

# NORTHERN SUMMIT



## DBIA ROCKY MOUNTAIN REGION STUDENT COMPETITION 2011

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*REQUEST FOR PROPOSAL FOR: GRINNELL COLLEGE DESIGN-BUILD  
RECREATION CENTER/MULTI-PURPOSE FIELDHOUSE*

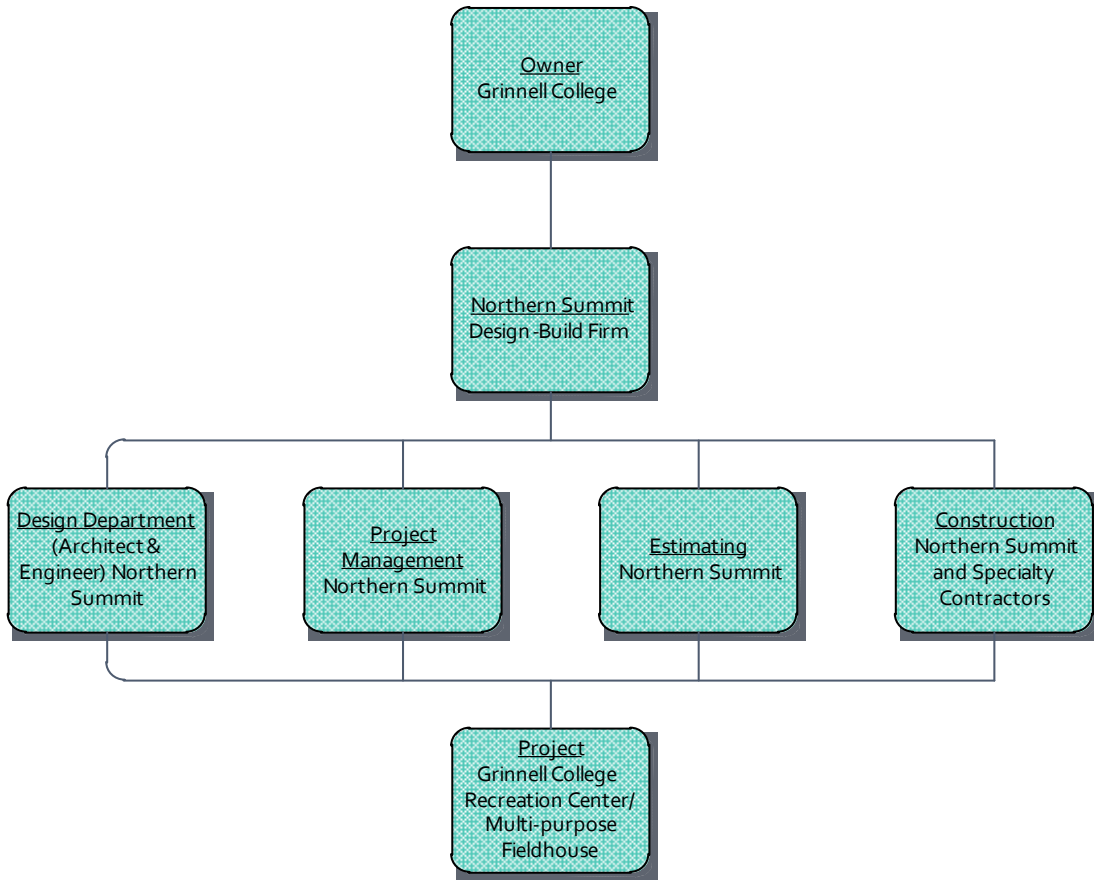
CONSTRUCTING HIGH PERFORMANCE BUILDINGS UNDER ONE ROOF UTILIZING  
AND INTEGRATED DESIGN-BUILD APPROACH FOR THE LAST 30 YEARS.

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# PROJECT TEAM ORGANIZATION CHART

## INTEGRATED DESIGN-BUILD FIRM



# PROJECT TEAM ORGANIZATION

Based on Northern Summits company organization graphic the Owner is our most important aspect to the whole project. The project belongs to Grinnell College and you are investing a large amount of money into this improvement to your institution. It is our job as Northern Summit being the second most important aspect to provide Grinnell College with a product that they will be proud of for many years to come. At Northern Summit we are an Integrated Design-Build company that houses all of our experts under “one roof” to provide the owner with a positive construction and design experience. All of the employees at Northern Summit come together with the owner to produce the end result project.

## **OWNER-**

Grinnell College as the owner holds minimal responsibility of making timely decisions and reviews. By constituting the needs and wants that you expect out of this project, it is then Northern Summit’s job to adhere to those needs and wants to produce an outstanding end result. Grinnell College is involved from the very beginning with the composition of the Request for Proposal and mandating its importance. Grinnell holds one contract with Northern Summit stating that Grinnell College will receive a LEED Gold Project or better with keeping time, cost and owner management as low as possible.

## **DESIGN-BUILD COMPANY-**

Northern Summit is one company that has one contract with the owner. We are an integrated design-build company that houses all areas of design and construction under “one roof”. Services under our roof are four fold:

### **DESIGN DEPARTMENT-**

In house architects and engineers work together to design and complete a project that is aesthetically pleasing as well as functional. Combining the architect’s knowledge and creativity with the engineer’s systematic approach and knowledge minimize differences in the field by design features and structural properties working together.

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## **PROJECT MANAGEMENT-**

Our team of project managers including but not limited to; Project Managers, Superintendents, Project Controls Engineers, Field Engineers and foremen work with the designers to help them understand how the project goes together. This helps the designers and specialty contractors translate their ideas into constructible solutions.

## **ESTIMATING-**

Our estimators take the ideas of the engineers and architects and come up with a rough cost to guarantee the owner. We begin construction before the design is done and the estimators offer solutions in the continuing design process to help keep costs down and providing alternative approaches in design to benefit the end result.

## **CONSTRUCTION-**

This team of Northern Summit performs the work designed foundation, structural, lion share of MEP systems in the construction documents. At Northern Summit we self-perform a multitude of the work. We believe the more we keep the project under “one roof” the easier it is to manage and implement quality performance. We are not however specialized enough to self-perform the entire project so we carefully select the most qualified specialty contractors that will cause Northern Summit and the owner to benefit with a quality project.

## **PROJECT-**

All of the above positions in Northern Summit’s design-build process come together to produce the overall project. The project brings Grinnell College and Northern Summit together and our design-build approach at Northern Summit will generate a product that Grinnell College is honored to possess and most importantly each and every user group enjoys.

## DESIGN-BUILD PHILOSOPHY

At Northern Summit our project approach is to have singular responsibility, quality, value engineering, time savings, reduced administrative burden and an early knowledge of firm costs. With our design team and construction managers working together from the beginning of the project the owner has a single point of responsibility. This allows our designers and builders to come together under *one roof* and allow you the owner as Grinnell College to focus on the scope of work and timely decision making. Our singular responsibility results in high quality among everything that we design and build. Being solely responsible for the project as a whole deters us from passing on the responsibility of insufficient work to another party. Therefore, we strive for perfection and quality in all aspects of the project, because our name and credibility as a company is at stake. Housing our design and construction ideas under *one roof* allows us to explore our resources to different designs, materials and methods. That process then creates a utilization of effective value engineering and constructability. Our philosophy on accelerating time puts us above the rest. We overlap our design and build processes so the overall construction time is greatly reduced. The team at Northern Summit has a “fast track” mind in that we begin construction before the construction documents are finished which results in earlier occupancy and a pleased owner. Construction and material costs are known earlier than in a design-bid-build delivery system, due to the design revolving around from our designers and builders sharing ideas together who then estimate the project on a step by step basis. When everyone is involved from the beginning it is much easier to make on the spot changes or improvements. Therefore, Grinnell has an overall reduced burden on coordinating between separate design and build contracts, that responsibility is well received by us at Northern Summit. We take great risks as a design-build company, and we deliver even greater results.

At Northern Summit we believe teamwork, communication, leadership, and dedication are the main keys that contribute to our success. Under *one roof* we work together to provide you with the best possible output you can have. Everyone in the office and on the team has access to the server where all documents and information are available with the click of a mouse. Clearly defined roles in our company help us to achieve multiple leadership positions that enrich back to our teamwork. The dedication that Northern Summit will provide you with will guarantee your satisfaction and is derived from the way we monitor our progress and self-reflect on our mistakes.

In order to integrate Grinnell College’s goals we list the needs from our owner and fit them into the organizations parameters to fulfill all of the objectives. As a design-build firm we create a rough design, schedule and estimate to provide Grinnell with an accurate price to begin with. Northern Summit implements a “fast track” nature while addressing problems

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immediately with solutions. Our successful communication enables us to facilitate flexibility in the way operations are completed and resolved.

The importance of this project to Grinnell comes down to the fact that the entire college will benefit from the facilities that we design and build. We at Northern summit are proud to utilize a proven technique called “Tiger Teaming” in order to open communication lines between our design build team and the project’s user groups of: student recreation, academics, athletics, faculty, and Grinnell facilities department. The “Tiger Team” is comprised typically of a five to twelve person roundtable functioning committee. This team is charged with continually approaching and addressing concerns from any viable source. By structuring the tiger team with at least one member from each user group, and a randomly revolving leader, the team truly maintains an atmosphere of fresh ideas, direction, and solution generating methods. Communication is paramount in the development of relationships within every identity listed above. It is of particular interest to our Design build team that we can give and most importantly receive direct and efficient constructive criticism concerning the end products developed.

Quality of our projects is all in the eyes of the Grinnell College. Grinnell constitutes the criteria for a quality project you will proudly buy and own from our company. The quality assurance teams up with our communication group “tiger team” which is a sample of people that will actually be using the facility. Knowing and enforcing quality issues and concerns that they have is important to the overall acceptance of the project. If the people are pleased then the owner is pleased and our team at Northern Summit is pleased. With Grinnell being the backbone of the “tiger team” working together to provide us with a continual outline of expectations of quality, we at Northern Summit then translate that into a physical project of value. The project management team then translates those expectations to the constructors of the company. Construction can be construed as an unkempt practice yet if we take care of quality issues immediately when they arise there are less concerns in the end. We feel that safety is a large part of quality and the safety plan that we have in place ensures that our workers are thinking about the project as a whole and their safety is essential for the success and quality of the project. In order to maintain a safe site we need to maintain a clean site, a clean and safe site coincides with exceptional quality. When we select our workers and specialty contractors we aim to achieve contracts with low EMR rates and workers with a history of safe practices. Northern Summit has a reputation to live up to and a community that wants to be a part of our reputation.

Our selection methods for everything are made as a team and under *one roof*. Our history has shown that it is a necessity to involve the specialty contractors in the very beginning of the design process, even before the proposal is sent to the owner. Involving the specialty contractors early enables them to aid in the design and have them feel completely in the loop of the project. Allowing them to aid in the design of their scope of work provides extra

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feedback on their strengths and how they perform the best. At Northern Summit we take pride in our work and the work that our specialty contractors build. Pursuing this further we selected from a pre-qualified group of specialty contractors to include in the your contract. The specialty contractor must be able to provide an up-front design with details and be able to incorporate them into a budget. We choose specialty contractors that can operate well on a design-build project and have positive previous experience with the classifications of design-build. To touch on the difference of design-build and design-bid-build, design-bid-build operates off of a low bid basis. As a design-build company we believe that cost is important but should not be the sole reason for a proposal award. Our specialty contractors are not selected on a low bid process but based on who can provide concepts of value engineering to achieve a low price without under bidding or taking immoral short cuts to win a project. It is our responsibility as the design-builder to ensure that the specialty contractor understands the risks that are involved with each specific project and design-build as a process in general. In this case the specialty contractors were selected by our design-build team at Northern Summit to insure that you will be satisfied with the end result. We went through a rigorous interview and application process with multiple specialty contractors for different trades. Because of the contract relationship between us and Grinnell College we stand by our decisions and are really excited to share with you the plans we have in place. In some cases it is advantageous to include the specialty contractors in the project process before the proposal is given to the owner; however for this project we have an exceptional team in place prior to this proposal to you. The contract will utilize third party inspectors and testers to insure that you are receiving a quality product. As a part of the LEED accreditation of this project we researched locally to find materials acceptable for the project to cut down on our carbon footprint as well as minimizing costs of delivery. Planning is the most valuable resource we have and the more time we spend planning up front, the more money we save you in the unexpected occurrences that come without having a proper plan.

Northern Summit utilizes scheduling to accurately organize project activities by, efficiently assigning optimum lag, and clearly setting milestones. Constant and consistent updating to the schedule allows all parties involved a real-time illustration via Gantt chart that clearly depicts current progress. By using this tool, the management team can identify, coordinate, and implement needed control mechanisms to keep the schedule on track. The current schedule that has been drafted is on track to finish early allowing the students to enjoy the facility. We feel that it is important for the facility to be open early so that it allows the indoor track team to have more time to practice and get accustomed to the facility prior to the National Championships. We pay careful attention to how much time is required in the beginning of the project for proper planning. Through historical data of previous experience we have proven that a well thought out plan in the beginning makes the entire project run smoothly to the end. There are always unexpected situations in construction and our schedule allows for those them when they happen without impacting the completion milestone of the project. One of the many benefits to being a design-build company is that we get to start the

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construction of a project before the drawings are completed which we have illustrated in our schedule.

Our idea of a change order is a process that is used when something in the design is not accounted for and needs to be added to the overall cost of the project. Encapsulated within our design-build approach is found our method we refer to as our *one roof* philosophy of communication. Our architects, engineers, construction managers, and owner work together as a team whose focus is to generate sustainable solutions to problems as they arise. We are confident that with proper: planning, experience, attitude, administrative, and engineering controls, change orders can be replaced by simply communicating effective ideas in a value engineering nature. Therefore, Northern Summit considers change orders as an archaic characteristic of the traditional Design-Bid-Build construction method.

Safety at Northern Summit does not stop at the end of the work day. Safety follows us home and on the weekend to ensure that we remain safe outside of work so that we can come back ready to perform. Safety is a part of our culture and is a constant commitment.

Our safety commitment is based on keeping our employees safe. On that same note our employees are not the only people involved in the project, we strive to keep the surrounding community of Grinnell College safe from construction hazards. Our company policy includes daily safety toolbox meetings with all laborers in the area they will be performing work that day. A standard Northern Summit form is filled out including the tasks of the day, hazards involved with each task and controls to avoid accidents. The form is then signed by each laborer at the beginning of the day. At the end of the day it is reviewed by the foreman and they note any accidents and the condition of the work space left to make sure no hazards are left behind. Along with the morning meetings we as a company provide monthly safety lunches for all workers and employees and reward them for their safety performance.

We begin our safety approach at the start of every project. We select our specialty contractors based on their previous safety performance to help assure our owner that not only will Northern Summit be safe but the contractors we employ will also be safe. Once the date has been decided for construction to begin all employees go through rigorous safety training prior to the first day of breaking ground. If there is a new hire during the duration of construction they are also put through a safety training session before they are ever let on site. All employees and specialty contractors are required to wear Personal Protective Equipment (PPE) such as: hard hat, clear and dark safety glasses, safety vest or appropriate safety colored shirt with sleeves and steel toe boots at a minimum. Depending on the work activity other protection will include: gloves, ear plugs, mud boots and a harness. Northern Summit provides

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all employees and specialty contractors with the tools, knowledge and resources they need to reduce the risk of accidents and improve the overall loss control on our projects.

Our management team is heavily involved in our safety program. We train all of our management periodically to keep them updated on the current issues of safety in construction. We carry out inspections for performance, compliance and potential hazardous conditions. Our projects are regularly and at unannounced times inspected by safety and management personnel to keep integrity among our employees.

We acknowledge that accidents happen and things go wrong, as soon as they do we respond with a critical plan to resolve and mend the situation. We learn from the experiences and evolve our safety program. Safety at Northern Summit is more than a priority; it is a fundamental commitment that is imperative to our success as a design-build firm.

# PROGRAM STATEMENT

*An explanation and guide to understanding Northern Summit's: critical design program elements, critical design adjacency issues, value added features, and critical areas of the budget and benefits identified to date with respect to architectural, structural, electrical, and mechanical services.*

## **ARCHITECTURAL:**

One of the most important factors that influenced every step of the design for our building was making sure that the finished product not only fit on the building site, but fit with the feel and flow of the College and of the community that houses it. This posed a rather large challenge in that both the college and the community are steeped in history, with some buildings dating back more than one and a half centuries, but at the same time they are not stuck there. In our design we combined the history of the college with its progressive nature through a combination of layout design and the materials used. Another concern while designing this building was matching it to the existing design of the Darby gym. The final product is a melding of all three of these different parameters that yielded a building that is as unique as the college that houses it.

In order to make the building fit in with the beautiful historical buildings on campus we used two ribbons of brick along the west face that match the old brick buildings on campus and in town. We also used that same brick to wrap the structural columns as well as the majority of the back side of the building. Another concern was maintaining the small town feel and making sure the building blended in with those around it instead of dominating them. To accomplish this we kept as much of the building as we could as low as possible, mainly in the athletic, recreation and academic parts of the building. In order to provide the needed height over the field-house we added an extension to the roof that also serves to naturally vent hot air from the stadium and allow natural lighting for the track.

The defining characteristic of the new Recreation Center/Field-house is the large curving western wall, which is made up mostly of glass. The second story overhangs the first by 10 feet. This is not only aesthetically pleasing but also creates a covered walkway that runs the whole length of the building providing access to all three sections. As you approach the building from the south, past Darby gym, you enter the student recreation center. There is a large cool-down/ lounge area just past the control/reception desk. At the back of the lounge area is the equipment rental office and rock climbing zone. The rock climbing area is blocked in by 2 single story rooms so you can still see its imposing walls while providing a restricted access area to make sure only those who are allowed will be climbing. The rest of the student workout areas are located upstairs. We placed the cardio area at the front of the room with the machines situated pointing out of the second story windows so that the students using the cardio machines will be able to look out over the college grounds during their workouts. We also placed the circuit, free weight, and stretching rooms adjacent to the cardio room so that there

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is a good flow between them for a smooth workout session, but each also has its own distinct boundaries to aid organization. All of the rooms are situated to take maximum advantage of the views provided by the second story bank of windows. To accomplish this we placed all the rooms that people will spend the most time in, such as the workout facilities and offices, on the west side of the building, and rooms such as storage rooms and student locker rooms on the east.

The next section of the building is the academic section, which is also the smallest. We decided to place the academic area next to the recreation center so that they can share facilities. Again we stuck with the same philosophy of maximizing daylight and views by placing the classrooms so that both have a wall of windows on the west side of the building while the restrooms and storage facilities are in the center of the building. The Academic area also has its own entrance so that students going to class are not forced to walk through the recreation center to get there. Since the Academic area is centrally located in the building we also included the elevator in this area.

The athletic facilities are placed adjacent to the indoor track and field-house facilities so that students can go back and forth between them with ease. All of the coaches' offices are located together on the first floor at the East side of the building and include their own entrance to ease access. The second story directly above the office contains the athletic center weight room and the team locker room as well as all of the athletic trainers' offices and all of the rooms pertaining to them such as the exam and treatment rooms.

By far the dominant section of the new building is the field-house. Like the other sections the field-house has its own entrance; however this one is much larger than the others. As you walk in there are three different ticket booths to speed entrance that opens up into the spectator lobby. Directly outside of the Spectator lobby are the public bathrooms which are located between the two sets of mezzanine spectator seats. There is also an entrance in the south east corner of the field-house that connects it directly to the coaches' offices and players meeting rooms. This gives the home team a separate entrance to that of the visitors and any of the spectators. As mentioned before there is a raised central part of the roof that allows more clearance for this part of the building, provides vast amounts of natural light when combined with the wrap around curtain walls, and also provides an exit for warm air that has risen to the top of the stadium which saves money on cooling costs.

#### **STRUCTURAL:**

With numerous baseline design requirements given, as a design-build firm it is easy to find the direction of the project experience great success or failure. In this structure we chose to utilize a combination of pre-cast concrete beams, load bearing masonry walls, and well calculated structural steel load bearing members. These steel members give the field house its sizeable span. Conversely the recreational portion of the building depend upon pre-cast concrete to provide a means to build two floors while adhering to a fast track pace of assembly. This network of structural members rests upon a web of grade beams sitting upon twenty-five,

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fifty foot caissons. This compilation of materials forms the structure's skeleton in which a combination of glazing, brick faced CMU block, and an R-30 EPDM roof system, serve as skin.

The above building system's key qualities are a lack of deflection, fantastic seismic load characteristics, great wind load characteristics, and unsurpassed snow load characteristics. In fact it is Northern Summit's assumption that the Grinnell College's new recreation facility will be able to take on responsibilities as a disaster response facility if Grinnell chooses to do so.

Specifically a great by-product of these fantastic structural members combined with our design-build approach allows an accelerated schedule not available under any other construction method. Because the structural members are pre-fabricated off site it they embody a far more superior dimensional and overall quality characteristics which them effective.

#### **ELECTRICAL:**

Careful review of the critical design program elements led our engineering team to choose mainly Square D components for: service, feeder, and branch circuitry construction. By utilizing a 480 volt, three-phase, 800 amp capacity service, more than enough power is available for this energy efficient building. Voltage drop was a minor concern, but after identifying distances of feeders, and thorough examination of the National Electric Code, our engineers calculated that the drop is within reasonable limits. A 300 kW emergency generator is selected, maintaining a sole purpose is to provide electricity in times of dyer need. The instances that this generator is used it will be feeding power to an array of emergency branch circuits. These circuits include: egress lighting, fire/smoke alarm, automatically actuated smoke control hatches, CO2 alarm, exit signage, and selected high bay luminaries in the field house. Not only does the emergency system have an impressive automated control, but the entire MEP systems are designed with the ability to require minimum manual interactions for their peak efficiency operation. Some of the particular branch circuit protection devices are Ground Fault Circuit Interrupter breakers, surge protection, among others. If service is required however, technicians will find the electrical rooms located in convenient locations on every floor, each housing its respective floor's branch circuitry, and fixed lock out tag out boxes allowing service to all panels and subsequent circuits properly de-energized.

More specifically within the branches are found dedicated circuits for such things as computers and technology, vending equipment, communications equipment, mechanical and elevator equipment, and certain special equipment found in the field house. Lighting and fire/smoke defense systems are another area of where dedicated circuits are found. The fire/smoke systems are integrated with security alarm, and data line services. By combining some of the typically independently ran services into a robust package, the outcome are value added features for all of the user groups (recreational, athletics, academic, and facility operations office). The bottom line for each of these user groups in fact is a total system that will provide a more: usable, safe, and comfortable environment all the while saving dollars through the cost of operation. Another great example of value added design and implementation of materials is found in the structures lighting. While the majority of lighting is

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centered on use of daylight during significant portions of business hours, LED fixtures that are comparable with that of retrofitted fluorescent and metal halide fixtures are used. These fixtures are strategically placed to provide an even yet substantial amount of light. While the costs of LED fixtures are greater than that of fluorescents', the quality of the light spectrum, energy efficiency, and life expectancy make them a great value. There is no better value perhaps specific to this project than that of the photovoltaic (PV), grid connected electrical system. The chosen PV components are twin 10 kW systems, consisting of 120 total 167 watt, 23.5 V collection panels. While the system is running, automatically it is available to send any extra electricity produced to the grid at the credit of Grinnell. For design purposes, the buyback rate per kWh is assumed to be 6.5 cents. These systems pose a challenge that of adjacency issues with the roof system integrity, and extra room required for the additional equipment required to; combine, invert, transform, and route the electricity to the switchgear.

#### **MECHANICAL:**

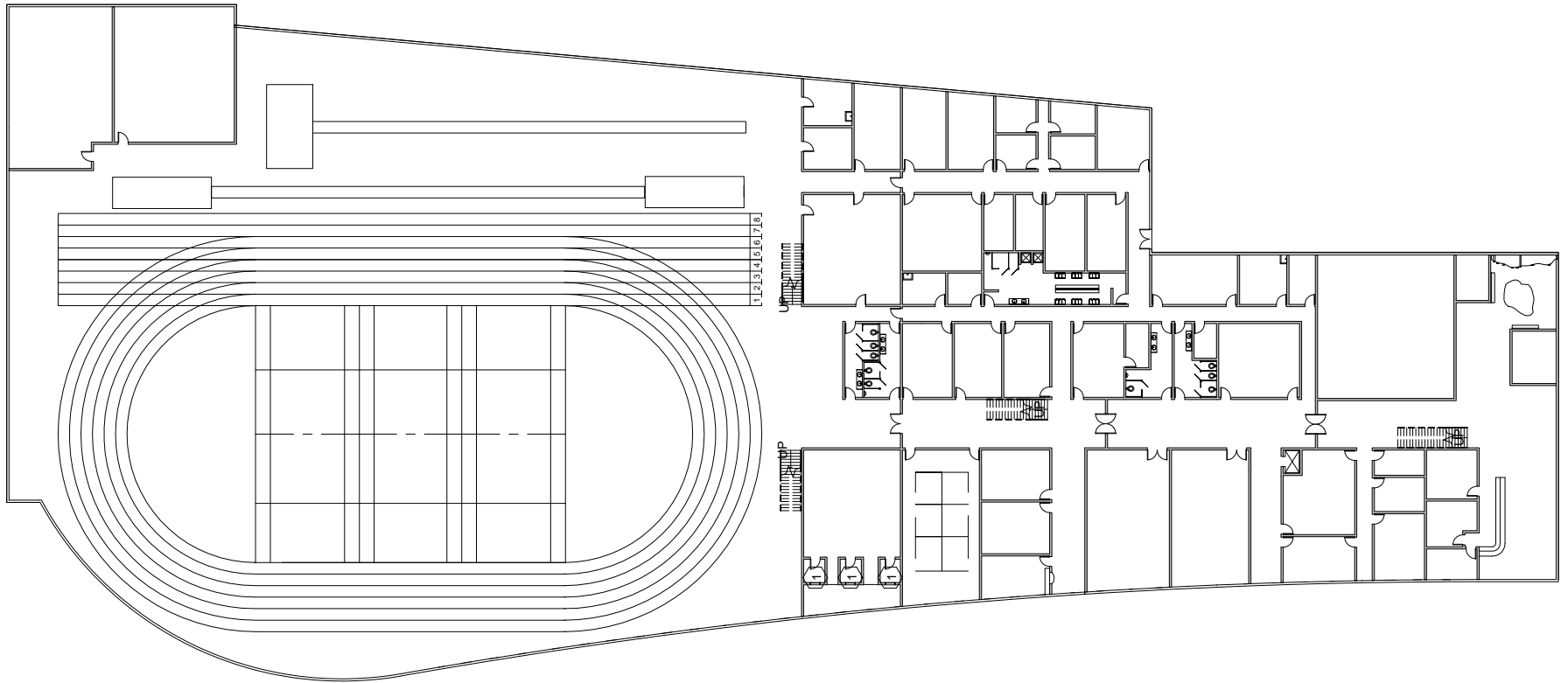
Heating, ventilation, and air-conditioning (HVAC) is subcontracted with one of Northern Summits oldest business friendships. Our two company's engineering departments joined forces to produce a design that will ensure cost efficient use of Grinnell's centrally generated steam and chilled water mains, yet ensures a healthy building atmosphere by integrating with structural designers to incorporate significant cooling-tower driven air exchange. Similarly to the electrical scope of systems, the HVAC systems are controlled by automated controls, thereby, precluding the staff's day to day involvement and even limiting month to month involvement with system operation. In order to specifically abide the RFP and make the most sense, a cornerstone element to the cooling tower design is to ensure that an unrestricted airflow is present by massive air louvers and augmented when needed by exhaust fans. Air flows over chilled water, evaporates and moves at significant amounts along the length of the structure, passively moving up to the mezzanine level and eventually out the top of the Fieldhouse roof.

The structures plumbing systems are all high efficiency end fixtures, networked with copper lines and share similar wall space as to allow group water closet rates. Due to the user groups, care has been taken in avoiding unnecessary costs in fixture aesthetics rather than simple and efficient devices. The shower bays are fully tiled with repurposed materials, adding point value to the projects LEED Certification. Similar to the plumbing, HVAC, and electrical systems, the building's fire protection system is developed with sustainability and an overall direction of high-performance buildings. A wet pipe system with automated controls that are linked with data service lines provide superior assurance of system dependability.

Lastly, a point topic that clearly shows the capabilities of a design build approach to construction is found by examining the elevator. In no other system does so much activity spanning across all of MEP and into the integrity of the structure take place in one confined area. The fast track time line is not slowed down, and the *one-roof* ethos of the joint team is never stronger then when a model is decided upon, and the reverse engineering takes place to house the equipment. A hydraulic 1500lb, 2-5 floor range, Otis elevator is to be utilized. Electrically, having its own circuit, and emergency release actuator, the unit is gently lowered to

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a ground level that is highly protected from fire during emergency shutdown procedures. By using the design build approach, the elevator's total schedule duration is shortened by nearly three months of direct work, considering from design to use.



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Northern Summit  
Grinnell College

No.	Description	Date

Full Plan View

Project number	Project Number	<b>A101</b>
Date	Issue Date	
Drawn by	Author	
Checked by	Checker	
Scale		1" = 30'-0"

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## Northern Summit Grinnell College



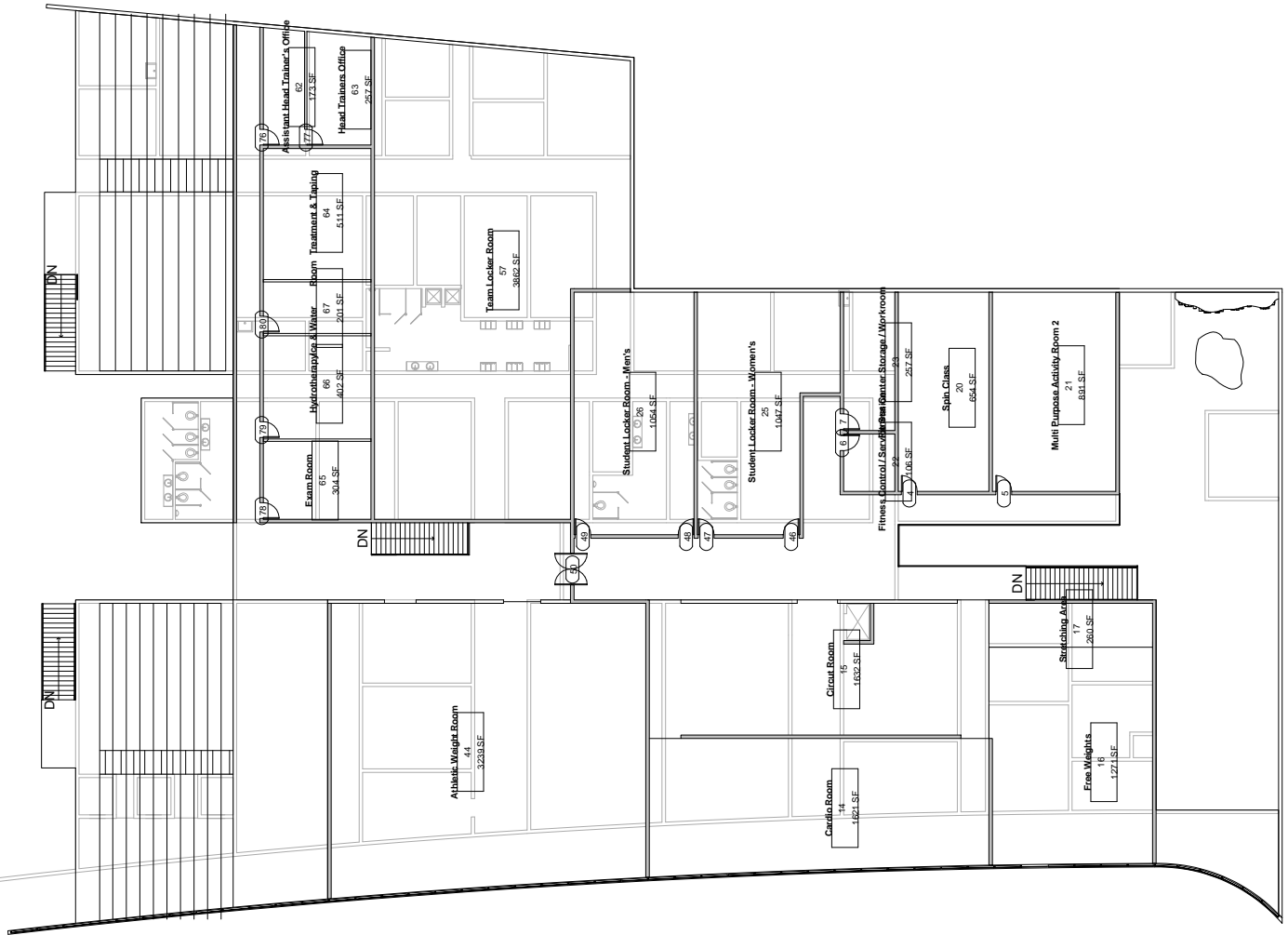
No.	Description	Date

Level 1 Detail		
Project number	Project Number	<b>A102</b>
Date	Issue Date	
Drawn by	Author	
Checked by	Checker	
Scale		1" = 20'-0"

# Autodesk® Revit®

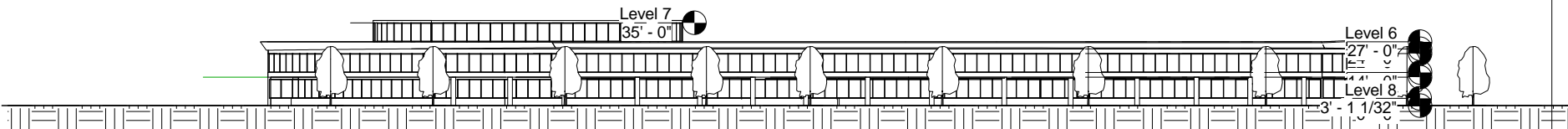
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## Northern Summit Grinnell College



No.	Description	Date

Level 2 Detail		
Project number	Project Number	A103
Date	Issue Date	
Drawn by	Author	Scale 1" = 20'-0"
Checked by	Checker	



① West  
1" = 40'-0"

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Northern Summit  
Grinnell College

No.	Description	Date

West Elevation

Project number	Project Number	<b>A104</b>
Date	Issue Date	
Drawn by	Author	
Checked by	Checker	
Scale 1" = 40'-0"		



## SCHEDULE NARRATIVE

*A view of Northern Summit's design/preconstruction approach by examining permit strategy and overall construction approach to meet the accelerated substantial completion date and final completion date*

The following schedule is generated by integrating project modeling with Northern Summit's historical data, and our highly experienced staff. The project schedule's aggressive nature allows a truly fast-track approach, shortening the duration by nearly eleven months. With the initial five months of preconstruction activities, focusing on: design approvals, permits acquisition, and culminating with a notice to proceed, as the most tentative of the entire schedule; Northern Summit has enabled a unique flexibility in the fact that the remainder of the schedule, that is beyond the notice to proceed should not experience any significant changes within our control. We are proud to use this as one of many tools to preclude the need of change orders in our design build contracts.

Further transparency into our permit strategy can be seen in the early stages of the schedule. While certain time frames are designated for permit approval and acquisition, less related and more independent activities are started simultaneously, such as budget approvals, procurement, and design. One of Northern Summit's standard practices is to always have an alternate and contingency plan to accompany any primary plan. If any delay is experienced due to permitting issues, first, methods to mitigate the amount of delay are utilized; second, the schedule is structured to easily use float to compensate the time difference without impacting milestones defined in the package.

In order to best serve the specific required milestones for this project in a manner conducive with the fast-tracked schedule found in design-build, we injected these milestones at critical stages throughout the project schedule. After a fast turnaround on the award of the project which falls on September 21, 2011 efforts are focused on schematic design development, budget approval, and site plan approval. These activities have been given a relatively liberal duration. At their approval, our team shall have fifty percent of the construction documents complete. The next milestone of the schedule is the notice to proceed, accompanying the bulk of incoming shop drawings and bids. Once this level is achieved, very shortly thereafter, physical work begins on site. During this exciting time, our designers and engineers will be finalizing construction documents for completion with suspense of May 25, 2012. The building is now taking form and place as part of Grinnell's beautiful campus. Over the ensuing nine months, the project is stormed by our mechanical, electrical, plumbing, millwork, and other trades all dedicated to a certificate of occupancy leading to a substantial completion date on February 11, 2013 and a final completion date of March 11, 2013.

We stand behind our accelerated schedule; our proven success has shown time and time again that a forward-leaning and aggressive design build strategy precludes problems by providing time for manageable challenges instead of delays.

# RFP SYSTEMS ESTIMATE SUMMARY

PROJECT **Grinnell College Design-Build Recreation Center / Multi-Purpose Fieldhouse**  
 PROJECT NO. **DBIA 2011**  
 BLDG SF **119,925**



**DBIA ROCKY MTN  
 STUDENT  
 COMPETITION 2011**

DESCRIPTION	TOTAL SYSTEM	COST PER SQUARE FOOT PER SYSTEM	PERCENT OF TOTAL COST PER SYSTEM	REMARKS
<b><u>COST OF WORK</u></b>				
GENERAL CONDITIONS	\$2,227,739	\$18.58	8.03%	
EXCAVATION / FOUNDATIONS	\$1,141,892	\$9.52	4.11%	
STRUCTURE	\$6,258,678	\$52.19	22.55%	
ENCLOSURE	\$1,584,872	\$13.22	5.71%	
ROOF	\$613,276	\$5.11	2.21%	
INTERIORS	\$5,837,003	\$48.67	21.03%	
EQUIPMENT / FURNISHINGS	\$75,236	\$0.63	0.27%	
CONVEYING SYSTEMS	\$69,528	\$0.58	0.25%	
MECHANICAL SYSTEMS	\$1,511,297	\$12.60	5.45%	
ELECTRICAL SYSTEMS	\$1,794,781	\$14.97	6.47%	
SITE WORK	\$735,887	\$6.14	2.65%	
<b>SUB-TOTAL SYSTEMS ESTIMATES</b>	<b>\$21,850,190</b>	<b>\$182.20</b>	<b>78.73%</b>	
<b><u>OWNER ALLOWANCES</u></b>				
Equipment and Info Technologies Systems	\$500,000	\$4.17	1.80%	
Furnishings Allowances	\$200,000	\$1.67	0.72%	
C4 Systems Allowances	\$83,000	\$0.69	0.30%	
Mechanical Systems	\$62,500	\$0.52	0.23%	
3rd Party Commissioning	\$30,000	\$0.25	0.11%	
Site and Structural Testing and Inspections	\$60,000	\$0.50	0.22%	
<b><u>TEAM COSTS</u></b>				
BUILDER'S RISK	\$65,551	\$0.55	0.24%	
GENERAL LIABILITY INSUR	\$218,502	\$1.82	0.79%	
BOND COST	\$152,951	\$1.28	0.55%	
BUILDING PERMIT	\$138,967	\$1.16	0.50%	
PLAN CHECK FEE	\$21,850	\$0.18	0.08%	
DESIGN FEE	\$1,529,513	\$12.75	5.51%	
CONTINGENCY	\$1,966,517	\$16.40	7.09%	
FEE	\$874,008	\$7.29	3.15%	
XXX	\$0	\$0.00	0.00%	
XXX	\$0	\$0.00	0.00%	
<b>TOTAL COST</b>	<b>\$27,753,549</b>	<b>\$231.42</b>	<b>100.00%</b>	

## ESTIMATE NARRATIVE

*An explanation and guide to understanding Northern Summit's cost estimation approach by examining, and defining: assumptions, justifications, and interpretations used to conclude project cost.*

Due to the preliminary nature of the program requirements certain assumptions have been made which are derived from interpretations from Northern Summit's team of the RFP. While we have chosen what we believe to be the best: systems, manufactures, and installation techniques available in today's vast construction industry, we feel it is necessary to provide our justifications to these decisions.

While certain items are clearly defined such as: equipment allowances, testing, and third party commissioning costs, other items require foresight and experience to include in a way which controls costs. To best delve into this with the greatest understanding, it is important to systematically examine would-be problems in the natural order of physically constructing this project.

The General Conditions of any project contain some staples, those items which are near boiler plate throughout the industry, and there is inherently less room for poor interpretation.

While considering the excavation and foundation, the soil was of major concern. After careful consideration, caissons with grade beams were chosen over spread footings or piles. Not only do they provide for a more reliable foundation at this time and date, but they also will be far more capable of additional load if needed in the future. While it is not a current building code, the decision was made to incorporate foundation insulation to achieve sustainability goals.

Our team feels particular pride in the integration of precast double "T" beams which will be used for deck and roof structure. Our designers took an extremely functional structural member and incorporated an aesthetically pleasing conception; all the while fulfilling fast-track characteristics necessary for our aggressive schedule.

The enclosure of the building is where all parties involved agree would be of paramount importance. The concept of abundant daylight, combined with the desire of blending a modern and sleek feel of the envelope with that of neighboring buildings led the team to an expanse of glazing that is sure to make the diligent treadmill user feel as if she was running outside.

One of the most important elements of this project enclosure that depends on its functional ability is the roof. The criteria for an insulation rating of R-30 as a system lead the team to combining an R-23 rigid insulation, with that of an EPDM, low sloped system on top of the double T beam while entraining an inch and a half of airspace provided by anchored lumber. The result is a dependable, cost and energy efficient cover for what is a state of the art interior. The main driving force of nearly all the interior construction is by Sub-contract. Inversely we will self-perform all foundation, structure, the building envelope and, electrical

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systems. Northern Summit prequalifies our subs, and makes every effort to utilize the same preferred contractors for our finishes needs.

In an effort to provide not only adherence to the RFP and compliance to the Americans with Disabilities Act, an elevator has been implemented into the structure at a centralized location which utilizes universal design characteristics thereby, enabling appropriate access to the building for people of all abilities. The choice of a hydraulic, one-hundred feet per minute, apparatus was settled on for its dependable nature, long service life, and reasonable cost.

The electrical and mechanical systems are explained in greater detail by their respective narratives. With respect to their assumptions, and interpretations, the RFP clearly lines out what system requirements are needed.

During the entire project a paramount concern has been the applicability of sustainable practices. One area of importance, where several materials will be utilized to help achieve this goal is in the site landscaping. The design team has engineered a means for the entire landscaping to be free of irrigation, in fact, combined with a network a storm water collection and management routes, at project completion there will be the ability to service the neighboring athletic fields with this grey water. The use of this water at these fields also provides a natural means to filter any residual runoff prior to entering the municipality's drainage systems.

## **BUDGET CONCERNS**

Based on the stated owner budget Northern Summit feels that there are adequate funds available for the project to be constructed utilizing a Design-build delivery method. The sole concern that exists within our team is if Grinnell feels confident that the extra costs associated with achieving LEED Certification Platinum is currently worth allocation considering the fragile economic state that has enveloped the country and the heartland.

An estimate of slightly over eight million dollars of the total budget is dedicated to items that achieve required points on the LEED scorecard in order to achieve Platinum certification. It is Grinnell's prerogative to continue with this investment or to scale it back and achieve a lesser certification.



# LEED 2010 for New Construction and Major Renovation Project Scorecard

Project Name: **Grinnell College Design-Build Recreation Center / Multi-Purpose Fieldhouse**

D-B Team: **Northern Summit**

Yes ? No

## 10 0 0 MATERIALS & RESOURCES 14 Pts

0			Prereq 1	Storage and Collection of Recyclables	Req'd
0			Credit 1.1	Building Reuse - Maintain Existing Walls, Floors and Roof	1 to 3
				Reuse 55%	1
				Reuse 75%	2
				Reuse 95%	3
0			Credit 1.2	Building Reuse - Maintain Interior Nonstructural Elements	1
2			Credit 2	Construction Waste Management	1 to 2
				50% Recycled or Salvaged	1
				75% Recycled or Salvaged	2
2			Credit 3	Materials Reuse	1 to 2
				Reuse 5%	1
				Reuse 10%	2
2			Credit 4	Recycled Content	1 to 2
				10% of Content	1
				20% of Content	2
2			Credit 5	Regional Materials	1 to 2
				10% of Materials	1
				20% of Materials	2
1			Credit 6	Rapidly Renewable Materials	1
1			Credit 7	Certified Wood	1

75% of construction waste shall be recycled or salvaged
10% of materials used shall be reused materials
20% of materials used has a recycled content, the track has ____ % recycled vehicle tires
20% cost of materials is regional materials procured within 500 miles of project
2.5% of the total value of all building materials is rapidly renewable, found in Insulation
< or = 50% of the wood material cost is wood that is certified IAW the Forest Stewardship Council

## 15 0 0 INDOOR ENVIRONMENTAL QUALITY 15 Pts

			Prereq 1	Minimum Indoor Air Quality Performance	Req'd
			Prereq 2	Environmental Tobacco Smoke (ETS) Control	Req'd
1			Credit 1	Outdoor Air Delivery Monitoring	1
1			Credit 2	Increased Ventilation	1
1			Credit 3.1	Construction Indoor Air Quality Management Plan - During Const	1
1			Credit 3.2	Construction Indoor Air Quality Management Plan - Before Occup	1
1			Credit 4.1	Low-Emitting Materials - Adhesives and Sealants	1
1			Credit 4.2	Low-Emitting Materials - Paints and Coatings	1
1			Credit 4.3	Low-Emitting Materials - Flooring Systems	1
1			Credit 4.4	Low-Emitting Materials - Composite Wood and Agrifiber Products	1
1			Credit 5	Indoor Chemical and Pollutant Source Control	1
1			Credit 6.1	Controllability of Systems - Lighting	1
1			Credit 6.2	Controllability of Systems - Thermal Comfort	1
1			Credit 7.1	Thermal Comfort - Design	1
1			Credit 7.2	Thermal Comfort - Verification	1
1			Credit 8.1	Daylight and Views - Daylight	1
1			Credit 8.2	Daylight and Views - Views	1

CO2 monitors w/ alarm installed 3-6 feet above the floor and IAW ASHRAE 62.1-2007
at least 30% above the minimum rates required by ASHRAE standard 65.1-2007
Develop and implement an IAQ management plan for the construction and preoccupancy phases of the building
provide and indoor air "flush-out" prior to occupancy
Adhesives, sealants and sealant primers must comply with South Coast Air Quality Management District (SCAQMD) rule #1168
low VOC paints and coatings shall be used, MSDS sheets shall be available
all flooring elements shall be certified under the Green Label Plus program or similar
Specify wood and agrifiber products that contain no added urea-formaldehyde resins, MSDS sheets
physical location of entries prone to dust and dirt mitigated and main entries 10' long to trap dirt, custodial areas equipped with exhaust vent
All areas shall be equipped with controls to suite group occupants needs
50% or more of all areas shall be equipped with thermal controls that will be available thru staff
Buildings HVAC system will employ design consistent with a "healthy" bldg. per ASHRAE 55-2004
Following standards set by ASHRAE 55-2004, achievement of IEQ credit 7.1 is attainable
75% or greater of regularly occupied spaces achieved day lighting
Design the space to maximize day lighting and view opportunities

## 5 0 0 INNOVATION IN DESIGN 6 Pts

4			Credit 1	Innovation in Design	1 to 5
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation or Exemplary Performance	1
				Innovation	1
				Innovation	1
1			Credit 2	LEED® Accredited Professional	1

Cooling method used is that of Evaporative cooling tower with mechanical augmented air handling

## 0 0 0 REGIONAL PRIORITY 4 Pts

			Credit 1	Regional Priority	1 to 4
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1
				Regionally Defined Credit Achieved	1


## 80 0 0 PROJECT TOTALS (Certification Estimates) 110 Pts

Certified: 40-49 points Silver: 50-59 points Gold: 60-79 points Platinum: 80+ points

**PLATINUM!!!**

## SUSTAINABLE DESIGN NARRATIVE

*A brief description of Northern Summit's environmental and sustainability program that help us achieve a LEED Platinum certification for the Grinnell College project and highlights of specific points we plan to gain.*

At Northern Summit we believe leaving behind the smallest carbon foot print possible is an important step to LEED certification. We plan to get at least 20% of our materials from regional sources within 500 miles to boost the surrounding economy and keep transportation costs down. For example all of our concrete; pre-cast and cast-in-place, will come from a nearby source.

Another point we will achieve is 75% of construction waste shall be recycled. On site is one of the best ways to start the recycle process. We will have multiple waste bins for different types of materials such as metals, clean woods, cardboard, glass, gypsum wallboard, and insulation. Those bins are then taken to be recycled or salvaged.

Of the materials used 10% will be repurposed materials from other projects in the area, and allocated to the Grinnell College project to provide extra sustainability factors. Examples of these materials are CMU block, concrete and interior finishes.

Our design of the facility had a focus on the amount of natural light that we could provide the building. The entire west wall is glazed in energy efficient glass and causes an ample amount of light to be let in and transfer through certain areas of the building. This gives us day lighting in over 75% of regularly occupied spaces.

We have decided to install PV panels on the roof of the recreation center to obtain 13 or more percent of the energy needed to successfully supply the building. Along with the current use of wind energy by Grinnell College the panels will provide the facility with plenty of renewable energy consumption. We will also take advantage of net metering with the local utility companies.

At Northern Summit we set the vision of our company to aim for our projects to have a low impact on the environment. There are multiple areas of ingenuity that go into our sustainability program. We like to achieve green building certificates for every project we design and build. We take into consideration our carbon footprint when we order materials, so we tend to look regionally to aid in the reduction. Striving to purchase environmentally preferred products enables us to develop that customer base and relationship with the manufacturers so that we can repeatedly include those materials in all of our estimates.

# DBIA BUDGET DEVELOPMENT

PROJECT **Grinnell College Design-Build Recreation Center / Multi-Purpose Fieldhouse**

BLDG SF **119,925**

**35.00%**      **7.30%**



## DBIA ROCKY MTN STUDENT COMPETITION 2011

DESCRIPTION	TAKE-OFF		ACTUAL LABOR COST	UNTAXED MATERIAL COST	SUB QUOTE OR F & I COST	LABOR W/ BURDEN 1.3500	TAXED MATERIAL 1.0730	SUB QUOTE OR F&I TOTAL	ITEM TOTALS	REMARKS
	QUANTITY	UNIT								
<b>GENERAL CONDITIONS</b>										<b>\$6,277,115</b>
Professional Services (scheduling consultants, specialty consultants, etc.)	1	LS	0.00	0.00	637,608.30	0.00	0.00	637,608.30	\$637,608	See formula to assume 3% of total cost
Construction Services (registered survey, photo's, etc.)	1	LS	20,000.00	25,000.00	0.00	27,000.00	26,825.00	0.00	\$53,825	
On-site supervisory personnel	1	LS	85,000.00	0.00	0.00	114,750.00	0.00	0.00	\$114,750	
Relocation, travel and subsistence	1	LS				0.00	0.00	0.00	\$0	
Field office and related expenses (supplies, phone, etc.) 015213.20 0350	18	Months	0.00	193.00	0.00	0.00	3,727.60	0.00	\$3,728	
Temporary Construction (fencing, walkways, enclosures, etc.) G2040105 1500	1,100	LF	13.40	15.25	0.00	19,899.00	17,999.58	0.00	\$37,899	
Trucking and freight	1	LS	0.00	0.00	2,000.00	0.00	0.00	2,000.00	\$2,000	
Temporary construction utilities 01 51 13.80 0650	1,000	CSF	0.00	110.00	0.00	0.00	118,030.00	0.00	\$118,030	
Temporary building heating / ventilating 01 51 13.80 0100	1,000	CSF	3.55	27.50	0.00	4,792.50	29,507.50	0.00	\$34,300	
Quality assurance	1	LS	0.00	0.00	102,365.00	0.00	0.00	102,365.00	\$102,365	
Safety / Security	1	Ea	0.00	0.00	25,000.00	0.00	0.00	25,000.00	\$25,000	One guard on night shift for duration of project, subcontracted out
Final clean-up 01 74 13.20 0100	140	MSF	53.50	2.71	0.00	10,111.50	407.10	0.00	\$10,519	
Testing and Inspections	1	LS	0.00	0.00	90,000.00	0.00	0.00	90,000.00	\$90,000	LEED \$30K, \$50K for struct., \$10K special insp., combined to 18%
Bonds, design fees, Builders risk, Liability, Contingencies	1	LS			3,998,576.34	0.00	0.00	3,998,576.34	\$3,998,576	combined to 18%
Fee	1.0	LS			1,048,515.57	0.00	0.00	1,048,515.57	\$1,048,516	4% of total
<b>EXCAVATION / FOUNDATION</b>										<b>\$1,141,892</b>
Caissons A1020 310 - 5000	62.0	EA	2,625.00	735.00	0.00	219,712.50	48,896.61	0.00	\$268,609	Caisson, wet ground, 3000 psi mix, 10 KSF brng, 200K load, 2'x50', (drilled, reinforced, belled end, load & haul excess excavation 2 miles)
Grade Beams A1020 210 - 4540	2,500.0	LF	37.50	2.50	0.00	126,562.50	6,706.25	0.00	\$133,269	GB, 30' span, 28" deep, 12" wide, 1 KLF load (exacation, trimmed, backfilled, compacted, formed, reinforced, 3000psi mix, placed and vibed)
Slab-on-grade A1030 120 - 4520	75,549.0	SF	3.63	3.63	0.00	370,227.87	294,262.60	0.00	\$664,490	SOG 6" thick, light industrial, reinforced, (includes sub base, compaction, vapor barrier, 3500 psi mix, placement, expansion joint, forms, cured, toweled)
Foundation Insulation 07 21 13.13 0600	75,549.0	SF	0.51	0.29	0.00	52,015.49	23,508.58	0.00	\$75,524	Polystyrene, expanded 1" thick, R4
						0.00	0.00	0.00	\$0	
<b>STRUCTURE</b>										<b>\$6,486,201</b>
C.I.P. Column - Round Tied B1010 201	25.0	VLF	0.00	0.00	10,000.00	0.00	0.00	250,000.00	\$250,000	Columns are part of the enclosure
Floor Construction, Precast Double "T" Beams B1010 234 2800	75,549.0	SF	1.61	7.40	0.00	164,205.75	599,874.17	0.00	\$764,080	50' span, 148 P.S.F load, edge formed, 3000 psi mix, place and vbe, pumped, towel finished, spray cured
Floor Construction, Precast Double "T" Beams B1010 234 2500	44,376.0	SF	1.23	7.25	0.00	73,686.35	345,212.00	0.00	\$418,898	50' span, 103 P.S.F load, edge formed, 3000 psi mix, place and vbe, pumped, towel finished, spray cured
Structural Steel Projects, Schools, maximum 05 12 23.77 3070	405.1	Ton	5,575.00	4,325.00	0.00	3,048,883.88	1,879,957.70	0.00	\$4,928,842	Total steel, incudes W 30x 114's, W 33 x 141's, and K joist
L shaped Precast Beams B1010 215 3000	720.0	LF	15.10	142.00	0.00	14,677.20	109,703.52	0.00	\$124,381	

**DBIA BUDGET DEVELOPMENT**

PROJECT

**Grinnell College Design-Build Recreation Center / Multi-Purpose Fieldhouse**

PAGE TWO

DESCRIPTION	TOTAL QUANTITY	ACTUAL LABOR COST	UNTAXED MATERIAL COST	SUB QUOTE OR F & I COST	LABOR W/ BURDEN	TAXED MATERIAL	SUB QUOTE OR F&I TOTAL	ITEM TOTALS	REMARKS
<b>ENCLOSURE</b>									<b>\$1,584,872</b>
Brick Face Composite wall, double wythe, B2010 132 3120	22,069.0	SF 18.30	8.35	0.00	545,214.65	197,728.31	0.00	\$742,943	Engineer, conc. Block back up 8", perlite,
Glazed Curtain Walls					0.00	0.00	0.00	\$0	
Tubular Aluminum Framing B2020 210 2100	6,800.0	SF opng 16.30	26.00	0.00	149,634.00	189,706.40	0.00	\$339,340	Glazing panel, insulating, 1/2" thick, 2 lites, 1/8" float,
Curtain wall Panels B2020 220 1100	6,800.0	SF 10.20	14.20	0.00	93,636.00	103,608.88	0.00	\$197,245	tinted
Glazed Doors, Alum. & glass B2030 110 7550	1.0	opng 4,400.00	25,100.00	0.00	5,940.00	26,932.30	0.00	\$32,872	Revolving, stock design, average, 6'x7'
Glazed Doors, Alum. & glass B2030 110 7050	3.0	opng 2,275.00	3,725.00	0.00	9,213.75	11,990.78	0.00	\$21,205	Wide stile, dbl. door, w/ Hdwre, 6'x10'
Exterior Door, steel door, overhead, B2030 220 4800	1.0	opng 940.00	1,950.00	0.00	1,269.00	2,092.35	0.00	\$3,361	Rolling, manual oper.
Exterior Door, steel door, hollow metal, A label, B2030 220 3900	1.0	opng 350.00	1,600.00	0.00	472.50	1,716.80	0.00	\$2,189	2'-8" x 7'-0"
Trims, flashings, moldings, storm water tie ins	1.0	LS 0.00	0.00	89,036.00	0.00	0.00	89,036.00	\$89,036	
Design consultant	1.0	LS 0.00	0.00	156,680.00	0.00	0.00	156,680.00	\$156,680	
					0.00	0.00	0.00	\$0	
<b>ROOF</b>									<b>\$613,276</b>
Roofing					0.00	0.00	0.00	\$0	
Roofing, Roof Coverings, single ply membrane B3010 120 2000	75,549.0	SF 0.90	1.14	0.00	91,792.04	92,413.05	0.00	\$184,205	45 mils, fully adhered
Roofing, Roof Coverings, Roof Deck Rigid Insulation 07 22 16.10 2140	75,549.0	SF 0.25	1.74	0.00	25,497.79	141,051.49	0.00	\$166,549	Expanded polystyrene, 1#/C.F.density, 6" thick R23.26
Roofing, Roof Coverings, Base Flashing, B3010 410 2700	1,546.0	LF 13.65	10.05	0.00	28,488.92	16,671.52	0.00	\$45,160	1/16" thick, 24 Ga. w/ wood block, anchor bolts, 4' O.C.
Roofing, Roof Coverings, Downspouts, B3010 620 0100	398.0	V.L.F 3.13	1.14	0.00	1,681.75	486.84	0.00	\$2,169	Aluminum, rectangular, 2"x3", embossed mill,
Roofing, Roof Opening, Hatches, B3020 210 0600	3.0	OPNG 223.00	660.00	0.00	903.15	2,124.54	0.00	\$3,028	2'-6" x 4'-6" Galvanized steel
Roofing, Roof Coverings, Skylights, B3020 110 6000	1,800.0	SF 10.05	17.80	0.00	24,421.50	34,378.92	0.00	\$58,800	Sandwich panels fiberglass, 1-9/16" thick,
Roofing, sealants, caulking, compounds, adheasives	75,549.0	SF 0.00	0.00	2.03	0.00	0.00	153,364.47	\$153,364	
Deck construction and R value assurance sub	1.0	LS 0.00	0.00	269,320.00	0.00	0.00	269,320.00	\$269,320	
					0.00	0.00	0.00	\$0	
					0.00	0.00	0.00	\$0	
<b>INTERIORS</b>									<b>\$6,958,820</b>
Interior construction	1	LS 0.00	0.00	2,689,520.00	0.00	0.00	2,689,520.00	\$2,689,520	
Includes: wall, ceiling, floor rough framing					0.00	0.00	0.00	\$0	
wall anchor systems					0.00	0.00	0.00	\$0	
					0.00	0.00	0.00	\$0	
					0.00	0.00	0.00	\$0	
Interior finishes	1	LS 0.00	0.00	4,269,300.00	0.00	0.00	4,269,300.00	\$4,269,300	
Includes: Paint, multi-floor surfaces,					0.00	0.00	0.00	\$0	
Ceramic tile, wet walls, painted drywall					0.00	0.00	0.00	\$0	
Tile shower areas, texture and paint drywall					0.00	0.00	0.00	\$0	
Sealed concrete floor					0.00	0.00	0.00	\$0	
Epoxy painted drywall walls, painted exposed ceiling					0.00	0.00	0.00	\$0	
Sheet vinyl flooring, epoxy painted drywall walls					0.00	0.00	0.00	\$0	
Carpet, stone lay, built in seating					0.00	0.00	0.00	\$0	
Rubber floor,					0.00	0.00	0.00	\$0	
Acoustical wall coverings					0.00	0.00	0.00	\$0	
Doors, millwork, cabinetry,					0.00	0.00	0.00	\$0	
					0.00	0.00	0.00	\$0	

**DBIA BUDGET DEVELOPMENT**

PROJECT

**Grinnell College Design-Build Recreation Center / Multi-Purpose Fieldhouse**

PAGE THREE

DESCRIPTION	TOTAL QUANTITY	ACTUAL LABOR COST	UNTAXED MATERIAL COST	SUB QUOTE OR F & I COST	LABOR W/ BURDEN 1.3500	TAXED MATERIAL 1.0730	SUB QUOTE OR F&I TOTAL	ITEM TOTALS	REMARKS
<b>EQUIPMENT / FURNISHINGS</b>									<b>\$75,236</b>
Sub- move all furnishings, equipment, detail, clean up	1.0	LS	0.00	0.00	75,236.00	0.00	0.00	75,236.00	\$75,236
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
<b>CONVEYING SYSTEMS</b>									<b>\$69,528</b>
Elevators and Lifts, Hydraulic D1010 110 1300	1.0	Ea	15,100.00	45,800.00	0.00	20,385.00	49,143.40	0.00	\$69,528
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
<b>MECHANICAL SYSTEMS</b>									<b>\$1,523,797</b>
3rd party Commissioning	1.0	LS	0.00	0.00	12,500.00	0.00	0.00	12,500.00	\$12,500
Test and balance	1.0	LS	0.00	0.00	15,000.00	0.00	0.00	15,000.00	\$15,000
Temperature Controls	1.0	LS	0.00	0.00	35,000.00	0.00	0.00	35,000.00	\$35,000
Fire Protection, Sprinklers, Wet Pipe Sprinkler Systems, D4010 410 1100	84,000.0	SF	2.19	1.47	0.00	248,346.00	132,494.04	0.00	\$380,840
Fire Protection, Standpipes, Wet Standpipe Risers, Class1 D4020 310 0600	1.0	LS	8,450.00	9,275.00	0.00	11,407.50	9,952.08	0.00	\$21,360
Plumbing fixtures, Water closets, group D2010 120 3000	10.0	Ea	1,000.00	2,200.00	0.00	13,500.00	23,606.00	0.00	\$37,106
Plumbing fixtures, Urinal Systems,D2010 210 2000	20.0	Ea	745.00	565.00	0.00	20,115.00	12,124.90	0.00	\$32,240
Plumbing fixtures, lavatory systems, D2010 310 2040	25.0	Ea	730.00	845.00	0.00	24,637.50	22,667.13	0.00	\$47,305
Piping, installed, D2090 810	5,000.0	LF	8.45	6.60	0.00	57,037.50	35,409.00	0.00	\$92,447
HVAC, Design, procure, install Sub contract	1.0	LS	0.00	0.00	850,000.00	0.00	0.00	850,000.00	\$850,000
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0
						0.00	0.00	0.00	\$0

Ordinary hazard  
6" dia.  
Four fixture group, includes: trim, seat, valve, rough in, connections to branches and waste mains  
Complete system  
Complete system  
3/4" Dia, type K, copper tubing, hard temper, solder

