is at odds with the existing visual harmony, including:

1. The proposed development plans to build a village larger than five Door County villages (Fig. 33).

2. The proposed development plans will introduce considerable light, thereby impacting the current dark sky settings of the area.

3. The proposed development plans will impact the visual scenic view currently existing in the quarry area (Figs. 48 and 49) and (Figs. 2, 3, and 4).

Figure 48. The present view-scape looking south from the bluff homes above the quarry.

Figure 49. A rendering of the same view in Figure 48 showing the development of the Quarry Bluff RV Village and how it overwhelms the view-scape for existing residents.

Item #13

Whether the proposed project creates excessive lighting glare or spillover onto neighboring properties.

Light pollution and dark sky problems have not been addressed in the Conditional Use Permit application. The project will result in an unusual amount of light during nightime, and will impact the neighboring properties.

Door County has been internationally recognized for its dark skies for star gazing and a sense of rural living and a good quality of life. The Quarry Bluff RV Village would add considerable light pollution to that area of the Town of Sevastopol.

Item #14

Whether the proposed project leads to a major change in the natural character of the area through the removal of natural vegetation or alteration of the topography.

The Applicants' Statement: "The site has accumulated piles of debris and even unwelcome trash over the years."

Any unwanted debris in the quarry can be addressed by a community clean up program and localized regrading of some of the piles.

Habitat and Natural Restoration. The quarry has been unused for 75 years, and during this time the cliff faces and the quarry floor have undergone natural habitat recovery. This is a very slow process, and as the Niagara Escarpment will be heavily impacted by quarry development, mitigation of damage should follow careful environmental approaches to preserving as much as the quarry as possible.This state of natural reclamation of Niagara Escarpment habitats, and should be left alone.

Bats and birds are using quarry as habitat as it recovers. The modification of drainage over and through the dolomite of the Niagara Escarpment will impact the sensitive algific zone, which in some areas along Door County's extent of the escarpment is home to threatened and endangered species. Blasting and other noises will disrupt roosting sites for bats and birds that have re-established their presence in the area. Dust can impact habitats by dusting over plant leaves and reducing photosynthesis (Howard and Cameron, 1998)

The Quarry Bluff RV Village is adjacent Niagara Escarpment, which itself exhibits extensive bare rock surfaces (cliff faces, algific zones, and talus zones habitats) and limited plant growth (cliff faces, some talus zones, and alvar habitats); these habitats are key components of this unique ecosystem zone along the Door Peninsula (Fig. 50).

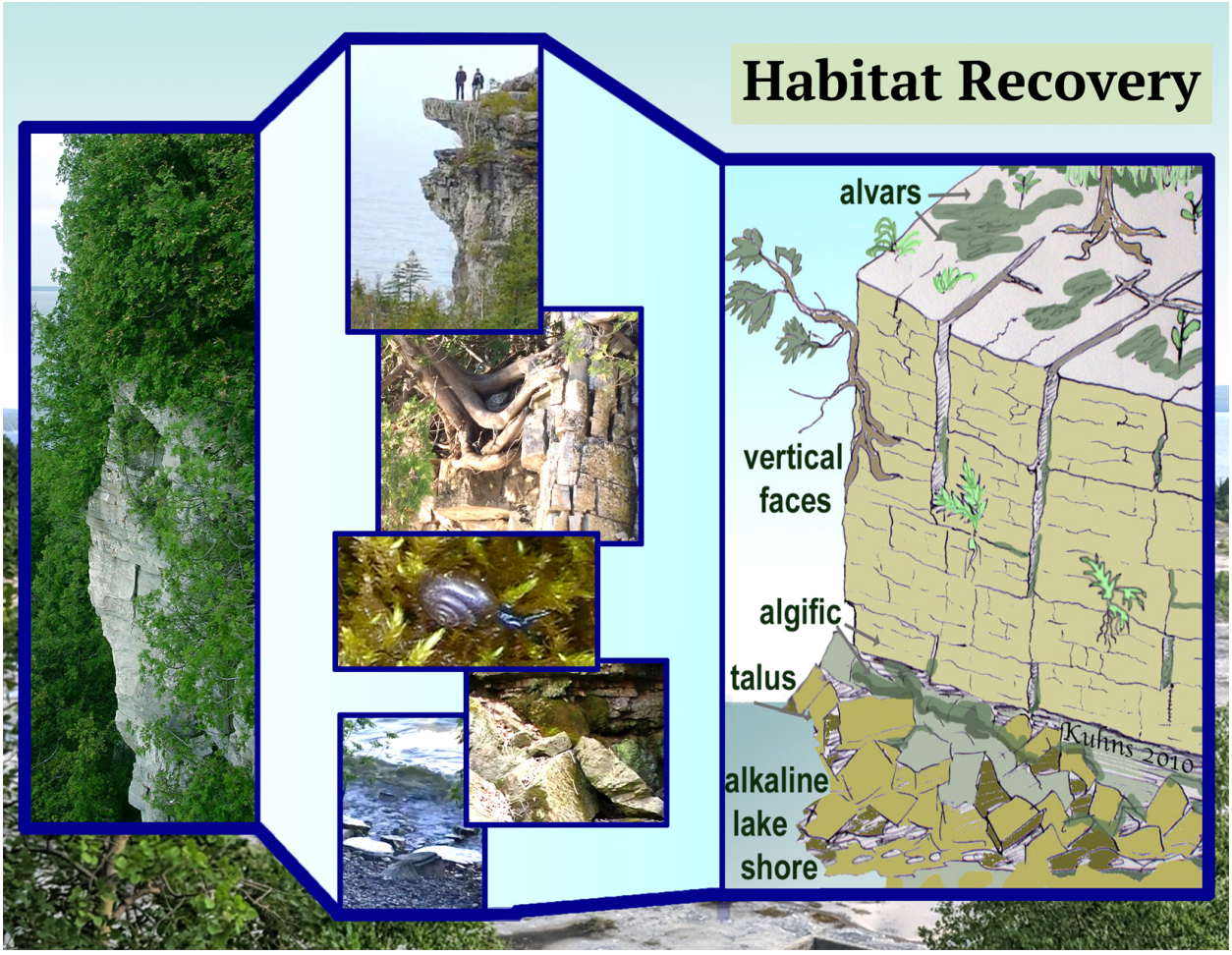


Figure 50. Habitat recovery is slow along the Niagara Escarpment, the the Leathem Smith Quarry site has strong evidence of this recovery.

Within the quarry native eastern white cedars (*Thuja occidentalis*), a variety of native ferns, wildflowers, and small stands of trees along linear fractures have re-established themselves. Spring/seeps have developed in parts of the quarry, outflowing at the base of the quarry walls with the opportunity to re-establish fragile alginic zones (Fig. 51). Eagles can regularly be seen flying along the Niagara Escarpment (Fig. 52). Additionally the west end of the quarry, where it comes into contact with preserved Niagara Escarpment, has recovered to a favorable degree as species slowly reclaim the quarry grounds (Fig. 53)

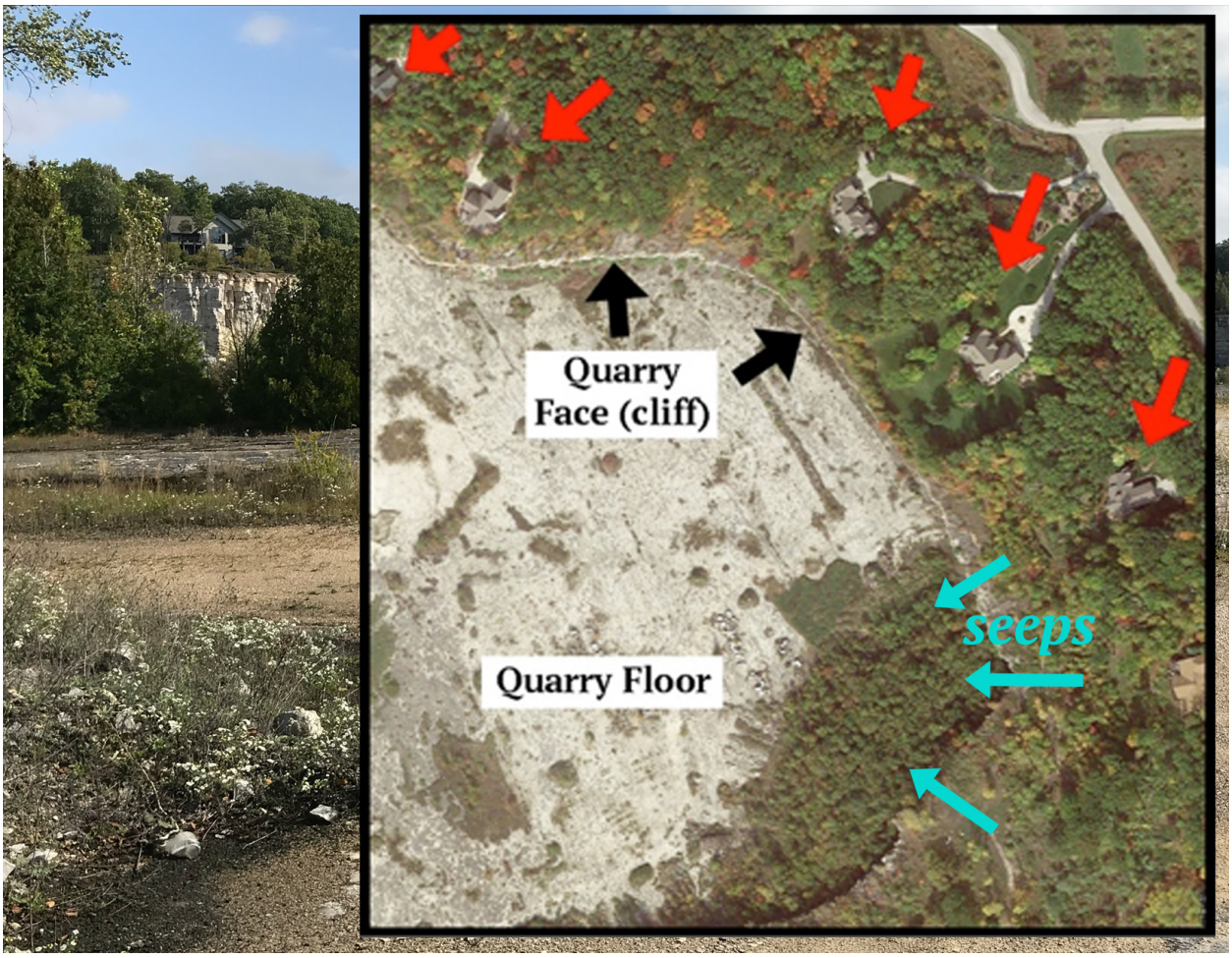


Figure 51. Springs and seeps flowing at the base of the quarry walls are increasing the rate of natural habitat recovery.

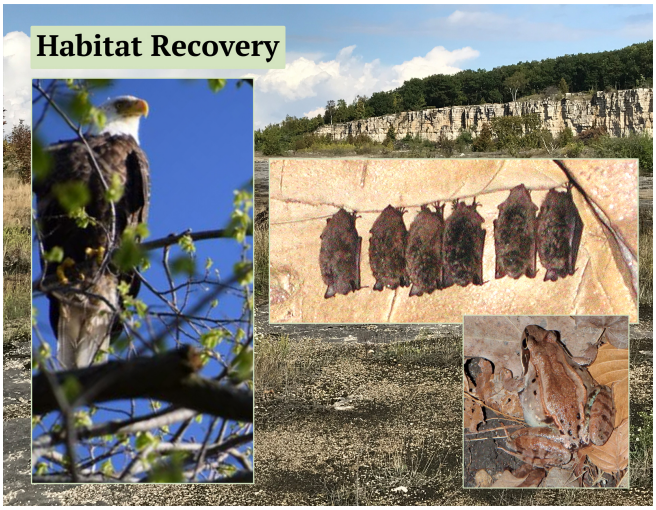


Figure 52. Species are repopulating the Leathem Smith Quarry area, and eagles are periodically seen above the quarry walls. Bats occupy caves and open fractures, and amphibians take advantage of vernal like pools.

Figure 53. The western end of the quarry in contact with healthy Niagara Escarpment helps reintroduce species into the quarry area.

The proposed mining activity and proposed subsequent development of an RV village would change the geomorphology of the landscape, destroy the recovering habitats, introduce invasive species into points in contact with healthy Niagara Escarpment, and threaten water quality - all of which impact the visual scene. This adds to the loss of habitat, increase in noise, dust, smell, vibrations, erosion, sedimentation, and potential for chemical spills, all covered in the above sections. Some impacts are short-lived, but contribute increase overall longer-term impacts.

Cascading Impacts. Quarrying and development of this site will alter sensitive parts of the natural habitats within the Niagara Escarpment Zone ecosystem.

Lowering of the water table will cause portions of the aquifer to collapse and impact surrounding shallower wells. Rapid and long-term modifying the aquifer conditions could lead to sinkhole formation in the karst environment. The area of influence on this drawdown, the cone of depression, is broad, as seen from the Sturgeon Bay wells Zone of Contribution.

Development of the Quarry Bluff RV Village would lead to major changes in the character of the area.

Conclusions.

- The sensitive habitats of the Niagara Escarpment are in the process of slow natural restoration in the quarry.
- Re-opening the mine and developing a village on the site would destroy these sensitive recovering habitats.
- It is suggested that in addition to a thorough geologic survey and climate impact assessment, that a survey for threatened, rare and endangered species be mandated.

Item #15

Whether, and in what amount and form, financial assurance is necessary to meet the objectives of this ordnance.

No comments.

Item #16

Whether, and to what extent, site-specific conditions should be imposed to mitigate potentially problematic impacts of the use.

Development of the Quarry Bluff RV Village would erase the natural recovery occurring within the Niagara Escarpment Zone of Influence, and would conflict with sustainable land use planning associated with the Niagara Escarpment zone.

Neighboring property owners chose their home sites in part because of the natural recovery of the ecosystem, the quiet setting, the dark skies environment, and naturalized panoramic views. Mining and development activity could/would negatively influence surrounding property values.

Item #17

The impact of the proposed project on public health, public safety, or the general welfare of the County.

The Applicants state: "The proposed use will definitely be a more desirable fit for the community than other uses permitted under the existing Recreational Commercial zoning district."

This is not a fact, but an opinion.

The outcry area property owners, many across Sevastopol Township and Door County, demonstrates that many do not see the Quarry Bluff RV Park as "more desirable". Because of this, potential buyers of existing adjacent homes may also perceive the development as less desirable, and this could negatively influence surrounding property values.

Appendicies

Appendix 1. Well water data and log summaries from WGNHS (2020).

Appendix 1. Well water data and log summaries from WGNHS (2020).

MB835	BSD 4740	1997	630	221	185	39	20	TS = 0-1', C = 1-3', LS = 3-221'
WQ093	BSD 4764	2011	625	221	175	23	19	C = 0-18', HP = 18-25', LS/DOL = 25-221'
AH612	BSD 4805	1988	595	277	155	10	20	TS = 0-1', C = 1-18', HP = 18-29', LS = 29=277'
YK436	BSD 4847	2014	590	203	30	+2	30	BF = 0-10', S+C = 10-35', G+B = 35-41', C +G = 41-50', DOL+BX = 50-53', LS/DOL = 53-203'
HY932	BSH 4856	1995	681	261	235	145	12	TS = 0-1', C = 1-2', LS = 2-201'
DR3261	BSH near old quarry	1977	660	242	185	95	8	TS = 0-1', C = 1-7', LS = 7-242'
HY943	BSH 4855 no. 2	1995	670	261	205	116	15	TS = 0-1', LS = 1-261'
NZ920	HHR 4893	2001	725	240	200	140	20	LS = 0-240'
DR508	HL	1983	710	190	20	1	10	S+G (K?) = 0-55', LS = 55-190
DR513	HL	1988	765	242	210	10	10	TS = 0-1', C = 1-5', LS = 5-242'
DR2989	in old quarry	1974	630	235	140	60	10	C+G = 0-4', LS = 4-235'
DR514	MR	1982	710	241	49	48	10	C = 0-6', LS = 6-241'
DR515	MR	1984	755	242	198	125	15	TS = 0-1', C = 1-6', LS = 6-242'
DR3244	MR	1979	820	321	197	182	10	TS+G = 0-5', LS = 5-321'
RW182	MR 4702	2001	825	281	245	171	15	HP = 0-2', LS = 2-281'
SS758	MR 6115	2005	717	240	220	150	15	LS = 0-240'
AE376	MR general 1	1988	800 a	242	210	146	1	TS = 0-1', C = 1-5', LS = 5-242'
GK482	MR general 2	1993	800 a	241	205	125	15	TS = 0-1', C = 1-3', LS = 3-241'
HM332	MR general 3	1994	800 a	261	225	185	12	TS = 0-1', C = 1-3', LS = 3-261'
IJ579	MR general 4	1996	800 a	225	160	110	15	LS = 0-225'
IJ915	MR general 5	1995	800 a	241	205	155	15	TS = 0-1', C = 1-3', LS = 3-241'
KL704	MR general 6	1995	800 a	241	205	130	12	TS = 0-1', C = 1-5', HP = 5-10', LS = 10-241'
XJ754	WBR 6151	2015	755	242	200	140	15	LS/DOL = 0-242'
UB178	WBR 6297	2010	741	260	200	150	15	LS = 0-260'
TM317	WBR 6451	2006	720	260	180	130	15	LS = 0-260'
OV605	WBR 6457	2001	725	240	200	130	10	C = 0-3', LS = 3-240'
XC030	WBR 6460	2012	760	300	260	200	15	C = 0-18', LS/DOL = 18-300'
SJ935	WBR 6461	2004	725	270	180	80	50	S = 0-7', LS = 7-270'

SF371	WBR 6463	2004	725	260	200	130	15	C = 0-2', LS = 2-260'
DR3258	WD	1977	680	324	113	102	10	TS+G = 0-4', LS = 4-324'
XV501	WD 4693	2016	695	262	180	60	20	LS/DOL = 0-262'
DR524	WDR	1981	810	287	265	195	10	TS = 0-1', C = 1-6', LS = 6-287'
DR526	WDR	1986	801	304	115	65	5	TS = 0-1', C+G = 1-3', LS = 3-304'
DR3278	WDR	1972	675	145	20	5	12	C+G = 0-8', LS = 8-145'
DR3291	WDR	1977	795	363	137	128	15	TS+G = 0-6', LS = 6-363'
DR3182	BD	1965	755	150	40	1	50	C+G = 0-2', LS = 2-150'
DR3185	BSD 5200 n of area	1974		174	160	150	20	TS = 0-1', C = 1-6', HP = 6-9', LS = 9-174'

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Roger J. Kuhns, Ph.D.

Curriculum Vitae

Geologist, Sustainable Business Development

Geology, Hydrology
Stormwater management
Sustainable Practices
Structural Analysis
Geochemistry, Ecology
Marine & Port Projects
Natural Resource Inventories and Environmental Impact Assessments
Conservation Developments
Carbon Foot Printing
Mineral Resources
Mine Lands Assessment
Geothermal Systems
Business Development
Project Management
Feasibility Studies
Risk Assessment
Economic Analysis

Contact Information
***PH:* 215-300-9628**
e-mail:
roger_kuhns_monologues@yahoo.com
Web Site: www.sustainaudit.net

Education
B.S. Geology, Beloit College, 1977
M.S. Geology, Washington State University, 1980
Ph.D. Economic Geology, University of Minnesota, 1988

Total Years Experience: 30

OSHA 40hr HAZWOPER trained

Professional Associations:
Pennsylvania Council of Professional Geologists
Wisconsin Wetlands Association
Society of Economic Geologists (Fellow)
New York Academy of Sciences

File reference
Arial Narrow 8 pt

Dr. Roger Kuhns has over 30 years of professional experience as a geologist, sustainable practices scientist, general manager and team leader for national and international natural resources and environmental projects (60 countries) and business development, and is an accomplished problem solver, educator, and innovator. As a geologist and sustainologist Dr. Kuhns has designed, managed, and built new projects for natural resources and environmental programs that included mineral properties, water resources, conservation developments, assessed geothermal systems, and pre-feasibility projects. As a sustainable practices scientist Dr. Kuhns has integrated geology, hydrology, ecology, phytoremediation, and sustainable practices into restoration and conservation development work. This includes water conservation, land fill assessment, carbon foot printing, renewable energy assessment, conservation developments, land use planning and brownfields, alternative stormwater management, and natural resource inventories. He has a strong scientific background in practical field operations and technical geology including mineral deposits, geothermal and groundwater systems, river and coastal sedimentary processes, surface and underground and open pit mine/quarry, geotechnical and tunneling mapping, structural analysis, stratigraphy, environmental assessment, geochemistry, and paleontology. He has worked on marine construction, equipment and mining projects, and worked closely with port operators in this capacity. Dr. Kuhns has managed large international teams and budgets, gaining global experience in management, negotiations, planning, permitting, budgeting, public relations and economic analysis. He has also led successful mineral discovery and environmental assessment teams, and orchestrated strategic international alliances. He has authored numerous science-related articles, and is an advocate for developing environmentally sustainable businesses.

ACCOMPLISHMENTS:

Sustainability: Development of systems and application of sustainable practices to projects, companies, municipalities and governments. These efforts include renewable energy, conservation developments, as well as sustainable water practices, resource conservation, strategic planning and budgeting, remediation, land use planning, and education.

Environmental/Energy: Designed and managed environmental programs for mineral exploration properties and pre-feasibility mining and development projects in Africa and North America. Experience in conservation development design, alternative stormwater management planning, sustainable environmental and resource use business solutions, phytoremediation, renewable energy applications (esp. geothermal/geoexchange and solar), groundwater assessment, watershed and surface water evaluation, ecological restoration project management, financial and economic assessments, and client representation at public and governmental meetings.

Business: Team leader that orchestrated a strategic alliance between BHP and Resolute Mining for development of BHP's West Africa gold holdings (1998). Lead strategic planning for a prominent environmental company (AES, 2006), and new business development in eastern USA (conservation developments and sustainable practices) and Alberta (oil sands restoration company with Fort McMurray First Nation, 2006).

Attachment O-1: 17 Criteria Scorecard

Quarry Bluff CUP Application Scorecard

Evaluation Criterion	Fails	Substance & Burden of Proof NOT Provided	More info Required & New Review	Conditions Required
1) Property Value Impact	X	X	X	?
2) Similar Use.	X	X	N/A	N/A
3) Consistent with Plan	X	X	N/A	N/A
4) Sanitary Waste		X	X	X
5) Potable Water		X	X	X
6) Solid Waste				
7) Noise, odor, or dust.		X	X	X
8) Safe access.				X
9) Neighborhood Traffic	X	X	X	?
10) Emergency Services				
11) Surface Water		X	X	X
12) Visual Harmony	X	X		X
13) Lighting				
14) Natural Character	X	X	X	X
15) Financial Assurance		X	X	X
16) Site Specific Conditions		X		X
17) Public Health, Safety, Welfare	X	X	X	X

X Application fails or falls short

N/A Not Applicable - Applicant cannot satisfy

? Not enough known to provide more specifics

Attachment 0C-1

DOOR COUNTY LAND USE SERVICES
421 Nebraska Street – Door County Government Center
Sturgeon Bay, Wisconsin 54235
(920) 746-2323 - FAX (920) 746-2387

APPLICATION FOR CONDITIONAL USE PERMIT

TO THE ZONING ADMINISTRATOR. The undersigned hereby makes application for a CONDITIONAL USE PERMIT for the work described and located as shown herein. The undersigned agrees that all work shall be done in accordance with the requirements of the Door County Comprehensive Zoning Ordinance.

1. OWNER NAME AND MAILING ADDRESS

Name MARGARET DREUTZER
No. 4883 Street HARDER HILL RD
City STURGEON BAY State WI Zip 54235
Home Phone # — - ____ - _____
Daytime Phone # ____ - ____ - _____
Email: tom.goelz@gmail.com

2. BUILDING SITE LOCATION

Fire # _____ Road CTY HWY B
Town of SEVASTOPOL
Local Phone # — - _____ - _____

3. DEVELOPER NAME AND MAILING ADDRESS

Name QUARRY BLUFF, LLC
No. PO. 54 Street _____
City FISH CREEK State WI Zip 54212
Phone # 920 - 421 - 5200
Email: Tom.goelz@gmail.com

4. PROPERTY IDENTIFICATION

Parcel No. ____ - ____ - (SEE ATTACHED)

5. USE

Proposed use of land or structure:
(SEE ATTACHED)

6. SANITARY PERMIT

Type of System HOLDING TANK
Sanitary Permit No. APPLIED FOR
Date of Issuance _____
Approximate date of installation _____

7. BUILDING PLANS AND SITE PLAN

TO SCALE BUILDING PLAN AND SITE PLAN REQUIRED IF PLANS EXCEED AN 11" X 17" FORMAT, SUBMIT ONE COPY OF EACH SHEET REDUCED TO 11" X 17". (SEE ATTACHED)

8. ROCKHOLES

A rockhole is any depression or opening in the ground surface through which gathered surface water enters bedrock and eventually joins groundwater.

To the best of your knowledge, do any rockholes exist on the lot?

X No _____ Yes

If yes, show location on Site Plan.

9. FEE $500.00

Make check payable to the Door County Treasurer.

10. AUTHORIZATION FOR INSPECTION

I hereby authorize the Zoning Administrator(s) to enter and remain in or on the premises for which this application is made at any reasonable time for all purposes of inspection relative to this petition.

11. SIGNATURE OF APPLICANT OR AGENT

Michael J. Parrott

Date DEC 2, 2019

Attachment OC-2

Quarry Neighborhood Action Group (QNAG)
CUP Application Position Statement pp. 1-38

January 6, 2020

To: Town of Sevastopol Planning Commission Members and Board
From: Quarry Neighborhood Action Group

We are in receipt of a letter from Door County Land Use Services Department (DCLUS) regarding a Conditional Use Permit Application from Quarry Bluff, LLC for the establishment of "multiple occupancy development" and "campground". The applicants are "proposing to establish 117 total units on a single lot, of which 115 of the units would consist of both an occupancy unit (single family dwelling) and a camp site (parking spot for a recreational vehicle)". It is indicated that the parcels will be combined into "one contiguous lot". It is the intent of the Quarry Bluff LLC to sell each lot to individual private parties. It is also the intent of the developer to allow the owner of each lot to rent their property through an association.

Representatives of this group and others plan to be at a January 14 meeting of the Sevastopol Planning Committee to present "substantial evidence" regarding the Conditional Use Permit (CUP) that Quarry Bluff LLC has not met the "burden of proof" required by the Door County Zoning Ordinance for approval of the CUP. There is documentation that the Application provides inaccurate, incomplete and often contradictory evidence that is in contrast with the Door County Zoning Ordinance and other statutes and regulations set by other governmental organizations, including the DNR, Door County Soil and Water, Division of Public Health and Safety, Wisconsin Environmental Protection Agency, etc.

There is relevant and substantial evidence that this proposed project does not consistent with the town of Sevastopol Comprehensive Plan of 2008 or 2020. Nor does it "promote public health, safety, convenience and welfare"; "encourage protection of groundwater resources"; "preserve shore lands"; "protect the beauty and amenities of landscape" or other aspects of zoning ordinance that are key responsibilities of your role as you make a decision whether to approve or reject. Upon reviewing the documentation that is provided over the next few days, we are confident that you will recommend to reject the CUP. If you choose to approve the Conditional Use Permit despite the evidence to the contrary, we would ask that you approve it with conditions and specifications as requested and outlined by the Quarry Neighborhood Action Group and Bay Shore Property Owners Association (BSPOA).

Since Quarry Bluff LLC has had ample opportunity to present information regarding the CUP in the 462-page document, we request that comments by the applicants be limited to information not in the CUP and that these comments occur AFTER the public input has completed. Time is limited and this opportunity for public input is the purpose of this meeting. Many have reviewed the CUP in its complete and abridged version and welcome this opportunity to comment. Please consider the following concerns.

- Room Capacity: The public is entitled to provide input by the CUP guidelines. If the number of people exceeds room capacity, how will the Planning Commission handle this? We would recommend that the Multi-purpose room at Sevastopol School is considered for overflow with

- Time Limit: What will happen if the three-hour time limit has been exceeded and there are individuals who have not had an opportunity to comment or provide input? We would recommend that another meeting is scheduled to continue or that the topic is continued at the January 20 Board Meeting.

The first 38 pages of the CUP deal with the application and do not address the seventeen points. We wish to present our concerns related to these first 38 pages and provide evidence that relates to the points made in these 38 page. This evidence is attached to this email. We will also deliver a written copy to Amy Flok. We request that you review this evidence prior to the January 14 meeting.

Application, p.1 #8: Quarry Bluff LLC claims that there are no rockholes. In the CUP (#8), it is defined as "any depression or opening in the ground surface through which gathered surface water enters bedrock and eventually joins groundwater." The following evidence is attached indicating that there ARE multiple rockholes at the former Leathem Smith quarry. The escarpment bluff is a karst limestone ledge with zero feet to bedrock and virtually no soil. Additional information will also be provided by speakers at the meeting on January 14.

- Roger Kuhns Memo
- Karst Topography from Sevastopol Comprehensive Growth Plan 2008, pp. 124-125
- Photos of rockholes, fissures, sinkholes, etc. from former Leathem Smith quarry.
- Article from Peninsula Pulse entitled "Why Karst Features Make Door County Groundwater so Vulnerable?"https://doorcountypulse.com/why-karst-features-make-door-county-groundwater-so-vulnerable/
- Ground Water Susceptibility Map of Door County
- Depth to Bedrock Map of Door County

Application, p. 10 Quarry Bluff LLC claims that the CUP is in Compliance with MOD requirements in 4.08(8).

- A legal brief presented to Door County Land Use (December 9, 2019) indicates that a MOD development consists two or more units in the same structure. It is not 115 separate structures. Since the RV is moveable, it is not a permanent structure and is transient. Please refer to Door County Land Use Services for a copy of this brief.
- Section 4.08(8) of Door County Comprehensive Zoning Plan (DCCZP) section 4.08(8) stipulates that "new MOD" development in unsewered developments are "one acre and 100' in width". Lot size for property zoned RC is 20,000 square feet. Lot width on site plan is 65". See DCCZP Table of District Requirements (3)(a).
- The maximum density of a MOD is based on the "lot area and number of bedrooms" and "shall not exceed 10 bedrooms per acre". The dwelling unit and class A motor coach could total at least five bedrooms per lot with a possible sleeping capacity of at least 12 people per lot. Quarry Bluff claims that total acreage should be used for density calculations. Since they are selling lots to 117 separate purchasers who may sell or rent each lot, calculations should be made on lot sizes not total acreage. The purpose of determining density in a MOD is related to CUP #4

Sanitary Waste Disposal and #5 Potable Water*. On a busy summer weekend, this development could host over a thousand. At a fifth of an acre, there is a potential 25 bedrooms per lot.

- Section 407(2) outlines Campground Requirements. Quarry Bluff LLC claims that this is not a campground. Yet, they are applying for a campground conditional use. The motor coach is on wheels and may leave the property. Sites will be rented for RV camping by owners. "A maximum of 20% of proposed sites" may have a dwelling. There are 115 out of 117 dwelling units. Units shall not exceed "400 square feet in floor area". Quarry Bluff proposes 1200.
  In a campground, there must be one parking space per unit (117 spaces). This does not include the cement pad which is for the RV. There are not.
- Applying for two conditional uses on one lot appears to conflict with zoning ordinance requirements for each of the uses separately. This committee requests that you not allow both conditional uses for the same lot.

History of Zoning and Dreutzer Ownership Comments:

- Zoning changed from REC to RC in 1995. On the drawing on p. 33, at least 7 of the 14 lots dated were purchased on or before 1995. Thus, lot owners COULD NOT HAVE KNOWN that 117 RV campsites could be built on the quarry as Quarry Bluff claims. In the last year, approximately eight properties immediately adjacent or near the quarry have been purchased or attempted to be sold. All have said they wouldn't have purchased if they had known. None of the signatories here would have either.
- George C. Pinney was interested in acquiring the quarry to add to Olde Stone Quarry Park and according to others discussed this with Margaret Dreutzer. Others have expressed interest in its utilization as a historical, and environmental and educational value and have mentioned it to Margaret Dreutzer. It is not for sale at Fair Market Value and is currently under contract to the developers. If the conditional use permit is granted, its value to Door County will be lost forever.
- Quarry Bluff shared a 1995 advertisement for lots sub-divided at the top of the quarry in 1993. A "breath-taking views" and a "perch atop the quarry wall will provide a majestic close to a peaceful day" are touted by Shoreside Realty. It appears that the Dreutzers, who sub-divided these lots, own the quarry and have benefitted financially, are doing a bait and switch. If the Conditional Use Permit is approved and the RV Village is built, the views and the perch will be destroyed. As will peaceful days for the 80+ properties within a quarter of a mile of the quarry.

Sincerely,

QUARRY NEIGHBORHOOD ACTION GROUP

Brenda and Jeff Lange
Cheri and Dan Meyvis
Keith and Sherry Mutchler
Mary Moster
Hans Dramm

Map

Printed 07/02/2019 courtesy of Door County Land Information Office

... from the Web Map of ...
(//www.co.door.wi.gov)

Door County, Wisconsin
... for all seasons!

Door County can not and does not make any representation regarding the accuracy or completeness, nor the error-free nature, of information depicted on this map. This information is provided to users "as is". The user of this information assumes any and all risks associated with this information. Door County makes no warranty or representation, either express or implied, as to the accuracy, completeness, or fitness for a particular purpose of this information. The Web Map is only a compilation of information and is NOT to be considered a legally recorded map or a legal land survey to be relied upon.

Attachment 0C-4

There are many advantages to maintaining a natural shoreline. Trees and shrubs provide wildlife habitat, shade for fish and privacy for the landowner. They create a natural buffer that helps protect the water body from erosion and sedimentation when it rains. Manicured lawns, on the other hand, seldom provide this protection. If they are fertilized, heavy rains carry nutrients directly into the lake. The cumulative effect of many lawns along a lake shore will adversely affect water quality, fish, wildlife and esthetics.

CAN I FILL IN A LOW, SWAMPY AREA ON MY SHORELAND PROPERTY?

Wetlands merit special protection under shoreland zoning. They provide wildlife habitat, fish spawning grounds, and serve as a filter to prevent water pollution and help control flooding problems. Wetlands are seldom suitable as building sites because they flood frequently and can't adequately support roads or building foundations. A permit is needed to fill any area that is a wetland. If there is a practicable alternative to filling the wetland, the permit can almost never be granted.

CAN I PROTECT MY SHORELINE FROM EROSION?

Yes, there are many options for reasonable shoreline protection. Since this usually involves placing materials on the bed of a waterway, a permit from the DNR is necessary. Check with both your zoning administrator and the DNR for recommendations and permits.

CAN I REMODEL OR ADD TO MY EXISTING COTTAGE?

County permits are required for any work above ordinary maintenance such as painting. To find out if your project needs a permit or meets the standards, contact the county zoning office.

HOW DO I OBTAIN APPROVALS FOR MY PROJECT?

Before planning the project know and understand your county's shoreland zoning rules. Contact the local zoning office.

WHAT IF I SEE A PROJECT THAT MAY BE AFFECTING THE LAKE OR STREAM?

Promptly get the information to your local zoning administrator or DNR office so that the situation can be resolved before the project goes too far and damages property or the waterbody. When you call you will need to provide:

- An address, fire number, map or directions
- Description of the activity
- Name of the property owner

The zoning administrator can tell you if a violation has occurred, and if so, what steps will be taken. Correcting a violation can be a lengthy process, especially if the landowner is unwilling to correct the problem voluntarily.

For more information find your local contact at:

http://dnr.wi.gov/org/water/wm/dsfm/shore/county.htm

WISCONSIN DEPT. OF NATURAL RESOURCES

What the LANDOWNER Needs to Know

SHORE & WETLAND Zoning

October 2008 • Publ-WZ009

Wisconsin's lakes, streams and rivers are one of our state's greatest natural assets. As a waterfront property owner, a fisherman, a state park visitor, or even a walker along one of our renowned riverwalks, the impacts of development along these waterways can be seen. Wisconsin citizens value our clean water, our canoeable streams, and the natural scenic beauty of our wooded shoreline habitats. Every county in this state has a shoreland zoning ordinance that helps protect these valuable shoreland resources through a system of regulations that require permits for activities near the lakes and rivers.

Shoreland zoning regulations promote wise use of lands surrounding our lakes and streams. Protecting and enhancing our waters is so essential to our economy and way of life that Wisconsin was one of the first states to require shoreland zoning.

WHAT AREAS DOES THIS SHORELAND ZONING REGULATION APPLY?

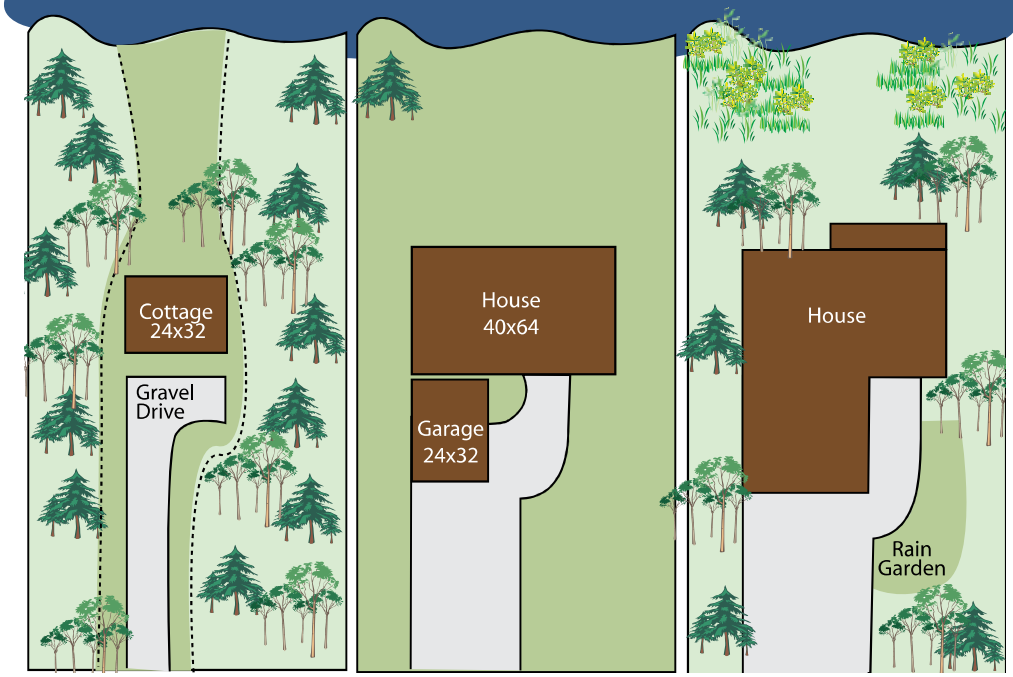
- All land within 1000' of lakes, ponds, or flowages
- All lands within 300' of river or streams or the extent of the floodplain, whichever is greater
- All shoreland areas in unincorporated areas
- Only shoreland wetlands in cities or villages

SHORELAND ZONING REGULATES LAND USE AND CONSTRUCTION

Each county has adopted regulations that meet or exceed minimum state standards to protect water quality, natural scenic beauty, recreation, navigation, and fish and wildlife. These regulations include:

- Setbacks for structures from property lines and waterways.
- Minimum lot sizes and land division review.
- Restrictions on cutting of shoreline vegetation.
- Standards for earth moving activities.
- Protection for shoreland-wetlands.
- Regulation of septic system and wells.
- Restrictions on improvements to older structures or uses that don't meet the shoreland standards.

Although many waterfront properties haven't changed ownership over time, the development on those family-owned parcels has changed. In the past, the small cottages seemed to blend right into the surrounding landscape. Today's families are spending more time at the lake, have more outdoor gear and have changed that surrounding landscape. For the future, waterfront property owners are learning that the benefits of natural vegetation include more and better wildlife viewing, better fishing, and better water quality in that lake or river.



CAN I INSTALL A WALKWAY OR STAIRS TO ACCESS THE WATER?

Yes, most counties have some type of permitting system to allow reasonable access to the water. The permit process helps assure that projects are designed to reduce erosion during and after excavation. Generally, you'll be required to:

- Avoid sensitive areas like wetlands and steep slopes.
- Replant quickly.
- Keep runoff away from exposed areas.
- Provide a stable slope.
- Implement any erosion control measures specifically prescribed for your site.

CAN I BUILD A BOATHOUSE NEAR THE SHORELINE?

Each county has some regulation concerning boathouses that may limit where they can be placed or how large they can be. Talk to your local county zoning administrator to find out what specific regulations are in place in your county.

DO I NEED A PERMIT TO CUT VEGETATION ALONG THE SHORELINE?

Each county regulates vegetation removal. Some counties will require permits for clearing trees and brush and some will require a vegetation management plan to exceed certain limits.

County of Door
SOIL & WATER CONSERVATION DEPT
County Government Center
421 Nebraska Street
Sturgeon Bay, WI 54235

Phone: (920) 746-2214
Fax: (920) 746-2369
swcd@co.door.wi.us

Memorandum

Attachment 0C-5

To: Jeff Kussow, Zoning Administrator

From: Greg Coulthurst, Conservationist GC

Date: 12/27/2019

Re: Quarry Bluff, LLC Conditional Use Permit – Stormwater Design Plans

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The Door County SWCD received your memo dated 12/19/2019 and the packet of Stormwater Design Plans from Baudhuin Surveying and Engineering dated 12/3/19.

I have reviewed the stormwater plans with the assumption that the Resource Planning Committee (RPC) could potentially require SWCD approval of stormwater plans for the conditional use permit. This site is an abandoned quarry and the SWCD is particularly concerned about impacts to groundwater due to the frequency of fractures and direct conduits to groundwater visible at the bedrock surface. The following concerns and or deficiencies will need to be addressed prior to any type approval from the SWCD:

- Since the surface of this site has numerous conduits to groundwater, please confirm the need for a Rockhole Alternative protection plan. At minimum specific plans are needed to locate and properly protect all direct conduits to groundwater.
- A type A liner is required for the wet detention pond, because the ponds are being blasted into bedrock.
- Two high capacity wells are being proposed for the 117-unit multiple occupancy development with each unit including a permanent cottage. Please confirm with the DNR what type of public water system this will be categorized as. Well setbacks from stormwater systems differ between Community and Non-community water systems.
- The erosion control plans would indicate that grading of the site will be done in one phase, however previous discussions with the engineers indicated that final grades may be established as units are sold. If the later is correct I will need erosion control plans that address individual units and an explanation as to how storm water will be routed and groundwater protected as final grades are established on the entire site.

- The erosion control plans indicate use of silt fence. Since the site is primarily bare rock I will need clarification as to how the silt fence will be installed or if an alternative silt barrier will be utilized.
- I will need clarification on how the Island in pond A will be constructed in respect to how the pond is lined. A cross section indicating this will be needed.

In summary I will need significant clarifications or revisions prior to SWCD Preliminary Approval of the Stormwater Management Design Plans for the Quarry Bluff, LLC development. Final SWCD approval will depend on future RPC conditions.

Please contact me if you have any questions.

Door County Land Use Services

Attachment L-1

CONDITIONAL USE PERMIT

A "conditional use" is one that has been determined to be compatible in a particular area, not a use that is always compatible at a specific site within that area. The use is subject to requirements and conditions, and is only allowed under a conditional use permit (CUP) issued by Door County. A conditional use permit is also required if an owner wishes to expand a non-conforming use (i.e., a use previously legally established which would not be allowed under current zoning regulations).

PERMIT & HEARING PROCESS

1. Submit a completed application form with a $500.00 non-refundable fee.
2. Provide a detailed written description of your project, building plans, and a site plan (drawn to scale). Provide one complete set of plans no larger than 11"' x 17".
3. If an agent will represent you, you must submit your agent's name, telephone number, and mailing address to the Door County Land Use Services Department.
4. Once the application is deemed complete, a copy of the application packet and staff report will be sent to the town to ask for recommendations and comments. You and neighboring property owners will receive a copy of the letter and staff report which forwards your application to the town. Please call the town to see if/when the town may be meeting to discuss this matter.
5. The Door County Land Use Services Department will publish a notice of the hearing in the Door County Advocate and will notify you and neighboring property owners in writing of the hearing date / time. It takes ~2 months from time of application submittal to hearing date.
6. If the applicant/agent fails to appear at the hearing, s/he will be deemed to be in default and the conditional use permit may, in the RPC's sole discretion, be denied. The applicant/agent may, if s/he failed to appear for good reason, request in writing that the RPC reopen the default denial. A written request to reopen shall be received by the Door County Land Use Services Department within 30 days of the default denial. The RPC may, in its sole discretion, reopen a default denial if good cause is shown, such as mistake, inadvertence, or excusable neglect. If a default denial is reopened, the applicant/agent must submit a new fee, unless the RPC determines otherwise.
7. Other people can also attend the hearing to testify for or against your request.
8. Once the conditional use permit is issued, the applicant shall obtain a regular zoning permit within twelve months to authorize any new construction related to establishing the conditional use.

CRITERIA USED TO MAKE A DECISION

The Door County Resource Planning Committee (RPC) decision to approve, approve with conditions, or deny the CUP must be supported by substantial evidence. A conditional use permit applicant has the burden of proof. S/he must demonstrate, by substantial evidence, that the application and all requirements and conditions established in the ordinance and by the RPC relating to the conditional use are or shall be satisfied. If an applicant meets their burden of proof, then the RPC must grant the CUP. If an applicant fails to meet their burden of proof, the CUP will be denied. The CUP may also be denied if there is substantial evidence opposing the conclusions and evidence of the applicant, as the RPC's decision need only be supported by substantial evidence.

Testimony and exhibits offered by persons other than the applicant, whether in support of or opposition to the CUP, must constitute substantial evidence.

"Substantial evidence" means facts and information, other than merely personal preferences or speculation, directly pertaining to the requirements and conditions an applicant must meet to obtain a conditional use permit and that reasonable persons would accept in support of a conclusion.

To aid in its review of the proposed project, the RPC will consider the Door County Comprehensive Zoning Ordinance criteria set forth below.

1) Whether the proposed project will adversely affect property values in the area.
2) Whether the proposed use is similar to other uses in the area.
3) Whether the proposed project is consistent with the Door County Comprehensive and Farmland Preservation Plan or any officially adopted town plan.
4) Provision of an approved sanitary waste disposal system.
5) Provision for a potable water supply.
6) Provisions for solid waste disposal.
7) Whether the proposed use creates noise, odor, or dust.
8) Provision of safe vehicular and pedestrian access.
9) Whether the proposed project adversely impacts neighborhood traffic flow and congestion.
10) Adequacy of emergency services and their ability to service the site.
11) Provision for proper surface water drainage.
12) Whether proposed buildings contribute to visual harmony with existing buildings in the neighborhood, particularly as related to scale and design.
13) Whether the proposed project creates excessive exterior lighting glare or spillover onto neighboring properties.
14) Whether the proposed project leads to a major change in the natural character of the area through the removal of natural vegetation or alteration of the topography.
15) Whether, and in what amount and form, financial assurance is necessary to meet the objectives of this ordinance.
16) Whether, and to what extent, site-specific conditions should be imposed to mitigate potentially problematic impacts of the use.
17) The impact of the proposed project on public health, public safety, or the general welfare of the County.

**Note: State, federal, and local requirements also need to be met.*

The RPC is allowed to consider topics, related to the purposes of the ordinance and based on substantial evidence, in addition to the above.

If the conditional use permit application is approved, the RPC will establish a completion date for the proposed project. Once the use is established, a conditional use permit will generally remain in effect as long as the conditions and requirements upon which the permit was issued are followed. Subsequent owners of the property are generally allowed to continue the use, subject to those conditions and requirements. An affidavit is to be recorded with the deed to provide successors in interest notice of the conditional use permit and conditions and requirements.

The RPC may, however, impose conditions regarding the permit's duration, transfer, or renewal, in addition to any other conditions pertaining to ordinance standards or the criteria listed above. For example, the RPC may grant a limited term conditional use permit if a reasonable basis exists for such limitation. Any limited term conditional use permit may be subject to renewal after a re-evaluation of the use via a hearing before the RPC.

RESOURCE PLANNING COMMITTEE DECISION

- The RPC will consider the evidence presented and will most likely make a decision that same day at a business meeting after the hearing(s). If the hearings are lengthy or if additional information is needed, it is possible the decision could be tabled to a later date.
- The RPC will approve, with or without conditions, or deny the request.
- The Door County Land Use Services Department will send the applicant the RPC's decision in writing within a few days after the hearing and meeting.
- An affidavit shall be recorded with a deed to provide successors in interest notice of the conditional use permit and conditions and requirements.

APPEALS

If the conditional use permit is denied, you may appeal the decision to Door County Board of Adjustment as provided in Sec. 59.694(10), Wis. Stats. If the permit is approved, it may be appealed to the Board of Adjustment by any aggrieved party. All appeals must be filed within the time constraints set forth in the statutes (i.e., 30 days after the decision is filed with the Door County Land Use Services Department). For this reason, you may want to delay the start of the project until the appeal period has expired.

DeWitt LLP Law Firm

Attachment L-2

Direct Dial: 608-252-9326
Email: jpa@dewittllp.com

December 9, 2019

VIA FEDERAL EXPRESS AND EMAIL

Ms. Mariah Goode, Director
Mr. Jeff Kussow, Zoning Administrator
Door County Land Use Services Dept.
421 Nebraska St.
Sturgeon Bay, Wisconsin 54235
Email: mgoode@co.door.wi.us
Email: jkussow@co.door.wi.us

RE: Application for Conditional Use Permit to Develop Old Quarry Site

Dear Ms. Goode and Mr. Kussow:

We represent the Bay Shore Property Owners Association and landowners, including Jeffrey and Brenda Lange, whose property is adjacent to the old quarry site (collectively the "BSPOA"). The purpose of this letter is to respectfully request that you reject or dismiss the application for a conditional use permit ("Application") filed on or about December 2, 2019 to construct a Multiple Occupancy Development ("MOD") and Campground on the old quarry site because the materials submitted show that the project would violate the Door County Comprehensive Zoning Ordinance ("Zoning Ordinance") and the Land Division Ordinance.

In the CUP Application and in public statements, the developers describe the proposed MOD and Campground as a "subdivision" with detached "single-family" homes/residences.[1] Regardless of how the project is characterized by the developers, the Application for a MOD and Campground is a bold-faced attempt to undermine the rule of law because it seeks a conditional use that is illegal under the plain meaning of the Zoning Ordinance and Land Division Ordinance.

For the reasons set forth below, we respectfully request that the Door County Land Use Services Department ("Department") return the Application to the developers and not forward it to the Town of Sevastopol or the Door County Resource Planning Committee ("RPC") for further consideration. We further respectfully request a written response to this letter as soon as possible.

The BSPOA is not aware of another developer who has ever applied for a conditional use permit in Door County for a combined MOD and Campground on the same property. The Application, therefore, presents a matter of first impression for the Department and Zoning Administrator, and great care should be exercised when evaluating the Application's compliance with the applicable Door County Ordinances.

[1] *See* CUP Application dated Dec. 2, 2019; *see also* Jim Lundstrom, *Potential Quarry Developers Say Subdivision Is Not Campground*, Peninsula Pulse, p. 9 (Sept. 13, 2019), *available at* https://doorcountypulse.com/potential-quarry-developers-say-subdivision-is-not-campground/

BACKGROUND

The Application seeks a conditional use permit for construction of a MOD and Campground on a single, 49.53- acre lot at the old quarry property (the "Site"). The Site is located in a "Recreational Commercial" or "RC" zoning district, which requires a conditional use permit for the construction of a MOD and Campground.

The Application proposes 115 total MOD dwelling units and 117 concrete slabs for parking large recreational vehicles ("RVs"). The Application's Site Plan map states that a "typical unit" will include the following features:

- Total unit area of 9,000 square feet (60' wide by 150' long);
- A building containing a single-family home;
- Three grass parking spaces; and
- A concrete pad with space for at least an 8.5' by 45' RV.

As demonstrated below, these specifications for a typical unit violate the plain meaning of the Zoning Ordinance and Land Division Ordinance and should not be allowed to proceed.

ANALYSIS

I. The Application's Proposal To Create A MOD With 115 Single Family Homes Violates The Door County Comprehensive Zoning Ordinance.

A. The Project Must Adhere To All Zoning Ordinance Provisions, Which Are Interpreted According To Their Ordinary Meaning.

The project is required to strictly comply with the provisions of the Zoning Ordinance. There are no applicable exceptions to this rule:

> **No land** or water **shall hereafter be used and no structure or part thereof shall hereafter be used, located, erected,** moved, reconstructed, extended, enlarged, converted, or structurally altered **without full compliance with the provisions of this Ordinance.**
>
> ***
>
> **It shall be unlawful to locate, erect, construct**, reconstruct, alter, enlarge, extend, convert, or relocate **any building**, structure, or sign or use any building, structure, land, or sign **in violation of the provisions of this Ordinance**, or amendments or supplements thereto, lawfully adopted by the County Board of Supervisors.

(Zoning Ordinance Sections 1.05(1) and 12.01(1) (emphasis added)).

Under the Zoning Ordinance, the word "shall" is *mandatory* and prevents the developers from deviating in any manner from the requirements of the Zoning Ordinance. (*See* Zoning Ordinance Section 13.01(4) ("In the interpretation of this Ordinance . . . [t]he word 'shall' is mandatory.")).

Additionally, Zoning Ordinance Section 13.02 states that "[w]ords used in this Ordinance, but not defined herein, shall carry the meanings as defined in Webster's Unabridged Third International Dictionary, or a dictionary based on it. This is consistent with the holding of *Weber v. Town of Saukville*, 209 Wis. 2d 214, 224, 562 N.W.2d 412 (1997) ("Wisconsin law has long recognized that when a court construes an ordinance . . . words must be given their common meaning."). If the plain meaning of an ordinance is clear, there is no need to turn to rules of construction or extrinsic aids. *See Bruno v. Milwaukee County*, 2003 WI 28, ¶ 7, 260 Wis. 2d 633, 660 N.W.2d 656 (2003) ("If the plain meaning of the ordinance is clear, a court need not look to rules of statutory construction or other extrinsic aids").

B. To Qualify As A MOD, The Zoning Ordinance Requires More Than One Occupancy Unit Per Building.

A MOD is defined as a development on a single lot with a building containing three or more occupancy units, or multiple buildings, each of which contain two or more occupancy units (*e.g.*, a duplex):

> **Multiple Occupancy Development: A development on a single lot wherein a building is provided with 3 or more occupancy units, or wherein 2 or more detached buildings are provided with 2 or more occupancy units**, regardless of the characteristics of the user(s) of the occupancy units and regardless of the ownership of the building(s) or of the occupancy units. A single family residence with a secondary dwelling unit and/or living quarters in accessory structures shall not be considered to be a multiple occupancy development.

(Zoning Ordinance Section 13.02, definition of "Multiple Occupancy Development" (emphasis added)).

The terms "building", "occupancy unit", and "living quarters" are also relevant to understanding the requirements of a MOD, and are defined in the Zoning Ordinance as follows:

> **Building:** An enclosed structure built, maintained, or intended to be used for the protection, shelter, or enclosure of persons, animals, or property.
>
> **Occupancy Unit:** A room, or interconnected rooms, consisting of living quarters physically separated from any other unit in the same building. The unit may include facilities for cooking, eating, and other facilities convenient to human living.

> **Living Quarters:** A building or a portion of a building which provides, as a minimum, an area equipped or furnished for sleeping purposes, or those finished portions of a building in which normal residential activities occur

(Zoning Ordinance Section 13.02 (definitions) (emphasis original)).

Although not defined in the Zoning Ordinance, Webster's Unabridged Third International Dictionary defines the word "detached" as meaning "standing by itself" and "not sharing any wall with another building."

C. The Project Does Not Meet The Requirements Or Definition Of A MOD.

As discussed above, there are only two types of development that qualify under the definition of a MOD. Both types require more than one occupancy unit per detached building. In this case, the Application fails to meet the requirements for a MOD because each single-family home at the Site will contain only one occupancy unit.

The first MOD type is a development with "a building . . . with 3 or more occupancy units." (Zoning Ordinance Section 13.02). In this case, the Application proposes a MOD with 115 stand-alone buildings, each of which the developers characterize as a single-family home. According to the Application, there is one single-family home—*i.e.*, one detached building—per 9,000 square foot unit. Therefore, by its plain terms, the development cannot qualify as the first kind of MOD described in the Zoning Ordinance because each building will only contain one occupancy unit.

Second, a MOD may consist of "a building . . . wherein 2 or more detached buildings are provided with 2 or more occupancy units . . . ." (Ordinance Section 13.02).[2] Again, the proposed development violates the ordinary meaning of the second kind of MOD because each detached building as proposed in the Application will include a single occupancy unit (*i.e.* one single-family home). Therefore, while there will be 115 detached residential buildings, each of those buildings will only contain a single occupancy unit, which is in direct contravention of the Zoning Ordinance.

Therefore, the project proposed in the Application cannot meet the requirements of the Zoning Ordinance. Under these circumstances, the Department must refuse to forward the application to the Sevastopol Town Board for a recommendation and to the RPC. This is because it "shall be unlawful to . . . construct . . . any building . . . in violation of the . . . [Zoning] Ordinance." (Zoning Ordinance Section 12.01(1)).

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[2] A recreational vehicle cannot qualify as an "occupancy unit" under the definitions set forth in Zoning Ordinance Section 13.02.

D. The Application For A MOD Is A Concession That 115 Single-Family Residences At The Site Is Illegal.

The developers characterize their project as a subdivision of single-family residences. To construct the subdivision, the Application seeks approval of a MOD-style development. In selecting a MOD, the developers concede that constructing 115 single-family residences at the Site violates the express terms of the Zoning Ordinance.[3] Their concession is appropriate for several reasons.

First, the Zoning Ordinance contains a mandatory requirement that except for a MOD, only one single family residence is allowed per lot:

> **Except for multiple occupancy developments, only one single family residence**, one duplex, or one manufactured home **shall be permitted on a lot or a site condominium unit**, as defined by the county land division ordinance.

(Zoning Ordinance Section 3.04(4) (emphasis added)). There is no discretion for the Zoning Administrator or Department to deviate from the above requirement.

In this case, the "lot" comprises the entire 49.53-acre Site. Therefore, if the developers created a subdivision without using a MOD, such a development would directly violate Section 3.04(4) because it would create 115 single family homes on one large lot.

Second, the Zoning Ordinance allows for substantially fewer single-family homes than are proposed in the Application materials.[4] This is because the density requirements for the RC zoning district require new lots to be *at least* 20,000 square feet:

> Recreational Commercial (RC). This district is intended for Door County's resort areas, particularly areas where high concentrations of recreational uses are located or are appropriate. These areas are not intended to develop into business districts and, thus, many retail, office, and service uses are restricted or prohibited in favor of recreational uses such as golf courses, ski resorts, multiple occupancy developments, marinas, and restaurants. **Lot sizes of at least 20,000 square feet are required for new lots.**

(Zoning Ordinance Section 2.03(18) (emphasis added)).

---

[3] The definitions of a "single family residence" and single family dwelling unit are found in Ordinance Section 13.02 and state as follows:

"Residence, Single Family: The use of premises for the act or fact of dwelling in a single family dwelling unit."

"Dwelling Unit, Single Family: A free-standing building which provides or is intended to provide living quarters exclusively by persons maintaining a common household, to the exclusion of all others, except dwelling units that meet the definition of a manufactured home."

[4] Single family residences are a permitted use in RC zoning districts.

Therefore, each of the 115 single family homes proposed in the Application requires its own 20,000 square foot lot. As set forth in the Application materials, the project violates this density requirement.

II. The Proposed Campground Violates The Zoning Ordinance.

In addition to a MOD, the developers seek an application for a CUP to operate a Campground. However, the proposal directly violates numerous sections of the Zoning Ordinance.

First, the Zoning Ordinance permits only two dwelling units on a campground:

> 4.07 Outdoor recreational uses requirements.
> (2) Campgrounds and trailer camps.
> (k) **One dwelling unit to be occupied by the owner and not more than one additional dwelling unit to be occupied by the manager shall be allowed in a campground**.

(Zoning Ordinance Section 4.07(2)(k) (emphasis added)). The Zoning Ordinance defines a "dwelling unit" as follows:

> Dwelling Unit: A structure, or that part of a structure, which is used, or intended to be used as living quarters. A dwelling unit shall be served by water and a sanitary system, and have finished rooms consisting of, at a minimum, a kitchen, bathroom, and sleeping area.

(*Id.* at Section 13.02).

In this case, the project contains 115 individual dwelling units. Thus, the campground proposal is not permitted under the plain language of the Zoning Ordinance. The requirement that a Campground contain no more than two "dwelling units" also highlights the incompatibility of attempting to overlay a Campground on a MOD.

If the developers want to construct a MOD and Campground, then their remedy is to petition the County Board for a change to the Zoning Ordinance. Under existing law, however, the proposed Campground is illegal and may not be constructed.

Second, the Zoning Ordinance contemplates a "campground" as a single parcel or tract of land owned by "a person" that provides for varying numbers of camping units:

> Campground: **Any parcel or tract of land owned by a person**, the state or a local government unit which is designed, maintained, intended or used for the purpose of providing sites for nonpermanent overnight use by 4 or more camping units, or

> by one to 3 camping units if the parcel or tract of land is represented as a campground.

(Zoning Ordinance Section 13.02 (emphasis added)).

The project violates the above provision because the Site is being developed as a condominium and will be owned by potentially 115 different individuals/entities. Thus, on its face, the proposal cannot qualify as a Campground because the lot (*i.e.*, the single tract of land) on which the development is proposed will not be owned by one person.

The developers may argue that each of the 115 units constitutes its own tract of land. This argument fails because the Zoning Ordinance requires that each Campground be at least five (5) acres:

> **The minimum size of a** recreational vehicle park, trailer park or **campground shall be 5 acres**, except that in the Heartland-3.5, Heartland-5, Heartland-10 and Countryside-5 districts the minimum size shall be 20 acres.

(Zoning Ordinance Section 4.07(2)(c) (emphasis added). Here, each unit is proposed as only 9,000 square feet, which is only a fraction of the surface area required for a Campground. Therefore, under no circumstances may this development appropriately qualify as a campground.

III. The Development Violates The Door County Land Division Ordinance.

A. The Project Does Not Comply With Requirements To Ensure Safe Passage For Emergency Vehicles.

The Land Division Ordinance has numerous mandatory requirements in Chapter 6, titled "Design Standards, Improvements, and Dedications." The project must comply with all applicable rules under that Chapter. Based on the project set forth in the Application, the developers have ignored the requirements of the Land Division Ordinance. In fact, that Ordinance is not mentioned once in the CUP Application materials. It is extremely disappointing that the developers believe that the rule of law in the Land Division Ordinance does not apply to them.

B. The Land Division Ordinance Applies To The Project.

The Land Division Ordinance applies to the project because the Application depicts a development that includes "more than five units." The "Applicability" section of the Land Division Ordinance expressly brings within its jurisdiction all projects that create five or more units:

> 1.08 **Applicability. The provisions of this Ordinance shall apply to divisions of land or creation of site condominiums** in the unincorporated areas of the County as follows: . . .

> (4) **Site condominiums that create 5 or more units** that are less than 10 acres in area, either as an original condominium or an addition to a condominium under s. 703.26, Wis. Stats. by either the same or subsequent owner(s) within a period of 5 years, shall comply with the requirements of Chapter 5, Major Site Condominiums.

(Land Division Ordinance Section 1.08(4) (emphasis added)).

Moreover, any development that includes five or more condominium units must comply with Land Division Ordinance Chapter 5 relating to major site condominiums:

> **Establishment of site condominium plats that create 5 or more units** that are less than 10 acres in area, either **as an original condominium** or an addition to a condominium under s. 703.26, Wis. Stats. by either the same or subsequent owner(s) within a period of 5 years, **shall comply with the requirements of this chapter.**

(Land Division Ordinance Section 5.01(1) (emphasis added)).

The Land Division Ordinance also contains language prohibiting a developer from creating a condominium in violation of the Ordinance's terms:

> No person shall divide, convey, record, or monument any land or create a condominium in violation of this Ordinance.

(Land Division Ordinance Section 7.03).

In this case, the project qualifies as a major site condominium under Chapter 5 of the Land Division Ordinance because the Application proposes to create 115 condominium units—far more than the minimum of 5 units necessary to qualify as a "major site condominium unit." (*See* Land Division Ordinance Chapter 8 definitions; *see also* CUP Application at Section 16, Quarry Bluff Development LLC Bylaws and Rules, item 11 ("Quarry Bluff is a Residential Condominium Complex")). Therefore, there can be no dispute that the Land Division Ordinance applies to this proposed development.

CONCLUSION

The project as described in the Application violates the Door County Comprehensive Zoning Ordinance and the Land Division Ordinance. On behalf of BSPOA, we respectfully request that the Department refuse to forward these applications to the Town Board and the RPC.

We further request that the Department respond to this letter in writing as soon as possible.

DeWitt LLP Law Firm

Because this letter raises substantial threshold legal issues, we are copying Attorney Grant Thomas, Door County Corporation Counsel. We are also sending a copy of this letter to the owner and the developers of the property who are listed in the Application materials.

Thank you for your attention to this matter.

Very truly yours,

DeWitt LLP

Jon P. Axelrod
Stephen A. DiTullio
Mark R. Sewell

cc: Grant P. Thomas, Esq., Door County Corporation Counsel (via Federal Express):
421 Nebraska St.
Sturgeon Bay, Wisconsin 54235
(And via Email): CorporationCounsel@co.door.wi.us and gthomas1@co.door.wi.us

Quarry Bluff LLC
P.O. 54
Fish Creek, WI 54212

Margaret Dreutzer and Margaret Dreutzer Trust (via U.S. Mail):
4883 Harder Hill Road
Sturgeon Bay, WI 54235-9774

Tom J. Goelz (via U.S. Mail):
3586 Gibraltar Road
Fish Creek, WI 54212-9313

Mike J. Parent (via U.S. Mail):
10628 Forest Lane
Sister Bay, WI 54234-9173

Attachment L-3

Vierbicher Planners/Engineers/Advisors
N27 W23957 Paul Road Suite 105 Pewaukee, Wisconsin 53072 (262) 875-5000 phone www.vierbicher.com

Review of the Quarry Bluff, LLC, Application, not including Addendum items.

- Page six (6) of the application packet states the project will be located on six (6) properties, which include RC, SE, and SF 20 zoning. Although the site plan on page 14 of the application packet shows lots to be located in the RC portion of those lots, there are still driveways and a holding tank located in the SF 20 zoning district and a parking lot located in the SE zoning district, all of which serve and are associated with the proposed development. The driveway and parking lot are integral to the Campground/Trailer camp and M.O.D. uses and are included in the CUP application as serving these uses. The following is a partial list of uses allowed and not allowed within each district, as they pertain to the application, along with relevant observations. Also listed are the lot sizes allowed in each relevant district.
    - RC Zoning
        - Door County Code pg. 2-6 states, "(18) Recreational Commercial (RC). This district is intended for Door County's resort areas, particularly areas where high concentrations of recreational uses are located or are appropriate. These areas are not intended to develop into business districts and, thus, many retail, office, and service uses are restricted or prohibited in favor of recreational uses such as golf courses, ski resorts, multiple occupancy developments, marinas, and restaurants. Lot sizes of at least 20,000 square feet are required for new lots."
            - Lots listed in application are less than 20,000 sq. ft. See further comments below.
    - SF20 Zoning
        - Door County Code pg. 2-6 states, "(11) Single Family Residential-20,000 (SF20). This district is intended to provide primarily for single family residential development at fairly high densities. Lot sizes of at least 20,000 square feet are required for new lots not served by public sewer. Generally, these districts will be located along the waterfront and in or near existing communities where smaller lots are the norm. The permitted uses are restricted in order to maintain the strictly residential character of these areas."
            - This district is intended for residential development with lots at least 20,000 sq. ft. in size, not Campgrounds/Trailer Camp or M.O.D. developments and associated uses.
        - Door County Code pg. 2-14 does not list Campgrounds /Trailer Camps as a permitted or conditional use in the SF20 district.
            - Campgrounds/Trailer Camp developments and associated uses, such as driveways, are not permitted.
        - Door County Code pg. 2-14 does not list Accessory Residences or Multiple Occupancy Developments as a permitted or conditional use in the SF20 district.
            - M.O.D. developments and associated uses, such as driveways, are not permitted.
    - SE Zoning

- Door County Code pg. 2-6 states, "(13) Small Estate Residential (SE). This district is intended to provide primarily for single family residential development on lots smaller than allowed in the Estate and HL3.5 districts but larger than the SF20 and SF30 districts. Lot sizes of at least 1½ acres are required for new lots. This district is intended for residential areas where high density is inappropriate or undesirable and for transitional areas that are beginning to convert from undeveloped land to residential uses. "
    - This district is intended for residential development with larger lots, not Campgrounds/Trailer Camp or M.O.D. developments and associated uses.
- Door County Code pg. 2-14 does not list Campgrounds /Trailer Camps as a permitted or conditional use in the SE district.
    - Campgrounds/Trailer Camp development and associated uses, such as driveways and parking lots, are not permitted.
- Door County Code pg. 2-14 does not list Accessory Residences or Multiple Occupancy Developments as a permitted or conditional use in the SE district.
    - M.O.D. developments and associated uses, such as driveways and parking lots, are not permitted.
- Door County Code pg. 2-16 does not list Municipal/Commercial Parking Lots as a permitted or conditional use in the SE district.
    - The parking lot is either a Campground/Trailer Camp development associates use, M.O.D. development associated use, or a Commercial Parking lot. If the parking lot is a Commercial Parking lot, it is not allowed in the SE district.

- Page 15 of the application packet includes a site plan and lot configuration, which is presumed to be submitted as a subdivision plat upon potential approval of the proposed CUP. The application packet lists Individual lot sizes by type, including; Individual Sites – M.O.D. and Individual Sites – R.V. Sites. The M.O.D. sites are listed as being 2,095 sq. ft. in size and the RV sites are listed as 1,385 sq. ft. in size. The following is a list of relevant sections which pertain to the application packet and relevant observations;

    - Section 3.04 Lot requirements
        - Door County Code pg. 3-9 states, "3.04 Lot requirements. (1) No lot shall hereafter be created which does not meet the minimum width and area requirements of this Ordinance. No lot shall be so reduced that it fails to meet any density, dimensional, or other requirement of this Ordinance."
            - Lots listed are below the 20,000 sq. ft. minimum, as stated above.
        - Door County Code pg. 3-9 states, "(4) Except for multiple occupancy developments, only one single family residence, one duplex, or one manufactured home shall be permitted on a lot or a site condominium unit, as defined by the county land division ordinance."
            - If the lot configuration is intended to be merely "sites" and not platted lots, only one M.O.D. or residence is allowed on each of the six (6) parcels included within the site plan and application.
    - Section 3.12 Accessory structures
        - Door County Code pg. 3-20 states, "(3) Accessory structures shall be located on the same lot as the principal use to which it is accessory." And pg. 3-21 states "(4) Accessory structures shall not be permitted until its associated principal structure is present or under construction, except that

one accessory building may be permitted prior to the erection of a principal structure"

- The storage units on Page 15 are not on the same lots as the principal structures.

- Section 13.02 Definitions
  - Door County Code pg. 13-14 states, "Multiple Occupancy Development: A development on a single lot wherein a building is provided with 3 or more occupancy units, or wherein 2 or more detached buildings are provided with 2 or more occupancy units, regardless of the characteristics of the user(s) of the occupancy units and regardless of the ownership of the building(s) or of the occupancy units. A single family residence with a secondary dwelling unit and/or living quarters in accessory structures shall not be considered to be a multiple occupancy development.
    - Only buildings with three (3) or more occupancy units are allowed as M.O.D. developments, not single-family residences.

Attachment L-4

Quarry Bluff Area Zoning

Attachment 1-A-1

January 8, 2020

Dear Mr. Kussow: We would like you to consider not approving the CU request for the following reasons.

In 1985, we purchased our property thru Peg Dreutzer of ERA Realty and built our home on the south ledge of the quarry. In 1995, the zoning in the quarry was changed from RE to RC but we were unaware of this. Peg and her late husband, Blaine, purchased the vast majority of the quarry area and developed single family home sites with over 1 acre lots and very high end homes were built along the quarry eastern ledge.The homes range from $450,000 and up to mostly $850,000 homes, not the $475,000 estimated and the age range is not just 55 to 75 in this area. There are several younger families moving into the area.

Last summer we put our home up for sale as we wanted to downsize. Jeff Isaksen of Harbour Realty was our agent. We had one showing but party was not interested. Then we had another showing scheduled but when the party found out about the pending quarry RV park, they cancelled the appointment and wanted no part of our house because of the quarry RV park. We had just found out ourselves about this pending RV park. We kept our house up for sale but had no further interested buyers. We took our home off the market in October.

We are now in limbo until either the building permits are denied or building the RV park will start. I believe our house valued has already dropped because of this situation. We worry that the blasting of rock may cause our home to become unstable. We worry our water view will be blocked as the developer stated the east edge of quarry homes would not have water view blocked. What about the southern edge of the ledge that we are on.

The planned 117 units seems very congested. Would a smaller plan be considered. The 2 story home sites are very very close to each other as only 34' exist between homes. After all the land fill is added, how much water view will be sacrificed?

We hope you will reject the current CUP plan. Our fondest dream would be that the County will reconsider purchasing the quarry for the appraised $250,000 which the Dreutzers had proposed The Dreutzers did donate most of the Pinney boat launch and park. It would be very wise for the County to develop the quarry into a natural ecology park. The escarpment would not be disturbed. The park would be another beautiful site for students, tourist and residents to enjoy, along with the Pinney park across the road. And to add to the park, it would be named after the Late Blaine Dreutzer, which would be appreciated by Peg and her sons.

Sincerely, Scott and Ann Dalke

• Attachment 1-A-2

Donna Klinger
585 Mourning Dove Circle
Lake Mary, FL 32746
(407) 342-4768
donnagklinger@gmail.com

319 West Maple Street
Sturgeon Bay, WI 54235

December 23, 2019

Ms. Amy Flok
Town of Sevastopol
4528 State Highway 57
Sturgeon Bay, WI 54235

Ms. Mariah Goode
Mr. Jeff Kussow
Door County Land Use Services
421 Nebraska Street
Sturgeon Bay, WI 54235

Re: Quarry RV Development

Dear Ms. Flok, Ms. Goode & Mr. Kussow:

It would be appreciated if the Door County Land Use Services would distribute a copy of this letter to all County Board Supervisors.

My husband, William, and I own lot 13 on West Whitefish Bay Road. We purchased this lot to build our retirement home on and enjoy everything that Door County has to offer. On August 13, 2019 I learned of the proposed RV development that may be built on the quarry ledge of the Old Leathem & Smith Quarry. On August 7, 2019 my husband and I had met with Keith Tielen of Tielen's Construction to discuss building our retirement home on our lot.

My husband and I own a house on West Maple Street that we use as a summer home. We bought this small cottage for me to use until he retires. I am there from May through October. He is able to fly up a couple times a month. We love Door County in many ways. The natural beauty of Door County is magnificent. Every season is a wonder. Living so close to Orlando, it is hard not to notice the abundance of tacky tourist locales. Even though Door County is a tourist destination, it hasn't yet been developed in the way that many tourist destinations have been. I hope that it never will be.

After learning of this proposed RV development at the Quarry, my husband and I have no intention to build on our lot. Building a home in Door County is very expensive. If this RV development is approved, I feel the property values on West Whitefish Bay Road and Bayshore Drive will diminish greatly. The noise from the motorhomes and 117 units with 200+ residents in that small area of the Quarry will ruin the peace and quiet, not to mention kill the wildlife

and natural resources that are there now. If we are lucky enough to sell our lot later, we will probably take a loss on it.

My husband and I used to own a Class A and Class C motorhomes and enjoyed traveling in them. We are aware of the cost of these motorhomes and the price of many are well over $300,000. However, we did not park our motorhome in our driveway at our house. It was kept at a safe storage facility nearby and only at our home for a matter of hours to pack and unpack it. It doesn't matter how much a motorhome is valued at, it is not an attractive thing to look at day to day parked in a driveway next to your home. I'm sure my neighbors would agree to this.

Driving a motorhome of that size can potentially be hazardous on narrow roads or roads with pedestrian and bicycle traffic. Bayshore Drive is a popular street for local homeowners to have an exercise walk or run and ride bicycles. The excessive traffic from these large motorhomes coming and going to this RV development is a disaster in the making. It is only a matter of time before someone gets hit by one.

There have been numerous publications in travel magazines that list the charm of Door County. Tourist dollars come to Door County for the charm and the natural environment. Do you really want to blast away a portion of the Niagara Escarpment in order for a homeowner to be able to park a motorhome in their driveway? If this is allowed, what is next? A waterpark or some amusement park? What happens if this development is granted and then it fails? What are we left with except a ruined landscape?

Many of you are multi generation residents of Door County. What would your grandparents think if you allow the Old Leathem & Smith Quarry be destroyed for a motorhome village? You have the power to either keep the natural beauty of the Quarry as it is or you have the power to grant destruction to the natural habitat, kill wildlife, create noise and pollution, decrease property values, add life threatening situations and make many residents extremely unhappy.

Thank you for taking the time to read this letter and consider all the negative aspects this RV village will bring to Door County.

Respectfully submitted,

Donna Klinger

Located in Dyckesville
Tielens CONSTRUCTION
Custom Residential & Commercial Construction

Located in Dyckesville
6292 Tielens Road
Luxemburg, WI 54217

Phone: (920) 866-9703
Toll Free: 1-(800) 570-9703
Website: www.tielensconstruction.com

• Attachment 1-A-3

Town of Sevastopol, Plan Commission and Town Board

Door County, Land Use Services

To whom it may concern,

The reason for this letter today is to inform you of how the proposed RV Village development has already affected our business. On August 7th we meet with the couple that owns Lot 13 on Whitefish Bay Rd. to discuss their plans for a new residence. Then approximately ten days later we were informed that they were no longer going to proceed with those plans because of the potential RV Village. While we realize this is only one project, it not only affects us it also affects all our subcontractors and their employees as well.

Perhaps there is a need for a project like this RV Village in Door County but there may be better locations that would not affect the values of other individuals' property.

Respectfully,

Keith Tielens

Keith J. Tielens

Tielens Construction Inc.

1/13/2020

• Attachment 1-A-4

To Whom it May Concern

Our family relocated back to Door County last spring and we purchased a home on West Whitefish Bay Rd. I was born and raised in Door County and believe everyone should enjoy its beauty; but an RV Village in the Old Stone Quarry is a poor representation of what Door County is.

We do not support the use of the Old Stone Quarry as an RV village as it will negatively affect the area's natural quiet setting and will diminish property values.

When we purchased our home in June, nothing was noted about the proposed development and had we know we would have rethought our purchase. Furthermore, it was appraised higher than asking price and it should be noted that if can't, if we choose to, sell the property for our purchase price or appraisal price who will be at fault?

I would ask you to consider bringing business to Door County that will create sustainable careers for generations to come and not tourism jobs. Right now, is a critical time in Door County and locals are struggling to afford housing, outside sales have driven home/rent prices through the threshold of which locals who are employed at the hospital, shipyard, industrial park, etc. can afford.

Sincerely

Dave Hunt

6433 Whitefish Bay Rd

Sturgeon Bay, WI 54235

Attachment 1A-5 Roger Kuhns

Section #1

Whether the proposed project will adversely affect property values in the area.

Aspects of the Quarry Bluff RV Park's impact on the surrounding houses and developments and parks not considered in the CUP.

These data are presented in the CUP Application: Quarry is assessed at $250,000. The completed Quarry Bluff RV Park is estimated to be assessed in the $40 million range, with individual properties assessed between $450,000 to $750,000 range.

In Section #1 Property Values, pages 1 and 2, the Applicant states "The proposed project will not adversely affect property values in the area for the following reasons" and then states thirteen points. Those points are addressed here.

The 1st point states that "The existing quarry site is an un-reclaimed mine site." That is true, to a degree. The site has been abandoned for decades, and there is a slow natural restoration and recovery occurring of Niagara Escarpment habitats. This natural recovery is seen as the repopulation of cliff environments by nesting birds, use of the quarry area by migratory birds, presences of bats (hibernacula for bats), and the re-vegetation of some areas around and in the old quarry. Additionally the hydrology of the area has rebalanced over the past decades, and is now establishing this new rebalance with the naturally recovering habitats. Development on the scale of the Quarry Bluff RV Park would disrupt all of this, and such activity could negatively influence surrounding property values.

Comments on Applicants Referenced Studies. The Quarry Bluff RV Park CV CUP Application also references two studies, the first from Bill Gassett (2019), a ReMax executive, and the second a Dr. Jonathan Wiley (2001), a professor at Georgia State University.

The Applicant's first reference is to Bill Bassett's list of factors that can lower neighboring property values (Gassett, 2019). Gassett's factors include: (1) proximity to power lines, (2) proximity to a gun range, (3) proximity to train tracks, (4) proximity to a highway, (5) registered sex offenders, (6) the hoarders

next door, (7) unusual upgrades, (8) excessive noise pollution, (9) color and interior design, (10) in an undesirable school district, (11) billboards near the home, (12) located near fracking, (13) having noisy neighbors, (14) numerous foreclosures.

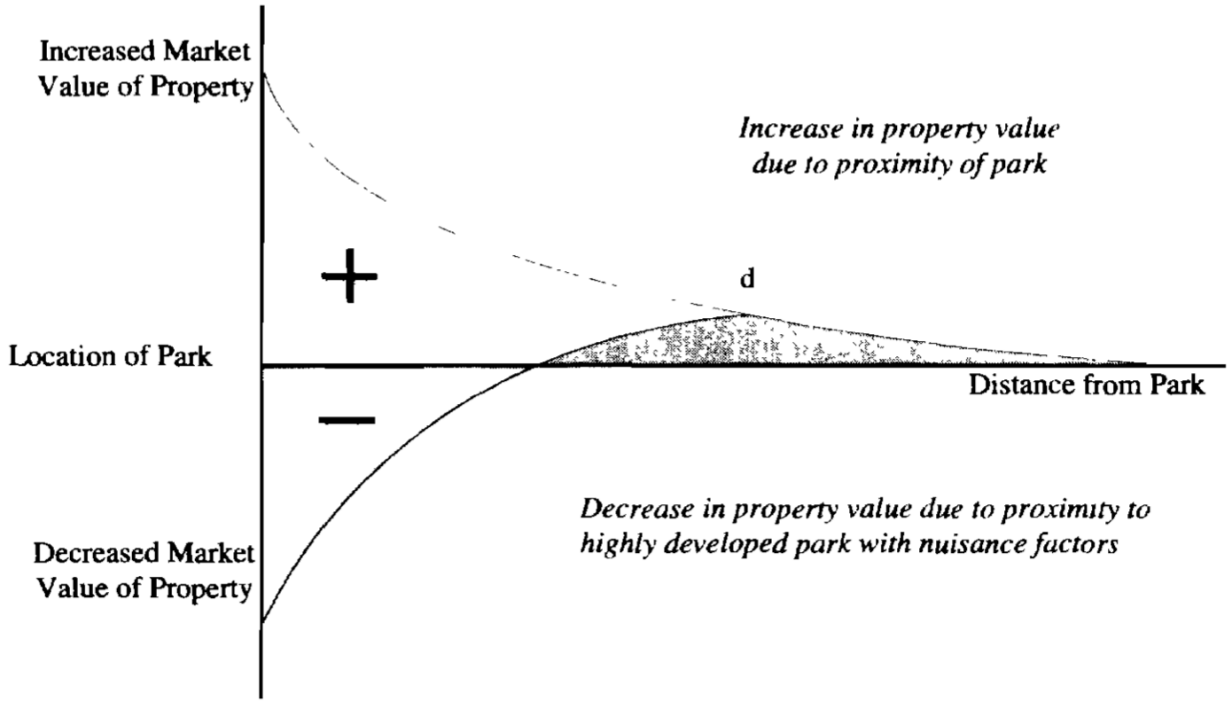
I called Mr. Gassett (January 30, 1:22pm in Rochester, MA), and outlined the Quarry Bluff RV Park layout, and its proximity to existing homes. I did so because RV parks are not mentioned in his list above. Mr. Gassett said, "**I can't speak to details without seeing the plan, but if the existing homes can see the development, then it may have an impact on property values. It would not increase property values**."

Mr. Gassett's list does not include the impacts, positive or negative, to residential homes adjacent to an RV park development. He does address aspects that will be present in the Quarry Bluff RV Park, and these include #4 proximity to a highway, which in this case would be elevated traffic levels near and on the site; #8 excessive noise pollution, which will be present since the ambient noise level is very low, and potentially (13) having noisy neighbors, which may occur if some of the RV Park residents/visitors are noisy, or just an overall increase in noise from activity on 117 lots and as many vehicles or more, and as many people or more.

Woodruff (2013) and Pan (2016) present neighborhood situations that lower home values. The combined list includes: (1) Sinkhole damage, which can devalue neighbor's property by 30%; (2) High renter concentration, devalue neighbor's properties by 14%; (3) City dumps and power plants, devalue neighbor's property by 7%; (4) hoarders, devalue neighbor's properties by 5 to 10%; (5) Foreclosures in area devalue neighbor's properties by $7,200; (6) Noisy neighbors and their pets, devalue neighbor's properties by 5 to 10%; (7) Fracking, devalue neighbor's properties by 24%; (8) Registered sex offenders, devalue neighbor's properties by 12%; (9) Tacky billboards, devalue neighbor's properties by $30,000; (10) Bad schools, also devalue neighbor's properties.

As these data show, anything out of the expected, accepted, or somewhat normalized in development will likely decrease neighborhood property values.

The Applicant's second referenced study addresses commercial developments and affects on neighboring residential properties (p.4-21) (Wiley, 2015). This study



looked at industrial, office and retail commercial properties, not RV parks, camp grounds, or high-density seasonal use motor homes and small house developments., nor did this study contemplate the overlook/view impacts, as well as other aspects discussed in this report. The study by Wiley also considers "the relative impact on residential transactions within a 0.75 mile radius of new industrial, office, and retail developments…". The quarry development is, in some cases, within 50 to 100 feet of existing residential home properties. This close proximity to development, and the fact that RV parks are not considered, renders the Wiley conclusions inappropriate for the Quarry Bluff RV Park impacts to existing residential properties, and therefore the development could negatively influence surrounding property values.

Crompton (2001), referring to green space parks, not RV park developments, states "The real estate market consistently demonstrates that many people are willing to pay a larger amount for a property located close to a park than a house that does not offer this amenity." He notes that property values can increase between 5% to 20% in proximity to a green space park, and this increase in property value benefits

the city or town due to higher property taxes. The figure below is from Crompton's (2001) data, after Li & Brown (1980), and shows increased value of properties in proximity to green space (undeveloped) parks, and decreased market values in developed parks with nuisance factors. This developed park scenario considered over development of green spaces, but not to the degree of an RV park which, by Crompton's reasoning, negatively impact market values of properties to an even greater degree.

Figure 3. Negative impact of highly developed park with nuisance factors, on adjacent home property values (Crompton, 2001). An RV park qualifies as a very highly developed park, so by this diagram property values would be extremely negatively impacted.

A study on trailer parks adjacent to single family residential homes shows that the farther away from a manufactured home, the higher the site-built property value (Wubneh and Shen, 2004)

Summary Research Findings Impact on Local Property Values *January 2020*	Attachment 1-A-6

Scope of the Research

An email survey was sent to 48 owners of lots and/or residences within one quarter mile of the Leathem Smith quarry site between January 23 to January 31, 2020. Response rate to the survey was 40%. Respondents were asked to answer four questions regarding their property:

- Whether the proposed development has changed their thinking about the future listing and/or sale of their property?
- Whether they have taken any action as a result of learning about the proposed development?
- Whether knowledge of the development has influenced their decisions about developing their property?
- How long they have owned their property?

Summary of Findings

The prospect of the proposed Quarry Bluff development is already having a negative impact on surrounding property owners. Most of the survey respondents purchased their properties from 1997-2007, which means they have years of experience in the ups and downs of Door County real estate. They understand this market and are experiencing firsthand what is only hypothetical in the applicants' real estate research.

Here are key findings and a sampling of verbatim comments to support these conclusions:

- **All of the respondents believe the proposed development will result in a loss in the value of their property, in some cases significantly.**
    - *"If I were to list my property for sale today, I would have to list it at a minimum of $25,000 less than I would have listed it for 6 months ago."*
    - *"We figure we cannot sell our property now…if they get approval to proceed with the development, we will not be able to list our property for anywhere near what we paid for it."*
    - *"I am very aware that my home will be devalued along with the vacant lot next door."*
    - *"A local realtor estimated that homes that overlook the quarry will drop up to $100,000 in value if this development is approved."*

- **Almost 70% of respondents have changed thinking about future sales and improvements, with a significant number saying they have cancelled plans for construction or renovation on their property.**
    - *"After learning of this proposed RV development at the Quarry, my husband and I have no intention to build on our lot."*
    - *"This caused us to think about selling at a loss, which we realize isn't wise. We had planned a major remodel, but now will wait to see what happens."*

- *"Plans I have to further improve and enhance both of my properties and to protect the shoreline against further erosion are now on hold."*
- *"I have a vacant lot I have no intention of building on now because of the possibility of an RV village being built within walking distance."*
- *"We have recently completed a major remodel of our home, which cost well over $100,000, beginning in 2017. Had we known an RV camp was to be proposed less than 1,000 feet from our property, we would never have undertaken such as project."*

- **More than half of respondents were contemplating downsizing from their homes in the near future, but now believe they must delay moving or be forced to sell their homes at greatly reduced prices**.
  - *"We're at an age where we have considered downsizing and moving to an area where our children are…I'm concerned about having to list my property at a price that is less than I paid for it."*
  - *"I'm not contemplating the sale of my property now, but I could be in five years. With an expected 10-year buildout of the RV park, I fully expect I will have difficulty selling my house at anywhere near the value it had before this happened."*
  - *"My wife and I are of an age that in the not too distant future we may not be able to live on our property. One of our children expressed a strong interest in the property to keep it in the family, but on learning of the RV development, said that even though she and her family love Door County, they are not interested anymore."*

- **Many respondents are concerned about change in neighborhood character from a 10-year construction buildout, transient RV traffic and short-term rentals in the development, and some are reacting with plans to counteract the impact.**
  - *"I'm exploring sale or rental options regarding our property on Bay Shore Drive should the proposed project be approved due to diminished property values, neighborhood disruption and potential health hazards during and after construction. We have never previously rented our property."*
  - *"My primary concern is that the developers won't have any 'skin in the game" and as a result whatever form this development would take would be far from the valuable property that harmonizes with the natural surroundings and the community."*
  - *"Being close to the main entrance means we will have additional traffic with the coming and going of the owners of the RV village. And God help us if they allow daily or weekly rentals."*

- **Some respondents anticipate seeking new appraisals and revised tax bills for their property given the expected drop in property values.**
  - *"I'm also assuming the fair value of my property tax bill will be reduced…though I'm sure the county will find a way to make sure my taxes don't go down."*
  - *"If this trailer park is approved, I'd like to find out how we can be reappraised because the value of our property will decrease so much."*

1/30/2020

Attachment 1A-7

To Whom it May Concern

My husband Jeff and I have owned and operated Peninsula Builders LLC since 1983 in the city of Sturgeon Bay. We chose to raise our family and operate our business in the city of Sturgeon Bay with the hope of someday building our retirement home outside the city limits. After a thoughtful process, we purchased a beautiful piece of property located in Sevastopol. What appealed to us about Sevastopol is partially based on its “goal to maintain and protect the significant natural resources that characterize the town's natural landscape” and its commitment to “encourage rural living choices in harmony with the town's natural environment.” Both quotes are cited in the Sevastopol Comprehensive Plan. We felt strongly that these statements mirrored the way we wanted to live in our retirement. The proposed RV Village is in direct conflict with the Sevastopol Comprehensive Plan.

Unfortunately the property we purchased in 2018 is 350 yards from the proposed 117 site RV Village. From a health standpoint we are beyond concerned. I am a cancer survivor, have severe allergies, and chronic lung disease, all of which will be negatively affected by the magnitude of this construction project. The poor air quality during the 10 year proposed build out due to the ongoing blasting and crushing of an enormous amount of dolomite to help create the infrastructure, as well as the immense amount of groundwater runoff and possible contamination of the surrounding wells, all will contribute to existing health problems of residents in a large radius encompassing the site, including mine, and will negatively impact our quality of life for years to come.

For these reasons we have had to put our dreams of a new home on hold.

Respectfully
Margaret Shea Harding
Jeff Harding

Date: January 14, 2020

Attachment 1A-8

To: Sevastopol Town Board

From: Allen Koenig

Full time Door County Resident

Licensed Real Estate Broker 1976 - Present

In the marketing and sale of real estate, the desirability of the land parcel is one of the two key determining factors when establishing its value. As a result, Real Estate Professionals everywhere seek to maximize a property's positive attributes when presenting it to the marketplace.

While the introduction of new elements to a neighborhood, such as grocery stores, restaurants, clinics and other services can increase the overall value and desirability of surrounding properties, the reverse can be true when a new element detracts from the features that established property values in the first place. In the case of the Quarry RV Village, there would be an immediate and negative effect on the values of adjacent properties which would also create an obstacle for future sales of both land and property.

As evidence, I am providing copies of correspondence which are bonafied and real time examples of how, just the idea of, a Quarry RV Village is negatively affecting the growth and interests of the surrounding homeowners. The examples provided are:

1. A letter from Tielens Construction describing a cancelled construction order for a home on Whitefish Bay Road, based upon learning of the possibility of the RV Park and going on to suggest that there are more suitable locations for this project.
2. The corresponding letter from the specific Whitefish Bay Road land Owner, who cancelled the build with Tielens, supporting Tielens claim that the decision to cancel was solely due to the negative potential which would be represented by the RV Park.
3. A letter from a homeowner on Bay Shore Court, describing how buyer activity and interest in the sale of their home abruptly ceased, when word of the potential RV Park became public knowledge.
4. An email from a land owner on Bay Shore Drive advising of his desire to list his water front parcel. He stipulates a List Price for the Listing but adds that that price is to be reduced $25,000, prior to the Listing's effectivity, should the Quarry RV Village be approved.
5. A letter from a buyer who purchased a home on Whitefish Bay Rd., last summer, which overlooks the quarry and Pinney Park. He states he was unaware of the Quarry RV Village possibility when he purchased the home and is fearful, he could not recoup his purchase price if the CUP is approved and he would want to sell his property.

I have no doubt that these represent only the beginning of the fallout that will occur should the Quarry RV Village proposal be approved. As a Real Estate Broker, and I feel many of my colleagues would agree, it would be extremely difficult, if not impossible, to market the advent of the Quarry RV Village as a positive feature to this area. In short, Approval of the Conditional Use Permit would turn a property's "wow" factor into a "not now" factor.

In closing, I urge the Board to support its citizens and homeowners in this issue by rejecting the Conditional Use Permit application.

Respectfully,

Allen Koenig

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News & Insights

Attachment 1A-9

Advertise

Trends

The Neighborhood Features That Drag Down Your Home Value—Ranked

By Yuqing Pan | Mar 28, 2016

MichaelUtech/iStock

When it comes to real estate clichés, “Location, location, location” has all other contenders (including “Not a drive-by!”; “Cash is king!”; “Is that your checkbook or are you just glad to see me?”; and “Worst house, best street”) beat by a mile. Not only has it been in use since at least 1926 (according to the New York Times), but it's utterly and inarguably *true*.

More than any other single factor, when you buy a home in a good location, it’s usually a solid long-term investment. And being the unabashed optimists we are here at realtor.com®, we focus most on the factors that help maximize your home's value. But hey, life—and real estate—isn't always rainbows and unicorns. So this week we decided to take a look at the *downers:* those things that actually keep you from getting top dollar from your home.

Watch: These Things Are Dragging Down Your Home Value

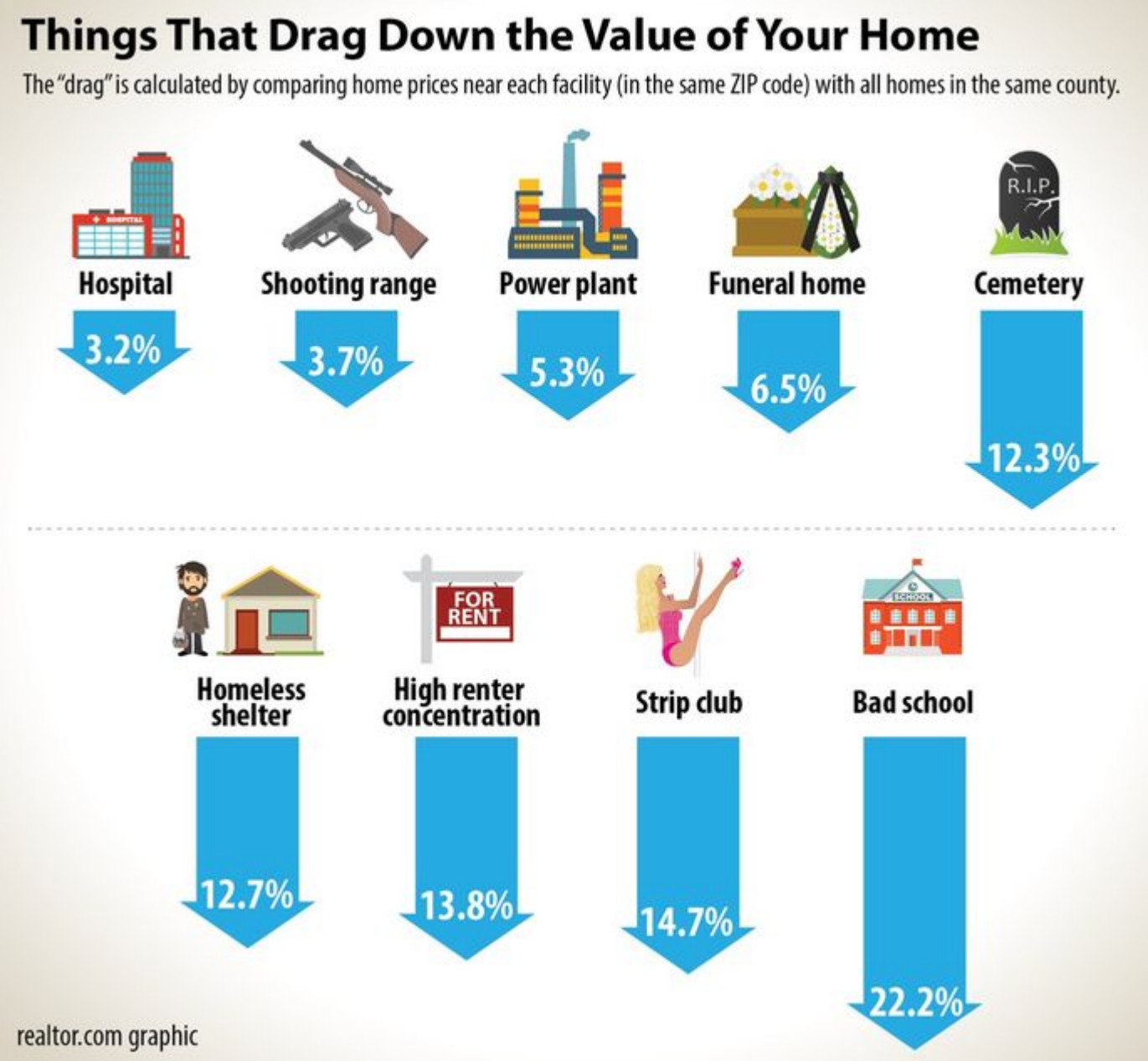
The list itself probably won't surprise you, but the numbers just might. Who would have thought that it's a worse investment (by far!) to buy in a bad school district than near a strip club or a homeless shelter? Beyond strippers, that is.

Related Articles

- The Features That Help a Home Sell Fastest—and the Ones That Don't
- The Most Common Questions Asked by Home Buyers—Answered!
- Top 6 Reasons to Not Buy a Home—Debunked

So how'd we do it? We looked at home prices and appreciation rates in U.S. ZIP codes where a specific drag-me-down facility such as a power plant is present. For each facility, we calculated the drag, or a "location discount," by comparing the median home price of the ZIP codes with that facility with the median price for all homes in the same county. We limited our scope to the 100 largest metropolitan areas, since rural communities have lower home prices and slower appreciation.

Got it? Have a look at the list based on how badly your home's value will get dinged:



Keep in mind the difference between **causation** and **correlation**: Does having a cemetery or shooting range in the neighborhood cause home prices to drop? Or are those businesses drawn to the area because of cheap real estate? We don't have a definite answer, but their presence is generally a sign that a neighborhood is the opposite of up-and-coming. Judge your investment accordingly.

Hospital

The drag: 3.2%

Hospitals are awesome, right? Having a great one within easy access is just about every homeowner's goal. But easy access is one thing, and being woken up by ambulance sirens—or, god forbid, medical helicopters—at 3 a.m. is quite another. Among homeowners who sold in 2015, those near a hospital generally got 3% less than an average home in the same county would get, based on our sales deed records and hospital location data from data.medical.gov. In the world of real estate price demerits, 3% isn't a lot, so clearly plenty of people are willing to overlook some noise and chaos in favor of nearby medical care.

Shooting range

The drag: 3.7%

According to most research, it's not the guns or the people who shoot them that the neighbors of shooting ranges object to most; it's more the *idea* of the places and, in some cases, the noise of gunfire, especially outdoor gun ranges. More perceived problems: environmental concerns, including the lead that leaches off spent shells, potentially poisoning soil and water. Last year, a closed gun club in San Francisco triggered $22 million in cleanup fees, the San Francisco Chronicle reported. We used gun range locations from wheretoshoot.org.

Power plant

The drag: 5.3%

There are more than 8,000 power plants across the U.S., according to the Environmental Information Agency. Much as we are grateful for the modern convenience of electricity (thanks, **Ben Franklin**!), the huge facilities spur more NIMBY ("not in my backyard") movements than anything this side of waste treatment facilities. The most frequently cited reason: safety concerns. The perceived dangers of living near a power plant vary dramatically depending on type, from the seemingly harmless solar to the dreaded nuclear. In general, having a power plant in the neighborhood is associated with lower property prices.

Funeral home

The drag: 6.5%

Some people believe you get bad spiritual energy from living near a funeral home; some just dislike the traffic caused by service workers and funeral attendees; and others fear that the smoke from a crematorium is toxic. But plenty of folks just find them seriously *creepy*, an unpleasant constant reminder of our own mortality. Our analysis of property values near funeral homes listed on legacy.com seems to confirm the stigma. Properties near a funeral home see a 6.5% drop in price compared to all homes in the same county.

Cemetery

The drag: 12.3%

Call it superstition, call it irrational fear, but there's an awful lot of people who find the prospect of living near lots of buried bodies unpleasant or downright terrifying (see: Funeral homes). To be fair, there are some people who seriously dig how quiet the neighbors are, but they're outnumbered by the haters. To do the research, we used a list of federal and state cemeteries operated by the Department of Veterans Affairs and found that the median price of ZIP codes with a cemetery is about 12% lower than neighboring areas.

Homeless shelter

The drag: 12.7%

Homeless shelters can be unloved and unwanted misfits in residential areas. Even though there's no rule that homeless shelters are usually accompanied by higher rates of crime, shelters *do* certainly attract motley groups of people, necessitate emergency calls, and require more police in otherwise quiet, safe neighborhoods. Shelter locations, listed on homelessshelterdirectory.org, are often limited to less prime areas in the city where home values are about 13% less.

High concentration of renters

The drag: 13.8%

Does a cluster of rental buildings—or lots of them—lower the property value in a neighborhood? Many homeowners have pondered this. While it's hard to do an analysis down to every property, we found that ZIP codes with a higher-than-average concentration of renters have lower property values compared to the county they are located in—by 14%. The data are from the American Community Survey.

Strip club

The drag: 14.7%

Catering to adult vices—and often (rightly) associated with loud music and less-than-savory visitors—a “gentlemen's club” is an unwelcome neighbor on the block. We tracked nearly 2,000 strip joints listed on stripclublist.com and ranked the category high on our “unwanted” list. In one extreme case, the crime-plagued neighborhood of Washington Park in East St. Louis, IL—the ZIP code 62204—has 10 strip clubs. *10!* How do they all compete? It saw only a handful of homes sold in the past three years, with a median price of $10,000.

Bad school

The drag: 22.2%

While a top-performing school is definitely a plus for your property value, a bad school is a complete, out-and-out disaster. A school where one teacher handles a class of 40 students with a slim graduation rate is usually an indicator of a deprived neighborhood. The median home price of ZIP codes with schools that receive a 1 to 3 rating (out of a possible 10) from GreatSchools.org is only $155,000.

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Related: The Features That Help a Home Sell Fastest—and the Ones That Don't

Yuqing Pan, a Stanford graduate with a multimedia journalism background, writes data-driven stories for realtor.com.
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Attachment 1A-10

9 Things That Will Trash Your Home's Value

Mandi Woodruff May 13, 2013, 8:30 AM

With the real estate market as shaky as it is, homeowners can't afford to deal with more problems.

And yet there's always something that pops up – whether its noisy neighbors or an unfortunately-placed sinkhole.

We've rounded up some of the biggest threats to the value of a home.

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Sinkhole damage sucks property values down a staggering 30%.

Reuters

The prevalence of reports of sinkhole damage in the U.S. this year has raised questions about the impact on property values.

It's not the *threat* of a sinkhole that damages property value –– there's insurance coverage specifically for sinkhole damage. In fact, a 2007 study found no statistically significant difference in home values in areas prone to sinkholes. Like earthquakes, it's only *after* sinkholes hit your property that problems arise.

Rob Arnold, a Florida real estate investor and realtor who has bought and sold more than 30 sinkhole properties in the last five years, told CF13 News he tells owners of damaged homes to knock 30% off their asking price, plus the cost of any repairs.

City dumps and power

e value by about 7%.

Flickr / USACEpublicaffairs

Pick a home in close proximity to a dump or a power plant and watch your property value get dinged.

When researchers looked at five municipal landfills on residential property in Cleveland, Ohio, they found the stench was enough to drag down property values by

Likewise, the University of California at Berkeley found homes within two miles of a power plant saw values drop 4 to 7%.

Hoarders knock property values down 5 to 10%.

Lynette

A nearby property's overgrown yard, peeling paint, and clutter can easily knock 5 to 10% off the sale price of your home, said Joe Magdziarz, the president of the Appraisal

even more.

Foreclosure graveyards chop $7,200 off their neighbors' property values.

Flickr / mreid1166

Scars from the crippling housing crisis still remain in the form of quasi-foreclosure graveyards across the country.

And a study by Chicago-based Woodstock Institute found each foreclosure within 1/8 mile of a single-family home drops that home's value by at least 0.9%.

Noisy neighbors (or their pets) are enough to drag home values down by 5 to 10%.

icanteachyouhowtodoit via Flickr

"I've seen many situations where external factors, such as living near a bad neighbor, can lower home values by more than 5 to 10 percent," Appraisal Institute President Richard L. Borges says. "Homeowners should be aware of what is going on in their neighborhood and how others' bad behaviors could affect their home's value."

Just the threat of fracking drives home values down by 24%.

Robert Libetti/ Business Insider

Their fears are justified. A team of Duke University economists and nonprofit research organization Resources for the Future found Pennsylvania homeowners who used local groundwater for drinking lost up to 24% of their property value if they lived within 1.25 miles of a shale gas well.

And that's even without solid evidence that fracking really poses a threat to drinking water –– public perception alone is enough to drive down home values.

Registered sex offenders deliver a 12% wallop to home values.

The Ohio kidnapping scandal is proof positive that you never really know who your neighbors are –– or what they're hiding.

The publicly available National Sex Offender Registry is one way to vet your neighbors, but it's also made it easier for interested buyers to vet homes before moving in as well. Sex offenders have been proven to drive down property values.

Houses located next door to a registered sex offender dropped by up to 12%, according to a 2008 study by the American Economic Review.

Tacky billboards knocked $30,000 off home values in Philadelphia.

Sequoia Capital

Tacky billboards are an eyesore and can potentially downgrade home values, a recent study found.

In "Beyond Aesthetics: How Billboards Affect Economic Prosperity," urban planner Jonathan Snyder, found that homes within 500 feet of a billboard were worth $30,826 less on average at the time of sale than others farther away.

On the flip side, areas where communities implemented strict billboard controls had higher median incomes, lower poverty rates and lower home vacancy rates.

Bad schools send parents running and hurt property values in the process.

Wikimedia Commons / GeorgHH

School quality is often a top priority for homebuyers, and that means neighborhoods almost always benefit from being in close proximity to the cream of the crop.

A 2010 study by the St. Louis Federal Reserve Bank found that "the price premium from school quality remains substantially large, particularly for neighborhoods associated with high-quality schools."

Unfortunately, the flip side of this scenario is that neighborhoods near closed-down or low-ranking schools are less attractive and tend to see their property values lowered.

Now don't miss:

• Attachment 1-B-1

Hearthside Grove Neighborhood

Yet Undeveloped Portion

Hearthside Grove Entrance

Hearthside Grove Scenes, August 3, 2019

• Attachment 1-B-2

Google Earth View of Hearthside Grove – Petoskey MI

PID	PAR_ADDR	PAR_CITY	PAR_ST	PAR_ZIP	OWNER1	OWN_ADDR	OWN_CITY	OWN_ST	Acres	Created	Taxable Value
01-16-25-300-031					FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	27.95	8/31/2004	27,105
01-16-25-105-102	4817 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.16	10/26/2007	1,546
01-16-25-105-103	4825 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.12	10/26/2007	1,546
01-16-25-105-104	4831 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.14	10/26/2007	1,546
01-16-25-105-105	4837 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.16	10/26/2007	1,546
01-16-25-105-106	2292 CIDERPRESS DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.17	10/26/2007	1,546
01-16-25-105-138	2284 HEARTHSIDE DR	PETOSKEY	MI	49770	LATTMANN STEPHEN E TRUST	3718 SANDSPUR LANE	NOKOMIS	FL	34275	0.16	10/26/2007	82,800
01-16-25-105-139	2272 HEARTHSIDE DR	PETOSKEY	MI	49770	MCCURRY RALPH W SR	PO BOX 109	MINOR HILL	TN	38473	0.14	10/26/2007	24,554
01-16-25-105-140	2260 HEARTHSIDE DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.13	10/26/2007	79,654
01-16-25-105-141	2248 HEARTHSIDE DR	PETOSKEY	MI	49770	AMIGO R & L INC	56933 BUCKHORN RD	THREE RIVERS	MI	49093	0.17	10/26/2007	132,900
01-16-25-105-142	2234 HEARTHSIDE DR	PETOSKEY	MI	49770	BALL ERIC W TRUST	1833 WILEY POST TRAIL	PORT ORANGE	FL	32128	0.18	10/26/2007	99,532
01-16-25-105-143	2226 HEARTHSIDE DR	PETOSKEY	MI	49770	KEENAN JOSEPH P JR & SUSAN A	5817 HARBOUR CIRCLE	CAPE CORAL	FL	33914	0.14	10/26/2007	90,009
01-16-25-105-144	2212 HEARTHSIDE DR	PETOSKEY	MI	49770	RYAN PATRICK J & BEVERLY A LIFE EST	280 GULF SHORE DR #341	DESTIN	FL	32541	0.15	10/26/2007	46,998
01-16-25-105-145	2208 HEARTHSIDE DR	PETOSKEY	MI	49770	SMOUSE JAMES R & BARBARA	949 IVY ST	CUMMING	GA	30041	0.15	10/26/2007	82,490
01-16-25-105-146	2196 HEARTHSIDE DR	PETOSKEY	MI	49770	NTC &CO.LLP FBO DENNIS JAY ARGYLE	9007 N MEADOWS DR	FREELAND	MI	48623	0.12	10/26/2007	39,126
01-16-25-105-147	2184 HEARTHSIDE DR	PETOSKEY	MI	49770	ARGYLE DENNIS J & LAURA L	9007 N MEADOWS DR	FREELAND	MI	48623	0.18	10/26/2007	50,980
01-16-25-105-148	2172 HEARTHSIDE DR	PETOSKEY	MI	49770	RICKETTS JEFFREY M & REGINA K	880 BRADFORD HOLLOW NE	GRAND RAPIDS	MI	49525	0.12	10/26/2007	92,569
01-16-25-105-149	2156 HEARTHSIDE DR	PETOSKEY	MI	49770	JOHNS FAMILY LIVING TRUST	201 W MITCHELL ST #144	PETOSKEY	MI	49770	0.14	10/26/2007	47,280
01-16-25-105-150	2148 HEARTHSIDE DR	PETOSKEY	MI	49770	YOUNG DANIEL J & BARBARA	15472 DOMINIC ST	CLINTON TOWNSHIP	MI	48038	0.16	10/26/2007	49,549
01-16-25-105-151	2136 HEARTHSIDE DR	PETOSKEY	MI	49770	ROBINSON DONALD D & CELIA C	1161 CROOKED CREEK RD	GREENSBORO	GA	30642	0.13	10/26/2007	49,500
01-16-25-105-152	2124 HEARTHSIDE DR	PETOSKEY	MI	49770	ABNEY PROPERTIES LLC	7388 SPIDEL RD	GREENVILLE	OH	45331	0.1	10/26/2007	72,806
01-16-25-105-153	4727 SHADOWOOD DR	PETOSKEY	MI	49770	ETIENNE JOSEPH R TRUST	7805 EAGLE NEST CIRCLE	CHARLEVOIX	MI	49720	0.13	10/26/2007	91,881
01-16-25-105-413					CORBETT STEVEN W & DANNA	PO BOX 3290	PHENIX CITY	AL	36868	0.13	10/26/2007	41,900
01-16-25-105-414	2099 HEARTHSIDE DR	PETOSKEY	MI	49770	MDR ENTERPRISES LLC	PO BOX 126	PETOSKEY	MI	49770	0.14	10/26/2007	51,700
01-16-25-105-415	2105 HEARTHSIDE DR	PETOSKEY	MI	49770	WIGGINS LARRY B & CYNTHIA FOWLER	2246 SADDLEWOOD BLVD	KERRVILLE	TX	78028	0.15	10/26/2007	95,846
01-16-25-105-416	2113 HEARTHSIDE DR	PETOSKEY	MI	49770	HOGERHEIDE DENNIS & LOIS	14321 PATTY BERG DR	FORT MYERS	FL	33919	0.14	10/26/2007	83,837
01-16-25-105-417	2119 HEARTHSIDE DR	PETOSKEY	MI	49770	TAYLOR CONSULTING GROUP LLC	30 THIRD ST SE SUITE 600	ROCHESTER	MN	55904	0.14	10/26/2007	51,300
01-16-25-105-418	2129 HEARTHSIDE DR	PETOSKEY	MI	49770	RYAN MICHAEL L & CHERLYN K	6689 5K AVE	GREENVILLE	OH	45331	0.15	10/26/2007	91,340
01-16-25-105-419	2153 HEARTHSIDE DR	PETOSKEY	MI	49770	NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD R111	CLEARWATER	FL	33759	0.14	10/26/2007	53,800
01-16-25-105-420	2165 HEARTHSIDE DR	PETOSKEY	MI	49770	GREEN LARRY J & NORMA SUE TRUSTS	10986 MEADE CT	WESTMINSTER	CO	80031	0.15	10/26/2007	88,883
01-16-25-105-421	2191 HEARTHSIDE DR	PETOSKEY	MI	49770	PETER DALE W & JUDY L	1005 WOODSIDE CT	DECORAH	IA	52101	0.14	10/26/2007	85,493
01-16-25-105-422					MCCURRY RALPH W SR	PO BOX 109	MINOR HILL	TN	38473	0.12	10/26/2007	24,554
01-16-25-105-423	2190 WINDOVER DR	PETOSKEY	MI	49770	ADAMS MARK L & BETTYE C	625 BOILING RANCH RD	AZLE	TX	76020	0.11	10/26/2007	78,233
01-16-25-105-424	2180 WINDOVER DR	PETOSKEY	MI	49770	SHORT JACK E & T SCHARMAYNE TRUSTS	9334 S INDIANAPOLIS AVE	TULSA	OK	74137	0.13	10/26/2007	53,117
01-16-25-105-425	2170 WINDOVER DR	PETOSKEY	MI	49770	EQUITY TRUST COMPANY F/B/O MONISMITH KATI	5307 88TH ST EAST	BRADENTON	FL	34211	0.13	10/26/2007	65,252
01-16-25-105-426	2160 WINDOVER DR	PETOSKEY	MI	49770	EARLY EDWARD J & JANICE M	5220 HUDSON BEND RD	AUSTIN	TX	78734	0.14	10/26/2007	33,310
01-16-25-105-427	2150 WINDOVER DR	PETOSKEY	MI	49770	MCGRATH JAMES P & JEANNE M	508 PLEASANT DRIVE	SHOREWOOD	IL	60404	0.14	10/26/2007	90,112
01-16-25-105-428	2140 WINDOVER DR	PETOSKEY	MI	49770	OWENS ALLEN CHARLES & KATHY JEAN TRUST	17114 DIX-TOLEDO HWY	BROWNSTOWN	MI	48193	0.13	10/26/2007	80,076
01-16-25-105-429	2130 WINDOVER DR	PETOSKEY	MI	49770	MOON GLOW LLC	PO BOX 50	PRINCETON	IA	52768	0.13	10/26/2007	80,408
01-16-25-105-430	2120 WINDOVER DR	PETOSKEY	MI	49770	MOON GLOW LLC	PO BOX 50	PRINCETON	IA	52768	0.11	10/26/2007	41,300
01-16-25-105-431	2110 WINDOVER DR	PETOSKEY	MI	49770	BRUTVAN MARGARETANN L TRUST	3433 SE FAIRWAY E	STUART	FL	34997	0.13	10/26/2007	55,626
01-16-25-105-435	2155 WINDOVER DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.15	10/26/2007	56,300
01-16-25-105-436	2185 WINDOVER DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.16	10/26/2007	62,419
01-16-25-105-437					NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD R111	CLEARWATER	FL	33759	0.12	10/26/2007	71,368
01-16-25-105-438	2219 HEARTHSIDE DR	PETOSKEY	MI	49770	BROWN LIVING TRUST	813 BRAZOS HARBOUR CIRCLE	GRANBURY	TX	76048	0.15	10/26/2007	88,473
01-16-25-105-439	2231 HEARTHSIDE DR	PETOSKEY	MI	49770	BISHER JON A & KATHRYN N	150 NORTHCREST CR	NAPOLEON	OH	43545	0.11	10/26/2007	78,456
01-16-25-105-440	2243 HEARTHSIDE DR	PETOSKEY	MI	49770	MOCK JOE MICHAEL, COOKE PAULA H	PO BOX 650949	VERO BEACH	FL	32965	0.17	10/26/2007	73,625
01-16-26-200-053					FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	18.41	10/26/2007	0
01-16-26-250-001	2109 WINDOVER DR	PETOSKEY	MI	49770	HEARTHSIDE GROVE CONDO ASSOCIATION	2400 US 31 N	PETOSKEY	MI	49770	1.2	10/26/2007	0
01-16-26-250-432	2095 WINDOVER DR	PETOSKEY	MI	49770	SCHULTHEIS RICHARD C & CAROL A	1876 LANDMARK RD	KERRVILLE	TX	78028	0.17	11/2/2007	81,510
01-16-26-250-433	2103 WINDOVER DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.19	11/2/2007	63,796
01-16-26-250-434	2115 WINDOVER DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.23	11/2/2007	1,546
01-16-25-105-107	2244 CIDERPRESS DR	PETOSKEY	MI	49770	KONIKOWSKI LES	PO BOX 15620	HOUSTON	TX	77220	0.17	6/19/2008	94,828
01-16-25-105-108	2236 CIDERPRESS DR	PETOSKEY	MI	49770	3RD DAY LLC	124 W PINE ST	MISSOULA	MT	59802	0.16	6/19/2008	104,140
01-16-25-105-109	2228 CIDERPRESS DR	PETOSKEY	MI	49770	BUTLER RICHARD T	1 WHITE BIRCH RD	HYDE PARK	NY	12538	0.16	6/19/2008	91,082
01-16-25-105-110	2220 CIDERPRESS DR	PETOSKEY	MI	49770	KEEN DAVID A & ELIZABETH C	16126 EDGEMONT DR	FORT MYERS	FL	33908	0.16	6/19/2008	94,310
01-16-25-105-111	2214 CIDERPRESS DR	PETOSKEY	MI	49770	HALBLEIB ROSS A & MARY G	2242 8TH AVE	SAINT JAMES CITY	FL	33956	0.16	6/19/2008	92,364
01-16-25-105-112	2210 CIDERPRESS DR	PETOSKEY	MI	49770	WIESE-MERRITT FAMILY TRUST	79282 56TH ST	DECATUR	MI	49045	0.14	6/19/2008	102,809
01-16-25-105-113	2206 CIDERPRESS DR	PETOSKEY	MI	49770	SOWELL JACQUELINE G	1812 SUMMER GREEN DR	PORT ORANGE	FL	32128	0.17	6/19/2008	100,659
01-16-25-105-114					CORBETT STEVEN W & DANNA	PO BOX 3290	PHENIX CITY	AL	36868	0.1	6/19/2008	47,000
01-16-25-105-115	2217 CIDERPRESS DR	PETOSKEY	MI	49770	SCHWARTZMAN MARSHALL B TRUST	3337 HARBOURS BLVD	WATERFORD	MI	48328	0.1	6/19/2008	78,848
01-16-25-105-116	2225 CIDERPRESS DR	PETOSKEY	MI	49770	HUMMEL JIM & TARYN	360 HOFFMAN RD	PORT MURRAY	NJ	7865	0.12	6/19/2008	9,980
01-16-25-105-117	2233 CIDERPRESS DR	PETOSKEY	MI	49770	WOOD CAROL J TRUST	PO BOX 575	CANAL WINCHESTER	OH	43110	0.11	6/19/2008	84,070
01-16-25-105-118	2241 CIDERPRESS DR	PETOSKEY	MI	49770	THORSON GARY L, HALVORSON YVONNE	23450 WOODLAND RIDGE DR	LAKEVILLE	MN	55044	0.12	6/19/2008	134,600
01-16-25-105-119	2249 CIDERPRESS DR	PETOSKEY	MI	49770	HEIM JOHN WILLIAM & CAROL JANE	409 PEBBLE CREEK CT	VENICE	FL	34285	0.12	6/19/2008	66,252
01-16-25-105-120	2257 CIDERPRESS DR	PETOSKEY	MI	49770	HUMMER ROBERT C JR & KATHY L	58 SUMMERFIELD RD	BELVIDERE	NJ	7823	0.14	6/19/2008	92,467
01-16-25-105-121	2265 CIDERPRESS DR	PETOSKEY	MI	49770	GLUCKMAN KENNETH I LIVING TRUST	2127 VISION POINT CIRCLE	SAINT GEORGE	UT	84790	0.14	6/19/2008	98,508
01-16-25-105-123	2266 SLEDDING DR	PETOSKEY	MI	49770	FORD HOWARD D JR TRUST	2956 LAUREL HILL LN	THE VILLAGES	FL	32162	0.16	6/19/2008	103,424

• Attachment 1-B-3

01-16-25-105-124	2258 SLEDDING DR	PETOSKEY	MI	49770	VANDERMEER KURTIS T & WENDY L	3372 DUNN'S RIDGE	KALAMAZOO	MI	49006	0.12	6/19/2008	88,780
01-16-25-105-125	2250 SLEDDING DR	PETOSKEY	MI	49770	WEAVER JOHN E & LINDA SUSAN	9015 OUTLOOK DR	OVERLAND PARK	KS	66207	0.13	6/19/2008	95,334
01-16-25-105-126	2246 SLEDDING DR	PETOSKEY	MI	49770	SHARKEY SANDRA J TRUST	15 SHERMAN	GRAND HAVEN	MI	49417	0.12	6/19/2008	89,088
01-16-25-105-127	2240 SLEDDING DR	PETOSKEY	MI	49770	CARROLL LYNETTE G TRUST	4045 CEDAR BLUFF DR	PETOSKEY	MI	49770	0.13	6/19/2008	89,976
01-16-25-105-128	2232 SLEDDING DR	PETOSKEY	MI	49770	TOVO JOSEPH R JR TRUST, TOVO DIANA	622 BINNACLE DR	NAPLES	FL	34103	0.12	6/19/2008	87,756
01-16-25-105-129	2224 SLEDDING DR	PETOSKEY	MI	49770	RAISOR MICHAEL V & MARCIA	213 VERMONT DRIVE	LAFAYETTE	IN	47903	0.12	6/19/2008	90,009
01-16-25-105-130	2209 CIDERPRESS DR	PETOSKEY	MI	49770	OSTERHAVEN MELISSA A TRUST	7340 CLEARVIEW DR	CALEDONIA	MI	49316	0.12	6/19/2008	80,691
01-16-25-105-131	2237 SLEDDING DR	PETOSKEY	MI	49770	2237 J & L LAND TRUST	3101 S BEACH DRIVE	TAMPA	FL	33629	0.23	6/19/2008	104,387
01-16-25-105-132	2247 SLEDDING DR	PETOSKEY	MI	49770	RAMEY BRAD & CHARLENE	622 HWY 589	PURVIS	MS	39475	0.21	6/19/2008	101,600
01-16-25-105-133	2261 SLEDDING DR	PETOSKEY	MI	49770	BENTON STEPHEN D, KRAWCHUK SANDRA R	16 MIDDLE CREEK RD	SIGNAL MOUNTAIN	TN	37377	0.21	6/19/2008	120,300
01-16-25-105-134	2263 SLEDDING DR	PETOSKEY	MI	49770	AMIGO R & L INC	PO BOX B	THREE RIVERS	MI	49093	0.14	6/19/2008	85,299
01-16-25-105-135	2267 SLEDDING DR	PETOSKEY	MI	49770	BRADY TODD & JANIE	7747 LANES END	BATON ROUGE	LA	70810	0.16	6/19/2008	92,771
01-16-25-105-136					MOTORCOACH PROPERTIES LLC	26415 EAST RIVER RD	GROSSE ILE	MI	48138	0.14	6/19/2008	102,040
01-16-25-105-137	2287 CIDERPRESS DR	PETOSKEY	MI	49770	BELAND GERALD R & DIANA D	2840 WEST BAY DR #186	BELLEAIR BLUFFS	FL	33770	0.16	6/19/2008	85,139
01-16-25-102-004	2075 CIDERPRESS DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	9.55	9/14/2010	1,491,207
01-16-25-105-154	4755 SHADOWOOD DR	PETOSKEY	MI	49770	NORTHERN LIGHTS INTERESTS LLC	200 CONGRESS AVE UNIT 36AE	AUSTIN	TX	78701	0.15	9/14/2010	105,800
01-16-25-105-155	4763 SHADOWOOD DR	PETOSKEY	MI	49770	TOLLEY NAOMI S	1391 NW ST LUCIE WEST BLVD #179	PORT SAINT LUCIE	FL	34986	0.17	9/14/2010	103,936
01-16-25-105-156	4771 SHADOWOOD DR	PETOSKEY	MI	49770	STEAMBOAT LA CRESTA LLC	865 FOX LANE	STEAMBOAT SPRINGS	CO	80847	0.16	9/14/2010	104,340
01-16-25-105-178	2044 CIDERPRESS DR	PETOSKEY	MI	49770	PAPADOPOULOS NICHOLAS JOHN & JOANNE H	30 W BRACEBRIDGE CIRCLE	SPRING	TX	77382	0.18	9/14/2010	120,076
01-16-25-105-179	2032 CIDERPRESS DR	PETOSKEY	MI	49770	SHEKELL JOHN E & RUTHIE F	424 W TENNESSEE ST	EVANSVILLE	IN	47710	0.17	9/14/2010	117,350
01-16-25-105-180	2028 CIDERPRESS DR	PETOSKEY	MI	49770	KLAUSE THOMAS L & KARIN T	10872 SW BLUE MESA WAY	PORT SAINT LUCIE	FL	34987	0.17	9/14/2010	117,760
01-16-25-105-181	2022 CIDERPRESS DR	PETOSKEY	MI	49770	WISE CHARLES R & LISA A	1106 MARINA DR	CHEBOYGAN	MI	49721	0.19	9/14/2010	126,500
01-16-25-105-182	2010 CIDERPRESS DR	PETOSKEY	MI	49770	DOCHERTY CASEY FAMILY TRUST	1303 PLAYER WAY	GIBSONIA	PA	15044	0.11	9/14/2010	66,869
01-16-25-105-183	1998 CIDERPRESS DR	PETOSKEY	MI	49770	MLW LIVING TRUST	157 RAINBOW DR #5773	LIVINGSTON	TX	77399	0.14	9/14/2010	114,200
01-16-25-105-186	1936 BLUESTEM DR	PETOSKEY	MI	49770	ANTIQUE BUILDING COMPONENTS INC	PO BOX 2408	POTTSBORO	TX	75076	0.23	9/14/2010	139,750
01-16-25-105-338	1955 BLUESTEM DR	PETOSKEY	MI	49770	ADCOCK CHARLES & GLORIA	1214 FULLER LN	SEARCY	AR	72143	0.14	9/14/2010	106,546
01-16-25-105-339	1967 BLUESTEM DR	PETOSKEY	MI	49770	TAYLOR THOMAS G & JULIE A	532 MARSH CREEK RD	VENICE	FL	34292	0.14	9/14/2010	92,535
01-16-25-105-340	1975 BLUESTEM DR	PETOSKEY	MI	49770	GRANVILLE THOMAS R & GAIL T	560 CLUB RD	TRYON	NC	28782	0.15	9/14/2010	89,088
01-16-25-105-341	1985 BLUESTEM DR	PETOSKEY	MI	49770	STIEBELING DOUGLASS R, MOORE DANETTE L	1027 ALGARE LOOP	WINDERMERE	FL	34786	0.15	9/14/2010	105,369
01-16-25-105-343	4862 SHADOWOOD DR	PETOSKEY	MI	49770	CLAPP ROGER & JULIA M	1461 BRADBERRY DR	MURFREESBORO	TN	37130	0.24	9/14/2010	145,203
01-16-25-105-351	2076 BLUESTEM DR	PETOSKEY	MI	49770	HAHN GEORGE H & WENDY L	15514 SUMMIT PARK DRIVE SUITE 501	MONTGOMERY	TX	77356	0.15	9/14/2010	110,724
01-16-25-105-352	2060 BLUESTEM DR	PETOSKEY	MI	49770	TURNER FAMILY LIVING TRUST	180 BEACH DR NE #2700	SAINT PETERSBURG	FL	33701	0.13	9/14/2010	123,596
01-16-25-105-353	2050 BLUESTEM DR	PETOSKEY	MI	49770	JOHNSON WILLIAM J & PATRICIA S	122 LONGWOOD GREEN CT	AIKEN	SC	29803	0.15	9/14/2010	137,200
01-16-25-105-354	2034 BLUESTEM DR	PETOSKEY	MI	49770	CREAK FAMILY TRUST	3904 WOODMONT PARK LANE	LOUISVILLE	KY	40245	0.15	9/14/2010	109,182
01-16-25-105-355	2020 BLUESTEM DR	PETOSKEY	MI	49770	LOVIN ANN R	4119 MACKAY FALLS TERRACE	SARASOTA	FL	34243	0.15	9/14/2010	125,603
01-16-25-105-356	2008 BLUESTEM DR	PETOSKEY	MI	49770	R & C FINANCIAL LLC	922 LAKE BROOKER COURT	LUTZ	FL	33548	0.15	9/14/2010	125,603
01-16-25-105-357	1995 BLUESTEM DR	PETOSKEY	MI	49770	GRUBBS MARY JUANITA TRUST	1545 BAYTOWNE AVE	MIRAMAR BEACH	FL	32550	0.13	9/14/2010	98,157
01-16-25-105-358	2007 BLUESTEM DR	PETOSKEY	MI	49770	BLOSSER WILLIAM R & SYLVIA A	15 CLEARWATER CIRCLE	SEDONA	AZ	86351	0.13	9/14/2010	117,543
01-16-25-105-359	2015 BLUESTEM DR	PETOSKEY	MI	49770	NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD APT R-111	CLEARWATER	FL	33759	0.13	9/14/2010	60,429
01-16-25-105-360	2027 BLUESTEM DR	PETOSKEY	MI	49770	BIG BLUE SKY VENTURES LLC	4231 HACKER DR	WEST BEND	WI	53095	0.14	9/14/2010	100,786
01-16-25-105-362	2039 BLUESTEM DR	PETOSKEY	MI	49770	LOCKE JOEL E & PATRICIA L	9602 CREEKVIEW CT	DAVISON	MI	48423	0.36	9/14/2010	88,985
01-16-25-105-363	2055 BLUESTEM DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.14	9/14/2010	1,580
01-16-25-105-364	2067 BLUESTEM DR	PETOSKEY	MI	49770	SHANAHAN JOHN L III & BARBARA M	41265 GLOCA MORA ST	HARRISON TOWNSHIP	MI	48045	0.14	9/14/2010	100,995
01-16-25-105-365	2075 BLUESTEM DR	PETOSKEY	MI	49770	BRECHBUHLER ANDREW K TRUST	5178 KONEN AVE NW	CANTON	OH	44718	0.15	9/14/2010	104,435
01-16-25-105-366	4768 SHADOWOOD DR	PETOSKEY	MI	49770	KEEFE CYNTHIA E TRUST	15811 WHITE ORCHID LN	FORT MYERS	FL	33908	0.25	9/14/2010	128,354
01-16-25-105-188	1870 BLUESTEM DR	PETOSKEY	MI	49770	PORTS LORI C TRUST	4735 MALLARD POND DR	AKRON	OH	44333	0.22	10/3/2011	62,464
01-16-25-105-189	1858 CIDERPRESS DR	PETOSKEY	MI	49770	MEREDITH JACK LEE & SUZANNE TRUST	1 INDIGO TRAIL NORTH	SHELDON	SC	29941	0.15	10/3/2011	56,700
01-16-25-105-190	1856 CIDERPRESS DR	PETOSKEY	MI	49770	ABELL JOHN W TRUST	PO BOX 973136	MIAMI	FL	33197	0.15	10/3/2011	107,520
01-16-25-105-220	1875 BLUESTEM DR	PETOSKEY	MI	49770	VAWTER DELBERT A & LINDA	PO BOX 443	NORTH VERNON	IN	47265	0.18	10/3/2011	67,700
01-16-25-105-221	1885 BLUESTEM DR	PETOSKEY	MI	49770	LRV ENTERPRISES II LLC	4050 BROADMOOR SE	GRAND RAPIDS	MI	49512	0.14	10/3/2011	67,500
01-16-25-105-222	1895 BLUESTEM DR	PETOSKEY	MI	49770	LRV ENTERPRISES II LLC	4050 BROADMOOR SE	GRAND RAPIDS	MI	49512	0.14	10/3/2011	120,115
01-16-25-105-225	1925 BLUESTEM DR	PETOSKEY	MI	49770	TAL US TRUST	22 ALEXIS RD	XXXXX	ON		0.15	10/3/2011	126,464
01-16-25-105-227	1968 CIDERPRESS DR	PETOSKEY	MI	49770	RIDDLESWORTH MICHAEL E & MELISSA H	180 BEACH DR NE #802	SAINT PETERSBURG	FL	33701	0.17	10/3/2011	101,376
01-16-25-105-228	1960 CIDERPRESS DR	PETOSKEY	MI	49770	BREWER DARREN	4025 BERMUDA GROVE PLACE	LONGWOOD	FL	32779	0.17	10/3/2011	144,788
01-16-25-105-230	1934 CIDERPRESS DR	PETOSKEY	MI	49770	HOWARD ROBERT B	95 CONLEYS GROVE RD	DERRY	NH	3038	0.14	10/3/2011	66,300
01-16-25-105-231	1928 CIDERPRESS DR	PETOSKEY	MI	49770	SMITH JOHN G & KATHY D	11005 FIRST AVE NORTH	MINNEAPOLIS	MN	55441	0.14	10/3/2011	108,021
01-16-25-105-232	1912 CIDERPRESS DR	PETOSKEY	MI	49770	KONIGSEDER FRANK L & JEANNE T	1400 MORROW AVE	NORTH CHICAGO	IL	60064	0.17	10/3/2011	63,800
01-16-25-105-233	1900 CIDERPRESS DR	PETOSKEY	MI	49770	KONIGSEDER FRANK L & JEANNE T	10808 SOUTHEAST GALLEY COURT	HOBE SOUND	FL	33455	0.27	10/3/2011	119,772
01-16-25-105-235	1879 CIDERPRESS DR	PETOSKEY	MI	49770	JOSEPH EMIL M & DEBRA D	6687 S GIRALDA AVE	GILBERT	AZ	85298	0.2	10/3/2011	102,737
01-16-25-105-236	1893 CIDERPRESS DR	PETOSKEY	MI	49770	CANNY KATHRYN J TRUST	802 HARRISON LANE	MCHENRY	IL	60051	0.19	10/3/2011	110,508
01-16-25-105-237	1907 CIDERPRESS DR	PETOSKEY	MI	49770	RAMBO DAN & GWENDOLYN FAMILY TRUSTS	5300 TOWN & COUNTRY BLVD SUITE 220	FRISCO	TX	75034	0.17	10/3/2011	130,662
01-16-25-105-238	1932 MARSHVIEW DR	PETOSKEY	MI	49770	FLISCHEL RAYMOND W & CYNTHIA M TRST	7025 PLACIDA RD SUITE A	ENGLEWOOD	FL	34224	0.2	10/3/2011	79,800
01-16-25-105-239	1926 MARSHVIEW DR	PETOSKEY	MI	49770	PACKER ROBERT & LYNN	202 N DOOLEY ST	GRAPEVINE	TX	76051	0.17	10/3/2011	81,154
01-16-25-105-240	1918 MARSHVIEW DR	PETOSKEY	MI	49770	R.B.C. REAL ESTATE INVESTMENTS LLC	25963 HIGH HAMPTON CIRCLE	SORRENTO	FL	32776	0.16	10/3/2011	69,000
01-16-25-105-241					SANFILLIPO THOMAS A TRUST	685 RETREAT LN	POWELL	OH	43065	0.14	10/3/2011	128,614
01-16-25-105-242	1797 HEARTHSIDE DR	PETOSKEY	MI	49770	SNYDER WILLIAM H & JULIA D	1472 SHADWELL CIRCLE	HEATHROW	FL	32746	0.21	10/3/2011	105,933
01-16-25-105-334	1911 MARSHVIEW DR	PETOSKEY	MI	49770	ZIGAN THEODORE TRUST	2724 CASTLE GLEN COURT	CASTLE ROCK	CO	80108	0.18	10/3/2011	91,794
01-16-25-105-335	1919 MARSHVIEW DR	PETOSKEY	MI	49770	CURRY GLENDA S TRUST	4425 W DEER MEADOW DR	PEORIA	IL	61615	0.14	10/3/2011	63,800
01-16-25-105-336					INDIO ONE LLC	2804 JACANA CT	LONGWOOD	FL	32779	0.13	10/3/2011	67,500

01-16-25-105-337	1953 CIDERPRESS DR	PETOSKEY	MI	49770	LOSCALZO JOHN J & DEBRA	14100 MYAKKA AVE LOT 18	PORT CHARLOTTE	FL	33953	0.14	10/3/2011	80,826
01-16-25-105-005	2300 HEARTHSIDE DR	PETOSKEY	MI	49770	HEARTHSIDE GROVE CONDO ASSOCIATION	PO BOX 445	PETOSKEY	MI	49770	25.67	9/26/2013	1,546
01-16-25-105-243	1785 HEARTHSIDE DR	PETOSKEY	MI	49770	SEAGER ROGER N & JUDITH M	243 CATAWBA DR	TRYON	NC	28782	0.16	9/26/2013	59,100
01-16-25-105-244	1773 HEARTHSIDE DR	PETOSKEY	MI	49770	BARFIELD WILLIAM E & ONEDA DIANE	202 OSPREY HAMMOCK TRL	SANFORD	FL	32771	0.17	9/26/2013	63,400
01-16-25-105-245	1768 HEARTHSIDE DR	PETOSKEY	MI	49770	CHERESH DANIEL & LORRI	248 FERRY ST	SAUGATUCK	MI	49453	0.27	9/26/2013	116,838
01-16-25-105-246	1782 HEARTHSIDE DR	PETOSKEY	MI	49770	REICHARDT KENNETH S & ROBIN S	3420 CREEKVIEW DR	BONITA SPRINGS	FL	34134	0.18	9/26/2013	77,993
01-16-25-105-247	1800 HEARTHSIDE DR	PETOSKEY	MI	49770	SEMPLE ANTHONY L	7428 BISCAYNE WAY SE	GRAND RAPIDS	MI	49546	0.15	9/26/2013	124,825
01-16-25-105-333	1909 MARSHVIEW DR	PETOSKEY	MI	49770	NIEMINSKI STANLEY J & SHARON T	2 BLANCHARD CIRCLE	SOUTH BARRINGTON	IL	60010	0.23	9/26/2013	72,600
01-16-25-102-008					FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	27.57	9/11/2014	272,172
01-16-25-105-367					BOLES IAN	28307 BURKART DR	ORANGE BEACH	AL	36561	0.28	9/11/2014	51,500
01-16-25-106-001					HEARTHSIDE GROVE II ASSOCIATION	2400 US 31 NORTH	PETOSKEY	MI	49770	1.97	9/11/2014	0
01-16-25-106-248	1824 HEARTHSIDE DR	PETOSKEY	MI	49770	GRANGER JERRY P & LYNNE C	3025 W JOSEPHA DRIVE	LANSING	MI	48910	0.23	9/11/2014	186,512
01-16-25-106-257	1902 MARSHVIEW DR	PETOSKEY	MI	49770	MERELLI MICHAEL A & LISA M	15241 WAGON WHEEL DRIVE	BRIGHTON	CO	80603	0.26	9/11/2014	211,909
01-16-25-106-258	1892 MARSHVIEW DR	PETOSKEY	MI	49770	CASSATA ROBERT & JOYCE	427 15TH STREET	DAYTONA BEACH	FL	32117	0.18	9/11/2014	176,943
01-16-25-106-259	1884 MARSHVIEW DR	PETOSKEY	MI	49770	LEMMEN TODD A TRUST	3026 DEER RUN	MARNE	MI	49435	0.17	9/11/2014	225,514
01-16-25-106-260	1876 MARSHVIEW DR	PETOSKEY	MI	49770	PETERMAN CATHERINE M	909 10TH ST SOUTH UNIT 302	NAPLES	FL	34102	0.17	9/11/2014	210,877
01-16-25-106-261	1870 MARSHVIEW DR	PETOSKEY	MI	49770	STARS REAL ESTATE LLC	PO BOX 247	SPARTA	MI	49345	0.18	9/11/2014	172,794
01-16-25-106-262	1864 MARSHVIEW DR	PETOSKEY	MI	49770	RODSTEIN MARC TRUST	15695 BOEING CT	WELLINGTON	FL	33414	0.22	9/11/2014	194,792
01-16-25-106-263	1830 MARSHVIEW DR	PETOSKEY	MI	49770	BRECHBUHLER WENDY SUE TRUST	8180 LUTZ AVE NW	MASSILLON	OH	44646	0.31	9/11/2014	186,997
01-16-25-106-265	1821 HEARTHSIDE DR	PETOSKEY	MI	49770	CURRY GEORGE E TRUST	PO BOX 1228	CORTEZ	FL	32151	0.19	9/11/2014	145,271
01-16-25-106-266	1827 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.2	9/11/2014	1,580
01-16-25-106-267	1835 HEARTHSIDE DR	PETOSKEY	MI	49770	BARFIELD WILLIAM E & ONEDA D	202 OSPREY HAMMOCK TRAIL	SANFORD	FL	32771	0.2	9/11/2014	76,300
01-16-25-106-268	1841 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.19	9/11/2014	1,580
01-16-25-106-321	1843 MARSHVIEW DR	PETOSKEY	MI	49770	CASSATA ROBERT & JOYCE	427 15TH ST	DAYTONA BEACH	FL	32117	0.2	9/11/2014	97,100
01-16-25-106-322	1865 MARSHVIEW DR	PETOSKEY	MI	49770	WALKER'S MOUNTAIN VIEW LLC	705 E ELKCAM CIRCLE	MARCO ISLAND	FL	34145	0.18	9/11/2014	224,870
01-16-25-106-323	1869 MARSHVIEW DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.19	9/11/2014	1,580
01-16-25-106-326	1887 MARSHVIEW DR	PETOSKEY	MI	49770	FANTASEA LLC	750 FORREST AVE SUITE 300	GADSDEN	AL	35901	0.18	9/11/2014	230,220
01-16-25-106-327	1893 MARSHVIEW DR	PETOSKEY	MI	49770	PINSON GARY D & JUDY	PO BOX 328	GREENBRIER	TN	37073	0.19	9/11/2014	234,421
01-16-25-106-328	1895 MARSHVIEW DR	PETOSKEY	MI	49770	ENTREKIN ANDREW R	750 FORREST AVE SUITE 300	GADSDEN	AL	35901	0.2	9/11/2014	254,413
01-16-25-106-329	1899 MARSHVIEW DR	PETOSKEY	MI	49770	STARS REAL ESTATE LLC	440 W DIVISION	SPARTA	MI	49345	0.22	9/11/2014	186,470
01-16-25-106-330	1901 MARSHVIEW DR	PETOSKEY	MI	49770	GRONINGER DEVELOPMENT LLC	6005 W SHILLING RD	MENTONE	IN	46539	0.2	9/11/2014	221,646
01-16-25-106-331	1903 MARSHVIEW DR	PETOSKEY	MI	49770	WELLINGS GEORGE DOUGLAS & STACY	250 PALM COAST PKWY NE #607-310	PALM COAST	FL	32137	0.18	9/11/2014	210,329
01-16-25-106-332	1907 MARSHVIEW DR	PETOSKEY	MI	49770	HUFFMASTER RAYMOND E & KIMBER LEE	9755 PINE KNOB RD	CLARKSTON	MI	48348	0.18	9/11/2014	10,124
							Average Non Common Acre			0.2357 Total		$17,006,319
							Average Non Common ft2			10,267		

• Attachment 1-B-4

Hearthside Grove – Petoskey MI
192 ft^2 house
(one of at least 30 for sale or rent)

Lot 45 - 2208 Hearthside Dr

Deluxe Lot (add use of the bungalow interior for an additional cost)

6 guests 6896 sq. ft.

All Photos

Photos Description More Features Location Calendar Reviews Terms

Which Quarry View Does Door County Want ?

• Attachment 2-1

• Attachment 2-2

Quarry Bluff Land Usage

The application for the Quarry Bluff RV development is divided into campground, multiple occupancy development (MOD) and common areas. See application pages 14 and 15.

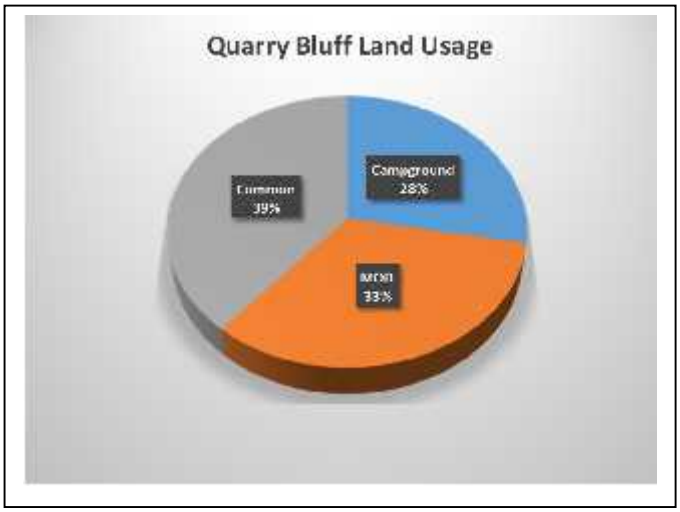
The application states in many places that there will be 117 parcels developed, 115 including land for an optional single family dwelling on a MOD parcel.

The application does not provide details of the individual lot sizes other than the site plan drawings, and a typical home site plan on page 33.

To support detailed evaluation of the application the site plans were analyzed to understand the proposed parcel and common are size and proportions of the total development. The site plans for the 49.53 acre description (application page 13) were used for the analysis. Graphic analysis software calibrated by the dimensions shown on the site plan were used by the author of this white paper.

The proposed Quarry Bluff land usage is shown in the tables and chart below.

	Statistics			
Square Feet				
	Campground	**MOD**	**Parcels (Camp + MOD)**	**Common**
Number	117	115	117	1
Maximum	9,027	18,055	24,073	N/A
Minimum	3,009	3,009	7,021	N/A
Average	**5,135**	**6,271**	**11,299**	**N/A**
Total	**600,818**	**721,182**	**1,321,999**	**835,528**
Acres				
	Campground	**MOD**	**Parcels (Camp + MOD)**	**Common**
Number	107	106	107	1
Maximum	0.21	0.41	0.55	N/A
Minimum	0.07	0.07	0.16	N/A
Average	**0.12**	**0.14**	**0.26**	**N/A**
Total	**13.79**	**16.56**	**30.35**	**19.18**
Percentage	**28%**	**33%**	**61%**	**39%**



The key information relevant to other analyses of expected tax assessment and compliance with ordinances is:

Average MOD size: 6,271 ft^2
Average RV Pad ("campsite") 5,135 ft^2
% common Area: 39%

James V Mitsche
January 3, 2020

What is the Quarry Bluff Development ?

- A gated parking spot for 117 big RV's on 5,000 ft^2 (0.12 acre) "campsites"
- Private clubhouse and athletic facilities
- 115 **Optional** 1200 - 2400 ft^2 single family dwellings on 6,200 ft^2 (0.14 acre) MOD lots.
- 3 design options tract houses
- Rentals available with few restrictions & no minimum stay
  - Comparable development has 43% rentals
- Rules & owner/renter behavior controlled (policed?) by Homeowners Association
  - Association composition, governance, and rule change procedures unknown

• Attachment 2-3

Quarry Bluff measurements

Stories	Lot	Drawing Measure Camp sq in	MOD sq in	Camp ft2	Camp acres	MOD ft2	MOD acres	Total ft2	Total acres
0	1	0.08	0	8024	0.18	0	0.00	8024	0.18
1	2	0.05	0.07	5015	0.12	7021	0.16	12036	0.28
1	3	0.05	0.11	5015	0.12	11033	0.25	16049	0.37
1	4	0.05	0.09	5015	0.12	9027	0.21	14042	0.32
1	5	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	6	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	7	0.06	0.04	6018	0.14	4012	0.09	10030	0.23
1	8	0.04	0.07	4012	0.09	7021	0.16	11033	0.25
1	9	0.04	0.06	4012	0.09	6018	0.14	10030	0.23
1	10	0.06	0.04	6018	0.14	4012	0.09	10030	0.23
1	11	0.06	0.04	6018	0.14	4012	0.09	10030	0.23
1	12	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
1	13	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	14	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	15	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	16	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
1	17	0.05	0.12	5015	0.12	12036	0.28	17052	0.39
1	18	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
1	19	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
1	20	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
1	21	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
1	22	0.05	0.11	5015	0.12	11033	0.25	16049	0.37
1	23	0.06	0.18	6018	0.14	18055	0.41	24073	0.55
1	24	0.05	0.18	5015	0.12	18055	0.41	23070	0.53
1	25	0.05	0.11	5015	0.12	11033	0.25	16049	0.37
3	26	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	27	0.05	0.07	5015	0.12	7021	0.16	12036	0.28
3	28	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	29	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	30	0.06	0.08	6018	0.14	8024	0.18	14042	0.32
3	31	0.07	0.09	7021	0.16	9027	0.21	16049	0.37
3	32	0.06	0.12	6018	0.14	12036	0.28	18055	0.41

Drawing Scaling

21.51 in2 = 49.53 acres

2.30265 acres / in2

100303.4 ft2/in2

Statistics

Square Feet

	Campground	MOD	Parcels (Camp + MOD)	Common
Number	117	115	117	N/A
Maximum	9,027	18,055	24,073	N/A
Minimum	3,009	3,009	7,021	N/A
Average	**5,135**	**6,271**	**11,299**	**N/A**
Total	**600,818**	**721,182**	**1,321,999**	**835,528**

Acres

	Campground	MOD	Parcels (Camp + MOD)	Common
Number	107	106	107	N/A
Maximum	0.21	0.41	0.55	N/A
Minimum	0.07	0.07	0.16	N/A
Average	**0.12**	**0.14**	**0.26**	**N/A**
Total	**13.79**	**16.56**	**30.35**	**19.18**

Percentage	**28%**	**33%**	**61%**	**39%**

0.717791 17

12.20245

3.278029

• Attachment 2-4

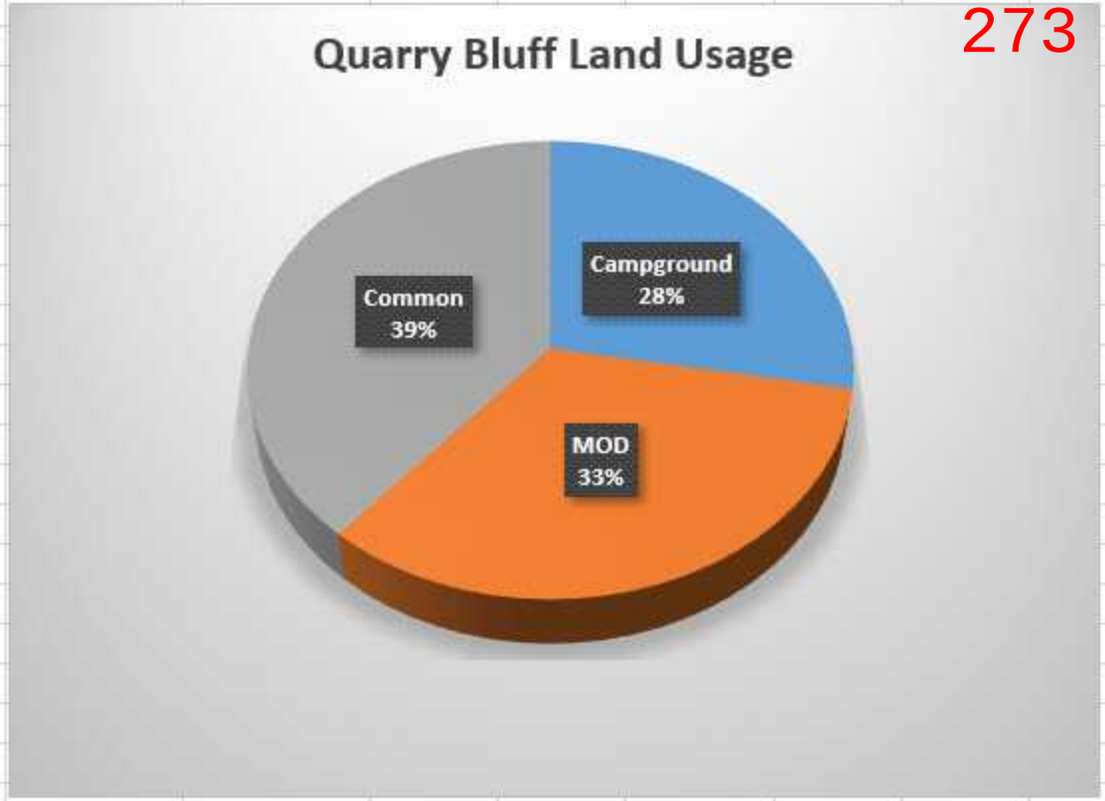
1	20	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
1	21	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
1	22	0.05	0.11	5015	0.12	11033	0.25	16049	0.37
1	23	0.06	0.18	6018	0.14	18055	0.41	24073	0.55
1	24	0.05	0.18	5015	0.12	18055	0.41	23070	0.53
1	25	0.05	0.11	5015	0.12	11033	0.25	16049	0.37
3	26	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	27	0.05	0.07	5015	0.12	7021	0.16	12036	0.28
3	28	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	29	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	30	0.06	0.08	6018	0.14	8024	0.18	14042	0.32
3	31	0.07	0.09	7021	0.16	9027	0.21	16049	0.37
3	32	0.06	0.12	6018	0.14	12036	0.28	18055	0.41
3	33	0.05	0.13	5015	0.12	13039	0.30	18055	0.41
3	34	0.05	0.09	5015	0.12	9027	0.21	14042	0.32
3	35	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	36	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	37	0.05	0.08	5015	0.12	8024	0.18	13039	0.30
3	38	0.06	0.09	6018	0.14	9027	0.21	15046	0.35
3	39	0.07	0.07	7021	0.16	7021	0.16	14042	0.32
3	40	0.07	0.07	7021	0.16	7021	0.16	14042	0.32
3	41	0.08	0.09	8024	0.18	9027	0.21	17052	0.39
3	42	0.05	0.1	5015	0.12	10030	0.23	15046	0.35
3	43	0.05	0.13	5015	0.12	13039	0.30	18055	0.41
3	44	0.03	0.1	3009	0.07	10030	0.23	13039	0.30
3	45	0.04	0.1	4012	0.09	10030	0.23	14042	0.32
3	46	0.04	0.08	4012	0.09	8024	0.18	12036	0.28
3	47	0.04	0.12	4012	0.09	12036	0.28	16049	0.37
3	48	0.04	0.1	4012	0.09	10030	0.23	14042	0.32

Acres

	Campground	MOD	Parcels (Camp + MOD)	Common
Number	107	106	107	N/A
Maximum	0.21	0.41	0.55	N/A
Minimum	0.07	0.07	0.16	N/A
Average	**0.12**	**0.14**	**0.26**	**N/A**
Total	**13.79**	**16.56**	**30.35**	**19.18**
Percentage	**28%**	**33%**	**61%**	**39%**

	None	1 story	2 Story	3 Story
Number	2	24	59	32
Average camp Lot Size	7523	5099	5083	5109
Average House lot size	0	7314	4896	8024
Average camp + lot size	7523	12413	9979	13133
	15045.51	297901.2	588781.14	420271.4

3	49	0.03	0.08	3009	0.07	8024	0.18	11033	0.25
3	50	0.04	0.05	4012	0.09	5015	0.12	9027	0.21
3	51	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	52	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	53	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	54	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	55	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	56	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
3	57	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	58	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	59	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	60	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	61	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	62	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	63	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	64	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	65	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	66	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	67	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	68	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
2	69	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
2	70	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
2	71	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
2	72	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
2	73	0.05	0.07	5015	0.12	7021	0.16	12036	0.28
2	74	0.04	0.06	4012	0.09	6018	0.14	10030	0.23
2	75	0.05	0.06	5015	0.12	6018	0.14	11033	0.25
2	76	0.04	0.06	4012	0.09	6018	0.14	10030	0.23
2	77	0.04	0.04	4012	0.09	4012	0.09	8024	0.18
2	78	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
2	79	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
2	80	0.05	0.03	5015	0.12	3009	0.07	8024	0.18



2	81	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
2	82	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
2	83	0.05	0.03	5015	0.12	3009	0.07	8024	0.18
2	84	0.06	0.04	6018	0.14	4012	0.09	10030	0.23
2	85	0.06	0.05	6018	0.14	5015	0.12	11033	0.25
2	86	0.07	0.07	7021	0.16	7021	0.16	14042	0.32
2	87	0.06	0.07	6018	0.14	7021	0.16	13039	0.30
2	88	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	89	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	90	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
0	91	0.07	0	7021	0.16	0	0.00	7021	0.16
2	92	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	93	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	94	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	95	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	96	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	97	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	98	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	99	0.05	0.07	5015	0.12	7021	0.16	12036	0.28
2	100	0.04	0.08	4012	0.09	8024	0.18	12036	0.28
2	101	0.04	0.06	4012	0.09	6018	0.14	10030	0.23
2	102	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	103	0.05	0.04	5015	0.12	4012	0.09	9027	0.21
2	104	0.04	0.04	4012	0.09	4012	0.09	8024	0.18
2	105	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	106	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	107	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	108	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	109	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	110	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	111	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	112	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	113	0.09	0.03	9027	0.21	3009	0.07	12036	0.28
2	114	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	115	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	116	0.05	0.05	5015	0.12	5015	0.12	10030	0.23
2	117	0.06	0.04	6018	0.14	4012	0.09	10030	0.23

Analysis by Carol J. Konetzke, Retired Attorney & Seasonal Sevastopol Resident

Whether the Proposed Project is Consistent with the Door County Comprehensive and Farmland Preservation Plan or Any Officially Adopted Town Plan

Attachment 3-1

The proposed project is clearly not consistent in several respects with the recently adopted (after a 2 year study) "Town of Sevastopol 20 year Comprehensive Plan Update", adopted November 25, 2019.

Page 9 - In a discussion of Agricultural, Natural and Cultural Resources Strategy, the Town of Sevastopol sets forth a goal of maintaining the town's *natural landscape.* Three of the objectives set forth:

(i) regulating the type of commercial and industrial development in the Town to *minimize the chances of groundwater contamination,*

(ii) discourage development that will interfere with *important natural resources, including area lakes and streams,* and

(iii) continue to work with advocates to protect and preserve the *Niagara Escarpment*.

The proposed development is of such a large size and complexity, 117 proposed lots for Class A RV's along with opportunity to build single family residences alongside the RVs, that large underground storage tanks will be required. With a development this size, leakage is a real concern, no matter how new the equipment and technology utilized to build the tanks. Additionally, due to the proximity of the proposed development to the bay of Green Bay, the water surrounding nearby George K. Pinney County Park is at risk of contamination due to leaky tanks, as are any streams leading from the development to the Bay. Finally, the Niagara Escarpment cliffs so apparent at the development site will no doubt be seriously affected/damaged/destroyed in the building process.

Page 14 - In a discussion of "Historical and Cultural Sites", several sites in Sevastopol have been designated as "Land Legacy" locations, which are locations identified by the Wisconsin DNR as being "ecologically significant". The Plan states:

"The **Niagara Escarpment** runs along the western edge of Door County, right through Sevastopol. Its dolomite cliffs have been revealed at the former Leathem & Smith quarry property and the adjacent George K. Pinney County Park on Bay Shore Drive and are highlighted as *remarkable geological features.*"

As noted above, the construction being proposed will be right on top of/surrounding these dolomite cliffs and it is extremely unlikely they would be unaffected by the development. The Town set forth a goal to protect its historical sites, including this "Land Legacy" location, as it is one of several remarkable geological features in the Town.

Page 30 - In a discussion of Economic Development Strategy, the Town notes that:

"Per the WDNR, there have been environmental incidences (spills or leaking underground storage tanks (LUST) that have occurred in the town. Sixteen environmental repair program (ERP) sites remain open, while all other sites are closed or need no action..."

Again, as noted above, considering a development of this size and scope, and the fact that the Town is already dealing with 16 open LUST sites, the likelihood that the Town may be dealing with leaking underground storage tanks at some point in the future, contaminating underground water and the streams and bay of Green Bay adjacent to the site, is a very real and likely possibility.

• Attachment 3-2

Town of Sevastopol
Door County, Wisconsin

20-Year Comprehensive Plan Update

2019

BAY LAKE
Regional Planning Commission | Since 1972

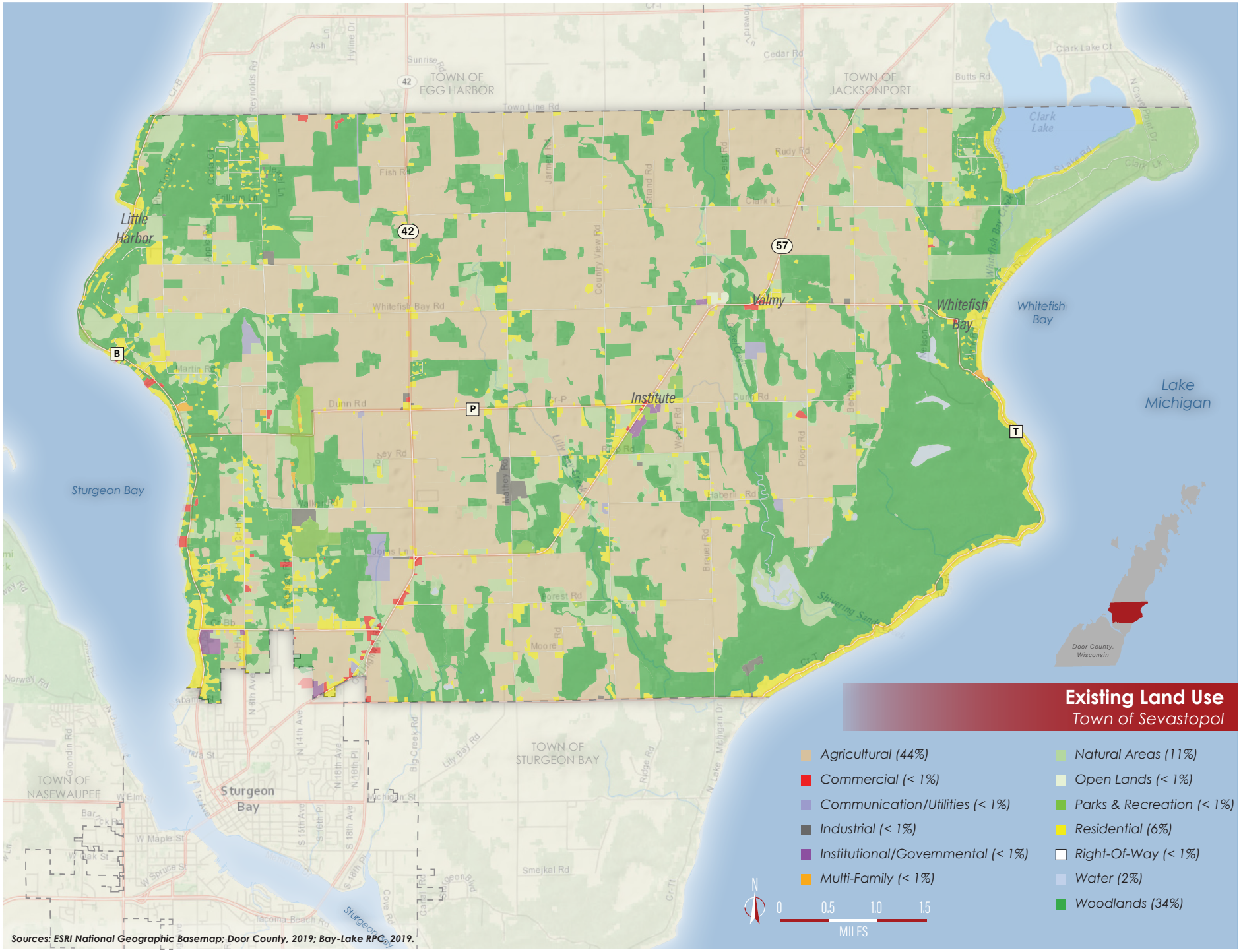
Agricultural, Natural, and Cultural Resources Strategy:

Goal: Maintain and protect the significant natural resources that characterize the town's natural landscape

Objectives:

- Preserve the natural resource base, primary environmental corridors, and surrounding agricultural lands, which contribute to the maintenance of the ecological balance, natural beauty, and economic well being of the Town.
- Preserve water resources including watersheds, stream corridors, shorelands, floodplains, wetlands, and recharge areas.
- Work with county, state, and other entities to preserve and protect the town's Lake Michigan and Green Bay shorelines from potential coastal hazards.
- Protect floodplains and other areas having severe soil restrictions from development through local ordinances.
- Preserve and protect Sevastopol's groundwater to ensure a long-term, viable source of potable water for current and future residents of the Town.
- Provide education on, and assistance toward, practices that encourage the sustainable use of resources for future development within the town.
- Regulate the type of commercial and industrial development in the Town to minimize the chances of groundwater contamination.
- Discourage development that will interfere with important natural resources, including area lakes and streams.
- Preserve existing productive agricultural resources and support the continuation of agricultural operations while minimizing environmental impacts.
- Support zoning that encourages local family farm operations and small specialty farms to maintain agriculture as a productive part of the rural landscape.
- Preserve and enhance wildlife habitats.
- Preserve and protect the historic resources of the Town to promote the educational, cultural, and general welfare of residents of Sevastopol and provide for a more interesting, attractive and vital community.

- Encourage planning efforts with a resiliency mindset as a way to foster a town that would be able to withstand and recover from natural hazards.
- Cooperatively work with federal, state, and county entities, along with other non-governmental organizations, to establish invasive species management programs, education, and outreach for control of non-native invasive species (e.g., Emerald ash borer, Gypsy moth, Wild parsnip, Phragmites, etc.).
- Explore efforts that will assist with adapting to a changing climate.
- Support green infrastructure practices such as extended retention of wetlands, retention ponds, rain gardens, and use of rain barrels.
- Continue to work with advocates to protect and preserve the Niagara Escarpment.


Existing Land Use
Town of Sevastopol
Agricultural (44%)
Commercial (< 1%)
Communication/Utilities (< 1%)
Industrial (< 1%)
Institutional/Governmental (< 1%)
Multi-Family (< 1%)
Natural Areas (11%)
Open Lands (< 1%)
Parks & Recreation (< 1%)
Residential (6%)
Right-Of-Way (< 1%)
Water (2%)
Woodlands (34%)
N
0
0.5
1.0
1.5
MILES
TOWN OF EGG HARBOR
TOWN OF JACKSONPORT
TOWN OF STURGEON BAY
TOWN OF NASEWAUPEE
Little Harbor
Valmy
Institute
Whitefish Bay
Whitefish Bay
Clark Lake
Lake Michigan
Sturgeon Bay
Sturgeon Bay
Door County, Wisconsin
Sources: ESRI National Geographic Basemap; Door County, 2019; Bay-Lake RPC, 2019.

Historical and Cultural Sites:

- The Wisconsin Historical Society recognizes 47 places of historic significance within the town, 15 of which were constructed before 1900.
- The Wisconsin Historical Society Division of Historic Preservation has identified 5 sites in and near the town which are on historic registers.
    1. A prehistoric site - listed in the National Register of Historic Places
    2. Four shipwrecks - listed in the national and state registers.

The Farm is "a living museum of rural America." It offers educational and recreational activities on agriculture and animal husbandry.

Wisconsin Motorcycle Memorial is a one-acre memorial dedicated to Wisconsin motorcycle enthusiasts.

Sevastopol School was the first consolidated school district in Wisconsin north of Milwaukee.

Significant Natural Features:

Land Legacy Locations:

Land Legacy locations have been identified by the Wisconsin DNR as being ecologically significant.

The **Niagara Escarpment** runs along the western edge of Door County, right through Sevastopol. Its dolomite cliffs have been revealed at the former Leathem & Smith quarry property and the adjacent George K. Pinney County Park on Bay Shore Drive, and are highlighted as remarkable geological features.

Shivering Sands a 3,400-acre wetland that encompasses three lakes, several streams and springs, forested sand dunes, lowland conifer forest, sedge meadows and fens. It is rich in rare plant life and is home to many birds, mammals, frogs, and other wildlife.

Ecological Sites of Interest:

The **Garden Door** is a one-acre landscape and flower garden on the site of the Peninsular Agricultural Research Station (PARS). It is a cooperative project with the Door County Master Gardeners Association.

Bay Shore Blufflands Nature Preserve is operated by the Door County Land Trust. It is a functioning preserve and also offers views from a bluff of the Niagara Escarpment.

Cave Point County Park is possibly the most recognizable natural landscape of Door County. It's rock facing is continually being carved out by the violent waves of Lake Michigan crashing onto the shore and dissolving the limestone. It is a popular site for photographers and divers.

Whitefish Dunes State Park preserves the largest and most significant sand dunes in Wisconsin. The park contains a sandy lakefront, 14.5 miles of trails, a boardwalk to navigate through the wetlands, and a nature center.

Economic Development Strategy:

Goal: The town will remain a rural, agricultural community that supports local businesses catering to residents and tourists. The town primarily relies on residential development to support it tax base, while commercial development occurs in harmony with the Town's natural environment.

Objectives:

- Provide assistance to persons and organizations interested in developing new, or expanding existing, small businesses in the Town.
- Enhance the natural character of the community to ensure the attractiveness of the Town to tourists.
- Support Eco-Tourism in the Town. The Niagara Escarpment, rural/rustic bike routes, and state, county, and town parks provide opportunities to bring nature enthusiasts to the area that could spend money in the community at local restaurants, the farmers market, and other businesses.
- Support local agriculture as an integral part of the Town's economy.
- Follow the pattern on the Future Land Use map when evaluating locations for new residential and business development and to preserve suitable land for agricultural uses (e.g., giving development priority to lands where there is no history of farming and land that is inaccessible or too small to farm).
- Support agriculture and tourism as preferred industries to provide local economic revenue at a minimal cost of service (i.e. infrastructure).
- Support Agri-Tourism activities in the Town. Agricultural uses dominate the landscape in much of Door County. Given the strength of the agricultural economy, opportunities exist to offer tourists activities related to our agriculture, including: farmer for a day experiences, rural bed and breakfasts, roadside stands, horse boarding and trail riding, pick-your-own produce operation, corn mazes, pumpkin patches, wineries, cheese factories, etc.
- Encourage local economic development opportunities that exist in harmony with Sevastopol's rural atmosphere and support the local tax base.

- Facilitate the establishment of agri-business and home-based businesses with concise ordinances that address consistency and compatibility with the character of the surrounding area, maintain the rural appearance of the landscape and minimize potential negative impacts (traffic, noise, odor, glare, signage, parking, truck deliveries, etc.).
- Per the WDNR, there have been environmental incidences (spills or leaking underground storage tanks (LUST)) that have occurred in the town. Sixteen environmental repair program (ERP) sites remain open, while all other sites are closed or need no action. These sites may be evaluated and considered for continued or future business uses.

Natural Resources and Environmental Concerns

The natural environment is a critical ingredient in Sevastopol's "quality of life" and provides a strong sense of place and community pride. A direct correlation exists between the presence and amount of open space and the positive feelings people have about their community. Natural features such as woodlands, wetlands, grasslands, and surface waters provide important wildlife habitat and recreational opportunities for residents. They improve the visual appeal of the Town and function as development buffers, both within Sevastopol and between the Town and neighboring communities.

In many respects, the natural landscape also determines where development can and cannot happen. For example, topography limits the type and density of development that can occur. Zoning, of course, directly controls the permitted density. Certain soils types have limitations that restrict development opportunities while shallow soils limit agricultural production. Construction activities within wetlands and floodplains are regulated by local, State, and Federal agencies.

Woodlands and grasslands, however, are afforded little State or Federal protection. They, along with agricultural lands, tend to experience the greatest amount of development pressure and, therefore, require a greater level of local protection…at least for those communities intent upon preserving them. Based on resident input provided at the Kick-Off and Vision Meetings, preservation of natural resources (i.e. wetlands, surface and groundwater, woodlands, Niagara Escarpment) is an important priority in Sevastopol. Local residents value the benefits provided by a healthy and diverse natural environment.

This section of the chapter provides an assessment of the different natural resources in Sevastopol. The information is graphically represented on a *Natural Features* map. This information serves as the basis for a land suitability analysis used to determined appropriate (i.e. environmentally sustainable) areas for development on *Future Land Use* map

GEOLOGY AND TOPOGRAPHY

Sevastopol, like most of Wisconsin, owes its unique landscape to the cumulative effects of past ice ages. More than 95% of Wisconsin's natural lakes and many of its major rivers were formed during the last glacial recession. The Wisconsin Glacial stage began approximately 65,000 years ago. The ice that covered most of Wisconsin was up to one mile thick and extended in five sections (i.e. lobes): the Superior, Chippewa, Wisconsin Valley, Green Bay, and Lake Michigan. The Green Bay lobe extended along the eastern part of the State carving out Door County, the Fox River, and Lake Winnebago and reaching as far south as Madison. As these lobes receded, they left glacial lakes in their path. The last glacier in Wisconsin began receding about 11,000 years ago.

Escarpment outcropping in Door County

After the recession of the glaciers, Sevastopol was left with its current topography. Topography is a general term for the rise, fall, and general contour of the land. Topographic features include hills, valleys, ridges and plains. Topography is important because it influences drainage patterns and, to a large degree, the type and intensity of land use. For example, some lands are so steeply sloped that they are only suitable for open space preservation or very low-density residential development. The topography in the Town of Sevastopol is characterized by rolling hills, plain meadows, woodlands, forested wetlands, and the

significant bodies of water surrounding the Town including Lake Michigan, Clark Lake, Sturgeon Bay, and Green Bay.

NIAGARA ESCARPMENT[2]

The Niagara escarpment is a Silurian age dolomitic limestone formation. The escarpment was formed by unequal erosion that took place over millions of years. Neighboring rock types were worn away at different rates by weathering and streams that quickened the process. The softer rock was worn away faster, leaving behind the pronounced cliff, or escarpment, we see today.

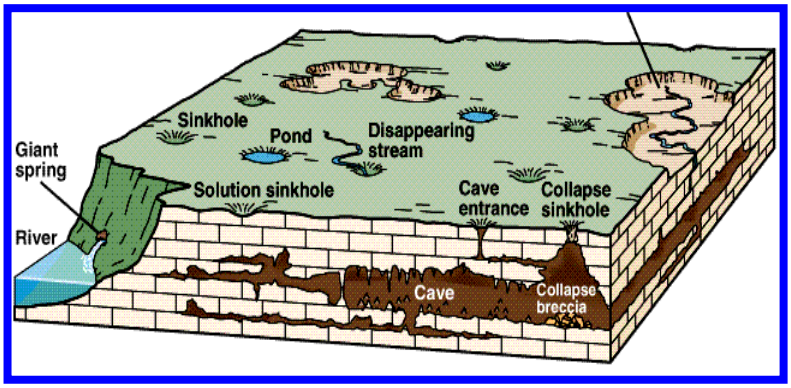
The escarpment begins east of Rochester, New York, and runs west to the Niagara River where it forms the deep gorge and waterfalls between Lewiston, NY and Queenston, Ontario for which it is named. The exposed portion of the escarpment then follows and arc northwest to southwest, ultimately running through the Door Peninsula and terminating near the Wisconsin Illinois border northwest of Chicago (refer to the map).

KARST TOPOGRAPHY[3]

Another defining, but often unknown, feature of the Door County Peninsula geology is what is called Karst topography. Karst topography is a result of the dissolution of the soluble carbonate limestone and dolomite that underlie the soils. Rainfall becomes mildly acidic as it falls to the earth and picks up carbon dioxide from the atmosphere. Once in contact with the soil, it picks up additional carbon dioxide and migrates to the bedrock, where it slowly dissolves fractures within the limestone. These fractures enlarge over time, creating an underground drainage network. The fractures may enlarge to the point that sinkholes may develop.

Niagara Escarpment

The most significant issues associated with this type of topography for Door County are farming and water quality problems. In many portions of Wisconsin, a combination of remnant glacial till and clays overlies the bedrock. The till and clays hold rainwater in the soils, providing a relatively steady water supply for crops. The fractured bedrock associated with Karst topography and the lack of till and clays result in rainwater draining through much faster leaving even fertile soils that receive adequate rainfall looking parched between rainfall events.



Various Karst topography features.
SOURCE: Columbia University

Karst sinkhole in Winter Park, Florida, 1981.
SOURCE: Columbia University

[2] SOURCE: Wikipedia
[3] SOURCE: Wikipedia

Attachment 5-1

From: KENNETH R BRADBURY <ken.bradbury@wisc.edu>
Sent: Tuesday, November 26, 2019 5:15 PM
To: BParsons <bcparsons@charter.net>
Cc: mgrimm@tnc.org; MAUREEN A MULDOON <muldoon@wisc.edu>
Subject: RE: Concerns about the former Leathem Smith Quarry Development

Dear Betty (and Mike):

Thank you, Betty, for sharing your thoughts about the proposed development in the former Leathem Smith quarry with me. I have been in that quarry many times over the past 30 years, and because of the exposure there it offers one of the most complete and accessible sections of the geologic formations exposed along the Niagara Escarpment anywhere in Wisconsin. Many years ago we obtained core samples from the quarry floor using our drill rig. We have geophysical logs from that hole and also from one of the private wells on the bluff above the quarry.

You asked me whether I would have any concerns about development in the quarry of the type proposed in the "Quarry Bluff" concept plan you sent. As I expressed to you on the phone, as a state employee I can't advocate for or against a proposed development such as th . My own expertise is in geology and hydrogeology. Therefore I confine my comments to hydrogeologic issues. There are a several areas of concern I see that the developers and local decision makers will need to address.

1. The combination of complete lack of soil (essentially bare rock) and fractured dolomite bedrock make this quarry floor extremely vulnerable to groundwater contamination. The bedrock contains a network of vertical fractures connected to horizontal bedding-plane fractures. Some of these bedding-plane fractures comprise important groundwater flow zones and can be correlated horizontally on the scale of miles (see https://wgnhs.wisc.edu/pubs/wofr199607/). The quarry floor also contains minor karst features – solution-enlarged fractures and holes (called swallets) through which water or other liquids applied on the surface can drain rapidly to the water table with no attenuation of contaminants. Any spill or other release of sewage or wastewater in this environment would likely result in rapid contamination of groundwater beneath the site.
2. Groundwater flow beneath the old quarry is to the south and west beneath Pinney Park to discharge directly into Green Bay, and groundwater flow in this setting can be rapid – in the range of 10-100s of feet per day. If a spill were to occur there would be little time or distance over which to conduct groundwater remediation prior to groundwater discharge to the Bay.
3. Infrastructure development on this site is likely to be quite expensive. Utilities such as water lines, sewer lines, and electrical service, which are commonly buried to prevent freezing, will probably need to be installed in bedrock trenches, requiring significant excavation.
4. Water supply may be an issue. From the plan you provided it appears that 117 lots and cottages are planned, along with several water features, all served by a single well. This will likely be a high-capacity well requiring DNR approval. Obtaining good water quality might be a problem; several of the municipal wells in Sturgeon Bay regularly produce water containing bacteria and have long required onsite water treatment using an ozone system.
5. Finally, geologists appreciate access to this quarry and if the development goes ahead it would be good to preserve some portion of the high walls for future geologic classes and field study.

Please let me know if I can be of additional assistance.

Sincerely, Ken Bradbury

Kenneth R. Bradbury
Director and State Geologist
Wisconsin Geological and Natural History Survey
UW-Madison Division of Extension
3817 Mineral Point Road
Madison, WI 53705

Phone: 608 263 7921

• Attachment 5-2

From: **Wunderlich, Cathrine M - DNR** <Cathrine.Wunderlich@wisconsin.gov>
Date: Mon, Jan 6, 2020, 6:52 AM
Subject: RE: Well Application- Quarry Bluff Development- Door County
To: Keith Mutchler <mutchler.keith@gmail.com>
Cc: Jim Mitsche <james.mitsche@gmail.com>, mathein6126@charter.net <mathein6126@charter.net>, Dutcher, Andrew J - DNR <Andrew.Dutcher@wisconsin.gov>

Keith,

Thank you very much for this information. Based on this and the most recent information that I have received, this development would definitely be classified as a *community* water system not as a non-community. I will be contacting both Jeff Kussow**,** Door County Zoning Administrator, and the developers who had previously reached out to me with this finding, to inform of the construction requirements and the necessary plan submittals for an appropriate water system. Because this water system will be privately owned, they will also need a Dept. of Safety and Professional Services approval for the distribution system.

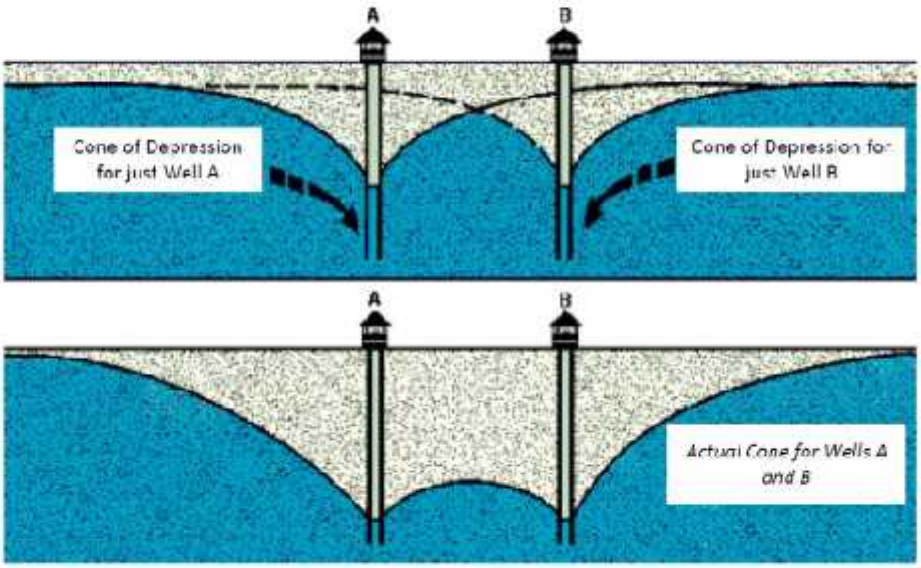
I am also copying Andrew Dutcher from our wastewater program, because on page 20 of 85 in the attached .pdf, it clearly states that “because of the presence of bedrock at the surface, the only type of private onsite waste treatment system than can be installed on this property would be a holding tank.” I am not sure what their review requirements and process is, but want to make sure they are aware of this development.

Sincerely,

Cathy

• Attachment 5-3

Mutual Interference



January 31, 2020

Attachment 5-4

To: Keith Mutchler

From: Ronald Stieglitz

Thank you for providing me the opportunity to submit a written summary of my comments at the Sevastopol planning Committee on January 14th, 2020 and to provide additional thoughts. My comments are directed to threats to the groundwater resource because of the characteristics of the geologic environment of most of northern Door County Wisconsin.

There has been at least 40 years of research on the bedrock and groundwater flow systems of the county (Sherrill, 1978). Some of that research has been carried out within the Township of Sevastopol (Bradbury, K.R., and M.A. Muldoon, 1992). Research projects have been conducted by the Door County Soil and Water Conservation Department, the Wisconsin Geologic and Natural History Survey, the Wisconsin DNR, and a number of University of Wisconsin campuses, including UW Green Bay (Schuster, Wm., J. Buchhuber and R. Stieglitz. 1989). Those research projects have consistently demonstrated that the local geologic environment is challenging because it is variable over short distances and difficult to predict. As a result, the area is prone to short and long term water quality problems. There are 3 primary reasons for this complexity:

1. The bedrock is a strong but brittle stratified, that is layered, dolostone that is densely fractured. Both near vertical fractures (joints) and horizontal fractures (bedding planes) are present.
2. Both types of fractures have been modified by water dissolution that is the process of karstification. As a result many fractures have been widened making them more efficient conduits for water flow. The high angle fractures are important in transmitting water into the subsurface while the bedding planes transmit water horizontally.
3. Over much of the county the depth to the bedrock surface is shallow often resulting in relatively rapid infiltration of water with little filtration.

As can be seen in Figure 1, the floor of the quarry in question exhibits all of these problems. Fractures are many, some are modified by solution, and there are no unconsolidated materials covering rock surface.

Figure 1. Leathem-Smith Quarry Floor

There is little natural surface runoff from an area extending several miles eastward from the cliff face from the mouth of Sturgeon Bay northward approximately to the village of Egg Harbor. North of there the area narrows markedly and closely parallels the escarpment. Streams are lacking or are short and poorly developed because rain and snow melt is collected and directed into the subsurface by fractures and dolines (rock holes or sinkholes). Johnson and Stieglitz (1990) have classified the terrain of this area as holokarst (Figure 2). Rain and snow melt rapidly infiltrate to the deep groundwater that flows generally eastward or southeastward while a shallow component moves westward as interflow and is discharged by seeps and springs along the base of the escarpment or directly off shore into the bay (Bradbury 1982).

Figure 2 Karst Drainage Zones

There are two concerns about water related to the proposed development. The first **is** the artificial runoff water from hard surfaces. Water from roofs, driveways, parking lots, and streets will move rapidly and efficiently through the on-site drainage system. Curbs, gutters, and ponds might efficiently handle the volume of water and suspended particles but, potential dissolved pollutants that may be collected by that water are not adequately addressed. The second concern is the water infiltrating from lawns and landscaped areas. The depths of fill proposed to be placed over the surface might improve the filtering capacity moderately depending on its thickness and attenuation properties. However, fertilizers and other chemicals applied by property owners or the Association will affect the quality of the water infiltrating in those areas. At least some of that water will move to existing nearby springs and be discharged into the bay. Part will recharged the groundwater and possibly affect nearby water wells.

The following Take Away Points summarize the concerns:

1. Geologic conditions and water flow systems are complex.
2. Groundwater recharge is primarily controlled by fractures but is focused and localized by dolines (sinkholes) and closed depressions.
3. In densely fractured bedrock, groundwater and surface water are closely connected.
4. Surface activities will affect water resources even if they are carried out according to current guidelines and standards.
5. Once water resources are degraded solutions to the problem are difficult and usually costly.

Selected References

Bradbury, K. R., 1982. Hydrogeologic relationships between Green Bay of Lake Michigan and on shore aquifer of Door County, Wisconsin. Unpublished Ph.D. Dissertation, UW – Madison, 287 pp.

Bradbury, K.R., and M.A. Muldoon, 1992. Hydrogeology and groundwater monitoring of fractured dolomite in the Upper Door Priority Watershed, Door County, Wisconsin. Wisconsin Geologic and Natural History Survey open File Report, WOFR 92-2, 84 pp.

Johnson, S. B. and R. Stieglitz, 1990. Karst features of a glaciated dolomite peninsula, Door County, Wisconsin. Geomorphology, vol. 4, pp 37 -54.

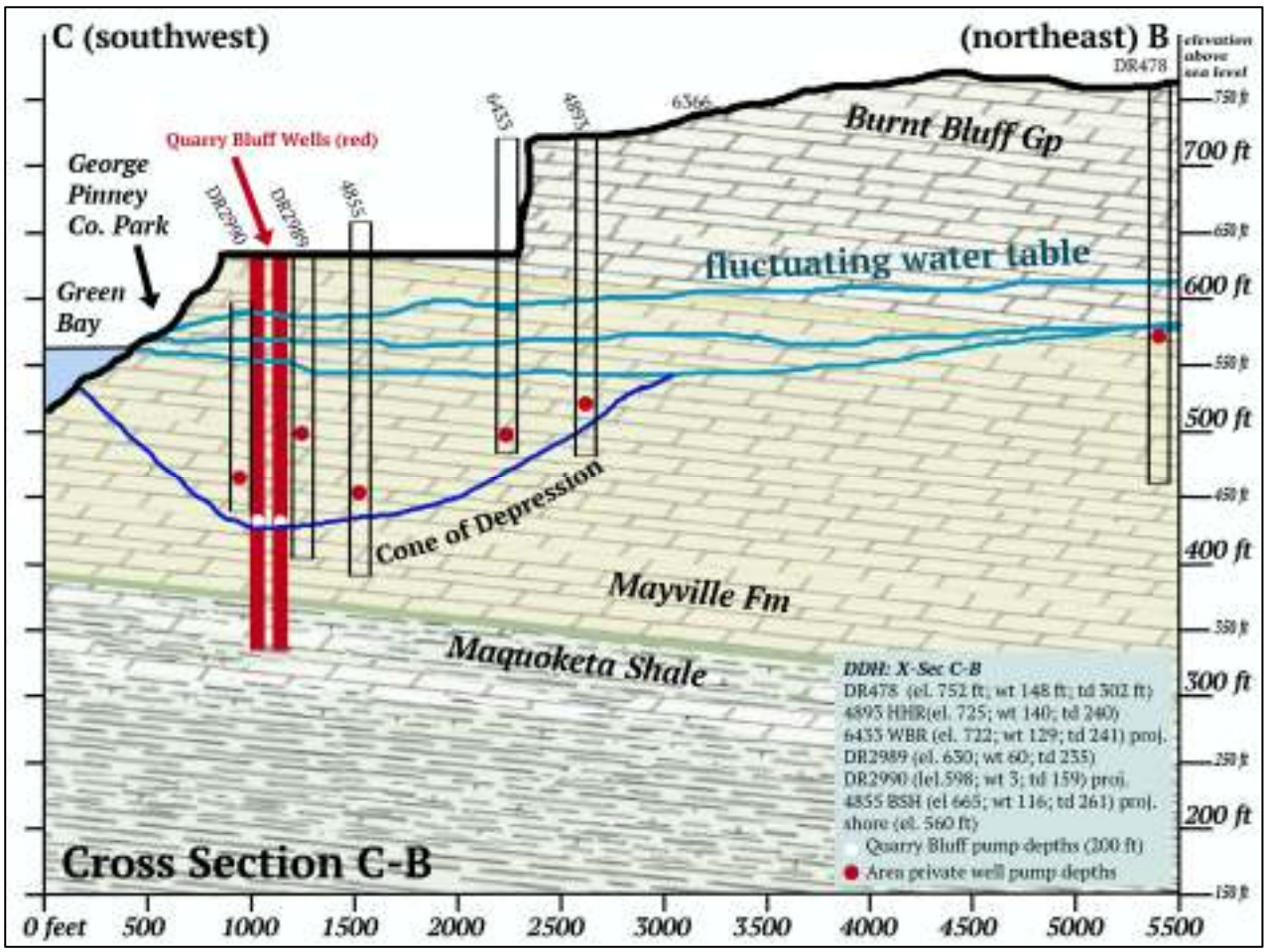
Schuster, Wm., J. Buchhuber and R. Stieglitz. 1989. Groundwater pollution potential and pollution attenuation in Door County, Wisconsin: Five maps with text, Wisconsin DNR Nonpoint Pollution Abatement Program for the Upper Door Priority Watershed. (Specifically map 5)

Sherrill, M.G., 1978. Geology and ground water in Door County, Wisconsin, with emphasis on contamination potential in the Silurian Dolomite. Water Supply Paper 2047, U.S. Geological Survey, Washington D. C., 38 pp. With maps and plates.

Ronald D. Stieglitz, Ph.D.
Wisconsin Professional Geologist #425

Attachment 5-5

Quarry Bluff Wells Could Disrupt Nearby Property Water Supply



Attachment 7B-1

Attachment 7B-2

Attachmen 7B-3

Attachment 7B-4

Dan Collins

Attachment 9-1

The traffic study by Robert E. Lee and Associates dated 10/24/2019 should be reviewed and reconsidered with the benefit of two possible alterations that could make the traffic model more accurate. These two alterations would include, reflecting the actual number of functional residential units proposed and selection of an Institute of Transportation Engineers (ITE) Land Use Description that reflects these units.

The selection of the Land Use Description that was used for the analysis could be inadequate in this situation. When creating a traffic model using the ITE framework the selection of a Land Use Description seems important. The study in the CUP application section 9 may have used the "Campground / Recreational Vehicle" from the ITE manual as the Land Use Description. The traffic expected from a Campground / Recreational Vehicle site might presume that users take advantage of amenities located on the site, such as hiking, kayaking, beaches etc. without need for many vehicle trips. The CUP application states "There will be no tents, trailers, wood campfires, or many of the amenities and activities associated with a traditional campground." It seems likely that the proposed development will not be a traditional Campground / Recreational Vehicle site but more of a launching point for activities around Door County. As such a Land Use Description might be closer to a Motel or a Resort Hotel. Either of these Land Use Descriptions would significantly increase the number of expected trips to and from the proposed location.

The challenge of defining the correct Land Use Description is compounded by the CUP request that the 117 RV locations permit 115 fully functioning single family residences. In essence the CUP proposal is not an either/or proposal (117 RV locations <u>or</u> 115 Single family residences) it is BOTH. This application contemplates 117 fully functional standalone RVs AND 115 Single family residences and makes no restriction about fully occupying both an RV and a residence on the same parcel at the same time.

A better model to ascertain the expected maximum traffic load would be to calculate the traffic generated by 115 single family residences plus 117 RVs.

Using the ITE manual, the math might look something like this:

117 RV units x .41 (Resort Hotel peak, substituting "room" for unit) = 47.97

115 Housing units x .99 (Single Family Detached housing peak) = 113.85

Total trips per hour during peak PM hour = 113.85 + 47.97 = 161.82

This is dramatically different than the 33 trips per hour during the peak PM hour as described in the traffic section of the CUP.

Note the version of the ITE table below used for this memo is from a "working draft" and may not be the same version used in the study by Rober Lee and Associates.

ITE Trip Generation, 10th Edition

ITE No.	Land Use Description	unit	Daily Rate	Peak Hour of Adjacent Street Rate					
				AM (7-9)			PM (4-6)		
				Total	In	Out	Total	In	Out
	Industrial/Agricultural								
110	General Light Industrial	ksf	4.96	0.70	88%	12%	0.63	13%	87%
		emp.	3.05	0.52	83%	17%	0.49	22%	78%
130	Industrial Park	ksf	3.37	0.40	81%	19%	0.40	21%	79%
		emp.	2.91	0.44	86%	14%	0.42	20%	80%
140	Manufacturing	ksf	3.93	0.62	77%	23%	0.67	31%	69%
		ac.	35.02	4.62	90%	10%	4.54	43%	57%
150	Warehousing	ksf	1.74	0.17	77%	23%	0.19	27%	73%
		emp.	5.05	0.61	72%	28%	0.66	36%	64%
151	Mini-Warehouse	ksf	1.51	0.10	60%	40%	0.17	47%	53%
160	Data Center	ksf	0.99	0.11	55%	45%	0.09	30%	70%
	Residential								
210	Single-Family Detached Housing	DU	9.44	0.74	25%	75%	0.99	63%	37%
220	Multifamily Housing (Low-Rise)	DU	7.32	0.46	23%	77%	0.56	63%	37%
231	Mid-Rise Residential w/ 1st-Floor Commerci	DU	3.44	0.30	28%	72%	0.36	70%	30%
240	Mobile Home Park	DU	5.00	0.26	31%	69%	0.46	62%	38%
251	Senior Adult Housing - Detached	DU	4.27	0.24	33%	67%	0.30	61%	39%
252	Senior Adult Housing - Attached	DU	3.70	0.20	35%	65%	0.26	55%	45%
253	Congregate Care Facility	DU	2.02	0.07	60%	40%	0.18	53%	47%
254	Assisted Living	beds	4.24	0.39	78%	22%	0.49	30%	70%
255	Continuing Care Retirement Community	units	2.40	0.14	65%	35%	0.16	39%	61%
270	Residential Planned Unit Development	DU	7.38	0.57	22%	78%	0.69	75%	25%
	Lodging								
310	Hotel	rooms	8.36	0.47	59%	41%	0.60	51%	49%
311	All Suites Hotel	rooms	4.46	0.34	53%	47%	0.36	48%	52%
312	Business Hotel	rooms	4.02	0.39	42%	58%	0.32	55%	45%
320	Motel	rooms	3.35	0.38	37%	63%	0.38	54%	46%
330	Resort Hotel	rooms	n/a	0.32	72%	28%	0.41	43%	57%
	Recreational								
411	Public Park	ac.	0.78	0.02	59%	41%	0.11	55%	45%
416	Campground/Recreational Vehicle Park	occ. sites	n/a	0.21	36%	64%	0.27	65%	35%
444	Movie Theatre	screens	220.00	n/a	n/a	n/a	14.60	44%	56%
445	Multiplex Movie Theatre	screens	292.50	n/a	n/a	n/a	13.73	51%	49%
488	Soccer Complex	fields	71.33	0.99	61%	39%	16.43	66%	34%
490	Tennis Courts	courts	30.32	n/a	n/a	n/a	4.21	n/a	n/a
491	Racquet/Tennis Club	courts	27.71	n/a	n/a	n/a	3.82	n/a	n/a
492	Health/Fitness Club	ksf	n/a	1.31	51%	49%	3.45	57%	43%
495	Recreational Community Center	ksf	28.82	1.76	66%	34%	2.31	47%	53%

Attachment 9-2

Lane Kendig
4089 Snake Island Road
Sturgeon Bay, Wisconsin 54235

February 10, 2020

Door County Resource Planning Committee
Door County Land Use Services Dept.
421 Nebraska St.
Sturgeon Bay, Wisconsin 54235

RE: Response to Quarry Bluff LLC's Traffic Study

Dear Resource Planning Committee Members:

I write regarding the adverse impacts of Quarry Bluff LLC's (the "Developer") CUP application on neighborhood traffic flow and congestion and in response to the Developer's traffic study written by Robert E. Lee & Associates.

I am a professional city and regional planner and the founder of Kendig Keast Collaborative, from which I am retired. As a planner for 50 years, I have reviewed over 1,000 conditional use permits. For many reasons, I believe that the Resource Planning Committee should deny the Developer's CUP Application, but this letter will focus on the adverse impacts to neighborhood traffic flow and congestion.

The applicant has submitted a traffic study from Robert E. Lee and Associates, including material on the functional classification of rural highway conditions. This classification is mistaken for two reasons. First, Bayshore Drive (County Highway B) is classified as a major rural collector by WDOT. While this is a general classification for many Door County roads, Bay Shore Drive does not share the characteristics of such rural roads. Rural collectors are generally in rural areas with the land use in the area being rural, agriculture or woodlands. Bay Shore Drive also functions as a local residential street providing access to individual residential lots and some other uses from Sturgeon Bay to the site. The second difference is that the Door County Comprehensive Plan identifies County Highway B as a scenic highway.

The traffic study is also flawed because it merely cites WDOT capacity requirements and does not address the standard set forth in the Zoning Ordinance, which is "whether the proposed project adversely impacts neighborhood traffic flow and congestion." The Zoning Ordinance's standard is not confined or restricted by capacity metrics.

Even if the WisDOT capacity numbers are considered, they are very misleading. The Developers' traffic study cites two average daily traffic capacity counts taken by WDOT in 2009 and 2015 with the most current count at 1,700 vehicles per day. The Developers' traffic study goes on to indicate that the capacity of the road is 12,000 to 15,000 vehicles per day. Highways are classed as having a level of service ranging from A to F. Maximum capacity occurs at level of service F, where flow is stop and go, a condition that would be intolerable on Bay Shore Drive.

In many communities there is a target level of service. In suburban areas the ideal is normally level of service C. In rural areas, I have used level of service B. In addressing level of service, the traffic counts are done for morning and evening peak hours. There are no peak hour traffic studies for Bay Shore Drive.

Another matter is that capacity is always calculated for peak hours, not average daily traffic. In the absence of a local study, peak hours are between 8-12 percent of average daily traffic. Thus, using the general state data peak hour capacity would be between 960 and 1,800 trips. This is a generic number, actual capacity is a function of various factors about the actual design of the road.

Bay Shore Drive has 11-foot travel lanes with varying paved shoulders. There are a number of conditions that effect the capacity of the road. These include desired level of service, lane width, the distance from travel lane edge to obstructions, percent no passing distance, directional split, percentages of trucks, RVs, and buses.

In the table below we have calculated the maximum capacity, while varying the elements. The first analysis shows the maximum capacity at level of service E where traffic is stop and go. The second line shows the reduction of capacity at level of service B. The next two rows reduce distance to obstructions such as trees or mailboxes where the paved shoulder lane is reduced from four feet, to two, and then zero. The proposed development will have motor home traffic and large semi septic waste hauling trucks. We have added in a percentage of RVs to compensate for this. Another major issue was pointed out with text and photos in the application, parking of trailers or trucks in the street for yard or snow plowing. The highway capacity manual does not provide for this directly. The last line in the table lowers the lane width by two feet, which accounts for a truck or trailer extending four feet into a travel lane.

Desired Level of Service	Lane width	Distance to Obstructions	Trucks	RV – Motor home	Maximum Capacity - vph
E	11	4	1%		1,715
B	11	4	1%		531
B	11	2	1%		468
B	11	0	1%		406
B	11	0	1%	0.5%	403
B	9	0	1%	0.5%	304

Bay Shore is a scenic road and one that also serves as a local residential street. The highway capacity manual does not address the maximum capacity of residential streets. It should be obvious that traffic of 1,715 vehicles per hour are unacceptable. That would be 28.6 vehicles per minute or one every 2.09 seconds. In the absence of any study, my firm has looked to vehicles per hour where children would be playing, walking, or riding on or near the road. In zoning we set a maximum capacity of 240 vph, or four vehicles per minute, after which our ordinances require a residential collector that does not permit driveways of individual lots.

This issue is not maximum traffic volume because Bay Shore Drive is not a normal highway or local residential street. The problem is the potential increase in large vehicular traffic on this unique road. The mixed usage, cars, trucks, sightseeing, work parking, bicycles, and pedestrians. Adding Class A motor homes, semi-trailer septic haulers, and large heavy construction trucks, will add to the risks to pedestrians and bicycle riders and increase the potential for vehicular accidents. A solution to this problem is to ensure that these very large vehicles do not travel any significant distance on Bay Shore Drive. Should this application be approved the County may require reasonable conditions. They should prohibit septic semi-trucks and large construction trucks from using Bay Shore except for a limited distance. A specific route should be specified. All advertising and directions for motorhomes to approach the RV Resort should specify that route with warnings not to use Bay Shore Drive. Tellingly, the report is silent about on-site pedestrian issues.

Thank you for your consideration of my comments.

Sincerely,

Lane Kendig

PAVED SHOULDER MEASUREMENTS ON BAY SHORE DRIVE

Attachment 9-3

Developers state that paved shoulders are three feet. They are not. The shoulders are variable. Owing to the variation, pedestrians and bikers are unable to stay within the marked shoulder and are often forced to enter a driving lane. Thirty-two measurements of the Bay Shore Drive paved shoulder were done from Bluebird Lane to one-half mile beyond the George E. Pinney Park. Measurements were done on both sides of the road. From periodic measurements and visual observation, it appears that less than 8% of this area is 3 feet. The other 92% appears less than three feet, and it's typically much less. Slopes are common.

Traveling north on Bay Shore Drive.

Fire Number:	3720	14 inches	
	3780	40 inches	
	3845	36 inches	
	3993	30 inches	Slope
	4080	20 inches	Slope
	4144	20 inches	
	4210	23 inches	
	4321	24 inches	Slope
Laurie Quarry		26 inches	
	4407	24 inches	Slope
	4564	28 inches	
	4643	26 inches	Slope
	4755	26 inches	Slope
	4865	24 inches	Slope
Pinney Park		25 inches	
	4920	25 inches	
	5012	21 inches	

Traveling south on Bay Shore Drive

Fire Number:	4988	26 inches	Slope
Pinney Park		32 inches	Slope
	4839	30 inches	Slope
BS Heights/BSD		22 inches	
	4763	26	Slope
	4635	20	Slope
Dunn Road/BSD		29	Slope
	4432	24	Slope
	4379	28	Slope
	4315	28	Slope
	4277	24	Slope
	4169	27	Slope
	3985	19	
	3891	39	
	3785	27	

Betty Parsons 1/30/2020

Present Bay Shore Drive
Bike Route Obstacles

We are going to
add 45 foot RV's +
trailing vehicle?

• Attachment 9-4

SHOULDERS ARE
NOT 3 FEET AS
APPLICATION STATES

Asphalt to gravel
drop off

Down into a ditch

The Future of
Bay Shore Drive ?

• Attachment 9-5

Town of Gibraltar Cited for Failing to Acquire Proper Permit for Parking Lot Project

By Myles Dannhausen Jr., Peninsula Pulse – March 16th, 2018

• Attachment 11-A-1

The Town of Gibraltar cleared a wide swath of land to make way for expanded parking behind the town center. The town has been cited for failing to acquire proper permits before clearing began. Photo by Myles Dannhausen Jr.

Pete Van Sistine said he and his neighbors were stunned when crews began plowing down trees adjacent to their property Feb. 22.

“We started calling around to find out what was going on,” Van Sistine said. “It was shocking.”

The Van Sistines live in the Birch Grove condos, the yellow condos in the center of Fish Creek that abut the town’s long-term boat trailer parking behind Hat Head (formerly Spielman’s Kid Works).

The town approved a plan to expand the parking lot at its Dec. 6 meeting, including instructions that consultant Bob Kufrin and engineer Peter Hurth from Baudhuin Engineering meet with adjacent property owners before work began. While some neighbors were consulted, Birch Grove condominium owners were never notified because Kufrin said the parking stalls will not be close to their property. Instead, a stormwater retention pond will be built behind the condos to capture runoff from the bluff.

A visit to the lot, however, shows that the clearing and digging done for the parking lot and stormwater retention pond continues up nearly to the patios of Birch Grove condominiums. When finished, the lot will include 133 spots for cars and 60 long-term boat trailer parking spots.

It now appears the Van Sistines weren’t the only ones caught unaware. On Tuesday, March 13, the Wisconsin Department of Natural Resources issued a notice of noncompliance to the town for failing to acquire a stormwater runoff discharge permit, which is required on file 14 days before any work can begin, according to Sarah Anderson, DNR stormwater specialist. Work on the lot has stopped until proper permits are acquired.

Hurth said March 12 that he was in the process of obtaining a conditional use permit from the Resource Planning Committee, a land disturbance permit and shoreland zoning permit from the DNR, but did not have those on hand when work began.

Outlines for expanding the parking lot were included in the town's much-publicized Waterfront Master Plan. Those plans were unveiled in an open house in May of 2016 and published in November of 2016 and available on the village's website. The site plan was approved unanimously by the five-member board Dec. 6, but supervisors Brian Hackbarth and Steve Sohns said they didn't think that meant the project was finalized.

"That was just to approve the site plan," said supervisor Brian Hackbarth. "That wasn't to approve the project. We were still going to work out a lot of the details."

Fellow supervisors Dwayne Daubner, Barb McKesson and town chair Dick Skare all said they interpreted that vote as approval to move forward. On Feb. 7, the board voted to put the project out to bid in a 3-2 vote. But at a Feb. 21 meeting, Skare motioned to rescind that vote, and hold a new vote to award the contract to the Door County Highway Department, which has handled similar paving projects for the town. That vote passed 3-1 (Hackbarth was absent for a portion of the meeting due to a work emergency). Sohns was the lone vote against it.

"We didn't have anything in our packets about the vote or bid," Sohns said. "I felt we were pushing it through to fast. The next morning they were cutting down trees."

Skare said the new vote was taken because the Highway Department had answered several questions the board had raised at earlier meetings.

Hackbarth has questioned whether that vote was legal, since it was taken under an agenda item labeled simply "Parking Lot Project." He raised the legality issue the night of the vote in a message to Town Clerk Beth Hagen and Skare.

"I understand a vote to rescind a vote from a previous meeting took place tonight prior to my arrival," he wrote. "That was not an agenda item for tonight, therefore was not a legitimate vote or action."

Hagen sought an opinion from Rick Manthe, legal counsel for the Wisconsin Towns Association. Manthe replied that he could not definitively say the notice was sufficient.

"General principles of notice and agenda items suggest that a person should know what will be discussed and what action could be taken by reading the notice," Manthe wrote.

The town previously posted agenda items in a similar fashion. At the Dec. 6 meeting when the parking lot site plan was approved, the item was listed on the project simply as "Baudhuin Parking Lot Plan."

Van Sistine also questioned whether the lot is necessary. He said the existing lot is rarely more than 25 percent full. On Aug. 2 SEH consultants presented to the board the results of its study of parking in the downtown core. That study determined that existing parking lots were greatly underused, particularly the lot behind the town center and boat trailer parking lot. SEH recommended a laundry list of short-term improvements to wayfaring signage, public-private partnerships, and striping before adding more parking lots.

Skare agreed that the lot is underused, but that it will be necessary when the town expands Fish Creek Beach and removes parking on the beach property across the street.

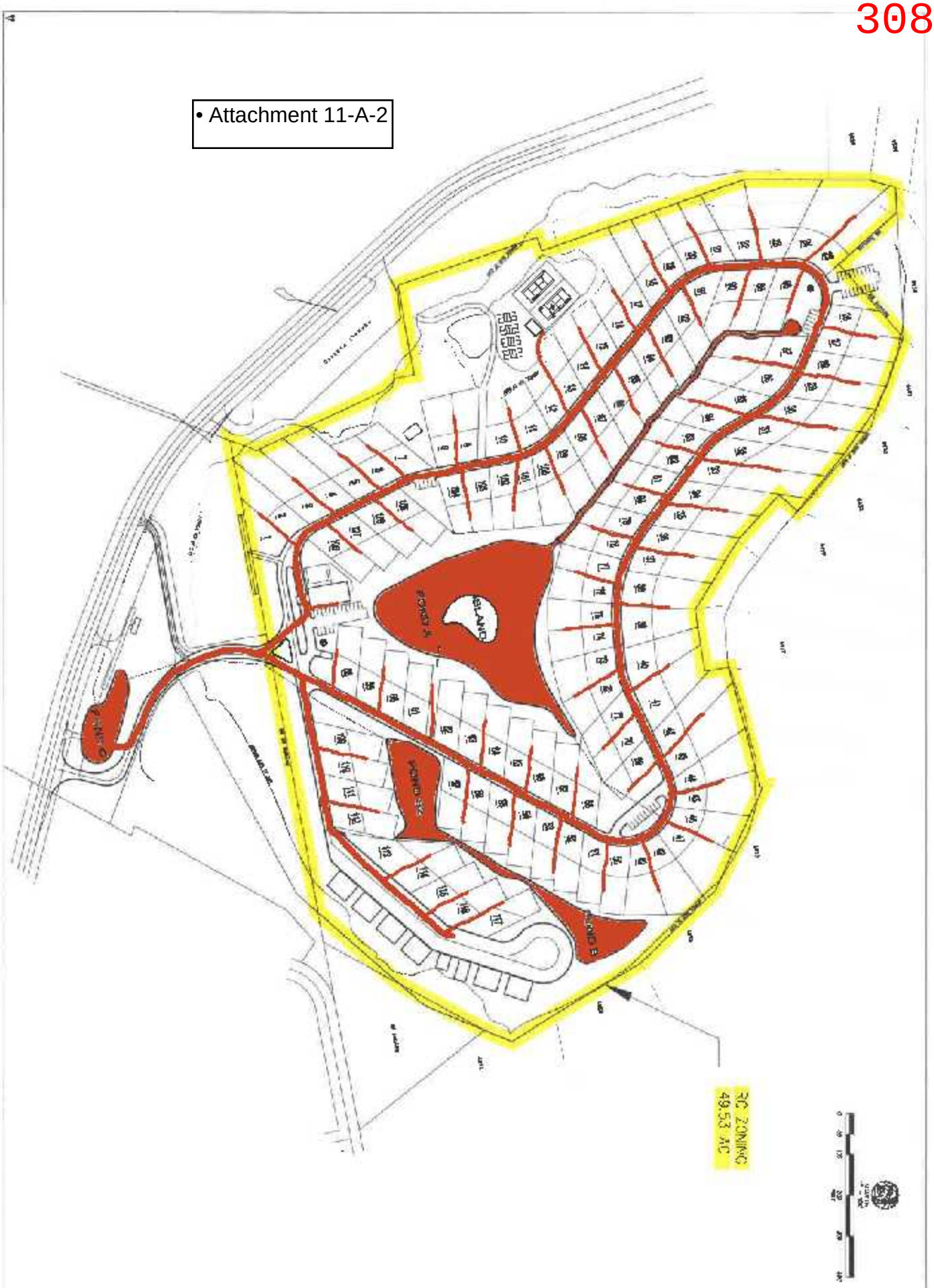
"We do have to address the parking issue, especially as we improve and expand the beach," he said.

McKesson said she understands the frustration of the neighbors to the lot.

"It's a travesty that the people in the condos were not notified," she said. "It was a mistake, and we as a board have to take responsibility for that, but it was not done in secret or with ill intent."

Skare said all of the wood harvested from the project will be repurposed to create privacy fencing for neighbors, and that new tree plantings will be added to shield neighboring views.

• Attachment 11-A-2



SP1	SITE PLAN	Quarry Bluff	BAUDHUIN SURVEYING & ENGINEERING

Shabica & Associates, Inc.

Attachment 11-A-3

Door County Resource Planning Committee
421 Nebraska St.
Sturgeon Bay, WI 54235

Re: Conditional Use Request for Quarry Park RV Site

Dear Committee Members: January 15, 2020

As a professional geologist familiar with the limestone karst topography in Door County, I feel it is important that the bedrock at the proposed RV site should be carefully explored before the site is developed. Although drill cores can be useful, the data should be augmented with remote sensing information that is likely to show voids that may be missed through coring. Ground penetrating radar (GPR) or Subsurface Interface Radar (SIR) combined with electrical imaging or seismic shear wave tomography should help.

Sincerely,

Charles Shabica Ph.D., P.G.
President

550 Frontage Road · Suite 3735 · Northfield, Illinois 60093 · Tel 847.446.1436 · info@shabica.com
www.shabica.com

Attachment 11-A-4

Why Karst Features Make Door County Groundwater So Vulnerable

By Steve Grutzmacher, Peninsula Pulse – April 17th, 2015

Fissures like this one at the Horseshoe Bay Cave in Egg Harbor show the massive cracks of our karst topography, which can send contaminated water quickly to the aquifer we drink from. Photo by Len Villano.

Any discussion about groundwater quality in Door County must begin with the peninsula's geology. The same geology that contributes to our county's scenic beauty is also our most significant problem when it comes to preserving safe drinking water for both residents and visitors.

Beneath our feet is what geologists call karst, which is "a landscape created when water dissolves rocks," according to Wisconsin Geologic & Natural History Survey. Typical soluble rocks are limestone and dolostone (a sedimentary carbonate rock that contains a high percentage of the mineral dolomite) and it is dolostone that underlies virtually all of the Door Peninsula.

Fissures like this one at the Horseshoe Bay Cave in Egg Harbor show the massive cracks of our karst topography, which can send contaminated water quickly to the aquifer we drink from.

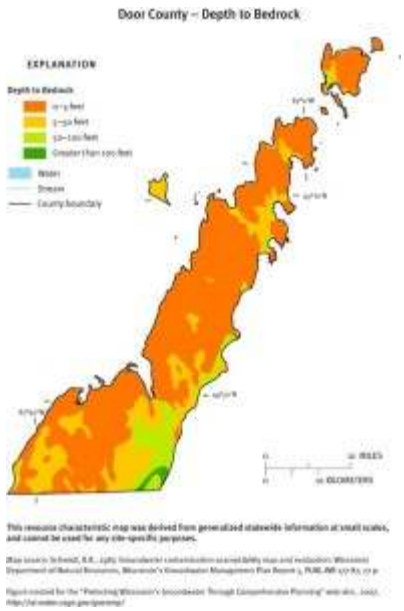
“Karsts are an area defined by numerous sinkholes,” explains Jack Travis, professor emeritus of geology at UW–Whitewater and Door County resident. “The underlying dolostone is fractured or jointed without movement at roughly right angles.”

All rainwater is, to some extent, acidic, but it becomes more acidic as it picks up carbon dioxide when it moves through the topsoil. After this acidic water passes through the soil it moves to these facture lines and descends to the water table.

Sinkholes form from the bottom up. Over time, the rain widens the joints/fractures in the dolostone bedrock and this widening will eventually form pockets or caves. Sediment immediately above these pockets/caves begins to wash down to fill the void and, when the soil surface can no longer support the weight, it collapses down into the area beneath, forming a sinkhole.

Of course, when most of us hear the term sinkholes we think of the videos and news coverage of cars, homes and trees being swallowed into the earth. These events, when they are naturally occurring rather than a water main break, typically happen in karst regions where the underlying bedrock is limestone based. The difference in Wisconsin is that the dolostone that makes up our karst is much more coarse and slower to dissolve. So the vast majority of sinkholes in Wisconsin and Door County in particular are small, often no more than 18 inches to two feet.

These sinkholes are not open shafts leading deep down into the earth. Rather, they tend to be depressions in the ground, often slight, that have filled, at least partially, with soil and sediment from the surrounding ground surface. During the hot, usually dry summer months of July and August, these sinkholes become evident because the vegetation on the surface of the sinkhole will remain green, while the surrounding vegetation will turn dormant brown. This is due to the deeper soil in the sinkhole, which is able to hold more water than the surrounding thin layer of topsoil.



Much of Door County has very little soil before bedrock.

Door County, for the most part, has very little topsoil so rainwater (and virtually anything else on the land surface) reaches the dolostone and its fractures very quickly, ultimately entering into the water table. And it is this limited topsoil which sets the Door Peninsula apart from the other karst areas of Wisconsin.

“Much of Door County, particularly northern Door County, has less than five feet of topsoil before you reach the bedrock,” Travis notes. This contrasts with the Fox Valley, another karst area, which has a substantially greater depth of topsoil, which retains more moisture while filtering many of the contaminants out before the water reaches the bedrock. In other words, more filtering means the water is less acidic and less acidic water means the dolostone dissolves more slowly.

Visual proof of Door County’s karst is evident throughout the county, but farm fields and golf courses are two areas where it can be clearly seen. In addition to sinkholes, the dolostone fracture lines can be seen in the same manner. In this case, lines of denser, greener vegetation appear, sometimes in an almost checkerboard pattern.

Other surface evidence can include disappearing streams, usually occurring when the snow melts, which are literally small channels of water that run for a distance and then disappear into the earth. Springs, where water rises from the water table to surface in a steady flow, are another, clearly recognizable feature of karst. The Three Springs Preserve near Sister Bay is a primary example.

So, the Door Peninsula’s geology is a karst whose dolostone bedrock is carbonate with high levels of the mineral dolomite. The dolostone bedrock is significantly fractured, both vertically and horizontally and, while these fractures don’t cause the ground to shift, they do provide easy channels for water and other materials to be quickly transported down to the water table.

The problem facing Door County, as opposed to many other areas situated on karst, is the lack of topsoil above the dolostone bedrock. Topsoil, and its accompanying vegetation, provides a means of filtering out many contaminants before they can reach the groundwater supply. Without sufficient topsoil, water and anything else that is soluble quickly pass through the soil to the bedrock where it is quickly transported down through fractures.

Credit: Image courtesy of Extension.org: Conservation Innovation Grants Final Progress Report, University of Kentucky Research Foundation.

There is no practical remedy to this situation other than cognizance and careful monitoring and restriction of what goes onto the surface of our peninsula. And finding the right balance in implementing restrictions is our ongoing challenge.

Sources:

Wisconsin Geologic & Natural History Survey, Karst and Sinkholes

Protecting Wisconsin's Groundwater Through Comprehensive Planning, Door County, http://wi.water.usgs.gov/gwcomp/find/door/susceptibility.html

In Wisconsin's karst area, even good farming may pollute groundwater, by Kate Golden/Wisconsin Center for Investigative Journalism

Site Characterization in Densely Fractured Dolomite: Comparison of Methods, by Maureen Muldoon and Ken R. Bradbury, GROUND WATER 43, no. 6: 863–876

Special thanks to Jack Travis

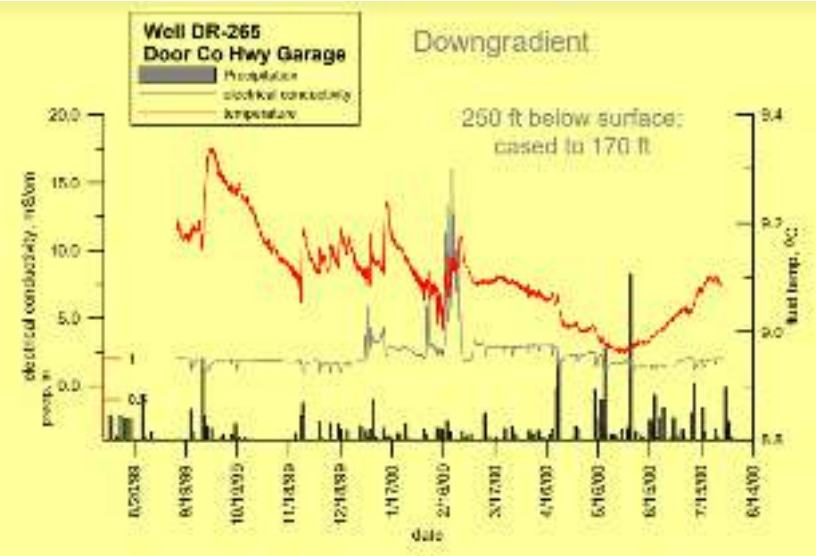
Attachment 11A-5

PRESENTATION TO SEVASTOPOL PLAN COMMISSION
JANUARY 14, 2020
JACK TRAVIS, PHD & CERTIFIED PROFESSIONAL GEOLOGIST

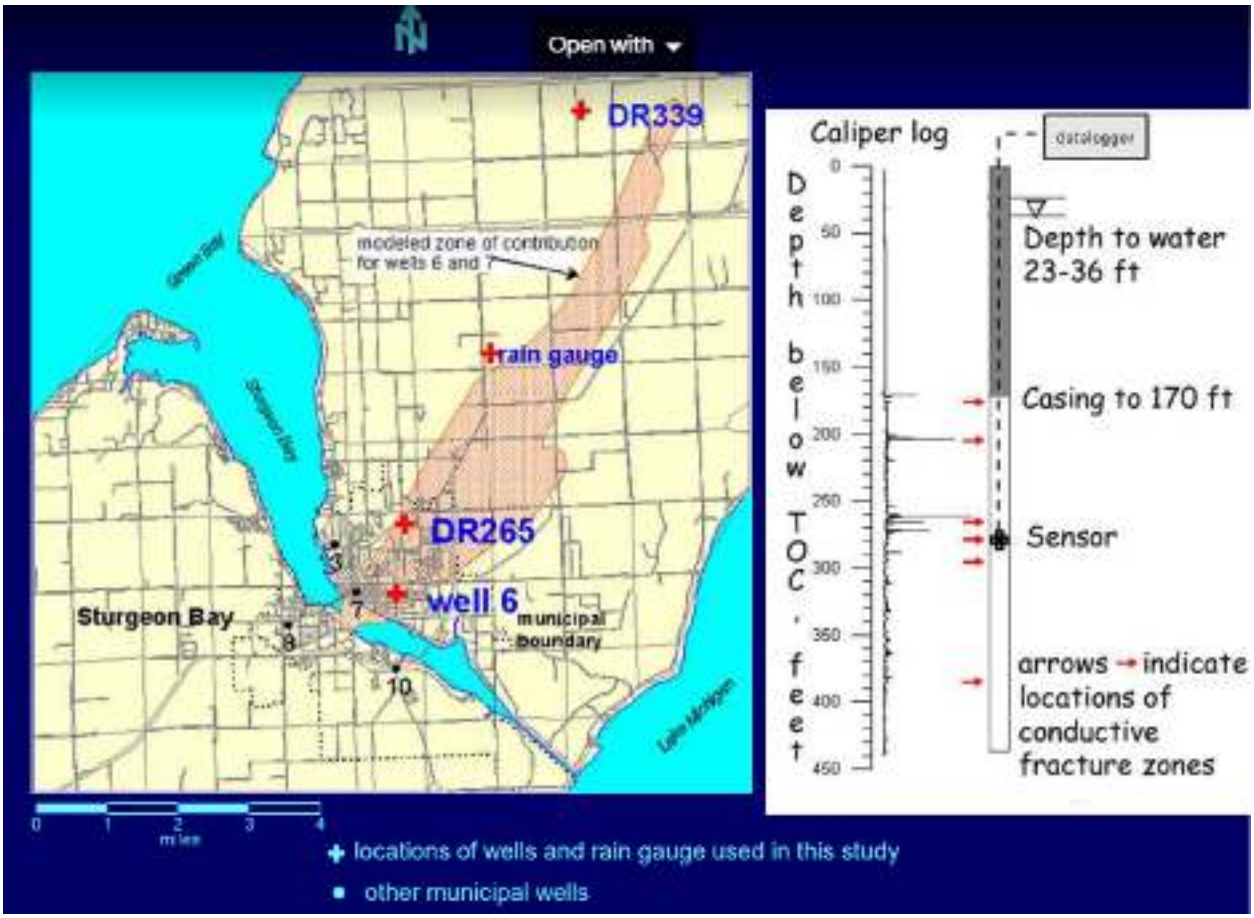
Normally there will be two sets of fractures in an area, which are oriented at nearly 90º to each other. In Door County the two joint sets have azimuths of about 72 and 155 degrees.

Attended a presentation given by Dr. Maureen Muldoon (UW-Oshkosh hydrogeologist) to Door County Environmental Council in September 2008 entitled "Threats to Your Groundwater" at the Crossroads at Big Creek in Sturgeon Bay. She showed one slide from a study for determining the source of contamination in many of the Sturgeon Bay city wells that showed peak rainfall of a storm and the water table response at Well DR265. This site was equipped with continuous (24hour/365 day/3 years) recording rain gauge and well data recorder – water table rose a number of feet (40ft.) in about 15 minutes. Well DR265 is located about 4 miles SE on the Old Stone Quarry

The following diagram was provided to me by Dr. Muldoon. It is not the diagram that she displayed at the Crossroads presentation – she did not have time to run down the slide that I mention above before I had to present on January 14th. This diagram, however, shows a rapid increase in water temperature after a given rain fall; which would be indicative of a sudden rise in the water table with warmer water entering into the system.



Map showing Well DR-265 at Door County Highway Garage relative to the location of the Old Stone Quarry, about 4.5 mile separation. This map was also provided by Dr. Muldoon.



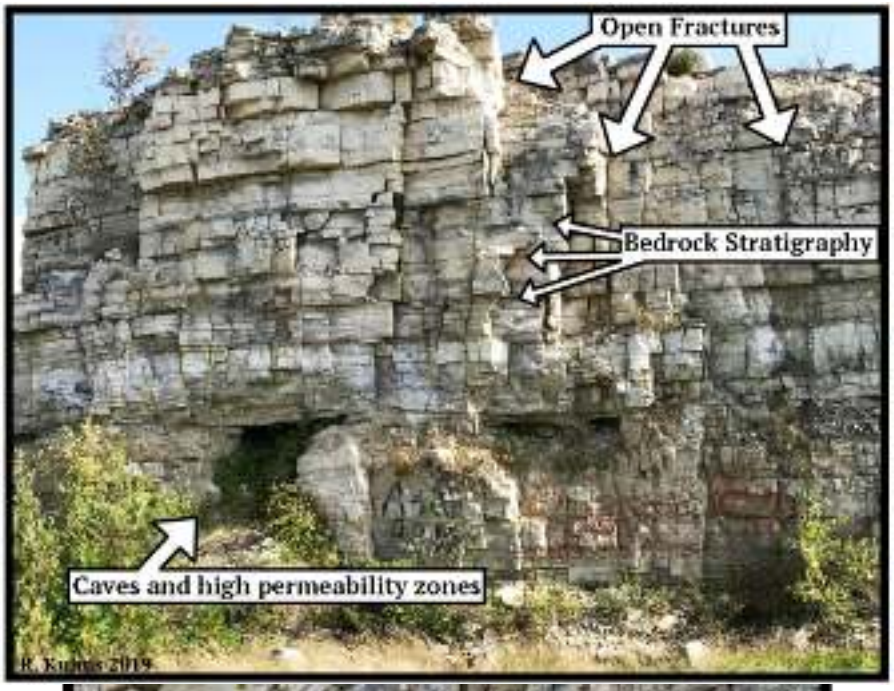
According to Dr. Muldoon, rapid recharge (within 1 to 2 days of precipitation or snow melt event makes areas with thin soil exceedingly vulnerable to contamination from the ground surface

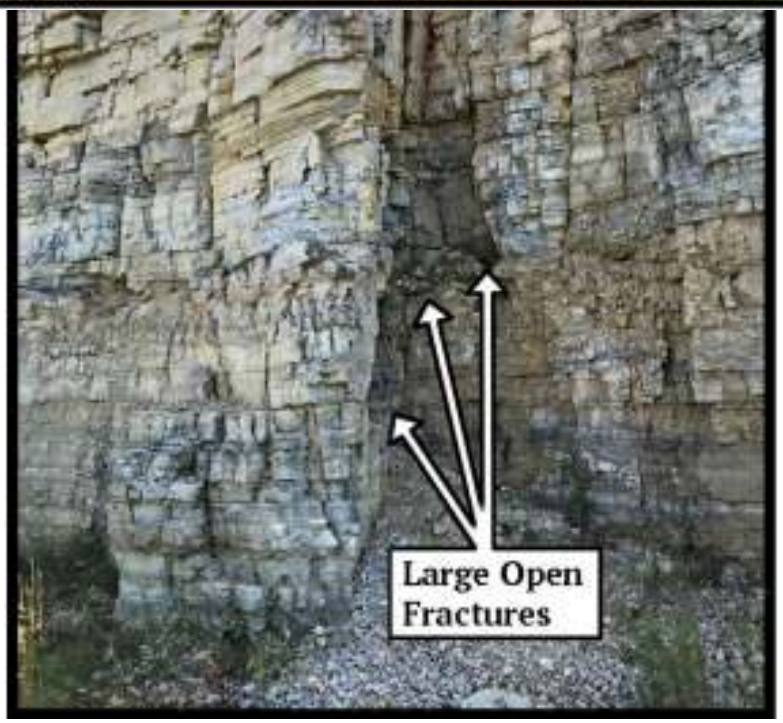
Planned, wrote/edited a Geology Field Trip Guidebook and led the field trip for the Wisconsin Section of the American Institute of Professional Geologist on May 30-31, 2009 dealing with the geology of Brown and Door Counties, Wisconsin.

In the introduction of the guidebook, I point out to participants that joints can easily be detected in hayfields north of Sturgeon Bay during dry summers because the hay is greener over the joints

Dr. Maureen Muldoon wrote and presented the material for the Old Stone Quarry stop for the 2009 field trip. This report has several photographs showing the joint character of the quarry face and hydrologic properties of the rock.

Photographs on pages 7 and 8 of Roger Kuhns's report for this investigation show the joint character and cave openings on the quarry face.



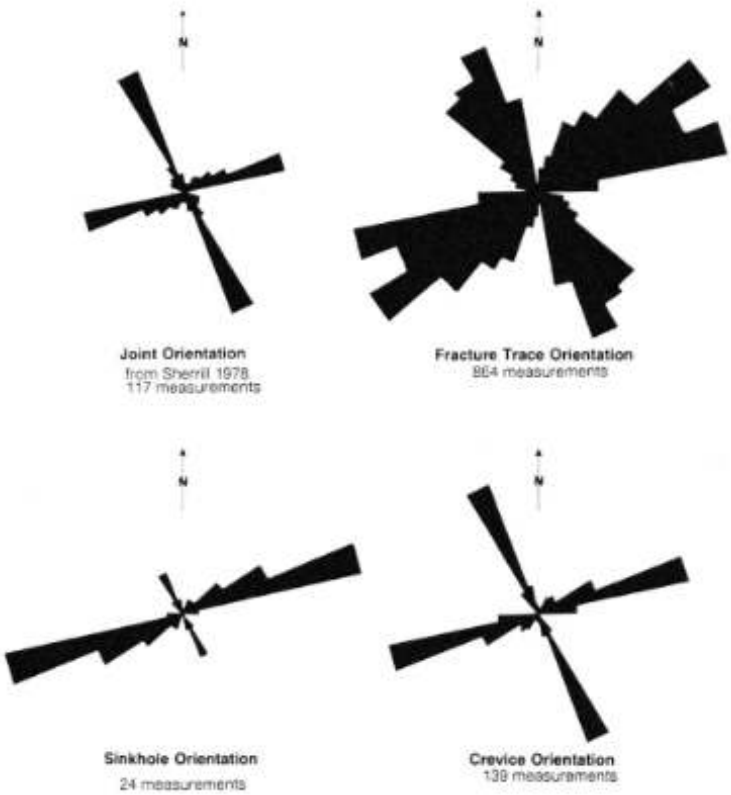


The following is Figure 10 of that report is an aerial photograph showing joints on the Old Stone Quarry floor.

Page 10 of Roger Kuhns's report

The red lines on this aerial photograph show some of the joints and fractures visible on the Old Stone Quarry floor.

The following is a Rose diagram showing joint, fracture, sinkhole, etc. orientation in Door County, Wisconsin (**Source:** Johnson, Scot, 1987, The Karst of Northern Door County: unpublished MS Thesis, University of Wisconsin-Green Bay, page 90, Figure 21.



The two joint sets have azimuths of about 72 and 155 degrees.

The rock is more permeable where the joints intersect.

Blasting for pond with island, other ponds, stream, plus water/sewer lines will cause more fracturing in the bedrock, increasing more chance for groundwater contamination

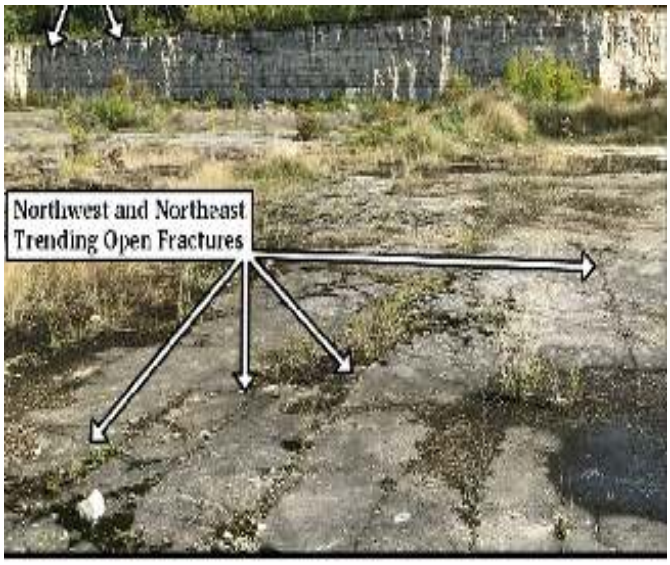
According to the plan that I have read, the water supply for the 117 lots and the several scheduled water features will have to be from a high-capacity well. Pumping on peak days will probably cause a significant cone of depression to form on the water table around the pump – bringing in more chance to transport more contamination to the well from farm lands north and east of the project site

Based on the potential for groundwater and surface water contamination (i.e., waters of Green Bay), I ask you to give very serious considerations about these comments and concerns before approving this project at this location

Thank you.

Fractures on Quarry Identified in Red

Ponding on Quarry from rain



Fractures on Quarry Face

Caves, Talus and Wetland

Solution Sinkhole on West Face

October 11 Runoff on Northwest Face

County of Door
SOIL & WATER CONSERVATION DEPT
County Government Center
421 Nebraska Street
Sturgeon Bay, WI 54235

Phone: (920) 746-2214
Fax: (920) 746-2369
swcd@co.door.wi.us

Memorandum

Attachment 11A-7

To: Jeff Kussow, Zoning Administrator

From: Greg Coulthurst, Conservationist GC

Date: 12/27/2019

Re: Quarry Bluff, LLC Conditional Use Permit – Stormwater Design Plans

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The Door County SWCD received your memo dated 12/19/2019 and the packet of Stormwater Design Plans from Baudhuin Surveying and Engineering dated 12/3/19.

I have reviewed the stormwater plans with the assumption that the Resource Planning Committee (RPC) could potentially require SWCD approval of stormwater plans for the conditional use permit. This site is an abandoned quarry and the SWCD is particularly concerned about impacts to groundwater due to the frequency of fractures and direct conduits to groundwater visible at the bedrock surface. The following concerns and or deficiencies will need to be addressed prior to any type approval from the SWCD:

- Since the surface of this site has numerous conduits to groundwater, please confirm the need for a Rockhole Alternative protection plan. At minimum specific plans are needed to locate and properly protect all direct conduits to groundwater.
- A type A liner is required for the wet detention pond, because the ponds are being blasted into bedrock.
- Two high capacity wells are being proposed for the 117-unit multiple occupancy development with each unit including a permanent cottage. Please confirm with the DNR what type of public water system this will be categorized as. Well setbacks from stormwater systems differ between Community and Non-community water systems.
- The erosion control plans would indicate that grading of the site will be done in one phase, however previous discussions with the engineers indicated that final grades may be established as units are sold. If the later is correct I will need erosion control plans that address individual units and an explanation as to how storm water will be routed and groundwater protected as final grades are established on the entire site.

- The erosion control plans indicate use of silt fence. Since the site is primarily bare rock I will need clarification as to how the silt fence will be installed or if an alternative silt barrier will be utilized.
- I will need clarification on how the Island in pond A will be constructed in respect to how the pond is lined. A cross section indicating this will be needed.

In summary I will need significant clarifications or revisions prior to SWCD Preliminary Approval of the Stormwater Management Design Plans for the Quarry Bluff, LLC development. Final SWCD approval will depend on future RPC conditions.

Please contact me if you have any questions.

Is a New Mine Being Opened

Attachment 11B-1

Key Points:

- **The applicants submitted an application for a Storm Water Management Plan on September 17, 2019 which requires large ponds (10' and 18' deep) and utility trenches to be blasted for surface water drainage.**
- **Applicants claim "all aggregate materials needed for construction will be produced onsite. No aggregate materials will be needed to be imported to the project site."**
- **To produce the required aggregate materials as stipulated by Door County Soil and Water 18" of aggregate with 6" of topsoil is required over much of the proposed project.**
- **By a conservative estimate the developers may need to blast and crush 80,000+ cubic yards or more of limestone for the necessary materials. Blasting for the storm water runoff permit will disrupt approximately 5 acres or 10% of the quarry surface to create retention ponds and utility trenches.**
- **By reopening the quarry for to excavate drainage and ponding while creating aggregate for storm water runoff, it creates a new non-metallic mine.**
- **Per Bruce Moore of the Non-metallic Mining Advisory committee, "A 'Notice of Intent' is used in non-metallic mining permitting and is essentially the application for the State non-metallic mining permit. Crushing of aggregate is generally associated with a mining operation. Note: A landowner is required to apply to both the county and state when proposing quarry work."**
- **By opening a new non-metallic mine without a permit, the applicant would be in non-compliance with the Door County Comprehensive Plan 4.05 Particular Use Ordinance regarding Non-metallic Mining.**
- **The parcel is zoned RC and would not meet Door County Land Use Ordinance requirements;**
- **By opening a new non-metallic mine without a permit, the applicant would be in non-compliance with Wisconsin Statute 295;**
- **By opening a new non-metallic mine without a permit, the applicant would be in non-compliance with Federal Requirements. "No person may operate a mine, pit or quarry unless the person complies with Title 30".**
  https://docs.legis.wisconsin.gov/statutes/statutes/295
- **The applicant would need to comply with the mine safety guidelines of the Department of Safety and Professional Services.**
  https://dsps.wi.gov/Documents/Programs/MineSafety/CodeArchives/2011SPS308MinesPitsQuarries.pdf

Quarry RV Village and Door County Soil and Water Meeting
Notes from December 18, 2019

Attachment 11B-2

Attendees: Greg Coulthurst, Erin Hanson, Keith Mutchler, Dan Mathein, Jim Schultz, Sherry Mutchler

1. Overview of Actions to Date by BSPOA and Neighborhood Action Group.
    - History – Sherry summarized BSPOA and Neighborhood Action group actions to date. Jim Schultz shared a copy of the Legal Brief sent to Grant Thomas – Door County Corporate Attorney; Jeff Kussow and Mariah Goode – Door County Land Use Services (DCLUS) , Margaret Dreutzer – Margaret Dreutzer – owner; Tom Goelz and Mike Parent – Developers.
    - Summary of Response to CUP – Keith summarized meetings with DNR Storm Water Runoff staff, Joseph Baeten and Amy Minsneron November 15, 2019 attended by Jim Mitsche, Dan Mathien and himself with Joseph Baeten and Amy Minsner
    - Other Resources: Sherry Provided photographs of karst taken in the quarry of ponding, fracturing, and other karst characteristics. A copy of Roger Kuhns Memo, a report on his observations of the RV project as it related to karst; Ken Bradbury and Mike Grimm emails were shared. Sherry mentioned that a BSPOA Board member had spoken with Ken Bradbury regarding speaking at future mentions and provided Erin and Greg with a copy of Ken Bradbury and Mike Grimm emails and indicated that Ken Bradbury could be called for testimonials.

2. Role of Door County Soil and Water Department in CUP process: DCSW role in relationship to the CUP process is to review all documents and reports to determine if plans meet Storm Water Runoff regulations and guidelines. They will look at written documents to determine if it is complete and if there are discrepancies between plan and DC Soil and Water requirements for development. As of the meeting, Greg had not seen a written copy of the Storm Water Runoff plan.

    The role of DCSW is Storm Water Runoff. They are not responsible for Well and Sanitary Permits. Is it Department of Health and Safety? Greg indicated he would check and sent a contact for John Teichtler , the Senior Sanitarian: 746-2218, JTeichtler@co.door.wi.us via email. Greg discussed the DC Soil and Water Storm Water Runoff requirements including number of inches of fill required, assessment and measurement of cracks (2" or greater) and fissures to determine which need to be filled, fabric mesh liner required on top of cracks, Greg indicated in response to a questions that crushed stone from blasting would not be adequate for the coverage required of the cracks to create a Storm Water Runoff Plan. DCSW would recommend that a plan showing a fully-graded site be submitted prior to approval by RPC. DNR would review the storm water runoff routing to the ponds. Curb and Gutter around roads? 18" sub soil is required.

    DCSW will also look at impervious surfaces, roof run-off, road surfaces, etc. when determining Storm Water Runoff plan requirements. Considerations for reclaiming a hard rock quarry would also require sub-soil of sand and loam. This soil structure is not discussed in the CUP.

3. Concerns from Conditional Use Permit (CUP) Application
    - Application p.1, #8 Rockholes and Karst – Conditional Use Permit indicates that there are "No Rockholes". On the CUP, a rockhole is defined as "any depression or opening in the ground surface through which gathered surface water enters bedrock and eventually joins groundwater." A report by Roger Kuhns on the karst surface at the quarry, an email by Ken Bradbury and an email by Mike Grimm were shared with DCSW.

    - Item #5 Potable Water Supply and Wells
        - Well Permit Questions: Committee is waiting for an update by the developers on the storm water permit. Joseph Baeten, DNR, indicated that the application had been updated and it would be posted on the DNR Permit site in the next few weeks
        - Discrepancy between CUP Application and DNR Storm Water Application

As of the meeting, the DNR Storm Water Permit was still pending. There had been no updates since it was filed on September 17. Greg mentioned that typically there is a preliminary permit discussion regarding the DCSW requirements with developers prior to the CUP. The DNR and DCSW met with the developers at the quarry but DCSW had not had any written.

- Groundwater Contamination Susceptibility" When considering the Storm Water Runoff Plan, would consideration be given to the 4' trenches for utilities like well, septic and gas? Keith mentioned that there is a trench projected around the perimeter of the development for utilities that would create issue for storm water prohibited going through to ground water through the trenches. Sherry mentioned Berms in the CUP for noise control which would effectively redirect storm water post construction. Given that impermeable surfaces is key to Storm Water Runoff, a calculation of total impermeable surfaces is important.
- Runoff: At the North end of the quarry (where pickle ball courts and pool are located, there is a waterfall that runs over the face of the lower quarry wall to the parking lot at Pinney Park (photo shared with DCSW) following heavy rains. What is in the Storm Water Plan to eliminate runoff and erosion from that location?

4. Wisconsin DNR and Door County Soil and Water Storm Water Permits and Plans
    - DNR Permit Application – "This project is exempt from infiltration requirements within the quarry due to bedrock at ground surface." Greg mentioned that they look at plans to determine exemptions and also for items that are "prohibited".
    - In CUP – "Project meets both Door County and DNR Storm Water Runoff Requirements" Greg and Erin met with developers and staff from DNR on the quarry to look at the project. Since then, Greg and Erin have not seen Storm Water plans in writing or updated plans at the DNR.
    - Have the developers had contact with the DCSW? Developers have not had preliminary discussions about the permit? Greg indicated he had not seen anything in writing. DNR Proposal has now eliminated Dry Detention Ponds. What does that mean for Storm Waste? Committee will continue to monitor for updates to permit at DNR.
      (not submitted as of 12.25.2019)
    - Total Site Storm Water Plan: Checkerboard Effect. Developers plan to sell lots and have owners bring in own topsoil prior to development. This checkerboard effect could have a negative effect on storm water runoff. Greg does not support a storm water runoff

5. Erin summarized key points of the discussion for follow-up.
    - An Accurate Review of the Total Site, including Post Construction Maps of roads, RV pads, houses, houses, berms, etc. would be important to a Storm Water Plan.
    - The inconsistencies with the wells between maps are a concern.
    - Rockholes need to be addressed before contruction commences.
    - Who has the responsibility to look at the blasting and storm water plans for the utility trenches that are in the map in the CUP.

10:48 AM (4 hours ago)

Attachment 11B-3

Bruce Moore
to Roberta, me
1/26/20

Dear Ms. Mutchler,

Thank you for your follow-up email of today. I did not see your 12/24/19 email earlier, and apologize for this belated response. Per your request, I will attempt to respond to your questions concerning the subject development project.

FYI. Prior to my retirement from WiDNR in 2017, I worked in the stormwater program concerning non-metallic mines and construction sites. My area of coverage did not include Door County, however.

I share your sense of caution concerning land development projects where karst geology may be involved. I do not know whether karst formations occur in the area of the proposed project. Given that the site was previously an active quarry, there should be information available to answer the question.

Now to your questions (shown here in italics):

1. ***Since the developers estimate commencing with blasting and crushing stone in 2020 for up to eight months if the CUP is approved, doesn't this effectively mean that they are beginning a new Non-Metallic Mine? Wouldn't there be a permit required to reopen the quarrying activity of Leathem Smith Quarry, even if it is for construction purposes? To my knowledge, no permits have been requested. Nor have the developers complied with WI 308.15 or USC 811, 957 it 961 under Title 30.***
   I recommend that you contact the WiDNR stormwater staff person assigned to Door County concerning non-metallic mining projects. According to their staff directory, that would be Sara Anderson (920) 662-5441 Sarah.Anderson@wisconsin.gov.

2. ***If, under Federal and state statutes this is a new non-metallic mine site, wouldn't the developers have to file a Reclamation plan?***
   Unless policy has changed, a site-specific reclamation plan would be required. This is administered by the counties, and mandated by the State. Typically, the County zoning office is the contact agency.

3. ***Aren't there other permits required to commence blasting and crushing? Under Act 250, doesn't aggregate crushing of this magnitude require a permit?***
   A project of this type would certainly trigger a State construction site stormwater permit. Regarding a contact for construction sites in Door County, WiDNR's directory lists several individuals https://dnr.wi.gov/staffdir/_newsearch/contactsearchext.aspx?exp=Storm+Water+Construction+Site+Permitting+and+Compliance&exptype=e&DORCountyServed=15

   There may be the potential for the project necessitating a non-metallic mining permit as well as an air permit. You will need to confer with your county and state regulators to sort this out.

   As you have described the proposed project, it sounds as if the focus has shifted with a change in land use. That is, a quarry operation in an area zoned ag or industrial has given way to a planned new residential development, with rezoning to residential. You will want to discuss with the WiDNR stormwater staff person whether the proposed blasting & crushing of aggregate would be considered

preparatory earthwork covered under a construction site stormwater permit, or would also necessitate a non-metallic mining permit.

4. *Aren't developers required to file a "Notice of Intent to Quarry" if they are blasting and crushing limestone for most uses? How is this regulated?*
The language, "Notice of Intent" is used in non-metallic mining permitting, and is essentially the application for the State non-metallic mining permit. Crushing of aggregate is generally associated with a mining operation. Note: A landowner is required to apply to both the county and state when proposing quarry work.

5. Once the blasting and crushing begins, a significant amount of crystalline silica dust will be created. A West wind would effectively blow harmful dust into the homes(and lungs) of residents surrounding the quarry . An East wind would blow this fugitive dust to the waters of Green Bay. Would an Air Permit under NR 216 be required prior to blasting and crushing? Who monitors whether the developers are in compliance? Are there environmental protections for residents on the area? How can we request them?
Confer with one of the WiDNR stormwater staff on these questions.

6. Would a Discharge Elimination System Permit be required for storm water diverted to the waters of Green Bay as proposed in the CUP?
A stormwater permit is one type of WPDES permit. Under this permit, the developer would be required, through a project-specific, long-term stormwater management plan, to treat stormwater runoff from the site before being released to Green Bay waters.

7. Is a Fugitive Dust Management Plan required prior to blasting and crushing? There is nothing in the CUP to address the health and safety of Door County residents from the blasting, crushing and construction.
Confer with State storm water and County regulators for guidance.

8. This significant amount of blasting and crushing could cause damage to the stability the homes and wells of the properties that surround it. The potential for property damage and ground water contamination is significant due to the zero depth to bedrock on the entire 57 acres.
It would seem reasonable that the developer would clarify what measures would be taken to safeguard against these vulnerabilities. The regulators should be able to explain how said measures meet up to what is required under current laws, and satisfy applicable permitting requirements. Concerned citizens need to be ready to argue the validity of their concerns, so as to avoid the impression that NIMBY is the driving issue (i.e., "Not In My Back Yard"). For example, if the quality of any nearby drinking water wells had become degraded during the time of earlier quarrying activity, such information may be compelling.

Finally, it would be well not to presume that regulators at local and state levels are fully apprised of any proposed project. Successive budget cuts and the inability to fill vacancies have left governmental agencies scrambling to cover their assigned areas comprehensively, despite marked reductions in program resources. There is no free lunch! I would, therefore, encourage you to continue to be in contact with the regulators in your area as deliberations on this project proceeds.

Regards,

Bruce Moore
Retired prof. engineer
Member, Wisconsin Non-Metallic Mining Advisory Committee

cc: R. Walls – NMAC Coordinator

• Attachment 11B-4

DOOR COUNTY
SOIL & WATER CONSERVATION DEPARTMENT
PROCEDURE POLICY

Urban Storm Water Runoff Control Design Criteria
Construction Site Erosion Control and
Post Construction Storm Water

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DOOR COUNTY SOIL & WATER CONSERVATION DEPARTMENT
PROCEDURE POLICY

Urban Storm Water Runoff Control Design Criteria

I. INTRODUCTION

The Storm Water Runoff Control Design Criteria Procedure Policy establishes the minimum criteria for urban storm water runoff control plans prepared by, or reviewed by, the Door County SWCD. The policy considers runoff quantity, quality, infiltration, and protective areas in the preparation of storm water runoff control plans and the design of detention and retention basins. The availability and/or adequacy of the downstream drainage system and outlet are also considered in the design. The policy meets the requirements of NR 151, Subchapter III- Non-agricultural Performance Standards. Also, criteria is included to deal with the special runoff conditions encountered in the high bedrock, karst areas found in Door County.

II. DEFINITIONS

1. "Infiltration" has two meanings depending on where it is used in the document. Generally it has the generic meaning of water running down through the soil to the ground water. In Door County this includes infiltration into the creviced limestone bedrock.

   In the procedure section entitled "V.3. Infiltration" the meaning is more limited. This section sets forth criteria from NR 151 which specifies design procedures and limits for infiltration practices such as “Infiltration Basin” and “Bioretention for Infiltration”. The practices standards for these practices are shown on the DNR website under Stormwater.

2. “Average annual rainfall” means a calendar year of precipitation, excluding snow, which is considered typical. For purposes of using the SLAMM model, average annual rainfall means measured precipitation in Green Bay, Wisconsin between March 29 and November 25, 1969. For the use of the P8 model the average rainfall is October 1, 1968 to September 30, 1969 for Green Bay. (If DNR specified different rainfall dates for the model, use the DNR specified dates.)

3. “Best management practice” or “BMP” means structural or non-structural measures, practices, techniques or devices employed to avoid or minimize sediment or pollutants carried in runoff to waters of the state.

4. “Connected imperviousness” means an impervious surface that is directly connected to a separate storm sewer or water of the state via an impervious flow path.

5. “Construction site” means an area upon which one or more land disturbing construction activities occur, including areas that are part of a larger

common plan of development or sale where multiple separate and distinct land disturbing construction activities may be taking place at different times on different schedules but under one plan. A larger common plan of development includes, but is not limited to, subdivision plats, certified survey maps, and other developments.

6. "Design storm" means a hypothetical discrete rainstorm characterized by a specific duration, temporal distribution, rainfall intensity, return frequency, and total depth of rainfall. The TR-55, Type II, 24-hour design storms are: 1-year, [2.4] inches; 2-year, [2.4] inches; 5-year, [3.1] inches; 10-year, [3.6] inches; 25-year, [4.1] inches; 50-years [4.6] inches; and 100 –year, [4.9] inches.

7. "Development" means residential, commercial, industrial, institutional, or open space land uses and associated roads.

8. "Effective infiltration area" means the area of the infiltration system that is used to infiltrate runoff and does not include the area used for site access, berms or pretreatment. This definition refers to infiltration practices.

9. "Exceptional resource waters" means waters listed in s.NR 102.11, Wis. Adm. Code.

10. "Impervious surface" means an area that releases as runoff all or a large portion of the precipitation that falls on it, except for frozen soil. Rooftops, sidewalks, driveways, parking lots and streets are examples of areas that typically are impervious. Gravel driveway surfaces are considered impervious, unless specifically designed to encourage infiltration.

11. "Infiltration" means the entry of precipitation or runoff into or through the soil.

12. "Infiltration system" means a device or practice such as a basin, trench, rain garden or swale designed specifically to encourage infiltration, but does not include natural infiltration in pervious surfaces such as lawns, redirecting of rooftop downspouts onto lawns or minimal infiltration from practices, such as swales or road side channels designed for conveyance and pollutant removal only.

13. "Karst feature" means an area or surficial geologic feature subject to bedrock dissolution so that it is likely to provide a conduit to groundwater, and may include caves, enlarged fractures, mine features, exposed bedrock surfaces, sinkholes, springs, seeps or swallets.

14. "Land disturbing construction activity" (or "disturbance") means any man-made alteration of the land surface resulting in a change in the topography or existing vegetative or non-vegetative soil cover, that may result in runoff and lead to an increase in soil erosion and movement of sediment into waters of the state. Land disturbing construction activity includes clearing and grubbing, demolition, excavating, pit trench dewatering, filling and grading activities, and soil stockpiling.

15. "Maintenance agreement" means a legal document that provides for long-term maintenance of storm water management and best management practices.

16. "MEP" or "maximum extent practicable" means a level of implementing best management practices in order to achieve a performance standard specified in this ordinance which takes into account the best available technology, cost effectiveness and other competing issues such as human safety and welfare, endangered and threatened resources, historic properties and geographic features. MEP allows flexibility in the way to meet the performance standards and may vary based on the performance standard and site conditions.

17. "Off-site" means located outside the property boundary described in the permit application.

18. "Ordinary high-water mark" has the meaning given in s. NR 115.03(6), Wis. Adm. Code.

19. "Outstanding resource waters" means waters listed in s. NR 102.10, Wis. Adm. Code.

20. "Percent fines" means the percentage of a given sample of soil, which passes through a # 200 sieve.

    Note to Users: Percent fines can be determined using the "American Society for Testing and Materials", volume 04.02, "Test Method C117-95 Standard Test Method for Materials Finer than 75-um (No. 200) Sieve in Material Aggregates by Washing". Copies can be obtained by contacting the American society for testing and materials, 100 Barr Harbor Drive, Conshohocken, PA 19428-2959, or phone 610-832-9585, or on line at: "http://www.astm.org/".

21. "Performance standard" means a narrative or measurable number specifying the minimum acceptable outcome for a facility or practice.

22. "Pervious surface" means an area that releases as runoff a small portion of the precipitation that falls on it. Lawns, gardens, parks, forests or other similar vegetated areas are examples of surfaces that typically are pervious.

23. "Pollutant" has the meaning given in s. 283.01(13), Wis. Stats.

24. "Pollution" has the meaning given in s. 281.01(10), Wis. Stats.

25. "Post-development" means the extent and distribution of land cover types present after the completion of land disturbing construction activity and final site stabilization.

26. "Pre-development" means the extent and distribution of land cover types present before the initiation of land disturbing construction activity,

assuming that all land uses prior to development activity are managed in an environmentally sound manner.

27. “Routine maintenance” means that portion of a post-construction site where pre-development impervious surfaces are being maintained to preserve the original line and grade, hydraulic capacity, drainage pattern, configuration, or purpose of the facility. Remodeling of buildings and resurfacing of parking lots, streets, driveways, and sidewalks are examples of routine maintenance, provided the lower ½ of the impervious surface’s granular base is not disturbed. The disturbance shall be classified as redevelopment if the lower ½ of the granular base associated with the pre-development impervious surface is disturbed or if the soil located beneath the impervious surface is exposed. For purposes of this ordinance, a post-construction site is classified as new development, redevelopment, routine maintenance, or some combination of these three classifications as appropriate.

28. “Runoff” means storm water or precipitation including rain, snow or ice melt or similar water that moves on the land surface via sheet or channelized flow.

29. “Site” means the entire area included in the legal description of the land on which the land disturbing construction activity occurred.

30. “Storm water management plan” means a comprehensive plan designed to reduce the discharge of pollutants from storm water after the site has under gone final stabilization following completion of the construction activity.

31. “Technical standard” means a document that specifies design, predicted performance and operation and maintenance specifications for a material, device or method.

32. “Top of the channel” means an edge, or point on the landscape, landward from the ordinary high-water mark of a surface water of the state, where the slope of the land begins to be less than 12% continually for at least 50 feet. If the slope of the land is 12% or less continually for the initial 50 feet, landward from the ordinary high-water mark, the top of the channel is the ordinary high-water mark.

33. “TR-55” means the United States Department of Agriculture, Natural Resources Conservation Service (previously Soil Conservation Service), Urban Hydrology for Small Watersheds, Second Edition, Technical Release 55, June 1986.

34. “Type II distribution” means a rainfall type curve as established in the “United States Department of Agriculture, Soil Conservation Service, Technical Paper 149, published 1973”. The Type II curve is applicable to all of Wisconsin and represents the most intense storm pattern.

35. “Waters of the state” has the meaning given in s. 281.01(18), Wis. Stats.

III. GENERAL DESIGN REQUIREMENTS

1. A narrative shall be prepared for each development site discussing the conditions at the site and explaining how they will be managed in the proposed plan to adequately address the resource needs. Take particular care to set forth and discuss any unique site conditions and off-site impacts as set forth in items 2 and 3 below. State the impacts and what will be done about them.

2. The stormwater runoff control plan prepared in compliance with this procedure policy shall consider and design for conditions unique to the site. Unique site conditions may include, but are not limited to: steep slopes, active and apparent Karst features, high water table, limited downstream drainage system, no offsite drainage, previously altered conditions, shallow soils, and smaller sites with limited available space. The design criteria for such unique site conditions, and other innovative design proposals, shall be agreed upon by the designer and the governing municipality and the SWCD before the design and plan are completed.

3. All stormwater runoff control plans shall consider and design for the impacts of the development and stormwater practices to the channels and land drainage downstream. The proposed plan shall include practices to avoid downstream impacts or easements and/or permission to accommodate/permit the offsite impacts. Impacts can include:
    - Increased peak flows
    - Increased volume of runoff
    - Changes to downstream channel characteristics such as changing from dry channels to wet channels
    - Outlets sending water to new locations
    - Changes in outflow from sheet flow to concentrated flow
    - Discharges to closed depressions
    - Outleting water to different watersheds

4. All stormwater runoff control plans shall consider and design for the safety of the public. Safety shelves are required in all wet basins.

5. Sites which have an outlet without peak flow discharge limitations (i.e. some lake front sites) need not address peak flow reduction requirements. Water quality, infiltration, and protective area criteria still apply. (Note: Other regulatory agencies/units of government may still require peak flow reduction requirements and it is advised that the plan preparer confirm the status of this requirement.)

6. The design of stormwater runoff control plan facilities shall be adequately sized for the contributing drainage area. The designer may opt to include the offsite drainage area in the plan facilities or to safely divert or route the offsite drainage flow around the plan facilities. All land draining to the parcel being developed must be included in the design and analyzed using pre-settlement RCNs.

7. Erosion Control Plan- Proposed stormwater plans shall include a construction site erosion control plan using best management practices designed according to the standards and specifications shown on the DNR website.

http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm#Construction

8. No aggressive non-native plants are to be included in the erosion control or permanent planting specifications.

IV. TECHNICAL STANDARDS

1. CONSTRUCTION SITE EROSION CONTROL

(1) DESIGN CRITERIA, STANDARDS AND SPECIFICATIONS. Except where noted otherwise all BMP's required to comply with this Policy shall meet the design criteria, standards and specifications shown on the DNR website:

http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm#Construction

(2) OTHER STANDARDS. Other technical standards not identified or developed in sub. (1). may be used provided that the methods have been approved by the SWCD.

2. STORMWATER (Post Construction)

Except where noted otherwise the following methods shall be used in designing and maintaining the water quality, peak discharge, infiltration, and protective area components of storm water practices.

(1) Technical standards identified, developed or disseminated by the Wisconsin Department of Natural Resources under subchapter V of chapter NR 151, Wis. Adm. Code. They are located at:

http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm#Construction

(2) Where technical standards have not been identified or developed by the Wisconsin Department of Natural Resources, other technical standards may be used provided that the methods have been approved by the Door County SWCD.

(3) In this Policy, the following year and location has been selected as average annual rainfall for SLAMM: Green Bay, 1969 (Mar. 29-Nov. 25). For P8 use October 1, 1968 to September 30, 1969.

V. PERFORMANCE STANDARDS

Performance standards include water quality, quantity, infiltration, and protective areas. A narrative is required explaining how each performance standard is being met. The narrative shall include explanations of why particular practices have been chosen.

1. QUALITY

In order to help reduce the adverse impacts of the development on water quality, water will be released slowly and onto vegetation rather than onto pavement or into pipes. Water quality concerns include both surface runoff and infiltration. Design for water quality benefits by using these procedures:

(1) Follow the Treatment Train

THE
"TREATMENT TRAIN"

SOURCE CONTROLS ↓ MINIMIZE DIRECTLY CONNECTED IMPERVIOUS AREA SWALES FILTER STRIPS INFILTRATION TRENCHES ↓	LOT CONTROLS
SWALES INFILTRATION BASINS WETLANDS DETENTION PONDS ↓	SITE CONTROLS
DETENTION BASINS	REGIONAL CONTROLS

(2) Have runoff water flow through vegetation.

(3) Minimize the directly connected impervious areas. For instance, direct roof runoff, parking lot runoff and roadway runoff across vegetated areas rather than onto driveways or into pipes.

(4) Preserve natural drainage ways, wetlands, and natural infiltration areas, provided water drainage to these areas is not a threat to surface or groundwater quality.

(5) <u>TOTAL SUSPENDED SOLIDS</u>. BMP's shall be designed, installed and maintained to control total suspended solids carried in runoff from the post-construction site as follows. The total suspended solids reduction shall be based on the average annual rainfall, as compared to no runoff management controls.

a. The following is required:
   (i) Reduce the total suspended solids load by 80%
   (ii) For post-construction sites with less than 1 acre of disturbance or other projects as approved by the SWCD, the 80% suspended solids requirement may be waived by the SWCD based on site conditions. However a Plan utilizing appropriate BMP's which adequately protect water quality is required.

(6) Wet and Dry Detention basins:

Design wet detention basins according to the DNR standard, Wet Detention Basin, (1001), SLAMM, or P8.

Wet pools are more effective for pollutant removal than dry pools. Detention basins shall have wet pools where possible. Dry detention basins shall only be used as part of a water quality control system designed using SLAMM or P8. The dry detention basin must have the same extended detention storage as wet detention basins. The pool depth for wetland type basins may be less than 3 feet if approved by the Door Co. SWCD.

Design of Detention Basins:

The bottom of the detention basin shall be 3' or more above bedrock if soils have a minimum of 20% fines (>200 sieve). For coarser soils or lesser separation distances an approved liner is required. Also, if the basin is to be blasted into the bedrock, the blasting must be approved by the SWCD, and an approved liner will be required. Where liners are designed, a liner placement plan is required.

Volume for sediment storage shall be included; 100 cubic feet per acre per ten years or comparable approved alternative.

The shape of non-industrial site detention basins shall be designed to appear as natural water bodies to the extent practicable. Nonlinear undulating perimeters without extensive use of straight sections and square corners is required.

Side-slopes of non-industrial site detention basins shall be vegetative except in areas of erosion concern.

Water fountains and re-circulating systems shall not be installed unless it can be demonstrated that the water quality benefits and function of the detention basin are not compromised.

Operation and Maintenance Chemicals shall not be added to the basins unless it can be demonstrated that the water quality benefits and function of the detention basin are not compromised.

Figure 1: Conceptual Wet Detention Basin
(Not to Scale)

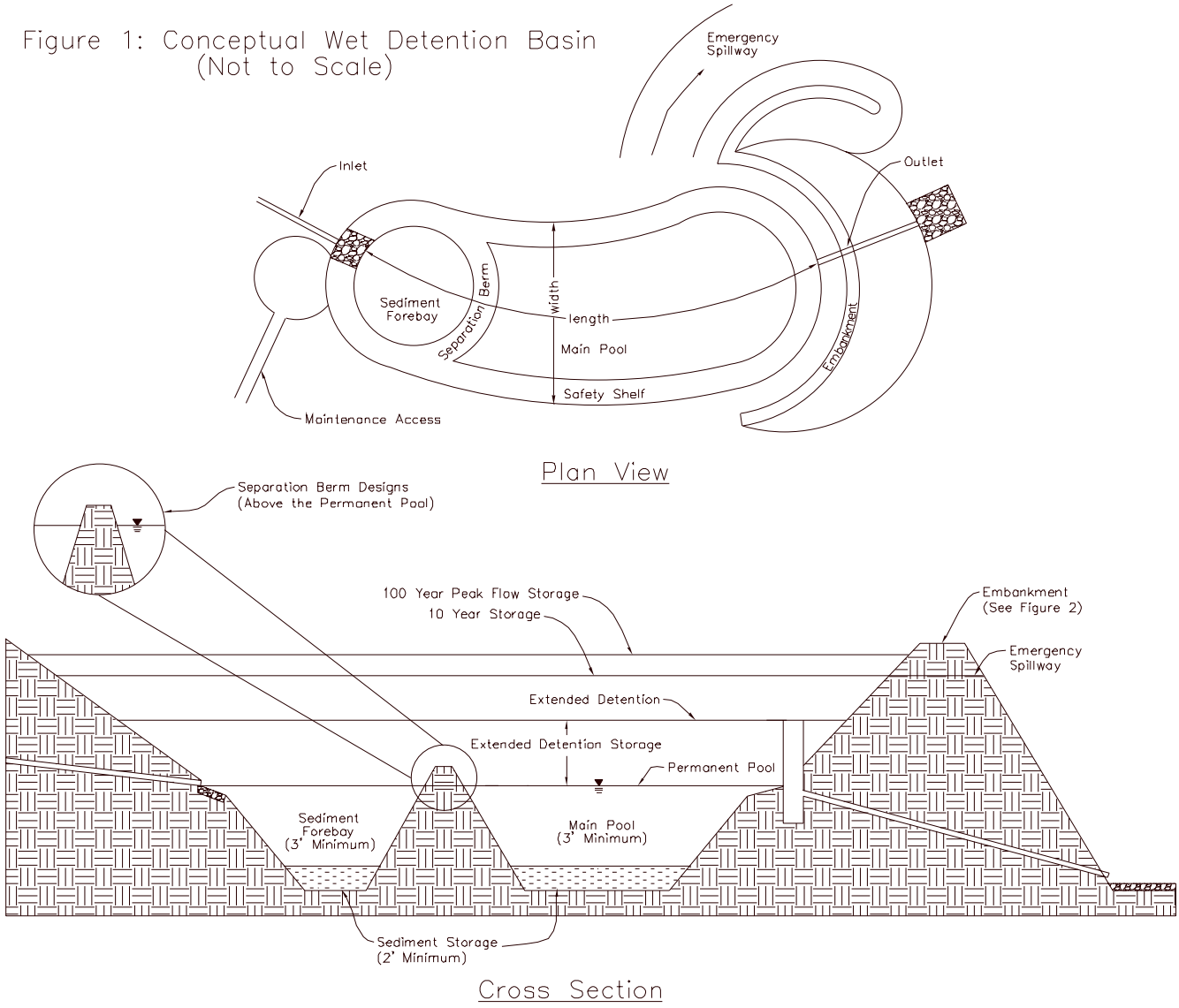
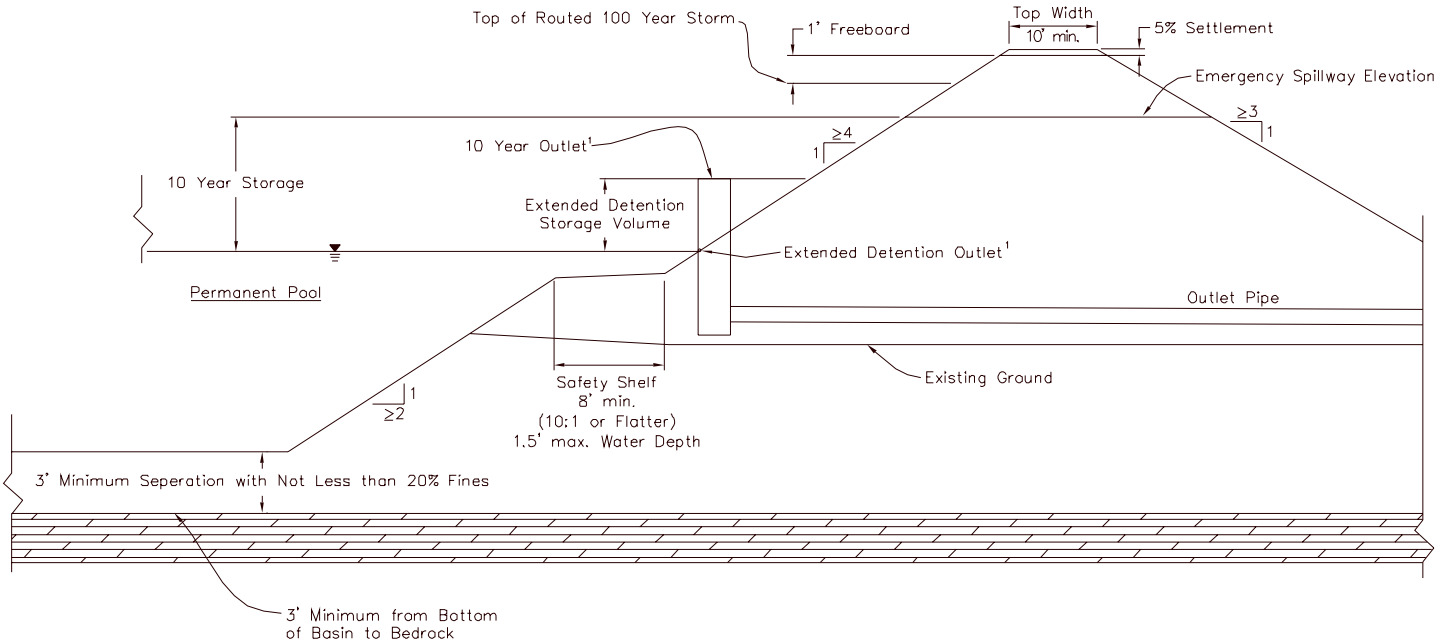


Figure 2: Typical Embankment Cross Section for Wet Detention Basin (Not to Scale)



1. These are conceptual outlet locations to indicate the need to have different outlets for different purposes. Numerous outlet designs will meet the criteria of the standard.

(7) <u>Groundwater Protection</u> – All infiltration and biofiltration practices shall have a minimum separation of three feet between bedrock and/or watertable and the bottom of the designed practice. The soil in the 3' separation must have at least 20% fines. If the 3' separation is achieved by blasting or rock cutting, special designs will be required to protect the groundwater quality. All practices within five feet of bedrock will be discussed and reviewed with the SWCD before being submitted as part of a design and stormwater plan.

Constructed stormwater BMP's shall not discharge directly into natural or man made bedrock openings or inflow points.

In areas of shallow soils, less than 2 feet above bedrock, the area around buildings shall have 18" of soil with 6" of topsoil for a distance of 30 feet from the building. Driveways, parking areas, roads and similar structures shall have 18" of soil with 6" of top soil for a distance of 10 feet from the downstream edge. Parking lots and similar structures shall have 2 feet of soil above bedrock for a distance of 30 feet from their downstream edge. The soil shall have a minimum of 20% fines.

In areas of shallow soil, less than 2 feet above bedrock, and where a hummocky surface indicates downward movement of rainfall into the bedrock, the surface soil and infiltration shall be maintained unless

approved by the Door Co. SWCD. This is not required if the runoff is considered a pollutant to groundwater.

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2. QUANTITY

Peak Flow Controls where a surface outlet exists

If an outlet exists, peak outflow control is required. Volume control is not. The goal is to have the runoff peak outflow after development be no larger than the pre-settlement peak outflow. Reduction of the post development runoff peaks will generally be done by maintaining large amounts of vegetation, maintaining or increasing infiltration, and by practices such as detention basins, bioretention for infiltration, and infiltration basins.

(1) The following is required:

a. The peak post-development discharge rate shall not exceed the peak pre-development discharge rate for the 2-year, 10-year, and 100-year, 24-hour design storms.

b. TR-55 methodology shall be used for peak discharge calculations, unless the administering authority approves an equivalent methodology. The meaning of “hydrologic soil group” and “runoff curve number” are as determined in TR-55. Peak pre-development discharge rates shall be determined using the following “meadow” runoff curve numbers:

Maximum Pre-Development Runoff Curve Numbers – Meadow*				
Hydrologic Soil Group	**A**	**B**	**C**	**D**
Runoff Curve Number	**30**	**58**	**71**	**78**

*The aggregate minimum RCN for the total drainage area is 60 due to frozen conditions during spring runoff.

These curve numbers apply to the property being developed and other land draining onto it.

(2) For sites with less than one acre of disturbance the peak post-development discharge rate standard in (1) above may be waived by the SWCD based on site conditions. However a Plan utilizing appropriate BMP’s which adequately protect from adverse impacts from runoff quantity and flow is required.

(3) An adequate outfall shall be provided for each point of concentrated discharge from the post-construction site. An adequate outfall consists of the following:

a. Non-erosive discharge velocity for the 10-year, 24-hour design storm.
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b. Flow capacity to convey the 10-year, 24-hour design storm.
c. Safely pass the [100]-year, 24-hour design storm.

(4) The storm duration shall be 24 hours. Twenty-four hour rainfall amounts are:

Frequency, years	Rainfall, inches
2	2.4
5	3.1
10	3.6
25	4.1
50	4.6
100	4.9

(5) Peak rates of flow, runoff volumes, and detention basin designs shall be done according to methods in the USDA Technical Release No. 55, Urban Hydrology for Small Watersheds, commonly known as TR 55 and in DNR practice standard 1001, Wet Detention Basin. The models SLAMM and P8 may also be used for design.

(6) The hydrologic group for Namur, Summerville, Longrie, Bonduel, Duel variant, and Kolberg is B rather than C or D unless there is obvious evidence of ponding on the bedrock at the site. In most cases the creviced dolomite acts as a drain rather than an impedance to flow. Areas of shallow soils, less than 2 feet above bedrock, and where a hummocky surface indicates downward movement of rainfall into the bedrock, shall have a hydrologic group of A.

(7) Flow through or diversion channels shall be designed for a minimum capacity and, stable velocities for Q10, and flood control for Q100. Culverts will require special design criteria set and/or approved by the governing municipality or SWCD.

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<u>Volume Controls where no surface outlet exists</u>

This is the criteria where no surface outlet exists and accumulation of increased volumes of runoff water due to development would cause flooding, erosion, or other problems on adjacent property.

(1) The general goal is to retain (retention basins) all increased runoff on the site until the extra water evaporates, is transpired by plants, infiltrates, or is removed by pumping.

(2) Design of RETENTION Basins (See Figure 3):

a. Design the retention basin according to practice standard 1001, Wet Detention Basin, except the runoff storage volume shall be as specified below. Volume for sediment storage shall be included; 100 cubic feet per acre per ten years or comparable approved alternative. No credit will be given for infiltration
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unless approved by the SWCD.

b. Runoff storage for period from Nov 1 to June 1 (7 mo.) This runoff storage is in addition to the sediment storage. The top of the runoff storage volume shall be used to set the emergency outlet level (if any) and the flood pool level. Any building structures in the watershed shall be constructed 2' above the flood pool level unless approved by the SWCD. Determine pre and post RCN's based on the previous RCN table and the expected future conditions.
- From Runoff Table find 7 month runoff depth for each RCN (Interpolate as needed)

c. RUNOFF TABLE

On Site RCN	Average Runoff (Nov 1 - June 1)
90	9.5"
85	8.0"
80	6.7"
75	5.4"
70	3.9"
65	2.6"
60	1.2"

- Subtract pre depth from post depth
- Multiply by 1.5 to account for wetter than average years and differing winter conditions.

For instance:

	Post	Pre
RCN	70	60

Runoff depth 3.9 - 1.2 = 2.7 x 1.5 = 4.05"

Volume = 4.05 / 12 x 43560 = 14,702 cu. ft./ac of draining area

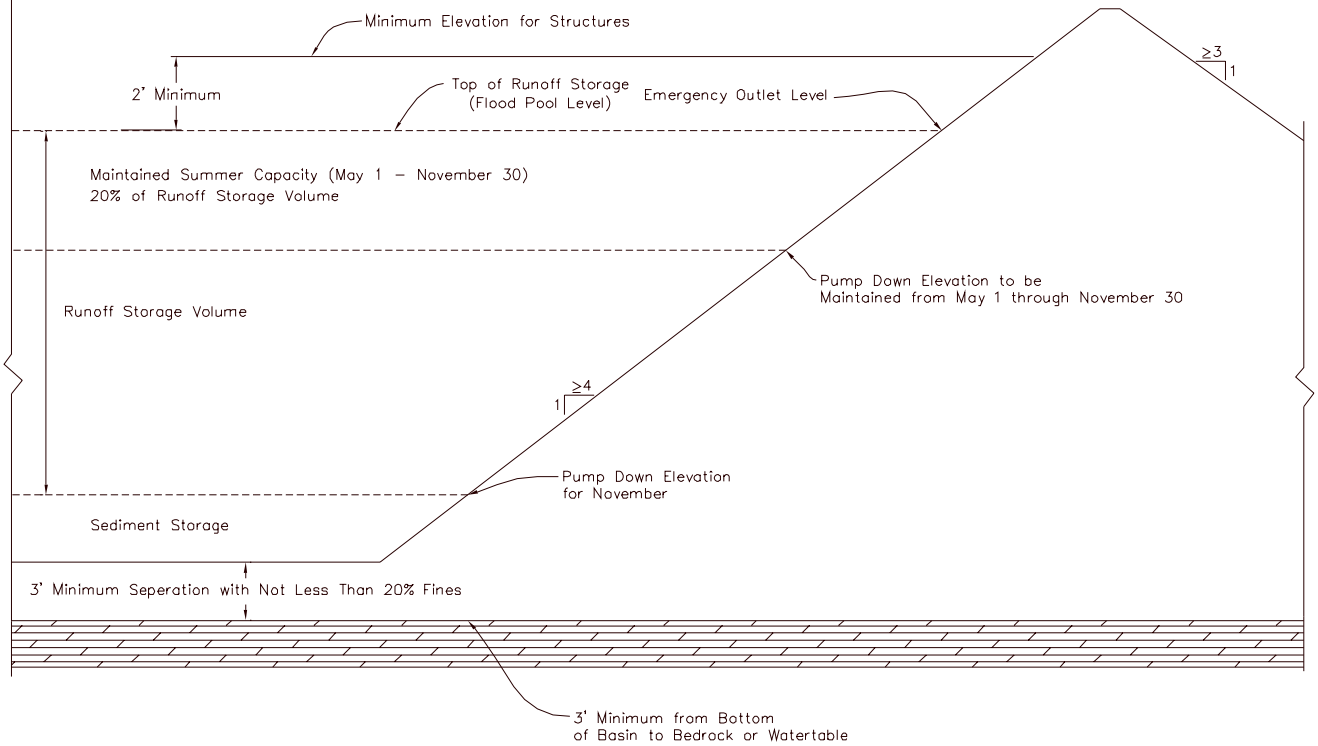
(3) Include these items in the Operation and Maintenance Plan

a. Basins are to be emptied in November so that they are ready to accept the winter and spring runoff.

b. During the May -November period the water level in the basin is to be kept below the 80% volume capacity elevation level so that there is always 20% of the basin capacity available to accept the extra runoff from a storm event.

c. The sediment is to be cleaned out every 10 years or as needed to maintain sediment storage capacity.

Figure 3: Retention Basin
No Outlet Exists
(Not to Scale)



3. INFILTRATION

BMP's shall be designed, installed, and maintained to infiltrate runoff in accordance with the following.

(1) For residential developments, one of the following shall be met:

a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 90% of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.

b. Infiltrate 25% of the post-development runoff from the 2 year -24 hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes and not composite curve numbers as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 1% of the project site is required as an effective infiltration area.

(2) For non-residential developments, including commercial, industrial and institutional development, one of the following shall be met:

a. Infiltrate sufficient runoff volume so that the post-development infiltration volume shall be at least 60% of the pre-development infiltration volume, based on an average annual rainfall. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

b. Infiltrate 10% of the runoff from the 2 year - 24 hour design storm with a type II distribution. Separate curve numbers for pervious and impervious surfaces shall be used to calculate runoff volumes, and not composite curve numbers as defined in TR-55. However, when designing appropriate infiltration systems to meet this requirement, no more than 2% of the project site is required as an effective infiltration area.

(3) Pre-development condition shall assume "good hydrologic conditions" for appropriate land covers as identified in TR-55 or an equivalent methodology approved by the administering authority. The meaning of "hydrologic soil group" and "runoff curve number" are as determined in TR-55. Use the RCN's as required for Quantity above.

Note to Users: A model that calculates runoff volume, such as SLAMM, P8, or an equivalent methodology may be used.

(4) For residential and non-residential developments with less than one acre of disturbance, the SWCD may waive the standards in (1) & (2) above based on site conditions. However a Plan utilizing appropriate BMP's which adequately infiltrate runoff volume is required. BMP's are listed on the DNR website.

(5) <u>Prohibited Areas for Infiltration</u>

a. Areas associated with tier 1 industrial facilities identified in s. NR 216.21(2)(a), Wis. Adm. Code, including storage, loading, rooftop and parking.

b. Storage and loading areas of tier 2 industrial facilities identified in s. NR 216.21(2)(b), Wis. Adm. Code.

Note to Users: Runoff from tier 2 parking and rooftop areas may be infiltrated but may require pretreatment.

c. Fueling and vehicle maintenance areas.

d. Areas within 1000 feet of karst and/or bedrock solution features and/or surface expressions or indicators of underlying karst and/or bedrock solution features unless discussed with and approved by the SWCD.

e. Areas with less than 3 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.

f. Areas with runoff from industrial, commercial and institutional parking lots and roads and residential arterial roads with less than 5 feet separation distance from the bottom of the infiltration system to the elevation of seasonal high groundwater or the top of bedrock.

g. Areas within 400 feet of a community water system well as specified in s. NR 811.16(4), Wis. Adm. Code, or within 100 feet of a private well as specified in s. NR 812.08(4), Wis. Adm. Code, for runoff infiltrated from commercial, industrial and institutional land uses or regional devices for residential development.

h. Areas where contaminants of concern, as defined in s. NR 720.03(2), Wis. Adm. Code are present in the soil through which infiltration will occur.

i. Any area where the soil does not exhibit one of the following soil characteristics between the bottom of the infiltration system and the seasonal high groundwater and top of bedrock: at least a 3-foot soil layer with 20% fines or greater; or at least a 5-foot soil layer with 10% fines or greater. This does not apply where the soil medium within the infiltration system provides an equivalent level of protection.

(6) Exemptions. Infiltration of runoff from the following areas are not required to meet the infiltration requirements of this paragraph:

a. Areas where the infiltration rate of the soil is less than 0.6 inches/hour measured at the site.

(7) Where alternate uses of runoff are employed, such as for toilet flushing, laundry or irrigation, such alternate use shall be given equal credit toward the infiltration volume required by this paragraph.

(8) a. Infiltration systems designed in accordance with this paragraph shall, to the extent technically and economically feasible, minimize the level of pollutants infiltrating to groundwater and shall maintain compliance with the preventive action limit at a point of standards application in accordance with ch. NR 140, Wis. Adm. Code. However, if site specific information indicates that compliance with a preventive action limit is not achievable, the infiltration BMP may not be installed or shall be modified to prevent infiltration to the maximum extent practicable.

b. Notwithstanding subd. par. a., the discharge from BMP's shall remain below the enforcement standard at the point of standards application.

4. PROTECTIVE AREAS

(1) "Protective area" means an area of land that commences at the top of the channel of lakes, streams and rivers, or at the delineated boundary of wetlands, and that is the greatest of the following widths, as measured horizontally from the top of the channel or delineated wetland boundary to the closest impervious surface. However, in this paragraph, "protective area" does not include any area of land adjacent to any stream enclosed within a pipe or culvert, such that runoff cannot enter the enclosure at this location.

a. For outstanding resource waters and exceptional resource waters, and for wetlands in areas of special natural resource interest as specified in s. NR 103.04, 75 feet.

b. For perennial and intermittent streams identified on a United States geological survey 7.5-minute series topographic map, or a county soil survey map, whichever is more current, 50 feet.

c. For lakes, 50 feet.

d. For highly susceptible wetlands, 50 feet. Highly susceptible wetlands include the following types: fens, sedge meadows, bogs, low prairies, conifer swamps, shrub swamps, other forested wetlands, fresh wet meadows, shallow marshes, deep marshes and seasonally flooded basins.

e. For less susceptible wetlands, 10 percent of the average wetland width, but no less than 10 feet nor more than 30 feet. Less susceptible wetlands include degraded wetlands dominated by invasive species such as reed canary grass.

f. In subd. (1) a., d. and e., determinations of the extent of the protective area adjacent to wetlands shall be made on the basis of the sensitivity and runoff susceptibility of the wetland in accordance with the standards and criteria in s. NR 103.03.

g. For concentrated flow channels with drainage areas greater than 130 acres, 10 feet.

(2) Wetlands shall be delineated. Wetland boundary delineations shall be made in accordance with s. NR 103.08(1m). This paragraph (d) does not apply to wetlands that have been completely filled in accordance with all applicable state and federal regulations. The protective area for wetlands that have been partially filled in accordance with all applicable state and federal regulations shall be measured from the wetland boundary delineation after fill has been placed.

(3) <u>The following requirements shall be met</u>:

a. Impervious surfaces shall be kept out of the protective area to the maximum extent practicable. (Examples of allowed impervious surfaces include structures that cross or access

surface waters such as boat landings, bridges and culverts.) The storm water management plan shall contain a written site-specific explanation for any parts of the protective area that are disturbed during construction.

b. Where land disturbing construction activity occurs within a protective area, and where no impervious surface is present, adequate sod or self-sustaining vegetative cover of 70% or greater shall be established and maintained. The adequate sod or self-sustaining vegetative cover shall be sufficient to provide for bank stability, maintenance of fish habitat and filtering of pollutants from upslope overland flow areas under sheet flow conditions. Non-vegetative materials, such as rock riprap, may be employed on the bank as necessary to prevent erosion, such as on steep slopes or where high velocity flows occur.

The seeding of non-aggressive vegetative cover shall be used in the protective areas. Vegetation that is flood and drought tolerant and can provide long-term bank stability because of an extensive root system is required. Vegetative cover can be measured using the line transect method described in the University of Wisconsin Extension publication number A3533, titled “Estimating Residue Using the Line Transect Method”.

c. Best management practices such as filter strips, swales, or wet detention basins, that are designed to control pollutants from non-point sources may be located in the protective area.

Note to Users: Other regulations, such as ch. 30, Wis. Stats., and chs. NR 103, 115, 116 and 117, Wis. Adm. Code, and their associated review and approval process may apply in the protective area.

VI. STORMWATER MANAGEMENT PLAN

1. PLAN REQUIREMENTS.

The storm water management plan for Erosion Control and Post-construction Stormwater shall contain at a minimum the following information:

(1) A narrative explaining the site, the resource conditions, concerns, and impacts, and the BMP’s employed.
(2) Name, address, and telephone number of the landowner and responsible parties.
(3) A legal description of the property proposed to be developed.
(4) A pre-development site map with property lines, disturbed limits, and drainage patterns.
(5) A post-development site map with property lines, disturbed limits, and drainage patterns including planned practices.
(6) Total area of disturbed impervious surfaces within the site

(7) Total area of new impervious surfaces within the site.
(8) Performance standards applicable to the site.
(9) Proposed best management practices with design computations.
(10) Groundwater, bedrock, and soil limitations.
(11) Separation distances. The stormwater management practices shall be adequately separated from wells to prevent contamination of drinking water.
(12) Provide an operation and maintenance plan for the installed practices. Specify how it will be assured that the operation and maintenance plan will be carried out and by whom.
(13) Easements to practices for operation and maintenance.
(14) Location of a permanent elevation bench mark within 100 feet of a detention and/or retention basin.

VII. VARIANCES and ALTERNATIVE PRACTICES

The SWCD may grant a variance to the technical requirements of this Policy or approve an alternative practice provided surface and ground water quality is protected and runoff quantity and flow adverse impacts are prevented to an extent equal or greater than the technical requirements included in this Policy.

(NOTE: It is the proposed plan preparer's responsibility to obtain approval from any other regulatory agencies/units of government of the proposed variance and/or alternative practice.)

Attachment 11B-5

CHAPTER 295

NONMETALLIC MINING RECLAMATION; OIL AND GAS; FERROUS METALLIC MINING

SUBCHAPTER I
NONMETALLIC MINING RECLAMATION

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SUBCHAPTER I
NONMETALLIC MINING RECLAMATION

Cross-reference: See also ch. NR 135, Wis. adm. code.

295.11 Definitions. In this subchapter:

(1) "Department" means the department of natural resources.

(2) "Environmental pollution" means the contaminating or rendering unclean or impure the air, land or waters of the state, or making the same injurious to public health, harmful for commercial or recreational use, or deleterious to fish, bird, animal or plant life.

(3) "Nonmetallic mining" means all of the following:

(a) Operations or activities for the extraction from the earth for sale or use by the operator of mineral aggregates or nonmetallic minerals such as stone, sand, gravel, asbestos, beryl, clay, feldspar, peat, talc and topsoil, including such operations or activities as excavation, grading and dredging.

(b) On-site processes that are related to the extraction of mineral aggregates or nonmetallic minerals, such as stockpiling of materials, blending mineral aggregates or nonmetallic minerals with other mineral aggregates or nonmetallic minerals, crushing, screening, scalping and dewatering.

(4) "Nonmetallic mining reclamation" means the rehabilitation of a nonmetallic mining site to achieve a land use specified in an approved nonmetallic mining reclamation plan, including removal or reuse of nonmetallic mining refuse, grading of the nonmetallic mining site, removal, storage and replacement of topsoil, stabilization of soil conditions, reestablishment of vegetative cover, control of surface water and groundwater, prevention of environmental pollution and, if practical, restoration of plant, fish and wildlife habitat.

(5) "Nonmetallic mining refuse" means waste soil, rock, mineral and other natural material resulting from nonmetallic mining. This term does not include marketable by-products resulting directly from or displaced by the nonmetallic mining.

(6)

(a) "Nonmetallic mining site" means all of the following, except as provided in par. (b):

1. The location where nonmetallic mining is proposed or conducted.

2. Storage and processing areas that are in or contiguous to areas excavated for nonmetallic mining.

3. Areas where nonmetallic mining refuse is deposited.

4. Areas disturbed by activities such as the construction or improvement of private roads or haulageways for nonmetallic mining.

5. Areas where grading or regrading is necessary to conduct nonmetallic mining or to achieve a land use specified in an approved nonmetallic mining reclamation plan.

(b) "Nonmetallic mining site" does not include any area described in par. (a) 1. to 5. that is not used for nonmetallic mining or for purposes related to nonmetallic mining on or after October 14, 1997.

(7) "Operator" means any person who is engaged in, or who has applied for a permit to engage in, nonmetallic mining, whether individually, jointly or through subsidiaries, agents, employees, contractors or subcontractors.

(8) "Person" means an individual, owner, operator, corporation, limited liability company, partnership, association, municipality, interstate agency, state agency or federal agency.

(9) "Replacement of topsoil" means the replacement of the topsoil that was removed or disturbed by nonmetallic mining, or the provision of material to substitute for the topsoil that was removed or disturbed, for the purposes of providing adequate vegetative cover and stabilization of soil conditions to achieve a land use specified in an approved nonmetallic mining reclamation plan.

(10) "Solid waste" means any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded or salvageable materials, including solid, liquid, semisolid, or contained gaseous materials resulting from industrial, commercial, mining and agricultural operations, and from community activities, but does not include solids or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under ch. 283, or source material, as defined in s. 254.31 (10), special nuclear material, as defined in s. 254.31 (11), or by-product material, as defined in s. 254.31 (1).

History: 1995 a. 227 s. 801, 995; 1997 a. 27; 1999 a. 9.

Cross-reference: See also s. NR 135.03, Wis. adm. code.

295.12 Nonmetallic mining reclamation rules.

(1) RULES. The department shall establish all of the following by rule:

(a) Uniform statewide standards for nonmetallic mining reclamation.

(b) Provisions for the administration of this subchapter by the department.

(c) Uniform statewide requirements and procedures for the administration of a nonmetallic mining reclamation program by any county, city, village or town.

(2) STANDARDS.

(a) The department shall establish nonmetallic mining reclamation standards under sub. (1) (a) that are applicable to activities related to nonmetallic mining reclamation both during nonmetallic mining and after the termination of nonmetallic mining.

(d) Nonmetallic mining reclamation standards under sub. (1) (a) shall be designed to encourage the development and reclamation of nonmetallic mining sites in existence on October 14, 1997, and shall include requirements necessary to achieve a land use specified in an approved nonmetallic mining reclamation plan, including requirements related to the removal or reuse of nonmetallic mining refuse, removal of roads no longer in use, stabilization of soil conditions, grading the nonmetallic mining site, replacement of topsoil, establishment of vegetative cover, control of surface water flow and groundwater withdrawal, prevention of environmental pollution and, if practical, protection or restoration of plant, fish and wildlife habitat.

(3) PROGRAM REQUIREMENTS. The rules required by sub. (1) (c) shall include all of the following:

(c) A requirement for the operator to submit a nonmetallic mining reclamation plan including maps, information about the nonmetallic mining site, a proposed land use for which the nonmetallic mining site will be rehabilitated after the nonmetallic mining is completed, a description of the proposed nonmetallic mining reclamation including methods and procedures to be used and a proposed timetable for completion of various stages of the nonmetallic mining reclamation. The reclamation plan shall be designed to ensure successful nonmetallic mining reclamation consistent with the standards under sub. (1) (a), to minimize the costs of nonmetallic mining reclamation and, to the extent practicable, to minimize the area disturbed by nonmetallic mining at one time and provide for nonmetallic mining reclamation of portions of the

nonmetallic mining site while nonmetallic mining continues on other portions of the nonmetallic mining site.

(d) A requirement for the operator to obtain a nonmetallic mining reclamation permit in order to engage in nonmetallic mining or in nonmetallic mining reclamation; a requirement for a permit term equal to the period during which nonmetallic mining is conducted; procedures for the issuance, modification, suspension or revocation of the reclamation permit; a requirement for public notice and an opportunity for a public informational hearing before issuance or modification of a reclamation permit for a nonmetallic mine that is not in operation before the date specified under par. (dm); notwithstanding ss. 68.001, 68.03 (8) and (9), 68.06 and 68.10 (1) (b), a right for any person who meets the requirements of s. 227.42 (1) to a contested case hearing under s. 68.11 on the issuance, modification or denial of a reclamation permit and for a person holding a reclamation permit to a contested case hearing under s. 68.11 to contest an order issued under s. 295.19 (1); a requirement for cooperative issuance of a single reclamation permit if more than one county or municipality has jurisdiction over the nonmetallic mining site; and a requirement that action approving, denying or conditionally approving a reclamation permit be taken within 90 days after receipt of the reclamation plan or, if a public informational hearing is held, within 60 days after the close of the public hearing.

(de) Except as provided in par. (dm), a prohibition on issuance of a reclamation permit before approval of the nonmetallic mining reclamation plan under par. (c) by the county, city, village or town operating the program.

(dm) A requirement that, when an operator submits an application for a reclamation permit for a nonmetallic mine that is operating before a date specified by the department in the rule, the county, city, village or town issue the permit on the condition that the operator submit a nonmetallic mining reclamation plan under par. (c) that complies with the rules under par. (c) by a deadline established by the county, city, village or town. The deadline shall be from 1 to 3 years after the date of application.

(ds) A requirement that the county, city, village or town issue a reclamation permit on the condition that the operator submit proof of financial responsibility in accordance with par. (c) within a time specified by the rule.

(e)

1. A provision imposing annual fees as determined by the department for the administration of s. 295.18 and imposing annual fees as determined by the county, city, village or town that shall, as closely as possible, equal the cost of all of the following:

a. The examination and approval of nonmetallic mining reclamation plans.

b. The inspection of nonmetallic mining reclamation.

2. A prohibition on basing the fees under subd. 1. on any portion of a nonmetallic mining site that has been reclaimed when the fees are imposed.

(f) A requirement for an expedited review process if the applicant pays an additional fee as determined by the county, city, village or town under par. (e) or if the applicant requires a permit under this subchapter to perform services under contract with a city, village, town, county or other governmental unit.

(g) A requirement for the operator to provide a bond, deposit of funds, established escrow account, letter of credit, demonstration of financial responsibility by meeting net worth requirements or other form of financial assurance conditioned on the faithful performance of all of the requirements of rules promulgated under this section. The rules shall authorize a county, city, village or town to reduce the amount of financial assurance that an operator is required to provide based on nonmetallic mining reclamation that the operator performs while the nonmetallic mine continues to operate.

(h) Provisions to restrict, regulate or require certain activities in connection with nonmetallic mining reclamation in order to ensure compliance with nonmetallic mining reclamation standards, nonmetallic mining reclamation plans, financial assurance requirements and other requirements of the rules promulgated under this section.

(i) A prohibition on nonmetallic mining if a proposed nonmetallic mining site cannot be reclaimed in compliance with the nonmetallic mining reclamation standards under sub. (1) (a).

(k) A provision for orders and penalties consistent with s. 295.19.

(L) Criteria and procedures for approving alternatives to the requirements of the nonmetallic mining reclamation standards under sub. (1) (a).

History: 1995 a. 227 s. 802; 1997 a. 27.

Cross-reference: See also ch. NR 135, Wis. adm. code.

295.13 Mandatory enactment and administration of ordinance by counties.

(1) MANDATORY ENACTMENT AND ADMINISTRATION OF ORDINANCE.

(a) *Requirement to enact and administer ordinance.* Within 6 months after the effective date of the rules under s. 295.12 (1), each county shall enact and begin to administer a nonmetallic mining reclamation ordinance that complies with those rules, except as provided in subs. (2) and (2m). This ordinance may be enacted separately from an ordinance enacted under s. 59.69.

(2) PREEXISTING COUNTY ORDINANCES. Any county with a nonmetallic mining reclamation ordinance in effect on June 1, 1993, may maintain and administer that ordinance if the department reviews the existing ordinance and determines that it is at least as restrictive as the rules under s. 295.12 (1). If the department determines that any part of the existing ordinance is not as restrictive as the rules under s. 295.12 (1), the county may amend the ordinance and submit the amended ordinance to the department for a determination of whether the amended ordinance is as restrictive as those rules. After obtaining the determination of the department that an ordinance is as restrictive as the rules under s. 295.12 (1), the county may not amend the ordinance to make it more restrictive. A county may not amend a nonmetallic mining reclamation ordinance to make it less restrictive than the requirements in the rules under s. 295.12 (1).

(2m) OPTION FOR CERTAIN COUNTIES. In a county with a population of 700,000 or more, if every city, village and town that contains a nonmetallic mining site has enacted an ordinance under s. 295.14 by the first day of the 4th month beginning after the effective date of the rules promulgated under s. 295.12 (1), the county is not required to enact an ordinance under this section.

(3) APPLICABILITY OF COUNTY ORDINANCE. An ordinance under sub. (1) or (2) applies to the entire area of the county, except for cities, villages and towns that enact and administer a nonmetallic mining reclamation ordinance under s. 295.14.

(4) CREDITING OF FINANCIAL ASSURANCE. If a nonmetallic mining site is subject to a county ordinance under sub. (1) or (2) and the city, village, or town in which a nonmetallic mining site is located required the operator of the mining site to provide financial assurance for nonmetallic mining reclamation of the nonmetallic mining site, the county shall credit the value of the financial assurance provided to the city, village, or town against the amount of financial assurance that the operator is required to provide under the county ordinance.

History: 1995 a. 227 s. 803; 1997 a. 27, 35; 2003 a. 308.

295.14 Authority to enact and administer ordinance.

(1) AUTHORITY TO ENACT AND ADMINISTER ORDINANCE. A city, village or town may enact and administer a nonmetallic mining reclamation ordinance, that complies with the rules under s. 295.12 (1). Except as provided in sub. (2), a city, village or town may not administer a nonmetallic mining reclamation ordinance that does not comply with the rules under s. 295.12 (1).

(2) PREEXISTING MUNICIPAL ORDINANCES. A city, village or town with a nonmetallic mining reclamation ordinance in effect on June 1, 1993, may maintain and administer that ordinance if the department reviews the existing ordinance and determines that it is at least as restrictive as the rules under s. 295.12 (1). If the department determines that any part of the existing ordinance is not as restrictive as the rules under s. 295.12 (1), the city, village or town may amend the ordinance and submit the amended ordinance to the department for a determination of whether the amended ordinance is as restrictive as those rules. After obtaining the determination of the department that an ordinance is as restrictive as the rules under

s. 295.12 (1), the city, village or town may not amend the ordinance to make it more restrictive. A city, village or town may not amend a nonmetallic mining reclamation ordinance to make it less restrictive than the rules under s. 295.12 (1).

History: 1995 a. 227 s. 804; 1997 a. 27.

295.15 Fees. A county or a city, village or town with a nonmetallic mining reclamation ordinance shall collect the fee established under s. 295.12 (3) (e) and shall forward the state's portion of the fee to the department within 90 days after collecting the fee. A county or a city, village or town with a nonmetallic mining reclamation ordinance shall use the revenues from its portion of the fees only for the administration of the nonmetallic mining reclamation ordinance.

History: 1995 a. 227 s. 805.

295.16 Applicability of nonmetallic mining reclamation requirements.

(1) NONMETALLIC MINING FOR TRANSPORTATION PURPOSES.

(a) Notwithstanding par. (b), any requirements of the department of transportation concerning the restoration of a nonmetallic mining site shall be consistent with the nonmetallic mining reclamation standards established under s. 295.12 (1) (a).

(b) A nonmetallic mining ordinance and the rules promulgated under s. 295.12 (1) do not apply to nonmetallic mining to obtain stone, soil, sand or gravel for the construction, maintenance or repair of a highway, railroad, airport facility or any other transportation facility, if the nonmetallic mining is subject to the requirements of the department of transportation concerning the restoration of the nonmetallic mining site.

(c) The requirements for a nonmetallic mining reclamation plan under s. 295.12 (3) (c), for public notice and an opportunity for a public informational hearing under s. 295.12 (3) (d) and for proof of financial responsibility under s. 295.12 (3) (ds) do not apply to nonmetallic mining to obtain stone, soil, sand or gravel for the construction, maintenance or repair of a highway, railroad, airport facility, or any other transportation facility, conducted under contract with a municipality, as defined in s. 299.01 (8), if the contract requires the nonmetallic mining site to be reclaimed in accordance with the requirements of the department of transportation concerning the restoration of nonmetallic mining sites.

(2) NONMETALLIC MINING IN OR NEAR NAVIGABLE WATERWAYS. A nonmetallic mining reclamation ordinance, and requirements of this subchapter other than the standards established under s. 295.12 (1) (a), do not apply to any nonmetallic mining site or portion of a nonmetallic mining site that is subject to permit and reclamation requirements of the department under ss. 30.19, 30.195, 30.20, 30.30 and 30.31. The nonmetallic mining standards established under s. 295.12 (1) (a) do apply to a nonmetallic mining site that is subject to permit and reclamation requirements of the department under ss. 30.19, 30.195, 30.20, 30.30 and 30.31.

(3) PUBLIC NONMETALLIC MINING.

(a) The standards established under s. 295.12 (1) (a) and, except as provided in par. (b), a nonmetallic mining reclamation ordinance apply to nonmetallic mining conducted by or on behalf of the state or a municipality. Notwithstanding s. 13.48 (13), nonmetallic mining operated for the benefit or use of the state or any state agency, board, commission or department shall comply with the permit requirements and nonmetallic mining reclamation standards of any applicable nonmetallic mining reclamation ordinance.

(b) The financial assurance requirements of a nonmetallic mining reclamation ordinance do not apply to nonmetallic mining conducted by the state or a municipality.

(4) EXEMPT ACTIVITIES. A nonmetallic mining reclamation ordinance and the standards established under s. 295.12 (1) (a) do not apply to the following activities:

(a) Excavations or grading by a person solely for domestic or farm use at his or her residence or farm.

(b) Excavations or grading conducted for the construction, reconstruction, maintenance or repair of a highway, railroad, airport facility or any other transportation facility if the excavation or grading is within the property boundaries of the transportation facility.

(c) Grading conducted for preparing a construction site or restoring land following a flood or natural disaster.

(d) Excavations for building construction purposes.

(e) Nonmetallic mining sites of less than one acre.

(f) Any mining operation, the reclamation of which is required in a permit obtained under ch. 293 or subch. III of ch. 295.

(g) Any activities required to prepare, operate or close a solid waste disposal facility under subchs. II to IV of ch. 289 or a hazardous waste disposal facility under ch. 291 that are conducted on the property on which the facility is located, but a nonmetallic mining reclamation ordinance and the standards established under s. 295.12 (1) (a) apply to activities related to solid waste or hazardous waste disposal that are conducted at a nonmetallic mining site that is not on the property on which the solid waste or hazardous waste disposal facility is located such as activities to obtain nonmetallic minerals to be used for lining, capping, covering or constructing berms, dikes or roads.

(i) Dredging for navigational purposes, to construct or maintain farm drainage ditches and for the remediation of environmental contamination and the disposal of spoils from that dredging.

(j) Removal of material from the bed of Lake Michigan or Lake Superior by a public utility pursuant to a permit under s. 30.21.

History: 1995 a. 227 s. 806; 1997 a. 27; 1999 a. 9; 2013 a. 1.

295.17 Inspection.

(1) An agent of a county, city, village or town that has a nonmetallic mining reclamation ordinance that complies with s. 295.13 or 295.14 may enter a nonmetallic mining site in the performance of his or her official duties at any reasonable time in order to inspect those premises and to ascertain compliance with this subchapter. No person may refuse entry or access to an agent of the county, city, village or town who requests entry for purposes of inspection, and who presents appropriate credentials. No person may obstruct, hamper or interfere with the inspection. The county, city, village or town shall furnish to the operator any report prepared by the county, city, village or town regarding the inspection.

(2) Any duly authorized officer, employee or representative of the department may enter and inspect any property, premises or place on or at which any nonmetallic mining operation is located or is being constructed or installed at any reasonable time for the purpose of ascertaining the state of compliance with this chapter and chs. 281, 285, 289 to 293 and 299 and rules adopted pursuant thereto. No person may refuse entry or access to any such authorized representative of the department who requests entry for purposes of inspection, and who presents appropriate credentials, nor may any person obstruct, hamper or interfere with any such inspection. The department shall furnish to the nonmetallic mining site operator a written report setting forth all observations, relevant information and data which relate to compliance status.

History: 1995 a. 227 s. 808, 995; 1997 a. 27.

295.18 Department review.

(1) REVIEW. The department shall periodically review the nonmetallic mining reclamation program under this subchapter of each county and each city, village or town that exercises jurisdiction under this subchapter to ascertain compliance with this subchapter and the rules promulgated under this subchapter. This review shall include all of the following:

(a) A performance audit of the nonmetallic mining reclamation program of the county, city, village or town.

(b) Verification, by on-site inspections, of county, city, village or town compliance with this subchapter and rules promulgated under this subchapter.

(c) A written determination by the department, issued at least once every 10 years, of whether the county, city, village or town is in compliance with this subchapter and rules promulgated under this subchapter.

(2) NONCOMPLIANCE; HEARING. If the department determines under sub. (1) that a county, city, village or town is not in compliance with this subchapter and rules promulgated under this subchapter, the department shall notify the county, city, village or town of that determination. If the department decides to pursue the matter, it shall conduct a hearing, after 30 days' notice, in the county, city, village or town.

As soon as practicable after the hearing, the department shall issue a written decision regarding compliance with this subchapter and rules promulgated under this subchapter.

(3) MUNICIPAL NONCOMPLIANCE; CONSEQUENCES. If the department determines under sub. (2) that a city, village or town is not in compliance with this subchapter and rules promulgated under this subchapter, the city, village or town may not administer the nonmetallic mining reclamation program. The county nonmetallic mining reclamation ordinance applies to that city, village or town and the county shall administer the nonmetallic mining reclamation program in that city, village or town. The city, village or town may apply to the department to resume its authority to administer the nonmetallic mining reclamation program, but not sooner than 3 years after the department issues a decision under sub. (2). The department, after a hearing, may approve the city, village or town request to administer the nonmetallic mining reclamation program if the city, village or town demonstrates the capacity to comply with this subchapter and rules promulgated under this subchapter.

(4) COUNTY NONCOMPLIANCE; CONSEQUENCES. If the department issues a written decision under sub. (2) that a county is not in compliance with this subchapter and rules promulgated under this subchapter, the department shall administer the nonmetallic mining reclamation program in that county, including the collection of fees, review and approval of plans, inspection of nonmetallic mining sites and enforcement, except that the department may not administer the nonmetallic mining reclamation program in a city, village or town that enacted an ordinance that complies with s. 295.14 before the department made its determination under sub. (2) and is administering that ordinance. The county may apply to the department at any time to resume administration of the nonmetallic mining reclamation program. The department, after a hearing, may approve the county request to administer the nonmetallic mining reclamation program if the county demonstrates the capacity to comply with this subchapter and rules promulgated under this subchapter. No city, village or town may enact an ordinance for and begin to implement a nonmetallic mining reclamation program during the time that the department administers the nonmetallic mining reclamation program in the county in which the city, village or town is located.

History: 1995 a. 227 s. 809; 1997 a. 27.

295.19 Enforcement; remedies; penalties.

(1) ORDERS; ENFORCEMENT. The governing body of a county, city, village or town that has a nonmetallic mining reclamation ordinance that complies with s. 295.13 or 295.14, or an agent designated by that governing body, may do any of the following:

(a) Issue an order requiring an operator to comply with, or to cease violating, this subchapter, rules promulgated under this subchapter, the nonmetallic mining reclamation ordinance, a nonmetallic mining reclamation permit or an approved nonmetallic mining reclamation plan.

(b) Issue an order suspending or revoking a nonmetallic mining reclamation permit as authorized in the nonmetallic mining reclamation ordinance.

(c) Issue an order directing an operator to immediately cease an activity regulated under this subchapter, under rules promulgated under this subchapter or under the nonmetallic mining reclamation ordinance until the necessary nonmetallic mining reclamation plan approval is obtained.

(d) Submit orders to abate violations of the nonmetallic mining reclamation ordinance to the district attorney, the corporation counsel, the municipal attorney or the attorney general for enforcement. The district attorney, the corporation counsel, the municipal attorney or the attorney general may enforce those orders.

(2) DEPARTMENT ORDERS. The department may issue an order directing the immediate cessation of an activity regulated under this subchapter until the nonmetallic mining site complies with the nonmetallic mining reclamation standards established under s. 295.12 (1) (a).

(3) PENALTIES.

(a) Any person who violates the rules promulgated under s. 295.12 (1) (a) or an order issued under sub. (2) may be required to forfeit not less than $25 nor more than $1,000 for each violation. Each day of continued violation is a separate offense. While an order issued under this subchapter is suspended, stayed or enjoined, this penalty does not accrue.

(b)

1. Except for the violations enumerated in par. (a), any person who violates this subchapter or any rule promulgated or any plan approval order issued under this subchapter shall forfeit not less than $10 nor more than $5,000 for each violation. Each day of continued violation is a separate offense. While an order is suspended, stayed or enjoined, this penalty does not accrue.

2. In addition to the penalties provided under subd. 1., the court may award the department of justice the reasonable and necessary expenses of the investigation and prosecution of the violation, including attorney fees. The department of justice shall deposit in the state treasury for deposit into the general fund all moneys that the court awards to the department or the state under this subdivision. The costs of investigation and the expenses of prosecution, including attorney fees, shall be credited to the appropriation account under s. 20.455 (1) (gh).

History: 1995 a. 227 s. 810, 995; 1997 a. 27; 2001 a. 109; 2003 a. 309.

295.20 Preservation of marketable nonmetallic mineral deposits.

(1) REGISTRATION.

(a) Beginning on October 14, 1997, a landowner may register land owned by that person under this section if all of the following apply:

1. The land has a marketable nonmetallic mineral deposit, as evidenced by the certification of a professional geologist licensed under ch. 470 or a professional engineer registered under s. 443.04 and by any other information required under sub. (4).

2. The landowner notifies each county, city, village and town that has authority to zone the land of his or her intent to register the marketable nonmetallic mineral deposit. The notification shall include the evidence required under subd. 1.

3. Nonmetallic mining is a permitted or conditional use for the land that is proposed to be registered under any zoning that is in effect on the day on which the landowner makes the notification under subd. 2.

(b) A governmental unit that receives notification under par. (a) 2. may contest registration under this subsection, in the circuit court for a county in which the land is located, on the grounds that there is not a marketable nonmetallic mineral deposit on the land or that par. (a) 3. is not satisfied. The governmental unit has the burden of proving, by a preponderance of the evidence, that one of those grounds exists.

(c) The registration shall delineate the nonmetallic mineral deposit and is valid only if recorded in the office of the register of deeds in each county in which the nonmetallic mineral deposit is located.

(d) Except as provided under sub. (4) (d), a registration under this subsection lasts for 10 years and may be renewed as provided in the rules under sub. (4) (e).

(1m) PREVIOUSLY REGISTERED DEPOSITS. Land registered under sub. (1) before October 14, 1997, shall remain registered for 10 years after the initial date of registration. The registration may be renewed as provided under sub. (4) (f).

(2) LIMITATION ON ZONING.

(a) A county, city, village or town may not by zoning, rezoning, granting a variance, or other official action or inaction, permit the erection of permanent structures upon, or otherwise permit the use of, any land, while a registration under this section is in effect for that land, in a manner that would permanently interfere with the present or future extraction of the nonmetallic mineral deposit that is located on the land.

(b)

1. A county, city, village or town may enact an ordinance changing the zoning of land that is registered under this section if mining has not begun on any portion of the registered land and the ordinance is necessary to implement a master plan, comprehensive plan or land use plan that was adopted at least one year before the rezoning.

2. A zoning change authorized by subd. 1. does not apply to the registered land during the registration period in effect when the zoning ordinance takes effect or during the 10-year renewal period under sub. (4) (e) or (f) if the land is eligible for that renewal.

3. A zoning change authorized by subd. 1. prevents the registration of the land after the period under subd. 2.

(3) EXCEPTIONS. Nothing in this section shall be construed to prohibit the following:

(a) A use of land permissible under a zoning ordinance in effect on the day before a mineral deposit is registered under sub. (1).

(b) Acquisition of a registered nonmetallic mineral deposit or registered buffer area by a county, city, village or town or other governmental unit for a public purpose.

(4) RULES. The department shall promulgate rules that contain all of the following:

(a) A definition of “marketable nonmetallic mineral deposit".

(b) Procedures and requirements for registering land containing a marketable nonmetallic mineral deposit under sub. (1).

(c) Procedures and criteria for objecting to the proposed registration of land containing a nonmetallic mineral deposit.

(d) Procedures for terminating the registration of land under this section when there is no longer a marketable nonmetallic mineral deposit on the land.

(e) Procedures and criteria for renewing the registration of land under sub. (1). The rules shall allow renewal for one 10-year period without review of the marketability of the deposit or the zoning of the land, except that, if mining has begun on any portion of the registered land, the rules shall allow the person to renew the registration for an unlimited number of 10-year periods as long as active mining continues.

(f) Procedures and criteria for renewing the registration of land under sub. (1m).

(g) Criteria under which contiguous parcels of land owned by the same person and containing the same marketable nonmetallic mineral deposit may be included in one registration.

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Attachment 11B-6

Chapter SPS 308

MINES, PITS AND QUARRIES

Subchapter I — Administration and Enforcement
SPS 308.01 Purpose.
SPS 308.02 Scope.
SPS 308.03 Application.
SPS 308.04 Definitions.
SPS 308.05 Petition for variance.
SPS 308.06 Penalties.
SPS 308.07 Appeals.

Subchapter II – General Requirements
SPS 308.10 Notification to begin crushing operation.
SPS 308.11 Arrangements for medical assistance.
SPS 308.12 Permits.
SPS 308.13 Fees.
SPS 308.14 Inspections.
SPS 308.15 Federal requirements.

Subchapter III – Additions to Federal Regulations
SPS 308.20 Additions to federal regulations.
SPS 308.21 Abandoned shafts and wells.

Note: Chapter Ind 3 as it existed on June 30, 1983 was renumbered as ch. ILHR 8 and revised, effective July 1, 1983; chapter ILHR 8 as it existed on September 30, 1994, was repealed and a new chapter ILHR 8 was created effective October 1, 1994. Chapter ILHR 8 was renumbered chapter Comm 8 under s. 13.93 (2m) (b) 1. and corrections made under s. 13.93 (2m) (b) 6. and 7., Stats., Register, August, 1997, No. 500. Chapter Comm 8 as it existed May 31, 2001 was repealed and a new chapter Comm 8 was created, Register, May, 2001, No. 545, effective June 1, 2001. **Chapter Comm 8 was renumbered chapter SPS 308 under s. 13.92 (4) (b) 1., Stats., Register December 2011 No. 672.**

Subchapter I — Administration and Enforcement

SPS 308.01 Purpose. Pursuant to s. 101.15 (2) (e), Stats., the purpose of this chapter is to establish rules to effect the safety of mines, quarries and related activities.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.02 Scope. (1) COVERED. This chapter covers openings or excavations in the earth for the purpose of extracting minerals or other materials and the equipment related to processing or manufacturing of ores, aggregates, cements, lime, clay and silica sands in a mine, pit or quarry.

Note: The department of natural of resources has administrative rules concerning metallic mineral exploration, metallic mineral prospecting, mineral mining and mine reclamation.

(2) NOT COVERED. This chapter does not cover openings or excavations in the earth created by a person for domestic or farm use at his or her residence or farm.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.03 Application. This chapter applies to both new and existing mines, pits and quarries, unless specifically stated otherwise.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.04 Definitions. In this chapter:

(1) "Department" means the department of safety and professional services.

(2) "Excavation" or "workings" has the meaning given in s. 101.15 (2) (a) 1., Stats.

Note: Section 101.15 (2) (a) 1., Stats., defines "excavation" or "workings" as any or all parts of a mine excavated or being excavated, including shafts, tunnels, drifts, cross cuts, raises, winzes, stopes and all other working places in a mine.

(3) "Mine" means a surface or underground opening or excavation in the earth for the purpose of extracting minerals or other materials.

(4) "Mineral" has the meaning given in s. 101.15 (2) (a) 2., Stats.

Note: Section 101.15 (2) (a) 2., Stats., defines "mineral" as a product recognized by standard authorities as mineral, whether metalliferous or nonmetalliferous.

(5) "Operator" means the person or firm that operates or is responsible for an excavation in the earth for the purpose of extracting minerals or other materials.

(6) "Pit" means a surface opening or excavation in the earth for the purpose of extracting minerals or other materials.

(7) "Quarry" means a surface opening or excavation in the earth for the purpose of extracting nonmetallic minerals or other nonmetallic materials.

(8) "Shaft" has the meaning given in s. 101.15 (2) (a) 3., Stats.

Note: Section 101.15 (2) (a) 3., Stats., defines "shaft" as an opening made for mining minerals, for hoisting and lowering persons or material, or for ventilating underground workings.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; **correction in (1) made under s. 13.92 (4) (b) 6., Stats., Register December 2011 No. 672.**

SPS 308.05 Petition for variance. The department shall consider and may grant a variance to a provision of this chapter in accordance with ch. SPS 303. The petition for variance shall include, where applicable, a position statement from the fire department having jurisdiction.

Note: Chapter SPS 303 requires the submittal of a petition for variance form (SBD–9890) and a fee, and that an equivalency is established in the petition for variance that meets the intent of the rule being petitioned. Chapter SPS 303 also requires the department to process regular petitions within 30 business days and priority petitions within 10 business days.

Note: Form SBD–9890 is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison WI 53701–2509, telephone 608/266–1818.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; **correction made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 308.06 Penalties. The department may impose penalties and obtain additional remedies for violations of this chapter, as provided in ss. 101.02 (12) and (13) (a) and 101.15 (2) (f) 2., Stats.

Note: Section 101.02 (12), Stats., indicates that every day during which any person, persons, corporation or any officer, agent or employee thereof, fails to observe and comply with an order of the department will constitute a separate and distinct violation of such order.

Note: Section 101.02 (13) (a), Stats., indicates that if any employer, employee, owner, or other person violates ss. 101.01 to 101.25, Stats., or fails or refuses to perform any duty lawfully enjoined, within the time prescribed by the department, for which no penalty has been specifically provided, or fails, neglects or refuses to obey any lawful order given or made by the department, or any judgment or decree made by any court in connection with ss. 101.01 to 101.25, Stats., for each such violation, failure or refusal, such employer, employee, owner or other person shall forfeit and pay into the state treasury a sum not less than $10 or more than $100 for each such offense.

Note: Section 101.15 (2) (f) 2., Stats., indicates that the department may apply to a court of record for the closing of any underground mine, quarry, pit, zinc works or other excavation where the same is being operated in violation of any of its rules or orders, and the owners or operators have failed within a reasonable time to correct any unsafe methods of operation. The failure of any owner or operator to comply with the order or judgment of the court shall subject such party or parties to criminal contempt proceedings.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.07 Appeals. (1) APPEAL OF DEPARTMENT ORDER. Pursuant to s. 101.02 (6) (e), Stats., any employer or other person who owns or occupies a property that is affected by an order of the department may petition the department for a hearing on the reasonableness of the order.

Note: Section 101.01 (4), Stats., defines "employer" as any person, firm, corporation, state, county, town, city, village, school district, sewer district, drainage district and other public or quasi–public corporations as well as any agent, manager, repre-

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sentative or other person having control or custody of any employment, place of employment or of any employee.

(2) APPEAL OF LOCAL ORDER. Pursuant to s. 101.02 (7) (b), Stats., any person affected by a local order that is in conflict with an order of the department may petition the department for a hearing on the local order.

Note: Section 101.01 (8), Stats., defines "local order" as any ordinance, order, rule or determination of any common council, board of alderpersons, board of trustees or the village board, of any village or city, a regulation or order of the local board of health, as defined in s. 250.01 (3), Stats., or an order or direction of any official of a municipality, upon any matter over which the department has jurisdiction.

(3) PETITION OF ADMINISTRATIVE RULE. Pursuant to s. 227.12, Stats., any municipality, corporation or any 5 or more persons having an interest in an administrative rule may petition the department requesting the adoption, amendment or repeal of the rule.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Subchapter II – General Requirements

SPS 308.10 Notification to begin crushing operation. Each year before crushing work is commenced in a mine, pit or quarry, the person responsible for the crushing work shall notify the department that work is about to begin. The notification shall be made to the department at least 10 days prior to the beginning of crushing work in each mine, pit or quarry.

Note: The notice is required from the person responsible for the crushing work for all mines, pits and quarries where crushing work is performed, whether or not the person owns the mine, pit or quarry. Only one initial notice is required for a mine, pit or quarry where crushing work is performed on an intermittent basis during the year.

Note: Notification may be made on form SBD–6736, Notice to Begin Operation, which is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison, Wisconsin 53701–2509, telephone 608/266–1818.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.11 Arrangements for medical assistance. Each year before any work is commenced in a mine, pit or quarry, the mine, pit or quarry operator shall make arrangements for obtaining emergency medical assistance and transportation for injured persons.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.12 Permits. (1) GENERAL. Before an excavation of a shaft may be commenced, a permit shall be obtained from the department. As provided by s. 101.15 (2) (c), Stats., this section does not apply to shafts less than 50 feet in depth wherein persons are not employed, shafts not equipped with power driven hoists used for hoisting persons in and out of shafts, or shafts not covered with a flammable building.

(2) APPLICATION FOR PERMIT. Application for a shaft excavation permit shall be made on form SBD–52 together with the payment of the permit fee.

Note: Form SBD–52, Mine Shaft Excavation Permit Application, is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison, Wisconsin 53701–2509, telephone 608/266–1818.

(3) PLANS AND SPECIFICATIONS. Plans and specifications shall be submitted with the application for a shaft excavation permit which show that the shaft, excavation and workings are in compliance with this chapter.

(4) PERMIT PROCESSING TIME. The department shall review and make a determination on a shaft excavation permit application within 30 business days of receiving the required information and fees.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.13 Fees. (1) SAFETY SERVICE FEE. An annual safety service fee as specified in ch. SPS 302 shall be paid by the person or firm operating the crushing, screening or washing equipment.

(2) SHAFT EXCAVATION PERMIT FEE. A shaft excavation permit fee as specified in ch. SPS 302 shall be paid by the person applying for the permit.

(3) INSPECTION FEE. A miscellaneous inspection fee as specified in ch. SPS 302 shall be paid by the person requesting a consultation inspection of the person's operation, if that person is not required to pay a safety service fee under sub. (1).

(4) TRAINING FEE. A training fee as specified in ch. SPS 302 shall be paid by the person requesting annual refresher training provided by the department and required by the federal mine safety and health administration.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; CR02–042: am. (4), Register October 2002 No. 562, eff. 11–1–02; **correction in (1), (2), (3), (4) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 308.14 Inspections. (1) GENERAL. Pursuant to ss. 101.02 (15) (g) and 101.15 (2) (f) 1., Stats., the department may enter and cause the inspections of mines, pits and quarries in order to determine compliance with this chapter.

(2) OVERDUE INSPECTIONS. If the department determines that an inspection of a mine, pit or quarry as required under s. 101.15 (2) (f) 1., Stats., has not been performed, the department shall notify the federal mine safety and health administration that an inspection is due.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.15 Federal requirements. No person may operate a mine, pit or quarry unless the person complies with 30 USC 811, 957 and 961 and the safety and health standards in Title 30 CFR Parts 1 to 199.

Note: Authority over mines is given to the federal government under the federal Mine Safety and Health Act. The safety and health related requirements for the operation of surface and underground mines are contained in the Code of Federal Regulations issued by the Mine Safety and Health Administration, Department of Labor, under Title 30 CFR Parts 46, 56 and 57.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Subchapter III – Additions to Federal Regulations

SPS 308.20 Additions to federal regulations. The additions to the federal mine safety and health administration regulations are specified in this subchapter and are rules of the department.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.21 Abandoned shafts and wells. (1) PROTECTION. All abandoned mine shafts, exploration shafts and test wells in this state shall comply with s. 167.27 (5) and (6), Stats.

(2) MAPPING OF UNDERGROUND WORKINGS. (a) All underground workings shall be surveyed and mapped within a reasonable time as work develops. All underground workings shall be surveyed and mapped before they are allowed to become inaccessible. All surveys shall be tied to an exterior quarter section corner.

(b) Before any mine having underground workings is abandoned, the operator of the mine shall have an engineer or surveyor make a map, on a scale not smaller than 100 feet to the inch, showing all underground workings. A print or copy of such a map certified by the operator or designee as being accurate shall be filed with the department.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Which Quarry View Does Door County Want ?

• Attachment 12-1

Attachment 12-2

Quarry Before Development

Quarry **After** Development

GEI Consultants

Consulting Engineers and Scientists

January 31, 2020

VIA EMAIL: BParsons@charter.net

Attachment 14-1

Ms. Betty Parsons
Bay Shore Property Owners Association
P.O. Box 556
Sturgeon Bay, WI 54235

Re: Considerations for Imported Soil
Proposed Recreational Vehicle Village
Bay Shore Drive, Door County, Wisconsin

Dear Ms. Parsons:

We understand that a recreational vehicle (RV) and building development is being proposed on a 57-acre ledge of the former Leathem and Smith Quarry in Door County Wisconsin. The proposed development site is located on Bay Shore Drive near the George Pinney Park in the Town of Sevastopol northwest of Sturgeon Bay. As indicated in the Conditional Use Permit application dated December 2, 2019, the proposed development site is an un-reclaimed mine site at which very little plant growth exists on the bare rock surface. The bare rock surfaces will be replaced with soil with portions of the site completed as landscaped green space.

As discussed during our telephone conversation on January 30, 2020, the Bay Shore Property Owners Association (BSPOA) recognizes the environmentally sensitive nature of the exposed bedrock and is seeking clarification on criteria related to the quality of fill imported to the site. The following technical references and information are being provided for your consideration.

Soil quality is regulated, in part, by soil cleanup objectives or residual contaminant levels (RCLs) established under Chapter NR720, Wisconsin Administrative Code. These soil quality levels are calculated using exposure and toxicity assumptions recognized by the Wisconsin Department of Natural Resources (WDNR) and US Environmental Protection Agency (EPA) consist of the following:

- **Non-industrial direct contact pathway** – Concentration of a particular chemical which, if present in the soil, represents a potential risk to human health as a result of inhalation or ingestion under exposure conditions characteristic of a non-industrial land use.

- **Industrial direct contact pathway** – Concentration of a particular chemical which, if present in the soil, represents a potential risk to human health as a result of inhalation or ingestion under exposure conditions characteristic of an industrial land use.

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920.455.8200 fax: 920.455.8225

- **Groundwater pathway** – Concentration of a particular chemical which, if present in the soil, represents a potential risk to groundwater quality. Groundwater quality standards used to establish the groundwater pathway RCL generally correspond to federal drinking water standards or Wisconsin Enforcement Standards for groundwater.

- **Background Threshold Values (BTV)** – State-wide background soil concentrations for constituents commonly associated with historic anthropogenic sources and/or associated with natural geologic sources.

A copy of Chapter NR720, Wisconsin Administrative Code is attached to this letter. Also attached is a table summarizing criteria for some of the most common compounds encountered in contaminated soil. The chemical compounds summarized in this table can be used as a guide in identifying the chemical analysis to be completed for characterizing imported fill. Additional considerations include the following:

- **Non-Naturally Occurring Compounds:** The soil does not contain non-naturally occurring compounds, such as volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), pesticides, and other non-naturally occurring contaminants.

- **Polycyclic aromatic hydrocarbons (PAHs):** If the soil contains polycyclic aromatic hydrocarbons (PAHs), which may be naturally occurring, the soil concentrations should not attain or exceed the groundwater protective RCLs and do not exceed compound-specific non-industrial direct contact RCLs.

- **Naturally Occurring Compounds:** Concentrations of naturally occurring metals with established Wisconsin BTVs such as arsenic, barium, cadmium and lead, are less than the maximum allowable concentration for that contaminant.

Importing contaminated soil may be considered a discharge of a hazardous substance resulting in risk to human health and environmental quality. Accordingly, development plans should include documenting the source of the imported fill and confirming soil conditions by collecting representative samples for chemical analysis. The sampling frequency should be based on specific conditions of the imported fill including, but not limited to, the historical use of the origin property, the consistent nature of the imported fill and results of previous chemical analysis.

We trust this information will provide the guidance necessary for BSOA to facilitate responsible development of the former Leathem and Smith Quarry. Please contact us with any questions or further discussion.

Sincerely,
GEI CONSULTANTS, INC.

Paul J. Killian, P.E.
Senior Project Engineer

Encl.

Reference Table, Contaminated Soil, October 2018
Chapter NR720, Wisconsin Administrative Code

Wis. Admin. Code ch. NR 720 RCL Quick Reference Table
Contaminated Soil

October 2018

Contaminant	Not-To-Exceed D-C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	RCL-gw (mg/kg) DF=2
	Non - Industrial	Industrial	
Benzene	1.6	7.07	0.0051
Ethylbenzene	8.02	35.4	1.57
Toluene	818	818	1.1072
Xylenes	260	260	3.96
Methyl tert-Butyl Ether (MTBE)	63.8	282	0.027
Dichloroethane, 1,2- (DCA)	0.652	2.87	0.0028
Dibromoethane, 1,2-	0.05	0.221	2.82E-05
Trichloroethylene (TCE)	1.3	8.41	0.0036
Tetrachloroethylene (PCE)	33	145	0.0045
Vinyl Chloride (VC)	0.067	2.08	0.0001
Dichloroethylene, 1,1- (DCE)	320	1,190	0.005
Dichloroethylene, 1,2-trans-	1,560	1,850	0.0626
Dichloroethylene, 1,2-cis-	156	2,340	0.0412
Trichloroethane, 1,1,1-	640	640	0.1402
Carbon Tetrachloride	0.916	4.03	0.0039
Pentachlorophenol (PCP)	1.02	3.97	0.0028
Trimethylbenzene, 1,2,4-	219	219	1.3787
Trimethylbenzene, 1,3,5-	182	182	
Naphthalene	5.52	24.1	0.6582
Benzo[a]pyrene	0.115	2.11	0.47
Acenaphthene	3,590	45,200	
Anthracene	17,900	100,000	196.9492
Benz[a]anthracene	1.14	20.8	

Contaminant	Not-To-Exceed D-C RCL (mg/kg)	Not-To-Exceed D-C RCL (mg/kg)	RCL-gw (mg/kg) DF=2	Background Threshold Value (BTV) (mg/kg)
	Non - Industrial	Industrial		
Benzo(j)fluoranthene	0.424	1.76		
Benzo[b]fluoranthene	1.15	21.1	0.478	
Benzo[k]fluoranthene	11.5	211		
Chrysene	115	2110	0.1442	
Dibenz[a,h]anthracene	0.115	2.11		
Dibenzo(a,e)pyrene	0.042	0.176		
Dimethylbenz(a)anthracene, 7,12-	4.59E-04	0.008		
Fluoranthene	2,390	30,100	88.8778	
Fluorene	2,390	30,100	14.8299	
Indeno[1,2,3-cd]pyrene	1.15	21.1		
Methylnaphthalene, 1-	17.6	72.7		
Methylnaphthalene, 2-	239	3,010		
Nitropyrene, 4-	0.424	1.76		
Pyrene	1,790	22,600	54.5455	
Arsenic, Inorganic	0.677	3	0.584	8.3
Barium	15,300	100,000	164.8	364
Beryllium and compounds	156	2,300	6.32	
Cadmium (Diet)	71.1	985	0.752	1.07
Chromium(VI)	0.301	6.36	3.84	
Chromium, Total			360,000 if no Cr-VI	43.5
Lead and Compounds	400	800	27	51.6
Mercury (elemental)	3.13	3.13	0.208	
Selenium	391	5,840	0.52	

NOTES:

1) This table of the most common compounds is intended to be a quick reference ONLY. It does not take into account cumulative effects as required in Wis. Admin. Code s. NR 720.12(1).

2) Values in this table are taken from the Wis. Admin. Code ch. NR 720 RR soil RCL spreadsheet which is periodically updated. PLEASE be sure to reference this spreadsheet for the most current values.

Green denotes a carcinogenic PAH (cPAH) dependent on BaP toxicity values

Orange denotes frequently referenced compounds

There are other cPAHs in the table that are not dependent on BaP: Naphthalene; Benzo(j)fluoranthene; Dibenzo(a,e)pyrene; 7,12-Dimethylbenz(a)anthracene; 1-Methylnaphthalene; 4-Nitropyrene.

The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services, and functions under an Affirmative Action Plan. If you have any questions, please write to Chief, Public Civil Rights, Office of Civil Rights, U.S. Department of the Interior, 1849 C. Street, NW, Washington, D.C. 20240. This publication is available in alternative format (large print, Braille, etc.) upon request. Please call for more information. Note: If you need technical assistance or more information, call the Accessibility Coordinator at 608-267-7490 / TTY Access via relay - 711

This document is intended solely as guidance and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

Chapter NR 720

SOIL CLEANUP STANDARDS

NR 720.01 Purpose
NR 720.02 Applicability
NR 720.03 Definitions
NR 720.05 General
NR 720.07 Procedures for establishing soil cleanup standards applicable to a site or facility
NR 720.09 Determination of residual contaminant levels based on protection of groundwater
NR 720.11 Determining residual contaminant levels based on protection of human health from direct contact with contaminated soil
NR 720.19 Procedure for determining soil cleanup standards specific to a site or facility

NR 720.01 Purpose. The purpose of this chapter is to establish soil cleanup standards, for the remediation of soil contamination, which result in restoration of the environment to the extent practicable, minimize harmful effects to the air, lands and waters of the state and are protective of public health, safety and welfare, and the environment as required by ss. 144.442, 144.76 and 144.765, Stats., and which are consistent with ch. 160, Stats., and ch. NR 140. This chapter is adopted pursuant to ss. 144.431 (1) (a) and (b), 144.442, 144.76, 144.765 and 227.11 (2), Stats.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95; **am., Register, February, 1996, No. 482, eff. 3–1–96.**

NR 720.02 Applicability. (1) This chapter applies to all remedial actions taken by responsible parties to address soil contamination after an investigation has been conducted at a site, facility or portion of a site or facility that is subject to regulation under s. 144.442 or 144.76, Stats., regardless of whether there is direct involvement or oversight by the department. This chapter also applies to soil contamination at all of the following:

(a) Solid waste facilities, where remedial action is required by the department pursuant to s. NR 508.20 (11);

Note: Chapter NR 720 does not apply to landspreading regulated under ch. NR 518 or solid waste facilities where ongoing operations are occurring, unless remedial action is required pursuant to s. NR 508.20 (11).

(b) Hazardous waste facilities, where the owner or operator is required to close the facility pursuant to s. 144.64 (2m), Stats., or ch. NR 685, to institute corrective action pursuant to s. 144.735, Stats., or s. NR 635.17, or to meet requirements imposed by the department under s. NR 600.07 where a discharge has occurred. However, if U.S. EPA requires that states employ soil cleanup standards for hazardous waste facilities that are more stringent than the standards in this chapter, the department is obligated under the state's hazardous waste management act, ss. 144.60 to 144.74, Stats., and its hazardous waste program RCRA authorization to apply the more stringent soil cleanup standards.

(c) Wastewater lagoons, storage structures and treatment structures that are abandoned pursuant to s. NR 110.09, 213.07 or 214.08.

Note: Chapter NR 720 applies to abandonment of lagoons, storage structures and treatment structures for sewage treatment facilities projects; abandonment of lagoons, storage structures and treatment structures that receive wastewaters, associated sludges, by–product solids and any resulting leachates from industrial, commercial or agricultural sources, except as provided in s. NR 213.02 (2); and abandonment of land treatment systems for industrial liquid wastes, by–product solids and sludges, except as provided in s. NR 214.02 (3). Chapter NR 720 does not apply to activities regulated under s. 146.20, Stats., or permitted activities regulated under 40 CFR 503 or ch. NR 204, 206 or 214, including permitted land spreading of sludge or land disposal of wastewaters from municipal and domestic wastewater treatment works and permitted land treatment of industrial liquid wastes, by–product solids and sludges.

(d) Sites where remedial action is being taken by a person who is seeking the liability exemption under s. 144.765, Stats.

(2) This chapter applies to interim actions taken by responsible parties or other persons under s. 144.765, Stats., when at the completion of both the site investigation and interim action taken to address contaminated soil, the responsible parties or persons taking action under s. 144.765, Stats., request that the site or facility be closed out in accordance with ch. NR 726, without taking a subsequent remedial action to address the contaminated soil.

(3) This chapter applies to remedial actions taken by the department where a department–funded response action is being taken under the authority of s. 144.442 or 144.76, Stats.

(4) Concentrations of legally applied pesticides are exempt from the requirements of this chapter when all of the following conditions are met:

(a) The application of the pesticide was done in compliance with:

1. The pesticide label currently registered with the U.S. EPA;
2. Sections 94.67 to 94.71, Stats.; and
3. Rules adopted under ss. 94.67 to 94.71, Stats.

(b) For pesticides that are intended to be applied to the soil, pesticide concentrations exceeding soil cleanup standards are only found in the surface soil layer, where the pesticide is expected to perform its intended purpose, and only at concentrations that would be expected from pesticide application, in compliance with the pesticide label requirements.

Note: The depth of the surface layer of soil will vary depending on the type of pesticide applied and the appropriate intended use of that pesticide.

(5) The department may exercise enforcement discretion on a case–by–case basis and choose to regulate a site, facility or a portion of a site or facility under only one of a number of potentially applicable statutory authorities. However, where overlapping restrictions or requirements apply, the more restrictive control. The department shall, after receipt of a request from a responsible party, provide a letter that indicates which regulatory program or programs the department considers to be applicable.

Note: Sites, facilities or portions of a site or facility that are subject to regulation under s. 144.442 or 144.76, Stats., may also be subject to regulation under other statutes, including solid waste statutes, ss. 144.43 to 144.47, Stats., or the hazardous waste management act, ss. 144.60 to 144.74, Stats., and the administrative rules adopted pursuant to those statutes. One portion of a site or facility may be regulated under a different statutory authority than other portions of that site or facility. When necessary, the department will, to the best of its ability, facilitate coordination between the regulatory programs involved.

(6) The department may take any action within the context of regulatory programs established in statutes or rules outside this chapter, if those actions are necessary to protect public health, welfare or safety or prevent a damaging effect on the environment for present and future uses, whether or not a soil cleanup standard has been adopted under this chapter.

(7) Nothing in this chapter authorizes an impact on soil quality that would cause a violation of a groundwater quality standard contained in ch. NR 140, an impact on soil quality or groundwater quality that would cause a violation of a surface water quality standard contained in chs. NR 102 to 106 or an impact on soil quality that would cause a violation of an air quality standard contained in chs. NR 400 to 499.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95; **cr. (1) (d), am. (2); Register, February, 1996, No. 482, eff. 3–1–96.**

NR 720.03 Definitions. In this chapter:

(1) "Aquifer" means a saturated subsurface geological formation of rock or soil.

(2) "Contaminant of concern" means a hazardous substance that is present at a site or facility in such concentrations that the contaminant poses an actual or potential threat to human health, safety or welfare or the environment based upon:

(a) The toxicological characteristics of the hazardous substance that influence its ability to adversely affect human health or the environment relative to the concentration of the hazardous substance at the site or facility;

(b) The chemical and physical characteristics of the hazardous substance which govern its tendency to persist in the environment and the chemical, physical and biological characteristics at the site or facility which govern the tendency for the hazardous substance to persist at the site or facility;

(c) The chemical and physical characteristics of the hazardous substance which govern its tendency to move into and through environmental media;

(d) The naturally occurring background concentrations of the hazardous substance;

(e) The thoroughness of the testing for the hazardous substance at the site or facility;

(f) The frequency that the hazardous substance has been detected at the site or facility; and

(g) Degradation by–products of the hazardous substance.

(3) "Cumulative excess cancer risk" means the upper bound on the estimated excess cancer risk associated with exposure to multiple hazardous substances or multiple exposure pathways.

(4) "Direct contact" means human exposure to substances in soil through inhalation of particulate matter or incidental ingestion of soil.

Note: The definition of direct contact will be expanded in future revisions to include human exposures by inhalation of vapors and dermal absorption.

(5) "Hazard index" means the sum of 2 or more hazard quotients for multiple hazardous substances or multiple exposure pathways.

(6) "Hazard quotient" means the ratio of the exposure of a single hazardous substance over a specified time period to a reference dose, or reference concentration where appropriate, for that hazardous substance derived for a similar exposure period.

Note: Hazard quotients and the hazard index are measures of noncarcinogenic risk.

(7) "Incidental ingestion of soil" means ingestion of soil by humans as a result of normal hand–to–mouth behaviors.

(8) "Inhalation of particulate matter" means inhalation by humans of air with contaminated soil particles less than 10 microns in diameter.

(9) "Limit of detection" means the lowest concentration level that can be determined to be statistically different from a blank.

Note: This definition of "limit of detection" is consistent with ss. NR 140.05 (12) and 149.03 (15).

(10) "Limit of quantitation" means the lowest concentration for an analytical test method and sample matrix at which the quantity of a particular substance can be measured with a stated degree of confidence.

(11) "Pathway" means the route a substance takes in traveling to a receptor or potential receptor or the specific portal of entry, such as lungs, skin or digestive tract, the substance takes to potentially express its toxic effect, or both.

Note: The food chain pathway for cadmium, for example, refers to cadmium being taken up in plant tissue and the plant tissue being ingested by an organism.

(12) "Responsible parties" means:

(a) Persons who are required to address soil contamination under s. 144.76, Stats., or who agree to address soil contamination in a contract entered into under s. 144.442, Stats.

(b) Owners and operators of solid waste facilities that are subject to regulation under ch. NR 508;

(c) Owners and operators of hazardous waste facilities that are subject to the closure requirements of s. 144.64 (2m), Stats., or ch. NR 685 or the corrective action requirements of s. 144.735, Stats., or s. NR 635.17 or where the department has imposed special requirements where a discharge has occurred under s. NR 600.07; and

(d) Owners and operators of wastewater lagoons, storage structures or treatment structures that are abandoned and are subject to regulation under s. NR 110.09, 213.07 or 214.08.

(13) "Restricted access areas" means land immediately adjacent to highways or railroad right–of–ways, where the presence of structural controls, such as fencing, has eliminated pedestrian ingress by the public.

(14) "Risk" means the probability that a hazardous substance, when released to the environment, will cause adverse effects in exposed humans or other biological receptors.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

NR 720.05 General. (1) Responsible parties shall select and implement a remedial action to address soil contamination when, after any of the following investigations has been completed, information collected during the investigation indicates that a remedial action to address soil contamination is necessary to achieve compliance with the requirements of this chapter:

(a) Site investigation report developed in accordance with ch. NR 716 at sites or facilities subject to regulation under s. 144.442 or 144.76, Stats.

(b) Solid waste in–field conditions report prepared in accordance with the requirements of s. NR 508.20 (11).

(c) Investigation done under a hazardous waste closure plan or a RCRA facility investigation report, developed in accordance with the requirements of ch. NR 685 or s. NR 635.17 or 600.07.

(d) Investigation done under a wastewater facility, structure or system abandonment plan developed in accordance with the requirements of s. NR 110.09 (2) (r), 213.07 or 214.08.

Note: Remedial actions at some types of sites or facilities, such as the abandonment of wastewater lagoons, may only have to comply with ch. NR 720 and not other requirements in the NR 700 series, such as the minimum site investigation requirements in ch. NR 716. In this case, the department or responsible parties may choose to use the other chapters of the NR 700 rule series as guidance for complying with ch. NR 720.

(2) Remedial actions conducted by responsible parties to address soil contamination shall be designed and implemented to restore the contaminated soil to levels that, at a minimum, meet the soil cleanup standards for the site or facility determined in accordance with this chapter.

(3) If all soil contaminant concentrations meet applicable soil cleanup standards after a remedial action is completed, the department may not require further remedial action for soils, unless the department determines that the residual soil contamination:

(a) Presents a threat to public health, safety or welfare or the environment at the site or facility;

(b) Will cause a violation of a groundwater quality standard contained in ch. NR 140;

(c) Will cause a violation of a surface water quality standard contained in chs. NR 102 to 106; or

(d) Will cause a violation of an air quality standard contained in chs. NR 400 to 499.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

NR 720.07 Procedures for establishing soil cleanup standards applicable to a site or facility. (1) GENERAL. (a) Responsible parties shall use information from the sources listed in s. NR 720.05 (1) to determine the residual contaminant levels or performance standards for each exposure or migration pathway of concern for each soil contaminant of concern at a site or facility in accordance with ss. NR 720.09 to 720.19.

(b) In addition to meeting the requirements of par. (c), responsible parties shall establish the soil cleanup standard for each soil contaminant of concern at the site or facility as:

1. The residual contaminant level which is the lowest concentration of those determined in accordance with the requirements of ss. NR 720.09 to 720.19 (3); or

Note: Numeric residual contaminant levels are determined separately for each exposure or migration pathway of concern at a site. These residual contaminant levels are not the soil cleanup standard for the site. The soil cleanup standard for the site is determined by selecting the lowest concentration from among the individual residual contaminant levels determined for each pathway.

2. A performance standard determined in accordance with s. NR 720.19 (2).

(c) In addition to meeting the requirements of par. (b), a soil cleanup standard developed under this chapter shall comply with the following requirements:

1. Residual soil contamination at the site or facility shall not adversely affect surface water;

2. Residual soil contamination at the site or facility shall not adversely affect a sensitive environment; and

3. Residual soil contamination at the site or facility shall not concentrate through plant uptake and adversely affect the food chain.

Note: It is the department's intention to adopt in the future soil cleanup standards based on protection of human food chain exposures, protection of surface water quality and protection of terrestrial ecosystems after exposure assumptions and methods have been developed to allow the department to calculate soil cleanup standards for these pathways of exposure. Responsible parties are required by ss. NR 720.07 (2) and 720.19 (6) to consider human food chain exposures, the protection of surface water quality and the protection of terrestrial ecosystems, if these pathways are of concern, when determining a residual contaminant level at a site or facility.

(2) COMPLIANCE WITH SOIL CLEANUP STANDARDS. (a) Contaminant concentrations in soil samples shall be determined using a department–approved and appropriate analytical method and reported on a dry weight basis. An appropriate analytical method shall have limits of detection or limits of quantitation, or both, at or below soil cleanup standards where possible. Responsible parties shall report the limit of detection and the limit of quantitation with sample results. The department may require that supporting documentation for the reported limit of detection and limit of quantitation be submitted.

(b) If a soil contaminant concentration in a sample exceeds the soil cleanup standard at or above the limit of quantitation for that soil contaminant, the soil cleanup standard shall be considered to have been exceeded.

(c) If a soil cleanup standard for a soil contaminant is between the limit of detection and the limit of quantitation, the soil cleanup standard shall be considered to be exceeded if the soil contaminant concentration is reported at or above the limit of quantitation.

(d) The following applies when a soil cleanup standard for a soil contaminant is below the limit of detection:

1. If a soil contaminant is not detected in a sample, the soil cleanup standard shall not be considered to have been exceeded.

2. If a soil contaminant is reported above the limit of detection but below the limit of quantitation, the soil cleanup standard shall be considered to have been exceeded if the presence of that soil contaminant has been confirmed by the use of an appropriate analytical method.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

NR 720.09 Determination of residual contaminant levels based on protection of groundwater. (1) CRITERIA AND PROCESS USING GENERIC RESIDUAL CONTAMINANT LEVELS. If all of the following criteria are met, responsible parties may use one of the methods in sub. (3) and, where applicable, the standards in sub. (4) to determine residual contaminant levels based on groundwater protection for a site or facility:

(a) An investigation has been conducted and completed in accordance with applicable administrative rules, as specified in s. NR 720.05 (1);

(b) The contaminants of concern are listed in Table 1, except that at sites or facilities with petroleum contamination where gasoline range organics (GRO) or diesel range organics (DRO), or both, are the only contaminants of concern present other than contaminants listed in Table 1, the standards in sub. (4) (a) may be used for non–specific GRO or DRO contamination in addition to the methods in sub. (3) which are applicable to contaminants listed in Table 1;

(c) The horizontal and vertical degree and extent of contamination is defined;

(d) The vertical distance from the base of the contaminated soil to carbonate bedrock (limestone or dolostone) or fractured bedrock is one meter (3.28 feet) or greater;

(e) The vertical thickness of the residual soil contamination is 6 meters (19.69 feet) or less; and

(f) None of the residual contaminants or combinations of residual contaminants at the site or facility are known to contribute to facilitated transport or cosolvent effects.

Note: In some cases, a contaminant or combination of contaminants may contribute to an increased potential for migration of contaminants to groundwater by facilitated transport or by acting as a solvent for other contaminants, which would make the use of the values in Table 1 inappropriate. An example of facilitated transport might be polychlorinated biphenyls (PCBs) in the presence of an oily phase. An example of cosolvency might be polycyclic aromatic hydrocarbons (PAHs) in the presence of alcohols, where the alcohol acts to increase the solubility of the PAHs.

Note: If a site or facility meets the criteria in sub. (1), responsible parties are not required to use the methods for generic residual contaminant levels in sub. (3). The procedure in s. NR 720.19 may be used to determine site–specific soil cleanup standards even when the site or facility meets the criteria in sub. (1).

(2) SITE–SPECIFIC PROCESS. If any of the criteria in sub. (1) are not met, responsible parties shall use the procedure in s. NR 720.19 to determine soil cleanup standards specific to a site or facility based on groundwater protection.

(3) METHODS FOR DETERMINING GENERIC RESIDUAL CONTAMINANT LEVELS. Responsible parties may select one of the following methods to determine residual contaminant levels based on groundwater protection for sites or facilities that meet all of the criteria in sub. (1) in addition to meeting the requirements of sub. (4), if applicable:

(a) *Method 1.* Responsible parties may use the residual contaminant levels based on protection of groundwater listed for each substance in Table 1.

(b) *Method 2. 1.* Responsible parties may determine the residual contaminant levels based on protection of groundwater using the baseline concentration for each substance listed in Table 1 multiplied by a groundwater dilution factor specific to the site or facility determined using parameter values from the site or facility determined in accordance with subd. 2. and a groundwater mixing zone depth of 5 feet (152.4 cm) in the following equation:

$$DF = 1 + \frac{K \times 1 \times d}{R \times 1}$$

Where:

DF = groundwater dilution factor,

K = hydraulic conductivity (cm/day),

I = hydraulic gradient (cm/cm)

d = depth of groundwater mixing zone (cm)

R = average groundwater recharge rate (cm/day), and

l = horizontal extent of contaminated soil parallel to the hydraulic gradient (cm).

2. Parameter values specific to the site or facility shall be determined as follows:

a. Hydraulic conductivity shall be determined as the geometric mean of values determined from appropriate aquifer tests.

Appropriate aquifer tests may include slug tests and pumping tests, and shall be properly performed using accepted practices.

b. Hydraulic gradient shall be determined using water level measurements from a minimum of 3 groundwater monitoring wells whose screens intersect the same hydrogeologic unit using the procedures specified in s. NR 716.13 (8). In cases where the magnitude of the hydraulic gradient is known to vary, an average value shall be used.

Note: Section NR 716.13 (8) requires that water levels be measured and recorded to the nearest 0.01 foot prior to obtaining a groundwater sample from the well.

c. Horizontal extent of contaminated soil parallel to the hydraulic gradient shall be determined as the maximum lateral extent from the information listed in s. NR 720.05 (1) and direction of the hydraulic gradient determined in subd. 2. b. In cases where the direction of the hydraulic gradient is known to vary, the longest appropriate dimension shall be used.

d. Average groundwater recharge rate shall be determined using an appropriate method or a default value of 0.07 cm/day.

Note: The default value of 0.07 cm/day is equivalent to an average annual recharge rate of 10 inches/year (25.4 cm/year).

Note: Average groundwater recharge rate can be approximated from the infiltration rate less the evapotranspiration rate. Appropriate methods may include the review of literature sources applicable to the site or facility or the use of field measurements, analytical solutions for estimating infiltration rate combined with analytical or empirical equations for estimating of evapotranspiration, or water balance approaches, among others. It is preferable to overestimate the average groundwater recharge rate rather than underestimate it.

Note: In some cases, use of Method 2 will yield residual contaminant levels lower than those for Method 1. In such cases, the residual contaminant level for Method 1 can be used.

(4) PETROLEUM CONTAMINATION. (a) *Generic residual contaminant levels.* 1. For sites or facilities with petroleum contamination where subd. 2. is not applicable, the soil cleanup standard for gasoline range organics (GRO) or diesel range organics (DRO) is a concentration in soil that may not exceed 100 milligrams per kilogram for either GRO or DRO.

2. For sites or facilities with petroleum contamination where contaminated soils and soils below the contaminated soil for a depth of 3 meters have a hydraulic conductivity of $1x10^{-6}$ cm/s or less, the soil cleanup standard for gasoline range organics (GRO) or diesel range organics (DRO) is a concentration in soil that may not exceed 250 milligrams per kilogram for either GRO or DRO.

Note: Milligrams per kilogram (mg/kg) is equivalent to parts per million (ppm) in soil.

(b) *Site–specific determination.* For sites or facilities with petroleum contamination where the concentration of gasoline range organics or diesel range organics, or both, is greater than the concentration specified in par. (a), Table 1 may be used to determine the residual contaminant levels for the compounds listed in Table 1 and soil cleanup standards for gasoline range organics and diesel range organics may be determined using the procedure in s. NR 720.19.

Table 1

Baseline Concentrations, Dilution Attenuation Factors And Residual Contaminant Levels Based on Protection of Groundwater

Substance	Baseline Concentration µg/kg	Dilution Attenuation Factor	Residual Contaminant Level µg/kg
Benzene	0.093	59	5.5
1,2Dichlorethane	0.041	120	4.9
Ethylbenzene	42	70	2900
Toluene	18	81	1500
Xylenes (total)	47	87	4100

Note: Micrograms per kilogram (µg/kg) is equivalent to parts per billion (ppb) in soil. Soil concentrations are on a dry weight basis.

Note: The residual contaminant levels for Method 1 listed in Table 1 represent concentrations of contaminants that can remain in soil at a site and not cause a violation of a ch. NR 140 preventive action limit in groundwater. These residual contaminant levels are based on the baseline concentration for a substance multiplied by the dilution attenuation factor for that substance listed in Table 1.

Note: The residual contaminant levels in Table 1 are based on protection of groundwater. These concentrations of hazardous substances in soil may not be protective of other pathways of concern.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

NR 720.11 Determining residual contaminant levels based on protection of human health from direct contact with contaminated soil. (1) LAND USE CLASSIFICATION. (a) Responsible parties shall determine an appropriate land use classification for the site or facility in compliance with pars. (b) to (d), unless otherwise directed by the department.

(b) Responsible parties shall classify the land use of a site or facility as non–industrial unless all of the following criteria are met:

1. The site or facility is currently zoned for, or otherwise officially designated for, industrial use.

Note: A site or facility may be officially designated for industrial use by the issuance of a conditional use or special exception permit that allows an industrial use of that site or facility in a non– industrial zoning district or by the designation of an area as industrial in a county development plan or a municipal master plan, among other means.

2. The site or facility is expected to be used for industrial purposes due to zoning, statutory or regulatory restrictions, comprehensive plans, adjacent land use or other relevant factors.

3. More stringent residual contaminant levels for soil are not necessary to protect public health on or off the site or facility.

Note: Situations where s. NR 720.11 (1) (b) 3. would apply include site or facilities which could otherwise be classified as industrial, but where proximity to a nonindustrial land use, such as residential housing located across the street, makes a nonindustrial classification more appropriate.

(c) The land use of a site or facility may be classified as industrial if all of the criteria in par. (b) are met and if a deed restriction which meets the requirements of s. NR 726.05 (8) is recorded within 30 days after remedial action is initiated at the site or facility.

(d) The industrial column in Table 2 may be applied to restricted access areas unless more stringent residual contaminant levels are necessary to protect public health on or off the site.

Note: A deed restriction must be recorded if soil cleanup levels based on industrial exposure are used.

(2) CRITERIA AND PROCESS FOR USING GENERIC RESIDUAL CONTAMINANT LEVELS. If all of the following criteria are met for a site or facility, responsible parties may use the residual contaminant levels based on protection from direct contact listed for each substance in Table 2 which are appropriate for the site or facility in accordance with the land use classification determined in sub. (1), unless sub. (3) or (5), or both, applies:

(a) An investigation has been conducted in accordance with applicable administrative rules, as specified in s. NR 720.05 (1);

(b) The contaminants of concern present at the site or facility are listed in Table 2; and

Note: For example, at a site where soils are contaminated with diesel fuel, polynuclear aromatic hydrocarbon (PAH) compounds are present and may be considered contaminants of concern. With the exception of naphthalene, PAH compounds are generally only of concern for direct contact due to their relatively low migration potential.

(c) The horizontal and vertical degree and extent of contamination is defined.

Note: If a site or facility meets the criteria in s. NR 720.11 (2) responsible parties are not required to use the procedure for generic residual contaminant levels in sub. (2). The procedure in s. NR 720.19 may be used to determine site–specific soil cleanup standards even when the site or facility meets the criteria in sub. (2).

(3) CUMULATIVE RISK. (a) The cumulative excess cancer risk may not exceed $1x10^{-5}$ and the hazard index for non–carcinogens may not exceed one for the contaminants of concern at a site or facility.

(b) Risks for carcinogens and for non–carcinogens are presumed to be additive within each category. The residual contaminant levels in Table 2 shall be prorated downward to keep the cumulative risk below the levels specified in par. (a).

Note: The residual contaminant levels for non–industrial land use in Table 2 are based on an excess cancer risk of 1¿10 for carcinogens or a hazard quotient of 0.2 for

noncarcinogens. These levels are intended to be analogous with the preventive action limits in ch. NR 140.

(4) SITE–SPECIFIC PROCESS. If any of the criteria in sub. (2) are not met, responsible parties shall use the procedure in s. NR 720.19 to determine soil cleanup standards specific to a site or facility based on protection from direct contact.

(5) EXCEPTIONS. If the background concentration for a substance in soil at a site or facility is higher than the residual contaminant level for that substance listed in Table 2 or determined using the procedure in s. NR 720.19 (3), the background concentration in soil may be used as the residual contaminant level for that substance. The background concentration for a substance in soil shall be determined using a department–approved and appropriate method.

Note: Naturally occurring background concentrations of arsenic in soil, for example, may be higher than the residual contaminant level for arsenic listed in Table 2. In such instances, the naturally occurring background concentration should be used as the soil cleanup level.

Table 2

Residual Contaminant Levels Based On

Human Health Risk From Direct Contact Related To Land Use

(milligrams per kilogram)

Substance	Non–Industrial	Industrial	Basis
Arsenic	0.039	1.6	cancer
Cadmium	8	510	noncancer
Chromium, hexavalent	14	200	cancer
Chromium, trivalent	16,000	NA	noncancer
Lead	50	500	noncancer

NA= Not applicable

Note: Milligrams per kilogram (mg/kg) is equivalent to parts per million (ppm) in soil. Soil concentrations are on a dry weight basis.

Note: The residual contaminant levels in Table 2 are based on protection of human health from direct contact through ingestion of soil or inhalation of particulate matter. These concentrations of hazardous substances in soil may not be protective of other pathways of concern. The definition of direct contact will be expanded in future revisions to include human exposures by inhalation of vapors and dermal absorption. In addition, these levels may be higher than those which would be characteristic of hazardous waste when tested using the toxicity characteristic leaching procedure (TCLP), U.S. EPA Method 1311.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

NR 720.19 Procedure for determining soil cleanup standards specific to a site or facility. (1) GENERAL. (a) Responsible parties shall propose a soil cleanup standard specific to a site or facility in accordance with the requirements of this section when required in ss. NR 720.09 to 720.11 or if it is determined that it is not practicable to achieve the residual contaminant level for a soil contaminant specified in ss. NR 720.09 to 720.11 using on–site remedial action or, if the responsible party chooses to utilize off–site remedial actions, using off–site remedial action or a combination of on–site and off–site remedial actions at a site or facility.

(b) Responsible parties shall establish a soil cleanup standard for a specific soil contaminant or physical location at a site or facility using one of the methods in sub. (2) or (3).

(2) PERFORMANCE STANDARD. If selected, a performance standard shall be established for a remedial action so that the remedial action is operated and maintained, in compliance with chs. NR 722 and 724 when those chapters are applicable to the site or facility, until the lowest concentration that is practicable is achieved or a permanent engineering control is maintained, or both, so that the residual contaminants left in the soil do not pose a threat to public health, safety and welfare or the environment.

Note: Examples of performance standards include the allowable rate of infiltration by soil contaminants into the groundwater after a membrane liner has been installed, or the rate or percentage of removal efficiency offered by an in–situ treatment system at a specific site or facility. At a site or facility where an engineering control is being considered for selection, in accordance with the requirements of ch. NR 722, an engineering control may be selected even though the soil contaminants exceed a residual contaminant level.

(3) RESIDUAL CONTAMINANT LEVELS SPECIFIC TO A SITE OR FACILITY. If selected, residual contaminant levels specific to a site or facility shall be established that are protective of public health, safety and welfare and the environment and restore the environment to the lowest concentration practicable, in accordance with the requirements of sub. (4) to (6). Even in cases where the procedure in sub. (3) is selected by the responsible party, the procedure in sub. (2) may be used when the residual contaminant levels established under sub. (3) are not practicable to achieve.

(4) PROTECTION OF GROUNDWATER. (a) Residual contaminant levels for soil based on protection of groundwater shall be developed using the preventive action limits (PALs) established in ch. NR 140 or using procedures consistent with the methodology in ss. 160.13 and 160.15, Stats., and the criteria in s. NR 722.07 (2) (b) 2. when there is no preventive action limit as the target concentrations in groundwater.

Note: In developing a residual contaminant level, any relevant information shall be considered, including public welfare concerns for groundwater, such as taste and odor.

(b) Responsible parties shall use one or more of the methods listed in this paragraph based on scientifically valid procedures that are subject to department review and approval and site–specific geological, physical and chemical conditions to establish residual contaminant levels.

1. A contaminant transport and fate model.

2. Leaching tests appropriate for the site or facility in both application and extent.

3. Any other appropriate method approved by the department for that specific site or facility, or other appropriate method suggested in department guidance.

(5) PROTECTION OF HUMAN HEALTH FROM DIRECT CONTACT. (a) *General.* Residual contaminant levels for soil based on protection of human health from direct contact shall be developed:

1. For individual compounds using the excess cancer risk of $1x10^{-6}$ and the hazard quotient for non–carcinogens of one; and

2. So that the cumulative excess cancer risk will not exceed $1x10^{-5}$ and the hazard index for non–carcinogens will not exceed one for the site or facility.

3. Risks for carcinogens and for non–carcinogens are presumed to be additive within each category, unless there is specific information that demonstrates that an alternative approach is more appropriate.

4. If toxicological indices for both carcinogenic and non–carcinogenic end points exist for a substance, both shall be evaluated and the value that generates the lowest residual contaminant level shall be used for the site or facility.

(b) *Methods and procedures.* Responsible parties shall determine a residual contaminant level to protect public health from direct contact with soil contamination using scientifically valid procedures and toxicological values approved by the department and the default exposure assumptions identified in par. (c) or alternative assumptions specifically approved by the department in writing.

Note: The department will generally consider toxicological values in the following order: recommendations of the department of health and social services; indices contained in U.S. EPA's Integrated Risk Information System (IRIS); indices contained in U.S. EPA's Health Effects Assessment Summary Tables (HEAST); recommendations of U. S. EPA's Environmental Criteria and Assessment Office; indices withdrawn from IRIS; indices withdrawn from HEAST; and other pertinent toxicological information.

(c) *Default exposure assumptions.* 1. Non–carcinogens. When the contaminant is not a carcinogen, the following default exposure assumptions shall be used:

a. When the land use of a site or facility is classified as non–industrial, in accordance with s. NR 720.11 (1), incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil

per day for a 15 kg child for 350 days each year and inhalation of particulate matter shall be assumed to occur at the inhalation rate of 20 m^3 of air per day with a concentration of 1.4 $\mu g/m^3$ of contaminated soil particles less than 10 μm in diameter for 350 days each year, for 6 years.

b. When the land use of a site or facility is classified as industrial, in accordance with s. NR 720.11 (1), incidental ingestion of soil shall be assumed to occur at the rate of 100 mg of soil per day for a 70 kg adult worker for 250 days each year and inhalation of particulate matter shall be assumed to occur at the inhalation rate of 24 m^3 of air per day with a concentration of 1.4 $\mu g/m^3$ of contaminated soil particles less than 10 m in diameter for 250 days each year, for 25 years.

2. Carcinogens When the contaminant is a carcinogen, the following default exposure assumptions shall be used:

a. When the land use of a site or facility is classified as non–industrial, in accordance with s. NR 720.11 (1), incidental ingestion of soil shall be assumed to occur at the rate of 200 mg of soil per day for 350 days each year for 6 years for a 15 kg child and the rate of 100 mg per day for 350 days each year for 24 years for a 70 kg adult and inhalation of particulate matter shall be assumed to occur at the inhalation rate of 20 m^3 of air per day with a concentration of 1.4 $\mu g/m^3$ of contaminated soil particles less than 10 μm in diameter for 350 days each year for 30 years, during a 70 year lifetime.

b. When the land use of a site or facility is classified as industrial, in accordance with s. NR 720.11 (1), incidental ingestion of soil shall be assumed to occur at the rate of 100 mg of soil per day for 250 days each year for a 70 kg adult worker and inhalation of particulate matter shall be assumed to occur at the inhalation rate of 24 m^3 of air per day with a concentration of 1.4 $\mu g/m^3$ of contaminated soil particles less than 10 μm in diameter for 250 days each year, for 25 years during a 70 year lifetime.

Note: Department approval of alternative exposure assumptions for a site or facility will be based on consultation with the department of health and social services.

(6) OTHER PATHWAYS OF CONCERN. Responsible parties shall consider human food chain, surface water quality and terrestrial ecosystem pathways of exposure, when those pathways of exposure are of concern at a site or facility.

Note: In some cases, the potential for contaminant migration or exposure to contamination through other pathways may be of concern at a site or facility. These situations could include contaminated soil in close proximity to a surface water where the potential for runoff from the site or facility to cause an impact on surface water quality exists or contaminated soil where potential for bioaccumulation through the food chain resulting in adverse impacts to human health or terrestrial ecosystems exists. Section NR 720.19 (6) requires responsible parties to establish appropriate residual contaminant levels protective of these pathways when necessary.

(7) SUBMITTALS. (a) Unless otherwise directed by the department, submittals under this section shall be included in the site investigation report or the draft remedial action options report required under s. NR 700.11 (2) (b).

(b) Submittals to the department under this section shall include all of the following:

1. Complete background information and supporting documentation for the procedure to be used;

2. Documentation that the application of the procedure is valid for the site or facility under consideration;

3. Necessary data and documentation needed to fully evaluate the submittal; and

4. Legible copies of source documents or pertinent portions of source documents.

Note: The use of references to source documents alone in a submittal is generally not adequate for efficient department review. For example, background documentation for a given contaminant transport and fate model or articles in obscure publications may not be readily available or accessible to department staff. Considerable time can be spent in obtaining this documentation before a submittal can be reviewed. In order to facilitate department review of submittals, legible copies of entire source documents or the pertinent portions of source documents sufficient to evaluate the method or procedure used should be included with the submittal. The department will not purchase documents in order to review a particular submittal.

History: Cr. Register, March, 1995, No. 471, eff. 4–1–95.

The $40 Million Question

• Attachment 15-A-1

On pages 36, 370, and 371 the application states that the expected assessed value of the Quarry Bluff development will be "in the range of", and "conservatively" $40 million.

Where does this number come from? What is the expected assessed value using comparable or data supported calculations?

Where does the application number of $40 million come from ?

Using the statements on page 36 and 371, the value seems to come from the average value of the houses east of the property, with an assumed 80 units constructed. The calculation then is $500,000 x 80 = $40 million.

This calculation assumes that the 1200 to 2400 square foot dwelling, with no or much more limited view will have the same value as houses "on the bluff". Another problem with this calculation approach is that the most recent home sale to the east, on the bluff overlooking the quarry is 6433 Whitefish Bay Road. It sold for $425,000 in May 2019. It is 2326 ft^2 on 1.56 acres, with 3 bedrooms, den, 4 season porch, 3 baths, and dining room.

There are 2 other ways to estimate the expected assessed value.

Method 1: Comparables

Anyone who has bought or sold a house knows that it is most often based on comparable property. In this case there is a very good comparable available; the Hearthside Grove Motorcoach Resort in Petoskey, Michigan. This development is in a similar vacation-oriented area as Door County at almost the same latitude. Development there began in 2003 with the first sale in 2007. After 12 years, 152 of the 163 total Hearthside Grove Petoskey properties have been sold.

According to Emmet County Michigan tax records, the total taxable value of the Hearthside Grove Petoskey development is (RV sites common area, clubhouse, and 138 acre site combined) is about $17 million. Proportioning the number of lots to Quarry Bluff's 117 brings the expected value of the Quarry Bluff development to (117/163) * 17 million = $12.2 million.

Hearthside Grove Petoskey is surrounded by a light industrial area, with lesser views than Quarry Bluff. This may depress its taxable value, but not by a factor of more than 300%.

Method 2: Surrounding Area Tax Assessments

Another valuation method is to use the actual assessed value of neighboring properties rather than an assumed value.

Tax data was collected from Door County tax records on 60 properties within ¼ mile of the proposed Quarry Bluff development. From these data it was found:

Total Tax Assessment: $28.5 million
Average Parcel size: 1.8 acres
Average Land Tax Assessment (not waterfront): $67,435 per acre

48 of the 60 nearby property owners had improvements to the property. 21 of these 48 owners provided information on the improved square feet and number of bedrooms for these properties. In summary:

Average Home Size: 3,005 ft^2
Average Number of Bedrooms: 3
Average Improvement Tax Assessment: $115 / ft^2

From Hearthside Grove tax value records, common areas are valued at $15,949 per acre. RV parcel land was valued at the $67,435 per acre Sevastopol neighboring parcel average.

Using these data, with the sales assumptions (80 units sold), the expected Quarry Bluff tax assessment value is $19.9 million.

Of course, this assessed value will build up over years. Using the sales history of the comparable Hearthside Grove development, the estimated Quarry Bluff value is:

Year 1:	$ 6.8 million
Year 4:	$ 12.6 million
Year 7:	$ 18.5 million
Year 10:	$ 19.9 million

How Much Impact Does This Have on Sevastopol and Taxpayers

Using publicly posted tax rates and Town of Sevastopol demographic information, how much tax revenue will the Quarry Bluff development produce? Using the Method 2 "Surrounding Area Tax Assessments", the estimated average increased tax collected (saved?) will be:

Year 1:	$ 28.25 per Sevastopol Household
Year 4:	$ 52.10 per Sevastopol Household
Year 7:	$ 76.14 per Sevastopol Household
Year 10:	$ 81.82 per Sevastopol Household

Cost of the New Tax Money

History proves that "there is no such thing as a free lunch" and with major new developments comes added taxpayer costs.

What will be the reduction of the $28 million assessed value of the neighboring properties?

What will the impact be for increased police, fire and other public services with 117 new dwellings and short term rentals?

What will the impact be on the roads in the area? Will the Bay Shore Drive shoulder need to be widened? Will the roads being traversed by new heavy septic vehicles and 16 ton RV's need more taxpayer funded maintenance and replacement?

None of these costs are mentioned in the Quarry Bluff CUP application.

Should impact fees be imposed?

James V. Mitsche
January 6, 2020

The $40 Million Question

- The Application Claims that Quarry Bluff will have a $40 Million Tax Assessment
- Estimate Based on the Value of Nearby Houses to the East
- Nearby Houses are Larger with Acre+ lots
- **Comparable Development** (Hearthside Grove, Petoskey Michigan) Taxable Value after 12 Years and 40% more parcels is $17.1 Million
- A Calculation Based on Actual Tax Assessment Data for Houses with ¼ mile of Quarry Bluff Estimates a Tax Assessment of $19.9 Million after 10 years
- After 10 Years, Quarry Bluff may pay Annual $80 tax per Average Sevastopol Household
- What About New Taxpayer Expenses for Police, Fire, Roads, and Other ?

• Attachment 15-A-2

PID	PAR_ADDR	PAR_CITY	PAR_ST	PAR_ZIP	OWNER1	OWN_ADDR	OWN_CITY	OWN_ST	Acres	Created	Taxable Value
01-16-25-300-031					FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	27.95	8/31/2004	27,105
01-16-25-105-102	4817 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.16	10/26/2007	1,546
01-16-25-105-103	4825 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.12	10/26/2007	1,546
01-16-25-105-104	4831 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.14	10/26/2007	1,546
01-16-25-105-105	4837 FIELDSTONE BLVD	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.16	10/26/2007	1,546
01-16-25-105-106	2292 CIDERPRESS DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.17	10/26/2007	1,546
01-16-25-105-138	2284 HEARTHSIDE DR	PETOSKEY	MI	49770	LATTMANN STEPHEN E TRUST	3718 SANDSPUR LANE	NOKOMIS	FL	34275	0.16	10/26/2007	82,800
01-16-25-105-139	2272 HEARTHSIDE DR	PETOSKEY	MI	49770	MCCURRY RALPH W SR	PO BOX 109	MINOR HILL	TN	38473	0.14	10/26/2007	24,554
01-16-25-105-140	2260 HEARTHSIDE DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.13	10/26/2007	79,654
01-16-25-105-141	2248 HEARTHSIDE DR	PETOSKEY	MI	49770	AMIGO R & L INC	56933 BUCKHORN RD	THREE RIVERS	MI	49093	0.17	10/26/2007	132,900
01-16-25-105-142	2234 HEARTHSIDE DR	PETOSKEY	MI	49770	BALL ERIC W TRUST	1833 WILEY POST TRAIL	PORT ORANGE	FL	32128	0.18	10/26/2007	99,532
01-16-25-105-143	2226 HEARTHSIDE DR	PETOSKEY	MI	49770	KEENAN JOSEPH P JR & SUSAN A	5817 HARBOUR CIRCLE	CAPE CORAL	FL	33914	0.14	10/26/2007	90,009
01-16-25-105-144	2212 HEARTHSIDE DR	PETOSKEY	MI	49770	RYAN PATRICK J & BEVERLY A LIFE EST	280 GULF SHORE DR #341	DESTIN	FL	32541	0.15	10/26/2007	46,998
01-16-25-105-145	2208 HEARTHSIDE DR	PETOSKEY	MI	49770	SMOUSE JAMES R & BARBARA	949 IVY ST	CUMMING	GA	30041	0.15	10/26/2007	82,490
01-16-25-105-146	2196 HEARTHSIDE DR	PETOSKEY	MI	49770	NTC &CO.LLP FBO DENNIS JAY ARGYLE	9007 N MEADOWS DR	FREELAND	MI	48623	0.12	10/26/2007	39,126
01-16-25-105-147	2184 HEARTHSIDE DR	PETOSKEY	MI	49770	ARGYLE DENNIS J & LAURA L	9007 N MEADOWS DR	FREELAND	MI	48623	0.18	10/26/2007	50,980
01-16-25-105-148	2172 HEARTHSIDE DR	PETOSKEY	MI	49770	RICKETTS JEFFREY M & REGINA K	880 BRADFORD HOLLOW NE	GRAND RAPIDS	MI	49525	0.12	10/26/2007	92,569
01-16-25-105-149	2156 HEARTHSIDE DR	PETOSKEY	MI	49770	JOHNS FAMILY LIVING TRUST	201 W MITCHELL ST #144	PETOSKEY	MI	49770	0.14	10/26/2007	47,280
01-16-25-105-150	2148 HEARTHSIDE DR	PETOSKEY	MI	49770	YOUNG DANIEL J & BARBARA	15472 DOMINIC ST	CLINTON TOWNSHIP	MI	48038	0.16	10/26/2007	49,549
01-16-25-105-151	2136 HEARTHSIDE DR	PETOSKEY	MI	49770	ROBINSON DONALD D & CELIA C	1161 CROOKED CREEK RD	GREENSBORO	GA	30642	0.13	10/26/2007	49,500
01-16-25-105-152	2124 HEARTHSIDE DR	PETOSKEY	MI	49770	ABNEY PROPERTIES LLC	7388 SPIDEL RD	GREENVILLE	OH	45331	0.1	10/26/2007	72,806
01-16-25-105-153	4727 SHADOWOOD DR	PETOSKEY	MI	49770	ETIENNE JOSEPH R TRUST	7805 EAGLE NEST CIRCLE	CHARLEVOIX	MI	49720	0.13	10/26/2007	91,881
01-16-25-105-413					CORBETT STEVEN W & DANNA	PO BOX 3290	PHENIX CITY	AL	36868	0.13	10/26/2007	41,900
01-16-25-105-414	2099 HEARTHSIDE DR	PETOSKEY	MI	49770	MDR ENTERPRISES LLC	PO BOX 126	PETOSKEY	MI	49770	0.14	10/26/2007	51,700
01-16-25-105-415	2105 HEARTHSIDE DR	PETOSKEY	MI	49770	WIGGINS LARRY B & CYNTHIA FOWLER	2246 SADDLEWOOD BLVD	KERRVILLE	TX	78028	0.15	10/26/2007	95,846
01-16-25-105-416	2113 HEARTHSIDE DR	PETOSKEY	MI	49770	HOGERHEIDE DENNIS & LOIS	14321 PATTY BERG DR	FORT MYERS	FL	33919	0.14	10/26/2007	83,837
01-16-25-105-417	2119 HEARTHSIDE DR	PETOSKEY	MI	49770	TAYLOR CONSULTING GROUP LLC	30 THIRD ST SE SUITE 600	ROCHESTER	MN	55904	0.14	10/26/2007	51,300
01-16-25-105-418	2129 HEARTHSIDE DR	PETOSKEY	MI	49770	RYAN MICHAEL L & CHERLYN K	6689 5K AVE	GREENVILLE	OH	45331	0.15	10/26/2007	91,340
01-16-25-105-419	2153 HEARTHSIDE DR	PETOSKEY	MI	49770	NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD R111	CLEARWATER	FL	33759	0.14	10/26/2007	53,800
01-16-25-105-420	2165 HEARTHSIDE DR	PETOSKEY	MI	49770	GREEN LARRY J & NORMA SUE TRUSTS	10986 MEADE CT	WESTMINSTER	CO	80031	0.15	10/26/2007	88,883
01-16-25-105-421	2191 HEARTHSIDE DR	PETOSKEY	MI	49770	PETER DALE W & JUDY L	1005 WOODSIDE CT	DECORAH	IA	52101	0.14	10/26/2007	85,493
01-16-25-105-422					MCCURRY RALPH W SR	PO BOX 109	MINOR HILL	TN	38473	0.12	10/26/2007	24,554
01-16-25-105-423	2190 WINDOVER DR	PETOSKEY	MI	49770	ADAMS MARK L & BETTYE C	625 BOILING RANCH RD	AZLE	TX	76020	0.11	10/26/2007	78,233
01-16-25-105-424	2180 WINDOVER DR	PETOSKEY	MI	49770	SHORT JACK E & T SCHARMAYNE TRUSTS	9334 S INDIANAPOLIS AVE	TULSA	OK	74137	0.13	10/26/2007	53,117
01-16-25-105-425	2170 WINDOVER DR	PETOSKEY	MI	49770	EQUITY TRUST COMPANY F/B/O MONISMITH KATI	5307 88TH ST EAST	BRADENTON	FL	34211	0.13	10/26/2007	65,252
01-16-25-105-426	2160 WINDOVER DR	PETOSKEY	MI	49770	EARLY EDWARD J & JANICE M	5220 HUDSON BEND RD	AUSTIN	TX	78734	0.14	10/26/2007	33,310
01-16-25-105-427	2150 WINDOVER DR	PETOSKEY	MI	49770	MCGRATH JAMES P & JEANNE M	508 PLEASANT DRIVE	SHOREWOOD	IL	60404	0.14	10/26/2007	90,112
01-16-25-105-428	2140 WINDOVER DR	PETOSKEY	MI	49770	OWENS ALLEN CHARLES & KATHY JEAN TRUST	17114 DIX-TOLEDO HWY	BROWNSTOWN	MI	48193	0.13	10/26/2007	80,076
01-16-25-105-429	2130 WINDOVER DR	PETOSKEY	MI	49770	MOON GLOW LLC	PO BOX 50	PRINCETON	IA	52768	0.13	10/26/2007	80,408
01-16-25-105-430	2120 WINDOVER DR	PETOSKEY	MI	49770	MOON GLOW LLC	PO BOX 50	PRINCETON	IA	52768	0.11	10/26/2007	41,300
01-16-25-105-431	2110 WINDOVER DR	PETOSKEY	MI	49770	BRUTVAN MARGARETANN L TRUST	3433 SE FAIRWAY E	STUART	FL	34997	0.13	10/26/2007	55,626
01-16-25-105-435	2155 WINDOVER DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.15	10/26/2007	56,300
01-16-25-105-436	2185 WINDOVER DR	PETOSKEY	MI	49770	DICK HUVAERE LAND INC	67529 S MAIN	RICHMOND	MI	48062	0.16	10/26/2007	62,419
01-16-25-105-437					NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD R111	CLEARWATER	FL	33759	0.12	10/26/2007	71,368
01-16-25-105-438	2219 HEARTHSIDE DR	PETOSKEY	MI	49770	BROWN LIVING TRUST	813 BRAZOS HARBOUR CIRCLE	GRANBURY	TX	76048	0.15	10/26/2007	88,473
01-16-25-105-439	2231 HEARTHSIDE DR	PETOSKEY	MI	49770	BISHER JON A & KATHRYN N	150 NORTHCREST CR	NAPOLEON	OH	43545	0.11	10/26/2007	78,456
01-16-25-105-440	2243 HEARTHSIDE DR	PETOSKEY	MI	49770	MOCK JOE MICHAEL, COOKE PAULA H	PO BOX 650949	VERO BEACH	FL	32965	0.17	10/26/2007	73,625
01-16-26-200-053					FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	18.41	10/26/2007	0
01-16-26-250-001	2109 WINDOVER DR	PETOSKEY	MI	49770	HEARTHSIDE GROVE CONDO ASSOCIATION	2400 US 31 N	PETOSKEY	MI	49770	1.2	10/26/2007	0
01-16-26-250-432	2095 WINDOVER DR	PETOSKEY	MI	49770	SCHULTHEIS RICHARD C & CAROL A	1876 LANDMARK RD	KERRVILLE	TX	78028	0.17	11/2/2007	81,510
01-16-26-250-433	2103 WINDOVER DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.19	11/2/2007	63,796
01-16-26-250-434	2115 WINDOVER DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 N	PETOSKEY	MI	49770	0.23	11/2/2007	1,546
01-16-25-105-107	2244 CIDERPRESS DR	PETOSKEY	MI	49770	KONIKOWSKI LES	PO BOX 15620	HOUSTON	TX	77220	0.17	6/19/2008	94,828
01-16-25-105-108	2236 CIDERPRESS DR	PETOSKEY	MI	49770	3RD DAY LLC	124 W PINE ST	MISSOULA	MT	59802	0.16	6/19/2008	104,140
01-16-25-105-109	2228 CIDERPRESS DR	PETOSKEY	MI	49770	BUTLER RICHARD T	1 WHITE BIRCH RD	HYDE PARK	NY	12538	0.16	6/19/2008	91,082
01-16-25-105-110	2220 CIDERPRESS DR	PETOSKEY	MI	49770	KEEN DAVID A & ELIZABETH C	16126 EDGEMONT DR	FORT MYERS	FL	33908	0.16	6/19/2008	94,310
01-16-25-105-111	2214 CIDERPRESS DR	PETOSKEY	MI	49770	HALBLEIB ROSS A & MARY G	2242 8TH AVE	SAINT JAMES CITY	FL	33956	0.16	6/19/2008	92,364
01-16-25-105-112	2210 CIDERPRESS DR	PETOSKEY	MI	49770	WIESE-MERRITT FAMILY TRUST	79282 56TH ST	DECATUR	MI	49045	0.14	6/19/2008	102,809
01-16-25-105-113	2206 CIDERPRESS DR	PETOSKEY	MI	49770	SOWELL JACQUELINE G	1812 SUMMER GREEN DR	PORT ORANGE	FL	32128	0.17	6/19/2008	100,659
01-16-25-105-114					CORBETT STEVEN W & DANNA	PO BOX 3290	PHENIX CITY	AL	36868	0.1	6/19/2008	47,000
01-16-25-105-115	2217 CIDERPRESS DR	PETOSKEY	MI	49770	SCHWARTZMAN MARSHALL B TRUST	3337 HARBOURS BLVD	WATERFORD	MI	48328	0.1	6/19/2008	78,848
01-16-25-105-116	2225 CIDERPRESS DR	PETOSKEY	MI	49770	HUMMEL JIM & TARYN	360 HOFFMAN RD	PORT MURRAY	NJ	7865	0.12	6/19/2008	9,980
01-16-25-105-117	2233 CIDERPRESS DR	PETOSKEY	MI	49770	WOOD CAROL J TRUST	PO BOX 575	CANAL WINCHESTER	OH	43110	0.11	6/19/2008	84,070
01-16-25-105-118	2241 CIDERPRESS DR	PETOSKEY	MI	49770	THORSON GARY L, HALVORSON YVONNE	23450 WOODLAND RIDGE DR	LAKEVILLE	MN	55044	0.12	6/19/2008	134,600
01-16-25-105-119	2249 CIDERPRESS DR	PETOSKEY	MI	49770	HEIM JOHN WILLIAM & CAROL JANE	409 PEBBLE CREEK CT	VENICE	FL	34285	0.12	6/19/2008	66,252
01-16-25-105-120	2257 CIDERPRESS DR	PETOSKEY	MI	49770	HUMMER ROBERT C JR & KATHY L	58 SUMMERFIELD RD	BELVIDERE	NJ	7823	0.14	6/19/2008	92,467
01-16-25-105-121	2265 CIDERPRESS DR	PETOSKEY	MI	49770	GLUCKMAN KENNETH I LIVING TRUST	2127 VISION POINT CIRCLE	SAINT GEORGE	UT	84790	0.14	6/19/2008	98,508
01-16-25-105-123	2266 SLEDDING DR	PETOSKEY	MI	49770	FORD HOWARD D JR TRUST	2956 LAUREL HILL LN	THE VILLAGES	FL	32162	0.16	6/19/2008	103,424

• Attachment 15-A-3

01-16-25-105-124	2258 SLEDDING DR	PETOSKEY	MI	49770	VANDERMEER KURTIS T & WENDY L	3372 DUNN'S RIDGE	KALAMAZOO	MI	49006	0.12	6/19/2008	88,780
01-16-25-105-125	2250 SLEDDING DR	PETOSKEY	MI	49770	WEAVER JOHN E & LINDA SUSAN	9015 OUTLOOK DR	OVERLAND PARK	KS	66207	0.13	6/19/2008	95,334
01-16-25-105-126	2246 SLEDDING DR	PETOSKEY	MI	49770	SHARKEY SANDRA J TRUST	15 SHERMAN	GRAND HAVEN	MI	49417	0.12	6/19/2008	89,088
01-16-25-105-127	2240 SLEDDING DR	PETOSKEY	MI	49770	CARROLL LYNETTE G TRUST	4045 CEDAR BLUFF DR	PETOSKEY	MI	49770	0.13	6/19/2008	89,976
01-16-25-105-128	2232 SLEDDING DR	PETOSKEY	MI	49770	TOVO JOSEPH R JR TRUST, TOVO DIANA	622 BINNACLE DR	NAPLES	FL	34103	0.12	6/19/2008	87,756
01-16-25-105-129	2224 SLEDDING DR	PETOSKEY	MI	49770	RAISOR MICHAEL V & MARCIA	213 VERMONT DRIVE	LAFAYETTE	IN	47903	0.12	6/19/2008	90,009
01-16-25-105-130	2209 CIDERPRESS DR	PETOSKEY	MI	49770	OSTERHAVEN MELISSA A TRUST	7340 CLEARVIEW DR	CALEDONIA	MI	49316	0.12	6/19/2008	80,691
01-16-25-105-131	2237 SLEDDING DR	PETOSKEY	MI	49770	2237 J & L LAND TRUST	3101 S BEACH DRIVE	TAMPA	FL	33629	0.23	6/19/2008	104,387
01-16-25-105-132	2247 SLEDDING DR	PETOSKEY	MI	49770	RAMEY BRAD & CHARLENE	622 HWY 589	PURVIS	MS	39475	0.21	6/19/2008	101,600
01-16-25-105-133	2261 SLEDDING DR	PETOSKEY	MI	49770	BENTON STEPHEN D, KRAWCHUK SANDRA R	16 MIDDLE CREEK RD	SIGNAL MOUNTAIN	TN	37377	0.21	6/19/2008	120,300
01-16-25-105-134	2263 SLEDDING DR	PETOSKEY	MI	49770	AMIGO R & L INC	PO BOX B	THREE RIVERS	MI	49093	0.14	6/19/2008	85,299
01-16-25-105-135	2267 SLEDDING DR	PETOSKEY	MI	49770	BRADY TODD & JANIE	7747 LANES END	BATON ROUGE	LA	70810	0.16	6/19/2008	92,771
01-16-25-105-136					MOTORCOACH PROPERTIES LLC	26415 EAST RIVER RD	GROSSE ILE	MI	48138	0.14	6/19/2008	102,040
01-16-25-105-137	2287 CIDERPRESS DR	PETOSKEY	MI	49770	BELAND GERALD R & DIANA D	2840 WEST BAY DR #186	BELLEAIR BLUFFS	FL	33770	0.16	6/19/2008	85,139
01-16-25-102-004	2075 CIDERPRESS DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	9.55	9/14/2010	1,491,207
01-16-25-105-154	4755 SHADOWOOD DR	PETOSKEY	MI	49770	NORTHERN LIGHTS INTERESTS LLC	200 CONGRESS AVE UNIT 36AE	AUSTIN	TX	78701	0.15	9/14/2010	105,800
01-16-25-105-155	4763 SHADOWOOD DR	PETOSKEY	MI	49770	TOLLEY NAOMI S	1391 NW ST LUCIE WEST BLVD #179	PORT SAINT LUCIE	FL	34986	0.17	9/14/2010	103,936
01-16-25-105-156	4771 SHADOWOOD DR	PETOSKEY	MI	49770	STEAMBOAT LA CRESTA LLC	865 FOX LANE	STEAMBOAT SPRINGS	CO	80847	0.16	9/14/2010	104,340
01-16-25-105-178	2044 CIDERPRESS DR	PETOSKEY	MI	49770	PAPADOPOULOS NICHOLAS JOHN & JOANNE H	30 W BRACEBRIDGE CIRCLE	SPRING	TX	77382	0.18	9/14/2010	120,076
01-16-25-105-179	2032 CIDERPRESS DR	PETOSKEY	MI	49770	SHEKELL JOHN E & RUTHIE F	424 W TENNESSEE ST	EVANSVILLE	IN	47710	0.17	9/14/2010	117,350
01-16-25-105-180	2028 CIDERPRESS DR	PETOSKEY	MI	49770	KLAUSE THOMAS L & KARIN T	10872 SW BLUE MESA WAY	PORT SAINT LUCIE	FL	34987	0.17	9/14/2010	117,760
01-16-25-105-181	2022 CIDERPRESS DR	PETOSKEY	MI	49770	WISE CHARLES R & LISA A	1106 MARINA DR	CHEBOYGAN	MI	49721	0.19	9/14/2010	126,500
01-16-25-105-182	2010 CIDERPRESS DR	PETOSKEY	MI	49770	DOCHERTY CASEY FAMILY TRUST	1303 PLAYER WAY	GIBSONIA	PA	15044	0.11	9/14/2010	66,869
01-16-25-105-183	1998 CIDERPRESS DR	PETOSKEY	MI	49770	MLW LIVING TRUST	157 RAINBOW DR #5773	LIVINGSTON	TX	77399	0.14	9/14/2010	114,200
01-16-25-105-186	1936 BLUESTEM DR	PETOSKEY	MI	49770	ANTIQUE BUILDING COMPONENTS INC	PO BOX 2408	POTTSBORO	TX	75076	0.23	9/14/2010	139,750
01-16-25-105-338	1955 BLUESTEM DR	PETOSKEY	MI	49770	ADCOCK CHARLES & GLORIA	1214 FULLER LN	SEARCY	AR	72143	0.14	9/14/2010	106,546
01-16-25-105-339	1967 BLUESTEM DR	PETOSKEY	MI	49770	TAYLOR THOMAS G & JULIE A	532 MARSH CREEK RD	VENICE	FL	34292	0.14	9/14/2010	92,535
01-16-25-105-340	1975 BLUESTEM DR	PETOSKEY	MI	49770	GRANVILLE THOMAS R & GAIL T	560 CLUB RD	TRYON	NC	28782	0.15	9/14/2010	89,088
01-16-25-105-341	1985 BLUESTEM DR	PETOSKEY	MI	49770	STIEBELING DOUGLASS R, MOORE DANETTE L	1027 ALGARE LOOP	WINDERMERE	FL	34786	0.15	9/14/2010	105,369
01-16-25-105-343	4862 SHADOWOOD DR	PETOSKEY	MI	49770	CLAPP ROGER & JULIA M	1461 BRADBERRY DR	MURFREESBORO	TN	37130	0.24	9/14/2010	145,203
01-16-25-105-351	2076 BLUESTEM DR	PETOSKEY	MI	49770	HAHN GEORGE H & WENDY L	15514 SUMMIT PARK DRIVE SUITE 501	MONTGOMERY	TX	77356	0.15	9/14/2010	110,724
01-16-25-105-352	2060 BLUESTEM DR	PETOSKEY	MI	49770	TURNER FAMILY LIVING TRUST	180 BEACH DR NE #2700	SAINT PETERSBURG	FL	33701	0.13	9/14/2010	123,596
01-16-25-105-353	2050 BLUESTEM DR	PETOSKEY	MI	49770	JOHNSON WILLIAM J & PATRICIA S	122 LONGWOOD GREEN CT	AIKEN	SC	29803	0.15	9/14/2010	137,200
01-16-25-105-354	2034 BLUESTEM DR	PETOSKEY	MI	49770	CREAK FAMILY TRUST	3904 WOODMONT PARK LANE	LOUISVILLE	KY	40245	0.15	9/14/2010	109,182
01-16-25-105-355	2020 BLUESTEM DR	PETOSKEY	MI	49770	LOVIN ANN R	4119 MACKAY FALLS TERRACE	SARASOTA	FL	34243	0.15	9/14/2010	125,603
01-16-25-105-356	2008 BLUESTEM DR	PETOSKEY	MI	49770	R & C FINANCIAL LLC	922 LAKE BROOKER COURT	LUTZ	FL	33548	0.15	9/14/2010	125,603
01-16-25-105-357	1995 BLUESTEM DR	PETOSKEY	MI	49770	GRUBBS MARY JUANITA TRUST	1545 BAYTOWNE AVE	MIRAMAR BEACH	FL	32550	0.13	9/14/2010	98,157
01-16-25-105-358	2007 BLUESTEM DR	PETOSKEY	MI	49770	BLOSSER WILLIAM R & SYLVIA A	15 CLEARWATER CIRCLE	SEDONA	AZ	86351	0.13	9/14/2010	117,543
01-16-25-105-359	2015 BLUESTEM DR	PETOSKEY	MI	49770	NELSON JON W & SHARON K	2751 REGENCY OAKS BLVD APT R-111	CLEARWATER	FL	33759	0.13	9/14/2010	60,429
01-16-25-105-360	2027 BLUESTEM DR	PETOSKEY	MI	49770	BIG BLUE SKY VENTURES LLC	4231 HACKER DR	WEST BEND	WI	53095	0.14	9/14/2010	100,786
01-16-25-105-362	2039 BLUESTEM DR	PETOSKEY	MI	49770	LOCKE JOEL E & PATRICIA L	9602 CREEKVIEW CT	DAVISON	MI	48423	0.36	9/14/2010	88,985
01-16-25-105-363	2055 BLUESTEM DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.14	9/14/2010	1,580
01-16-25-105-364	2067 BLUESTEM DR	PETOSKEY	MI	49770	SHANAHAN JOHN L III & BARBARA M	41265 GLOCA MORA ST	HARRISON TOWNSHIP	MI	48045	0.14	9/14/2010	100,995
01-16-25-105-365	2075 BLUESTEM DR	PETOSKEY	MI	49770	BRECHBUHLER ANDREW K TRUST	5178 KONEN AVE NW	CANTON	OH	44718	0.15	9/14/2010	104,435
01-16-25-105-366	4768 SHADOWOOD DR	PETOSKEY	MI	49770	KEEFE CYNTHIA E TRUST	15811 WHITE ORCHID LN	FORT MYERS	FL	33908	0.25	9/14/2010	128,354
01-16-25-105-188	1870 BLUESTEM DR	PETOSKEY	MI	49770	PORTS LORI C TRUST	4735 MALLARD POND DR	AKRON	OH	44333	0.22	10/3/2011	62,464
01-16-25-105-189	1858 CIDERPRESS DR	PETOSKEY	MI	49770	MEREDITH JACK LEE & SUZANNE TRUST	1 INDIGO TRAIL NORTH	SHELDON	SC	29941	0.15	10/3/2011	56,700
01-16-25-105-190	1856 CIDERPRESS DR	PETOSKEY	MI	49770	ABELL JOHN W TRUST	PO BOX 973136	MIAMI	FL	33197	0.15	10/3/2011	107,520
01-16-25-105-220	1875 BLUESTEM DR	PETOSKEY	MI	49770	VAWTER DELBERT A & LINDA	PO BOX 443	NORTH VERNON	IN	47265	0.18	10/3/2011	67,700
01-16-25-105-221	1885 BLUESTEM DR	PETOSKEY	MI	49770	LRV ENTERPRISES II LLC	4050 BROADMOOR SE	GRAND RAPIDS	MI	49512	0.14	10/3/2011	67,500
01-16-25-105-222	1895 BLUESTEM DR	PETOSKEY	MI	49770	LRV ENTERPRISES II LLC	4050 BROADMOOR SE	GRAND RAPIDS	MI	49512	0.14	10/3/2011	120,115
01-16-25-105-225	1925 BLUESTEM DR	PETOSKEY	MI	49770	TAL US TRUST	22 ALEXIS RD	XXXXX	ON		0.15	10/3/2011	126,464
01-16-25-105-227	1968 CIDERPRESS DR	PETOSKEY	MI	49770	RIDDLESWORTH MICHAEL E & MELISSA H	180 BEACH DR NE #802	SAINT PETERSBURG	FL	33701	0.17	10/3/2011	101,376
01-16-25-105-228	1960 CIDERPRESS DR	PETOSKEY	MI	49770	BREWER DARREN	4025 BERMUDA GROVE PLACE	LONGWOOD	FL	32779	0.17	10/3/2011	144,788
01-16-25-105-230	1934 CIDERPRESS DR	PETOSKEY	MI	49770	HOWARD ROBERT B	95 CONLEYS GROVE RD	DERRY	NH	3038	0.14	10/3/2011	66,300
01-16-25-105-231	1928 CIDERPRESS DR	PETOSKEY	MI	49770	SMITH JOHN G & KATHY D	11005 FIRST AVE NORTH	MINNEAPOLIS	MN	55441	0.14	10/3/2011	108,021
01-16-25-105-232	1912 CIDERPRESS DR	PETOSKEY	MI	49770	KONIGSEDER FRANK L & JEANNE T	1400 MORROW AVE	NORTH CHICAGO	IL	60064	0.17	10/3/2011	63,800
01-16-25-105-233	1900 CIDERPRESS DR	PETOSKEY	MI	49770	KONIGSEDER FRANK L & JEANNE T	10808 SOUTHEAST GALLEY COURT	HOBE SOUND	FL	33455	0.27	10/3/2011	119,772
01-16-25-105-235	1879 CIDERPRESS DR	PETOSKEY	MI	49770	JOSEPH EMIL M & DEBRA D	6687 S GIRALDA AVE	GILBERT	AZ	85298	0.2	10/3/2011	102,737
01-16-25-105-236	1893 CIDERPRESS DR	PETOSKEY	MI	49770	CANNY KATHRYN J TRUST	802 HARRISON LANE	MCHENRY	IL	60051	0.19	10/3/2011	110,508
01-16-25-105-237	1907 CIDERPRESS DR	PETOSKEY	MI	49770	RAMBO DAN & GWENDOLYN FAMILY TRUSTS	5300 TOWN & COUNTRY BLVD SUITE 220	FRISCO	TX	75034	0.17	10/3/2011	130,662
01-16-25-105-238	1932 MARSHVIEW DR	PETOSKEY	MI	49770	FLISCHEL RAYMOND W & CYNTHIA M TRST	7025 PLACIDA RD SUITE A	ENGLEWOOD	FL	34224	0.2	10/3/2011	79,800
01-16-25-105-239	1926 MARSHVIEW DR	PETOSKEY	MI	49770	PACKER ROBERT & LYNN	202 N DOOLEY ST	GRAPEVINE	TX	76051	0.17	10/3/2011	81,154
01-16-25-105-240	1918 MARSHVIEW DR	PETOSKEY	MI	49770	R.B.C. REAL ESTATE INVESTMENTS LLC	25963 HIGH HAMPTON CIRCLE	SORRENTO	FL	32776	0.16	10/3/2011	69,000
01-16-25-105-241					SANFILLIPO THOMAS A TRUST	685 RETREAT LN	POWELL	OH	43065	0.14	10/3/2011	128,614
01-16-25-105-242	1797 HEARTHSIDE DR	PETOSKEY	MI	49770	SNYDER WILLIAM H & JULIA D	1472 SHADWELL CIRCLE	HEATHROW	FL	32746	0.21	10/3/2011	105,933
01-16-25-105-334	1911 MARSHVIEW DR	PETOSKEY	MI	49770	ZIGAN THEODORE TRUST	2724 CASTLE GLEN COURT	CASTLE ROCK	CO	80108	0.18	10/3/2011	91,794
01-16-25-105-335	1919 MARSHVIEW DR	PETOSKEY	MI	49770	CURRY GLENDA S TRUST	4425 W DEER MEADOW DR	PEORIA	IL	61615	0.14	10/3/2011	63,800
01-16-25-105-336					INDIO ONE LLC	2804 JACANA CT	LONGWOOD	FL	32779	0.13	10/3/2011	67,500

01-16-25-105-337	1953 CIDERPRESS DR	PETOSKEY	MI	49770	LOSCALZO JOHN J & DEBRA	14100 MYAKKA AVE LOT 18	PORT CHARLOTTE	FL	33953	0.14	10/3/2011	80,826
01-16-25-105-005	2300 HEARTHSIDE DR	PETOSKEY	MI	49770	HEARTHSIDE GROVE CONDO ASSOCIATION	PO BOX 445	PETOSKEY	MI	49770	25.67	9/26/2013	1,546
01-16-25-105-243	1785 HEARTHSIDE DR	PETOSKEY	MI	49770	SEAGER ROGER N & JUDITH M	243 CATAWBA DR	TRYON	NC	28782	0.16	9/26/2013	59,100
01-16-25-105-244	1773 HEARTHSIDE DR	PETOSKEY	MI	49770	BARFIELD WILLIAM E & ONEDA DIANE	202 OSPREY HAMMOCK TRL	SANFORD	FL	32771	0.17	9/26/2013	63,400
01-16-25-105-245	1768 HEARTHSIDE DR	PETOSKEY	MI	49770	CHERESH DANIEL & LORRI	248 FERRY ST	SAUGATUCK	MI	49453	0.27	9/26/2013	116,838
01-16-25-105-246	1782 HEARTHSIDE DR	PETOSKEY	MI	49770	REICHARDT KENNETH S & ROBIN S	3420 CREEKVIEW DR	BONITA SPRINGS	FL	34134	0.18	9/26/2013	77,993
01-16-25-105-247	1800 HEARTHSIDE DR	PETOSKEY	MI	49770	SEMPLE ANTHONY L	7428 BISCAYNE WAY SE	GRAND RAPIDS	MI	49546	0.15	9/26/2013	124,825
01-16-25-105-333	1909 MARSHVIEW DR	PETOSKEY	MI	49770	NIEMINSKI STANLEY J & SHARON T	2 BLANCHARD CIRCLE	SOUTH BARRINGTON	IL	60010	0.23	9/26/2013	72,600
01-16-25-102-008					FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	27.57	9/11/2014	272,172
01-16-25-105-367					BOLES IAN	28307 BURKART DR	ORANGE BEACH	AL	36561	0.28	9/11/2014	51,500
01-16-25-106-001					HEARTHSIDE GROVE II ASSOCIATION	2400 US 31 NORTH	PETOSKEY	MI	49770	1.97	9/11/2014	0
01-16-25-106-248	1824 HEARTHSIDE DR	PETOSKEY	MI	49770	GRANGER JERRY P & LYNNE C	3025 W JOSEPHA DRIVE	LANSING	MI	48910	0.23	9/11/2014	186,512
01-16-25-106-257	1902 MARSHVIEW DR	PETOSKEY	MI	49770	MERELLI MICHAEL A & LISA M	15241 WAGON WHEEL DRIVE	BRIGHTON	CO	80603	0.26	9/11/2014	211,909
01-16-25-106-258	1892 MARSHVIEW DR	PETOSKEY	MI	49770	CASSATA ROBERT & JOYCE	427 15TH STREET	DAYTONA BEACH	FL	32117	0.18	9/11/2014	176,943
01-16-25-106-259	1884 MARSHVIEW DR	PETOSKEY	MI	49770	LEMMEN TODD A TRUST	3026 DEER RUN	MARNE	MI	49435	0.17	9/11/2014	225,514
01-16-25-106-260	1876 MARSHVIEW DR	PETOSKEY	MI	49770	PETERMAN CATHERINE M	909 10TH ST SOUTH UNIT 302	NAPLES	FL	34102	0.17	9/11/2014	210,877
01-16-25-106-261	1870 MARSHVIEW DR	PETOSKEY	MI	49770	STARS REAL ESTATE LLC	PO BOX 247	SPARTA	MI	49345	0.18	9/11/2014	172,794
01-16-25-106-262	1864 MARSHVIEW DR	PETOSKEY	MI	49770	RODSTEIN MARC TRUST	15695 BOEING CT	WELLINGTON	FL	33414	0.22	9/11/2014	194,792
01-16-25-106-263	1830 MARSHVIEW DR	PETOSKEY	MI	49770	BRECHBUHLER WENDY SUE TRUST	8180 LUTZ AVE NW	MASSILLON	OH	44646	0.31	9/11/2014	186,997
01-16-25-106-265	1821 HEARTHSIDE DR	PETOSKEY	MI	49770	CURRY GEORGE E TRUST	PO BOX 1228	CORTEZ	FL	32151	0.19	9/11/2014	145,271
01-16-25-106-266	1827 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.2	9/11/2014	1,580
01-16-25-106-267	1835 HEARTHSIDE DR	PETOSKEY	MI	49770	BARFIELD WILLIAM E & ONEDA D	202 OSPREY HAMMOCK TRAIL	SANFORD	FL	32771	0.2	9/11/2014	76,300
01-16-25-106-268	1841 HEARTHSIDE DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.19	9/11/2014	1,580
01-16-25-106-321	1843 MARSHVIEW DR	PETOSKEY	MI	49770	CASSATA ROBERT & JOYCE	427 15TH ST	DAYTONA BEACH	FL	32117	0.2	9/11/2014	97,100
01-16-25-106-322	1865 MARSHVIEW DR	PETOSKEY	MI	49770	WALKER'S MOUNTAIN VIEW LLC	705 E ELKCAM CIRCLE	MARCO ISLAND	FL	34145	0.18	9/11/2014	224,870
01-16-25-106-323	1869 MARSHVIEW DR	PETOSKEY	MI	49770	FOMCO LLC	2400 US 31 NORTH	PETOSKEY	MI	49770	0.19	9/11/2014	1,580
01-16-25-106-326	1887 MARSHVIEW DR	PETOSKEY	MI	49770	FANTASEA LLC	750 FORREST AVE SUITE 300	GADSDEN	AL	35901	0.18	9/11/2014	230,220
01-16-25-106-327	1893 MARSHVIEW DR	PETOSKEY	MI	49770	PINSON GARY D & JUDY	PO BOX 328	GREENBRIER	TN	37073	0.19	9/11/2014	234,421
01-16-25-106-328	1895 MARSHVIEW DR	PETOSKEY	MI	49770	ENTREKIN ANDREW R	750 FORREST AVE SUITE 300	GADSDEN	AL	35901	0.2	9/11/2014	254,413
01-16-25-106-329	1899 MARSHVIEW DR	PETOSKEY	MI	49770	STARS REAL ESTATE LLC	440 W DIVISION	SPARTA	MI	49345	0.22	9/11/2014	186,470
01-16-25-106-330	1901 MARSHVIEW DR	PETOSKEY	MI	49770	GRONINGER DEVELOPMENT LLC	6005 W SHILLING RD	MENTONE	IN	46539	0.2	9/11/2014	221,646
01-16-25-106-331	1903 MARSHVIEW DR	PETOSKEY	MI	49770	WELLINGS GEORGE DOUGLAS & STACY	250 PALM COAST PKWY NE #607-310	PALM COAST	FL	32137	0.18	9/11/2014	210,329
01-16-25-106-332	1907 MARSHVIEW DR	PETOSKEY	MI	49770	HUFFMASTER RAYMOND E & KIMBER LEE	9755 PINE KNOB RD	CLARKSTON	MI	48348	0.18	9/11/2014	10,124
							Average Non Common Acre			0.2357	Total	$17,006,319
							Average Non Common ft2			10,267		

Location	Parcel	Parcel #	Address	Distance from Quarry Bluff Clubhouse (ft)	Distance from Quarry Bluff Parcels (ft)	Distance from Quarry Bluff Clubhouse (mi)	Distance from Quarry Bluff Parcels (mi)	Land	Improvements	Assessed	Acres	sqft	Bedrooms		Lot Value/acre No Waterfront Properties	Lot Value Including Waterfront Properties	House Value/ sqft	Bedroom/ Acre
East of Quarry	Moore	0220112282511P1	6487 Whitefish Bay Rd.	3614	2054	0.68	0.39	$186,400	$529,500	$715,900	1.94				96,082	96,082		
East of Quarry	Hillman	0220112282511U	6463 WBR	3471	1914	0.66	0.36	$186,400	$527,800	$714,200	1.94				96,082	96,082		
East of Quarry	Jordan	0220112282511T	6459 WBR	3183	1599	0.60	0.30	$164,800	$471,700	$636,500	1.58	[redacted]	[redacted]		104,304	104,304	[redacted]	[redacted]
East of Quarry	Skaff	0220112282511Q	6461 WBR	3336	1797	0.63	0.34	$166,000	$419,100	$585,100	1.6	[redacted]	[redacted]		103,750	103,750	[redacted]	[redacted]
East of Quarry	Axland	0220112282511S	6457 WBR	3082	1481	0.58	0.28	$164,200	$491,600	$655,800	1.57		[redacted]		104,586	104,586		[redacted]
East of Quarry	Mutchler	0220112282512H	6451 WBR	2815	1161	0.53	0.22	$177,400	$384,600	$562,000	1.79		[redacted]		99,106	99,106		[redacted]
East of Quarry	Ripp	0220112282512C	6449 WBR	2712	990	0.51	0.19	$178,600	$377,900	$556,500	1.81	[redacted]	[redacted]		98,674	98,674	[redacted]	[redacted]
East of Quarry	DeCamp	0220112282512D	6447 WBR	2598	863	0.49	0.16	$184,000	$453,200	$637,200	1.9				96,842	96,842		
East of Quarry	Hill	0220112282512Y	6439 WBR	1910	200	0.36	0.04	$221,300	$373,900	$595,200	3.13	[redacted]	[redacted]		70,703	70,703	[redacted]	[redacted]
East of Quarry	Schwalbach	0220112282512B1	6435 WBR	1724	200	0.33	0.04	$197,800	$239,100	$436,900	2.26	[redacted]	[redacted]		87,522	87,522	[redacted]	[redacted]
East of Quarry	Hunt	0220112282512L	6433 WBR	1547	200	0.29	0.04	$163,600	$235,200	$398,800	1.56	[redacted]	[redacted]		104,872	104,872	[redacted]	[redacted]
East of Quarry	Moster	0220112282512M	6427 WBR	1408	195	0.27	0.04	$190,000	$290,000	$480,000	2	[redacted]	[redacted]		95,000	95,000	[redacted]	[redacted]
East of Quarry	Lange	0220112282512K	6417 WBR	1218	100	0.23	0.02	$194,500	$361,200	$555,700	2.15	[redacted]	[redacted]		90,465	90,465	[redacted]	[redacted]
East of Quarry	Dempster	0220218282622E	4895 Harder Hill Rd.	1433	180	0.27	0.03	$225,000	$514,100	$739,100	3.5		[redacted]		64,286	64,286		[redacted]
East of Quarry	Krueger	220218282622D1	4893 HHR	1389	190	0.26	0.04	$227,000	$616,800	$843,800	3.7	[redacted]	[redacted]		61,351	61,351	[redacted]	[redacted]
East of Quarry	Dreutzer	0220218282622D	4883 HHR	1378	250	0.26	0.05	$223,600	$290,000	$513,600	3.36				66,548	66,548		
East of Quarry	Cosgrove	0220218282622C1	4871 HHR	1367	250	0.26	0.05	$220,500	$246,800	$467,300	3	[redacted]	[redacted]		73,500	73,500	[redacted]	[redacted]
East of Quarry	Mundy	0220112282511W1	6460 Whitefish Bay Rd.	2839	1900	0.54	0.36	$88,400	$405,200	$493,600	1.51	[redacted]	[redacted]		58,543	58,543	[redacted]	[redacted]
East of Quarry	Jandu	0220112282511W4	6452 Whitefish Bay Rd.	2747	1384	0.52	0.26	$137,300	$697,100	$834,400	5.5	[redacted]	[redacted]		24,964	24,964	[redacted]	[redacted]
East of Quarry	Maloney	0220207282633B1	6386 Whitefish Bay	2170	950	0.41	0.18	$74,500	$459,800	$534,300	5	[redacted]	[redacted]		14,900	14,900	[redacted]	[redacted]
East of Quarry	Dvorak	22370010	6332 Whitefish Bay	2366	1200	0.45	0.23	$70,500	$161,500	$232,000	1.59				44,340	44,340		
East of Quarry	Coffou	0220218282633A3	4852 Bay Shore Heights C	1730	624	0.33	0.12	$45,400	$222,300	$267,700	1.57				28,917	28,917		
East of Quarry	Luedtke	0220218282633A5	4838 Bay Shore Heights C	1857	800	0.35	0.15	$45,600	$218,800	$264,400	1.58				28,861	28,861		
East of Quarry	McDowell	0220218282633B4	4848 Bay Shore Heights Dr.	1164	550	0.22	0.10	$44,600	$189,600	$234,200	1.58	[redacted]	[redacted]		28,228	28,228	[redacted]	[redacted]
East of Quarry	Stram	0220218282633B5	4850 BSHD	1029	400	0.19	0.08	$53,500	$281,200	$334,700	1.54				34,740	34,740		
East of Quarry	Engineer	0220218282633B6	4856 BSHD	992	260	0.19	0.05	$45,200	$311,700	$356,900	1.54				29,351	29,351		
East of Quarry	Dahlke	0220218282633B7	4855 BSHD	680	75	0.13	0.01	$47,800	$232,900	$280,700	1.69	[redacted]	[redacted]		28,284	28,284	[redacted]	[redacted]
East of Quarry	Struck	220113282513	4860 BSHD	777	240	0.15	0.05	$59,500	$160,300	$219,800	1.79	[redacted]	[redacted]		33,240	33,240	[redacted]	[redacted]
East of Quarry	Gustafson	0220218282633B9	4850 BSHD	1000	500	0.19	0.09	$53,500	$281,200	$334,700	1.54				34,740	34,740		
Waterfront	Tice	0220218282633Q1	4771 Bay Shore Drive	2204	1683	0.42	0.32	$645,000	$219,500	$864,500	1.49					432,886		
Waterfront	Milas	0220218282633D	4805 BSD	1805	1300	0.34	0.25	$699,200	$656,600	$1,355,800	2.17					322,212		
Waterfront	Riker	0220218282633C3	4839 BSD	1596	1100	0.30	0.21	$496,400	$373,200	$869,600	1.55	[redacted]	[redacted]			320,258	[redacted]	[redacted]
Waterfront	Holly	220113282514	4847 BSD	1463	1000	0.28	0.19	$459,000	$755,300	$1,214,300	1.42					323,239		
Waterfront	Guszkowski	022011328251 2B	4851 BSD	1180	600	0.22	0.11	$394,400	$165,700	$560,100	1	[redacted]	[redacted]			394,400	[redacted]	[redacted]
Waterfront	Meyvis	022011328251 2D	4857 BSD	1014	425	0.19	0.08	$340,000	$399,500	$739,500	0.75	[redacted]	[redacted]			453,333	[redacted]	[redacted]
Waterfront	Dramm	022011328251 2A2	4859 BSD	950	330	0.18	0.06	$345,200	$261,000	$606,200	0.71	[redacted]	[redacted]			486,197	[redacted]	[redacted]
Waterfront	Baer	022011328251 2A3	4863 BSD	856	245	0.16	0.05	$327,400	$469,500	$796,900	0.53					617,736		
Waterfront	Bichler	022011328251 2A	4865 BSD	750	150	0.14	0.03	$380,000	$302,600	$682,600	0.47					808,511		
Waterfront	Serna	022011282512Q	4920 BSD	1929	150	0.37	0.03	$187,200	$275,300	$462,500	0.89	[redacted]	[redacted]			210,337	[redacted]	[redacted]
Waterfront	LaVoie	022011282512P	4924 BSD	1980	137	0.38	0.03	$150,400	$217,600	$368,000	0.7					214,857		
Waterfront	Arnopol	022011282512T	4948 BSD	2267	452	0.43	0.09	$146,900	$191,300	$338,200	0.6					244,833		
Waterfront	Wildenberg	022011282512F	4988 BSD	2374	558	0.45	0.11	$122,400	$182,600	$305,000	0.59					207,458		
Waterfront	May	022011282512T	4948 BSD	2269	464	0.43	0.09	$146,900	$191,300	$338,200	0.6					244,833		
Waterfront	Naples	0220112282511L3	5002 BSD	2611	866	0.49	0.16	$202,400	$266,000	$468,400	1.35					149,926		
Waterfront	Bailey	220112282511L7	5010 BSD	2778	1048	0.53	0.20	$250,800	$418,400	$669,200	1.95					128,615		
Waterfront	Kasian	0220112282511L8	5012 BSD	2899	1160	0.55	0.22	$225,500	$285,300	$510,800	1.5					150,333		
Waterfront	Jorgenson	0220112282511N2	5022 BSD	3087	1375	0.58	0.26	$195,200	$211,700	$406,900	1.31					149,008		
Waterfront	Repsis	0220112282511N2	5024 BSD	3201	1462	0.61	0.28	$164,800	$647,600	$812,400	1.07					154,019		
					Average	**0.37**	**0.15**	**$206,583**	**$352,794**	**$559,377**	**1.79**	**3,005**	**3**		**$65,613**	**$164,912**	**$115**	1.8

Total Assessment **$26,850,100**

East of Quarry Average **$499,345**

Items redacted due to promise only to reveal average results

• Attachment 15-A-4

			Assumptions							
	% improved			1.00	HG number					
							Use in calc			
	Land (waterfront excluded)			$65,613		per acre	$65,613			
	Land (Waterfront included)			$164,912		Times Land Value	1.0			
	Land Improvements Multiplier			1		Times $/sqft multiplier	1.0			
	Structure Improvements			$113		Common area Value / Acre	$15,549	HG number		
	Structure "Newness" Multiplier			1						
	Common area Value / Acre			$20,000	per acre					
	Units	Number	Parcel Size [sqft]	Parcel Size (Acres)	Land Value each	Land Value Total	SqFt	House Value Each	House Value Total	Total Value
	Common Area	1		26.67	$125,377	$125,377	7000	$801,500	$801,500	$1,226,877
proportion	IV Ped	37	7523	0.17	$11,331	$419,258	0	$0	$0	$419,258
0.208696	1 story	16.69565217	12413	0.28	$18,697	$312,154	1200	$317,400	$5,294,988	$5,606,135
0.513043	2 story	41.04347826	9574	0.22	$15,187	$623,949	1400	$406,100	$16,676,051	$17,300,000
0.278261	3 story	22.26086957	13133	0.30	$19,783	$440,377	2400	$224,300	$5,117,287	$5,557,664
						$2,214,114			**$17,671,830**	**$19,885,945** **Total**

Common Area Calculation		
Total Developed Parcels (acres)	30.35	
Total Plot (acres)	57.02	
Common Area (acres)	26.67	47%

40560 sqft per acre

• Attachment 15-A-5

• Attachment 15B-1

More Financial Assurance Information Is Needed

The Quarry Bluff application for a Conditional Use Permit (CUP) believes providing financial assurance information for the development is "moot" because "The worst case scenario is that Door County would end up with a beautifully reclaimed surface mine." (application page 341). There also are blanket, unsupported statements about "Whether, and in What Amount and Form, Financial Assurance is Necessary to Meet the Objectives of this Ordinance" that are used to justify a complete lack of information on this important issue.

The applicant's "worst case scenario" is far from true. Another very realistic 5 years out worst case scenario could be:

- The roads and common areas are partially done, blasting is complete.
- The now-unknown affects on the quarry floor and groundwater start to emerge.
- About half the lots are sold and RV pad installed. About 40 houses are scattered around with varying amount of landscaping.
- Since the 1 foot soil cap will only be on common areas and the sold lots[1], there is a "checkerboard" of built up areas, making any stormwater and environmental analyses moot.
- The cash starved manager of the property (who?) neglects maintenance on the roads, common buildings and septic facilities.
- Owners faced with escalating costs change the requirements of the Homeowners Association, or allow the place to slide downwards since they are part-year RV residents.

With this scenario, the environmental damage is done, an unsightly hodge-podge remains, and the developers walk away and leave a deteriorating property and the tab to the taxpayers.

Clearly more information on the construction, maintenance, and governance of the development is needed.

How Likely is Failure to Happen ?

Of course, the developer does not intend to fail. But market forces may have that happen anyway.

Some history of a closely comparable development and market information may help gauge the possibility of failure.

[1] This was stated as being the plan to the author by Amy Minser, DNR Storm Water Engineer at a meeting with her on November 15, 2019

Comparables:

Hearthside Grove Motorcoach Resort in Petoskey, Michigan is a very close comparable to the Quarry Bluff development. This 163 parcel facility was approved in 2003, the first sales occurred in 2007, and continues today.

Hearthside Grove Petoskey is an on-going business. I differs from Quarry Bluff in that it is on flat wooded land on a major highway is a zoned light industrial area. Site preparation and infrastructure in relatively easy and was conducive to phased development (there have been 5 development phases over 10 years).

Quarry Bluff has a very large initial development cost, blasting and cutting infrastructure into rock, not topsoil. Lot and house sales will be critical. Using a pro forma breakeven analysis created for Quarry Bluff, to break even in 7 years at least 73 lots will need to be sold with 80% building homes. If only 50% of the sold lots build houses, the pro forma estimate is about $8 million loss by year 7. Many other realistic pro forma scenarios show a similar loss.

Hearthside Grove sold the equivalent of 73 lots by year 7, and 80% of them have buildings. But there is no construction restrictions there, so many are converted garages, or 192 ft^2 "tiny houses". (You can see some for sale at https://www.reservehg.com/lot-sales?cat=15049). Achieving this at Quarry Bluff with a choice of 1200, 1800, and 2400 ft^2 houses will be a challenge.

Another proposed comparable project in Durango, Colorado never got off the ground (https://durangoherald.com/articles/173479).

The Class A Motorcoach Market

The CUP application states that only 10 year old or newer Class A Motorcoaches will be allowed (page 346, item 33), but older may be accepted at the discretion of the undefined Homeowners Assocation (item 34). The market for Quarry Bluff properties is closely linked to the Class A motorcoach market.

According to the recognized authority the Recreational Vehicle Industry Association (RVIA) Class A Motorcoach sales (not RV sales in general) are DOWN 25.4% year-to-year in 2019, accelerating a 4 year average annual decline of 14.6 %. The RVIA's funded independent forecast predicts a continuing 15 to 25 % decline in RV sales through 2020.

At this rate, 10 years after Quarry Bluff groundbreaking the number of eligible renters or buyers is only about 90,000.

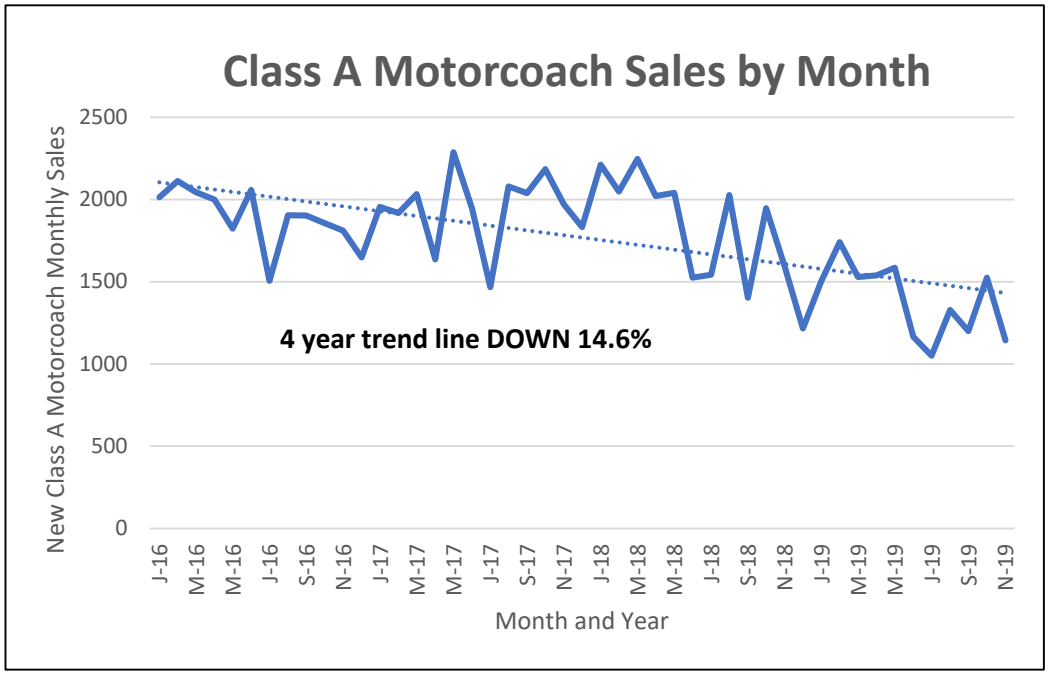
So Quarry Bluff has a declining buyer's market, challenging financial conditions and would leave behind a defaced property.

More financial assurances are needed.

James V. Mitsche
January 6, 2020

More Financial Assurance is Needed

- The CUP application dismisses the topic
- Developer – “Project failure worst-case : leave a beautiful result “
- Real worst-case result of a failed project – defaced natural environment
- Finances for this development are challenging due to the upfront infrastructure cost.
- Comparable development (Petoskey, MI) not sold out after 12 years or canceled (Durango, Colorado)
- The Class A Motorcoach Market has declined 14% per year the past 4 years Expected to decline further.



• Attachment 15B-2

Hearthside Grove – Petoskey MI
192 ft^2 house
(one of at least 30 for sale or rent)

• Attachment 15B-3

Lot 45 - 2208 Hearthside Dr

Deluxe Lot (add use of the bungalow interior for an additional cost)

6 guests 6896 sq. ft.

All Photos

Photos Description More Features Location Calendar Reviews Terms

THE Durango HERALD

• Attachment 15B-4

Proposed RV resort near Purgatory dies after contract dispute

Developers and landowner cannot reach contract agreement

By Jonathan Romeo
(//durangoherald.com/lms/loading.html#rotftwetu=aHR0cHMlM0EvL2R1cmFuZ29oZXJhbGQuY29tL2FydGljbGVzLzE3MzQ3OQ%3D%3D&ibothsahtrtd=aHR0cHMlM0EvL2
County & environment reporter
Wednesday, July 19, 2017 9:50 AM Updated: Wednesday, July 19, 2017 12:49 PM

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Select Language ▼

A proposed 157-lot RV resort near Purgatory Resort will no longer be built after a contract dispute between the landowner and would-be developers ultimately killed the project.

"That contract has been terminated," said Gary Derck, chief executive officer of Durango Mountain Holdings, the company that owns the land. "This one just died and went away."

Derck said when the contract was terminated, both Durango Mountain Holdings and would-be developers Hearthside Luxury Motorcoach Resort signed a confidentiality agreement to not talk about the details of the dispute.

Calls to Michigan-based developers Hearthside were not returned.

Last fall, plans came to light that a 157-lot luxury RV park was planned for 54-acres along U.S. Highway 550, across from Cascade Village. The sale of the land to Hearthside was based on approval of the project from San Juan County.

However, the project drew fierce criticism from members of the public that said the development would be a detriment to the character of the mountainous and wooded landscape because of its size and density.

The proposed RV park would have also put nearly one-third of the Durango Nordic Center's trails at risk, which could have wiped away three to five miles of the center's 14-mile cross-country terrain, the center's president Tom Holcomb previously said.

In April, San Juan County Commissioners approved a preliminary plan for Phase 1 of the project, which called for 61 lots on about 20 acres. A few weeks later, The Durango Herald reported a contract dispute had stalled progress on the project.

Craig Rose, a co-developer with Hearthside, said at that time he didn't believe the dispute was "significant at this point."

"As you get near the finish line of any project, sometimes you have delays," he said.

When questioned about the future of that parcel of land, Derck referenced a master plan that was drafted years ago, which calls for million-dollar homes rather than an RV Park.

"We didn't have a motorcoach village envisioned in our master plan," Derck said.

jromeo@durangoherald.com

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CLICK HERE (HTTPS://WWW.SPINGO.COM/SUBMIT/?PARTNERID=574) TO ADD YOUR EVENT

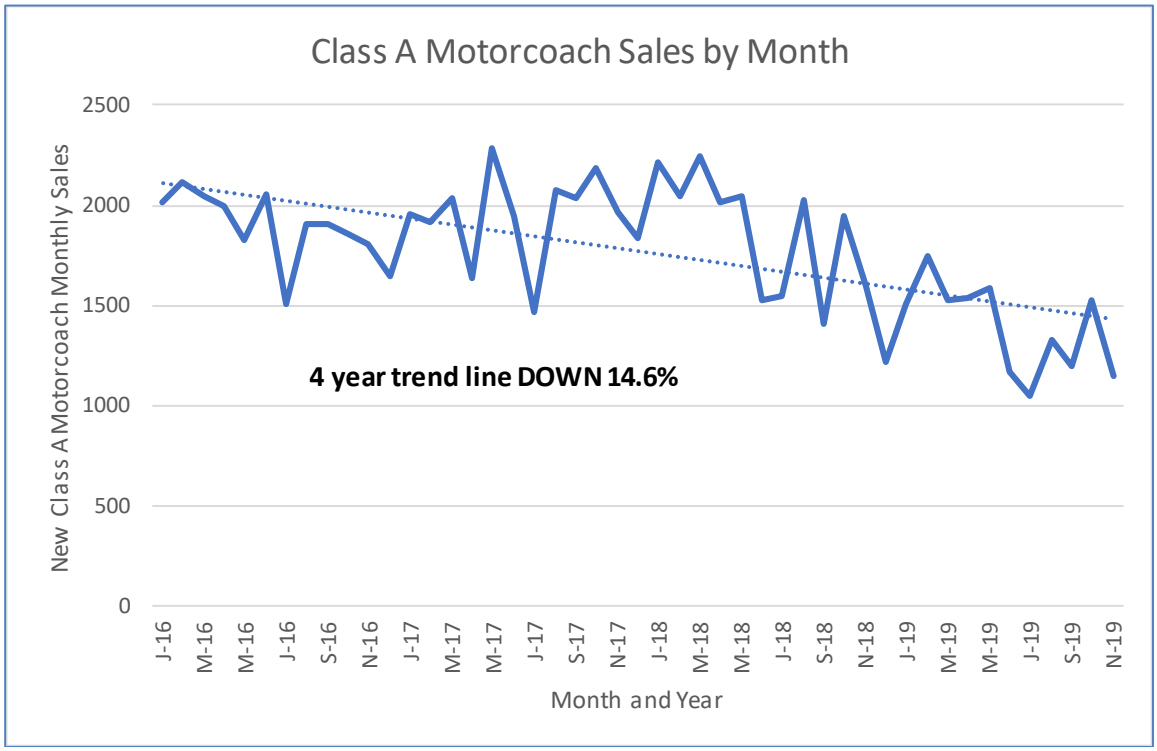
• Attachment 15B-5

The Class A Motorhome Market

On page 13 of the Quarry Bluff application, the application initial description, the submitters assert that "Our research shows a demand for this type of development, especially in Door County, which currently under-serves the Class A motor coach clientele." Also On page 49, homeowners association rules (article 33) " Only self-contained, Class "A" motorcoaches at least 35 feet in length and less than 10 years old shall be permitted for use in the community".

How is the Class A Motorhome market doing ? The Recreational Vehicle Industry Association (RVIA, https://www.rvia.org/) is the recognized authority on this information.

According to RVIA monthly data, Class A Motorcoach sales (not RV sales in general) are DOWN 25.4% year-to-year in 2019, accelerating a 4 year (January 2016 to November 2019) average annual decline of 14.6 %. See chart . (reference https://www.rvia.org/news-insights?_limit=10&_page=1&_sort=field_date&topic=2&category=11)



The RVIA's funded independent forecast predicts a continuing 15 to 25 % decline in RV sales through 2020. See attached.

James V. Mitsche
January 2, 2020

RV wholesale shipments will see a modest cyclical decline through the remainder of 2019 and into 2020, according to the latest issue of RV RoadSigns, the quarterly forecast commissioned by the RV Industry Association and authored by independent RV industry analyst Richard Curtin, director of Surveys of Consumers at the University of Michigan.

RV wholesale shipments are expected to total 401,200 units in 2019, off 17.1 percent from 2018; however, the rate of decline will ease substantially in 2020 with RV shipments projected to be down 3.5 percent at 387,400 units in Dr. Curtin's most likely scenario with a 60 percent probability. His alternative aggressive outlook (15 percent probability) pegs RV wholesale shipments at 400,900 units while the alternative conservative forecast (25 percent probability) sets that annual total at 368,000 units.

Curtin sees the drop in RV shipments being moderated next year by an overall economy that is still expanding as well as low inflation and continued growth in wages and employment. Higher wage and job growth could push the yearly total to the higher end of the forecast while an economic growth rate below two percent and sliding consumer confidence could send annual totals toward the lower end of the projected range.

Towable RV shipments are anticipated to reach 356,000 units in 2019 and 347,000 units in 2020. Motorhome shipments are projected to finish at 45,200 units by the end of this year and at 40,400 units in 2020.

Although shipments are trending down from an all-time comparable record high of 504,600 units in 2017, the RV market remains healthy and robust in historical context. The projected year-end totals of 401,200 units in 2019 and 387,400 units in 2020 would respectively rank as the fourth and sixt

best years for the industry and also easily exceed the 30-year (294,676 units), 20-year (331,206 units) and 10-year (332,210 units) industry averages for wholesale shipments.

Related Articles

Lifestyle | News & Insights

The Advantage Of RVing With Brandon Palaniuk

Lifestyle | News & Insights

Go RVing Spotlight: Stephanie And Jeremy Puglisi

Advocacy | News & Insights

301 Tariff Exclusion Requests Due Oct 9

Source RV Industry Association https://www.rvia.org/news-insights/rv-shipments-january-2017

year	Class A Sales	
2016	22673	
2017	22343	
2018	21719	
2019	14991	projected

Month	year	Sold
J-16	2016	2014
F-16	2016	2112
M-16	2016	2045
A-16	2016	1999
M-16	2016	1822
J-16	2016	2057
J-16	2016	1505
A-16	2016	1904
S-16	2016	1902
O-16	2016	1856
N-16	2016	1810
D-16	2016	1647
J-17	2017	1955
F-17	2017	1918
M-17	2017	2033
A-17	2017	1635
M-17	2017	2288
J-17	2017	1944
J-17	2017	1466
A-17	2017	2079
S-17	2017	2038
O-17	2017	2184
N-17	2017	1970
D-17	2017	1833
J-18	2018	2211
F-18	2018	2048
M-18	2018	2246
A-18	2018	2020
M-18	2018	2041
J-18	2018	1524
J-18	2018	1542
A-18	2018	2026
S-18	2018	1402
O-18	2018	1946
N-18	2018	1598
D-18	2018	1215
J-19	2019	1502
F-19	2019	1741
M-19	2019	1528
A-19	2019	1538
M-19	2019	1584
J-19	2019	1164
J-19	2019	1050
A-19	2019	1329
S-19	2019	1200
O-19	2019	1524
N-19	2019	1144
D-19	2019	

Trend	-0.146
year	sold
2016	22673
2017	23343
2018	21819
2019	18633
2020	15913
2021	13590
2022	11606
2023	9911.2
2024	8464.1
2025	7228.4
2026	6173
2027	5271.8
2028	4502.1
2029	3844.8
2030	3283.4
10 years	89787
Nov 17 to 18	24407
Nov 17 to 18	18117
1215	Dec 2018 sales
-0.257713	% increase YTY 2019
Nov YTD	15304
projection	14991

Minutes of the 2017 HLRCOA Annual Meeting
July 22, 2017: 9:00 AM
Mr. G's Supper Club

• Attachment 15B-6

[redacted]

5. Water System Issue
    - The current status of the water system was presented. The current wells were dug and put into operation in the fall of 2009. Since the new wells have been in service the water sample tests have all met the state standards for water quality. At the time of putting the wells in it was decided to construct a structure around the wells that could hold a water purification system if one was ever needed. Up to this point that system has not been needed.
    - The well issue that we are dealing with right now is being dealt with all around Door County. It is not an isolated incident at Heritage Lake. It is very possible that the well issues occurring now indoor county are the result of the heavy rains that have been falling for the past month.
    - On Friday, July 7, 2017 we were notified by the DNR that our wells tested positive for traces of coliform. At that time the board along with management discussed the idea of a water boil. We were not directed to by the DNR or county sanitarian. It was decided that we would send out notices recommending a water boil until the wells were treated and re-tested.

- The first well was treated (chlorinated) on Friday, July 14 and then flushed on Saturday, July 15. The second well was treated (chlorinated) on Monday, July 17 and then flushed on Tuesday, July 18. A water sample was taken from each well and sent to the state for testing.
- On Friday, July 21 we were notified by the DNR (around 2:00 PM) that one of our wells tested clean (no coliform) but the second well tested positive for E-coli. With that positive test for E-coli comes a mandatory water boil. Even though 1 well has tested fine the mandate must be enforced. A sign was posted at the entrance, smaller signs placed in prominent places along the main streets, and emails were sent out to the owners.
- Starting on Monday, July 24 we will again treat the two wells. Each well will be chlorinated and flushed. After the flushing of both wells a water sample will be taken and sent to Ephraim for testing. When the results are sent back to us we will notify all owners on the status of the system.
- The board has been in communication with our management team throughout the process and is very appreciative of the work Jeff and Pam have been doing in this regard. Part of this communication has centered on the need to install the water purification system at this time. We have the space for it and doing so would eliminate any potential future water issues for Heritage Lake.
- A water purification system would include two steps in the process. A chlorination of the water and an ultra violet treatment.
- The board and management would like to thank all owners for their patience, cooperation, and help getting through this difficult time.

Owner Input:

- Will the use of our dishwashers be enough to have our dishes clean and free of bacteria? **Answer:** At this time we advise no. Until we can talk to the DNR to get additional information you should use boiled water for dishes. Jeff attempted to call the DNR office that handles this issue on Friday after he received the report but they were closed for the day.
- After the wells are clear of bacteria do the individual owners need to do anything inside the unit to clean any of the lines? **Answer:** This information will come after discussion with the DNR.
- How long do we boil the water: **Answer:** 5 minutes although the EPA web site indicates that the water should be boiled for 1 minute after the water starts boiling. Accommodations need to be made for places at higher altitudes.
- After the results came back with a positive test for E-coli on Friday, the email that came out with the update did not include that information. Why? **Answer:** Our first concern was getting information out to people about the mandated water boil. This test result got to us late and at the time we needed a quick notice about the water boil. We knew that the annual meeting was the next day and we would have significant discussion related to the issue. We planned on sending out additional information the next day with much more detailed information the next day. Unfortunately part of that plan was delayed as Jeff could not get in touch with the DNR staff.

- Moving forward. Ken discussed the original project in which we included installation of the treatment system and associated costs. At that time in 2009, the cost was approximately $70,000.00 - $75,000.00. Ken took a show of hands straw poll to see if the owners would be in favor of pursuing a treatment system at this time. An overwhelming majority of owners were in favor of installing it. The board will move forward with this seeking bids for the work.
- Payment for the system can occur in a few ways. The board will look into several options and keep the owners up to date on that aspect. One payment option would be to draw down our reserve fund. The reserve fund is over the desired goal. This would not cost the owners and additional money. It would put our reserve fund at risk in the event there was another catastrophic occurrence at Heritage Lake. A second option would be a onetime special assessment to cover the cost. Using the figure from 2009 that cost would be approximately $250.00 per unit. A third option would be to use part of the reserve and have a special assessment between $100.00 and $150.00 per unit. A fourth option could be paying for the project with our reserve fund and then increasing the dues to pay back that money to return our reserve balance to where it was. That would spread out the cost for owners over a few billing cycles instead of all at once. The increase in dues would go directly into the reserve.

[redacted]

Minutes of the 2018 HLRCOA Annual Meeting
July 21, 2018: 9:00 AM
Mr. G's Supper Club

[redacted]

4. Water System Issue
   - Ken Introduced McMahon Representative
   - System technical specifications were discussed.

OWNER QUESTIONS:

- Nancy Killeen, unit 40:

QUETSION: Will we taste chlorine in the drinking water? **ANSWER:** There may be a residual taste but a lot of that is subjective to the individual. 1 person may taste something and another person might not.

QUETSION: Will it be necessary to continue filtering water at individual units after the system is up and running? **ANSWER:** No.

QUESTION: How long will the system last before we can expect breakdown or replacement? **ANSWER:** With any mechanical system there is always a potential for breakdown. This is usually tied to maintenance. There will be an annual maintenance plan in place to make sure things are operating the way they should be. Jeff will be trained on the operational procedures and there is support from the manufacture as well. You could lose ½ of the system and still have safe drinking water.

- Cliff Parrington, unit 103:

QUESTION: Will the water be shut down while the new system is being installed? **ANSWER:** There will be a period of time when the water will need to be shut down. We will work with the association to make sure that this is known well ahead of time and keep it to a minimum. It could be down for about a week during this process but it could also be less.

- Betty Marie Gilley, unit 90:

QUESTION: Will the chlorine affect our septic system? **ANSWER:** No. The amount of chlorine is very low and should not be a problem for the health of the septic system.

- Jim Lemke, unit 20:

QUESTION: What is the projected maintenance cost and time line of the system? **ASNSWER:** Projected cost is under $3,000.00 per year. There is routine cleaning that needs to occur on a regular basis.

- Larry Thibault, unit 151:

QUESTION: Will there be training for Jeff to operate and maintain the system? **ASNSWER:** Yes. Jeff will be on site during the installation of the system and along the way will be in serviced on the major components. He will also go through a "startup" process to walk through operations.

- Mary Reinsmoen, unit 18:

QUESTION: Do we have chlorine in our system now? **ASNSWER:** No.

- Ken Kuehnl, unit 71:

QUESTION: Is there an alternative/backup person to monitor the system when Jeff might be on vacation? **ASNSWER:** The system does not require an individual to be monitoring the system 24/7. If Jeff were to leave and there is an issue the company has field technicians who would be able to respond for issues. These people are in Door County on a regular basis as we provide service to multiple communities in Door County.

- Nick Golla, unit 152:

QUESTION: What happens if the power at Heritage Lake were to go out **ASNSWER:** The water system would operate the same way it does now if the power were to go out.

[redacted]

Attachment 15B-7

Is an RV Village a good investment for Door County?
A look at research on the Class A motorhome market
By Jane Hillstrom

For those who care about and govern the future of Door County, it is imperative that they study the economic future. This includes research on what drives the attitudes and purchase habits of Millennials, Generation X and Generation Z. Current data does not indicate the younger generations will be purchasing 45-foot Class A motorhomes, which is what is proposed for the project above the Old Quarry.

Let's look at demographic trends of the largest demographic, Millennials, who at 88 million, affect our economy, politics, business and the American way of life in general.

- Studies show Millennials spend their money on experiences, not tangible items.
- About 75 percent of Millennials are altering their buying habits with the environment in mind, compared to 34 percent of Baby Boomers (Nielsen).
- Millennials are not as car crazy as Boomers. Millennials drive sedans. The data shows that millennials are choosing to spend less on cars, and sedans are cheaper than SUVs.

Digging deeper into trends in the RV industry, it is clear that a Class A motorhome park is not a good investment for Door County. An RV Industry Association study done by the University of Michigan indicates that large motorhomes are not the future. The data showed that while older consumers between the ages of 55 and 75 like more traditional, large RVs, younger consumers favor smaller trailers. The study states that future trends show that even "older RVers" are beginning to favor smaller campers.

Baby Boomers make up a large share of current motorhome sales. However, motorhome sales are forecasted at 51,100 units in 2019 and 51,000 in 2020. You can start to see a trend. In 15 years, the youngest Boomer will be 71 years old and on the dying end of the trend to purchase a 45-foot motorhome.

The future is smaller RVs, such as campers (van types), for reasons of maneuverability and the environment. Millennials want electric-powered campers that emit zero emissions. What will happen to this RV park designated for Class A motorhomes that get somewhere between eight and 13 MPG?

Millennials' buying habits in the RV market are the same reason Harley-Davidson is struggling. Traditional motorcycle sales are declining. The company developed an electric motorcycle to attract Millennials interested in purchasing environmentally-friendly vehicles. There is clearly a generational divide in the way young people think about motorcycles and 45-foot motorhomes. Even Airstream's Bob Wheeler said, "Small is the new big," and customers can expect more models trending down in size and weight.

It isn't only Millennials. Almost half of U.S. shoppers say they will change their consumption habits to benefit the environment. Attitudes don't fully support buying behavior and minds can change, but for now, the data supports a future of purchase decisions based on what is good for the earth and the people on it. The data strongly supports that future generations are not buying Class A motorhomes.

Door County's brand identity focuses on maritime history and nature, sprinkled with a culture of cherry orchards, fish boils and festivals. These experiences will attract future generations. Investing in companies and activities that build on this brand makes economic sense for Door County. However, allocating resources to support roads and services for 40,000-pound vehicles in a dying market segment makes no sense at all.

Sources:
RV Industry Association, "Slight uptick in RV shipments expected through 2020" May 30, 2019
Institute for Social Research Survey Research Center , University of Michigan, "RV RoadSigns Special 2020 Industry Forecast," Dr. Richard Curtain
UBS Research, Fortune, "Are Millennials Killing Harley-Davidson?" January 27, 2019
Curbed, "Millennials are the future of RVs. Is the industry ready?" May 31, 2019

Request your Car, "Are Millennials buying cars differently? Here's what the research shows," April 20, 2019
BizWomen, "Millennials drive big growth in sustainable products," December 28, 2019

Attachment 16-1

Hearthside Grove – Petoskey Deed and Homeowners Association Bylaws

Minimum Provisions Required in Quarry Bluff Documents Submitted for Approval

Deed

Terms

Association. "Association'; means ~~Hearthside Grove Home Owners Association~~, which is the non-profit Corporation organized under ~~Michigan~~ law of which all Co-Owners shall be members, which Corporation shall administer the Condominium.

Co-owner or Owner. "Co-owner" means a person, firm, corporation, partnership; association, trust or other legal entity or any combination thereof who or which own one or more Units in the Condominium Project. The term "Owner", wherever used, shall be synonymous with the term "Co-owner".

Transitional. Control Date. "Transitional Control Date" means the date on which a Board of Directors of the Association takes office pursuant to an election in which the votes which may be cast by eligible Co-owners unaffiliated with the Developer exceed the votes which may be cast by' the Developer.

The Common Elements of the Project and the respective use and responsibilities for maintenance, decoration, repair or replacement thereof, are as follows:

General Common Elements.

The General Common Elements are:

(A) Land. The land described in Article 2 of this Master Deed, which is not (i) identified below as Limited Common Elements, or (ii) located within the boundaries of a Unit.

(B) Roads. The road system throughout the Project as indicated on Sheet 3 of attached Exhibit "B," including curbs, swales, street lighting and signage.

(C) Utilities. Any utilities within the Project (initially including electrical, gas, cable TV and telephone transmission or distribution lines) subject to the rights of any public utility, municipality or provider, up to tile point where such utility service is diverted from a main line to service a specific Unit.

(D) Water System. Those portions of the community water well and distribution system that are located within the Project, up to the point where a main distribution line is diverted to service a specific Unit.

(E) Sanitary Sewer System. The sanitary sewer system throughout the Project up to the point of entry to each Unit.

(F) Storm Sewer System. The storm sewer system throughout the Project, including catch basins, manholes and detention ponds.

(G) Club House

(H) Miscellaneous. All other Common Elements of the Project not herein designated as Limited Common Elements or not enclosed within the boundaries of a Unit which are intended for common use or are necessary to the existence, upkeep or safety of the Project.

The Association shall be responsible for the maintenance, decoration, repair and replacement of the General Common Elements. The Association shall also be responsible for its proportionate share (based on the number and classification of users) of the cost of operation, maintenance, repair and replacement of-the community water system and all of its component parts.

In order to provide for harmony and reasonable uniformity. in administering the Condominium, and in order to reduce costs, the Association, acting through Its Board of Directors, may undertake supplementary maintenance functions that would otherwise be the responsibility · of each Co-owner, such as lawn mowing, landscaping maintenance and fertilization, snow plowing of driveways and walkways, rubbish removal, tree trimming and the maintenance of building exteriors including exterior painting and staining of wood surfaces as It may deem appropriate. The cost of !lie same shall be paid by the Co-owners receiving the benefit of the service. A Co-owner may not exempt itself from. such· a service without the approval of the Board of Directors. Correspondingly, the Association may, by Board action, reduce from time to time the level of such supplementary maintenance functions provided by the Association and require that some or all of the same shall be and become the responsibility of the individual Co-owners. Nothing herein contained shall compel the Association to permanently undertake any supplementary maintenance responsibilities with respect to the Units.

Homeowners Association Bylaws

The Developer has constructed a community water system that will supply water to this Project. Despite the fact that portions of the community water system are initially located outside of the Project, and despite the fact that those portions of the community water system remain owned by the Developer, the cost of operating, maintaining and repairing the community water system shall be deemed an expense. of administration of the Condominium Project. This provision shall apply to expenses such as the maintenance, repair and replacement of the well, pumps, tanks, generators, pump house, valves, distribution system and other fixtures, real property taxes; personal property taxes, liability and casualty insurance and all other operating expenses. This provision shall also apply to the base cost of making the system available, including the electrical cost of keeping the system primed, the cost -of periodic testing and inspections and the cost of any water used by the Association for common purposes. The cost of electricity necessary to pump water to the Individual Units which have tapped into the system shall not be deemed an expense of administration of the Condominium and shall be billed only to those Co-owners and other owners who have tapped into the system on a per unit basis or a metered basis .

All sewer charges to the Co-owners within the Project will be billed to the Association as a bulk customer. The Association shall be responsible for the prompt payment of such charges to Bear Creek Township as an expense of administration of the Condominium. The Association · shall then pass this charge on to the Co-owners that are tapped Into the sewer system by assessing the individual Co-owners based on their relative usage.

Budget and Annual Assessment

The Board of Directors of .the Association shall establish. an annual. budget In advance for each fiscal year and such budget shall project all expenses for the forthcoming year which. may be required for the proper operation, management and maintenance of the Condominium Project, including a reasonable allowance for contingencies . and reserves. An adequate reserve fund for maintenance, repairs and replacement of those Common Elements that must be replaced on a periodic basis shall be established in the budget and must be funded by regular installment payments as set forth In Section 3 below rather than by special assessments. At a minimum, the reserve fund shall be equal to 10% of the Association's current annual budget on a non-cumulative basis. Since the minimum standard required by this subparagraph. may prove to be inadequate for this particular Project, the Association of Co-owners should carefully analyze the Condominium Project to determine If a greater amount should be set aside, or if additional reserve funds should be established for other purposes from time lei time. Upon adoption of an annual budget by the Board of Directors, copies of the budget shall be delivered to each Co-owner, and the regular, annual assessment for said year shall be established based upon said budget, although the failure to deliver a copy of the budget to each Co-owner shall not affect or in any way diminish the liability of any Co-owner of any existing or future assessments.

Should the Board of Directors at any time decide, in the sole discretion of the Board of Directors, that (1) the annual assessment is insufficient to pay the costs of operation and management of the Condominium, (2) the replacement of existing Common Elements Is necessary, (3) additions to the Common Elements are necessary (not to exceed $5,000 per year for the entire Condominium Project), or (4) there is an emergency, the Board of Directors shall have the authority to Increase the regular, annual assessment or to levy such additional assessment or assessments as it shall deem to be necessary. The Board of Directors also shall

have the authority, without Co-owner consent, to levy assessments pursuant to the provisions of Article 5, Section 3, hereof. The discretionary authority of the· Board of Directors to levy assessments pursuant to this subparagraph shall rest solely with the Board of Directors for the benefit of the Association and the members thereof, and shall not be. enforceable by any creditors of the Association.

Special assessments, in addition to those required in Section 2 (A) above, may be proposed by the Board of Directors from time to time and approved by the Co-owners as hereinafter provided to meet other requirements of the Association, including, but not limited to: (1)· assessments for additions to the Common Elements of. a cost exceeding. $5,000 per year for the entire Condominium Project, (2) assessments to" purchase a Unit upon foreclosure of the lien for assessments described in Section 5 hereof or (3) assessments for any other appropriate purpose not elsewhere herein described. Special assessments referred to In this Section 2 (B) shall not be levied without the prior approval of more than· 60% of all Co-owners. The authority to levy assessments pursuant to this subparagraph is solely for the benefit of the Association and its members and shall not be enforceable by any creditors of the Association.

Apportionment of Assessment and Penalty for Default.

Unless otherwise provided herein or In the Master Deed, all assessments levied against the Co-owners to cover expenses of administration shall be apportioned among and paid by the Co-owners based upon the Percentages of Value set forth in Article 5, Section 2 of the Master Deed.

Annual assessments as determined In accordance with Article 2, Section 2(A) above· shall be payable by the Co-owners in installments set at a frequency determined by the Board of Directors, commencing with acceptance of a deed to or a land contract vendee's interest in- a Unit, or with the acquisition of fee simple title to a Unit by any other means.

The payment of an assessment shall be In default if such assessment, or any part thereof, is not paid to the Association within 30 days of the date It Is billed. A penalty equal to 1.5% of the amount in default per month shall be imposed on any amount in default and shall be added to the amount in default without further billing until paid in full. Each Co-owner" (whether one or more persons) shall be, and remain; personally liable for the payment of all assessments (including fines for late payment and costs of collection and enforcement of payment) pertinent to his Unit which may be levied while any such Co-owner is the owner thereof.

Sums assessed to a Co-owner by the Association of Co-owners which are unpaid shall constitute a. lien upon the Unit or Units in the Project and shall be subject to foreclosure as provided by Section 108 of the Act. The lien upon each Condominium Unit owned by the Co-owner shall be In the amount assessed against Unit, plus a proportionate share of the total of all other unpaid assessments attributable to Condominium Units no longer owned by the Co-owner but which became due while the Co-owner had title to the Condominium Units. The lien may be foreclosed by an action or by advertisement by the Association in the name of the Condominium Project on behalf of the other Co-owners. Payments on account of assessments in default shall be applied as follows: first, to costs of collection and enforcement of payment, Including reasonable attorney fees; second, to any . interest charges and fines; and third, to" installments in default in order of their due dates. A Co-owner selling a Unit shall not be entitled to any refund whatsoever from the Association with

respect to any reserve account or other asset *of* the Association.

Waiver of Use or Abandonment of Unit. No Co-owner may exempt himself
from liability for his contribution toward the expenses of administration by waiver of the use of enjoyment of any of the Common Elements or by the abandonment of his Unit.

Insurance

The Association shall carry fire and
extended coverage, vandalism and malicious mischief and liability. Insurance and workmen's compensation insurance, if applicable, pertinent to the. ownership,. use and maintenance of the General and Limited Common Elements In an. amount equal to the maximum insurable replacement value as determined annually by the Board of Directors. All such insurance shall be purchased by the Association for the benefit of the Association, the- Co-owners and their mortgagees as their Interest may appear, and provision shall be made for the issuance of certificates of mortgagee endorsements to the mortgagees.

Use of Units.

(A) Except as specifically provided for below, the Units may
only be used for the placement of a recreational vehicle ("RV") of the type described below and for the other recreational uses that are associated with the occupancy of a recreational vehicle as provided for in these Condominium Documents. ~~Units 1-6 may be used for residential and recreational purposes, but may also be used· for such commercial purposes as are allowed by· local zoning. Units 38, 333 and 334 may be used by the Developer for any purpose allowed by local zoning, Including, but not _limited to, their current use for the placement of residential dwellings. Unit 342~~ (the Community Center) can be used for any recreational, commercial or office purpose approved by the Developer or by the Association provided that the use complies with State and local zoning. The Common Elements shall be used-only for purposes consistent with these uses. Neither the Units nor the Common Elements shall be used in violation of applicable zoning and other local ordinances or In violation of other pertinent laws and/or public regulations.

(B) For security purposes, all persons using or visiting a Unit, whether the Co-Owner or
their family, guests and/or renters, must register with the Association upon or prior to arrival and must provide the name, address, vehicle description, and such other information as the Association deems necessary from time to time for the benefit, safety and welfare of. the Project.

(C) Except as specifically provided for in Section A above, no commercial activity of any
kind whatsoever shall be conducted on or from any Unit or Common Element without the consent of the Association .. Home occupations are prohibited. The forgoing restrictions shall not prevent the Association from designating from time to time certain portions of the Common Elements for commercial use pertaining to Association activities.

(D) Co-Owners are permitted to leave their RVs on their. Units. for the entire season
whether or not they are present. No more than six (6) persons shall occupy the Unit for periods in excess of seven (7) days. No minor person shall be enrolled in a local public or private school system while occupying an RV. The Association, through its Board of Directors, may

determine that it is not cost effective for the Project to be open for certain time periods due to limited Co-owner use and may, after having given notice to all Co-owners, close the Project for · those time period.

Permitted Recreational Vehicles

Only the type of recreational vehicle described In this Section of Article 6 may be kept on a Unit.

(A) Only self-contained, Class "A" motor coaches (the "RVs") at least 28 feet In length and less than 10 years old shall be permitted for use in Project. All RVs must be modern, commercially manufactured, RVIA '(the Recreational Vehicle Industry Association) approved recreational vehicles and maintained In the "Pride of Ownership" condition. The determination of what constitutes "Pride of Ownership" condition shall be made by the Association from time to time in its sole discretion.

(B) An RV which is less than 28 feet in length or older than ten years (such as a 'restored classic. In good condition) may be approved at the discretion of the Association. The Association shall consider the physical appearance of the RV, and the Association's decision shall be final.

(C) ·No. travel trailers, 5th wheels, park models, mobile homes, tents, truck campers, Class "B" or Class "C" motor homes, fold out or pop-up campers, non-commercial conversions of trucks, buses and vans, nor any other types of recreational vehicles not equipped for full utility hookups to water, sewer and electrical systems are permitted.

Permitted RV Accessories.

For the protection of all Unit Co-owners and the preservation of the intended quality of life in the Project, all RVs are also subject to the following restrictions and requirements:

(A) Any "slideout" must be. mechanically operable at all times and be capable of use · independent of any bracing from the ground or otherwise .

(B) An RV air-conditioning unit must be a roof mounted or basement unit, A bungalow air-conditioning unit may be a ground unit provided that it is located on a solid concrete pad out of public view (or, if it cannot be located out of public view, Is screened by plantings) and is approved by the Developer. Window and through-wall air-conditioning units are not permitted.

(C) Permanent awnings, solid patio awnings, screen rooms, carports· and patio rooms are not permitted. Also, raised wood decks, railings and/or steps are not permitted.

(D) ·Roll-up awnings are permitted, provided that they are rolled up when the RV is left unoccupied for longer than 48 hours.

Right to Rent or Lease.

(A) A Co-owner may lease their Unit for the same purposes set forth In Section I of this Article 6, provided that Written disclosure of such lease transaction Is submitted

to the Association in the manner specified In subsection (B) below.. No Co-owner shall lease less than an entire Unit In the Condominium and no tenant shall be permitted to occupy' except under a lease the initial term of which is at least ~~one~~ [six] day[s], ~~unless specifically approved In writing by the Association~~. The terms of all leases or occupancy agreements shall Incorporate, or be deemed to Incorporate, all of the provisions of the Condominium Documents and any rules and regulations adopted by the Association. It shall be each Co-owner's responsibility to insure that each tenant, guest or occupant of their Unit abides by all provisions of the Condominium Documents. The Developer may lease any number of Units in the Project In its discretion.

Only the Unit itself Is subject to rental; the tenant or guest shall provide their own RV. An RV located on a Unit shall not be included in any lease or occupancy agreement. A bungalow or other improvement on a Unit may not be leased separately.
Owners are encouraged but not required to administer the rental of their Units through the Management Agent selected by the Association. An Owner may elect to use a third party management company or self manage the rental of their Unit, provided the Owner obtains approval from the Association for the third party management company or themselves.

(B) leasing Procedure. A co-owner, including the. Developer, desiring to rent or lease a Unit shall disclose that fact in writing to the Association at least 10 days before presenting a lease form or otherwise agreeing to grant possession of a Unit to a potential lessee and at the same time, shall supply the Association with a copy of the exact lease form for its *review* for its compliance with the Condominium Documents. If no lease form is to be used, then the Co-owner or Developer shall supply the Association with the name and address of the potential lessee, along with. the rental amount and due dates under the proposed agreement. The leasing of Units In the Project shall also conform to the following provisions:

A Co-owner, including the Developer, desiring to rent or lease a Unit, shall disclose that fact in writing to the Association at least 10 days before presenting a lease form to a potential lessee and, at the same time, shall supply the Association with a copy of the exact lease form for its review for its compliance with the Condominium Documents. Each time a Co-owner changes any term(s) of his lease form, the revised lease form must be re-submitted to· the Association. Each Co-owner agrees to utilize any standard lease or sub-lease form(s) adopted by the Association. Any lease of a Unit not administered through the Management Agent selected by the Association shall be subject to a document review and processing fee set by the Board of Directors (Initially $50) and payable to the Association. If Developer desires to rent Units before the Transitional Control Date, it shall notify the Advisory Committee in writing.

(C) Failure to Vacate Unit In a Timely Manner. Failure or refusal by a tenant (including any other guest or non-owner occupant) to vacate the Unit in a timely manner shall subject the tenant the immediate removal from the Unit and from the Condominium Project without notice. Such failure or refusal to vacate shall render the responsible tenant liable for all actual damages to the Co-owner and/or the Association, as the case may be, incurred for costs of alternative accommodations, court costs, reasonable attorneys' fees connected with removal and all other reasonably foreseeable expenses caused thereby. If a Unit is rendered uninhabitable because of an action or omission, whether negligent or intentional, of a tenant (other than for failure or refusal to vacate as provided in the preceding portions of this paragraph) and the uninhabitable period extends beyond that tenant's lease term, then the responsible tenant shall· be liable for all actual damages as in the case of unauthorized occupancy for the time beyond its lease .term that the Unit is uninhabitable.

Architectural Control.

(A) Submission and Approval of Plans. No structure or other Improvement shall be constructed on a Unit, nor shall any exterior modification be made to any· existing structure or Improvement, unless plans and specifications therefore, containing such detail as the required herein or as Developer may reasonably request, have first been· approved. in writing by the Developer. The plans shall include a landscaping plan. Construction of any structure or other improvements must also receive any necessary approvals from the necessary, local and State governmental authorities and must comply with all applicable codes. This requirement for prior approval is intended to Include the erection of antennas of any sort (Including dish antennas) lights, aerials., bungalow or any other such exterior attachments, improvements or modifications. "Miss Dig" or any other utility companies must be called to mark the location of their cables before excavation occurs. If a Co-owner shall remove any existing structure, 'the

Unit shall be restored to its original or "completed" condition.

Once the Developer has been provided with the required plans and specifications, a response to the Co-owner shall be due within 30 days.' If the reviewing body does not respond to the Co-owner within the 30 day time period, the plans and specifications shall be deemed approved as submitted. Any changes to an approved plan must be approved In advance by the Developer.

(B) General Rules.

The exterior design, construction materials and colors of all structures and other improvements must be compatible with the rules and restrictions set forth In this Article, with existing structures and other Improvements and with the recreational/resort character of the. Project. No design, material or exterior color which would not be compatible or harmonious shall be allowed. The Developer may specify, require or prohibit any type, size, shape or brand of material If deemed by the Developer unsuitable to the character of· the Project. No improvements constructed or placed on a Unit may be located within the front or rear yards except as specifically allowed In this Article.
All exterior construction by a non-Developer Co-owner must be completed within 45 days of commencement, except that certain finish items that require Warmer weather *for* completion may be completed within a reasonable time.

The purpose of this Section Is to assure the continued maintenance of the Condominium as a beautiful and harmonious development. Developer shall have the right to refuse· to · approve any such plans or specifications or grading or landscaping plans which are not suitable or desirable in its opinion for aesthetic or other reasons; and in passing 'upon such plans and specifications it shall have the right to take into consideration the suitability of the proposed structure, improvement or modification, the site upon which it is proposed to be constructed-and the degree of harmony thereof with the Condominium as a whole.

Developer's rights under this Section may; In Developer's discretion, be assigned to the Association or other successor to the Developer. Developer's rights under this Section shall automatically be assigned to the Association upon the expiration of the Development and Sales Period, Developer may construct .any Improvements upon the Condominium premises that it may, in its sole discretion, elect to make without the necessity of prior consent from the

Association or any other person or entity, subject only to the express limitations contained iii the Condominium Documents.

The following structures and improvements shall also be subject to these. further specifications, standards and restrictions:

(C) Fencing. No fencing Is permitted on any Unit, except that the Developer and/or the Association. may install fencing as required for safety and security purposes, such as to separate a common area from a roadway, or to secure a pool, building or other feature.
(
D) Bungalows. Each Unit may have one bungalow provided that it complies with the design requirements set by the Developer and the following size limits and restrictions. The purpose of a bungalow shall be to enhance the convenient and comfortable day-use of a Unit, to house amenities and appliances for indoor use and to allow storage of items owned by the Co-owner. ~~A bungalow is not intended as overnight living space. The Developer shall provide standard bungalow designs for Co-owner selection. The maximum floor size shall be 192 square feet, and maximum wall height shall be nine feet on any side. All bungalow designs and requested placement shall be submitted to the Developer for review and approval, in writing and at the Developer's sole discretion, prior to construction. Each bungalow shall have a permanent foundation. Each bungalow shall be kept In good repair and In a neat and orderly condition at all times.~~

If electrical service is extended to the bungalow, it shall be buried in conduit.
Exposed cords between the RV and the bungalow are prohibited. No other type of accessory building shall be allowed upon a Unit.

(E) Personal Property

Items of personal property typically Intended for outdoor use, such. as a grill, table and chairs, etc., are permitted outdoors. Such personal property may remain on the Unit year around, but may not be left out so that it can be seen from the street or from another Unit when the Unit is not in use. Co-owners shall take care that all items left outdoors are -left in a neat and orderly fashion when the Unit is in use. Smaller items of personal property such as grills and bicycles must be covered with canvas-type material when

not in use. No plastic tarps or covers will be allowed except during an approved construction project.

(F) Utility Connections. The utility connections for electrical, water, sewer and gas within a Unit are the sole responsibility of the Co-owner of that Unit. Utility connections are to be maintained in a good, safe and leak proof condition at all times. Approved piping shall be used for any gas and water line. Any tampering or altering of these connections is strictly forbidden. All outside electrical lines must meet local code. All sewer connections must be, at · a minimum; schedule 40 PVC. Any service work done on the utilities must be done by the utility company or. a licensed service company. The Association will provide each Unit with a water meter to be Installed at the Co-owner's· expense: All Co-owners are responsible for having a heat tape In proper working order to protect their water line, water riser, etc. from freezing. The · cost of relocating any utilities on the Unit (including meter pedestals) shall be paid by the Co-owner;

(G) Antennas and Satellite Dishes. No outside satellite receptor dishes or devices, television or radio antennas, or any other type of electronic device for the transmission or reception of electronic signals shall be permitted without the prior written approval of the Developer, except those commercially manufactured and Installed as part of the RV which are . not free-standing off the ground.

(H) Flags & Flagpoles. The display of any flag, on any Unit in the Project, shall meet the following criteria or be approved In writing, by the Association. No flag may be erected on and common area In the Project, except by the Association and/or its Management Agent. Up to two flags no larger than 3' X 5' are permitted and shall be attached to the RV unit or bungalow and not affixed to the ground. The height of any flag shall not exceed fifteen feet above the ground.

(I) Banners. Approved banners may only be erected on the day prior to a special event and must be removed the day after the event. Banner support structures shall not exceed 8' from the ground and may be placed anywhere on the Unit. The Developer may use banners and other similar devices to promote sales and events within all General Common Elements of the Project.

(J) Exterior Lighting. Landscape and exterior lighting must be placed In planters or mounted on hardscapes to facilitate mowing. Any lighting placed on a lawn area must have a hardscape border around all of the lights. No outdoor property night lights of any kind shall.be permitted to cast its direct rays beyond any of the boundary lines of the Unit in which it is installed or maintained. Timed or automatic lighting ,devices are permitted provided that they are properly shielded. All exterior lighting must be approved by the Developer,
.

(K) Entertainment Centers. Subject to Developer approval, outside entertainment centers are encouraged. Any structure Is. deemed to be an entertainment center when it · contains one or more of the following: sink, ·bar, barbecue, refrigerator, freezer, oven, dishwasher, ice maker, television or any counter top space. An entertainment center shall be installed on an impervious surface. An entertainment center (including the impervious surface on which it sits) may not be located in the front or rear yard. An entertainment center (including the impervious surface on which it sits) shall be set back at least eight feet from the utility side of an adjoining Unit and at least 5 feet from the non-utility side of an adjoining Unit.

Any request to install an entertainment center will include a detailed scale drawing with all measurements and appliance positions. Appliance and/or access openings may be covered with a metal or canvas material using earth tone colors. All canvas material or metal must be · maintained to avoid a diminished appearance. ·

(L) Fire Pits. Fire pits shall be no larger than 48 inches in diameter.' Fire pits shall use only natural gas for fuel. A fire pit may not be located in the front or rear yard and must be at least eight feet from-the utility side of an adjoining Unit and at least 5 feet from the non-utility side of an adjoining Unit.

(M) Hot Tubs. Hot tubs may be permitted when part of comprehensive landscape and entertainment center plan. Hot tubs shall also be subject to any local and state codes and requirements. Generally, a hot tub should riot be visible from· any other Unit. A. hot tub (including the impervious surface on which it sits) may not be located 11'.1 the front or rear yard. A hot tub (including the impervious surface on which it sits) shall be set back at least eight feet from the utility side of an adjoining Unit and at least 5 feet from the non-utility side of an adjoining Unit.

(N) Walls. Cosmetic and garden walls are permitted with prior approval from the Developer. Concrete, masonry, brick and stone are the only approved materials. No wood, vinyl or plastic will be permitted. Walls should be Intended to enhance the Unit and may not be used for privacy or sectioning off a Unit.

(0) Impervious Surfaces. The amount of impervious and/or hard surface constructed or placed upon the ground level of a Unit shall be limited to 50% of the total square footage of the

Landscaping and Lawns.

Any landscaping (especially trees) shall be reviewed and approved at the discretion of the Developer in terms of Its overall visual Impact on neighboring Units as well as the Project as a whole. Landscaping, lawns and trees shall also be subject to these further specifications, standards and restrictions:

(A) Lawns. Lawns are to be mowed, raked, seeded, fertilized and properly watered to maintain a healthy and attractive appearance. This also includes cleaning grass and weeds 'out of cracks of sidewalks, patios and parking spaces. Grass shall be trimmed around all four sides of all cement pads. Grass clippings, leaves and other yard refuse may not be swept into the streets, walks, over fences, into ditches or Into the natural areas In or surrounding the Project. Dead or removed grass must be replaced with sod in order to. maintain the quality appearance of the Project. Any grass damaged or removed as a result of sprinkler repair or any construction work will immediately be replanted with sod.
Areas which are not easily accessible and cannot be accessed by mowing equipment. should not be planted with grass, Difficult areas .to maintain should be covered by properly designed shrub beds, flower beds, wood chips or rock gardens which minimize the need for irrigation and. maintenance.

(B) Trees and Shrubs. A Co-owner may clear trees and vegetation for their building site. A Co-owner may cut, trim or top. any .other trees on their Unit provided that the Co-owner. has obtained the prior, written approval of the Developer. A Co-owner may remove. dead, diseased or unsafe trees at any time without prior approval.
Shrubs .or trees or similar obstructions shall not be erected or maintained which will obstruct traffic vision. Decorator items (such as flower pots and windmills) shall not be placed within 5 feet of a curb or an adjoining Unit. All trees should have a 1' to 2' diameter border separating the trunk from surrounding grass to protect the tree from weed eater and mower blades. The Developer reserves the right to reject certain species of trees or · shrubs as unsuitable for planting on a Unit (including, buf not limited to Willow; Ash, Cottonwood and any other variety of Poplar trees).

Hedges are permitted provided that they are planted a minimum of 18 inches from any rear or side property line and 15 feet from the front property line.

(C) Gardens. Flower gardens are permitted within the Units and shall be placed where they will not interfere with the lawn mowing responsibilities of the Association. The location of all flower gardens and other planting including trees must be approved by the Developer prior to Installation. The Developer may disapprove such plantings for any reason, Including aesthetics. A minimum space of five (5) feet must be maintained between any plantings, structures, or flower beds to allow clearance for lawn mowing equipment.
Rock gardens are permitted. A rock garden will not be considered impervious coverage . unless an impervious liner is added to the base of the rock garden before placing rocks, plants, etc. A rock garden cannot be used for vehicle and golf cart parking.

(D) Care and Maintenance. The Owner is to maintain landscaping In a neat and attractive condition and should not allow landscaping to deteriorate to an unsightly, unattractive or unsafe condition. Grass should be cut appropriately, and weeds or any other unsightly vegetation must be removed promptly. Landscaping within each Unit must be in substantial compliance with, and as contemplated by, the original landscaping plan approved for each Unlt by the Developer.

Any plantings within a front or rear yard or above a buried utility line may be subject to damage or removal to service the utility lines or to plow snow; it shall be the responsibility of the Co-owner to repair or replace any plantings damaged as a result. Each Co-owner is responsible for maintaining a clear spray pattern for the sprinklers; no planting shall interfere with the sprinklers.
The grade of each Unit shall be maintained in harmony with the topography of the Project and with respect to adjoining Units. A .Co-owner shall not create additional surface drainage onto an adjoining Unit and shall not Interfere with the topography· of an adjoining Unit, whether natural or engineered.

As a courtesy to other Co-owners in the Project, children and guests must not trespass on another Co-owner's Unit. A Co-owner guest or tenant shall be responsible for the repair of any damage caused to another Co-owner's lawn or landscaping by that Co-owner, guest or tenant or their children.

In the event a Co-owner fails to maintain the. landscaping on their Unit as required, the Association shall have all of the enforcement remedies set forth in Articles 16 arid 17 of the Bylaws. If not corrected by the Co-owner as requested, the Association has the right to enter the Unit and perform any and all required maintenance. The costs incurred as a result of said maintenance (i.e. mowing, trimming, repair) shall be charged to the Co-owner and payable in addition to the following month's regular assessment.

Activities.

(A) No unlawful or offensive activity shall. be carried on in any Unit or upon .the Common Elements nor shall anything be done which may be or become an annoyance or a nuisance to the Co-owners of the Condominium. No unreasonably noisy activity shall occur in or on the Common Elements or In any Unit at any time, and the disputes among Co-owners, arising as a result of this provision which cannot be amicably resolved, shall be arbitrated by the Association. The discharge of any firearm, bow and arrow,. slingshot, air gun, or any type of weapon that shoots any type of projectile with force is prohibited within the Project. Fireworks, sparklers, burn piles or open fires outside of an approved fire pit are prohibited.

(B) No fishing, swimming, pets, toys or inflatable devices are allowed in any pond or lake.

(C) No maintenance, other than minor maintenance, of automobiles, RV's or recreation equipment Is permitted in the Project. Minor maintenance activities are defined as any activities which are completed within one day and the vehicle or equipment being maintained must be restored to its assembled condition at the conclusion of the activity.

(D) Construction hours on a Unit are· limited to between B:.00 AM and 6:00PM daily,

Monday through Thursday. These construction hours apply to any improvement project relating to a .bungalow, entertainment center, landscaping, pad or patio and any other large -scale Improvement. Emergency repairs may be allowed outside of these hours at the discretion of the Association, No· construction shall be permitted except by the Developer during the first 2 weeks. of July to preserve· the peak time of enjoyment for all guests and Co-Owners. The Association may, to accommodate special events and group activities, institute additional, temporary limits on construction hours.

(E) No equipment or device of any nature which would emit sounds to a Unit or Common Element or to its occupants shall be permitted In use before 8:00 AM or after·B:00 PM. Such equipment Includes, among other things, electric or power lawnmowers, blowers, trimmers, saws or any other power tool or device emitting a loud or annoying noise. No noise is permitted to .exist or operate upon any Unit or Common Element which would be offensive or detrimental to any other property or to. its occupants. Without limiting the generality of the above, excessively noisy vehicles of any kind, exterior speakers, horns, whistles, bells, chimes, or other sound devices or loud voices are prohibited. Noise generated from TVs, radios, musical instruments, etc., must be minimized in consideration of neighboring Co-Owners.

(F) No odor is permitted to be emitted from any property which is noxious, unreasonably offensive or detrimental to any Unit or Common Element to the occupants thereof. Such odors could include those from failure to pick up after animals or from chemicals used on -. lawns or structures.

(G) The Association shall contract for and regulate garbage pick-up service ·as needed. No. trash canisters, bags or cans shall be visible from outside of a Unit. All trash must be deposited in common dumpsters maintained by the Association. Any requirement for additional disposal heeds beyond the normal daily amount, such as that required by a construction project, must be approved by the Association.

(H} All Co-Owners and their guests shall comply with no smoking signs where posted.

(I) All children (defined as persons under the age of 18 years) must be within the Unit owned by their parent or guardian by 10 PM, unless they are accompanied by a parent or responsible adult. Children must be supervised at all times. Parents are responsible that their children do not disturb neighbors or abuse Association property. Parents will be· held. responsible for the conduct of their children and for the cost of repair of any damage caused by their children.

(J). Mail boxes are not permitted on Units. The Developer and/or the Association shall provide a central location for mail to be received by each Unit. The .mall box location and/or delivery system shall be subject to change as required by the growth of the Project. No Co-owner, tenant or quest may use the Project's street address to receive mail.

<u>Aesthetics and Outside Storage</u>.

(A) The Common Elements shall not be used for storage of supplies, materials, personal property, trash or refuse of any kind, except
as provided in duly adopted rules and regulations of the Association. No unsightly condition shall be maintained on any Unit. Decorator items (such as windmills, etc.) may not exceed such a number as to create an unsightly condition. In general, no· activity shall be carried on

nor condition maintained by a Co-owner, either on their Unit or upon any Common Element, which is detrimental to the appearance of the Condominium.

(B) . Clotheslines or lines of any kind are prohibited. Towels, rugs, wearing apparel, bathing suits or other forms of laundry of any description are prohibited to be hung outside.

(C) No RV, structure or other improvement may be permitted to fall Into. disrepair, and each Unit must be kept and maintained In a clean, safe, attractive and sightly condition and iii good repair, adequately painted or otherwise finished by the Owner.

(D) Owners, tenants and guests should not have unsightly storage areas on their Units. Lawn maintenance equipment, tools, clothes, etc. should all be stored out of sight. Storage under or around an RV, anywhere on a Unit or on any Common Element is prohibited. Storage of additional trailers, motor homes, or fifth wheels Is not permitted on any Unit. No storage of boats,' boat trailers, utility trailers or automobile trailers is permitted on any Unit. .The exterior use and/or storage of refrigerators, freezers, LP gas· bottles over 20 pounds, boats, boat equipment, trailers or vehicle parts, storage boxes or any other items not deemed acceptable by the Association is prohibited.

Vehicles.

(A) Permitted Vehicles. A permitted RV must be parked within· the confines of the cement pad within the Unit, including any overhang, so as to promote an orderly appearance and permit efficient Association lawn maintenance. Vehicles other than-the approved RV are limited to five per Unit and must be parked on that Unit's impervious surface driveway so as not to extend into the street, No more than two licensed· passenger vehicles, two golf carts and two motorcycles may be included in the total of five permitted vehicles. Also, passenger vehicles must be parked to the road side on the front of the· RV pad (and not alongside or behind the RV). Vehicles kept on the Unit or In the Association parking areas shall have current license plates or tags, shall be operable and shall not be leaking fluids,

The parking and/or storage of bicycles, golf carts, and motorcycles on a Unit Is permitted, provided that any such parking and/or storage shall be subject to rules and regulations duly adopted by the Association from time lo time and provided that any such vehicles shall be covered with canvas-type material when not In use:

(B) Non-permitted Vehicles. Commercial vehicles may not be parked or stored upon the Condominium Premises unless while making deliveries or pickups in the normal course. of business. Large trucks, such as stake, semi, cement, step-vans, etc shall not be parked on a Unit or. on any General Common Element. Unattended vehicles, which are "For Sale", are prohibited lei be stored or parked on any General Common Element. Inoperable vehicles of any type and vehicles without current license plates or tabs may not be stored upon · the Condominium Premises.

(C) Golf Carts. Golf carts must be approved by the Association. All users of golf carts must have a valid driver's license to operate the golf cart within the Park, along with proof of insurance. and current sticker provided by the Association. All golf carts must be electric; no gas engines are permitted, GEM electric cars are the preferred type of cart.

(D) Vehicle Operation. Ali motorized vehicles must obey the posted speed limit and must be operated In a safe manner. The owner/driver of any motorized vehicle or human propelled device shall obey all posted signs and traffic-markings. Ali streets In the Project are fire· lanes and must be kept clear for fire, ambulance and. emergency vehicles. Parking on the street is prohibited.

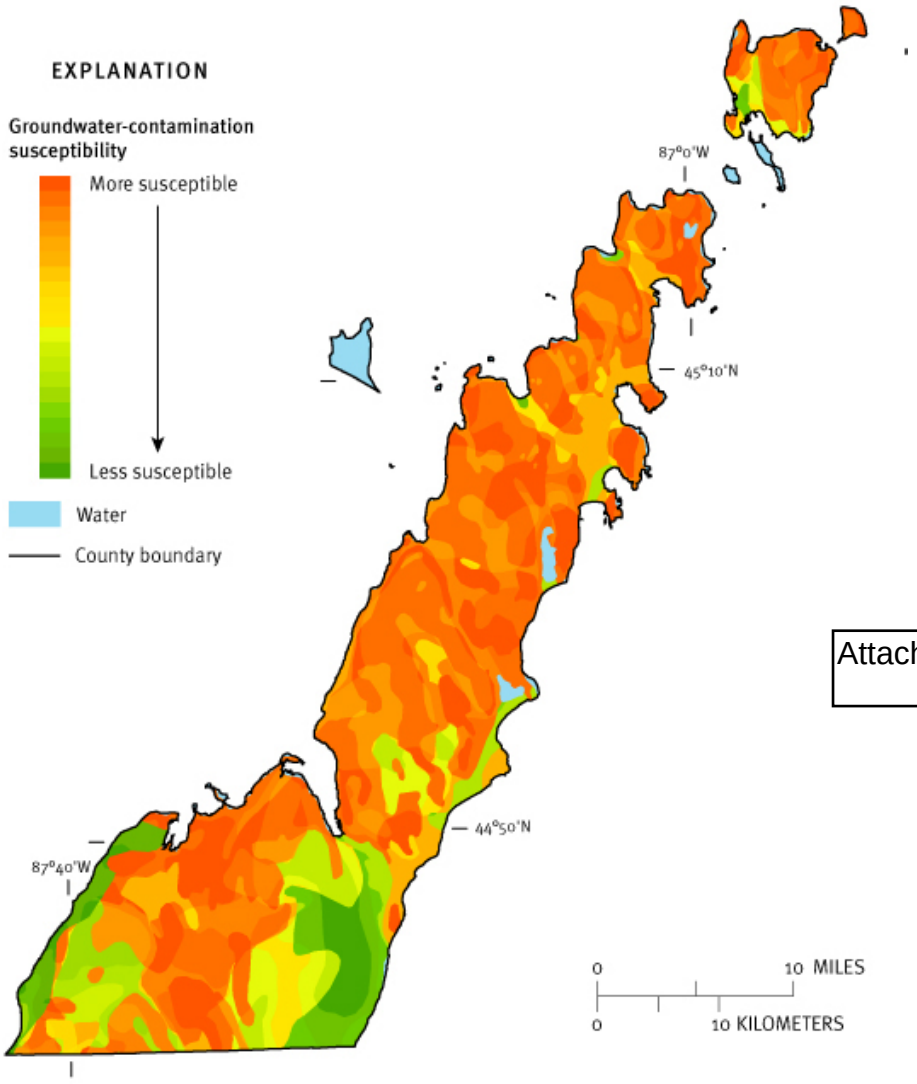
The Association reserves the right to remove any vehicle operated or parked in violation of these restrictions. Ali costs for such removal shall be paid by the Co-owner.

Governance

Specific HOA agreement wording is needed for

- Voting procedures
- Board election and officer procedures
- Board meeting procedures
- Procedures for assessing and collecting fines
- Remedies for default

Door County – Groundwater-Contamination Susceptibility Analysis



Attachment 17-1

This groundwater-contamination susceptibility map is a composite of five resource characteristic maps, each of which was derived from generalized statewide information at small scales, and cannot be used for any site-specific purposes.

Map source: Schmidt, R.R., 1987, Groundwater contamination susceptibility map and evaluation: Wisconsin Department of Natural Resources, Wisconsin's Groundwater Management Plan Report 5, PUBL-WR-177-87, 27 p.

Figure created for the "Protecting Wisconsin's Groundwater Through Comprehensive Planning" web site, 2007, *http://wi.water.usgs.gov/gwcomp/*

In Wisconsin, 70% of residents and 97% of communities rely on groundwater as their drinking water source. Wisconsin has abundant quantities of high-quality groundwater, but once groundwater is contaminated, it's expensive and often not technically possible to clean. Because of these factors, we need to be careful to protect our groundwater from contamination. Our activities on the land can contaminate groundwater - most contaminants originate on the land surface and filter down to the groundwater. In some cases however, groundwater can become contaminated from natural causes such as radioactivity due to the presence of radium in certain types of rocks.

"Susceptibility of Groundwater to Pollutants" is defined here as the ease with which a contaminant can be transported from the land surface to the top of the groundwater called the "water table". Many materials that overlie the groundwater offer good protection from contaminants that might be transported by infiltrating waters. The amount of protection offered by the overlying material varies, however, depending on the materials. Thus, in

Attachment 17-2

Safety Data Sheet

Solms Crushed Limestone (Crushed Rock, Limestone, Base Rock, Scrubber Stone, Agg-Lime)

Section 1: Identification

MANUFACTURER'S NAME & ADDRESS: Capitol Aggregates Inc.
2330 North Loop 1604 West.
San Antonio, Texas 78248

PRODUCT NAME:	**Solms Crushed Limestone**

EMERGENCY TELEPHONE NUMBER: (210) 871-6111
SDS INFORMATION OR ASSISTANCE: (210) 871-7247
COMPANY PHONE NUMBER: (210) 871 7260
CHEMICAL NAME: Solms Crushed Limestone
CAS NUMBER: N/A
TRADE NAME or SYNONYMS: (Crushed Rock, Limestone, Base Rock, Scrubber Stone, Agg-Lime)
PRODUCT USE: Construction Aggregates, Soil Amendment

Section 2: Hazards Identification

WARNING! CRUSHED LIMESTONE IS NOT A KNOWN HEALTH HAZARD. HOWEVER CRUSHED LIMESTONE MAY BE SUBJECTED TO VARIOUS NATURAL OR MECHANICAL FORCES THAT PRODUCE SMALL PARTICLES (DUST), WHICH MAY CONTAIN RESPIRABLE CRYSTALLINE SILICA (PARTICLES LESS THAN 10 MICROMETERS IN AERODYNAMIC DIAMETER).REPEATED INHALATION OF RESPIRABLE CRYSTALLINE SILICA (QUARTZ) MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE AND MAY CAUSE LUNG CANCER.

Classification of the substance or mixture:

CARCINOGENICITY/INHALATION — Category 1A

SPECIFIC TARGET ORGAN TOXICITY
(REPEATED EXPOSURE) — Category 2

GHS label elements

Hazard pictograms:

Signal word: **Danger**

Hazard statements: **Harmful if swallowed. May cause cancer (inhalation). May cause damage to lungs with prolonged or repeated exposure (inhalation).**

EMERGENCY OVERVIEW:

Appearance/Odor: Loose granular rock, gravel, and silt mixture of varying size and color. No odor.

Carcinogen, Acute & Chronic Toxin Warning:

- This product contains greater than 0.1% crystalline silica. Crystalline silica has been linked to cancer, silicosis, and other lung problems in conditions of prolonged airborne over-exposure. Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC and NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g. Tridymite and Cristobalite) may also be present or formed under certain industrial processes.
- Carcinogen- Acute & Chronic. Product contains crystalline silica quartz. The International Agency for Research on Cancer (IARC) classifies respirable crystalline silica as Group I – Known Human Carcinogen. The National Toxicology Program (NTP) lists respirable crystalline silica as a Known Human Carcinogen. The American Conference of Governmental Industrial Hygienists (ACGIH) lists respirable crystalline silica as a Suspected Human Carcinogen (A-2).

OSHA REGULATORY STATUS:

This product is considered HAZARDOUS by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

POTENTIAL HEALTH EFFECTS:

LIKELY ROUTES OF EXPOSURE: Inhalation

TARGET ORGAN(S): Lungs

EYE

- Avoid eye contact. Exposure to dust may be irritating to the eyes and may impair visibility. These effects are transient similar to nuisance dust and recovery should follow.

SKIN

- Avoid prolonged and repeated skin contact. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection and face protection. Wash hands thoroughly after handling.

INHALATION

- Avoid prolonged and repeated inhalation of dust. Acute and chronic exposure to dusts may be irritating to the respiratory tract by frictional action, and may provoke bronchoconstriction in hyper-susceptible individuals.
- Respirable dusts can cause bothersome deposits in the nasal passages. Nuisance dusts cause toxicity from physical overloading of the respiratory clearance mechanisms.
- Significant deterioration of pulmonary function and chronic bronchitis can develop with prolonged overexposure to dusts in excess of established limits (See Section 8).
- Continued overexposure to silica dust can result in silicosis, a chronic, progressive and sometimes fatal lung disease that is characterized by the presence of typical nodulation of the lungs leading to fibrosis. Silicosis can develop in weeks with high exposures and after years of lower exposure. Symptoms and signs of silicosis include cough, shortness of breath, wheezing, decreased pulmonary function, and changes in chest X-rays.

INGESTION

- Minute amounts accidentally ingested during industrial handling are not likely to cause injury.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

- Chronic exposure to nuisance dusts may enhance susceptibility to respiratory tract infections.
- Silica can cause silicosis which, in turn, increases the risk of pulmonary tuberculosis infection.
- Smoking may increase the risk of developing lung disorders associated with silicosis.

Section 3: Composition / Information on Ingredients

Component	CAS No.	Wt.%	Hazardous?	GHS-US
Calcium Carbonate	1317-65-3	> 85	No	Not Classified
Crystalline Silica Quartz (a component of crushed stone)	14808-60-7	< 6	Yes	Acute Tox. 4 (Oral), H302 Carc. 1A, H350 STOT RE 1, H372

Crystalline Silica is reported as total silica and not just the respirable fraction.

Any concentration shown as a range is to protect confidentiality of trade secret information or is due to process variation.

Section 4: First Aid Measures

Description of necessary first aid measures

EYE CONTACT
Limestone dust: Immediately flush eyes with large amounts of water and continue flushing for 15 minutes. Remove contact lenses, if worn. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond rinsing, do not attempt to remove material from the eye(s). Get medical attention if irritation develops or persists.

SKIN CONTACT
Limestone dust: Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention.

INHALATION
Limestone dust: Remove to fresh air. If breathing is difficult keep at rest in a position comfortable for breathing and get medical attention.

INGESTION
Limestone dust: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Give large quantity of water and get medical attention if distress develops.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE and DELAYED POTENTIAL ACUTE HEALTH EFFECTS

Eye contact: May cause eye irritation due to abrasion if crushed limestone particles become entrapped in the eyes. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva.

Inhalation: May cause respiratory tract irritation. Symptoms may include sneezing or coughing similar to inhalation of nuisance dust particles if sand or gravel particles are inhaled. Inhaling sand and gravel may cause discomfort in the chest, shortness of breath and coughing.

Skin contact: Symptoms may include skin abrasion or redness if sand and gravel particles collide forcefully with the skin.

Ingestion: Harmful if swallowed. May cause stomach distress, nausea, choking, and vomiting if sand or gravel is swallowed.

OVER-EXPOSURE SIGNS/SYMPTOMS

Eye contact: Adverse symptoms may include the following: pain, watering and redness

Inhalation: Adverse symptoms may include the following: respiratory tract irritation and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline liberated from silica can cause silicosis and may cause cancer.

Skin contact: Adverse symptoms may include skin abrasion and redness.

Ingestion: Adverse symptoms may include stomach distress, nausea, vomiting, or choking if crushed stone is swallowed.

NOTES TO PHYSICIAN
Ensure that medical personnel are aware of the materials involved, and take precautions to protect themselves. Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders).If addicted to tobacco, smoking will impair the ability of the lungs to clear themselves of dust.

Section 5: Fire Fighting Measures

FLAMMABLE PROPERTIES:
Noncombustible and not explosive.

EXTINGUISHING MEDIA:
Suitable extinguishing media: Crushed Limestone is not flammable. Use fire extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media: None known.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL
No specific fire or explosion hazard. Not a combustible dust.

THERMAL DECOMPOSITION PRODUCTS
None specific however contact with powerful oxidizing agents and acids may cause fire and/or explosions (See section 10 of this safety data sheet).

PROTECTION OF FIREFIGHTERS:
No special precautions use protective equipment appropriate for surrounding materials.

Section 6: Accidental Release Measures

PERSONAL PRECAUTIONS:
Use personal protective equipment (PPE) specified in Section 8 (Exposure Controls/Personal Protection). Also see Section 3 (Hazards Identification), Section 7 (Handling & Storage), and Section 10 (Stability & Reactivity).

ENVIRONMENTAL PRECAUTIONS:
Do not allow spilled material to enter sewers or waterways.

METHODS OF CONTAINMENT:
Wet suppression can be used to minimize dust levels

METHODS FOR CLEAN-UP:
Clean up quickly and avoid generating dust. Spilled material where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or

use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protection equipment may be necessary.

OTHER INFORMATION:
Notify appropriate local authorities of spills into sewers or waterways. See section 8 for further information on protective clothing and equipment, section 13 for advice on waste disposal.

Section 7: Handling and Storage

HANDLING:
Do not handle until all safety precautions have been read and understood. Keep formation of airborne dusts to a minimum. Provide appropriate exhaust ventilation at places where dust is formed. Do not breathe dust. Avoid prolonged and repeated exposure to dusts. Wet suppression can be used to minimize dust exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid contact with eyes. Do not swallow. Avoid generating and breathing dust. Good housekeeping is important to prevent accumulation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. DO NOT use product for sand blasting. Blasting breaks down natural silica and creates freshly fractured respirable crystalline silica which may lead to silica-related disease in persons exposed at levels exceeding occupational exposure limits.

ADVICE FOR GENERAL OCCUPATIONAL HYGIENE
Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

STORAGE:
No special storage procedures are necessary. Avoid dust formation or accumulation. Keep workers off large piles of product to minimize dust levels or engulfment hazards. Do not enter a silo or other enclosure containing bulk quantities of these products without using all appropriate safety precautions as engulfment or suffocation may occur. Crushed Stone may form a surface crust which appears solid but may not support the weight of humans. Accordingly, do not stand on crushed stone without using all appropriate safety precautions, including, without limitation, properly employed harnesses, lifelines and all other necessary safety equipment.

OTHER:

Also see Section 8 (Exposure Controls/Personal Protection)

Section 8: Exposure Controls / Personal Protection

EXPOSURE GUIDELINES:

Component	CAS No.	Exposure Limits					
		OSHA		MSHA		ACGIH	
		respirable dust	total dust	respirable dust	total dust	respirable dust	total dust
Crushed Limestone (as Particulates Not Otherwise Regulated or Nuisance Dusts)	SEQ250	PEL 8hr-TWA: 5 mg/m^3	PEL 8hr-TWA: 15 mg/m^3	PEL 8hr-TWA: 5 mg/m^3	PEL 8hr-TWA: 10 mg/m^3	TLV 8hr-TWA: 3 mg/m^3	TLV 8hr-TWA: 10 mg/m^3
Crystalline Silica Quartz	14808-60-7	PEL 8hr-TWA: 10 mg/m^3 /(%SiO_2+2)	PEL 8hr-TWA: 30 mg/m^3 /(%SiO_2+2)	PEL 8hr-TWA: 10 mg/m^3 /(%SiO_2+2)	PEL 8hr-TWA: 30 mg/m^3 /(%SiO_2+3)	TLV 8hr-TWA: 0.025 mg/m^3	N/A

APPROPRIATE ENGINEERING CONTROLS:
Good general ventilation (typically 10 air changes per hour indoors) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

EYE/FACE PROTECTION
Wear safety glasses or goggles.

SKIN PROTECTION
Wear standard work gloves (leather, cotton, coated cotton, etc.) as needed to prevent abrasion. Wear clothes with sleeve rolled down and collars buttoned, and trousers gathered at the ankles to minimize skin contact.

RESPIRATORY PROTECTION
When handling or performing work with crushed limestone that produces dust or respirable crystalline silica, a NIOSH approved respirator is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Wear a NIOSH approved respirator that is properly fitted and is in good condition. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. All respirators must be NIOSH-certified.

GENERAL HYGIENE CONSIDERATIONS
Practice good housekeeping and hygiene practices to minimize generating and spreading airborne dust. Always wash areas of the body (hands, face, arms, etc.) that have come in contact with the product. Always wash hands and face with soap and water before eating, drinking, or smoking.

Section 9: Physical and Chemical Properties

Physical State: Solid. [Granular, Pebbles to Boulders]

Color: White/Grayish White/ or Tan

Odor: Odorless.

Odor threshold: No data available.

pH: As Calcium Carbonate 8-9.

Melting point: No data available.

Boiling point: No data available

Flash point: Non-combustible.

Burning time: Not available.

Burning rate: Not available.

Evaporation rate: Not applicable.

Flammability (solid, gas): Not applicable

Lower and upper explosive (flammable) limits: Not applicable.

Vapor pressure: Not applicable.

Vapor density: Not applicable.

Relative density: > 2.0

Solubility: Insoluble in water.

Solubility in water: Not applicable

Partition coefficient: n-octanol/water: Not applicable.

Auto-ignition temperature: Not applicable.

Decomposition temperature: Not applicable.

SADT: Not available.

Viscosity: Not applicable.

Section 10: Stability and Reactivity

REACTIVITY
Product is stable and non-reactive under normal conditions of use but reacts vigorously with acids to form CO2. Ignites on contact with Fluorine.

CHEMICAL STABILITY:
Material is stable under normal conditions but reacts vigorously with acids to form CO2. Ignites on contact with Fluorine.

POSSIBILITY OF HAZARDOUS REACTIONS:
Avoid contact with strong oxidizers such as acids which will react vigorously and form CO2.

CONDITIONS TO AVOID:
Avoid generation of dusts. Avoid contact with strong oxidizers such as acids which will react vigorously and form CO2. Crushed Limestone should not be mixed or stored with Fluorine, Ammonium Salts, Aluminum, Hydrogen, Magnesium, or Acids.

INCOMPATIBLE MATERIALS:
Contact with powerful oxidizing agents such as Fluorine, Chlorine Tri-Fluoride, Manganese Trioxide, Oxygen Di-Fluoride, Ammonium Salts, Aluminum, Hydrogen, Magnesium, or Acids.

HAZARDOUS DECOMPOSITION PRODUCTS:
Silica-containing respirable dust particles may be generated if dust is generated. Limestone decomposes at 1742 degrees Farenheit to produce calcium oxide.

OTHER INFORMATION
See also additional precautions Section 5 (Fire Fighting Measures), Section 6 (Accidental Release Measures) and Section 7 (Handling & Storage).

Section 11: Toxicological Information

INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Not classified. Limestone LD50/LC50 of >6000mg/Kg (Rat, oral). Limestone is not listed by MSHA, OSHA, or IARC as a carcinogen but this product may contain trace amounts of crystalline silica, which has been classified by IARC as a carcinogenic to humans when inhaled in the form of quartz or Crystobalite.

Harmful if swallowed. May cause stomach distress, nausea, or vomiting

Irritation/Corrosion:

Skin: Not applicable.
Eyes: Not applicable.
Respiratory: May cause respiratory tract irritation.
Sensitization: Not applicable.

Carcinogenicity – May Cause Cancer
A; General Product Information:
The Occupational Safety and Health Administration (OSHA), the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC) have not listed crushed limestone as a carcinogen.

B: Component Carcinogenicity Nuisance Dust-Crystalline Silica Dust

This product, however, may contain a constituent which is listed by IARC and NTP as carcinogen. Respirable crystalline silica in the form of quartz or cristobalite from occupational sources is listed by the International Agency for Research on Cancer (IARC) and National

Toxicology Program (NTP) as a lung carcinogen. Prolonged exposure to respirable crystalline silica has been known to cause silicosis, a lung disease, which may be disabling. While there may be a factor of individual susceptibility to a given exposure to respirable silica dust, the risk of contracting silicosis and the severity of the disease is clearly related to the amount of dust exposure and the length of time (usually years) of exposure.

Chronic Toxicity

Specific target organ toxicity – (repeated/extended exposure), Crystalline Silica is considered hazardous by inhalation. IARC has classified silica as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. NTP has also classified respirable crystalline silica as a known carcinogen. Excessive exposure to crystalline silica can cause silicosis, a chronic, progressive and sometimes fatal lung disease which, in turn, increases the risk of pulmonary tuberculosis infection.

Mutagenicity: There are no data available.

Reproductive Toxicity : Not applicable

Specific target organ toxicity (single exposure): Not Applicable

Specific target organ toxicity (repeated exposure)

Name	Category	Route of Exposure	Target Organs
Quartz	1	Inhalation	Respiratory tract and kidneys

Aspiration Hazard: There are no data available

INFORMATION ON LIKELY ROUTES OF EXPOSURE

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Limestone dust: May cause irritation through mechanical abrasion. Discomfort in the chest, shortness of breath, coughing. Adverse symptoms associated with eye contact with particle debris include the following: discomfort, excess blinking, tear production, watering, marked redness and swelling of the conjunctiva.

Inhalation: Limestone dust: May cause respiratory tract irritation. Adverse symptoms may include respiratory tract irritation and coughing. Prolonged inhalation may cause chronic health effects. This product contains crystalline silica. Prolonged or repeated inhalation of respirable crystalline silica liberated from this product can cause silicosis, a fibrosis (scarring) of the lungs, and may cause cancer.

Skin contact: Limestone dust: Adverse symptoms may include skin abrasion and redness.

Ingestion: Limestone dust: Harmful if swallowed. Adverse symptoms may include stomach distress, nausea, or vomiting.

Section 12: Ecological Information

ECOTOXICITY
Not expected to be harmful to aquatic organisms. Discharging crushed stone, sand, dust and fines into waters may increase total suspended particulate (TSP) levels that can be harmful to certain aquatic organisms.

PERSISTENCE and DEGRADABILITY
Not Applicable

BIOACCUMULATIVE POTENTIAL
Not Applicable

MOBILITY IN SOIL
Not Applicable

OTHER ADVERSE EFFECTS
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, global warming potential) are expected from this component.

Section 13: Disposal Considerations

Recover or recycle if possible.

REGULATORY INFORMATION
Disposal must comply with all applicable federal, state and local regulations.

WASTE DISPOSAL METHODS
The generation of waste should be avoided or minimized wherever possible. Disposal of this product should comply with the applicable requirements of environmental protection and waste disposal legislation and any regional local authority applicable requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Do not allow fine particulate matter to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with fine particulates. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe manner. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff, and contact with soil, waterways, drains and sewers. Dispose of waste materials only in accordance with applicable federal, state, and local laws and regulations.

HAZARDOUS WASTE CODE
Not Regulated. Crushed Limestone is used in many soil and construction applications, waste material does not meet the criteria of a hazardous waste as defined under the Resource Conservation And Recovery Act (RCRA), 40 CFR 261. Dispose of residual products and empty containers responsibly and lawfully.

Section 14: Transport Information

UN NUMBER
Not Applicable

UN PROPER SHIPPING NAME
Not Applicable

BASIC SHIPPING DESCRIPTION:
U.S. Department of Transportation (DOT) Highway/Rail (Bulk): Not classified
U.S. Department of Transportation (DOT) Highway/Rail (Non-bulk): Not classified

ADDITIONAL INFORMATION:

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for all required shipping descriptions. Many local communities and jurisdictions regulate the transporting of Crushed Stone in open vehicles or trailers requiring tarps, covering, or other protections of the load.

Section 15: Regulatory Information

OSHA:
This product is considered Hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200) and should be included in employers' hazardous communication programs.

TSCA:
Crushed Limestone is not listed on TSCA (Toxic Substances Control Act) inventory, however a component Quartz (CAS 14808-60-7) is listed on the United States Toxic Substances Control Act inventory.

CERCLA:
This product in not listed as a CERCLA hazardous substance

CLEAN AIR ACT

Clean Air Act Section 112 (b): Hazardous Air Pollutants (HAPs) — Not listed
Clean Air Act Section 602: Class I Substances — Not listed
Clean Air Act Section 602: Class II Substances — Not listed

DEA

DEA List I Chemicals: (Precursor Chemicals) — Not listed
DEA List II Chemicals: (Essential Chemicals) — Not listed

SAFE DRINKING WATER ACT
Not Listed

SARA TITLE III:
Hazard categories: Immediate Hazard – No
Delayed Hazard – Yes
Fire Hazard – No
Pressure Hazard – No
Reactivity Hazard - No

Section 302:
This product is not and does not contain an Extremely Hazardous Substance
Section 311/312:
The following materials are reportable under the Tier II rules:
Crystalline Silica Quartz

Section 313:
The following TRI chemicals are present in this product:

Chemical Name	CAS No.	Wt%
None		

INTERNATIONAL REGULATIONS
Not applicable since not shipped internationally.

US STATE REGULATIONS:

California Proposition 65:
This product contains the following chemicals known to the State of California to cause cancer:

Name	CAS Number
Crystalline Silica	14808-60-7

California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

Massachusetts Right To Know Substance List
Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

New Jersey Worker and Community Right-to-Know Act
Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture)

Pennsylvania Worker and Community Right-to-Know Law
Crystalline Silica (Quartz) (CAS 14808-60-7)
Respirable Tridymite and Cristobalite (other forms of crystalline silica) (CAS Mixture

Rhode Island Right To Know Substance List
Not regulated.

Section 16: Other Information

NFPA Ratings:

Health: 1
Flammability: 0
Reactivity: 0
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Capitol Aggregates Inc.
2330 North Loop 1604 West.
San Antonio, Texas 78248
(210)-871-6111

PRECAUTIONARY WARNING!
CRUSHED LIMESTONE, (SOLMS CRUSHED LIMESTONE), IS NOT A KNOWN HEALTH HAZARD. ALTHOUGH CRUSHED LIMESTONE MAY BE SUBJECTED TO VARIOUS NATURAL OR MECHANICAL FORCES THAT PRODUCE SMALL PARTICLES (DUST), WHICH MAY CONTAIN RESPIRABLE CRYSTALLINE SILICA (PARTICLES LESS THAN 10 MICROMETERS IN AERODYNAMIC DIAMETER).REPEATED INHALATION OF RESPIRABLE CRYSTALLINE SILICA (QUARTZ) MAY CAUSE DAMAGE TO LUNGS THROUGH PROLONGED OR REPEATED EXPOSURE AND MAY CAUSE SILICOSIS A FORM OF LUNG CANCER. DO NOT USE PRODUCT FOR SAND BLASTING. BLASTING BREAKS DOWN NATURAL SILICA AND CREATES FRESHLY FRACTURED RESPIRABLE CRYSTALLINE SILICA WHICH MAY LEAD TO SILICA-RELATED DISEASE IN PERSONS EXPOSED AT LEVELS EXCEEDING OCCUPATIONAL EXPOSURE LIMITS. BEFORE USING, ALSO READ THE SAFETY DATA SHEET FOR THIS PRODUCT FOUND AT **WWW.CAPITOLAGGREGATES.COM.**

KEEP OUT OF THE REACH OF CHILDREN (Poison Control No. 1-800-222-1222)

Product Identifier:
SOLMS CRUSHED LIMESTONE
CAS NO. N/A

Hazard Statement **DANGER**
Harmful if swallowed. May cause damage to lungs with prolonged or repeated exposure (inhalation). May cause cancer, (inhalation).

ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOT	Department of Transportation
IARC	International Agency for Research on Cancer
m^3	Cubic meter
mg	Milligram
SDS	Safety Data Sheet (formerly known as MSDS)
MSHA	Mine Safety and Health Administration
N/A	Not applicable
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PPE	Personal Protective Equipment
RQ	Reportable Quantity
TLV	Threshold Limit Value
TRI	Toxic Release Inventory
TSCA	Toxic Substance Control Act

NOTE: This SDS attempts to describe as accurately as possible the potential exposures associated with normal use of this product. Health and safety precautions on this data sheet may not be adequate for all individuals and/or situations. Users have the responsibility to evaluate and use this product safely and to comply with all applicable environmental, health, and safety laws and regulations.

Prepared in August 2015
Supersedes any and all previous versions (extensive revisions were made)

Disclaimer of Warranty:

While the information provided herein is believed to provide a useful summary of the hazards of different types of Crushed Limestone designated above as commonly used, this SDS cannot anticipate and provide all of the information that might be needed by every individual in every situation. Inexperienced users should obtain proper training prior to using any Crushed Limestone product and no one should use any Crushed Limestone product without following all applicable safety laws and regulations related to its storage, handling, use and disposal and without first understanding the potential hazards of Crushed Limestone. This SDS does not cover such potential hazards.

The information provided in this SDS is believed by Capitol Aggregates, Inc. to be accurate at the time it was prepared or it was prepared from sources then believed to be reliable. It is the

responsibility of the user independently to investigate and understand other pertinent sources of information and to comply with all laws, regulations and procedures applicable to the safe storage, handling, use and disposal of Crushed Limestone. It is also the responsibility of the user to independently determine the suitability or fitness of any of the products covered by this SDS for their intended uses.

CAPITOL AGGREGATES, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EXPRESS OR IMPLIED, BY OR THROUGH THIS SDS CONCERNING THE PRODUCTS COVERED HEREBY OR THEIR FITNESS FOR ANY PARTICULAR USE. LIKEWISE CAPITOL AGGREGATES, INC. MAKES NO REPRESENTATIONS OR WARRANTIES REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION SET FORTH HEREIN. THE PROVISION OF THE SUCH INFORMATION IS NOT INTENDED TO BE, AND SHOULD NOT BE CONSTRUED AS LEGAL OR OTHER ADVICE, OR AS ENSURING COMPLIANCE WITH ANY PARTICULAR LAWS AND REGULATIONS.

Dear Customer

Whether you are a long term customer or a new contractor, we would like to thank you for purchasing Capitol Aggregates Products. We are a Texas owned Company and produce all of our products in the State of Texas. This Safety Data Sheet (SDS), provided for the product you purchased or intend to use is a revision and replaces any previous versions formerly known as Material Safety Data Sheets or (MSDS). We are providing you this SDS as required by the Mine Safety & Health Administration's (MSHA), or the Occupational Safety & Health Administration, OSHA, and any applicable State Right-To –Know laws. The requirements applicable to the OSHA and MSHA Hazard Communication Standards can be found at 29 CFR 1910.1200 for OSHA and 30 CFR 47 for MSHA.

It is an important responsibility for you as a customer or contractor to communicate this information to your employees, customers, and contractors who may use, contact, or be exposed to this product. It is also an important consideration and responsibility for you to follow any applicable laws that require you to forward a copy of this SDS to your customers or end users. Please direct this SDS to the person responsible for safety and health compliance at your company as they may be able to assist you with any of the necessary requirements. If you need additional copies or have questions about this SDS please contact 210-871-6111, or visit us at www.capitolaggregates.com .

Spanish language versions will be available in the near future at www.capitolaggregates.com .

Sincerely

Chuck Ross
Director of Safety

Email from Sherry Mutchler to Erin Hansel, DNR Air Quality

Attachment 17-3

Hello Erin, Thank you again for your phone call regarding information on DNR Air Quality Monitoring in Wisconsin. We have checked the Conditional Use Permit for the Quarry Bluff RV Park project and found that the company indicated who will perform the blasting is a company called Paschke Drilling and Blastingn at 3131 Bay View Drive, Green Bay, Wisconsin 920-469-1951. It appears that a company called Vibra-Tech of Chicago, Illinois has submitted the blasting report.

Research shows that there are different addresses listed. Another possible name would be Al W. Paschke Construction Company, Inc. with the registered agent as Charles A. Paschke, 8298 Juddville Hill Rd., Fish Creek, Wisconsin.

You indicated that you could check your records for companies that would have General Crushing Permits. Could you check to see if either of these names are listed?

Thank you again for your information and assistance with this information.

Hansel, Erin V - DNR Tue, Jan 14, 7:08 AM (11 days ago)

to me

Hello Sherry,

I did not find any permits issued to those companies, but that doesn't rule out that the permit is just under a different name or entity. Below is a link to the air permit search tool. You may use this tool to search our permit database.

https://dnr.wi.gov/topic/AirPermits/Search.html

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

Erin Hansel
Phone: 920- 662-5403
Erin.Hansel@Wisconsin.gov

Town of Sevastopol Planning Commission and Town Board

4528 State Hwy. 57

Sturgeon Bay, WI 54235

Attachment 17-4

RE: Conditional Use Permit for Quarry RV Site

Gentlepeople,

I was a practicing board-certified lung specialist for over two decades in Sturgeon Bay and Green Bay Wisconsin. During this time, I also achieved certification by the National Institutes for Occupational Safety and Health as a "B reader". (A B reader is one who is certified to provide official interpretations of chest x-rays for the use of the government or the courts to determine cause and extent of lung damage from occupational dust exposure).

I attended, or consulted on, or evaluated radiographically numerous cases of silicosis of the lungs. Respirable crystalline silica produces lung scarring that is permanent, often progressive, and untreatable. It frequently results in disability and, at times, death. Further, silicosis of the lungs increases the risk for development of tuberculosis.

In any situation where citizens are potentially exposed to respirable crystalline silica, careful evaluation of risks should be done, and ongoing monitoring of risks and exposure should be practiced.

My understanding is that the development of the quarry RV site will involve extensive blasting and crushing of rock from the plateau on top of the quarry over a significant time period, which will potentially release dust including respirable crystalline silica, into adjacent residential neighborhoods. In my opinion, appropriate evaluation and recommendations from the governmental agencies that deal with the environmental health and welfare of citizens should be sought. The evaluation and recommendations should be considered when a judgment is made concerning the conditional use permit.

Respectfully Submitted,

John E. Stevenson, M.D.

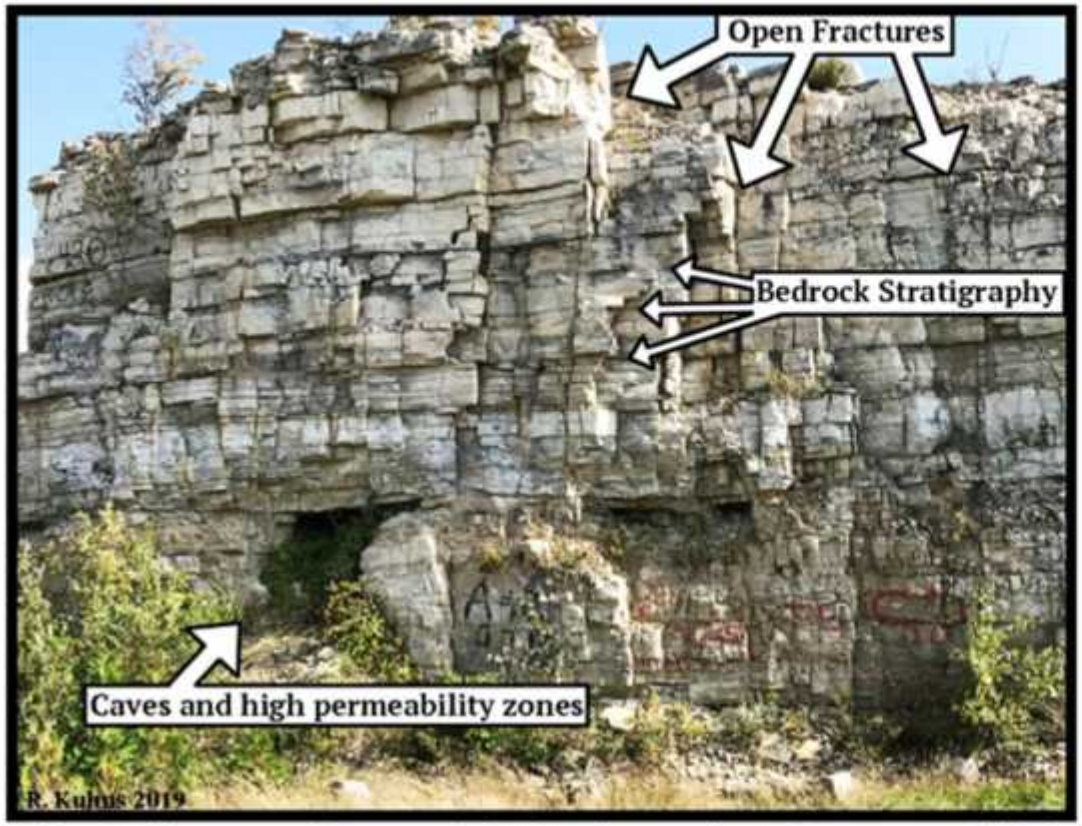
John E Stevenson, M.D.

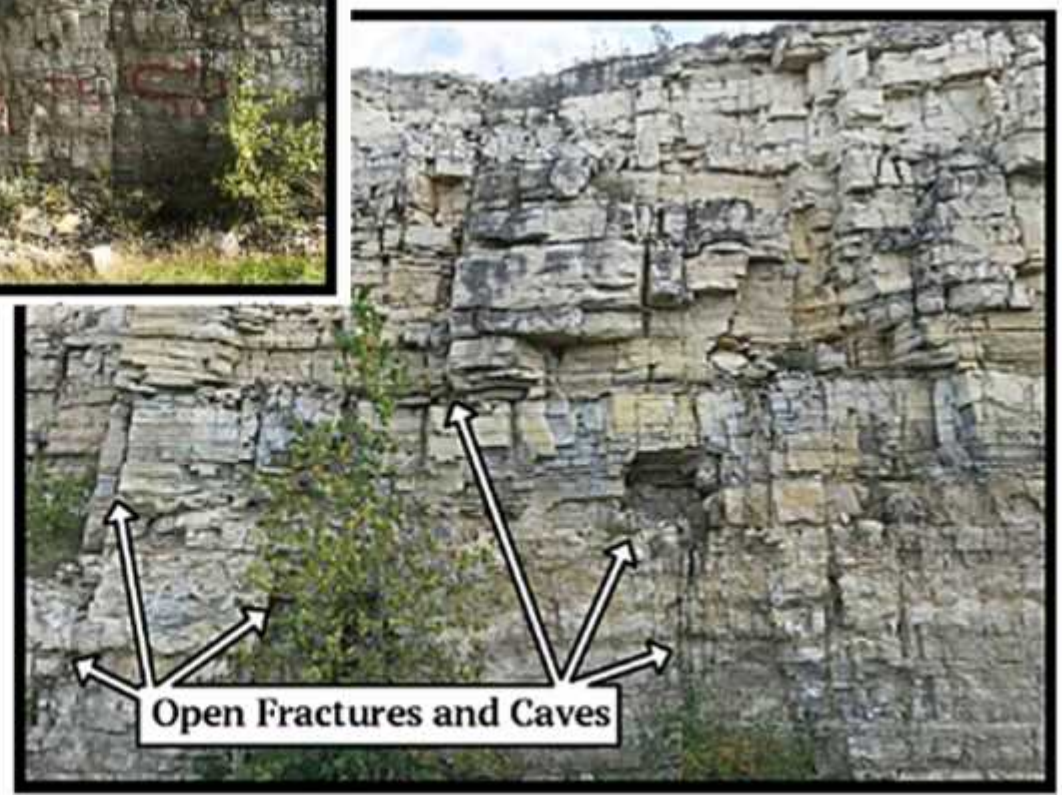
49 North Madison Ave., Unit 313

Sturgeon Bay, WI 54235

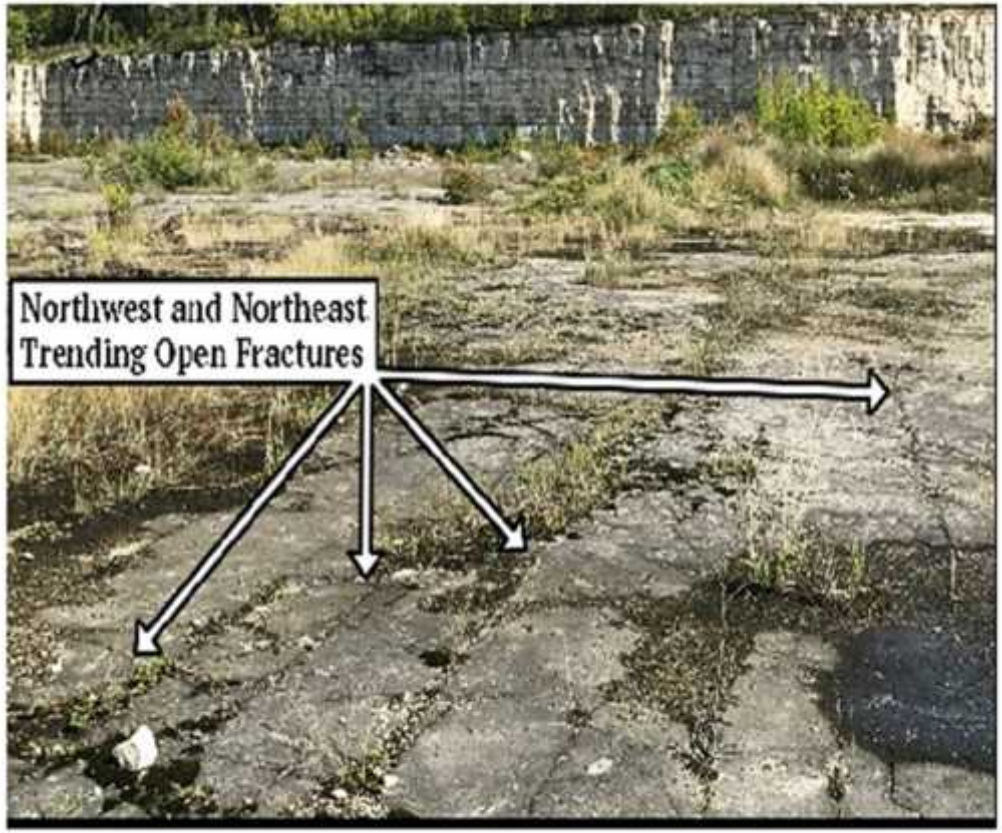
6 January 2020

Attachment 17-5





Fractures on Quarry Identified in Red



Fractures on Quarry Face

GUST 31, 2013 | DOOR COUNTY ADVOCATE | PAGE A3

AROUND THE DOOR

Box 130, Sturgeon Bay, WI 54235 | Fax: (920) 743-8908 | Email: advocate@doorcountyadvocate.com | Online: www.doorcountyadvocate.com

EGG HARBOR

Town Board has no jurisdiction in construction blasting dispute

By Peter J. Devlin
Advocate correspondent

The Egg Harbor Town Board this month determined it has no jurisdiction over explosives used to blast a foundation for new construction along Monument Bluff Pass in the town.

A couple who own a home and guest house on nearby Birch Lane, Pat and Mike Healy, complained in writing to the Town Board after blasting occurred near their home beginning in late June.

Town Chairman Paul Peterson said the use of explosives is regulated at the state level, noting the excavation work was apparently in compliance with Wisconsin law. The town can't legally adopt any blasting regulations more stringent than the state's rules, he said.

The Healys' letter indicates town Supervisor Steve Schopf, who is also chief of the Joint Egg Harbor Village-Town Fire Department, told them the state law requires the contractor to notify the fire chief in advance of planned blasting. The letter indicated Schopf had been properly notified.

The letter also said the blasts could be felt in the Healys' home and an adjoining guest house, and that damage occurred in both buildings through the month of July. Electrical appliances malfunctioning and plumbing issues were cited in the letter.

Peterson said any damages must be evident immediately following blasting, rather than days or weeks after the fact.

The Healys' letter was placed on file.

Town of Gibraltar Cited for Failing to Acquire Proper Permit for Parking Lot Project

By Myles Dannhausen Jr., Peninsula Pulse – March 16th, 2018

• Attachment 17-7

The Town of Gibraltar cleared a wide swath of land to make way for expanded parking behind the town center. The town has been cited for failing to acquire proper permits before clearing began. Photo by Myles Dannhausen Jr.

Pete Van Sistine said he and his neighbors were stunned when crews began plowing down trees adjacent to their property Feb. 22.

“We started calling around to find out what was going on,” Van Sistine said. “It was shocking.”

The Van Sistines live in the Birch Grove condos, the yellow condos in the center of Fish Creek that abut the town’s long-term boat trailer parking behind Hat Head (formerly Spielman’s Kid Works).

The town approved a plan to expand the parking lot at its Dec. 6 meeting, including instructions that consultant Bob Kufrin and engineer Peter Hurth from Baudhuin Engineering meet with adjacent property owners before work began. While some neighbors were consulted, Birch Grove condominium owners were never notified because Kufrin said the parking stalls will not be close to their property. Instead, a stormwater retention pond will be built behind the condos to capture runoff from the bluff.

A visit to the lot, however, shows that the clearing and digging done for the parking lot and stormwater retention pond continues up nearly to the patios of Birch Grove condominiums. When finished, the lot will include 133 spots for cars and 60 long-term boat trailer parking spots.

It now appears the Van Sistines weren’t the only ones caught unaware. On Tuesday, March 13, the Wisconsin Department of Natural Resources issued a notice of noncompliance to the town for failing to acquire a stormwater runoff discharge permit, which is required on file 14 days before any work can begin, according to Sarah Anderson, DNR stormwater specialist. Work on the lot has stopped until proper permits are acquired.

Hurth said March 12 that he was in the process of obtaining a conditional use permit from the Resource Planning Committee, a land disturbance permit and shoreland zoning permit from the DNR, but did not have those on hand when work began.

Outlines for expanding the parking lot were included in the town's much-publicized Waterfront Master Plan. Those plans were unveiled in an open house in May of 2016 and published in November of 2016 and available on the village's website. The site plan was approved unanimously by the five-member board Dec. 6, but supervisors Brian Hackbarth and Steve Sohns said they didn't think that meant the project was finalized.

"That was just to approve the site plan," said supervisor Brian Hackbarth. "That wasn't to approve the project. We were still going to work out a lot of the details."

Fellow supervisors Dwayne Daubner, Barb McKesson and town chair Dick Skare all said they interpreted that vote as approval to move forward. On Feb. 7, the board voted to put the project out to bid in a 3-2 vote. But at a Feb. 21 meeting, Skare motioned to rescind that vote, and hold a new vote to award the contract to the Door County Highway Department, which has handled similar paving projects for the town. That vote passed 3-1 (Hackbarth was absent for a portion of the meeting due to a work emergency). Sohns was the lone vote against it.

"We didn't have anything in our packets about the vote or bid," Sohns said. "I felt we were pushing it through to fast. The next morning they were cutting down trees."

Skare said the new vote was taken because the Highway Department had answered several questions the board had raised at earlier meetings.

Hackbarth has questioned whether that vote was legal, since it was taken under an agenda item labeled simply "Parking Lot Project." He raised the legality issue the night of the vote in a message to Town Clerk Beth Hagen and Skare.

"I understand a vote to rescind a vote from a previous meeting took place tonight prior to my arrival," he wrote. "That was not an agenda item for tonight, therefore was not a legitimate vote or action."

Hagen sought an opinion from Rick Manthe, legal counsel for the Wisconsin Towns Association. Manthe replied that he could not definitively say the notice was sufficient.

"General principles of notice and agenda items suggest that a person should know what will be discussed and what action could be taken by reading the notice," Manthe wrote.

The town previously posted agenda items in a similar fashion. At the Dec. 6 meeting when the parking lot site plan was approved, the item was listed on the project simply as "Baudhuin Parking Lot Plan."

Van Sistine also questioned whether the lot is necessary. He said the existing lot is rarely more than 25 percent full. On Aug. 2 SEH consultants presented to the board the results of its study of parking in the downtown core. That study determined that existing parking lots were greatly underused, particularly the lot behind the town center and boat trailer parking lot. SEH recommended a laundry list of short-term improvements to wayfaring signage, public-private partnerships, and striping before adding more parking lots.

Skare agreed that the lot is underused, but that it will be necessary when the town expands Fish Creek Beach and removes parking on the beach property across the street.

"We do have to address the parking issue, especially as we improve and expand the beach," he said.

McKesson said she understands the frustration of the neighbors to the lot.

"It's a travesty that the people in the condos were not notified," she said. "It was a mistake, and we as a board have to take responsibility for that, but it was not done in secret or with ill intent."

Skare said all of the wood harvested from the project will be repurposed to create privacy fencing for neighbors, and that new tree plantings will be added to shield neighboring views.

Attachment 17-8

Chapter SPS 308

MINES, PITS AND QUARRIES

Subchapter I — Administration and Enforcement
SPS 308.01 Purpose.
SPS 308.02 Scope.
SPS 308.03 Application.
SPS 308.04 Definitions.
SPS 308.05 Petition for variance.
SPS 308.06 Penalties.
SPS 308.07 Appeals.
Subchapter II – General Requirements
SPS 308.10 Notification to begin crushing operation.
SPS 308.11 Arrangements for medical assistance.
SPS 308.12 Permits.
SPS 308.13 Fees.
SPS 308.14 Inspections.
SPS 308.15 Federal requirements.
Subchapter III – Additions to Federal Regulations
SPS 308.20 Additions to federal regulations.
SPS 308.21 Abandoned shafts and wells.

Note: Chapter Ind 3 as it existed on June 30, 1983 was renumbered as ch. ILHR 8 and revised, effective July 1, 1983; chapter ILHR 8 as it existed on September 30, 1994, was repealed and a new chapter ILHR 8 was created effective October 1, 1994. Chapter ILHR 8 was renumbered chapter Comm 8 under s. 13.93 (2m) (b) 1. and corrections made under s. 13.93 (2m) (b) 6. and 7., Stats., Register, August, 1997, No. 500. Chapter Comm 8 as it existed May 31, 2001 was repealed and a new chapter Comm 8 was created, Register, May, 2001, No. 545, effective June 1, 2001. **Chapter Comm 8 was renumbered chapter SPS 308 under s. 13.92 (4) (b) 1., Stats., Register December 2011 No. 672.**

Subchapter I — Administration and Enforcement

SPS 308.01 Purpose. Pursuant to s. 101.15 (2) (e), Stats., the purpose of this chapter is to establish rules to effect the safety of mines, quarries and related activities.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.02 Scope. (1) COVERED. This chapter covers openings or excavations in the earth for the purpose of extracting minerals or other materials and the equipment related to processing or manufacturing of ores, aggregates, cements, lime, clay and silica sands in a mine, pit or quarry.

Note: The department of natural of resources has administrative rules concerning metallic mineral exploration, metallic mineral prospecting, mineral mining and mine reclamation.

(2) NOT COVERED. This chapter does not cover openings or excavations in the earth created by a person for domestic or farm use at his or her residence or farm.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.03 Application. This chapter applies to both new and existing mines, pits and quarries, unless specifically stated otherwise.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.04 Definitions. In this chapter:

(1) "Department" means the department of safety and professional services.

(2) "Excavation" or "workings" has the meaning given in s. 101.15 (2) (a) 1., Stats.

Note: Section 101.15 (2) (a) 1., Stats., defines "excavation" or "workings" as any or all parts of a mine excavated or being excavated, including shafts, tunnels, drifts, cross cuts, raises, winzes, stopes and all other working places in a mine.

(3) "Mine" means a surface or underground opening or excavation in the earth for the purpose of extracting minerals or other materials.

(4) "Mineral" has the meaning given in s. 101.15 (2) (a) 2., Stats.

Note: Section 101.15 (2) (a) 2., Stats., defines "mineral" as a product recognized by standard authorities as mineral, whether metalliferous or nonmetalliferous.

(5) "Operator" means the person or firm that operates or is responsible for an excavation in the earth for the purpose of extracting minerals or other materials.

(6) "Pit" means a surface opening or excavation in the earth for the purpose of extracting minerals or other materials.

(7) "Quarry" means a surface opening or excavation in the earth for the purpose of extracting nonmetallic minerals or other nonmetallic materials.

(8) "Shaft" has the meaning given in s. 101.15 (2) (a) 3., Stats.

Note: Section 101.15 (2) (a) 3., Stats., defines "shaft" as an opening made for mining minerals, for hoisting and lowering persons or material, or for ventilating underground workings.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; **correction in (1) made under s. 13.92 (4) (b) 6., Stats., Register December 2011 No. 672.**

SPS 308.05 Petition for variance. The department shall consider and may grant a variance to a provision of this chapter in accordance with ch. SPS 303. The petition for variance shall include, where applicable, a position statement from the fire department having jurisdiction.

Note: Chapter SPS 303 requires the submittal of a petition for variance form (SBD–9890) and a fee, and that an equivalency is established in the petition for variance that meets the intent of the rule being petitioned. Chapter SPS 303 also requires the department to process regular petitions within 30 business days and priority petitions within 10 business days.

Note: Form SBD–9890 is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison WI 53701–2509, telephone 608/266–1818.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; **correction made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 308.06 Penalties. The department may impose penalties and obtain additional remedies for violations of this chapter, as provided in ss. 101.02 (12) and (13) (a) and 101.15 (2) (f) 2., Stats.

Note: Section 101.02 (12), Stats., indicates that every day during which any person, persons, corporation or any officer, agent or employee thereof, fails to observe and comply with an order of the department will constitute a separate and distinct violation of such order.

Note: Section 101.02 (13) (a), Stats., indicates that if any employer, employee, owner, or other person violates ss. 101.01 to 101.25, Stats., or fails or refuses to perform any duty lawfully enjoined, within the time prescribed by the department, for which no penalty has been specifically provided, or fails, neglects or refuses to obey any lawful order given or made by the department, or any judgment or decree made by any court in connection with ss. 101.01 to 101.25, Stats., for each such violation, failure or refusal, such employer, employee, owner or other person shall forfeit and pay into the state treasury a sum not less than $10 or more than $100 for each such offense.

Note: Section 101.15 (2) (f) 2., Stats., indicates that the department may apply to a court of record for the closing of any underground mine, quarry, pit, zinc works or other excavation where the same is being operated in violation of any of its rules or orders, and the owners or operators have failed within a reasonable time to correct any unsafe methods of operation. The failure of any owner or operator to comply with the order or judgment of the court shall subject such party or parties to criminal contempt proceedings.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.07 Appeals. (1) APPEAL OF DEPARTMENT ORDER. Pursuant to s. 101.02 (6) (e), Stats., any employer or other person who owns or occupies a property that is affected by an order of the department may petition the department for a hearing on the reasonableness of the order.

Note: Section 101.01 (4), Stats., defines "employer" as any person, firm, corporation, state, county, town, city, village, school district, sewer district, drainage district and other public or quasi–public corporations as well as any agent, manager, repre-

sentative or other person having control or custody of any employment, place of employment or of any employee.

(2) APPEAL OF LOCAL ORDER. Pursuant to s. 101.02 (7) (b), Stats., any person affected by a local order that is in conflict with an order of the department may petition the department for a hearing on the local order.

Note: Section 101.01 (8), Stats., defines "local order" as any ordinance, order, rule or determination of any common council, board of alderpersons, board of trustees or the village board, of any village or city, a regulation or order of the local board of health, as defined in s. 250.01 (3), Stats., or an order or direction of any official of a municipality, upon any matter over which the department has jurisdiction.

(3) PETITION OF ADMINISTRATIVE RULE. Pursuant to s. 227.12, Stats., any municipality, corporation or any 5 or more persons having an interest in an administrative rule may petition the department requesting the adoption, amendment or repeal of the rule.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Subchapter II – General Requirements

SPS 308.10 Notification to begin crushing operation. Each year before crushing work is commenced in a mine, pit or quarry, the person responsible for the crushing work shall notify the department that work is about to begin. The notification shall be made to the department at least 10 days prior to the beginning of crushing work in each mine, pit or quarry.

Note: The notice is required from the person responsible for the crushing work for all mines, pits and quarries where crushing work is performed, whether or not the person owns the mine, pit or quarry. Only one initial notice is required for a mine, pit or quarry where crushing work is performed on an intermittent basis during the year.

Note: Notification may be made on form SBD–6736, Notice to Begin Operation, which is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison, Wisconsin 53701–2509, telephone 608/266–1818.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.11 Arrangements for medical assistance. Each year before any work is commenced in a mine, pit or quarry, the mine, pit or quarry operator shall make arrangements for obtaining emergency medical assistance and transportation for injured persons.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.12 Permits. (1) GENERAL. Before an excavation of a shaft may be commenced, a permit shall be obtained from the department. As provided by s. 101.15 (2) (c), Stats., this section does not apply to shafts less than 50 feet in depth wherein persons are not employed, shafts not equipped with power driven hoists used for hoisting persons in and out of shafts, or shafts not covered with a flammable building.

(2) APPLICATION FOR PERMIT. Application for a shaft excavation permit shall be made on form SBD–52 together with the payment of the permit fee.

Note: Form SBD–52, Mine Shaft Excavation Permit Application, is available at no charge from the department at the Safety and Buildings Division, P.O. Box 2509, Madison, Wisconsin 53701–2509, telephone 608/266–1818.

(3) PLANS AND SPECIFICATIONS. Plans and specifications shall be submitted with the application for a shaft excavation permit which show that the shaft, excavation and workings are in compliance with this chapter.

(4) PERMIT PROCESSING TIME. The department shall review and make a determination on a shaft excavation permit application within 30 business days of receiving the required information and fees.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.13 Fees. (1) SAFETY SERVICE FEE. An annual safety service fee as specified in ch. SPS 302 shall be paid by the person or firm operating the crushing, screening or washing equipment.

(2) SHAFT EXCAVATION PERMIT FEE. A shaft excavation permit fee as specified in ch. SPS 302 shall be paid by the person applying for the permit.

(3) INSPECTION FEE. A miscellaneous inspection fee as specified in ch. SPS 302 shall be paid by the person requesting a consultation inspection of the person's operation, if that person is not required to pay a safety service fee under sub. (1).

(4) TRAINING FEE. A training fee as specified in ch. SPS 302 shall be paid by the person requesting annual refresher training provided by the department and required by the federal mine safety and health administration.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01; CR02–042: am. (4), Register October 2002 No. 562, eff. 11–1–02; **correction in (1), (2), (3), (4) made under s. 13.92 (4) (b) 7., Stats., Register December 2011 No. 672.**

SPS 308.14 Inspections. (1) GENERAL. Pursuant to ss. 101.02 (15) (g) and 101.15 (2) (f) 1., Stats., the department may enter and cause the inspections of mines, pits and quarries in order to determine compliance with this chapter.

(2) OVERDUE INSPECTIONS. If the department determines that an inspection of a mine, pit or quarry as required under s. 101.15 (2) (f) 1., Stats., has not been performed, the department shall notify the federal mine safety and health administration that an inspection is due.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.15 Federal requirements. No person may operate a mine, pit or quarry unless the person complies with 30 USC 811, 957 and 961 and the safety and health standards in Title 30 CFR Parts 1 to 199.

Note: Authority over mines is given to the federal government under the federal Mine Safety and Health Act. The safety and health related requirements for the operation of surface and underground mines are contained in the Code of Federal Regulations issued by the Mine Safety and Health Administration, Department of Labor, under Title 30 CFR Parts 46, 56 and 57.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Subchapter III – Additions to Federal Regulations

SPS 308.20 Additions to federal regulations. The additions to the federal mine safety and health administration regulations are specified in this subchapter and are rules of the department.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

SPS 308.21 Abandoned shafts and wells. (1) PROTECTION. All abandoned mine shafts, exploration shafts and test wells in this state shall comply with s. 167.27 (5) and (6), Stats.

(2) MAPPING OF UNDERGROUND WORKINGS. (a) All underground workings shall be surveyed and mapped within a reasonable time as work develops. All underground workings shall be surveyed and mapped before they are allowed to become inaccessible. All surveys shall be tied to an exterior quarter section corner.

(b) Before any mine having underground workings is abandoned, the operator of the mine shall have an engineer or surveyor make a map, on a scale not smaller than 100 feet to the inch, showing all underground workings. A print or copy of such a map certified by the operator or designee as being accurate shall be filed with the department.

History: Cr. Register, May, 2001, No. 545, eff. 6–1–01.

Attachment 17-9

Unstable Ground for Blasting

• Attachment 18A-1

A Brief History of the Leathem and Smith Quarry

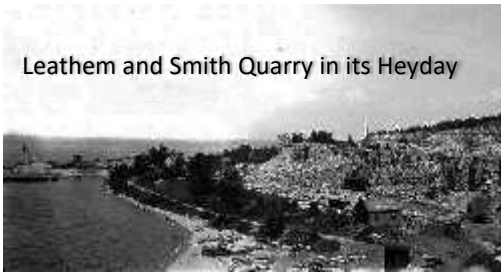
400 Million Years Ago: Niagara escarpment forms. Leaves an arc of quality stone well suited to civil works (and Niagara Falls).

The Niagara Escarpment

1832 to 1893: Samuel Straumbaugh notes the fine stone of the escarpment near a good harbor for water transit – Sturgeon Bay. Dimension stone is quarried and sent to build harbors, piers, and breakwaters throughout Lake Michigan as the new states rapidly expand. Quarrying and shaping of 300 pound slabs and 100 pound "one-man" stones is done by hand with iron wedges. Lifting and transit from the ledge is by horse to barges. Many quarries operate around Door County.

1880's: Sturgeon Bay canal opens, making stone transit easier and cheaper. Black powder blasting replaces manual work. Steam power machinery and miniature railroad on the shelf enable production and movement of 2 to 5 ton slabs. Dynamite and drilling innovations increase quarry production.

1893 to 1914: Sturgeon Bay shipbuilders John Leathem and Tom Smith buy 20 acres at the present quarry site. 8 major Door County quarries reduce to 4, with Leathem and Smith being the largest. Stone is Door County's biggest export. Thousands are employed. In 1903 Leathem leaves area and sells the business to Smith. Quarry expands. In 1914 Tom Smith died and the quarry is left to his son, Leathem D. Smith. World War I and the transition to concrete sinks the dimension stone market.


Leathem and Smith Quarry in its Heyday

1914 to 1944: Quarry electrified. Conveyer belts move stone from the ledge to new crushers to speed production that has shifted to lime for concrete and crushed stone for roads. Tunnels to the largest, strongest dock on the Bay feed a quarry owned fleet of 15 ships. In 1927 the quarry is sold and renamed "The Sturgeon Bay Company"

Moving Stone from the Ledge to Shore

1944: Leathem and Smith quarry production ceases. Crushed stone and lime quarries local to civil projects are more economic than large distant quarries.

1913: 171 foot ship “Joseph L. Hurd” sinks at the quarry dock. Shipwreck is there today.

1996: Olde Stone Quarry Park, the area below the ledge along the Bayshore opens as a marina. Redeveloped in 2006.

2012: County park renamed to honor George Pinney.

James V Mitsche, 2019 from various sources

Joseph L Hurd

George Pinney Park & Marina

Revision -1-

Preliminary Concepts for Consideration(1)
Niagara Escarpment Park Extension
at George Pinney County Park

• Attachment 18B-1

Key Drivers for Park Extension

- Strong potential for regional tourism model similar to Door County's Cana Island
- Historic Leathem Smith quarry industry drove Sturgeon Bay shipbuilding in 1800's – 1900's
- Stone used to build century-old breakwaters protecting Great Lakes city harbors
- Stone transportation by historic wooden ships, one sunk off George Pinney Park
- Historic maritime dock integral with existing George Pinney Park
- Extreme western end of Niagara Escarpment is one-of-a-kind geological feature
- Stunning marine view of Green Bay, Sturgeon Bay, & Sherwood Point Lighthouse
- Timely consideration since land owner inclined to sell / develop quarry property
- Support for consideration endorsed by Bay Shore Property Owners Association

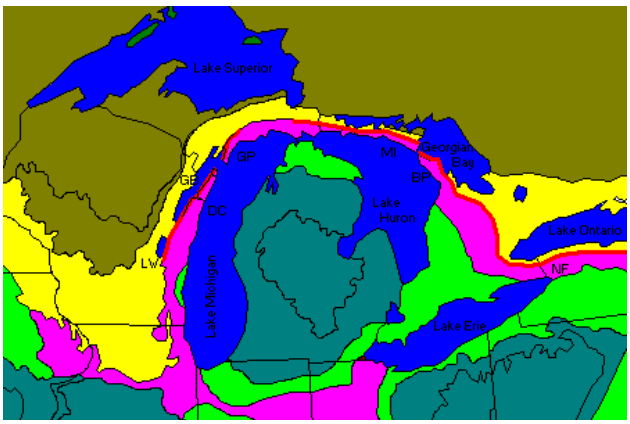
Business Model Tenants

- Extension of Door County's adjacent George Pinney Park
- Park would complement & add to Door County's iconic attractions
- Income source for Door County and DCMM educational programs
- DCMM operation would highlight maritime heritage driving early economic development
- Capital acquisition expense repaid from future admissions income
- Interpretive Center & outside walking trails with external exhibit boards on quarry upper level
- Harmonious utilization consistent with Town of Sevastopol 20-Year Comprehensive Plan

Legacy of an Industry

The abundance of exposed rock and the ease with which it could be transported via water provided the basis for a successful stone quarry industry in Door County during the initial phase of harbor construction around the Great Lakes. The opening of the canal in Sturgeon Bay in 1881 changed the dynamic of quarrying in Door County; it made large-scale commercial quarries possible. As companies merged, they combined their shipping fleets to try to meet the demand for stone around the Great Lakes. Local shipyards converted many old wooden sailing ships, removing their masts and leaving the bodies of the ships an open vessel into which stone could be loaded and then towed by other ships to its destination.

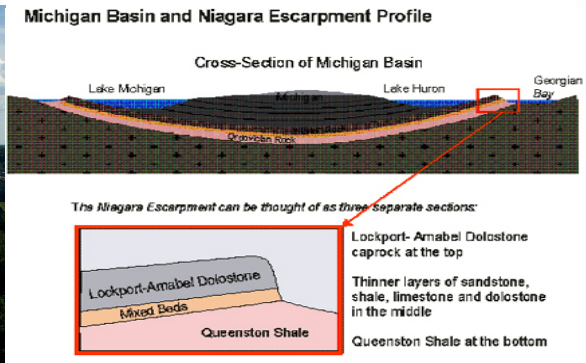
Educational & Tourism Attraction: End of the Niagara Escarpment



450 million years old!
A very large mountain range existed along the eastern edge of North America. This large landform was eventually eroded and weathered by rain, wind and ice. As the eroded material moved west toward a shallow sea known today as the Michigan Basin (a much larger sea containing current Lake Michigan, Lake Huron and Georgian Bay combined).

Revision -1-

Eastern End: Niagara Falls!



Western End: George Pinney Park!

(1) Content presents preliminary ideas which are consistent with the Maritime Museum's general mission interests. The content summarizes concepts relating to historic maritime shipbuilding industries, historic Great Lakes harbors construction, historic maritime industrial development in Door County, supporting beneficial educational activities, and does not represent any commitment by Door County Maritime Museum or the Board of Directors.

William Harder, P.E.
President, Board of Directors
Door County Maritime Museum Sturgeon Bay, WI 54235

Attachment 18B-2

Leathem Smith Quarry Potential Use

1. Principles for Potential Leathem Smith Quarry Use
    a. Historic preservation of the Door County quarry industries
    b. Education to visitors and students on Niagara Escarpment
    c. Harmonious uses that align with the nearby property owners' values
    d. Attractive use fitting with Door County's image & county residents' values
    e. Quiet attraction highlighting the natural stone walls with the water view
2. Potential uses of the George Pinney Park & (adjacent) Leathem Smith Quarry are supported by the following rationale:
    a. The limestone walls & cliffs are primary characteristics of Door County.
    b. The juxtaposition of the water feature, historic quarry, and natural stone features are uniquely combined to highlight the essence of Door County's natural beauty & recreational use.
    c. The Niagara Escarpment ends with the quarry exposing millennia of limestone deposition and punctuates the extreme western end of the limestone opposite Niagara Falls at the eastern end.
    d. The Park and adjacent quarry could enable residents & visitors alike to view the natural escarpment in perpetuity.
    e. The quarry was specifically zoned to preclude commercial development of the quarry; intent was to harmonize the quarry with nearby residential land use.
    f. The quarry has educational value equal to the environmental value of the wetlands, and should be preserved for educational value for future generations.
    g. The park and adjacent quarry have 2 centuries of historic value for 1800's economic development for the quarrying operation for Great Lakes ports' breakwaters protecting the GL Navigation System.
3. Business Model Basic Attributes
    a. Combine George Pinney Park with (adjacent) Leathem Smith Quarry through Door County ownership
    b. Setup operating partnership like Cana Island's current public-private agreement
        i. County ownership
        ii. Public-private endeavor with partner, 501 (c)3 non-profit organization with vested interest, e.g. Door County Maritime Museum
        iii. Payoff capital investment with initial grants & long-term operating income
        iv. Provide long-term financial support with self-sustaining programs operated by the private partner, Door County Maritime Museum
        v. Physical enhancements would include the park's welcome center for interpretive programs created to address the operating rationale and satisfy the above principles

• Attachment 18B-3

UNESCO Niagara Escarpment Biosphere Reserve

United Nations Educational, Scientific and Cultural Organization

Man and the Biosphere Programme

The UNESCO Niagara Escarpment Biosphere Reserve in Ontario stretches 725 km [450 miles] from Lake Ontario (near Niagara Falls) to the tip of the Bruce Peninsula (between Georgian Bay and Lake Huron). The Escarpment corridor crosses two major biomes: boreal needle leaf forests in the north and temperate broadleaf forest in the south.

Designation date: 1990
Administrative authorities: Canada, Province of Ontario: eight regions/cities; 21 local municipalities.
Surface area: 194,555 ha [751 Square miles]
Core area(s): 66,163 ha [255 Square miles]
Buffer zone(s): 114,488 ha [441 Square miles]
Transition area(s): 13,904 ha [55 Square miles]

The reserve is closely monitored with an extensive land use plan.

More detail is available at:

https://files.ontario.ca/appendix_-_niagara_escarpment_plan_2017_-_oc-10262017.pdf

and

http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/europe-north-america/canada/niagara-escarpment/

Canada

Niagara Escarpment

© Niagara Escarpment BR

Declaration date: February 1990
Surface area: 190,270 ha
Administrative divisions: Canada, Province of Ontario; 8 Regions / Cities; 21 Local Municipalities

Human activities:

- Tourism & Recreation
- Farming (tender fruit in south; mixed crops & beef toward north)
- Grapes and wine
- Aggregate extraction (sand, gravel & stone)
- Forestry (furniture-grade & building-grade)

Protection classifications:

Provincial Legislation and Land-use Plan and Regulation administered by government-mandated Niagara Escarpment Commission (1985); Two National Parks; 129 Provincial and Municipal Parks; Provincial Greenbelt – Foodland Conservation Plan; 8 watershed-based Conservation Authorities.
Core = 32.5% Buffer = 60 %
Zone of Cooperation = 7.5 %

© Niagara Escarpment BR

Ecological characteristics:

Ordovician and Silurian Formation (420-445 million years BC); Sedimentary rocks: Limestones, dolostones, shales, sandstones. Maximum average temperature, warmest month: 29.9 C; Minimum average temperature, coldest month -7.1 C; Mean annual precipitation 818.5 mm (13% as snow). North-south corridor crossing two major ecological regions. In south, Carolinian life zone is one of the Most biologically diverse regions in Canada with 40% of province's rare vascular plants. In north, Great-Lakes – St. Lawrence forest: sugar maple, beech & hemlock. Further north, harsher with occasional sub-arctic flora and globally rare alvar habitat. Caves, valleys, cliffs, and crevasses, waterfalls and seeps provide a variety of microclimates along vertical gradients, optimal for oldgrowth cedars and ferns. More than 300 bird species, 55 mammals, 36 reptiles and amphibians, 90 fish and 100 varieties of special interest flora (including 37 types of wild orchids). Headwaters recharge area for several major river systems.

Contact Information:

Niagara Escarpment Biosphere Reserve,
232 Guelph Street, Georgetown, ON,
Canada L7G 4B1
Phone: 011 … 905 … 877… 5191
e-mail: nec@escarpment.org
Web: www.escarpment.org

December 11, 2019

RECEIVED
DEC 16 2019
DOOR COUNTY
LAND USE SERVICES DEPARTMENT

Door County Land Use Services
Attn: Mariah Goode and Jeff Kussow
421 Nebraska St.
Sturgeon Bay, WI 54235

Dear Town of Sevastopol Plan Commission,

I am writing today to express my OPPOSITION to the proposed RV village at the old stone quarry on Bay Shore Drive, Sevastopol Township. The proposed RV village does not belong in the former quarry and the CUP should be denied for several reasons, some of which are outlined below.

Public and Environmental Safety

- Bay Shore Drive is a designated bicycle route. It is used by bicyclists, joggers, walkers, with and without pets, and even people in wheelchairs. The most logical access roads from the highway to the RV village will be either Carlsville Rd. or Gordon Rd. Either means several miles of travel by trucks and large bus-like RV's down Bay Shore Dr. This represents a huge decrease in safety for non-vehicular users of Bay Shore Dr.
- For example, the current developers have stated that they will bring in 12 inches of top soil to mitigate leaching and runoff concerns. That will require over 2000 dump truck loads of top soil. Just think of the impact that over 2000 dump trucks will have on public safety and road wear while rumbling down Bay Shore Drive?
- Currently the proposed plan is to offer RV sites for seasonal use (8 months). But what if the economic reality is that seasonal rentals aren't appealing and instead weekly or daily rental is allowed? Now instead of 117 RVs twice a year coming and going it now occurs weekly or daily, as is the case in the similar Michigan RV park.
- The limestone walls of the quarry are unstable from freeze/thaw action, rain and wind. How will the occupants of the RV village be protected from the continuous and unpredictable falling rock?
- With 117 potential RV sites, you now have likely over 300 people present in the quarry daily. How do you provide for their safety (i.e. stop them from climbing the unstable walls located all around them, etc)?
- The floor of the quarry is solid rock. But some cracks exist. How do you protect the groundwater from downward movement of site contaminated storm water? How do you protect the aquifer that all of the nearby residents use for drinking water and household use? Even bedrock covered with 12 inches of soil is highly susceptible to leaching of contaminants into the groundwater. And no, the use of "organic fertilizers" does not mitigate the risk to the water quality and growth of algae in Green Bay.

Noise, dust and odor

- The quarry is a rimmed ¾ round bowl with 1/4 open on the bay side. It is a perfect amphitheater. As such noise will be amplified within the bowl and sent

upward and outward. The proposed development will have 117 sites densely packed onto the site. As a small village of about 300 or more people, activity (noise) in the "bowl" will be heard easily for up to a ½ mile in all directions.
- The site is to have a holding tank located within70 feet of the shoulder of Bay Shore Drive on land currently zoned single family home residential (SF20). It is estimated by the developers that the holding tank will receive 12,192 gpd. Yet in their well water calculations the max. daily need is stated at 20, 475 gpd. Therefore, the daily sewage could result in 2-3 semi-truck loads per day. The tanks are located very near existing residences. And the land owners are still actively marketing single family home lots across the street from the holding tank (100 foot distance). The pumping out process produces strong odors and is loud. This decreases the quality of life and property value for those living near the holding tanks.
- The developers have stated that extensive work will need to be done to provide the infrastructure necessary for the RV village. This site development work would include blasting of the rock to allow for water, sewage and electrical services. The rock would then be crushed on site. Truckloads of top soil are proposed to be brought in. Extensive roadways/driveways need to be built to allow entrance to the village. All of this work would generate months of noise, dust and heavy traffic.

Similar to other uses in the area

- In a word "no", nothing about the proposed RV village is similar to other uses in the area. The area is residential with single family homes. 117 "lots" densely packed on 55 acres is totally different than what surrounds the site. Plus, it is unclear if a motor coach with bungalow offering is appealing or viable. A similar site in MI has many unsold lots and has had to resort to weekly and daily rentals. What happens if this development isn't viable long-term?

Not the right location for an RV village

- I have only listed a few of the issues that exist with putting a RV village in the old stone quarry. Just way to many complicated issues that need to be addressed to allow this use. To be brief, I have only focused on how the proposed use creates noise, odor, dust, environmental and public safety issues. Many other issues exist.
- The proposed development is of a scale, design and density that it is completely out of character with the area it is in. In short, this isn't the right location for this type of development.

Sincerely,

Charles Baer Ph.D.
4863 Bay Shore Dr
Sturgeon Bay, WI 54235
828-551-1641