



Minnesota State Zoological Board.  
Zoo-Related Organizations Files.

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February 8, 1974

Dr. Alvin F. Weber  
2417 Chilcombe Ave  
St. Paul, Minn. 55108

Dear Al:

This is a brief response to your letter of January 18, detailing recommendations and comments with reference to the Minnesota Zoological Garden plan.

Most of these comments are more appropriately applied to the design development stages of our zoo plan, which development will occur over the next three months; however, we did specifically take into consideration the change of location for the animal holding facilities and these were incorporated in the schematic design presentation on February 1, 2 and 3.

We have collected as a result of those meetings a very large packet of questions, suggestions and recommendations relative to schematic design and during the next two weeks these will be compiled and presented as a complete document for distribution to interested parties. In addition, we shall arrange multiple special presentations to special committee groups to further illustrate planning.

I was most delighted that Gary Kuehn was able to attend the conference. His comments and recommendations were very appopos and will be incorporated into the material mentioned earlier.

I am also very sorry that the bug hit you as I believe you would have had a great deal of fun during the program presentations.

Best regards, and I will be talking with you further when I return from a short trip next week.

Sincerely,

DDB vc

Donald D. Bridgwater, Director

cc: Dr. Elmer Birney



UNIVERSITY OF MINNESOTA  
TWIN CITIES

James Ford Bell Museum of Natural History  
Minneapolis, Minnesota 55455

*Zoo Review Comm*

December 21, 1973

Dr. Ulysses S. Seal, Chairman  
O. and P. Committee  
State Zoo Board

Dear Ulie:

At a meeting of the Zoo Plan Review Committee on 3 October, Linda Murtfeldt suggested that certain non-conventional but aesthetically appealing modes of touring the Zoological Garden might be worthwhile. Several were discussed, including such things as a rental one-horse open sleigh, but two seemed to offer real possibilities. There were facilities for snow-shoeing and for cross-country skiing. Carefully planned, scenic trails that lead past a maximum of exhibits probably could be laid out with a minimum of expense. Rental equipment might be made available also.

The committee took this idea to the Society Board of Trustees, who voted that we recommend it to the Zoo Board for consideration. I can imagine a few problems with this plan but over-all feel it has merit and ask that you give it serious consideration.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Elmer'.

Elmer C. Birney, Chairman  
Zoo Plan Review Committee

cc: Mrs. Mary McGee

August 10, 1973

Dr. Elmer C. Birney, Chairman  
Zoo Plan Review Committee,  
Minnesota Zoological Society  
382 Museum of Natural History  
University of Minnesota  
Minneapolis, Minn. 55455

Dear Elmer:

I would like to request your assistance as Chairman of the Zoo Plan Committee in assembling a small committee of suitably experienced people from the School of Veterinary Medicine to put together a set of objectives and guidelines and detailed suggestions for the animal care and welfare facilities for the Minnesota Zoological Garden. As you know, one of the objectives of the Board is that adequate provisions be made for animal health and welfare at the new zoo. I feel it is important that we get as rapidly as possible the full benefit of the experience and knowledge available to us at the University for this undertaking. With this thought in mind, I would hope that we might arrange a meeting during the first several weeks of September at a place of your choosing. The people involved should be prepared to discuss these matters in as detailed a manner as possible. This information would then be taken to the design team for their response. I would anticipate a second meeting to further work out details, mechanics, etc.

I would suggest that Drs. Alvin Weber and W. C. Cullen be contacted as members of the Society, and certainly as people who should be on this committee. However, I wish to handle these meetings through you in your capacity with the Society.

Thank you very much for your assistance.

Sincerely yours,

U. S. SEAL, Chairman  
Operations & Personnel Committee

cc: D. Bridgwater ✓

Don

August 9, 1973

Dr. Elmer C. Birney, Chairman  
Zoo Plan Review Committee,  
Minnesota Zoological Society  
382 Museum of Natural History  
University of Minnesota  
Minneapolis, Minn. 55455

Dear Elmer:

I am writing to you in your official capacity in the Society. The Operations and Personnel Committee of the Minnesota Zoological Board would like your assistance in assembling a group of professionally qualified people from the University to assist us in formulating objectives, guidelines, and a more detailed means of implementation for providing maximum research potential at the Minnesota State Zoological Garden.

Specifically, I would like to discuss the potential uses and applications of telemetry, suitable observation stations, closed circuit T.V., and computer assistance. Our current concepts which I have discussed with you include the possibility of designing in the necessary wiring and terminals for these capabilities. In addition to these areas it would be appropriate for the group you assemble to formulate any additional suggestions they might have which would be of pertinence in these early stages of design. As you know, it is particularly important that we design in capabilities at this early stage since it can be done economically. Addition of hardware can always be made in stages. Thus, I would appreciate both the detailed concepts in the above areas and a broader perspective and competence.

If possible, I would appreciate arranging a morning meeting the first week in September. You might consider allowing up to three hours for this meeting in order that we might formulate and write out the material as completely as possible at this time. I would intend to take this information to the staff and design team for their response and comments, and then bring this material back

Dr. Elmer C. Birney  
University of Minnesota  
Minneapolis, Minn. 55455

August 9, 1973

to your group at a later date in September. It is particularly important that this concept stage be developed during the month of September so the design team can include the feasible possibilities in the earliest stages of their design development.

Thank you very much for your assistance in this. It will be greatly appreciated by all of us.

Best regards.

Sincerely,

U. S. SEAL  
Chairman; Operations & Personnel Comm.

cc: D. Bridgwater ✓

R E P O R T  
to  
MINNESOTA ZOOLOGICAL SOCIETY BOARD

ZOO REVIEW COMMITTEE

June 20, 1972

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The Zoo Review Committee of the Minnesota Zoological Society recommends the following policies regarding financing of the state zoo be adopted:

1. Attendance figures for the 1977-78 period (the first full year of operation) will be based on Metro Council population estimates for the seven county area. There is a common factor used by many zoos to estimate attendance which says that a one-to-one ratio (one visit per resident of the metro area) is a fairly precise figure. In our case, this would be 2,123,292 in 1977-78. To be conservative and to provide for a 4 per cent free admissions policy, we reduced that figure by 18 per cent. Basic attendance would be 1,741,000. That figure compares with Milwaukee's zoo attendance of 1.7 million in 1971 on a population of 1.4 million -- slightly smaller than the Metropolitan Area here. The attendance estimates would increase 1.9 per cent annually through the year 2,000.
2. An adult would be anyone over 12 years old. The ratio of adults to children would be 65-35 per cent.
3. Fees: \$1.50 per adult and 50 cents per child. Children who visit the zoo as part of a school organized tour would be charged 25 cents.
4. Parking would be \$1.00 per vehicle including school buses.
5. Four per cent free admissions would take care of the poor as well as provide some free time for all who want to use it. People should have as broad a range of time to visit as possible.
6. Parking revenue is based on a 25¢ per capita attendance. This is slightly lower than the 1971 Stanford Research projection.
7. Concession revenue is based on a 22 cent per capita figure. This is the Stanford Research figure used in 1971. It appears conservative and does not include any potential revenue from a zoo "train" or other people mover.
8. Operations and maintenance budget for the first full year of operation would be \$1,826,296. Exhibit 1 shows that O and M budget goes to \$2,304,663 by 1996-97 (under the one stage construction - bonding program) and to \$2,189,244 by 1997-98 (under the three stage construction-bonding program) in Exhibit 3.

The committee, in cooperation with the zoo director, requested Ehlers and Associates, Inc. develop financing "exhibits" for consideration. The major assumption was that the total costs for construction of the zoo (including contingency fees and inflation projections) would be \$23,690,000.

The exhibits are:

1. Exhibit 1 showing total principal and interest on a one-stage bond program (1972-75) with the first full year of operation of the completed zoo in 1977.

Exhibit 1 assumes that 100 per cent of the debt service (\$40,825,250) will be repaid by revenues from the zoo plus payment of operating and maintenance funds. There are two other alternates under Exhibit 1 -- 1.5 which shows the funds necessary to repay "O" and "M" plus 50 per cent of the debt service -- \$20,412,625 and Exhibit 1.7 which shows the funds required to repay "O" and "M" and 70 per cent of the debt service. Exhibits 1.5 and 1.7 assume that the state would subsidize 50 per cent and 30 per cent of the debt service respectively.

2. Exhibit 2 showing total principal and interest on a two-stage bonding program which would involve a total principal and interest of \$45,543,250 if the facility repaid 100 per cent of the debt service. Alternates Exhibit 2.5 and 2.7 show the figures for 50 per cent and 70 per cent debt service repayment. The 50 per cent figure would be \$22,771,625.

3. Exhibit 3 showing total principal and interest on a three-stage bonding program which would involve a total principal and interest of \$53,548,000. Alternate Exhibits 3.5 and 3.7 show the debt service on 50 per cent and 70 percent repayment. The 3.5 figure is \$26,774,000.

4. Supplementary exhibit showing the total cost of the facility if the state financed the entire project out of general revenue funds and did not use bonds. This would mean total state subsidy. Under this approach the state would provide \$23,690,000 plus \$2.9 million in operation and maintenance funds for the first five years prior to operation of the zoo. This totals \$26,590,000 (not including reinvestment revenues). After 1977, the projections show that the zoo would be self-supporting and would have sufficient funds under the revenue projections to finance future capital expansion.

The first full year of operation, for example, would produce a surplus of \$828,000 which, by 1996-97, would be \$1,487,639. It seems clear that, ultimately, funds could be returned to the state general revenue fund. This approach would be

possible if the following assumptions are made:

- a. All money came from general revenues.
- b. The zoo board was given permission to reinvest the funds and keep the interest.
- c. The zoo board would be permitted to retain and invest the surplus over operations and maintenance annually for future capital investment.

It should be recognized that the state has not had such a policy in the past. The adoption of such a policy in this instance has substantial merit, in our judgment.

Only in the case of the non-bonding proposal are suggested admission fees and other revenues capable of financing the zoo project as proposed. None of the Exhibits 1 through 3.7 indicate a self-supporting operation for 100 per cent of the debt service with the fees proposed.

If the zoo is to be self-supporting under the various bonding proposals, the admission fees would have to be adjusted.

Example: under Exhibit 1, to be self supporting, the charge would have to be \$2.25 for adults and .60 for children in the early years. Under Exhibit 1.5 the charges would have to be \$1.60 adults and .50 child in the early years and \$2.50 for adults and .75 per child in 1995-96. Under Exhibit 3.5, the adult charge would be \$1.75, child .50 in the early stages and \$1.75 adult and .55 in 1996-97.

One alternative which may be considered is to eliminate the child admission fee.

The revenue would have to be picked up somewhere, however, probably from adult fee increases. The following would take care of the children fee and eliminate the deficits.

Example: Exhibit 1 - \$2.80 adult for 100 per cent debt service and child free.

Exhibit 1.5 - \$2.00 adult.

Exhibit 2.5 = \$2.00 adult

Exhibit 3 - \$3.20 adult

Exhibit 3.5 - \$2.15 adult

It should be noted that in all the exhibits, the same figures apply in "A" through "H" up through 1996-97. "I" (operation and

maintenance figures) go down in Exhibits 2 and 3 because construction is staged over a longer period and facilities are not operational as soon. For example under Exhibit 3 the "O" and "M" is \$2,167,568 by 1996-97 compared with \$2,281,822 in Exhibit 2 and \$2,304,663 in Exhibit 1.

Funds will be needed from some source to pay interest on bonds and "O" and "M" under all Exhibits until the zoo begins full operation.

Example: Exhibit 1 --- 100 per cent bonding - the need is for \$7 million from other sources for the first five years.

Exhibit 1.5 - \$4 million.

Exhibit 2.5 - \$3.8 million

Exhibit 3.5 - \$5.3 million (Here the need is for seven years before full operation is achieved.)

Compare these costs with the \$2.9 million needed for "O" and "M" if no bonds are used.

The committee recommends that all of the Exhibits submitted by Ehlers be considered by the zoo board and referred to the 1973 Legislature. The committee feels that all alternatives should be studied. It seems apparent that the three-stage financing approach is too costly, however. The least expensive proposals are those involving the 50 per cent bonding - 50 per cent state subsidy of the zoo costs or the proposal under which the state would fund the entire project out of general revenues.

The committee did not endorse one single financing plan. The members felt that such a task was the responsibility of the Legislature and that it should have the broadest range of proposals available to it for final selection.

Respectfully submitted,

June 15, 1972

JOHN R. FINNEGAN, Chairman

MINNESOTA ZOOLOGICAL GARDEN



June 19, 1972

MEMO TO: MINNESOTA ZOOLOGICAL BOARD MEMBERS  
FROM: John E. Tilton, Chairman *JET*

There is attached a copy of the computer run prepared by Ehlers and Associates on the several financial plans which we have discussed for the proposed zoo presentation to the upcoming session of the state legislature. It is forwarded to you to give you time to study these data prior to the meeting.

You will note that the study takes data from Scheme A-B prepared by Peterson, Clark and Associates, by the Board, and by our staff from the revised Masterplan prepared by InterDesign Inc.

Three debt schedules are studied:

- a. A bond issue of \$23,690,000, covering one lump sum financing;
- b. A bond issue of \$25,765,000 covering a two stage financing program over two bienniums;
- c. A bond issue of \$31,650,000 covering financing over three bienniums.

My preliminary judgment is that these computer runs indicate that only single stage financing makes any economic or political sense.

These studies assume an adult admission charge of \$1.50 (50 cents lower than our figures two years ago) but it also includes a charge of 50 cents for children and 25 cents for all school children.

Four basic studies are involved. The first contemplates that revenues will pay 100 percent of the debt service. The second that revenues will pay 50 percent of the debt service. The third that revenues will pay 70 percent of the debt service, while the fourth indicates full cash financing by the state with excess revenues committed to capital improvement and without interest reserves.

Accordingly, I invite your particular attention to Exhibits 1, 1.5, and 1.7, 1.90 and 1.91, with especial attention to columns L, M, O, Q and R in the 1977-78 years. It seems to me this gives at least three practical alternatives to present to the legislature. Each may be varied by changes to the contemplated admissions fee.

Aside from a discussion of these computer runs, our principal concern at the June 23rd meeting will be the preparation of plans for a state departments subcommittee hearing Thursday, June 29, and for a series of informational breakfasts with key legislators prior to that date.

Column I represents annual operating budgets and have been accurately worked out through the first full year of operation in all cases, with estimated budgets from that point on.

To members of the Zoo Review committee, Minnesota Zoological Society

May 23, 1972

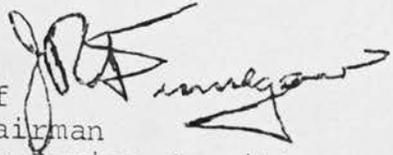
The zoo review committee made some major policy decisions affecting the financing of the state zoo at its Monday, May 22 meeting.

The decisions:

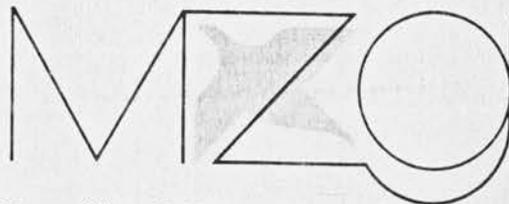
1. Attendance for the 1977-78 (first full year) of zoo operation will be based on Metro Council population estimates for the seven-county area. There is a common factor used by many zoos to estimate attendance which says that a one-to-one ratio (one visit for each resident of the metro area) is a fairly precise annual attendance figure. In our case, this figure would be 2,123,292 in 1977-78. We further assumed an 18% reduction due to the newness of the facility and to represent a margin of safety. Thus, the basic attendance would be 1,741,000. The 1.7 million estimate therefore is a conservative one. Milwaukee's attendance in 1971 was 1.7 million for a metropolitan area of 1,450,000, which is slightly smaller than the Twin Cities metro area.
2. We decided that an adult should be anyone 12 or over. That gives us a 65-35 ratio of adults to children.
3. Fees: \$1.50 for adults and 50 cents for children. Children who visit the zoo as part of a school organized tour would be charged 25 cents.
4. Parking would be \$1.00 per vehicle.
5. Four per cent of admissions annually would be free. No decision was made as to whether there would be one free day, several free hours over a number of selected days or special tickets given for welfare individuals. The decision was that there be some free admissions and that people should have as broad a range of choice of visits as possible.
6. Parking revenue would be .25 cents per capita attendance. This is slightly lower than the Stanford Research projection.
7. Concession revenue would be .22 cents per capita---the same as Stanford Research recommended in 1970.
8. Operations and maintenance budget for the first full year of operation would be \$1,826,296.
9. Total revenue generated on above policy decisions would be \$2,629,880 including \$3,000 generated by charging \$1 per school bus.
10. The surplus revenue could be used to help finance future capital expenditures.
11. The state would finance all capital expenditures for the proposed zoo (the \$23.6 million) plus operations and maintenance from 1973 through 1977 when zoo opens.
12. Ehlers and Associates, Inc. will develop nine alternative financing proposals using the above policy assumptions. The alternatives will involve one, two and three stage financing and 100 per cent; 70 per cent and 50 per cent state bonding.

13. Attendance projections will be based on Metro Council projections of population athrough 2,000. The growth rate is 1.9 per cent annually. Children admission fees will remain at 50 and 25 cents. Only the adult admission fee will change. Operation and maintenance budgets will be increased 5 per cent annually for 10 years.

The next meeting of the zoo review committee has been scheduled for June 12 at 7:30 p.m. in the Zoo Board offices. Phil Chenowith of Ehlers will have the alternative proposals ready for explanation and review. The committee should be ready to discuss the various plans and to make a recommendation to the executive board of the society.

  
jrf  
Chairman  
Zoo Review Committee

MINNESOTA ZOOLOGICAL GARDEN



May 31, 1972

MEMO TO: Members of the Zoo Review Committee  
Minnesota Zoological Society

FROM: DON BRIDGWATER, DIRECTOR

In addition to the basic case outlined by Mr. Finnegan, the following explanation of staffing and operation budgets is submitted for your review. The following items are in the packet:

1. Staffing programs for a one, two and three lump phasing.
2. Total operating budget sheets for one, two and three lump phasing.
3. A summary budget sheet comparing all three programs.

At a later date you will be mailed a print-out covering the one, two and three lump staging which shows financial data for total bonding, 70 percent bonding, and 50 percent bonding costs over a 20 year period.

All salaries were budgeted at mid-range. This probably represents a higher payroll than will actually be the case, but we preferred to estimate conservatively here. Salaries are shown at the same level through six years, but in the summary sheets, the total annual salary figure is escalated at 5 percent per year, which is our best guess. Operational monies over and above salaries are also escalated at that rate.

In addition, money for equipment and animal purchase is shown and is escalated in accordance with projections submitted by the planners. This money represents part of the total project costs submitted to you earlier and is not part of the operating budget.

## REPORT OF ZOO PLAN REVIEW COMMITTEE

March 13, 1972

Minnesota Zoological Society

The zoo plan review committee met three times since January 1, 1972. We examined the plan adopted by the Minnesota Zoological Board and presented it to the 1971 Minnesota Legislature. Our charge by the board of the society was to come in with recommendations on a plan to present to the Minnesota Zoological Board.

The concensus of the committee at its first meeting was that the general concept of the zoo plan was good and should be retained. This Meant that the plan as presented in 1971 should be the long range goal. The committee then addressed itself to five questions:

1. How could the original plan be phased so that a "reasonable" package could be presented to the 1973 legislature? By reasonable was meant: a viable zoo installation which, if there was no further financing available, could stand by itself as a good zoological garden--- with adequate educational, recreational and research facilities. Although no dollar limit was fixed, there was general agreement that the committee was talking about a facility costing "in the general vicinity" of \$20 million.
2. Could the original plan be logically split into modules that could meet the above tests? Yes, the committee felt.
3. Should we consider only construction costs or total project costs? Project costs were believe<sup>d</sup> more realistic.
4. What would such costs be in terms of long range projections? (See attached sheets)
5. Should the committee make a recommendation on financing its recommended plan? No, except there was a feeling that the legislature should be asked for the entire amount necessary.

The committee requested that Don Bridgewater, zoo director, request Inter Design, Inc. to attend a meeting and bring in a number of plan alternatives for consideration.

On February 23, the committee met with Al France and Bud Peterson of Inter Design and discussed six major alternative proposals.

Two of the proposals were dropped immediately. One was the original plan as presented in 1971 with a 10 to 20 per cent reduction in size. The committee felt that this was too close to the original plan and that it would not be practical to resubmit it.

The second plan would develop facilities on the east side of the zoo area but without the all-weather features included in the original plan. The northern trek would be dropped. There would have been temporary education and administrative facilities located in the NE corner of the zoo. The committee felt that this approach would not be practical or desirable as an attraction. It would reduce the attractiveness as a year-round facility.

There was detailed discussion of the other four plans which could be considered as two separate concepts.

Alternatives A and B. concentrated on developing the eastern portion of the zoo plan (Oriental exhibit, whale, Minnesota, etc.) with variations. The trek would not be built yet.

Alternatives D and E concentrated on developing the Northern Trek with less emphasis on the eastern sections and the entry complex.

The committee requested that Inter Design further examine the four alternatives and provide the committee with more detailed information on overall costs, specifically costs as well as construction costs.

On March 8, the firm presented the committee with nine detailed alternative plans, four based on a combination of Alternatives A and B and five based on a combination of D and E. (See attached sheets)

The total costs of alternatives ranged from \$19.8 million to \$32.2 million including inflation costs through 1974.

After a thorough discussion, the committee voted, on motion by U.S. Seal, seconded by Dr. Valentine O'Malley that Plan A B, the "desired combination" be indorsed and recommended to the Minnesota Zoological Society. The committee felt that the proposal comes closest to meeting all vital criteria---all-weather, adequate educational facilities, a viable unit which could be expanded as additional funds became available; the easiest and least expensive to operate and maintain.

Essentially the plan would have:

- Oriental exhibit
- Minnesota Exhibit
- Japanese Macaques
- Whale exhibit
- Interpretative exhibit
- Holarctic exhibits (west half of site). These could be blended into the Northern trek as money became available.

Public-Education:

- Complete education and administration facility
- Interpretative/Education facilities
- Enclosed entry complex with orientation area, restaurant, public facilities.

Support Facilities:

- Internal services and support facilities
- Parking for 4,000 cars
- Nature trails

This would provide the best blend of the enclosed zoo exhibits and the Northern Trek. (The Holarctic exhibits would include some old world and new world large northern animals.)

Total funds required, including inflation factors and project costs (contingency, equipment, fees) would be:

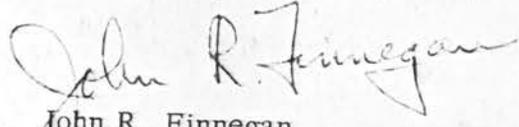
\$23,200,000

This cost does not include the cost of the land but does include roads, fencing, sewer, etc.

There was discussion about whether the legislature should be asked for the entire \$23.2 million in 1973 or whether the request should be phased. Sentiment seemed to favor seeking the total amount but the committee decided not to make a final recommendation on financing.

The nine alternatives considered by the committee are attached to this report.

Respectfully submitted,

  
John R. Finnegan

PROJECTED PHASE I COSTS  
MINNESOTA ZOOLOGICAL GARDEN

Item	Desired Combination	Alternative 1 Deduct Holartic, Macaques	Alternative 2 Deduct entry enclosure	Alternative 3 Deduct Holartic, Macaques, entry enclosure
COMBINATION A - B				
Exhibits	\$ 4,600,000	\$ - 700,000		\$ - 700,000
Public / Education	4,710,000		\$-1,200,000	-1,200,000
Support Facilities	5,010,000			
Base Estimate (1970)	\$14,300,000	\$13,600,000	\$13,100,000	\$12,200,000
Revised Estimate (1972)	\$16,300,000	\$15,500,000	\$14,920,000	\$13,900,000
Inflation Costs by 1974 (one appropriation)	3,030,000	2,900,000	2,780,000	2,600,000
Project Costs (contingency, equipment, fees)	3,870,000	3,600,000	3,550,000	3,300,000
<b>TOTAL FUNDS REQUIRED</b>	<b>\$23,200,000</b>	<b>\$22,000,000</b>	<b>\$21,250,000</b>	<b>\$19,800,000</b>

InterDesign Inc.  
March 8, 1972

PROJECTED PHASE I COSTS  
MINNESOTA ZOOLOGICAL GARDEN

Item	Desired Combination	Alternative 1 Deduct Minn., interpre., mid- stop, defer transportation	Alternative 2 Deduct entry encl., interpre., reduce size of exhibits	Alternative 3 Deduct entry encl., interpre., mid-stop	Alternative 4 Deduct entry encl., interpre., reduce exhibits, defer transport.
COMBINATION D - E					
Exhibits	\$10,400,000	\$-4,400,000	\$-1,000,000	\$-1,500,000	\$-3,000,000
Public/Education	4,500,000	- 500,000	-1,700,000	-1,700,000	-1,700,000
Support Facilities	5,000,000	- 100,000	- 300,000	- 100,000	- 200,000
Base Estimate (1970)	\$19,900,000	\$14,900,000	\$16,900,000	\$16,600,000	\$15,000,000
Revised Estimate (1972)	\$22,670,000	\$17,000,000	\$19,230,000	\$18,950,000	\$17,100,000
Inflation Costs by 1974 (one appropriation)	4,240,000	3,230,000	3,540,000	3,450,000	3,240,000
Project Costs (contingency, equipment, fees)	5,380,000	4,050,000	4,550,000	4,480,000	4,060,000
<b>TOTAL FUNDS REQUIRED</b>	<b>\$32,290,000</b>	<b>\$24,280,000</b>	<b>\$27,320,000</b>	<b>\$26,880,000</b>	<b>\$24,400,000</b>

InterDesign Inc.  
March 8, 1972

FUNDS REQUIRED : PHASE I

Item	One Stage 1972-1975	Two Stages		Three Stages		
		1972-74	1974-76	1972-74	1974-76	1976-78
CONSTRUCTION COSTS (1970 est.)	\$14,000,000	\$7,000,000	\$7,000,000	\$5,000,000	\$5,000,000	\$4,000,000
CONSTRUCTION COSTS (1972 est.)	\$15,950,000	\$7,950,000	\$8,000,000	\$5,700,000	\$5,700,000	\$4,550,000
INFLATION DURING CONSTRUCTION (72-74 18.7%) (74-76 27.8%) (76-78 38.%)	2,970,000	1,485,000	3,720,000	1,070,000	2,650,000	3,880,000
CONTINGENCY, EQUIPMENT, PURCHASES, FEES (20%)	3,900,000	1,885,000	2,340,000	1,350,000	1,670,000	1,690,000
TOTAL FUNDS REQUIRED	\$22,820,000	\$11,320,000	\$14,060,000	\$8,120,000	\$10,020,000	\$10,120,000

InterDesign Inc.  
March 8, 1972

PHASING ALTERNATIVES  
MINNESOTA ZOOLOGICAL GARDEN

Based upon the six alternative phasing plans presented February 23, two basic combinations of alternatives have been re-evaluated and are presented for discussion.

COMBINATION A - B

Exhibits:

- Oriental Exhibit
- Minnesota Exhibit
- Japanese Macaques
- Whale
- Interpretative Exhibits
- Holarctic Exhibits (west half of site)

Public / Education:

- Complete Education and Administration Facility
- Interpretative / Education Facilities
- Enclosed Entry Complex with Orientation Area, Restaurant, Public Facilities

Support Facilities:

- Internal Services and Support Facilities
- Parking for 4000
- Nature Trails

COMBINATION D - E

Develop the Northern Trek, with enclosed education, administration, and public facilities at the entry:

Exhibit Areas:

- Boarding area at entry (enclosed)
- Macaques
- Trek Exhibits
- Trek Stop at Bering Straits
- Whale
- Minnesota Exhibit
- Interpretative / Education Exhibits
- Transportation System (2.5 miles)

Public / Education:

- Complete Education and Administration
- Interpretative / Education Facilities
- Enclosed Entry Complex with Orientation Area, Restaurant, Public Facilities

Support Facilities:

- Internal Services and Support Facilities
- Parking for 4000
- Nature Trails