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December 22, 2010

Utah Lake Site-Specific Plan Comments
Utah Division of Forestry, Fire & State Lands
1594 West North Temple, Suite 3520
Salt Lake City, Utah 84116-3154

Re: Comments on Proposed Utah Lake Crossing Site-Specific Planning

The Utah Valley Earth Forum, Utah Waterfowl Association, Bonneville School of Sailing and Seamanship, FRIENDS of Great Salt Lake, and Utah Chapter of the Sierra Club (Citizens for Utah Lake) provide the following comments regarding the site-specific planning process for the proposal by a private entity to construct an east-west toll connection (Utah Lake Crossing or Crossing) across the northern part of Utah Lake. The proposed crossing would extend 7.6 miles from Redwood Road on the west shore of the Lake to 800 North at Geneva Road on the east shore. The total amount of sovereign lands impacted by this proposal is 5.8 miles.

We take two primary perspectives in organizing these comments: 1) the information gaps cited by the Utah Lake Commission (Commission) that would need to be addressed before the Commission felt comfortable taking a position on the Crossing proposal; and 2) the regulatory requirements outlined in R652-90-400. First, in the Utah Lake Master Plan, the Commission stated that it could not adequately address the Crossing proposal "prior to the completion of appropriate and needed studies." Utah Lake Master Plan, App. E, at 1 (2009). Among the issues that the Commission identified were: whether U.S. Corps of Engineers approval is necessary; the costs involved in construction, operations and maintenance; funding requirements; the fact that there will be few initial users, especially with a toll bridge; potential visual impacts to Utah Lake; the geotechnical challenges to such a structure during seismic events; impacts to the June sucker, recreation and water circulation; limited access to Cedar Valley; and transportation plans and corridors that could reduce the need for such a proposal. Utah Lake Master Plan, App. E, at 1-2 (2009). At a minimum, any site-specific planning on the Crossing proposal must thoroughly address those information shortfalls identified by the Commission.

Second, Utah Administrative Code Rule 652-90-400 directs the Division of Forestry, Fire and State Lands (Division) to consider several factors of a proposal when conducting site-specific planning. The Division must consider: a comparative evaluation of the commercial gain of a proposal; the effect of the proposal on adjoining sovereign lands; the impact of the proposal on natural and cultural resources; the environmental analysis of the proposal conducted through the RDCC process; and any other evaluations required by rule.

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We have attached as exhibits comment letters on this proposal from the following individuals and entities:

a. Chuck Plunkett, *Road to Riches: Paved with Bad Projections*, DENVER POST, May 28, 2006 (Exh. A)
b. Memorandum from Smart Mobility, Inc. (Exh. B)
c. Letter from Reed Harris, JSRIP Director (Exh. C)
d. Letter from Todd Frye, Bonneville School of Sailing and Seamanship (Exh. D)
e. Letter from John D. Ray, Utah Waterfowl Association (Exh. E)
f. Letter from David Dinter (Exh. F)

We hereby reference and incorporate herein these comments and request that they be considered in the site-specific planning process.

I. The Utah Lake Crossing Proposal[1]

The Utah Lake Crossing is a proposed 7.6 mile bridge designed to provide an east-west connection across the northern part of Utah Lake. The crossing would connect Redwood Road north of Pelican Point on the west shore of the Lake to 800 North at Geneva Road on the east shore and will cross approximately 5.8 miles of Utah sovereign lands.[2]

The support structure of the bridge would consist of piers elevating the bridge at least thirty-five feet above the water of the Lake. In the center of the bridge, the piers would extend fifty feet above the water. The piers would be spaced 150 feet apart and would be supported on concrete footings resting on piles driven approximately 150 feet into the bed of the Lake. The crossing would be built to accommodate a 70 mph design speed, and would be constructed in two phases. The initial phase would consist of a single structure designed for two lanes of barrier-separated traffic and the future phase would add a second, adjacent structure that would allow three lanes of traffic in each direction.

II. Information Gaps Cited by the Utah Lake Commission

In Appendix E of the June 2009 Utah Lake Master Plan, entitled "Proposed Goals and Objectives Needing Further Review," the Utah Lake Commission specifically identified the Utah Lake Crossing as a proposed project that needed further review before being approved. *See* Utah Lake Master Plan, App. E. In referring to the Crossing, the Commission stated that it did not want to take a position on such a proposal "prior to completion of appropriate and needed studies." *Id*. at 1. The primary reason the Commission gave when it decided not to take a position on a cross-lake transportation corridor was the lack of "appropriate and needed studies."

[1] Specific details of the Crossing proposal (Crossing Proposal) are taken from the August 2009 RDCC posting. Exhibit G.

[2] The portion of Utah Lake that lies below the Lake's ordinary high water mark is considered sovereign land and, as such, is managed by the Division. *See* Utah Code Ann. § 65A-1-1(5); *see also* Utah Lake Master Plan, at 1.

Id. As noted by the Commission, the following represent several of the areas that must be addressed during the site-specific planning process prior to making any recommendation regarding the Crossing proposal:

- **U.S. Corps of Engineers Approval**

At this time, the Corps has indicated that permitting will not be required under the current design. Despite this initial assessment by the Corps, it is likely that a bridge properly designed to withstand the catastrophic effects of a seismic event will, in fact, involve fill material and will require the completion of a Section 404 permit under the Clean Water Act. However, if the Corps does not undertake any analysis of the bridge, the obligation to do so will fall even more squarely on the Division and other Utah agencies.

- **Project Costs**

Because of the nature of the proposed toll road, the site-specific planning must ensure that the estimated costs of construction of the Crossing are conservatively realistic and that the funding necessary to proceed with such a risky venture is solidly in place. In 2006, the Denver Post studied 23 of the Nation's new tolling facilities and concluded that, "[e]ven with adjustments for the break-in period in the opening years, 86 percent of new toll roads in eight states failed to meet expectations in their first full year. By year three, 75 percent – 15 of the 20 that have been open that long – remained poor performers." Chuck Plunkett, *Road to Riches: Paved with Bad Projections,* DENVER POST, May 28, 2006, Exhibit A, attached.

Smart Mobility, Inc. performed an independent analysis of the travel forecast modeling study conducted by the Mountainlands Association of Governments (MAG) on the proposed Utah Crossings' Bridge. Exhibit B, attached. This analysis showed that the proposed Utah Crossing toll bridge is not a financially viable project, using forecasts with the official MAG model out to the year 2030. If fact, the extreme low annual return would not even cover the interest on financing for the project.

The table on page 3 of Smart Mobility's memorandum summarizes the economic inviability of the toll bridge. *Id*. at 3. This analysis, based on MAG's travel forecast modeling, used both a $2.00 and a $3.00 toll, and factored in projected growth in the area serviced by the Crossing through the year 2030. *Id*. The model results showed a daily projected ridership of 6095 vehicle trips using either toll figure. *Id*. With a $2.00 toll, the Crossing would generate a miniscule 1.15% annual return and would require 87 years to pay off the Phase 1 construction cost of $300,000,000. *Id*. This assumes 0.0% investment interest. *Id*. At $3.00 per toll, the amount proposed by Utah Crossings, the annual return would be 1.73% at 0.0% investment interest, and it would take 58 years to pay back the Phase 1 construction costs. *Id*. This latter scenario assumes that there would be no rider drop-off by raising the toll by $1.00.

The bridge's lack of appeal is due to the fact that it will serve only a very limited area and there are several free, parallel routes that will provide uncongested and convenient alternatives. *Id*. The bridge is also separated from the communities of Eagle Mountain and Cedar Valley from the 7700' Lake Mountain, further isolating it from most travel destinations. *Id*. In addition,

the bridge will not result in any benefits to the region's roadway network or operations, as planned improvements will largely address the congestion that currently impacts the Lehi area. *Id*. at 4.

This poor modeling performance of the Utah Crossings' Bridge economic viability would put the state at great risk of an incomplete project or a facility in bankruptcy. A complete and independent tolling analysis of the proposed bridge should be conducted that considers the factors raised in Smart Mobility's memorandum. Given the questionable character of the Utah Lake Crossing, it is imperative that the site-specific planning ensure that the cost of this proposal be precisely ascertained, that the availability of funding for the project be absolutely certain, and that any necessary performance bonds be firmly in place prior to recommending approval. It would be irresponsible of the State to allow commencement of a project that would fail to serve a public interest and would either lead to an idle, unfinished structure spanning a portion of Utah Lake or that would require taxpayer funding to either complete a bridge the State neither needs nor wants, or pay to have the structure removed. This is particularly true given the resulting adverse impacts on sovereign land values.

- **Project Operations and Maintenance**

As with the projections for the cost of construction of the Crossing, the site-specific planning must ensure that the developer provides accurate information related to both the estimated costs for operations and maintenance of this project, and that the project income projections are accurate and sufficient to both operate and maintain this venture. Given the lack of development on the west side of the Lake, this proposal is likely to be nothing more than a "bridge to nowhere."

In the best of circumstances, and as noted by the Utah Lake Commission, the investors must be financially prepared for the very real probability that there will not be sufficient initial users of this road to cover the operating and maintenance costs. Additionally, because of the questionable history of toll roads throughout the west, the site-specific planning must ensure that sufficient funds for continuing operations and maintenance are held in escrow prior to allowing the project to go forward. Unless this funding is secured, the taxpayers could well be saddled with operating and maintaining a toll bridge the State neither needs nor wants. In order to avoid this, the site-specific planning must obtain a reliable, independent assessment of the feasibility of such a project and, to the degree that the risk of failure is present, require the investors to obtain a sufficient bond for this eventuality.

- **Aesthetic Impacts to Utah Lake**

The site-specific planning must take into account the aesthetic impact of this structure on Utah Lake. The statement in the Project Description that "[t]he proposed bridge would *contrast somewhat* with the current, structure-free setting of Utah Lake" is disingenuous. Crossing Proposal, at 14 (emphasis added). This structure will clearly have a significant visual impact on the Lake when viewed from any perspective. It will completely change the Lake's character and will destroy the current, pristine environment enjoyed by those citizens who live near, visit, or recreate on the Lake. The structure will also result in noise where none currently exists, and as

the Project Description admits, the traffic noise will carry over open water at a much higher decibel level than it would over land. *Id.* at 5.

- **Seismic Challenges**

As the Commission noted, there are substantial and challenging geological issues associated with any proposed bridge. The sediments underlying Utah Lake are highly vulnerable to earthquake-related hazards including strong shaking, surface rupture, liquefaction, lateral spreading, undermining by thermal springs, and seismically induced water waves, including seiches and lake tsunamis.

Numerous active normal (extensional) faults penetrate the Lake bottom. While the locations of these structures have not yet been completely mapped, it is unequivocally established that the Lake is underlain by at least 6 active normal faults. *See* Dinter Letter, Exh. F, attached. These faults are the very reason for the lake basin's existence, they trend roughly north-south, and cannot be avoided by the proposed east-west Crossing. *Id*.

An earthquake on these faults larger than about Magnitude 6.3 can cause surface ruptures of the lakebed. Such earthquakes are known to have occurred quite recently in Utah Lake, because some of the faults are associated with surficial scarps. If, as is highly probable, these lake faults prove to be mostly auxiliary structures related to the Wasatch fault (analogous to the Granger and Taylorsville faults in western Salt Lake Valley), they then may produce local ground accelerations as high as 1 g (acceleration due to gravity), and surface offsets as large as 1 to 2 meters during major earthquakes on the Provo segment of the Great Salt Lake fault. Such shaking and offsets would be transferred directly to any Utah Lake bridge, with the strong possibility they would cause catastrophic failure. *Id*.

Reconnaissance high-resolution reflection seismic profiles indicate that the basin of Utah Lake contains a number of liquefiable strata, some located below the 150 foot depth proposed for the driven piles. These strata can turn to quicksand during earthquakes as small as Magnitude 5, which occur along the Wasatch Front as often as every 10 years, and could cause tilting and foundering of bridge support structures. The thicknesses, depths, and distribution of liquefaction-prone strata are currently poorly understood, and must be determined and accounted for in engineering plans prior to any bridge project approval. There is evidence that large earthquakes have periodically liquefied the lakebed of Utah Lake to a depth of approximately 5 meters, resulting in fractures of at least 80% of the lakebed surface. *Id*.

A related problem is lateral spreading. In Great Salt Lake, the Union Pacific Lucin Cutoff causeway is continually sinking into the lakebed as a result of the subsidence and sideways-oozing escape of weak underlying Quaternary strata, including evaporites. Like Great Salt Lake, Utah Lake is a remnant of Lake Bonneville and contains strata which may be similarly susceptible to lateral spreading under the weight of a bridge or bridge-approach structures.

Large earthquakes could induce two types of potentially damaging water waves in Utah Lake: seiches (analogous to the sloshing back and forth of water in a shaken bathtub) and lacustrine tsunamis, which would be caused by any surface rupture of a fault underlying the

lake. (The Magnitude 6.4 sublacustrine Great Salt Lake earthquake of 1909 sent a 6-foot tsunami wave over the Union Pacific Promontory railroad trestle.) Such waves in Utah Lake could seriously jeopardize both the structural integrity of the proposed bridge and the lives of anyone unfortunate enough to be crossing it during an earthquake.

Finally, active faults within Utah Lake have created hot springs that have excavated caverns below the bed of the Lake. These springs excavate holes in the lakebed to depths as great as 65 feet, *id*., and could create trenches in the sediment that could compromise the structural integrity of the bridge support columns.

Considering the threats to public safety posed by the proposed Utah Lake bridge in these seismic disaster scenarios, the site-specific planning *must* ensure that the locations of Utah Lake faults are properly mapped, their earthquake recurrence intervals determined, and all related hazards realistically and professionally assessed *prior to any prospective project recommendation*. The site-specific planning is obligated to ensure that a bridge, if recommended, could withstand any possible seismic event. From a public safety perspective, it would be unconscionable to recommend such a structure until: 1) seismic data of the lakebed are fully analyzed and the implications of the data studied by independent structural engineers; 2) cores are obtained from the lakebed to determine the frequency of severe seismic deformations; and, 3) a comprehensive site-specific geotechnical analysis of any proposed structural locations is performed by independent geological engineers. *See id.*

In the likely event that changes to the design of bridge prove necessary in order to ensure sufficient structural support in the event of a seismic event, the resulting impacts of that design change to the other factors associated with this proposal must be considered. For instance, should any amount of fill be required to help provide support, not only would a 404 permit be required, but impacts on *inter alia* water quality, water circulation, recreation and wildlife would also have to be considered.

- **Impacts to June Sucker**

The site-specific planning must take into account that this proposal poses a direct challenge to the recovery of the June sucker. The June sucker, a federally listed endangered species under the Endangered Species Act, is currently being managed under the June Sucker Recovery Implementation Program (JSRIP). Because the bridge could negatively impact recovery efforts, the Director of JSRIP will submit comments during the site-specific planning process noting his particular concerns. Letter from Reed Harris, JSRIP Director, Exhibit C, attached.

First, the current levels of total phosphorous (TP) in Utah Lake exceed water quality standards for beneficial uses, and the increased levels of TP associated with this proposal are of particular concern. Efforts to reduce carp levels in the Lake are intended to create refuge habitat for young June suckers, but the current high levels of TP has led to algae domination of many parts of Utah Lake. Because this project will contribute to increased levels of TP in the Lake, the bridge will be detrimental to JSRIP's efforts in this area. *Id.*

Second, the existence of the type of hard, underwater structures proposed as bridge footings for the Utah Lake Crossing will create habitat preferred by predatory fish species. *Id*. The increases in the population of predatory fish could result in increased predatory pressure on the June sucker population, and thus hinder the efforts of JSRIP. *Id*. Third, the possible mortality of June suckers during the construction of the bridge could lead to violations of the Endangered Species Act. The possible displacement of June sucker populations during construction could interfere with or discourage June sucker spawning in tributaries such as American Fork River, Battle Creek, Spring Creek, and possibly the Provo River. *Id*. Finally, the Crossing's 270 pilings could have a deleterious impact on the water circulation of Utah Lake, with a corresponding impact on the June sucker. *Id*. Thus, the Division must fully take into account the possible impacts on the June sucker recovery efforts prior to granting approval of this project.

- **Impacts to Recreation**

The site-specific planning must take into account the impacts that this proposal will have to recreation on the Lake. First, the Utah Lake Crossing will be an impediment to navigation on the Lake. Letter from Todd Frye, Bonneville School of Sailing and Seamanship, Exhibit D, attached. As currently designed, the bridge will be an impediment to boats with tall masts across all be its 600' center span, and the 150 foot spacing of the piers will make it difficult for all wind-propelled craft to avoid the bridge supports during significant wind events. Because of its shallow nature, Utah Lake is well known for dangerous high wave actions caused by micro-bursts associated with thunderstorms.

Second, because Utah Lake is a popular location for water sports such as water skiing, the close spacing of the bridge supports will be detrimental to the recreational opportunities of these Lake users and could prove hazardous. With the footings consuming a full 17% of the cross section of the Lake and the support columns consuming an additional 9%, this proposal will greatly limit the areas accessible for use by these water sport enthusiasts.

Third, the noise created by the traffic on the bridge will significantly detract from the serene Lake conditions currently enjoyed by recreationists on the Lake. Use of the structure will result in noise where none currently exists, and as the Project Description admits, the traffic noise will carry over open water at a much higher decibel level than it would over land. Crossing Proposal, at 5. Thus, the impact of the noise created by this proposal will have a disproportionate impact on Lake users. Fourth, the bridge will be an impediment to both fishing and hunting on the Lake. Letter from John D. Ray, Utah Waterfowl Association, Exhibit D, attached. This proposal will impair the use of the Lake for sportsmen, will impede bird movements up and down the shoreline, and will restrict their use of the middle of the Lake. *Id*.

- **Impacts to Water Circulation**

The structural support of the Crossing will have a detrimental impact on water circulation. With 199 of the bridge's 201 columns in the Lake itself, and with these columns seated on concrete footings at water level, water circulation will be negatively affected. Crossing Proposal, at 9. In contrast to the statement in the Crossing Proposal that the bridge columns

would "occupy only a small percentage of the lake cross section," the footings alone will take up nearly a full fifth of area of the Lake in the vicinity of the bridge, and the support columns will take up an additional 10%. *Id*. As the Crossing Proposal admits, the bridge support structure will create localized eddies and disturbances in flow. *Id*.

- **Limited Access to Cedar Valley and Reduced Need due to Transportation Corridors Under Construction**

The west terminus of the proposed bridge is far south of any current population centers and is separated from Eagle Mountain by 7,700 foot Lake Mountain, thus providing limited access to Cedar Valley. In leaving the bridge, drivers will pass two new 4-lane express routes – Mountain View Corridor, the north-south transportation corridor and Pioneers Crossing, the east-west transportation corridor – that will be in place before construction of the bridge is complete. Both of these roads were designed to take pressure off of Main Street in Lehi and both will terminate at Frontrunner stations for increased transit use. These transportation corridors, taken together, will significantly reduce the need for this project.

III. Statutory Requirements Pursuant to R652-90-400

Utah Administrative Code Rule 652-90-400 directs the Division to consider several factors of a proposal when conducting site-specific planning, namely: a comparative evaluation of the commercial gain of a proposal; the effect of the proposal on adjoining sovereign lands; the impact of the proposal on natural and cultural resources; the environmental analysis of the proposal conducted through the RDCC process; and any other evaluations required by rule.

- **Comparative Evaluation of the Commercial Gain of the Crossing**

As a preliminary matter, evaluating the potential commercial gain of a proposal such as the Crossing presupposes that it will not result in a loss to the State, and that it will cost the taxpayers should this proposal go forward. For several reasons, this proposal has the potential to cost the taxpayers a great deal of money.

First, as outlined in detail above, an idle, unfinished structure spanning a portion of Utah Lake due to in inability on the part of the proponent to obtain the necessary funds to finish building the Crossing could well require taxpayer funding to either complete a bridge the State neither needs nor wants, or pay to have the structure removed.

Second, also as outlined in detail above, given the lack of development on the west side of the Lake, the very low projected ridership, and the real possibility that this project will be a financial failure, unless the State ensures that adequate long-term funding is in place to finance the operating and maintenance costs, the taxpayers could well be saddled with operating and maintaining a toll bridge the State neither needs nor wants.

Third, having been made aware of the seismic challenges present in the bed of Utah Lake, if the State does not require the proponent of the Crossing to adequately design and construct the bridge to account for the very real probability of a seismic event that threatens the

structural integrity of the Crossing, the State will be subject to potential legal claims against it for allowing the bridge to go forward. It could well be that no amount of redesign could sufficiently reinforce the bridge to withstand a major earthquake. In that case, knowing the geological challenges associated with the bed of Utah Lake, and still allowing the Crossing to go forward, would not only be irresponsible from a public safety standpoint, but would also open the State up to legal liability.

- **Effect of the Proposal on Adjoining Sovereign Lands**

1. Legal Background

The State of Utah and each of its executive agencies have unique obligations to protect sovereign lands, such as the bed of Utah Lake, and the Public Trust values they support. Under Article XX § 1 of the Utah Constitution, sovereign lands are held in public trust.[3] The Utah Supreme Court has interpreted the Public Trust Doctrine, which sets forth federal and state law with regard to sovereign lands, as follows:[4] "The essence of this doctrine is that navigable waters should not be given without restriction to private parties and should be preserved for the general public for uses such as commerce, navigation, and fishing." *Colman v. Utah State Land Board*, 795 P.2d 622, 635 (Utah 1990) (*citing Illinois Central R.R. Co. v. Illinois*, 146 U.S. 387, 13 S.Ct. 110 (1892) as "the controlling case" on Public Trust). The Utah Supreme Court later elaborated that "[t]he 'public trust' doctrine . . . protects the ecological integrity of public lands and their public recreational uses for the benefit of the public at large." *National Parks and Conservation Ass'n v. Board of State Lands*, 869 P.2d 909, 919 (Utah 1993) (citing *Colman*, 795 P.2d at 635-36).

Illinois Central characterized the Public Trust Doctrine as:

> a title held in trust for the people of the state, that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein, freed from the obstruction or interference of private parties. The interest of the people in the navigation of the waters and in commerce over them may be improved in many instances by the erection of wharves, docks, and piers therein, for which purpose the state may grant parcels of the submerged lands; and, so long as their disposition is made for such purpose, no valid objections can be made to the grants. It is grants of parcels of lands

[3] This constitutional provision states: "All lands of the State that have been, or may hereafter be granted to the State by Congress, and all lands acquired by gift, grant or devise, from any person or corporation, or that may otherwise be acquired, are hereby accepted, and, except as provided in Section 2 of this Article, are declared to be the public lands of the State; and shall be held in trust for the people, to be disposed of as may be provided by law, for the respective purposes for which they have been or may be granted, donated, devised or otherwise acquired."

[4] There is some debate as to whether the Public Trust Doctrine finds its origins in federal common law or federal constitutional law – particularly the "Equal Footing Doctrine." *See Illinois Central R.R. Co. v. Illinois*, 146 U.S. 387, 13 S.Ct. 110 (1892); *National Parks and Conservation Ass'n v. Board of State Lands*, 869 P.2d 909, 919-920 (Utah 1993). In any case, the Utah Supreme Court has found that this doctrine applies to Utah's sovereign lands.

> under navigable waters that may afford foundation for wharves, piers, docks, and other structures in aid of commerce, and grants of parcels which, being occupied, do not substantially impair the public interest in the lands and waters remaining, that are chiefly considered and sustained in the adjudged cases as a valid exercise of legislative power consistently with the trust to the public upon which such lands are held by the state.

Illinois Central, 146 U.S. at 452; 13 S.Ct. at 118.

Case law in the states has uniformly required that state-owned submerged lands be alienated or encumbered only for public purposes. *See Kootenai Envtl. Alliance, Inc. v. Panhandle Yacht Club, Inc.*, 105 Idaho 622, 671 P.2d 1085, 1089 (1983) (grant of public trust property must be made in "aid of navigation, commerce, or other trust purposes."); *Morse v. Oregon Division of State Lands*, 285 Or. 197, 590 P.2d 709 (1979) (fill may be for non-water-related purposes so long as public need for project outweighs interference with traditional trust purposes); *State v. Public Service Commission*, 275 Wis. 112, 81 N.W.2d 71, 73-74 (1957) ("In [upholding a grant of an interest in submerged lands], we attach importance to these facts: (1) Public bodies will control the use of the area. (2) The area will be devoted to public purposes and open to the public .... (4) No one of the public uses of the lake ... will be destroyed or greatly impaired. (5) The disappointment of those members of the public who may desire to boat, fish or swim in the area to be filled is negligible when compared with the greater convenience to be afforded those members of the public who use the city park."); *City of Berkeley v. Superior Court of Alameda County*, 26 Cal.3d 515, 162 Cal.Rptr. 327, 606 P.2d 362, 373 (1980) ("[The] principle we apply is that the interests of the public are paramount in property that is still physically adaptable for trust uses ...."); *see generally The Public Trust Doctrine in Natural Resources Law and Management: A Symposium*, 14 U.C.Davis L.Rev. 181 (1980).

Utah statutes, which must be interpreted as consistent with Utah case law, in turn provide that the Division "may exchange, sell, or lease sovereign lands **but only in the quantities and for the purposes as serve the public interest and do not interfere with the public trust**." Utah Code Ann. § 65A-10-1(1) (1994) (emphasis added). Utah regulations interpreting this provision state:

> The state of Utah recognizes and declares that the beds of navigable waters within the state are owned by the state and are among the basic resources of the state, and that there exists, and has existed since statehood, a public trust over and upon the beds of these waters. It is also recognized that the public health, interest, safety, and welfare require that all uses on, beneath or above the beds of navigable lakes and streams of the state be regulated, so that the protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality will be given due consideration and balanced against the navigational or economic necessity or justification for, or benefit to be derived from, any proposed use.

Utah Admin. Code r. 652-2-200 (2009).

These provisions, understood in the context of the mandates laid down by the Utah Supreme Court, require first and foremost that sovereign lands and the values they embody –

navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality – must be protected and cannot be interfered with. *E.g. NPCA v. Board of State Lands*, 869 P.2d at 919 ("The 'public trust' doctrine . . . protects the ecological integrity of public lands and their public recreational uses for the benefit of the public at large."); Utah Code Ann. § 65A-10-1(1) (sovereign lands may be leased "only in the quantities and for the purposes as serve the public interest and do not interfere with the public trust."). Alienation of or encumbrances on sovereign lands are only appropriate if they directly serve public purposes that enhance or aid public trust values – navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality. *Illinois Central*, 146 U.S. at 452; 13 S.Ct. at 118.

Moreover, any purported benefit to the trust resources must be direct and identifiable. This means that, to be considered as a benefit to the trust, any alleged economic gain must directly benefit navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality of the sovereign lands at issue. Economic gains to the state economy or to state coffers are not appropriately considered as a benefit to the trust.

Finally, purely private uses of the trust, resulting in the exclusion of public use and enjoyment of public trust values, are almost certainly prohibited under Utah law. This is true even where those uses benefit the Utah economy. Such private uses cannot be equated with public uses of sovereign lands, and must, almost always, be rejected as an improper burden on public trust resources.

2. The Utah Lake Crossing Will Interfere with Public Trust Resources.

The proposed Utah Lake Crossing will have many significant adverse impacts on public trust values. Specifically, the following is a list of issues relevant to the individual and cumulative impacts and impairments that will almost certainly result from the proposed crossing:

a. Impacts to **navigation, public access and public recreation**:

- The Utah Lake Crossing will significantly impact both recreational opportunities and recreational enjoyment of Utah Lake. First, the Utah Lake Crossing will be an impediment to navigation on the Lake and could pose a danger to wind-powered craft during high wind events. Second, the close spacing of the bridge supports will create a dangerous condition for water sports such as water skiing and will cut off access to portions of the Lake for these users. Third, the noise created by the traffic on the bridge will significantly detract from the serene Lake conditions currently enjoyed by recreationists on the Lake.

b. Impacts on **wildlife habitat**:

- As noted above, because of Utah Lake's unique position along flyways of the western hemisphere, and because of the impacts of climate change, the presence of the Lake as a fully functioning, pristine ecosystem is critically important as a hedge against climate change extinction. The presence of a bridge across the

Lake will present birds with a perching opportunity that does not currently exist and will thus result in high levels of vehicle mortality.

- This proposal poses several challenges for the June sucker, a listed endangered species under the Endangered Species Act. Recovery of this species is currently the focus of the June Sucker Recovery Implementation Program (JSRIP), and the Director of the JSRIP has raised a number of concerns that must be addressed prior to program approval. *See* Exhibit C. These concerns include impacts to the level of total phosphorus in Utah Lake, the creation of habitat for predatory fish species that may exert increased predatory pressure on the June sucker population, and the possible impacts to the fish during construction.
- Sediment suspension during construction would increase turbidity resulting in de-oxygenation of the water column, with a resulting negative impact on fish populations in the area of the construction. Additionally, the high intensity sounds associated with the pile-driving process have the potential to harm fish in the immediate area. This harm could range from displacement to physical damage to mortality. Finally, water quality impacts resulting from road use and maintenance could negatively impact the fish populations of the Lake.

c. Impacts to **aquatic beauty:**

- Contrary to the statement in the Crossing Proposal that "[t]he proposed bridge would *contrast somewhat* with the current, structure-free setting of Utah Lake," this structure will clearly have a significant visual impact on the Lake. Crossing Proposal, at 14 (emphasis added). The presence of this structure in the current pristine environment of the Lake will completely change the character of the Lake and will negatively impact the citizens who live near, visit or recreate on the Lake.

d. Impacts on **water quality and water movement:**

- Several issues related to water quality will be affected by this proposal.
  - First, Utah Lake's agricultural beneficial use is currently listed as being impaired due to high concentrations of total dissolved solids (TDS). Elevated TDS concentrations are a potential problem for irrigation and stock watering. The proposed bridge would increase the TDS load on the Lake by 213 and 665 kilograms of TDS per storm. *Id*. at 8. Annually, this will increase TDS levels by approximately 23,907 kilograms. *Id*.
  - Second, Utah Lake also violates State water quality standards for total phosphorous (TP). As noted above, increased levels of TP pose additional challenges for the recovery of the June sucker. Assuming that best management practices are enacted, the project would cumulatively add 19 kilograms per year of TP. *Id*. at 7. Additionally, because the bridge will facilitate increased development on the west side of the Lake, the impact of the

nutrient load associated with this development on the TP of Utah Lake must also be taken into account.

- Third, total suspended solids (TSS) deposited by bridge traffic will be a source for pollutants for the Lake, especially during rain and snow events. The estimated increase in TSS per stork is between 20 and 70 kilograms, resulting in an annual cumulative increase of approximately 4,800 kilograms of TSS annually to the Lake. *Id*. at 6.
- Fourth, the proposed bridge would create a new source of metals that would wash into the Lake during storm events. The Project Description is unclear on the amount of metal anticipated to be discharged into Utah Lake annually, simply noting that it "is unlikely to represent a measurable increase and would not constitute an impact." *Id*.

- The structural support of the Crossing will have a detrimental impact on water circulation. The initial bridge structure would have 201 total columns, with 199 of those columns in the Lake itself. Id. at 9. The future phases of the planned structure, with its adjacent parallel structure, would roughly double this impact on the Lake. Water circulation will be negatively affected because the concrete footings at water level, and the support columns resting on these footings, will create localized eddies and disturbances in flow around these entities. *Id*. In contrast to the statement in the Project Description that the bridge columns would "occupy only a small percentage of the lake cross section," the footings alone will take approximately 17% of the cross section of the Lake, while the support columns will take up an additional 9%. *Id*.

e. **Cumulative** impacts:

- Of particular concern are the cumulative impacts of the proposed expansion on all public trust values – navigation, wildlife habitat, aquatic beauty, public recreation and water quality. Factors such as increased storm water runoff, increased recreation, and increased near-lake development resulting from the proposed bridge will also have cumulative adverse impacts on public trust resources. It is not sufficient for the Division to examine the proposed crossing in isolation; the agency must also consider both the short and the long-term impacts caused by the bridge.

- **Impact of the Proposal on Natural and Cultural Resources**

Impacts on other factors must be more fully explored prior to granting project approval:

1. Air Quality

The Utah Lake Crossing has not been included in any past air conformity modeling conducted by Mountainland Association of Governments and is not on any required government

plan. Utah County is in non-attainment for $PM_{2.5}$ and this unplanned generator of massive automobile-dependant growth west of the Lake will create a pattern of development that will ensure long-term air quality problems.

2. Water Quality

Several issues related to water quality will be affected by this proposal. First, Utah Lake's agricultural beneficial use is currently listed as being impaired due to high concentrations of total dissolved solids (TDS). The proposed bridge would increase the TDS load on the Lake by a projected 23,907 kilograms annually. Second, Utah Lake currently violates State water quality standards for total phosphorous (TP). Assuming that best management practices are enacted, the project would cumulatively add 19 kilograms per year of TP. Third, total suspended solids (TSS) deposited by bridge traffic will be a source for pollutants for the Lake, especially during rain and snow events. The proposed bridge is projected to cumulatively add 4,800 kilograms of TSS annually to the Lake. Fourth, the proposed bridge would create a new source of metals to Utah Lake.

3. Migratory Bird Habitat

Because of the unique location of Utah Lake at an intersection of the central and pacific flyways of the western hemisphere, many avian migratory species depend on Utah Lake for food, shelter and nesting opportunities as they migrate through Utah. Because climate change models suggest that rising temperatures will dry out large sections of the prairie pothole region to our east and that a rise in sea levels will flood many tidal habitat systems to our west, Utah Lake will become an even more valuable habitat to hedge against the possibility of extinction resulting from climate change. Additionally, the existence of a bridge structure spanning the Lake would present perching opportunities for birds that do not currently exist. As a result, the appeal of the bridge to birds because of the ability to perch will provide an attractive nuisance that will result in higher than normal numbers of bird deaths from vehicles.

4. Cultural Resources

The site-specific planning process must account for possible impacts to any cultural resources existing in the area of the proposed Crossing. In order to determine if any historical properties will be affected, the process must first conduct a Class I[5] literature review of any field surveys that have been conducted in the area and, to the extent necessary, conduct any additional Class II or Class III field surveys.

[5] There are various levels of field surveys or inventories related to the identification of cultural resources on public land. A Class I inventory is a professional review of all reasonably available information about cultural resources within a given area. A Class II inventory is a statistically based field survey in which sample areas are surveyed with the intent to characterize the likely character and distribution of cultural resources in an area. A Class III inventory is an intensive field survey designed to determine the historic properties that exist in a given area.

- **Environmental Analysis Conducted Through RDCC Process**

The RDCC process "provides an environmental assessment for purposes of sovereign land management." Utah Admin. Code r. 652-90-1200 (2009). Importantly, "[t]he public may comment on proposed sovereign land uses through the RDCC and other public notification processes." *Id.* In addition, upon the completion of the site-specific planning process, the public "shall" be provided with the "Record of Decision or other document summarizing final division action and relevant facts document . . . ." Utah Admin. Code r. 652-90-600(3) (2009). During its initial evaluation of the Crossing proposal, the Division solicited comments through the RDCC process. Those comments must be considered as part of the site-specific planning process.

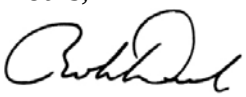
- **Other Evaluations Required by Rule**

Finally, R652-90-400(e) obligates the Division to undertake "evaluations as required by applicable rules." This means that, as part of its planning, the agency must complete the analysis required by Utah Admin. Code r. 652-2-200 ("all uses on, beneath, or above the beds of navigable lakes . . .[shall] be regulated, so that the protection of navigation, fish and wildlife habitat, aquatic beauty, public recreation, and water quality will be given due consideration and balanced against the navigational or economic necessity or justification for, or benefit to be derived from, any proposed use"). Thus, the Division must determine the supposed benefit of a proposed use, as well as the cost or impact to public trust resources that would result from that use. In other words, to determine if a use is appropriate, the harms and benefits must be balanced under the mandate of the Public Trust Doctrine – that the proposed use may **not** impair navigation, fish and wildlife habitat, aquatic beauty, public recreation, or water quality in the lake. Utah Code Ann. § 65A-10-1(1) (1994).

IV. Conclusion

Based on the above, we reiterate the need for a concerted effort to both acquire required information on the Crossing proposal and analyze the information to ensure that the Utah Lake Crossing proposal makes sense economically, does not harm the environment, is not a public safety hazard, does not negatively impact recreational use of the Lake and will not interfere with the Lake's public trust resources. We have set forth in detail a number of these concerns, including those identified by the Utah Lake Commission, which must be addressed during the site-specific planning process.

Yours,



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