University of North Dakota   February 2012 (updated 2/27/12)

SBHE authorization to proceed with construction of a Joint UND/NDUS IT office building and separate data center, at an estimated cost of $15,500,000, to be funded from $12.5 million in state appropriation and $3.0 million from internal reallocation from efficiencies and one-time savings.

Project Description

A project steering committee consisting of representatives from the SBHE, UND, NDSU, VCSU and NDUS recommends a two facility construction plan as follows:

- Construction of a new, approximately 40,000 square foot two-story office and support facility that provides work space, meeting rooms, training rooms, and other sundry spaces which facilitate the UND/NDUS IT mission. The office building will contain approximately 152 office/cubicles for the current 138 NDUS and UND staff, leaving minimal space for growth. Five NDUS and seven UND departments will be re-located from existing facilities including: Leonard Hall, 314 Cambridge, ND School for the Blind, Upson II, Robertson/Sayre Hall and Carnegie. The office building will be located north of the Hilton Garden Inn and west of Skalicky/IdaMae Rude/Ryan Hall.

- Renovation of an existing pre-cast concrete warehouse within the facility support complex on the UND campus which will accommodate 5,000 square feet of raised floor Tier III data center space and the approximately 5,000 square feet of required equipment/operation support space. The data center will be the primary site for delivery of core technology services within the NDUS. It will be designed as the primary backup site for institutional server activities of sufficient importance as to require offsite backup.

Based on the current "concept plan" stage of design development, the Data Center being renovated within warehouse space hosted at UND consists of a 5,000 sq ft raised floor data center machine room (3,000 sq ft operational day-one with the remaining 2,000 sq ft for expansion but the 2000 sq ft will have most of the mechanical and electrical work completed so that it can be operational quickly) along with an additional 5,000 sq ft of data center support area. This provides for a total of 10,000 sq ft. Some of the data center support area will be at the same height as the raised floor of the machine room whereas other support areas are anticipated to be at grade level. There will be some equipment located outside the building but within close proximity of the data center space as well.

In addition to the raised floor machine room space, other areas identified in the concept plan that would also be at the same height as the raised floor machine room includes; the network operating center (NOC), operations support area, prep/burn-in/staging area, main and intermediate distribution frame rooms, and the loading dock.

Other support areas that are anticipated to be at grade level include the electrical/mechanical/switchgear room, UPS A room, UPS B room, UPS battery room, and the chiller/pump room.

Located outside but near the data center area would be such things as the generators, cooling tower, and power transformer.

Consistency with Campus Facility Master Plan and Budget

This project coincides with the goals of the UND Campus Facility Master Plan in its inclusion of this project within Section IV of the 2010 Master Plan.

SBHE and/or Legislative History

This project was approved by the SBHE for inclusion within the Governors 2011/13 biennial budget in July, 2010.

The project was funded by the 2011 legislative assembly at $12.5 million in general funds and $8 million in federal funds. The anticipated grant from the National Institute of Standards and Technology for construction of a research facility to be built as part of, and in conjunction with the data center, did not materialize.

Additionally, Section 7 of HB1003 (2011) included the following related section of legislative intent: "The capital assets line item in subdivision 5 of section 1 of this Act includes the sum of $20,500,000 for the North Dakota university system and university of North Dakota joint information technology building project. The state board of higher education may spend additional funds on the project of up to $5,000,000 that are made available from the university of North Dakota, North Dakota state university, and North Dakota university system 2011-13 biennium information technology services funding resulting from one-time savings or efficiencies. The North Dakota university system shall provide a report to the budget section of the legislative management regarding any funds expended pursuant to this section.

Estimated Total Purchased or Donated Costs: $15,500,000

	Amount
Planning, Permits and Insurance (design costs associated with current project, OMB preplanning revolving funds, architect and engineer fees, permits, insurance)	$1,436,000
Land/Building Preparation and Purchase or Donated Costs (land acquisition and site preparation/development)	$0
Demolition and Disposal	$150,000
Construction (foundation and building construction or renovation, including fixed equipment, landscape, infrastructure and utilities, mechanical and electrical, parking and driveways or roadways	$11,354,000
Institutional work (value of work completed by institutional trade staff)	$160,000
Contingency	$900,000
Hazardous Material Abatement	$0

Other, including 3rd party costs (please describe)	$0
SUBTOTAL *(if total exceeds $250,000, requires SBHE approval)*	$
Furniture, Fixture and Equipment (FF&E)	$1,500,000
TOTAL	$

No other work, other than that specified within this request, is required for the completion of the project not is other work planned to supplement this project using funding or authority not included within this request.

Future Operating/Improvement Costs and Funding Sources

Design efforts are underway for this project and will provide estimated utility costs and operating costs which are anticipated to be approximately $4.00 per square foot per year or $180,000. A more accurate estimate will be provided as design development proceeds.

Source and Availability of Funds

$12.5 million state appropriation and $3.0 million from efficiencies and one-time savings as outlined in the attached funding plan.

Estimated Project Timeline and Completion Date

Current estimated start of construction on office/support building: July 2012
Current estimated start of construction on data center space renovation: August 2012
Concurrent completion of both projects: July 2013

g:\laura\docswp\capital assets\und\joint it facility request to proceed 02.11 updated for b. section.doc

NDUS/UND IT Facility – Office Building/Data Center

Office Building – Option 3	$9,133,128
Data Center	$4,937,500
Tier 2 to Tier 3 (add on)	$1,356,250
Total	$15,426,878
Legislative Appropriation	$12,500,000
Difference	$2,926,878
Section 7 – HB 1003 (2011 N.D. Laws, ch.3)	
Additional funds available through efficiencies and one-time funding	
UND, NDSU, NDUS $5 M	$3,000,000
	$0

- -

Funding

- To assist with cash flow on construction costs, NDUS System Information Technology Services (SITS) will allocate $3.0 million upfront toward construction of building. Funding for the building will be needed primarily during the latter half of FY2013.

- Funding will be provided from a combination of current operational balances, operational efficiencies and delayed equipment purchases.

- Ongoing efficiencies to pay for the full cost of the building can only be achieved through reduction of administrative overhead in the UND/NDSU service level agreements (SLAs) paid by SITS and the consolidated management of NDUS SITS funded IT operations including UND, NDSU and SITS, regardless of operation location and NDUS strategic operation planning to lower duplication of efforts system wide (Effective 7/1/12).

- The repayment of funding to the ConnectND operational accounts beginning in FY2014 is essential to maintain the solid operation of ConnectND, meet future obligations, and avoid ConnectND student fee increases.

- This plan does not require any direct cash contributions from either UND or NDSU.

- Both UND and NDSU will be impacted by the reduction/elimination of administrative overhead expenses in SLAs, shift of staffing paid through NDUS SITS funding noted above, and the elimination of duplicative efforts and consolidation of operations across UND, NDSU and SITS to the extent possible.

The source of the funds to meet the upfront requirements are estimated as follows:

	FY2012	FY2013	Running Total
Carryover funds FY2011	$400,000		$400,000
Delay of Operational Initiatives *	$300,000		$700,000
Operational Efficiencies		$325,000	$1,025,000
ConnectND Operational Accounts**		$1,500,000	$2,525,000
Delay Refresh of Computer Equipment		$475,000	$3,000,000

*Projects to be delayed include: virtual applications, shared storage, and virtual desk top.
**Payback to ConnectND operational accounts beginning in FY2014 of $250,000 each year.

Efficiencies that contribute to annual amortization payments result from consolidation of information technology operational management and operations that support System IT applications and operations, the Enterprise (System) objectives such as common Learning Management System, lecture (content) capture, unified communication services, and other factors to be determined.

Recommendations

Below are four key recommendations in order to implement and fund efficiency initiatives, improve student experience, and continue to provide the infrastructure necessary to maintain appropriate level of IT operations:

1. Establish an Information Technology Executive Oversight committee that consists of SBHE, Chancellor, Cabinet and NDUS CIO membership. It is recommended the committee meet twice each year regarding strategic initiatives and financial health of SITS.

2. The NDUS CIO is responsible for the efficient and effective planning and delivery of core technology services (see definition below) to the institutions.

3. The new data center will be the primary site for delivery of core technology services within the NDUS. It should be designated as the primary backup site for institutional server activities of sufficient importance as to require offsite backup.

4. To the extent possible, consolidate management and operational control of information technology services within NDUS. Information technology is now an essential component of delivering services to students, faculty, staff and citizens seeking access to information from the institution. Doing this effectively and efficiently requires a coordinated system-wide support plan to lower operating costs, improve service quality, reduce purchasing costs, and provide a superior customer
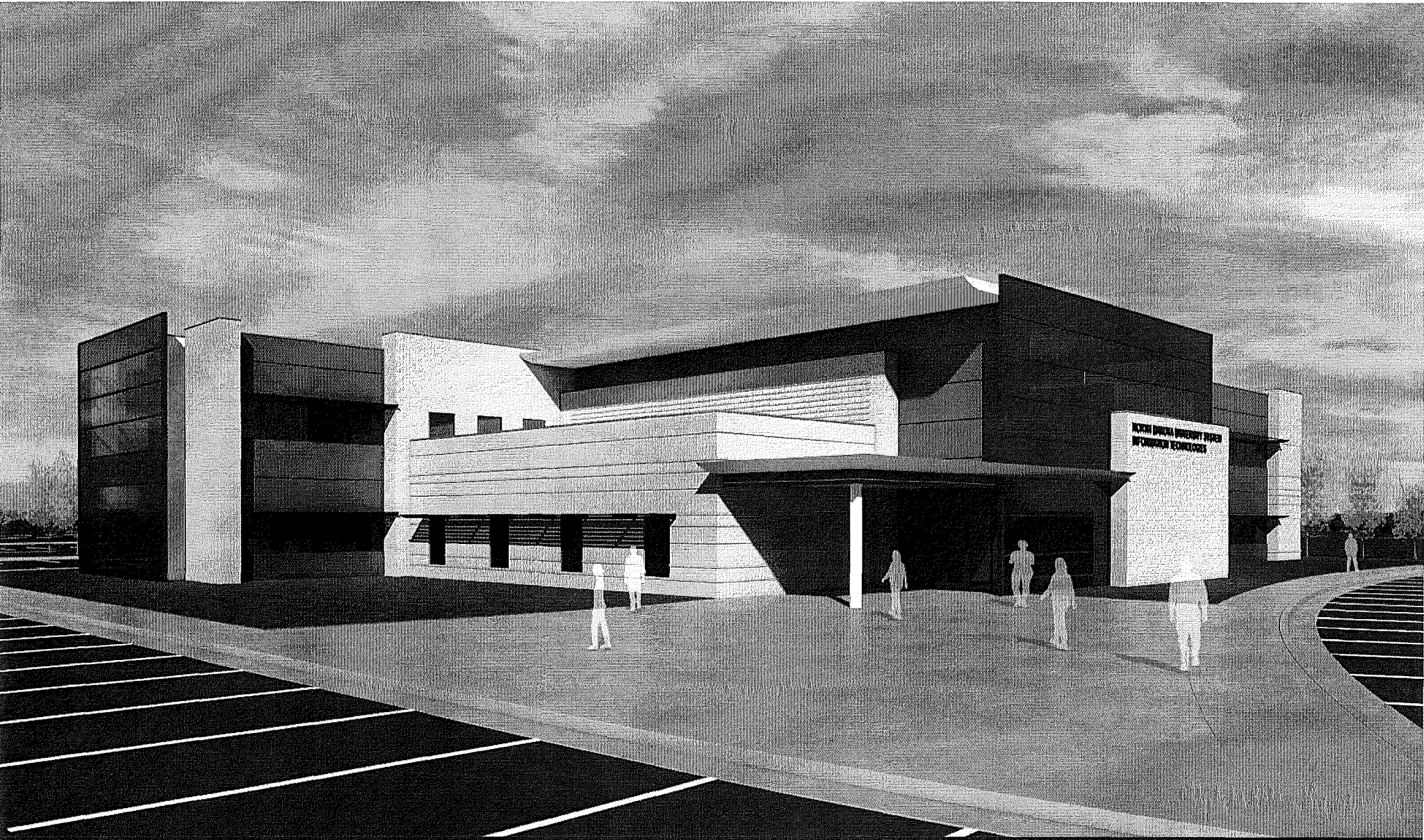
experience This is not intended to include the direct support of labs, desktops, faculty, staff, students, specialized research or other institutional specific activities. However, it does include core technology services (see below). It should be noted that only savings from the SITS budget related to these consolidations would be utilized to fund facility amortization costs; campus savings would not be used for this purpose.

Assumptions

- NDUS CIO charged with managing the SITS budget in an efficient manner as possible while delivering services as effectively as possible. Steps should be taken to reduce administrative overhead and consolidate redundant services system-wide where practicable.

- The primary SITS budget will remain at NDSU while the SBHE studies the long-term plan for information technology services. In conjunction with the ongoing "Building a Cost-Effective IT System" process as outlined in the SBHE "Maximizing Results Through Efficiencies" document, a plan must be completed by June 30, 2012, with full implementation for the 13-15 biennium. This may have budget allocation implications for the 13-15 biennium, with these to be determined as part of the overall plan.

Core Technology Services (Definition)

Administrative application services (recognizing there are exceptions), academic administrative systems such as library system (already mostly consolidated under a System operation), LMS, document imaging, lecture (content) capture, and other related system-wide activities like email, calendaring, unified communications, active directory, and identity management.

NDUS INFORMATION TECHNOLOGIES

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NORTH DAKOTA UNIVERSITY SYSTEM
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NDUS INFORMATION TECHNOLOGIES

FEBRUARY 8TH, 2012

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Department Legend

- Circulation
- Cubicle
- Equipment Storage
- Lead Cubicle
- Media Center
- Office
- Support Space
- Team Meeting
- Work Room

Team Meeting (4 Person) 76 SF

Team Meeting (4 Person) 73 SF

Office 179 SF

Office 235 SF

Office 236 SF

Office 179 SF

Office 153 SF

Office 149 SF

Cubicle 64 SF

Cubicle 64 SF

Office 155 SF

Office 149 SF

Office 158 SF

Office 149 SF

Office 156 SF

Office 149 SF

Office 159 SF

Office 149 SF

Storage 182 SF

Team Meeting (10 Person) 221 SF

Office 149 SF

Vestibule 110 SF

Stair 164 SF

Lead Cubicle 4 85 SF

Cubicle 42 55 SF

Cubicle 43 55 SF

Cubicle 44 55 SF

Cubicle 45 55 SF

Cubicle 46 55 SF

Team Meeting (4 Person) 56 SF

Communications 175 SF

Mech / Elec 231 SF

Team Meeting (20 Person) 395 SF

Training / Media 411 SF

Storage 137 SF

Cubicle 41 63 SF

Cubicle 40 63 SF

Cubicle 39 63 SF

Cubicle 38 63 SF

Cubicle 37 63 SF

Cubicle 36 63 SF

Cubicle 35 63 SF

Media Center 195 SF

Custodial Storage 86 SF

Cubicle 28 63 SF

Cubicle 29 63 SF

Cubicle 30 63 SF

Cubicle 31 63 SF

Cubicle 32 63 SF

Cubicle 33 63 SF

Cubicle 34 63 SF

Men 229 SF

Women 226 SF

Elec. Mech. 65 SF

Computer 69 SF

Lead Cubicle 3 87 SF

Cubicle 27 60 SF

Cubicle 26 60 SF

Cubicle 25 60 SF

Cubicle 24 60 SF

Cubicle 23 60 SF

Cubicle 22 60 SF

Team Meeting (10 Person) 184 SF

Elev. 52 SF

Reception / Waiting 1036 SF

Team Meeting (4 Person) 56 SF

Telecom Equipment Storage 433 SF

Work Room 116 SF

Vestibule 55 SF

Stair 204 SF

Cubicle 21 55 SF

Cubicle 11 62 SF

Cubicle 1 55 SF

Vestibule 191 SF

Cubicle 20 55 SF

Cubicle 12 64 SF

Cubicle 2 55 SF

Cubicle 19 55 SF

Cubicle 10 63 SF

Cubicle 3 55 SF

Team Meeting (40 Person) 790 SF

Team Meeting (40 Person) 824 SF

Cubicle 18 55 SF

Cubicle 15 63 SF

Cubicle 9 63 SF

Cubicle 17 55 SF

Cubicle 14 63 SF

Cubicle 4 63 SF

Cubicle 16 55 SF

Cubicle 13 63 SF

Cubicle 5 63 SF

Lead Cubicle 2 83 SF

Cubicle 7 62 SF

Cubicle 8 62 SF

Cubicle 6 63 SF

Lead Cubicle 1 84 SF

20,046 G.S.F

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① FIRST FLOOR PLAN
SD101 3/32" = 1'-0"

NDUS INFORMATION TECHNOLOGIES

FIRST FLOOR PLAN

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SD101

Department Legend

- Breakroom
- Circulation
- Cubicle
- Lead Cubicle
- Media Center
- Support Space
- Team Meeting

SECOND FLOOR PLAN
SD102 3/32" = 1'-0"
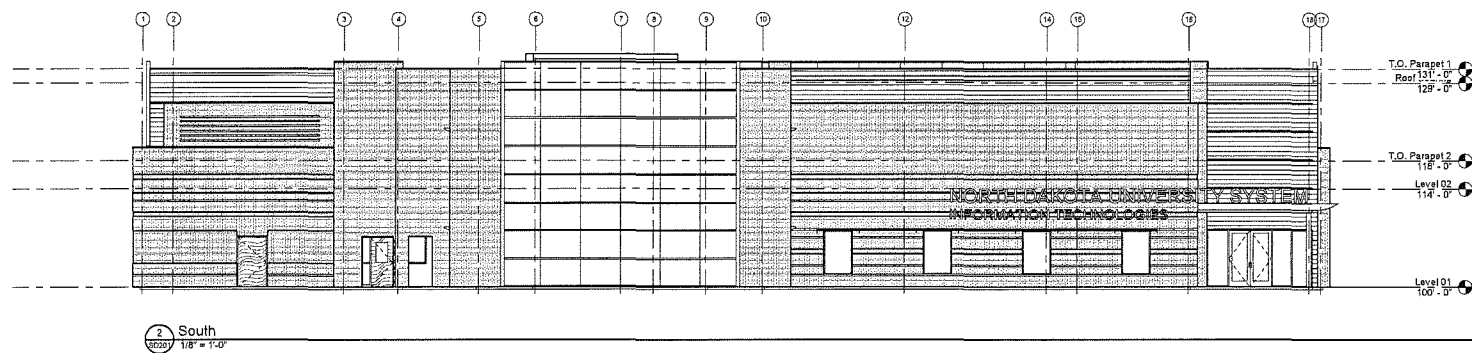
18,740 GSF

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NDUS INFORMATION TECHNOLOGIES

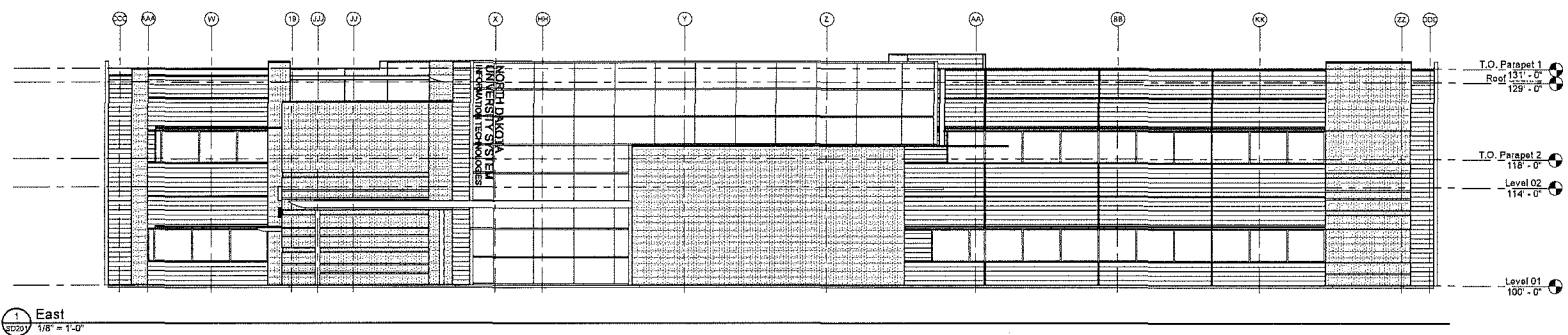SECOND FLOOR PLAN

FEBRUARY 8TH, 2012

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SD102

NORTH DAKOTA UNIVERSITY SYSTEM
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T.O. Parapet 1
Roof 131' - 0"
129' - 0"

T.O. Parapet 2
118' - 0"

Level 02
114' - 0"

Level 01
100' - 0"

1 East
SD201 1/8" = 1'-0"

NORTH DAKOTA UNIVERSITY SYSTEM
INFORMATION TECHNOLOGIES

T.O. Parapet 1
Roof 131' - 0"
129' - 0"

T.O. Parapet 2
118' - 0"

Level 02
114' - 0"

Level 01
100' - 0"

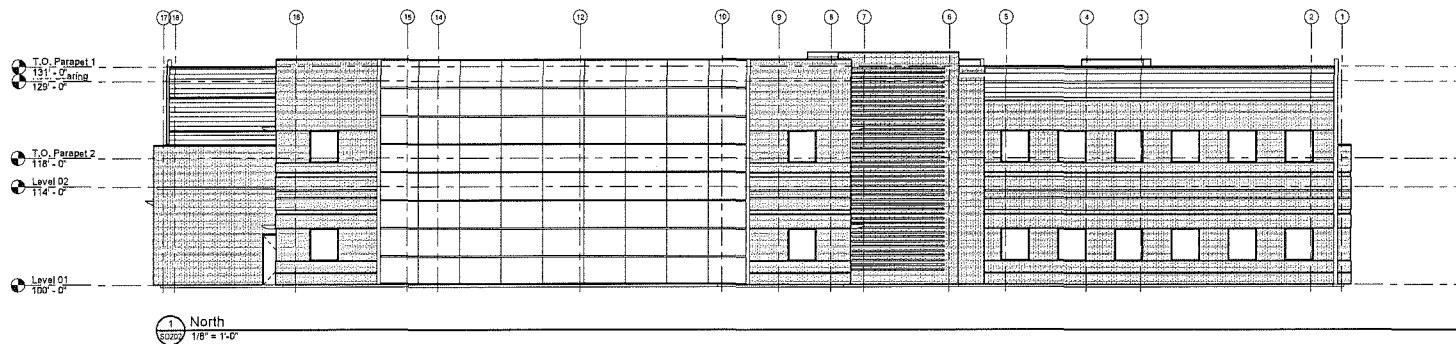**2** South
SD201 1/8" = 1'-0"

NDUS INFORMATION TECHNOLOGIES
EXTERIOR ELEVATIONS

FEBRUARY 8TH, 2012

SD201

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West elevation labels:
- T.O. Parapet 1 — 131' - 0"
- Bearing — 129' - 0"
- T.O. Parapet 2 — 118' - 0"
- Level 02 — 114' - 0"
- Level 01 — 100' - 0"

2 / West 1/8" = 1'-0"

North elevation labels:
- T.O. Parapet 1 — 131' - 0"
- Bearing — 129' - 0"
- T.O. Parapet 2 — 118' - 0"
- Level 02 — 114' - 0"
- Level 01 — 100' - 0"

1 / North 1/8" = 1'-0"

UNIVERSITY AVENUE

RYAN HALL

NDUS IT
BUILDING

SKALICKY
TECHNOLOGY
INCUBATOR

INA MAE RUDE
ENTREPRENEUR
CENTER

42ND STREET

JAMES RAY DR.

HILTON
GARDEN
INN

REAC 1

DEMERS AVENUE

N

NDUS INFORMATION TECHNOLOGIES

SITE PLAN

UNIVERSITY AVENUE

FUTURE BUILDING

FUTURE ADDITION

NDUS IT
BUILDING

SKALICKY
TECHNOLOGY
INCUBATOR

JAMES RAY DRIVE

N

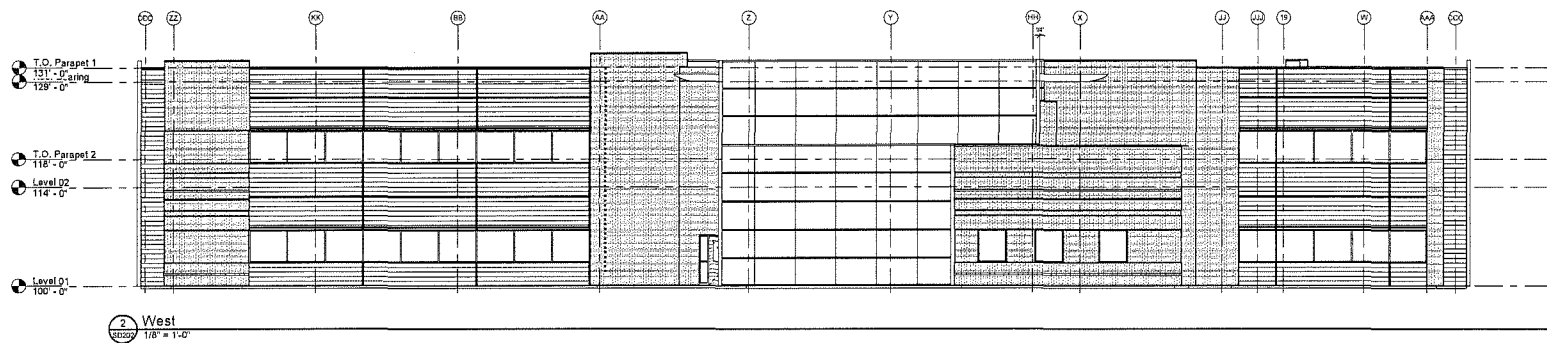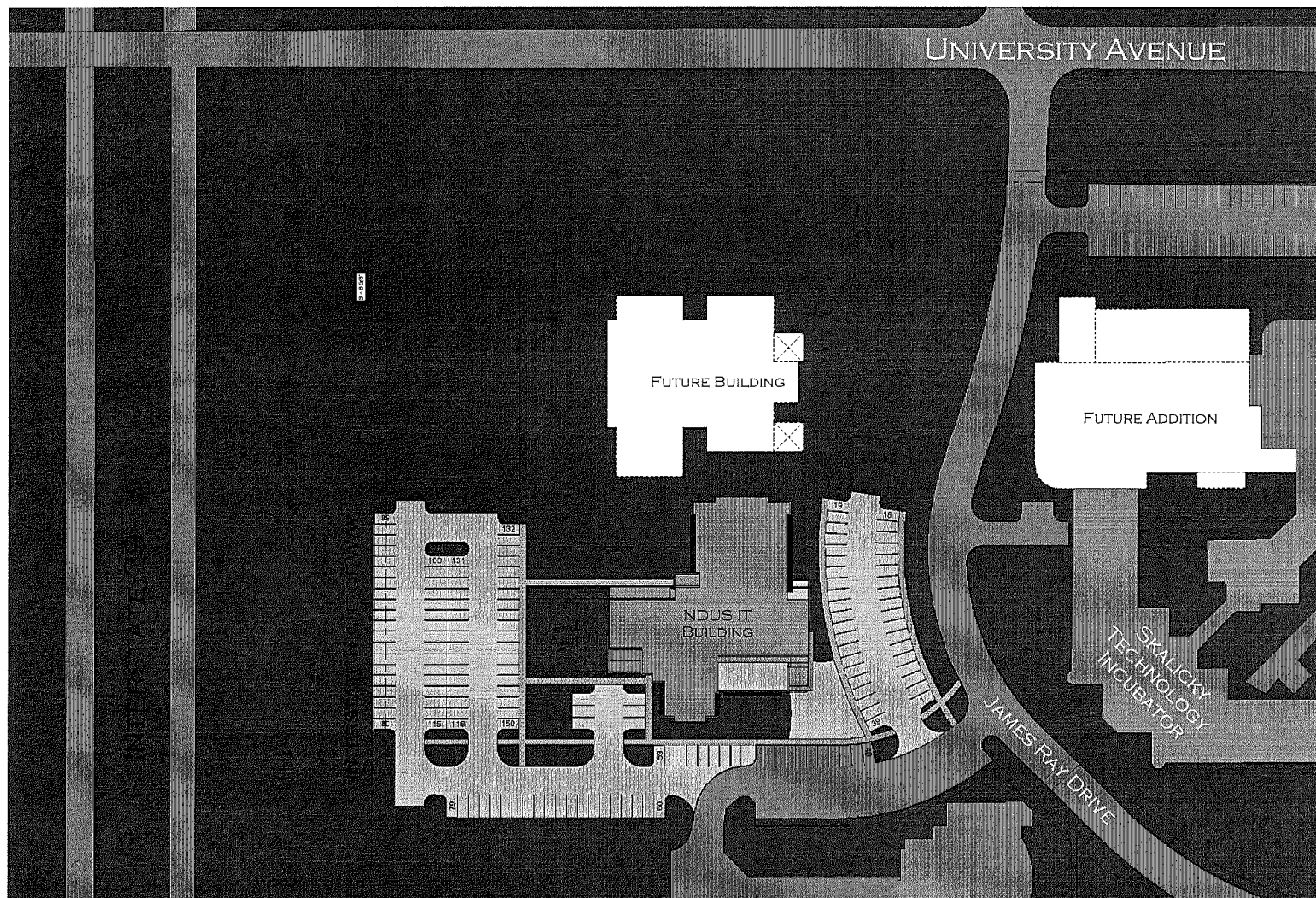**NDUS** INFORMATION TECHNOLOGIES

ENLARGED SITE PLAN

FEBRUARY 8TH, 2012

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SD002

5.13 Option Three Program

The final option also lists the same rooms as the previous two options. The staff cubicle sizes are kept at 8'-0"x 8'-0". Future cubicle spaces are included in this option.

North Dakota University System

January 11, 2012

Informational Technologies

Option 3 - 8'x8' cubicles

50% SD Budget Summary

35,600SF

	A Construction Cost	Cost	Total
A1	Construction Estimate	$160.50 /SF	$5,713,959
A2	Site work		Included in A1
A3	Parking		Included in A1
A4	Building Demolition		N/A
A5	Construction Allowances		$0
A6	Design Contingency	10.00% of A1	$571,396
A7	**Construction Cost**		**$6,285,355**
A8	Construction contingency	10.00% of A7	$628,535
A9	**Total Construction Cost**		**$6,913,890**
	B Construction Related Cost		
B1	Hazardous materials abatement	Allowance	N/A
B2	Temporary Facilities	Allowance	$0
B3	Moving expenses	Allowance	$15,000
B4	**Total Construction Related Cost**		**$15,000**
	C Fixtures, Furnishings & Equipment (FF&E)		
C1	Site Fixtures	Allowance	$5,000
C2	Furniture	Allowance	$1,200,000
C3	A/V Equipment	Allowance	$15,000
C4	Building maintenance equipment	Allowance	$5,000
C5	White Noise/Masking	Allowance	$35,600
C6	Networking/Phones	Allowance	$90,000
C7	**Total FF&E**		**$1,350,600**
	D Professional Fees & Expenses		
D1	A/E Fee - Basic services	8.00% of A9	$553,111
D2	A/E Fee - Furniture Design	6.50% of C2	$78,000
D3	University Project Management Fe	2.00% A9	$138,278
D4	Commissioning		$40,000
D5	Reimbursable expenses	8.00% of D1	$44,249
D6	**Total Professional Fees & Expenses**		**$853,638**
	E Sub-Totals		
E1	Sub-Total Project Cost		$2,219,238
F1	**TOTAL PROJECT COST**		**$9,133,128**

Data Center
Concept Estimate
Reliable Resources, Inc.
revised January 9, 2012

PROJECT FAC RECV DATA CENTER

Grand Forks, North Dakota

> Note: 3000 sf raised floor, Tier 2, 50 w/sf upgradeable to Tier 3, 100 w/sf
> 2000 sf raised floor w/o power or cooling added
> Total raised floor = 5000 sf

DESCRIPTION	QUANTITY
PROJECT DURATION (MOS)	8.00
ENG/ARCH SERVICES	$430,000.00
TELECOMMUNICATIONS	$70,000.00
CONSTRUCTION ALLOWANCE	$4,350,500.00
UND Facilities Management 2%	$87,000.00
TOTAL	$4,937,500.00
SITE (ACRES)	not applicable
TOTAL BUILDING (SF)	13,000

DESCRIPTION	TOTALS (estimated)
CONSTRUCTION MANAGER FEE	$ 160,000
GENERAL CONDITIONS	$ 293,030
SITE WORK	$ 85,380
BUILDING SHELL - DATA CENTER	$ 693,000
DEMOLITION AND RELOCATION	$ 30,000
MECHANICAL	$ 876,300
ELECTRICAL	$ 1,817,300
CONTINGENCY	$ 395,500

Data Center
Additions to meet Tier 3
revised January 9, 2012

DESCRIPTION	QUANTITY	UNIT	MAT'L COST	TOTALS (buyout)
B Side Critical UPS Input Switchboard	1	ea	$85,000	$85,000
B Side Mechanical Switchboard	2	ea	$80,000	$160,000
B Side UPS	1	ea	$115,000	$115,000
B Side Critical UPS Output Distribution Switchboard	1	ea	$25,000	$25,000
B Side MCC	2	ea	$20,000	$40,000
Second 800 KW Genset	1	ea	$160,000	$160,000
Additional Daytank (or Belly Tank)	1	ea	$15,000	$15,000
Paralleling Switchgear	1	ea	$115,000	$115,000
2 Additional PDUs	2	ea	$30,000	$60,000
Additional Pipe and Wire to Install Above	1	Lump Sum	$581,250	$581,250
Total to move Data Center from Tier 2 to Tier 3 (in today's dollars)				$1,356,250

Other items discussed but not req'd for Tier 3

Addition of Absorption chiller w/ cooling tower	1	ea	$200,000	$200,000
Heat pump for recapture of heat		1 ea	$150,000	$150,000
			Total	$350,000

Additional items of elect and cooling for remaining 2000 sf at 50 w/sf

4 CRACS	4	ea	$22,000	$88,000
2 PDUs	2	ea	$30,000	$60,000
I Air Cooled Chiller	1	ea	$60,000	$60,000
Installation Costs	1	Lump Sum	$90,000	$90,000
			Total	$298,000

Note: contingency required for above values.