

“What Else Can Hurt Lake Monona?” Part III: “Unimaginable toxic horrors”? Don’t measure them and they can’t be imagined!

Continued from [Part II](#)

There are many holes in this story. Many government records were missing, or withheld by agencies. Presumably many, if not most, of the important decisions about Monona Terrace were made behind closed doors, in off-the-record phone calls and meetings so there were no records of them. If you have any questions, corrections, or information to add to this story, please email me at: mariapowell@mejo.us

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### **Community advocates say FEIS is a “whitewash,” and “mockery” that is “riddled with errors and inaccuracies”**

The [Final Environmental Impact Statement \(FEIS\)](#) for Monona Terrace wasn’t released until August 1993. It didn’t answer many of the questions people had submitted on the Draft EIS in 1992—and it also contained critical contamination data the public hadn’t seen before voting on the referendum in late 1992 (see more details in Part II).

Following the release of the FEIS, at a hearing held by the Department of Administration in August 1993, center opponents blasted it. Some threatened lawsuits. Gary Gates, who had been involved in a group opposing the center, said the report was “riddled with errors and inaccuracies” and outlined many flaws in a long presentation. “The public has no confidence in this document. It is too biased; it is too sloppy,” he told Marv Balousek with the Wisconsin State Journal on [August 24, 1993](#). Marjorie Coulson, another center opponent, said the FEIS was filled with “hyped advertising bytes.”<sup>1</sup>

But center booster William Geist, director of the Greater Madison Convention and Visitors Bureau, dismissed center opponents’ concerns, saying “the significant problems and concerns have been dealt with. There will always be people bringing up minute issues.”

In a twist that The Capital Times described on [September 4](#) as “shocking” to some city officials, after the FEIS was released, the local Sierra Club took a public stance against the center and began distributing “Don’t Pave the Lake” bumper stickers around Madison. City officials were taken by surprise, in part, because Sierra Club “environmental policy consultant” Caryl Terrell, also a Plan Commissioner and head of the city’s EIS scoping committee, had strongly and publicly endorsed the project.<sup>2</sup>

Sierra Club-Four Lakes Group chairman Al Matano, who worked for DNR—as did some other club members opposed to the project—said their “main focus will be to undo what the public erroneously sees as a “done deal.” Although much of the environmentalist opposition had been quiet up till then, he said, “[i]f nothing else, we’ll make a lot of people realize what’s happening and feel a little less helpless and put this city on notice that they will have to account for their actions.” On [September 30](#), Matano and another Sierra Club leader wrote an op-ed in The Capital Times calling the EIS a whitewash and the whole EIS process a “mockery.”

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<sup>1</sup> Dane County Supervisor Mary Sara of Madison, presented a letter from George Meyer, DNR Secretary, in which he agreed that the omission of discussion of the Public Trust Doctrine from the EIS was “a significant flaw.”

<sup>2</sup> Terrell’s statements were also touted by the pro-center “It’s Wright for Wisconsin” group, causing confusion among club members who had concerns about the environmental impacts of the center--so for some time, they said nothing publicly.

Adding to the community's skepticism, the EIS process was led by Republican Governor Tommy Thompson's right-hand man, Department of Administration Secretary James Klauser. Klauser, an attorney was also Thompson's campaign manager as well as his "[close friend and advisor](#)."

A resident wrote in to The Capital Times "Sound Off" on [September 10, 1993](#), "I note that the environmental impact study on the Monona Terrace is now subject to review. And guess who'll do the review? The Department of Administration, headed by James Klauser. Talk about a fox in the chicken coop. Klauser is one of the biggest backers of Monona Terrace in Madison. His office is plastered with mementos of Frank Lloyd Wright. We could write the review right now. Approval will be 100 percent."

Another sarcastically wrote on [October 21, 1993](#): "There was a recent newspaper article urging people not to place their leaves in the gutters where they could eventually cause pollution to our beautiful lakes. What a joke! Putting the pilings for the Monona Terrace convention center into Lake Monona is going to do a lot more environmental damage than a few of nature's leaves."

*Strengthening the downtown is one of the best ways to protect the lakes!*

Madison officials defended their decisions to date, noting that it had been "very conscientious about environmental issues" and "had at its disposal some of the top environmentalists in the business."

University of Wisconsin limnologist Steve Carpenter, one of these "top environmentalists" and a member of the city's EIS scoping committee, said "after studying construction and long-term plans he came away feeling the center will do more good than harm for the city." "I think in the larger context, strengthening the downtown is one of the best ways to protect the lakes. If we can attract people downtown to live and find recreation, we're going to hold off development in the Upper Yahara and other watersheds north of Lake Mendota."<sup>3</sup>

### **Committee on the Environment (COE) balks, but just for a couple weeks...**

The revelation that the Monona Terrace project would require an Army Corps of Engineers permit to sink 1,725 pilings into a navigable waterway caused the Committee on the Environment, which had unanimously approved the project based on the Draft EIS, to temporarily balk on endorsing the project.

On [October 19, 1993](#), Marv Balousek of the Wisconsin State Journal wrote that "[a]fter listening to two hours of public testimony, mostly by opponents, some commissioners said they could not say the project won't cause any significant environmental problems without receiving further information."

Richard Lathrop, Chair of the COE and respected lake expert (who also worked at DNR) told Balousek "I personally have trouble voting for the resolution that there is no significant environmental impact if we don't have on the table all of the studies done." He was referring to information that would be needed to get the Army Corps permit, which he had only first learned about at the meeting.

Opponents testified for hours at the meeting, raising concerns that driving pilings through a landfill would exacerbate the release contaminants into the lake, along with other problems. Gary Gates, a center opponent, highlighted that (in Balousek's words) "the city would never permit a private developer to go forward with a similar project that would destroy a Downtown park and take two acres of the lake." Anne Fleischli said "[l]akes don't die in large chunks. They die in degrees. It is nothing but demolition of the Isthmus."

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<sup>3</sup> This argument—that development downtown would prevent suburban sprawl—was a key claim made by those supporting the center. It's an old trope, and has clearly not proven to be true over time. In Madison, downtown development has become more and more dense, and sprawl has spread rampantly at the same time.

Area resident Al Thompson opined: “We go foolin’ around with our lakes and we ain’t going to have nothing left. You can’t tell me when they put that thing there is won’t be an influence on the fish and the lake and all that.”

Not surprisingly, Bill Geist of the Greater Madison Visitors and Convention Bureau “urged the commission to uphold the findings of the environmental impact statement, which said the project will cause no significant environmental problems.”

Commissioners voted to table the decision until the November meeting.

### **Was it a cover up, Capital Times columnist asks?**

On October 21, an editorial in the Wisconsin State Journal, “[Center foes lack ammo](#),” accused center opponents’ of “reaching into their powder locker and pulling out duds”—the “duds” being their claims that the EIS was a sham. Editors also mocked their concerns that “the Law Park site is an old landfill and to build there would release unimaginable toxic horrors into the lake.” These claims, editors wrote, missed the mark; they were “hysterical” and “fact-free.”

But two days later, in a Capital Times column “[Cover-Up at Monona Terrace?](#)” Mike Ivey suggested that perhaps center opponents were right to ask these questions—specifically about when the city, state, and Monona Terrace project officials knew about the need for a USACE permit and why they didn’t share this information earlier.

USACE said the need for a permit was based on fairly recent changes in federal regulations. But Ivey noted that “[a]lthough convention center officials got wind of the change in June, any mention of a corps review was kept rather quiet until this week.” (Huntoon’s letter to Lightbourn on [May 28 1993](#) noted that they would need a USACE permit.) City officials had traveled to Minneapolis in August to discuss the project with USACE, and applied officially for a permit on September 1. But DOA official George Lightbourn told Ivey “there was no attempt to hide anything... There are a lot of things that happen in the life of a project... Am I supposed to issue a press release every time something changes?”

Curiously, by the time Ivey’s column was published—only a few days after the COE meeting—COE Chair Lathrop had already downplayed his concerns to Ivey—saying he doubted that the old landfill holds “substantial amounts of toxins.” “That material has been in contact with water for decades,” Ivey quoted Lathrop, who added (sounding very much like the EIS) that “Lake Monona has already absorbed plenty of pollutants from Madison’s industrial heyday.” (These comments also sounded very much like those made by Lathrop’s superior, Southern District Director James Huntoon, in his August 12 letter to DOA—see below. Did Huntoon ask Lathrop to change his tune publicly?)

In response to these assurances, supporting center opponents’ questions--and courageously countering WSJ’s mocking of them--Ivey correctly pointed out: “Much of the current Law Park shoreline is old landfill, and *nobody is exactly sure what's buried there*. Some say it's concrete and other construction debris. There might also be empty oil tanks, junk cars or worse. The fear is that driving pilings into this buried waste might allow all sorts of pollutants to leak into the water. There is also the possibility that *contaminated sludge could flow in the opposite direction — down, into groundwater below the lake bottom.*” (emphasis added)

Ivey also supported community advocates concerns about the EIS process. “Perhaps a larger question here is the entire environmental review process,” he wrote. “Convention center supporters need to remember that the project referendum passed by the narrowest of margins and *included guarantees that the center would not harm Lake Monona*. Even conceding that spending \$63.5 million on Monona Terrace will breathe life into downtown Madison, downplaying a federal permit or any threat to the lake has only added credence to opponents’ claims that the environmental impact statement was a whitewash. *Moreover, when government shifts from merely*

*presenting the facts on a public project to an orchestrated campaign that avoids any negatives, Joe Taxpayer never knows if he's getting the truth or another sales job from someone looking to get into his wallet.”*  
(emphasis added)

### **Was it already a done deal (behind closed doors)?**

As described in Part II, in DNR’s Huntoon had already issued the letter to DOA’s Lightbourn on August 12 saying no remediation was “practicable” at the Law Park landfill, so no “further action” was necessary in that regard—just some more monitoring wells.<sup>4</sup> The letter also indicated that, even though contaminants were found at levels over the existing standards, DNR didn’t think building the center would do more harm given that Lake Monona was already significantly polluted.

This letter was a signal to DOA that it would get its exemption from DNR to build over a landfill. Also, reading between the lines, comments in an [October 20, 1993 Capital Times](#) piece by Joe Schoenmann hint that the USACE permit may have already been a done deal—or at least that it was understood by the city and DOA that USACE would very likely issue the permit.

According to Schoenmann, city planners had been sending the USACE engineer in charge of the project (Jim Knowles) information since the previous spring, and seemed very confident that this COE blip would not derail the project. What conversations had the city, DOA and USACE had behind closed doors in the months leading up to this?

Jim Knowles of USACE told Shoenemann he “had not yet read the EIS closely” but he nevertheless downplayed concerns, stating that “petroleum deposits are found in almost every metropolitan lake bed.” The petroleum contamination, he said, would be “a temporary effect...maybe not a big problem.”<sup>5</sup>

The city was also notably undaunted by the COE’s sudden balking, further indicating that it had already made a deal with USACE to get the permit. Schoenmann wrote: “Despite the doubts and no guarantee of a permit, city hall’s Monona Terrace machinery is moving steadily ahead. City Planner George Austin said he believes the corps will approve construction in the lake.” Austin told him, “[y]ou reach a level in any project where you’ve done your analyses and studies and developed a confidence level of meeting the standards. Based on that level, you make calculated decisions to keep moving on.”

Mayor Paul Soglin sounded even more certain; he told Marv Balousek of the State Journal that “We’re planning on going ahead with the project. We know there are permits we have to get. We expect to get them.” In an adjacent article, Soglin said “it’s about time” that center opponents “get out of the Fantasyland.”<sup>6</sup>

### **Opponents continue to fight back, weary center boosters think it’s a “goddamn death march”**

In a guest column on [October 26, 1993](#), Fleischli responded to the State Journal’s scathing op-ed mocking her and other center opponents’ concerns. She highlighted the significant petroleum contamination under the center, how planned pilings would serve as conduits for the contamination there, and the scouring of contaminants under the center into the lake. As for the EIS, she wrote that it “reads like a developer’s prospectus, which it is.” She concluded her column by noting that “the limited information we have is damning and threatening to Madison. It is irresponsible to advocate the position the State Journal took in its editorial.”

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<sup>4</sup> The letter said DNR staff “are planning on doing some follow up sampling” in the area around the proposed center “as well as along various areas of the Law Park shoreline.”

<sup>5</sup> Whether or not Lake Monona sediment petroleum contamination levels were the same as other metropolitan lake beds, this does not make it acceptable—and there was much more than petroleum there.

<sup>6</sup> The city was also pressed by deadlines. “The city is at a stage now where it needs to bring a construction manager aboard and to intensify work to get the final project design finished,” Shoenemann wrote. “The City Council will be faced with a \$3 million decision to pay architectural fees in late November.”

The next day Matano and Fleischli announced that they filed a petition for a rehearing before the DOA based on the fact that the EIS didn't consider any alternative locations (which it didn't)—a central part of all environmental impact statements—and that the EIS was incomplete and flawed. The October 27 Capital Times article about this, written by staff, said “It is considered unlikely that the department will approve a rehearing.”

Meanwhile, the ongoing community resistance was getting to the well-resourced, powerful movers and shakers behind the project. On [October 26](#), Wisconsin State Journal's Schoenmann wrote “Weary Center Boosters Get Pep Talk.” Center proponents received “reassuring advice and guidance”—and “shared war stories”—with a leader in Philadelphia who had successfully built a convention center there despite huge community opposition. She advised center supporters to “be totally committed, be prepared to give the same message over and over and over” and not be discouraged by “relentless opposition.”

George Nelson, the very wealthy conservative businessman and media mogul who was a key leader in moving the project forward, whined to Schoenmann that nursing the Monona Terrace project along had been “like a goddam death march.” But after the pep talk, Schoenmann wrote, Nelson “was encouraged,” saying he found the pep talk “uplifting.”

### **COE changes its mind and endorses project**

On [November 16](#), apparently based on one UW professor's report, Chair Lathrop's change of heart, and proposed requirements for future pollution mitigation, the Commission on the Environment overwhelmingly endorsed the project. Marv Balousek of the State Journal wrote that “[t]he approval was a marked contrast to a meeting last month where commissioners balked at endorsing the resolution. At that meeting, they questioned how they could find no adverse environmental impact before the U.S. Army Corps of Engineers issues a permit for the project.”

But the COE felt that these concerns were “alleviated by adopting a list of 13 mitigation standards as part of the resolution,” including a stormwater management system, that would cost \$100,000 from the center budget's \$3.3 million contingency fund (this system was deemed undoable and never built—see next parts to the story.) Notably, also, they added an amendment to require “that the feasibility of fishing from the center's seawall be investigated.”

Commissioners' concerns were also apparently quelled by a report by UW geology professor Jean Bahr, who said “it's unlikely that sinking pilings into Lake Monona to support the center will cause contaminants to seep upward into the lake.”

Chairman Richard Lathrop, who had expressed concerns about groundwater contamination at the previous meeting and asked Bahr to issue her report, now said “I find it hard to believe as an environmentalist that this is going to cause a major change in the pollution of the lake.” Commissioner Pam Porter said she previously voted against the center as a citizen, but her opinion changed while serving on the commission and an environmental scoping committee (hmmm, perhaps being on the inside, she was co-opted?). Echoing Lathrop, she told Balousek, “It's (now) very difficult for me to oppose the center on environmental concerns.”

In the public comment period, Ron Shutvet said the monitoring wells weren't deep enough and the city's Well 17 could be at risk, but his concerns were obviously dismissed by the commissioners other than Alder Santiago Rosas, the lone commissioner who voted no.

### **Common Council resolution**

Based on COE's endorsement, on November 16, 1993, the Common Council passed [a resolution](#) “declaring that the Common Council finds that the construction of the Monona Terrace Community and Convention Center *will have no significant adverse environmental impact on Lake Monona.*”

But this declaration was contingent on several mitigation measures *that “shall be undertaken as a part of the design, construction or maintenance and operations of the Monona Terrace project.”* In other words, it was based on things the city said “*shall*” happen in the future. This included significant reductions in stormwater runoff of sediments, oil and petroleum, phosphorus and metals, which the Final Environmental Impact Statement had said would be significantly increased by the center’s construction.

Also, the last statement in the city resolution was: “BE IT STILL FURTHER RESOLVED that if the Monona Terrace Project receives a permit from the Army Corps of Engineers and an exemption from the Wisconsin Department of Natural Resources, then the Monona Terrace Project shall comply with all requirements of the permit issued by the Army Corps of Engineers and conditions of the exemption required by the Wisconsin Department of Natural Resources.”

### **DNR guidance on building over abandoned landfills**

To build over a landfill, DOA needed an exemption from DNR.

In the 1980s and 1990s, according to the DNR, abandoned landfills were increasingly being targeted for development, especially in rapidly developing urban areas.

Following the issuance of the U.S. Comprehensive Environmental Response Compensation and Liability Act (CERCLA, or Superfund) in 1980, Wisconsin DNR promulgated its landfill regulations (NR500-520) in 1988. The NR500 code passed in 1988 placed explicit prohibitions on building on abandoned landfills. However, the code allowed exemptions if the department “believes that a particular site does not pose a threat or if engineering controls can be implemented to prevent harm to the public and environment.”<sup>7</sup>

According to the DNR’s December 1992 “[Guidelines for Review of Requests for Exemptions to Construct on Abandoned Landfills](#),” the DNR proposed that “the standards for receiving an exemption must be tightened so as to ensure that the public and the environment are protected.” A section in the guidance on “concerns regarding construction on abandoned landfills” included: methane collection in buildings, toxic gases collecting in structures, disturbance of the landfill cap, utility lines acting as conduits for gas and leachate, dewatering problems, worker exposure, and settlement problems.<sup>8</sup>

“Settlement problems” can occur because landfill wastes settle unevenly, especially if development places weight over them. This can in turn cause foundations to crack and allow landfill gases into buildings and/or make the building unsafe due to structural instability. Utility lines can crack or break, resulting in contamination of the water supply, and *pilings used to stabilize buildings over landfills can create conduits for gas and/or leachate to enter buildings and “can completely penetrate the waste and extend into a non-contaminated aquifer, possibly allowing contaminants to migrate into the lower, unaffected aquifer.”* (emphasis added)

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<sup>7</sup> Before NR 500 was developed there were “no explicit restrictions” on developing on top of closed landfills, and although the department could impose restrictions, “in practice the issue was seldom addressed.”

<sup>8</sup> The guidance said that development pressure on landfills was increasingly challenging the department because: little information was available on volumes and types of wastes disposed in old landfills, developers tended to “resent the longer review periods imposed by the Department,” and “[o]wners of property and their consultants typically have little knowledge of solid waste management principles and of the risks associated with building on landfills. Once apprised of the risks, many also seem to be largely indifferent.” Also, “in a number of recent cases, engineering controls required by the Department as conditions of the grants of exemption have been omitted entirely or seriously misconstrued.”

<sup>9</sup> DNR would review requests for exemptions, the guide said, and it outlined information needed to complete the exemption request. This included detailed hydrogeologic information, type of waste disposed of at the site, depth and horizontal extent of the waste, concentration of methane, and “waste characterization tests to determine whether any waste may be classified as hazardous, and also its basic physical and chemical properties.”

The guidance listed “criteria for grants of exemption”: 1) no methane problem; 2) no settlement problem; 3) Prevent surface waters from infiltrating to wastes and creating leachate. Under “No settlement problem,” the guidance mentioned the use of “specialized foundations,” such as pilings, advising to “*Keep in mind, however, that the use of pilings can create conduits for gas and leachate* and that even a floating foundation requires that differential settlement be maintained within specific tolerances.” (italics added). The third criterion was a moot point for Monona Terrace because it was being built over a landfill that was already *in the lake*.

The guidance concluded with: “*Construction on abandoned landfills can create many health and safety problems and should therefore be avoided whenever possible. Any development which does occur must be considered very carefully to ensure that all safety and environmental risks have been avoided.*”

But this was just a guidance, not a legal regulatory requirement.<sup>10</sup>

### **DOA applies for DNR exemption to build over landfill**

In a May 21, 1993 meeting, DOA’s George Lightbourn asked DNR what further work was needed before the project could move forward. DNR’s James Huntoon, Southern District Director, followed up in a [May 28](#) letter. “Based on discussion I have had with our Solid Waste Management staff, as well as established precedence, we have concluded it is appropriate that an exemption to s. NR 506.08(5), Wis Adm, Code, be formally requested,” he wrote. He attached a copy of the guidance to the letter.

He then outlined further information the agency needed to determine whether or not to issue the exemption. “Although the proposed project does not seem to be adversely affected by the past landfilling activities,” Huntoon wrote, “there are several specific areas of concern that must be addressed.” He listed several, including hydrogeological information, a “general description of the waste you anticipate to encounter,” depth and horizontal extent of the waste, concentration of methane and other toxic gases present, existing cap conditions, and groundwater elevation and quality results.

“Specific concerns” were detailed. Huntoon deemed methane and other toxic gases “not a significant concern,” even though limited methane testing at the site had found levels very close to the levels the agency deemed of concern (see below).

Cross-contamination of the aquifer was another “specific concern,” and Huntoon said they should first determine the extent that “refuse porewater” is contaminated. The third concern was “control of surface run-off.”<sup>11</sup>

Huntoon clarified the information DOA needed to provide for a “Conditional Grant of Exemption.” Interestingly, he added, “The issue regarding potential remedial action will be addressed in a separate letter once we have an opportunity to review the boring logs. This “separate letter” was the August 12 letter that informed DOA that remediation was “impracticable” and “no downgradient users” would be affected by the contamination, so no further action was necessary (also, see endnote)<sup>i</sup>

### **Woodward-Clyde submits info for Conditional Exemption in response to May 28 letter**

On November 22, 1993, just days after the Common Council approved the resolution for the center to go forward assuming there would be no effects on Lake Monona (see Part II), Woodward-Clyde submitted a report

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<sup>10</sup> NR 500 was updated in 1997

<sup>11</sup> The last two “specific concerns” were worker safety and waste handling. Workers “must be apprised of safety concerns, particularly related to methane and toxic gases, as well as exposure to in-place waste.”<sup>11</sup> On “waste handling,” he said “All excavated waste must be removed from the site and disposed of at a licensed sanitary landfill.” (In his August 12 letter to DOA, Huntoon said that “In discussing the method of construction for the convention center it was stated that no soil or sediment removal would be conducted.” This proved to be incorrect; excavation and soil removal were done.)

to DNR, "[Information Regarding Landfill Construction Exemption Request](#)" in response to the agency's May 28 letter.<sup>12</sup>

Consultants did some borings to get subsurface hydraulic data. They found that the Lake Mendota surface elevation was about five feet higher than lake Mendota, which "would likely result in a hydraulic gradient across the isthmus of Madison from Lake Mendota, through the project site, to Lake Monona. Groundwater at Law Park was about at the same level as Lake Monona. "The data appears to show a groundwater flow gradient from Law Park to Lake Monona. This is consistent with the general notion (previously stated) of groundwater flow across the isthmus from Lake Mendota to Lake Monona."

Field notes from their borings, drilled to about 13 feet, noted the following items: gravel, concrete, black sand (possible foundry sand), pieces of brick, wood, glass, cinders, pieces of metal, cloth, and paper." At three of the six boring sites, "petroleum odor and visual observations of petroleum were noted." There was about six inches of topsoil over the fill, which extended for the entire length of Law Park (4,200 feet). Fill was about 25 feet deep along the park shoreline.

Methane was detected at two borings, and at one of them levels were close to the explosive limit (22%). At that time, DNR didn't permit development when levels are over 25%. But subsequent tests came out lower and it was deemed safe. Benzene was also detected in soil gas (below ground) but again subsequent tests showed lower levels.

However, consultants reported that TRPH levels found in two wells (discussed earlier in the EIS) and noted that subsequent VOC and PAH groundwater sampling showed that concentrations of benzo(a)pyrene exceeded standards, and naphthalene exceeded preventive action limits.

### **Community members, independent experts, DNR employees raise critical questions**

With the FEIS completed, and the Common Council resolution passed, those who had questions about the environmental effects of the center set their sights on preventing the issuance of the U.S. Army Corps of Engineers permit. Community members, independent experts, DNR employees, and elected officials wrote in to the USACE during the public comment period for this permit.

On [December 8, 1993](#), Ron Shutvet, an engineer with almost 20 years of experience performing subsurface investigations and installing wells for a geotechnical engineering firm in Madison, wrote to James Knowles, hearing officer for the USACE permit hearing. He began: "I have some concerns that the Law Park landfill and its contaminants may not be adequately dealt with in the Department of Administration's data to your offices." He attached pages from retired city streets employee James Brophy, "[Recollections of a Former Madison Street Commissioner](#)," describing the construction of the landfill (described at length in Part I).

"There is no liner," he wrote to Knowles. "Chicken wire held the debris that was dumped there to keep it from floating out into the lake. Ash from the nearby MG&E power company along with demolition rubble was layered over the days' garbage deposits."

He recommended that much more data was needed to understand the impacts of building the center over the landfill.

Firstly, he highlighted, "*there has been no testing of the lake water itself in this area.* Since the ground water from the land based part of the landfill and the sediment on the nearby lakebed both have elevated levels of

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<sup>12</sup> At that time, the report noted, the lakeshore was zoned as *conservancy*; it was a City of Madison park.



hazardous contaminants, testing the lake water next to Law Park would be necessary *to assess the extent and levels of contamination.*” (italics added) He went on to advise on some specific water sampling strategies.

He also enclosed [a memo](#) from DNR employee Dave Marshall to Hal (Harold) Meier, the DNR’s Southern District Environmental Impact Coordinator. Marshall’s memo stated that “divers (including myself) believe they observed leachate emanating from the Law Park fill site during a 1979 SCUBA dive. If this material was indeed leachate, how will construction activities affect movement and discharge into Lake Monona?” Mr. Meier, Shutvet added, “was removed as DNR project coordinator by DOA Secretary Klauser.”<sup>13</sup>

Shutvet recommended that “[f]ish living along the Law Park shoreline should be collected and analyzed for levels of contaminants known to be in the landfill leachate and adjacent lake bottom sediments.” Further, he advised, “[a]dditional soil borings should be performed in Law Park to better define the boundaries of this landfill and the extent of the contamination threat it poses for Lake Monona and the area groundwater supply.”

He raised several critiques of the available data and outlined further data needed.<sup>14</sup> “An objective contractor, not Woodward-Clyde, should be performing data and analysis.”

### **What about Well 17?**

Shutvet advised that more groundwater wells should also be placed at various depths (shallower and deeper) and locations to test for contamination. “Law Park landfill contaminants are probably leaching not only into the lake but also toward Municipal Well #17,” he wrote. Much more data was “necessary in order to verify whether construction of Monona Terrace will accelerate contamination of Lake Monona and Madison’s groundwater supply.”

He highlighted that the city was spending \$35 million dollars on mitigation at other city-owned landfills. “One landfill assessment,” he pointed out, “required over 20 monitoring wells and thirty days of data. Before putting a building on the Law Park landfill, at least that level of caution should be used.”

He offered recommendations on mitigation. “Because of leaching contaminants, ideally a leachate collection system in combination with a slurry wall barrier would work best to mitigate this site” -- though he added the caveat that, “it may not be feasible to construct a slurry wall here.” Utility trenches at the site should be filled entirely with impermeable material to shield the lake from contaminants, and the project should include an upgradient collection system at the far line of piles to collect water from the hill behind the project and route that water past the landfill.”

Shutvet also sent his Dec. 8 comments to USACE to Huntoon.

### **DNR knows landfill contaminants are flowing into lake, but has already decided they won’t affect Well 17 because of “clay-silty” soils minimize downward movement**

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<sup>13</sup> Supporting this, Meier’s name disappeared from all DNR communications on the issue sometime in late 1992/early 1993. Meier also submitted comments on the DEIS about effects on the fishery and shoreline fishing access. He wrote: “DNR’s position is that fishing access to the lake is essential and must be continued after completion of a project. The area is heavily used for fishing—especially by ‘less fortunate.’”

<sup>14</sup> He noted that the previous reports submitted to the city were outdated (from borings in 1960, 1969, when the center was previously considered) and “inadequate to provide the necessary information for today’s environmental concerns and the EPA analysis process” that the USACE needed to adhere to. A variety of further information, such as the extent of the contamination from the landfill, data on soil permeability and groundwater gradients, was needed.

The DNR's guidance on building over landfills prohibited water supply wells within 1,200 feet of the limits of the waste, and noted that "water supply regulations prohibit the construction of a water supply well within 1,200 feet of a waste disposal facility."

Since it was being built over a landfill in a lake, Monona Terrace required pilings—1,725 were placed under the building. It's not clear when the "water supply regulations" mentioned in the guidance were in place, but Well 17 was sunk in 1966 [well under 1200 feet of the waste limits](#).

DNR officials knew this was a critical problem with building the center there. On [December 15](#), Del Maag in the DNR's Public Water Supply Program wrote to Joe Brusca in the agency's waste program after Brusca asked their department to evaluate the potential impact of the building the center on Well 17.

Maag calculated the potential drawdown from Well 17, which showed a "theoretical drawdown of the well at a distance of ¼ mile after running the well for 24 hours. But interestingly, he said *"it is likely that the drawdown would be much less at this site because of the affect (sic) of the nearby Lake Monona."*

In other words, lake water is pulled into the well so it doesn't draw down the aquifer as much. "It is also likely that the upper groundwater, to which any landfill wastes would discharge, is many feet above the static water level in the well. *Any contaminants leaching from the landfill are likely in this upper groundwater and are eventually discharging into the lake.*" (italics added) (These speculations were later confirmed by an aquifer study; see below)

But Maag's comments weren't meant to raise concerns--to the contrary. Maag continued "In addition, this landfill has existed for nearly 50 years with no apparently impact on the City well (an empty assurance, given that many of the contaminants likely in the landfill were had never been tested for at Well 17). Even if the pilings are driven down to the 60-65 depth, through some of the landfill material, they would still be 30-35 feet above the sandstone aquifer in what appears to be a dense clay-silty soil which would tend to minimize downward contaminant movement."

Maag recommended just two wells: one in the sandstone formation and one in the upper formation, "to monitor the potential drawdown affect (sic) of pumping well 17..."

But he had already drawn his conclusion. "While it appears to us, based on the limited information we have, that the pilings will not adversely affect the well, it would be desirable to have more information to verify this," he told Brusca.

### **DNR official weighs in as "private citizen"**

On [December 22, 1993](#), another DNR employee, DuWayne Gebken, an environmental engineer in waste management, wrote to the USACE hearing officer James Knowles, as a "concerned citizen." "I have a number of concerns with the project because of nagging environmental issues, which, in my professional judgement, have not been adequately addressed or resolved."

The groundwater flow patterns (vertical and horizontal flows) and degree and extent of existing groundwater and sediment contamination had not been adequately established, Gebken wrote, highlighting that the level of benzo(a)pyrene in groundwater samples collected from one of the shallow monitoring wells exceeds the standards by over two orders of magnitude. The geology under the area was "complicated" and "[t]here are indications that the fill and the till are already in good hydraulic connection"—in other words, that the shallow and deep aquifers were connected. When Well 17 wasn't pumping, he said, "[u]pward flow of groundwater into the lake was observed." The question of what happens when it is pumping should be addressed, he advised.

Like others, he raised the question of how the driving of 1,725 pilings may exacerbate contaminated groundwater movement into the lake or towards Well #17, “because of the creation of preferential pathways for groundwater movement, particularly if the pumping of Well #17 is considered.”

In addition to more wells to establish groundwater flow patterns and extent of landfill contamination, Gebken listed several other “serious potential negative environmental impacts” that he felt hadn’t been “had not been adequately determined,” Firstly, he highlighted a problem predicted in the FEIS—the scouring of sediments and deposition into the lake. “The fate of resuspended contaminated sediment and soils during construction,” he wrote, “has not been adequately resolved.” As for the proposed method to control this in the FEIS, “to use industry-standard silt curtains underwater for the entire length of pilings above lakebed sediments,” he asked “What is the effectiveness of this type of control?”

Gebken also critiqued the FEIS’ claim of “no measurable impacts.” “Simply stating that contaminated sediment that is disturbed in the lake will settle in deeper portions which contain already contaminated sediment or that resuspended light petroleum products will not have any measurable impact on the lake’s water quality or biotic communities is not adequate to address environmental concerns.”

Gebken recommended to the U.S. ACE that before a permit was issued, groundwater quality at the site should be confirmed, a pump test on Well 17 should be done, “to see whether the radius of influence includes areas of confirmed groundwater contamination,” Well 17 water should be assessed for a full range of contaminants, especially volatile and semi-volatile organic compounds, and more wells should be placed “to better define both geology and hydrogeology to at least the depth to where the proposed pilings are to be placed.”

Finally, he asked, “When degree and extent of groundwater contamination have been defined, and if a remedial plan has been selected, how can this plan be followed given that physical constraints of the completed project?”

Apparently even though he was a DNR employee, Gebken didn’t know that his superior James Huntoon had already written DOA many months prior (in August) and said remediation wasn’t “practicable” so no further action was necessary.

### **Governor Tommy Thompson: “Time is money”**

But behind the scenes, higher level powers-that-be were pushing to move things forward as fast as possible.

While community and DNR experts were raising well-informed concerns about the potential environmental effects of the center, Republican Governor Tommy G. Thompson wrote to James Knowles at U.S. ACE on [December 21, 1993](#), urging the agency to issue the Section 404 permit as quickly as possible. Here’s what he wrote:

*“I am writing in support of the Monona Terrace Convention Center Project. This project will result in an excellent public facility situated on a beautiful lake based on a design by a world renowned architect, Frank Lloyd Wright ...In addition, this convention center provides an opportunity for the State of Wisconsin to meet a practical need of providing parking for state employees, and for people doing business with the State of Wisconsin in downtown Madison.”*

*“We, of course, are concerned with the environmental impacts which a project of this magnitude might have. It is for that reason that we have spent considerable time and money to thoroughly explore the potential environmental impacts from this project. We would not undertake this or any project if it significantly impacted the environment in a negative way.”*

*“The Environmental Impact Statement prepared by the Department of Administration, after weighing a great deal of research and public input, that the project should proceed. To ensure that proper precautions are taken,*

*we are contractually requiring that the construction management team follow the mitigation measures identified in the EIS.”*

*“Further, as in any construction project, time is money. That is why the Department of Administration took such great effort to complete the Environmental Impact Statement in a thorough and timely fashion. It is quite important, given the limited budget for this facility, that the project be kept on schedule. Time was an important consideration in our approach to reviewing the impacts of the project, and I hope it will be a consideration of the Corps in their review of the project.”*

*“I know that the Corps of Engineers has an important responsibility to review projects of this nature. I would hope that the Corps would acting expeditiously to review and ultimately approve this project. I am convinced this project will be beneficial for the City of Madison and for the citizens of the State of Wisconsin in general.”*

Knowles, undoubtedly prompted by Governor Thompson’s letter, wrote to Brusca at DNR the same day (December 21), according to a memo Brusca wrote to Huntoon on [December 27](#). Knowles, Brusca wrote, “wanted to know when I would make a decision regarding the landfill exemption request filed by DOA to construct the project on an existing landfill.” Brusca told Knowles the agency was waiting for more groundwater quality results and based on the results, a decision could be made by mid-January. He also mentioned to Huntoon that the USACE scheduled two public hearings on February 2, 1993.

On [December 23, 1993](#), the head of the DNR, George Meyer, wrote to Mr. Knowles “to confirm Du Wayne Gebken’s request for an extension to comment on the Section 404 permit, because the agency needed to formulate its fisheries mitigation recommendations and was “still considering the extent of our authority...and have yet to develop a final position on what approvals are needed, if any.” Further, he added “we are also continuing to examine the surface and groundwater impacts of constructing the Monona Terrace Project.” He asked that the comment period be extended to January 18, 1994.<sup>15</sup>

### **DNR backs off on asking for complete hydrogeological investigation**

In the weeks following Governor Thompson’s letter to the USACE, the DNR decided not to ask DOA for a thorough hydrological study or to investigate the other potential environmental issues Shutvet and Gebken, and other DNR employees who had been removed from the project (Hal Meier) had deemed critical. (It’s more than likely that many communications were exchanged between the Governor’s office, DOA and DNR leadership during these weeks, but those communications were presumably off the public record—and therefore not in the DNR files).

Whatever happened, DNR suddenly decided to take a different “tack.” In a [January 13, 1994](#) “update on the data gathering and contacts with ACOE,” DNR’s Joe Brusca told Gebken he’d talked with the USACE geo/technical advisor Mark Meyer, and that although Meyer had been “considering a full blow hydro study,” after he explained to Meyer what “tack the Department was taking,” he agreed he would rely on the data collected and decision on groundwater impacts relating to the landfill exemption request” (in other words, not the more extensive investigations advised).

Brusca, seeming to suggest that if a full blown “hydro study” was done, it would be harder to issue the DNR exemption and USACE permit, commented that “DOA may have dodged a bullet.”

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<sup>15</sup> About a week later, on December 29, 1993, DOA’s Legal Counsel, Edward Main, wrote to Huntoon to assure him that previous legal cases had resolved any concerns about the proposed center violating the Public Trust Doctrine in any way—concerns that were raised by DNR staff and the public intervenor Tom Dawson in the draft EIS comment period. “As you know,” Main wrote, “much of this area is filled lakebed. As such those areas would be trust lands and title would be in the State of Wisconsin” (he then cited some legal cases). “You will also note that the Court refers to previous session laws which establish a dock line and authorize the City of Madison to construct public buildings.” This letter seems to have ended any remaining concerns about the project violating the Public Trust Doctrine; they weren’t raised again in DNR documents.

As for the other potential environmental problems Gebken and Shutvet outlined, such as the levels of contaminants in water and fish, the fate of the contaminated sediments etc., they were never investigated.

(What about impacts on the fisheries—one of the concerns Hal Meier raised? No problem--DNR would create a “rearing marsh” elsewhere--see footnote).<sup>16</sup>

### **Powers-that-be assume Monona Terrace is a done deal, community continues to push back legally**

By early January, 1994, it was very clear that the powers-that-be already felt quite confident that the center was a done deal, even though the needed permits and exemptions had not been issued. Media stories reflected this.

A January 1, 1994 Wisconsin State Journal piece, “[10 who made a difference](#),” effusively praised the work of George Nelson, who led efforts to organize movers-and-shakers from all sides of the political aisle to make the center happen. The congratulatory piece was written as if he had fully succeeded—that regulatory barriers were cleared and the center would go forward.

“It was widely assumed that his efforts would fail” and all he would get “for his tireless dedication was public humiliation,” the article noted. But Nelson “persisted, meeting with conservative businessmen, liberal faculty members, concerned advocates of the poor, suspicious supporters of the arts, skeptical environmentalists—everyone had to be convinced that a convention center would be a good idea. Nelson, a political conservative, joined hands with liberal politicians Paul Soglin and Rick Phelps. He worked day and night — and drove his friends and family to distraction — to pull people together. In the end, the vote was hardly overwhelming. The convention center needed every voter whom Nelson had managed to convince. Had his energy flagged, it is likely the future of Monona Terrace would continue to be that of a parking lot.”

At that point, ironically, the Law Park site *was still a parking lot*.

Plenty of other news indicated that city and state proponents of the center were confident that the center was a done deal. On [January 1<sup>st</sup>](#), The Capital Times Mike Ivy wrote, that “although the project still needs approval from the Army Corps of Engineers and the state Department of Natural Resources, there seems little chance it will be hung up because of any adverse effects on Lake Monona.” On [January 19](#), the State Journal reported that the Common Council approved two resolutions to begin designing the interior of Monona Terrace. On February 5, the city issued building contracts.

On March 24, a [Wisconsin State Journal editorial](#) titled “the start of something big” while recognizing that USACE permit wasn’t issued yet, gushed that the “standing-room-only crowd that jammed a breakfast slide show to see sketches of the interior of the Monona Terrace building Thursday seemed optimistic” and “evidence that a season of progress is about to bloom. After a long winter of obstructionism, it’s about time.”

### **Center opponents kept on fighting**

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<sup>16</sup> A January 14, 1994 DNR Secretary George Meyer informed Knowles that the DNR wouldn’t make a decision about the Section 401 water quality certification until more water quality data had been gathered. But clearly the DNR has already decided how particular negative impacts would be addressed. The letter addressed mitigation of the impact to fisheries from the center (and the proposed Aquatic Center, which never came to fruition). The Monona Terrace project, he wrote, “would act much like a fill since it will block sunlight resulting in a loss of aquatic life along the shoreline, which is one of the more productive parts of the lake.” In Meyer’s opinion (likely advised by DNR fisheries experts), increasing recruitment of northern pike would be the “most beneficial way” to mitigate this loss. Pike, top predators in the lake, are “important to the lakes to maintain a balanced fish community and a health aquatic ecosystem,” he explained, and “have decreased in numbers through time due to insufficient recruitment because of wetlands destruction and water level manipulation.” He proposed to enhance recruitment of pike by protecting adult fish through fishing regulations, working with Dane County Public Works Department to ensure lake levels are adequate for northern pike spawning in the spring, and stocking or controlled rearing. He also recommended constructing a “controlled rearing marsh.”

Community advocates who had opposed the center tried to use any legal hooks they could to stop the center's approval, or at least slow it down. Many had heard experts and DNR employees testify at public meetings already held in previous years (and/or were experts themselves) and based on this were well-versed on the range of environmental problems the center might cause.

On [January 7, 1994](#), Anne Fleischli asked DNR for a contested case hearing for the DNR Section 401 permit (water certification). By this point, she and other opponents had formed a group called Shoreline Park Preservation, Inc., which she represented. "Shoreline is a charitable corporation that has as its purpose the preservation of shoreline parks as green space for free public use and the project herein violates that purpose by appropriating a shoreline park, using it for the commercial purpose of a convention center," she wrote.

She argued that the project, in her legal opinion, violated Wisconsin's Shoreland Management policies, destroyed fish habitat, removed 1,600 linear feet of shoreline park from fishing and recreational use, constricted and limited transportation alternatives, interfered with navigation, removed windsurfing and water skiing activities, possibly increased contamination of Lake Monona by hazardous waste by piercing an unlined landfill with 1,725 pilings, violated federal flood plain construction policies, and imperiled wetlands and fish habitat. "It is apparent that this project violates interests that were meant to be legislatively protected by WEPA, NEPA, and the Army Corps."

Moreover, she opined, [t]here is dispute as to material fact that the applicant, the city of Madison and the State of Wisconsin's Department of Administration have not provided sufficient data to determine the impact of the hazardous wastes leaching from the project landfill on fish, Lake Monona and/or the groundwater and how this project will affect those hazardous wastes."

DNR denied Fleischli's request on Jan. 21, saying that they had not yet made their water quality certification decision on the Monona Terrace project and were waiting additional data.

### **USACE hearing, state legislator weighs in on flawed public process**

The USACE hearing was held on February 2 and covered by Marv Balousek of the Wisconsin State Journal [the next day](#). Army Corps ruling allowed public officials to speak first, so the beginning of the meeting was dominated by supporters, according to Balousek.

Opponent Jane Eiseley highlighted that only 49 percent of Madison residents and a majority of Dane County residents opposed the center. John Carey, a Madison resident since 1925, stressed that the city should value its lakes more than the center. "Other states are making man-made lakes," Balousek quoted him, "Now, we're filling one of the most beautiful lakes that ever was. By the year 2000, we'll probably have the bay filled for parking." Anne Fleischli said the project "violates nearly every environmental standard."

After the hearing, on [February 14, 1994](#), Republican State Representative Rudy Silbaugh (46<sup>th</sup> Assembly District), formerly a Stoughton alderman, wrote to USACE, representing his constituents in Dane County.

"Like thousands of other citizens in Dane County, we share concerns about the proposed site, the possible adverse impact on the water quality of Lake Monona, the loss of 5.5 acres of greenspace, the additional problems that will ensue with the additional parking and traffic congestion on John Nolen Drive, the \$63.5 million cost, and whether the Environment Impact Statement (EIS) is accurate, especially since new data is available that was not available when the public voted on the referendum or when the EIS was prepared. It is our hope that the Corps will conduct a fair, thorough, and impartial study of the facts."

Representative Silbaugh also disagreed with statements made at the public hearing about the state's involvement and legislative support. State Representative Rebecca Young's statement at the meeting that "there was overwhelming legislative support for the project," he said, was incorrect. "[I]n fact, the issue was extremely controversial." He noted that the state funding included in the 1992 Budget Adjustment Bill likely wouldn't

have passed as a separate bill. He also wrote that “[t]here was considerable opposition from legislators outside of Madison to provide funding for the parking ramp and Stewardship Program for the proposed rooftop park since this was not available to other Wisconsin cities.”

Further, he questioned the characterization at the hearing of overwhelming support from Madison and Dane County voters. The city referendum, he pointed out, only passed by fewer than 1,200 votes. As for the county, he wrote “the citizens outside of Madison within Dane County significantly opposed spending county funds for the Center” and among county voters it lost by 7,000 votes. He did a poll in his district and 75.1 percent of his constituents did not support the project.

Silbaugh raised several concerns about the meeting and public engagement processes. He pointed out that many of those who presented at the USACE Feb. 2 hearing “may personally benefit from the project’s construction,” and many of the previous EIS hearings “were inaccessible to much of the working public who may have wanted to testify.” He cited Ivey’s Capital Times column: “When government shifts from merely presenting the facts on a public project to an orchestrated campaign that avoids any negatives, Joe Taxpayer never knows if he’s getting the trust or another sales job from someone looking to get into his wallet.”

Most problematic about the process, he argued, was the fact that the city referendum specified that “THERE WILL BE NO SIGNIFICANT ADVERSE ENVIRONMENTAL IMPACT ON LAKE MONONA” and yet much of the most critical information relevant to this assumption was presented *after* the referenda—and what was presented prior to it was misleading.

“It was not readily disclosed that over one thousand pilings would be driven through a landfill into navigable waters; it was not known at that time that the landfill was already discharging petroleum compounds; it was not readily disclosed that benzo(a)pyrene could threaten lake water quality and/or the groundwater...it was not apparent to the public that the proposed parking ramp would be inadequate for conventioners since most of the space would be used by state employees...” (and more).

“I believe that further extensive water testing is warranted for the convention center project in order to correctly identify and quantify the landfill pollutants in Lake Monona. Testimony at the hearing and other information has been submitted to the Corps which already documents that hazardous contaminants currently exist at the proposed location—without even disturbing the site and lakebed with 50-foot long pilings—let alone over 1,000 of them! Perforation was not addressed in the EIS. The public is not informed as to the health problems and/or the potential threat to our water supply that this project may pose. The extent and source of contamination need to be fully evaluated to determine if the convention center project should advance. Attention should also be given to determine if the project violates the Public Trust Doctrine of Wisconsin that is established under Article IX, Section 1, of the Wisconsin Constitution.”

He also highlighted concerns raised by the Shoreline Preservation group—about preserving parks and greenspace, changes to the pedestrian/bikepath trails, loss of shoreline access, negative effects on fish habitat, stormwater runoff problems, sediments deposited into the lake, and more.

### **Meanwhile, more groundwater data gathered**

In January, while plans were moving forward to build the center, Woodward-Clyde did some groundwater testing at Law Park from seven shallow wells (six wells that had been there before and one background well). [Significant levels of several PAHs](#) were found and again, benzo(a)pyrene exceeded standards. (PAH levels were lower than those found in 1993, but different methods were used). More tests were planned for later in the month.

On [April 8, 1994](#), an article titled “Monona Terrace Water Tests Clean” appeared in the Wisconsin State Journal. According to the article, city engineers Larry Nelson and Joe DeMorett submitted a report to city

planner George Austin summarizing these results--but this report wasn't found in any government files located during this project.

The WSJ article began with "City officials plan to begin construction of the Monona Terrace Convention Center this year," again confirming that the city and state planned to barrel ahead whether or not permits had been issued (or, more likely, that they knew they would be issued no matter what further testing found). City engineer Larry Nelson and hydrogeologist Joe DeMorett, the piece noted, said water tests done "earlier this year" indicated that "construction of the center would not affect an aquifer beneath Lake Monona or a city water well next to the site." It's unclear how this limited water contaminant data could support this claim.

Fleischli wrote a [letter to the editor on April 16](#) contesting how her comments were phrased. "The news story stated that I indicated "traces" of toxic contaminants had been found. What I said was (test results from) all seven monitoring wells had violated ground water quality standards on the 16 present toxic, polycyclic, aromatic, hydrocarbon contaminants for which there are now standards. The violations ranged from 1,067 times the enforcement level down to 20 times the enforcement level for benzo(a)pyrene, a particularly virulent carcinogen when ingested orally..."

She agreed with the story's framing of other problems, however. "You did report correctly that convention center opponents say contaminants from the landfill would leak into Lake Monona. That's because the city admits that and the best evidence they've submitted to date is that the 1,725 pilings that would penetrate the toxic mix would increase the flow of groundwater up through the landfill and into the lake... You've got the worst possible scenario and the public should be told about it. Public health matters should be reported accurately and fully."

### **Woodward-Clyde Aquifer study**

On May 23, 1994, Woodward-Clyde issued the "[Law Park-Monona Terrace Convention Center Aquifer Report](#)." The monitoring study, designed in cooperation with the city and DOA, was focused on information needed for the USACE permit—in particular, it was purportedly designed to address whether the pilings would increase the flow of contaminated groundwater from the landfill to Municipal Well #17.

The goals of the study were to: 1) provide information to determine if the zone of influence from well #17 reaches the proposed project area where pilings will be used; 2) provide information to help determine if pumping of well #17 causes a change in the vertical gradients in the proposed project area where pilings will be used; 3) help document the presence or absence of petroleum product (volatile organic compounds, and polynuclear aromatic hydrocarbons) in the deeper groundwater levels below Law Park; and 4) provide the information requested by DNR and the COE to proceed with their exemption and permit review processes.

Given that the study plan was created with center proponents (the city and DOA), it is hard not to suspect that it was designed to downplay any potential problems, especially since building the center was well on its way. (DNR and COE reviewed the plan, but at this point they had also placed their stamps of approval on the center).

The plan added just two more groundwater monitoring wells (one shallower and one deeper) about 1000 feet from Well 17 (this is far fewer than experts suggested during the EIS and USACE permit comment periods) and one shallow well about 300 feet from Well 17 near the lakeshore for a "pump test," to see if Well 17 pumping affected the groundwater levels in the area.

The groundwater wells and Well 17 were tested for sixteen polycyclic aromatic hydrocarbons (PAHs) and six volatile organic compounds (VOCs)—just a few of the myriad toxic compounds and metals that were likely leaching from the landfill at that point. Groundwater flow was also investigated.



This round of sampling again found PAHs in shallow groundwater, but at lower levels than those found in 1993. Consultants attributed this to different sampling techniques used in previous years, and concluded that “the 1994 results more accurately reflect the quality of the groundwater at the site.”

Regardless of these sampling differences, again benzo(a)pyrene was found in shallow groundwater at levels exceeding the NR140 Wisconsin Groundwater Standards, and naphthalene was found exceeding these standards in 2 of the 23 samples. Importantly, they didn’t list any standards for many of the PAHs tested standards other than these two.

“Very low levels of PAHs” were found in 2 of 3 samples taken from the 60-foot deep well and in 1 of 3 from the 135 foot deep well. “Low levels of VOCs were found in all six samples taken from these two wells.”

They didn’t find detectable levels of the PAHs or VOCs they measured in Well 17. However, chlorinated compounds PCE and TCE had been found in Well 17 in recent years, indicating that the well was drawing in contamination from the surface. But the aquifer report didn’t mention that.

### **Don’t worry! PAHs and VOCs won’t get into deep groundwater**

Using an age-old risk downplaying strategy when it comes to contaminant movement, consultants claimed that PAHs found in soils and fill—and the very high levels in sediments near Law Park—wouldn’t likely leach into groundwater. They explained that PAHs and VOCs “have a high affinity to attach to fine organic particles and a very low solubility potential in water” and “are less dense than water, thus these compounds tend to “float” on top of water (and not sink to lower levels). They cited one 1991 paper.

This may be true for some of the PAHs and VOCs very likely to be in the landfill leachates (some of which were found at the site), but it is not the case for others. For instance, benzene is very soluble in water, and chlorinated compounds such as PCE and TCE, which were found in Well 17 in previous years, are known as DNAPLs (dense non-aqueous phase liquids) because they are heavier than water and sink down deep into aquifers.

The consultants also cited a 1990 U.S. DHHS publication saying that “because of a high propensity to bind to organic matter, it is unlikely that B[a]P will occur to any appreciable extent in surface water or groundwater at hazardous waste sites of other areas.” This is a very odd statement to make in light of the fact that benzo(a)pyrene was found at levels exceeding standards in groundwater at beneath Law Park in recent testing there.

### **Groundwater flows into the lake and is also drawn downward into deep aquifer**

The findings on groundwater drawdown from Well 17 pumping and groundwater movement under the area—both vertical and horizontal—were particularly interesting and important.

The shallow and deep groundwater systems, consultants wrote, “are separated by one or more layers of clay and silt which vary in thickness and generally pinch out or become thinner to the west. *Groundwater in the shallow system moves laterally toward the lake ...* (italics added).

Relatedly, as described earlier, consultants hired by the city found that the shallow groundwater flows to the southeast beneath the Isthmus because Lake Mendota’s higher level creates a hydraulic gradient. This groundwater then pushes through the Law Park landfill area and into Lake Monona (drawing contaminants there with it).

### ***Well 17 likely pulls in lake water***

The pump test also showed that shallow groundwater wells were not drawn down much when Well 17 was pumping. The clay/silt layer under these shallow wells, the report said, acted as a “confining layer retarding

groundwater movement in portions of the project site” so it would take an estimated 342 years for the groundwater to move through this layer. (As discussed above, this confining layer directed the shallow groundwater laterally into the lake.)

At one shallow well (Well 7), however, results indicated that there was “a higher degree of hydraulic connection between the shallow and deep groundwater systems...A confining layer may not be present in this location or, if present, may be a leaking confining layer.”<sup>17,18</sup>

Moreover, pumping Well 17 did significantly influence groundwater in the deeper wells, drawing it downward. Consultants downplayed this and its implications for how the contamination at Law Park could influence Well 17 over time. “This does not necessarily mean that the deeper groundwater at the project site is “captured” by well #17,” they wrote. “[T]hat is, it does not mean that water at depths between 60’ – 135” at Law Park are drawn into well #17.” Instead, they explained, “*there is evidence that the water at the 135 foot level below Law Park, and at the well #17 site is derived from Lake Monona.*”<sup>19</sup>

This explanation was based on the analyses of Wisconsin Geological and Natural History Survey hydrogeologist Dr. Ken Bradbury, who advised Woodward-Clyde that “[b]ecause of the relatively recent age of the water found at the 135-foot depth below Law Park, and at Well 17 it is likely that this water is not from the local shallow groundwater. Rather, *it is possible that this water derived from Lake Monona through the lake’s bottom.* The old age of the water in the 60-foot depth (MW-8a) indicates the slow travel rate of water in this layer of soil. The water from MW-1 in law Park is also relatively recent, which is expected with water at a shallow depth. *It is likely that this shallow water is moving toward the Lake and downward. When this water encounters the denser soil layers below Law Park it likely moves in the horizontal plane toward Lake Monona.*”

Bradbury seemed to be saying that the contaminated shallow groundwater flows laterally into Lake Monona and then could be sucked down through the lake bottom and eventually into Well 17. He didn’t say this, but it seems logical that any contamination in this shallow groundwater would be greatly diluted in Lake Monona before being sucked through the lake bottom and into the well. In other words, this would lower the contaminant levels that actually end up in the well over the long term.<sup>20</sup>

This was hardly a radical theory; for some time, Bradbury and other scientists had been saying that, based on their research and modeling, lake water here was being drawn into drinking water wells.<sup>ii</sup>

### **State Journal coverage highlights the good news**

Not surprisingly, media coverage highlighted the finding that contaminant levels were lower in the recent aquifer study than in the previous year. Marv Balousek from the State Journal wrote about the aquifer study on May 27, under the headline, “[Convo site shows less pollution, but opponents cite finding as reason to scrap project.](#)”<sup>21</sup>

“City engineer Larry Nelson,” the article began, “said the test results and further information learned about below-ground characteristics indicate the proposed Monona Terrace Convention Center will not aggravate

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<sup>17</sup> Soil profiles used for were 1962 and 1968, which Shutvet had said were outdated and inadequate.

<sup>18</sup> Well 9 levels didn’t go down when Well 17 was pumping, but Well 7 levels did.

<sup>19</sup> Modeling suggested that “the estimated time it would take for groundwater to move downward in the sand layers from MW-8a to MW-8b would be approximately 43 years

<sup>20</sup> Discussions at Water Utility Technical Advisory meetings over the years suggest that Water Utility engineers know that wells near the lakes are protected by this dilution factor.

<sup>21</sup> One time measurements are pretty meaningless because contaminant levels fluctuate over time.

pollution problems.” Nelson explained that methods used in 1993 analyzed water “with a lot of soil in them” and this year the method avoided that problem and found lower levels of contaminants.

But Balousek did note that the levels of benzo(a)pyrene “still were higher in the latest tests than DNR standards” and also found “measurable levels” of other PAHs. “Previous studies have found municipal garbage, cinders, foundry sand and other waste as deep as 25 feet underground,” he added.

Interestingly, Nelson admitted to Balousek that contamination was found in the deepest wells, indicating that “it’s clear contaminants from the old landfill already are leaking into lower levels,” and pump tests demonstrated connections between the wells.” But he also pointed out to Balousek that “an area of stagnant water found near the place where the steel pilings will be driven indicates the contaminated soil isn’t moving into the sandstone bedrock.”

Regardless, he assured, “[w]e can’t really find where the construction that’s part of the convention center is going to influence the situation at Law Park,” he told Balousek.

Contradicting Nelson, Fleischli said driving the pilings would create a “percolator system” of toxins and “the city will be absolutely irresponsible to proceed any further with this project.” Even if the center wasn’t built the city would still have to clean up the old landfill. The contamination “has already reached the groundwater from which the Isthmus gets its water,” she said.

Balousek’s story didn’t mention one of the most critical claims in the recently released aquifer study--Bradbury’s theory, based on the study findings, that the most contaminated shallow groundwater would likely flow into Lake Monona, down through the bottom of the lake, and would eventually be drawn into Well 17.

Further, only two additional wells were tested for a limited number of contaminants; many of the contaminants likely to be leaching from the landfill into the lake and groundwater—heavy metals, a number of halogenated compounds, and more—were not measured at all.

### **Exemption request and water quality certification quickly approved**

On June 21 Woodward-Clyde wrote [a memo](#) to Knowles at USACE to address his “remaining concerns” about “the issue of whether the pilings used in the project would change the groundwater flow patterns such that the petroleum products found in the shallow groundwater at Law Park and the surrounding area would have an increased potential for entering Lake Monona.”

The consultants wrote that they “did not believe” groundwater flow patterns would change, because the landfill was built without any impermeable layer between the lake and the landfill. The fill is 25 feet deep, and “thus there is a significant contact face between the fill material and Lake Monona.”

Referring to the aquifer study results, they told Knowles that groundwater monitoring indicates that “there is a horizontal gradient in the shallow aquifer from the Isthmus to Lake Monona. This means that *the shallow aquifer has been flowing through the fill material and into Lake Monona unimpeded since the completion of the landfill.*” (italics added) Consequently, they concluded, driving 1,725 pilings through the landfill to support the center “will not change the current condition regarding shallow groundwater flow or contaminant contribution to Lake Monona” and would not result in any long-term changes. They provided no evidence for this conclusion.

A week later, on [June 28, 1994](#), DNR issued a “conditional” approval to the city and DOA to build on the landfill. “Although we discourage construction on top of abandoned landfills in general,” the letter said “If the conditions of this approval are complied with, construction of the convention center and associated structures will not interfere with the closed landfill and will not cause a significant threat to public health, safety or welfare, will not cause environmental pollution as defined in s. 144.01(3), States., and will not have a

significant adverse impact upon any waters of the state. This determination is based in part on the relatively low levels of contaminants found in the groundwater beneath the landfill, the vertical and horizontal distance the contaminants would have to migrate to impact Well #17 and the existing conditions of the landfill, considering the age of the fill and the fact it is located within the existing and former lakebed.”

The approval said the EIS met the requirements of DNR’s regulations and was “consistent with social, economic, and other essential considerations, and all practical means to avoid or minimize environmental harm have been adopted.” It required that the monitoring wells added in the aquifer study, and city Well 17, be tested during construction and for one year following its completion.

If these tests indicated that Well 17 was at risk from construction activities, the DNR could require that additional tests be done “to determine the degree and extent of the contamination, appropriate remedial measure e taken to protect Well 17 from contamination and/or that Well 17 be permanently taken out of service.

Finally, the approval specified that “no work which is subject to the permit requirements of s. 404 of the Clean Water Act may begin until such a permit is obtained from the U.S. Army Corps of Engineers.

[On July 1](#), the DNR issued the required “water quality certification.” According to this document:

“There are contaminants in the existing landfill that result in discharges to the surface waters of Lake Monona,” but regardless, “In consideration of the design of the project and the ultimate reduction of infiltration of precipitation, the Department has determined that the project will not cause or exacerbate the discharge of any contaminant into the Lake Monona.”

Further, it stated, “This project will not result in the lowering of the quality of Lake Monona and other surface waters by deposits on the bed, by floating materials or other materials which interfere with public rights or by increases in the discharge of toxic substances of substances which may be harmful to designated uses.” Moreover, “This project will not result in the degradation of the surface water quality of Lake Monona or the exceedance of any other surface water quality standard not specifically addressed within these findings.”

### **Did evidence support the claims that Monona Terrace wouldn’t degrade the lake and groundwater? Was DNR following its own laws?**

No. In a [petition in July 1994](#), after these permits were issued, Attorney Anne Fleischli laid out the many laws that were violated in issuing exemptions and permits.

Further, the claims that Monona Terrace wouldn’t degrade the lake or groundwater defied logic and common sense, especially to anyone who understood the findings of the aquifer study.

The study showed that—as officials had already admitted many times up to this point—highly contaminated shallow groundwater in the landfill under Law Park was leaching into the lake. The aquifer study also showed that deeper groundwater was being drawn down into the deep aquifer—and in fact some of these contaminants had already made it into the deep aquifer and Well 17.

In an affidavit filed with Fleischli’s July petition, hydrogeologist and engineer Ron Shutvet wrote:

*“Whether it takes 342 years or 43 years for contaminated water to move from point A to point B is not important. What is important is to note that there is a time lag between when pollution occurs and when it is discovered and/or starts to affect our human existence. Polluted groundwater moves in plumes that expand and become more polluted with passage of time—often so slowly we downplay their significance. Yet in time Madison’s historically pure deep aquifer drinking water will become undrinkable without costly filtration and treatment unless the citizenry and our public officials deal with this contamination of the deep aquifer now.”*

*“Specifically, the deep aquifer beneath the Law Park site is just now starting to become contaminated by near surface pollution that occurred over the past 60 plus years. Considering the subsurface characteristics of the site, putting a concrete cap over the site in the form of a convention center/parking ramp will do nothing to impede the flow of near surface groundwater downward to the deep water aquifer. The lateral groundwater movement across the isthmus would still be able to move through this landfill and subsequently leach into Lake Monona and be drawn downward by Well 17 with pilings additional conduits for groundwater flow. In fact, the placement of 1,725 piles for this cap can potentially accelerate this movement of contaminated water into our drinking water aquifer with or without Well 17.”*

Also, up to that point, as Shutvet pointed out in earlier comments, shockingly *nobody had measured what contaminants were leaching from the Law Park landfill into Lake Monona water. To this day, nobody has measured them—nor have they measured what is in fish there, which many shoreline anglers eat.*

### **What will happen over time?**

As Ken Bradbury pointed out, and Shutvet reiterated, lake water is being pulled through the bottom of the lake and over time into Well 17.

In 2006, Wisconsin State Journal reporter Ron Seely interviewed Bradbury. Seely wrote: “It used to be that the Madison lakes were replenished by groundwater. Now that cycle has been reversed with municipal wells near the lakes deriving significant quantities of water—**roughly 25 percent of the water they draw—from downward leakage from the lakes themselves.**”

“What we do now,” Bradbury said, “may come back to haunt us in years or in decades.”

“Fortunately” for the Water Utility and downtown Madison residents who get water from Well 17, the lake water greatly dilutes the contaminants, which are then filtered through the sand and rocks beneath the lake before they get to the well. The shallow groundwater rushing through the isthmus from the north (likely much less contaminated than what is under Law Park) also dilute the contamination.

(Thank you, Yahara Lakes, for diluting our toxic messes before we drink them?)

All of this begs an obvious question. As the lakes become more and more contaminated, will the contaminant levels at Well 17, drawing in lake water, eventually reach the point where they exceed drinking water standards?

Time will tell.

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<sup>i</sup> The FEIS was completed in August, 1993 (discussed in Part II). On [August 12, 1993](#), Huntoon finally wrote the “separate letter” on “potential remedial action” to Huntoon.

The groundwater data DOA had submitted to DNR (presumably the same data in the FEIS), Huntoon noted, showed “elevated concentrations” of PAHs beneath the site, with two of them (naphthalene and benzo(a)pyrene) above the enforcement standard in NR 140. “While we would typically require levels such as these to be actively addressed through some type of remedial effort, the fact that this site was once a landfill for the city alters that approach.” The rule, he went on, “essentially allows some degradation of groundwater quality beneath these types of facilities *as long as the contamination does not migrate beyond the design management zone, which is a point some given distance out from the waste boundary, nor impact other points of groundwater use.*” (emphasis added). The “design management zone,” he continued, “would extend approximately 250 feet beyond that point, or out into the lake itself.”

Huntoon continued: “Given that this is an old landfill site, with the fill actually extending out into Lake Monona, source control measures such as waste removal would not be practicable. Since the lake would also more than likely be the groundwater discharge point from this site, collection of groundwater data from a downgradient location would require a well through the lake bed at some distance from shore, which also does not seem practicable.

Since there are no downgradient groundwater users who might possibly be impacted by this contamination, we have decided that further downgradient data would not affect our decisions on a need for additional work. *Therefore, the Department has decided that no further action is necessary*, other than the installation and sampling of additional wells.”(emphasis added)

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He referred to discussions in May about installing additional upgradient groundwater monitoring wells next to the rail corridor “to get a better picture as to what background groundwater quality may be” and to determine if “the contamination identified originated from the old landfill or from some other off-site source.”

“The borings which were performed in the lake bed itself also detected some elevated concentrations of PAHs,” he added. “In discussing this data with staff from our Water Resource Management (WRM) program, we discovered that a study conducted in the summer of 1989 identified contamination in lake bed sediments throughout various parts of Lake Monona and Monona Bay. While this study focused on a different set of contaminant parameters, it does indicate a more extensive problem than just in the area of the convention center.”

As the consultants did in the FEIS, Huntoon was suggesting that the contamination near the center doesn't matter because sediments in the whole lake are contaminated. He indicated that DNR staff would do some follow up lake sediment sampling and sediment sampling along the shoreline, but it's not clear whether this was ever done.

<sup>ii</sup> From “Madison Fouled Its Own Nest, Part I. [In 1978](#), environmental journalist Daniel Allegritti with The Capital Times wrote “Madison area residents...can point to having some of the purest, cleanest drinking water in the nation,” mainly because it gets water from underground rather than from rivers or lakes “that may be polluted from sources upstream and beyond local control.”

But by that point, Madison's proud drinking water narrative was already crumbling a bit. Allegritti cited “recent studies that show Madison's water to be free of all the worst contaminants,” while admitting that “man's effect on the environment has begun to take its toll here.”

Officials already knew then that salt (chloride) from the streets was ending up in our drinking water wells. Allegritti reported that some of Madison's 27 wells already had chloride levels “close to the danger level set by the American Heart Association for persons on salt restricted diets.”

“What concerns water utility officials most about the chloride contamination is what it portends,” he wrote. “It means that in all likelihood, *surface water is beginning to be drawn down into the underground water table.*”

Though it had likely been happening for decades by then, Allegritti reported that this was happening more recently “because of the incredible amounts of water that have been pumped out of the ground in recent years. The Madison Water Utility alone pumps out some 12 billion gallons a year, roughly equivalent to the amount of water in Lake Waubesa. The more water that is pumped out, the more that is naturally drawn down from the surface to take its place.” Water from lakes and streams, he noted, “is not a suitable additive to the drinking water supply.”