

**Review of TechniSand’s Application for  
A Sand Dune Mining Permit on the Knauf Property  
in Covert Township, Adjacent to Ross Preserve**

---

A first and casual reading of the Environmental Impact Statement (EIS) creates the impression that there are few, if any, significant, negative environmental impacts. A careful, analytical and questioning second reading reveals misrepresentations and omission of facts. Clearly, the EIS is written to hide the extent of destruction of the natural resources that will occur.

**The sand dune mining permit application should not be approved.** MCL 324.63709 reads:

**“Denial of sand dune mining permit.**

“Sec. 63709. The department shall deny a sand dune mining permit if, upon review of the environmental impact statement, it determines that the proposed sand dune mining activity is likely to pollute, impair, or destroy the air, water, or other natural resources or the public trust in those resources, as provided by part 17.”

**By removing the dunes and lowering the water table up to 4 feet, if not more, during the mining season the proposed sand dune mine *does threaten* wetlands on and off the property, including Mud Lake. Creating a lake may well lower the water table permanently and permanently dry up the surrounding wetlands.**

**Furthermore, the EIS does not adequately address the presence of threatened and endangered species, a natural resource of the state. The proposed mining will remove (destroy) significant dunes, yet another natural resource of the state.**

1. EIS — Page 16      **Indirect destruction of wetlands**

The EIS fails to provide a scientific basis for predicting the extent of damage to adjacent wetlands and to Mud Lake. Its conclusions are based on conjecture, speculation and wishful thinking. There has not been a thorough scientific analysis of the hydrogeology to determine the impacts of the proposed surface and subsurface mining on the water table. *There is inadequate data on which to base any conclusions.*

The EIS totally ignores the effects of the removal of the dunes on the adjacent wetlands. The dunes store water during wet periods and slowly release it into the ground. This moderates fluctuations and helps maintain an elevated water table. The EIS confirms this phenomenon and states that the pile of sand in the plant area will store water to moderate the fluctuations in the water table. Removing the dunes threatens to destroy the adjacent wetlands.

EIS — Page 59      The EIS states “From prior experience the fluctuation is expected to range between 2 to 4 feet.” It does not mention that *the water table has been lowered 10 feet at the Nadeau Pit since dredging began.* No hydrogeological analysis is presented.

EIS — Page 61      The EIS states that the area of influence is *only* 450 feet from the shores of the lake. No evidence or engineering analysis is presented to substantiate that claim. The limit of influence could easily be 600 feet. Even so, the wetland in the southeast corner of the site and Mud Lake are well within the 450 feet and will be effected by the dredging — possibly destroyed.

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

EIS — Page 55 “The plants of the shrub-carr wetland are species already adapted to fluctuating water conditions, ranging from temporary standing water over the roots to temporary desiccation (Voss 1985);...” The attribution is to *Michigan Flora, Part II, Dicots* by Dr. Edward G. Voss (Botanist, U. of Mich.). Partially on this basis, the EIS states that there will be no significant indirect impacts to the wetland.

However, Dr. Voss writes in a letter to PTD (Attachment A), “I doubtless have referred to certain species being adapted to — indeed requiring — fluctuating water levels, including several sedges in Part I of the *Flora*, but they would not be shrub-carr species, rather, those of more open shores. . . .In referring to species ‘already adapted to fluctuating water conditions’ I would have meant naturally fluctuating conditions. I would not have meant to include all possible conditions of artificial, unnatural, or sudden changes”.

EIS — Page 55 The EIS states “The Adrian Muck soil has moderate permeability and a very high available water capacity (Soil Conservation Service 1986), a feature which will retain precipitation and runoff in the wetland” In a letter to Preserve the Dunes (Attachment B), Tim Harrington, PE, explains that the permeability of the soil in the wetland is very similar to sand and its presence will not maintain the level of the water table – especially if it is a relatively thin layer.

**The wetlands adjacent to the mining and the lake (both on and off the site) are in danger of significant damage by the proposed mining.**

### 2. PCUMRP Page 10 **Direct Destruction of Wetlands**

All haul routes begin with construction of a 2,100 foot long haul road through wetlands. This will be done by adding fill. It will require cutting a swath through the wetlands. First, trees, shrubs and other flora will be removed. The trail is shown in the photograph below.



## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

The EIS states TechniSand will add 5 feet to make the roadway 25 feet wide plus a shoulder with a 1:2 slope. But the existing trail is only 12 to 15 feet wide. The existing slope of the trail edges is between 1:1 and vertical. Therefore, the trail is being doubled in width by adding 10 to 15 feet to the width of the trail. Over 2/3 acre, not 1/4 acre as stated in the EIS, will be filled. This will require over 2,000 cubic yards of fill, not the 800 estimated in the EIS.

At the completion of the mining (and reclamation) TechniSand proposes to remove the haul road improvements and restore affected wetland areas.

No specifications for restoration are given.

No bond is established. In fact, if a permit is given, the DEQ has no power of enforcement.

Even if an extreme effort is made, it will take 30 to 40 years for the restoration to bring this area back to its present day conditions — and that process will not begin at the earliest until 13 years after mining begins.

TechniSand has a record of making promises when they apply for a permit or an amendment, but failing to fulfill their commitments.

PCUMRP Page 10 Furthermore, the mining plan indicates that dust control measures will be used and at least contemplates the use of substances other than water. Any substance other than water would have detrimental effects on the wetlands.

### 3. EIS — Page 14 **Threatened and endangered species**

The EIS does not adequately address threatened and endangered species. The plant list was not compiled by a professional independent botanist. The EIS relies on ASTI staff who have a vested interest in *not finding* threatened and endangered species and the Michigan Natural Features Inventory (MNFI). But MNFI staff have told PTD that no thorough and detailed survey of flora and fauna on the property has been conducted by MNFI.

However, we do know that there are rare and threatened species on the adjacent Ross Preserve. There is no assurance at all that “threatened” and “endangered” species do not exist on this site. Given the types of habitat, there are also likely to be coastal plain disjuncts, a number of which are “threatened.”

Furthermore, *no one* (not even ASTI) has even claimed to inspect the wetland area adjacent to the trail that will be widened to create the haul road.

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

Finally, if removal of the dunes and excavation below the water table damage the wetlands as discussed in item 1, then the rare, protected species in the wetlands will be destroyed.

4. **The proposed mining will remove (destroy) significant dunes, a natural resource of the state of Michigan.**

These dunes meet the criteria for classification as a Critical Dune Area established jointly in 1996 by the DEQ and the Michigan State Center for Remote Sensing in their joint evaluation of the Critical Dune Areas. Attachment C shows that the mining site is within the recommended additions to the Critical Dune Areas. These dunes deserve protection.

**The proposed mine is not only likely to destroy the wetlands and rare species and will destroy the dunes, it is also detrimental to the aesthetics of the area, lowers property values, and harms the quality of life. Furthermore, the mining and reclamation plan does not provide for effective control of the mining operation and is inadequate to control the post mining reclamation.**

5. EIS — Fig. 8 **The mine will ruin the view of the most beautiful stretch of I-196 (US31).**

*The law requires a 200 foot setback (buffer) at the perimeter of the mine unless the adjacent land use is compatible.* Evidently, TechniSand assumes that a sand mine is compatible with driving through a beautiful wooded area in Southwest Michi-



- EIS — 4030-2  
EIS — Figure 8

The cross-sections are misleading and do not accurately reflect the effects of the mine. They are cut along lines where a dune has been partially removed to build the highway. It appears in the cross-sections that dunes will shield I-196 visually from the mine. In the immediate area the highway was built on fill for a much greater length. Therefore, the mine will be below the highway with no visual barrier other than a 1,150 foot long berm that is only 10 feet higher than the highway. See the cross-sections in Attachment D & E.

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

Neither the EIS nor the PCUMRP specify when in the mining process the berm will be constructed. Nor do they call for any planting on the berm. If the proposed action is permitted as submitted, the berm could be built at the end of mining. The pit would be visible for 10 years and then a bare berm of sand would be left along I-196. A forest will be replaced by a berm of sand.

EIS — Page 45

The berm is specified to be at a 1:2 slope instead of the 1:3 required by law.

The berm will be an long unnatural, ugly element in the landscape. The photograph on the next page shows the “berm” at Nadeau Pit. It is located 100 feet inside the woods. At the Knauf Property it is proposed to have only 50 feet of trees in front of it. It will be much more visible.



EIS — Page 29

**Aesthetics:** The EIS claims that at the north and western boundaries plants and dunes will screen internal areas of the site. However, except for a thin wooded area (50 feet deep) the vegetation and dunes will be removed and therefore will not screen the mining, even in the summer growing season.

6. EIS — Page 41

**Buffer Areas do not meet the requirements of the law.**

The 200 foot buffer is reduced to 50 feet along I-196 as discussed above.

On the east the 200 foot buffer has been reduced to between 5 and 50 feet per agreement with The Nature Conservancy (TNC). The Cell Unit Plan shows a 50 feet buffer along the east property line. Reducing it to 5 feet effects the Cell Unit Plan and the area of cell units 2-4.

The EIS puts forth a bizarre new concept — the adjacent property is considered to be the buffer area. The EIS claims Ross Preserve as a 1,300 to 1,400 foot deep buffer on the east. But, the Ross Preserve is a neighbor, not an owner of the mine. The Preserve is managed and actively used by Sarett Nature Center. Furthermore, it is used by residents of Covert via the public access on 38th Avenue.

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

The 200 foot buffer on the south has a haul road (1,250 foot long) running through it. This will bring noise and visual blight to the area of Ross Preserve on the south — especially the Mud Lake area.

The 200 foot buffer on north is increased to 600 feet per agreement with TNC “to preserve a portion of forested dune.” However, the mining company gave up mining 2.20 acres of relatively low dunes (i.e. not much sand) for 3.09 acres of relatively high dunes (i.e. a lot of sand) and by doing so doubled the sand that they can remove from this area.

### 7. PCUMRP

#### **Reclamation specifications are inadequate.**

The vegetation to be planted will be too widely spaced. TechniSand proposes to plant 1 tree or 1 shrub per 300 square feet (over the 5.5 acres which they will plant with trees *and* shrubs), i.e. plants are spaced 17 1/2 feet each way on average. The US Department of Agriculture recommends 8 foot centers if the sand has been stabilized with grass first. Otherwise 6' centers are recommended.

There are no specifications for the size of trees and shrubs to be planted.

There is no specification for the distribution by species.

There is no specification of conditions under which irrigation must be employed.

Busse Site validates these concerns. See Attachments F & G. TechniSand hydroseeded the slopes nearly two and a half years ago. The company was directed to repeat the hydroseeding at least once. Despite a very wet spring and summer, well over one-half of the area is still not covered with grasses. TechniSand planted 8 to 10 inch tall white pines without irrigation. Nearly all have died.

In previous hearings and legal proceedings TechniSand has shown photographs of the Lost Dunes golf club to illustrate how they reclaim their mine sites. However, doubt is cast on this testimony by Mr. Shearer, developer of the Lost Dunes golf club in Bridgman which was built on the reclaimed TechniSand mine. He was quoted in the Chicago Tribune Magazine as saying “Some firm spends a couple of decades operating a sand mine and what’s left isn’t pretty. I didn’t know what I was going to do with it. It was 252 acres and a mess, overgrown, with two lakes.”

### 8. PCUMRP

#### **Inadequate control of the Plant Site**

The Plant Site must be surface mined before Cell Unit 1 is mined to prepare a level area on which to temporarily store sand. It must be mined

---

<sup>1</sup> 3.09 acres if the 50 foot buffer is maintained. If the buffer is reduced to 5 feet, there could be an additional 0.81 acres. This would bring to 4.0 acres the area within the required buffer that will be mined.

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

after Cell Unit 4 has been mined, to extract the sand below the water table. Yet the PCUMRP does not consider it to be a cell or part of a cell. No bond is required to ensure its reclamation. In these circumstances, the Plant Site must be considered a cell unit.

### 9. PCUMRP

#### **No survey control**

No survey coordinates are given for cell unit boundaries though a promise to provide them before extraction begins is made in the PCUMRP. All corners should be established by survey so that the DEQ can control the site and ensure that the mining conforms to the plan *before the permit application is considered*.

We digitized the plan and determined the areas to be mined. We found the size of the cell units vary from that shown in the PCUMRP. This might be due to errors introduced in reproduction of the plans. However, *without survey coordinates for each cell unit corner, it is impossible to relate field locations to plan locations consistently and accurately*.

### 10.

#### **Inadequate controls of timeliness of reclamation**

The EIS states reclamation takes 2 to 3 years. Yet, little reclamation effort has been made at other sand mines that TechniSand operated in Covert that required DEQ permits and have not been mined in over two years, much less completed. This is illustrated by the Busse Site that was discussed above and by the photographs (Attachments F & G).

No mining has taken place at the Nadeau Site since 1989. Yet for over ten years TechniSand made no effort to reclaim the last portion to be mined. They have done nothing to ensure that the reclamation was successful after planting dune grass. Today it is largely dead. See Attachment H.

**The site of the mine is not appropriate to mining. It is not allowed by the Covert Township zoning ordinance. It is in the middle of a Nature Preserve. It is inaccessible without destroying wetlands and bringing heavy truck traffic onto residential streets. It will forever effect the background noise level of the area, especially within Ross Preserve.**

### 11. EIS — Page 24

#### **Zoning does not allow mining.**

The Covert Zoning Ordinance classifies the site as Tourism and Recreation<sup>2</sup>. The EIS does not mention that the site is also in an Environmental Sensitive Area. As such, it enjoys special protection under the Zoning Ordinance.

The Zoning Ordinance allows mining in most areas of Covert — 26 3/4 Sections, in fact. However, sand mining is prohibited in Tourism & Recreation. TechniSand operates five mines in Covert. Two are located in the

---

<sup>2</sup> Not "Tour and Recreation" as stated in the EIS.



## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

the intrusive noise that invades one's consciousness 18,000 times a year? Such disturbances rise above the level of a nuisance.

13. **The heavy volume of truck traffic creates threats to public safety and damages roads.**

Over 18,000 trucks a year on the proposed routes will create hazards. The route passes homes of families with small children. These trucks traveling at speeds of 50 m.p.h. could never stop to avoid a child in the street. No evidence of the impact on school bus routes is provided.

The local roads are not constructed to take the large volumes of heavily loaded trucks that will occur if mining is permitted. Parts of 78th Street are already in poor repair.

14. EIS — Page 63 **Noise from mining, as well as truck traffic, will effect the use of Ross Preserve by Sarett Nature Center.**

Use of the Preserve by Sarett has been increasing each year. This year Sarett will schedule activities on the Preserve for more than 35 days. It is unrealistic to believe that TechniSand will not mine on those days as stated in the EIS. This accounts for 1/6 of the days that would normally be available for mining.

In addition, many citizens from nearby areas use the Preserve and enter it via the public entry on 38th Avenue. Their use will be disturbed as well.

15. **Increased accessibility threatens Ross Preserve.**

Building a road across the Preserve will make the Preserve accessible to off-road-vehicles and open it up to destruction by recreational trespass.

16. EIS — Page 26 **Post Mining Noise Levels**

The mining will alter forever the noise level of properties to the east of the mining site including the Ross Preserve. Currently, the sounds from I-196 are not audible from the eastern side of the Preserve. In fact, one is not aware of the traffic noise until passing the wetland in the Southeast corner of the Knauf Property. The sound is blocked by the dunes and sound energy is absorbed by the vegetation (especially in the summer).

When the dunes and vegetation are removed, the noise of I-196 will be easily heard in Ross Preserve and on the properties east of the Preserve. The table on the next page indicates how the sound level decreases with distance. In reality the sound level will be less than shown because some sound will be absorbed by remaining vegetation. However, experience has shown that sound from the interstate is easily heard over a mile away when the dunes are removed. Note an increase of 10 decibels in sound level will be perceived to be twice as loud.)

**Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)**

Distance From I-196	Sound Level	Comparative Sound Levels
50	95 dbA	
100	89 dbA	Propeller plan flyover at 1000 ft. 90 dbA
200	83 dbA	
400	77 dbA	
800	71 dbA	Conversation 70 dbA
1,600	65 dbA	
3,200	59 dbA	Background noise in an office 60 dbA
6,400	53 dbA	
12,800	47 dbA	
25,600	41 dbA	
		Quiet Residential Street (30 dbA)
		Rustling Leaves (20 dbA)

17. PCUMRP Page 10 **This site is too inaccessible for sand mining.**

As mentioned above, mining requires construction of a 2,100 foot long haul road through wetlands.

It is unknown which off-site haul route is to be used. The map shows one option (Option 2) which passes through “less wetland acreage than Option 1 but encounters higher quality habitat” but leaves the decision open and to be negotiated with the Township. *Additional travel through wetlands should not be permitted.* On the other hand, avoiding wetlands will introduce heavy truck traffic on residential streets and will create a significant nuisance for either 71 or 130 homes. *This is also not acceptable.*

It is stated that the wetland permit will be applied for later. However, in a letter dated March 2, 2000 to Oren Kennedy of LWMD, TechniSand states that the letter is to provide sufficient information on *both the wetland and stream impacts for a combined Part 301/303 permit application.* However, if a 303 permit is under consideration, there should be public review and comment on these issues.

The LWMD informed the Casco Township Planning Commission that the LWMD would not approve a haul road across the Black River and the nearby wetlands because it would entail filling wetlands. ASTI must have been aware of the restrictions of the law since they actually drafted the letter for the LWMD. See Attachments J & K.

18. Proposed Special Permit Conditions The proposed special permit conditions are inadequate in light of the issues discussed above. Furthermore, Item 6 in these conditions allows modification to the Progressive Cell Unit Mining and the Special Conditions are reclamation plan solely at the discretion of the department. The “Sand Dune Mining Permit Amendment Process” published in the DEQ’s *Michigan’s Sand Dune Mining Regulations* require public hearings for “substantial” amendments when a hearing on legitimate concerns is requested after a notice of intent to amend the Permit is placed on the

## Review of TechniSand's Application for a Sand Dune Mining Permit (cont'd)

DEQ calendar. The regulation should apply to this permit.

### **There are feasible alternatives to the proposed action.**

#### 19. EIS — Page 36      **“No Action” alternative is feasible and prudent**

The EIS states that a negative result of “No Action” is that no lake will be created. It is assumed that what nature has created can be improved by stripping the land of all vegetation, creating a lake and replanting slopes above the lake with seedlings. This will not be an improvement. It will represent loss of habitat for years. Once these dunes are gone they are gone forever. As the EIS states the current aesthetic value of the property and the vegetative communities and habitat would be preserved with the “No Action” alternative.

The EIS states that this option would require TechniSand to search elsewhere for sand. It states that 35 jobs at TechniSand *might* be lost, depending on *many other* considerations.

“No action” simply requires TechniSand to find sand elsewhere, in a place where destruction of the natural resources of the state will not occur — there is plenty of sand in Michigan. While TechniSand maintains that the sand on this sand uniquely meets their customers’ needs, they have said the same about the sand at the Nadeau Site - Taube Road Expansion and the Casco Township site.

#### 20. EIS — Page 38      **There are alternatives for Industry**

The EIS states that sand is needed for foundries. It suggests that the economy of Michigan is dependent on this sand because it is vital to the manufacture of automobile parts. Ford has used inland sand for about 25 years at its Cleveland foundry. The industry has had over 24 years since the Sand Dune Protection Act of 1976 was first enacted to develop alternatives. They have not done so because dune sand has been so cheap. The DEQ is just overseeing the destruction of the dunes.

### **The Nature Conservancy does not endorse the mining**

21.                    The EIS creates the impression that TNC condones and supports the proposed mining operation. This is not true. Helen Taylor, the director of the Michigan chapter of TNC, stated in a letter dated January 5, 2000, to Paul Sundeen (DEQ), “The Conservancy’s desire remains to see the Knauf property conserved in its current condition, however, if mining is to occur, the Conservancy felt obligated to take measures to minimize the impact to our preserve and to the natural features of the Knauf tract.” She also states “... the protection of rare natural features on the Ross Preserve is our primary concern ...” See Attachment L.

**LISTING OF ATTACHMENTS**

- A** Letter from Dr. Edward G. Voss to Preserve the Dunes, dated July 28, 2000, regarding the impacts of fluctuating water tables on plants in shrub-carr wetlands.
- B.** Letter from Harrington Engineering and Construction, Inc. to Preserve the Dunes, dated August 11, 2000, regarding the effects on the nearby wetlands likely to occur due to removing the dunes and dredging to extract sand from below the water table at the Knauf Property
- C** DEQ map proposing areas to be added to the Critical Dune Areas in Covert Township with annotations and Knauf Property boundaries added by PTD
- D** Cross-sections of site through two points within the 1,150 foot long berm proposed to run parallel to I-196
- E** Cross-sections from the EIS
- F** Aerial Oblique Photograph of Busse Site (TechniSand mine)
- G** Ground View Photograph of Busse Site
- H** Aerial View of Nadeau Site (not mined for over 10 years before restoration begun in last area to be mined)
- I** Map showing sand mine locations in Covert Township
- J** Draft of proposed letter from Land & Water Management Division to Casco Township Planning Commission prepared by ASTI stating that TechniSand would not be allowed to fill wetlands near the Black River to construct a haul road to the proposed mine in Casco
- K** Letter from Land & Water Management Division to Casco Township Planning Commission stating that TechniSand would not be allowed to fill wetlands near the Black River to construct a haul road to the proposed mine in Casco
- L** Letter from Helen Taylor, Director, Michigan Chapter, The Nature Conservancy (TNC) to Paul Sundeen, Geological Survey Division, DEQ, dated January 5, 2000, explaining that TNC's primary concern is the protection of rare natural features on the Ross Preserve