SCHEMATIC DESIGN APPROVAL

Name of Project: UAF Energy Technology Facility  
Phase 1A (High Bay Test Module and Site Preparation)

Location of Project: UAF Fairbanks Campus

Project Number: 2009093 ETWP (Phase 1A)

Date: February 18, 2010

Project Manager: Cameron Wohlford, Sr. Project Manager

<table>
<thead>
<tr>
<th>Estimated Total Project Cost:</th>
<th>$3,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Project Cost, all phases:</td>
<td>$29,600,000</td>
</tr>
<tr>
<td>Approval Required:</td>
<td>Chair of F&amp;LMC</td>
</tr>
</tbody>
</table>

Prior Approvals/Actions:
- Formal Project Agreement: 03/12/09
- Formal Project Approval: 09/25/09

SUPPORTING DOCUMENTS

1. One Page Budget
2. Facility Floor Plan and Elevations
3. Facility Site Plan
4. Facility Finance Plan
### Project Name: UAF Energy Technology Facility Phase 1A

#### MAU: UAF

<table>
<thead>
<tr>
<th>Building: New-Energy Technology</th>
<th>Date: January 25, 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campus: Fairbanks</td>
<td>Prepared By: Wohlford</td>
</tr>
<tr>
<td>Project #: 2009093 ETWP</td>
<td>Account No.: TBD</td>
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</tbody>
</table>

Total GSF Affected by Project: 5,300 (Phase 1A Only)

### PROJECT BUDGET

#### A. Professional Services
- **Advance Planning, Program Development**: $0
- **Consultant: Design Services**: $200,000
- **Consultant: Construction Phase Services**: $0
- **Consul: Extra Services (List:)**: $0
- **Site Survey**: $0
- **Soils Testing & Engineering**: $0
- **Special Inspections**: $0
- **Plan Review Fees / Permits**: $0
- **Other**: $0

**Professional Services Subtotal**: $200,000

#### B. Construction
- **General Construction Contract (s)**: $2,395,015
- **Other Contractors (List: Parking Lot, Balancing)**: $0
- **Construction Contingency**: $143,701

**Construction Subtotal**: $2,538,716

**Construction Cost per GSF**: $479.00

#### C. Building Completion Activity
- **Equipment**: $0
- **Fixtures**: $0
- **Furnishings**: $0
- **Signage not in construction contract**: $0
- **Move-Out Cost/Temp. Reloc. Costs**: $0
- **Move-In Costs**: $0
- **Art**: $0
- **Other (List:________________________)**: $0
- **OIT Support**: $0
- **Maintenance/Operation Support**: $0

**Building Completion Activity Subtotal**: $0

#### D. Owner Activities & Administrative Cost
- **Project Planning and Staff Support**: $123,242
- **Project Management**: $123,242
- **Misc Expenses: Advertising, Printing, Supplies**: $14,800

**Owner Activities & Administrative Cost Subtotal**: $261,284

#### E. Total Project Cost

**Total Project Cost**: $3,000,000

**Total Project Cost per GSF**: $566.04

#### F. Total Appropriation(s)

**Total Appropriation(s)**: $3,000,000
MECHANICAL
OPEN DN SHAFT BELOW
SHAFT BELOW DN ROOF DECK LIVING ROOF
LIVING ROOF
LIVING ROOF
EXHAUST STACKS
VESTIBULE BELOW

SCALE: 1/16" = 1'-0"

File: Z:\SEA\Projects\40340.01\cad\Sheets\A2.03.dwg
Plotted: 12/23/09 at 2:53pm By: ellen.campbell
XREFs: tb-24x36.dwg fp-03.dwg gr-dc.dwg gr-bl.dwg fp-04.dwg mcp-03.dwg mcp-04.dwg

Checked By:

Drawing No.
Drawn By:
Job No:
Date:

Drawing Title
15% Design

Fairbanks, Alaska
Energy Technology Facility
Consultants
925 Fourth Avenue, Suite 2400, Seattle, WA 98104

Fairbanks, Alaska
ENGINEERING
STRUCTURAL
CIVIL
MECHANICAL
ELECTRICAL
PDC Engineers, Inc
2700 Gambell Street
Suite 500
Anchorage, Alaska 99503

Facility
ARCHITECTS AND PLANNERS
2600 DENALI STREET SUITE 710 ANCHORAGE, ALASKA 99503 {907} 561-5780
212 FRONT STREET FAIRBANKS, ALASKA 99701 {907} 456-5780
WWW. BETTISWORTHNORTH.COM

X-nth
5670 Oberlin Drive
San Diego, California 92121

Revisions
Stamp
15% Design 12-23-2009

15% Design
<table>
<thead>
<tr>
<th>Energy Technology Facility</th>
<th>Draft Finance Plan</th>
<th>Revised January 2010</th>
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</thead>
<tbody>
<tr>
<td><strong>F&amp;A Trend w/ Additional Facilities</strong></td>
<td>FY09</td>
<td>FY10</td>
</tr>
<tr>
<td>Grant &amp; Contract Restricted Research Expenditures</td>
<td>$107,847.0</td>
<td>$111,082.4</td>
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<tr>
<td>Total F&amp;A (Account Code 7811)</td>
<td>$25,870.6</td>
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<tr>
<td>Effective Rate</td>
<td>24.2%</td>
<td>24.0%</td>
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<tr>
<td>Net Increase from FY09</td>
<td>$0.0</td>
<td>$789.1</td>
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<tr>
<td><strong>Energy Facility - Construction Costs w/ Debt Service</strong></td>
<td>Capital</td>
<td>Debt</td>
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<tr>
<td>Phase 1A: High Bay Test Modules w/ Working Capital Loan</td>
<td>$3,000.0</td>
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<tr>
<td>Phase 1B: University w/ Payoff on Working Capital Loan</td>
<td>$15,300.0</td>
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<tr>
<td>State</td>
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<tr>
<td>Sub-Total: Debt Service on New Debt Financing</td>
<td>$106.0</td>
<td>$150.0</td>
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<tr>
<td><strong>Energy Facility Operations - M&amp;O Costs</strong></td>
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<tr>
<td>Utilities</td>
<td>$31.5</td>
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<td>Custodial</td>
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<td>Trash/Grounds</td>
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<tr>
<td>Total M&amp;O Costs</td>
<td>$70.3</td>
<td>$434.3</td>
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<tr>
<td>University @ 50%</td>
<td>$35.1</td>
<td>$217.2</td>
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<tr>
<td>State @ 50%</td>
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<tr>
<td>Total M&amp;O Funding</td>
<td>$70.3</td>
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<tr>
<td><strong>Energy Facility - M&amp;R Costs (1.5% Value Formula)</strong></td>
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<tr>
<td>University @ 50%</td>
<td>$44.4</td>
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<td>State @ 50%</td>
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<tr>
<td>Total M&amp;R Funding (Annual steps over 5 years)</td>
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<td><strong>Total Funding</strong></td>
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<td>University Subtotal</td>
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<td>State Subtotal</td>
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<td>Total Operating</td>
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<td><strong>Required Activity Levels</strong></td>
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<td>INE Research Growth (MTDC) for Debt</td>
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<tr>
<td>Overall Campus Research Growth for Debt</td>
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<tr>
<td>Additional Research Activity to meet UA operating</td>
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<tr>
<td>Additional Funded Research Activity Required</td>
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Additional Notes:
- Facility Value: $29,600,000
- F&A Rate through FY10: 45.1%
- Phase I construction May 2010 through April 2011
- Annual debt service per $1 million project cost: $80,000
- F&A Rate beginning FY: 47.1%
- Phase II construction July 2011 through April 2013
- Existing Facilities Research Growth Rate: 3.0%
- INE Research Growth Rate: 3.0%
- Occupancy May 2013
- Overall Growth Rate: 3.0%
- DD&C Rent Growth Rate: 3.0%
- All working capital loan interest paid in FY2011
- Working Capital Loan interest rate: 5.0%
- Bond issue July 1, 2011
- Working capital draw @ $250K per month through construction