

Utah Shakespearean Festival Metal Storage Building Program

At: Southern Utah University
Cedar City, Utah
Project # 09221730
15 December 2009

This "Metal Storage Building Program" was prepared jointly by Southern Utah University Facilities Management, Project Administrator, Ben Johnson and Utah Shakespearean Festival Facilities and Technology Director Lew Haslam.

With assistance from

Utah Division of Facilities Construction and Management
Greg Buxton, Director
Jeff Reddoor, Project Coordinator

Approval Signatures:

We have reviewed this Metal Storage Building Program prepared for the Utah Shakespearean Festival and approve its content. We warrant that it adequately represents our requests and needs for the new storage facility. It appears to be a complete and accurate schematic document for the building design/build project.

Approved: 

Lew B. Haslam, Facilities and Technology Director
Utah Shakespearean Festival
1/6/10
Date

Approved: 

Ben Johnson, Facilities Management and Project Administrator
Southern Utah University
1/6/2010
Date

Approved: 

Jeff Reddoor, Project Coordinator
Utah Division of Facilities, Construction and Management
1/6/2010
Date

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Tab One

EXECUTIVE SUMMARY

The Programming Procedure

The purpose of a building "Program" is to have a programming consultant and the new facilities owner, Utah Shakespearean Festival (USF), communicate and establish written objectives, needs and requirements for a future building. This is accomplished prior to contracting for the design and development of construction documents. Together as a team they review the future building site. They discuss the owners/users needs and expectations. A basic written outline for the new buildings rooms, space relationships and support systems is formed and the cost estimate is developed.

Programming allows for the owner to develop a workable facility within the budget constraints. It establishes clear written criteria for the architectural design and construction leading to a successful project that performs as the owner desires.

The Programming Committee

The initial programming committee consisted of representatives from the Festival, Lew Haslam, the University, Ben Johnson, DFCM, Jeff Reddoor and representatives from MESA Consulting Group. Those involved in the program development and final review and approval of the program are noted in the acknowledgements section of this summary.

The Utah Shakespearean Festival

The Utah Shakespearean Festival is a festival of repertory productions of the works of William Shakespeare and other dramatists. The Festival is held during the summer and fall on the campus of Southern Utah University in Cedar City, Utah, within a day's drive of seven national parks and other attractions. It is 2 1/2 hours northeast of Las Vegas, Nevada and 3 1/2 hours south of Salt Lake City, Utah.

Mission Statement

The Utah Shakespearean Festival presents life-affirming classic and contemporary plays in repertory, with Shakespeare as our cornerstone. These plays are enhanced by interactive festival experiences which entertain, enrich, and educate.

Need/Justification

The Utah Shakespearean Festival (USF) has a large collection of hand and set properties that are currently housed in a temporary storage tent to be retained, stored and reused from year to year. Southern Utah University continues to experience major student growth resulting in the need to vacate and dismantle the temporary properties tent which was erected on a university parking lot. The parking lot is urgently needed to serve both students at the University and patrons attending festival events.

Existing Facility

The festival production hand and set properties are currently housed in a large temporary tent. The tent was temporarily erected in 2002 in the University parking lot located at the corner of Center Street and 200 West. Metal shelving was placed on the asphalt to

categorize and store the properties. The tent is not climate controlled or totally weather proof. The properties are valuable to the festival organization and require a permanent secure storage facility.

Building Concept

The Festival production staff are requesting a pre-engineered "cold Storage" metal building. It is intended that this Program be utilized as a schematic outline to be used in the Design/Build Construction approach.

The building's primary use is to securely house all of the USF hand and set properties. The facility would be insulated but not heated or air conditioned. Minimal entry would be thru one passage door and one garage type door. Minimal electrical service would provide for interior lighting, convenience outlets and exterior security lighting.

Location

The new metal storage building will be constructed off campus on University property at 1635 N. Bulldog Road, Cedar City. USF currently maintains a set construction building and several storage containers at this location. The property is large enough to allow for the proposed 6,000 GSF building.

Space Requirement Summary

The USF proposed building requirements are for a pre-engineered metal building providing 100' x 60' of open storage space. The 6,000 SGF facility would have unobstructed open floor space, a 16' minimum clear ceiling height and a level concrete slab floor. It is Master Planned that this facility will be expanded at a later date.

Site Description

A review of the Southern Utah State University Capital Facilities Plan does not include specific directions for facilities to be erected on this off campus Site.

The new building shall be erected at the property located at 1635 Bulldog Road, Cedar City, Utah. This location presents the following attributes:

- Adjacency to the current Utah Shakespearian Festival set and prop construction building and other storage containers.
- A location that allows for sufficient property for this project and future expansion.
- A location close to major roadways for ease of access and egress.
- A location conducive to the USF construction, storage and other business.
- Property sufficient for truck delivery and large vehicle parking.
- Utility services in close proximity to the new building location.

Architectural Character

Southern Utah University is the owner of the off campus property that will be the location of the new Utah Shakespearian Festival storage facility. Architectural design is not part of this program. It is the direction of the USF that the building be a pre-engineered metal building with no specific architectural requirements. It was requested that the new building match the existing metal building in side wall and roofing color.

Project Design and Construction Requirements

During the development of the Program several requirements were revealed from the Programming Committee and other sources. These are presented in no particular order of significance.

- All building systems design and construction shall meet all Utah State, Division of Facilities, Construction and Management (DFCM) Design Process and Requirements (See Tab Nine) and IBC building codes and standards.
- This project shall follow and be subject to all DFCM General Conditions. (See Tab Ten and Eleven)
- The Design/Build Team shall provide complete plans and specification for the proposed metal building. The plans and specification shall be reviewed and approved by the DFCM code official. The construction shall be observed and inspected as required by the type of construction and by qualified testing agencies.
- The design/build team shall present a bid and also bonding which will cover all aspects of the design process and all construction elements to produce the complete and finished building.
- No design or construction elements of this project shall be determined to be provided by "Other"
- All electrical information provided in this program shall be verified by the designing Electrical Engineer.
- Over excavation of existing site soils for both the footings and slab will be required. Recommendations are outlined in the geotechnical study.
Ref: GEM Engineering, Inc. geotechnical study. (See Tab Six)
- The Contractor shall provide for all provisions required by the Geotechnical Engineer. (See Tab Six)
- There is no set back requirement for this building along the South property boundary.
Ref: Cedar City Engineering and Planning Department
- A 12" culinary water main exists running North South in Bulldog Rd.
Ref: Cedar City Engineering and Planning Department
InSite Engineering, P.C. ALTA Survey. (See Tab Five)
- The building will require a pipeline and fire hydrant for fire suppression. No interior sprinkling system is required.
Ref: Utah State Fire Marshal

- The Owner is required to pay for all project utility connection and impact fees.
- The Outline specification "Division 03-Concrete" exceeds the SUU Standards and Requirements for Concrete Materials. The Designing Architect shall review Division 03-Concrete specifications with the SUU representative to assure all SUU requirements have been met.
See, Ben Johnson, SUU Construction Standards
- A 12' wide hard surface (asphalt) driveway will be required for Cedar City Fire Department access. The 12' driveway is a minimum width allowing no parking on the driveway.
Ref: Cedar City Fire Department
- As a convenience, the DFCM "Approved Fabricator list for 2009: has been provided after the Outline Specification. (See Tab Seven) This listing should be verified as current by the Design/Build Team.

Acknowledgements

Southern Utah State Administration

Michael T. Benson,	President
Dorian Page,	V.P. for Finance and Facilities
David F. Tanner, Associate	V.P. for Facilities Management
Ben Johnson, Manager,	Project Administration

Utah Shakespearean Festival Staff

R. Scott Phillips,	Executive Director
Todd Ross,	Business and Finance Director
Lew B. Haslam,	Facilities Manager
Raymond Inkel,	Production manager
Benjamin Hohman,	Properties and Display Director

Programming Team

Leslie A. Stoker, AIA.	MESA Consulting Group, Architects, Engineers
William S. McMurrin, AIA	MESA Consulting Group, Architects, Engineers
Adam Jensen, AIA	MESA Consulting Group, Architects, Engineers
Ron C Larsen. S.E.	MESA Consulting Group, Architects, Engineers
Ned E. Carnahan	MESA Consulting Group, Architects, Engineers

Utah Division of Facilities, Construction and Management

Jeff Reddoor,	Project Coordinator
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SOUTHERN UTAH UNIVERSITY CONCRETE SPECIFICATIONS

This specification was provided by Southern Utah University and is to be incorporated as part of this program. Wherever the program outline specification exceeds this specification, the more stringent shall be utilized.

Materials – Specific requirements

- a. Portland cement: Use type II (moderate) cement conforming to ASTM C 150 Low alkali for all on grade or below grade installations. Type I may be used in above grade concrete work with the approval from Facilities Management.
- b. Admixtures: Calcium Chloride shall not be used as an admixture.
- c. Air Entrainment: Specify 6-1/4% plus or minus 1-1/4%.
- d. Pozzolans: Replacement allowed up to 15% of cement with a 1.5 to 1 replacement ratio. Specify loss of ignition at less than 1% and water requirement not to exceed 100%.
- e. Synthetic fibrous reinforcement: Specify collated, fibrillated polypropylene with a mix ratio of 1.5 pounds of fiber to 1.0 cubic yards of concrete. To be used in all concrete specified in Section 02528.
- f. Curing and Sealing: Specify a combination curing and sealing compound to be used on all exposed concrete flatwork with requirements of ASTM C 309 and AASHTO M 148. The compound shall be acrylic based with a minimum of 18 percent solids and a moisture loss of 0.031 grams per cubic centimeter maximum after 72 hours. Specify a two coat application occurring immediately after surface water dissipation and concrete finishing and at approx. 28 day from placement.

Concrete Strength: Specify a minimum allowable compressive strength (at 28 days from placement) and minimum cement content (bags per cubic yard at 94 Lbs. per bag) as follows;

- a. Footings: 3,000 psi and 5.5 bags.
- b. All other conditions: 4,000 psi and 6.0 bags.

Tab Two

FESTIVAL HISTORY

The Utah Shakespearean Festival was founded in 1961 and presented its first season in 1962. It was a vision of its founder Fred C. Adams to accommodate his and the University's Theater students desire to produce great theatre. It also was influenced by summer tourists desiring evening activities after visiting the National Parks. The replica of Shakespeare's Globe Theatre was constructed in stages and dedicated in 1977. Other facilities including the Randall L. Jones Theatre completed in 1989 and several proposed future facilities are envisioned in the future. This proposed storage facility will meet the needs of the festival's expanding hand and set properties collection.

The Utah Shakespearean Festival organization (USF) has requested a program to outline the construction of the 6,000 gross square foot, open space, cold storage facility to house the festivals performance set and had properties. Currently all of the hand and set properties are housed in a temporary tent facility located in a parking lot on the Southern Utah University (SUU) campus.

The initial USF programming team consisted of Lew Haslam from USF and Ben Johnson from SUU and the MESA Consulting Group staff. It was determined early that the facility would be a pre-engineered metal building noting that construction cost efficiency was paramount. The proposed off campus site was observed and found to be adequate for the building erection and would meet the needs of the USF staff. The occupancy of the building would be hand and set properties only. No personnel, offices, laboratories or shops would be housed in the facility. The USF staff currently occupy an existing shop and office facility on the property and will be adjacent to the new metal storage building when completed.

The facility program will receive input from the festival staff and also the University Facilities Department staff. USF staff will be the primary occupants of the building and will provide most of the design direction. The final program has been presented to select members from the USF administration and University Administration for approval sign off.

Tab Three

2006 INTERNATIONAL BUILDING CODE REVIEW
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Occupancy
(Chapter 3) Storage S-1 (Section 311)

Occupancy Separation
(Table 508.3.3) None Required

Type of Construction
(Chapter 6) Type IIB

Frontage
(Section 506.2) Assume .75

Occupancy Separation Required No

Fire Sprinklers
(Section 903.2.8) No

Stories Allowed
(Table 503) S1 3 Stories

Maximum Floor Area Allowance Per Occupant
(Table 1004.1.1) 500

Occupant Load 12

Number of Exits 1

Allowable Building Area
Occupancy S1
Programmed Area 6,000
Basic Allowable Area (503) 17,500
Area Modifications Not needed

Fire-Resistive Requirements (Table 601)

Structural Frame
Including columns, girders, tresses: 0 hour

Bearing Walls
Exterior Walls 0 hour
Interior Walls 0 hour

Non-Bearing Walls and Partitions
Exterior Walls (Table 602) 0 hour
Interior Walls (Section 602) 0 hour

Floor Construction
Including supporting beams and joists
0 hour

Roof Construction
Including supporting beams and joists
0 hour

Required Plumbing Fixtures
(Section 2902.4.1) 1/100
Located in adjacent building with-in 300 feet travel distance

FACILITY OUTLINE/SPACE SUMMARY

Pre-Engineered Metal Building. A Cold Storage Facility to house Hand and Set Properties for the Utah Shakespearean Festival.

SPACE REQUIREMENTS

SPACE SUMMARY

Identification: The building is identified as a pre-engineered, metal, cold storage, facility. It is an open space building to house set and hand properties.

Space Type: Storage

Area (SF): 6000 GSF

Number required: One

Number additional (expansion): The building design shall provide for expansion on both ends of the new building in 20'x60' increments.

Total number: NA

Area (each): NA

Minimum Dimensions: 100'x 60'

Subtotal Required Area: NA

Total area: 6000 GSF

SPACE OCCUPANCY

Stations: None required for the open space storage occupancy.

Area Per Station: NA

SPACE FUNCTION or TASKS

To provide a large open space single story metal storage building to act as a permanent, secure, storage facility for USF's hand and set properties. The open floor space shall support existing open metal shelving units provided by owner. No other occupancy is anticipated for this facility.

SPACE RELATIONSHIPS

Location: Off campus at 1635 Bulldog Rd. Cedar City.

Adjacency: To the existing USF scenic studio and properties shop metal building.
See proposed site plan (See Tab Five).

Proximity: NA

Separation: NA

Access: Independent access from the open driveway. ADA parking and accessible route to the main entry doorway required.

Acoustical Isolation: None required.

ARCHITECTURAL REQUIREMENTS (See Also Outline Specification)

SPACE FINISHES

Interior

Floor: Smooth sealed concrete (Review SUU Concrete Specification with owner)

Walls: White factory applied finish for interior surface and 4" exposed polypropylene (white) faced glass-fiber blanket insulation

Ceiling: White factory applied finish and 6" exposed polypropylene (white) faced glass fiber blanket insulation

Sound: No acoustical treatment required.

Steel Frame: Field applied finish, color approved by owner. (See Outline Specification)

Exterior

Walls: Factory applied finish, color approved by owner. (See Outline Specification)

Roofing: Factory applied finish, color approved by owner. (See Outline Specification)

CEILING

Minimum Eave Ht.: 16" from finished floor

Type: Open painted metal joist, visible insulation and electrical utility.

DOORS

Type: One double 6'-0" x 7'-0" metal entry door with removable mullion and field applied finish, color approved by owner.

Provide security glass window in both doors.

Frame: Field Painted hollow metal, color approved by owner.

Lockset: Commercial entry w/ exterior lockset and interior panic hardware. Match campus standard lockset, key core, key type and panic device. SUU to provide the key code.

Type: One 12' wide commercial gauge metal sectional garage door. Field painted, color approved by owner.

Provide a door height to maximize the entry space.

Frame: Field Painted metal, color approved by owner.

Lockset: Commercial grade interior locking system. Brand and system to be approved by owner.

Special: Maximum thermal insulation required.

Entry Landing: Provide the required ADA compliant concrete landing adjacent to the main entry Door .

WINDOWS

Natural light: None required, no skylights.

Type: NA

Glazing: NA

CASEWORK/FIXED EQUIPMENT

Wall Cabinets: NA

MOVABLE FURNISHINGS

Metal shelving: Supplied by owner.

Trash cans: Supplied by owner.

PHYSICAL REQUIREMENTS

MECHANICAL - ENVIRONMENT

Heating & Air Conditioning: No mechanical heating or cooling systems are required for this building.

Outdoor air: NA

Air circulation: NA

Summer design temp: NA

Winter design temp: NA

Controls: NA

Sound criteria: NA

Special systems: NA

Insulation: NA

PLUMBING FIXTURES

No plumbing systems such as restroom facilities or interior water supply are required for this facility. No interior or exterior hose bibs are requested for hose connections. No exterior landscape irrigation system is required for this project. Floor drains are not required for this facility.

ELECTRICAL SERVICE

Existing Utilities

Electrical power is supplied to the existing building by Rocky Mountain Power. (See Site Analysis, Tab 4) Verify with Rocky Mountain Power the capacity to provide for a new service drop for the new building.

Contractor to provide a new 3Ph service drop, metering, dry transformer (providing 480 Volt, 110 and 208 Volt taps and a minimum 100 Amp, 3Ph, 110/208 Volt breaker panel as required for the new facility. The Owner is required to pay for all Impact and Connection fees. The Contractor shall pay for all required labor, equipment, materials and installation costs.

ELECTRICAL OUTLETS

Power: Provide 110V, 20 Amp duplex receptacles along interior walls at 20' intervals adjacent to the structural bays.

Provide one interior 208V, 30 Amp outlet adjacent to the garage door.

Data: No data ports are required.

Phone: No telephone service is required.

Provide a 2" conduit from the existing building to the new building for future communications. See owner for termination points for this conduit.

Video: NA

Security: NA

LIGHTING

Interior Fixture type: High Bay fluorescent fixtures spaced to allow for maximum light between permanent storage shelving, (See Outline Spec. Tab Seven)

VCP: 70

Controls: Manual control with staged row switching.

Exterior Fixture Type: Wall Pac units with 205 Watt High Pressure Sodium lamps sufficient to illuminate the entry and garage door areas. (See Specification)

Controls: Photocell activated with relay switching.

Spacing: Provide one security light at each end of the building and one over the entry door and one to the opposite side of the garage door.

EQUIPMENT IN PROJECT

Wall Clock: None

Telephone: None

EQUIPMENT BY OTHERS

Storage shelving: by owner

Computer System: None

Printer: None

FIRE SUPPRESSION

Classification: The building is classified as a S-1, Moderate Hazard Storage facility.

Sprinkler System: Not required.

Fire Alarm: Not required.

Water Supply: New 6" fire hydrant and supply line is required. Provide a new tap from the existing Cedar City water pipeline in Bulldog road and extend the pipe line to the location identified on the site plan. Continuous flow hydrant system with fire flow of 2,000 GPM with a 2 hour duration is required. Hydrant location shown on typical building site plan. (See Tab 5, Sheet SP101) Contractor is responsible for all required Cedar City impact and connection fees.

Access Roadway: A required 12' wide hard surface Fire Lane extending from the pavement at Bulldog road to the new building. (See Tab Five, Sheet Sp101) Fire Lane construction to meet Cedar City design requirements.

OTHER

Parking: Provide two concrete parking spaces at the building entrance. One must meet all ADA access requirements. Provide a concrete entry apron at both the doorway and garage door. (See Tab 5, Sheet Sp101)

Storm Drainage: The metal building roof shall drain directly to the surface without guttering and downspouts. Proper drainage away from the building foundation shall be provided for. Finish floor to be 8" minimum above exterior finish grade.

Tab Four

SITE UTILITIES INFRASTRUCTURE

The location for the proposed cold storage metal building is located on University property at 1635 North Bulldog Road, Cedar City, Utah.

Electrical: Electrical service for the existing building is provided by Rocky Mountain Power. Two service drops and metering are delivered to the existing building at the east exterior wall. Two dry transformers are located inside the existing building.

1. HPS dry transformer, 75KVA at 480 V, 3Ph, to 120/208 V
2. Magnatek dry transformer, 45 KVA, 480 V, 3Ph, to 110/240 V

All electrical information provided shall be verified by the designing Electrical Engineer.

Note: A 100 Amp, 3Ph 110/208 Volt breaker panel is requested for the new storage building. A 480 Volt, 3Ph service capability is also requested for future use at the new building. A new 2" conduit running from the existing building to the new building for future communications is also requested.

Water: Culinary water is provided from a well located on the East boundary of the property to the existing building. The well is mutually shared with the property owners East of the property. There is a 12" Cedar City public utility water pipeline in Bulldog Rd. No culinary water is requested for the new building.

Waste water: A sanitary sewer line provides for waste water from the existing building. The pipe line extends from the existing building to Bulldog Rd. No septic system is requested for the new building.

Natural Gas: Natural gas is provided by Questar Gas Company. The service pipeline and meter set is located on the east side of the existing building. No natural gas is requested for the new building.

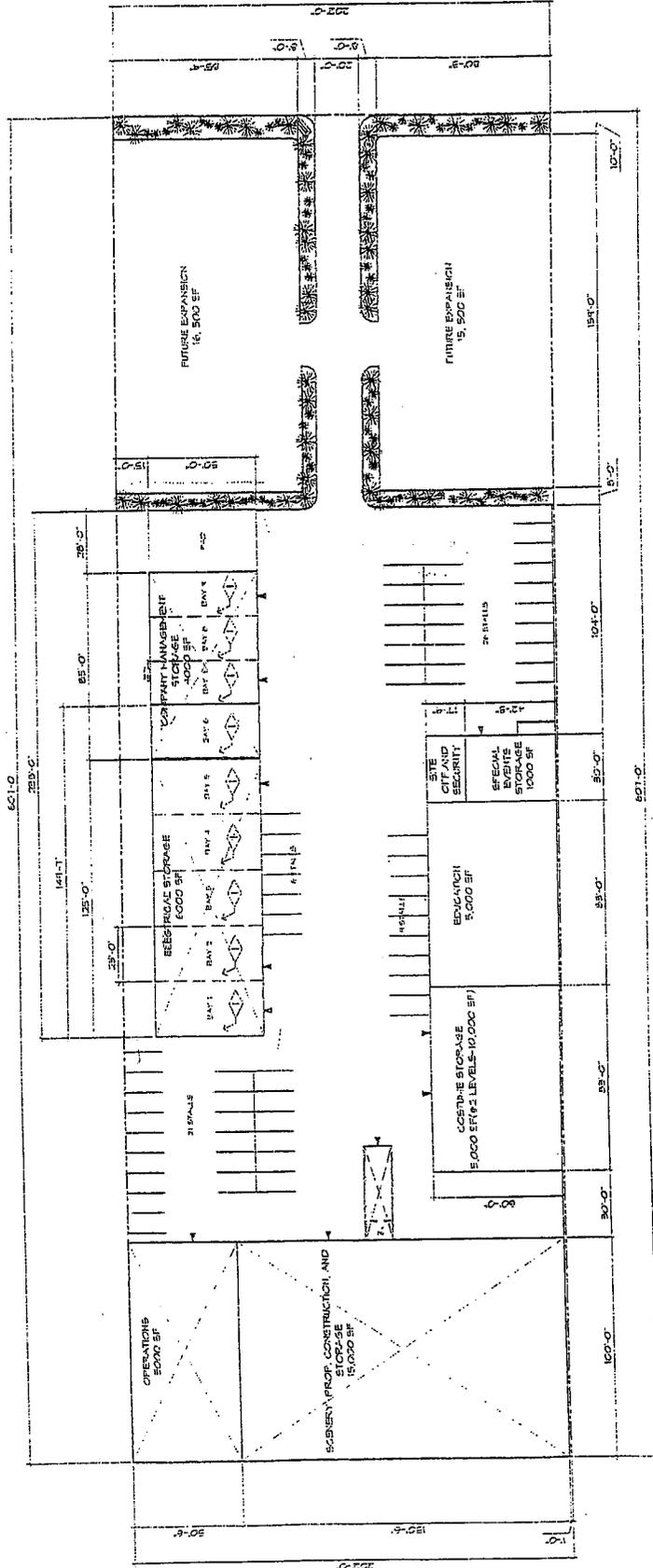
Fire Suppression: No fire hydrants are located within this property. The nearest Cedar City water source is 12" water line located in the Bulldog Road roadway. The nearest fire hydrants are located at about 1440 North and 1800 North on Bulldog Road. A Fire Hydrant is required for the new building.

Tab Five

Master plan

NO.	DATE	DESCRIPTION

PROJECT NUMBER: 2008-2R
 DRAWING FILE:
 DRAWN BY: MSA
 CHECKED BY: NSA
 COPYRIGHT 2008 BULLDOG ARCHITECTURE, LLC



MASTER PLAN

SITE PLAN
REFERENCE NOTES
 OFFICE SPACE IN EACH BAY

Site Survey

MISCELLANEOUS REPORT

First American Title Insurance Agency, LLC
365 South Main, Cedar City, UT 84720
Phone: 435.586.4476 | Fax: 435.586.4490

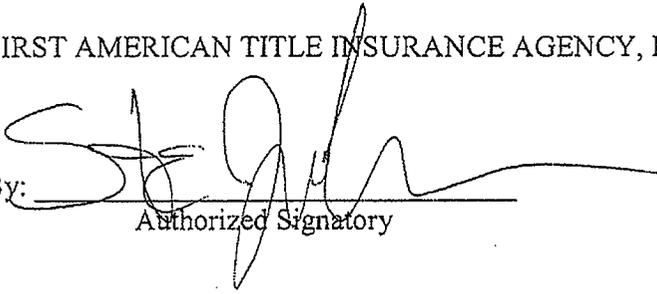
Order No: 362-5269176
Charge: \$\$500.00

Re: Property Owners: Southern Utah University

EFFECTIVE DATE: 01/04/2010 at 7:30 A.M.

IN WITNESS WHEREOF the said Company has caused these presents to be signed by its duly authorized officer on 01/14/2010, at Cedar City, Utah.

FIRST AMERICAN TITLE INSURANCE AGENCY, LLC

By: 

Authorized Signatory

**PLEASE DIRECT ANY INQUIRIES RELATIVE TO THE CONTENTS OF THIS REPORT
TO: TITLE OFFICER: Steve Johnson, and ESCROW OFFICER: Cal Robinson at 365 S. Main
St., Cedar City, Utah 84720.**

01/13/2010

Escrow No.: 362-5269176 ()

SCHEDULE A

1. The estate or interest in the land described or referred to in this report and covered herein is fee simple and title thereto is at the effective date hereof vested in:

Southern Utah University

SCHEDULE B
Exceptions

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the public records.
2. Any facts, rights, interest or claims which are not shown by the public records but which could be ascertained by an inspection of said land or by making inquiry of persons in possession thereof.
3. Easements, claims of easements or encumbrances which are not shown by the public records.
4. Discrepancies, conflicts in boundary lines, shortage in area, encroachments and any other facts which a correct survey would disclose, and which are not shown by public records.
5. Unpatented mining claims; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
6. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.
7. Taxes for the year 2010 now a lien, not yet due. Tax Parcel No. B-1494 Acct No 137957
8. General property taxes were not assessed against the land for the year(s) 2009 because of ownership by a tax exempt entity. Tax Parcel No. B-1494 Acct No 137957
9. Any charge upon the land by reason of its inclusion in Cedar City.
10. Reservations contained in that certain State of Utah Patent recorded November 10, 1926 as Entry No. 40659 in Book 3 at Page 369 of Official Records.
11. Reserving unto The State of Utah: all coal and other minerals, together with the right of ingress and egress for the purpose of exploring and/or removing the same.
12. An easement for Pole Lines and incidental purposes, recorded April 8, 1941 as Entry No. 68984 in Book A-10 at Page 488 of Official Records.
13. An easement for Pole Lines and incidental purposes, recorded March 9, 1942 as Entry No. 70680 in Book A-11 at Page 170 of Official Records.
14. Memorandum of Interest in favor of Integrated Process Systems, Inc. recorded January 23, 2001 as Entry No. 429586 in Book 735 at Page 824 of Official Records.

01/13/2010

Escrow No.: 362-5269176 ()

15. The Following Federal Tax Liens affect the interest if any of Integrated Process Systems, Inc under the above Memorandum:

Notice of Federal Tax Lien in favor of the Internal Revenue Service and against Integrated Process Systems, Inc. in the amount of \$40,904.00 recorded September 7, 2004 as Entry No. 489595 in Book 943 at Page 65 of Official Records.

Notice of Federal Tax Lien in favor of the Internal Revenue Service and against Integrated Process Systems, Inc. in the amount of \$176,032.57 recorded December 24, 2007 as Entry No. 565329 in Book 1116 at Page 1010 of Official Records.

Notice of Federal Tax Lien in favor of the Internal Revenue Service and against Integrated Process Systems, Inc. in the amount of \$66,882.42 recorded October 31, 2008 as Entry No. 580104 in Book 1149 at Page 3 of Official Records.

Notice of Federal Tax Lien in favor of the Internal Revenue Service and against Integrated Process Systems, Inc. in the amount of \$4,574.71 recorded March 9, 2009 as Entry No. 585610 in Book 1158 at Page 1128 of Official Records.

16. The fact that the survey description shown in schedule A, does not exactly match the record deed and taxing description for said land evidenced by Quit Claim Deed recorded
17. Any facts, rights, interest or claims which would be disclosed by a correct ALTA/ACSM survey.

The name(s) Southern Utah University, has/have been checked for judgments, State and Federal tax liens, and bankruptcies and if any were found, are disclosed herein.

01/13/2010

Escrow No.: 362-5269176 ()

SCHEDULE C

Description

The land referred to in this report is situated in the County of Iron, State of UT, and is described as follows:

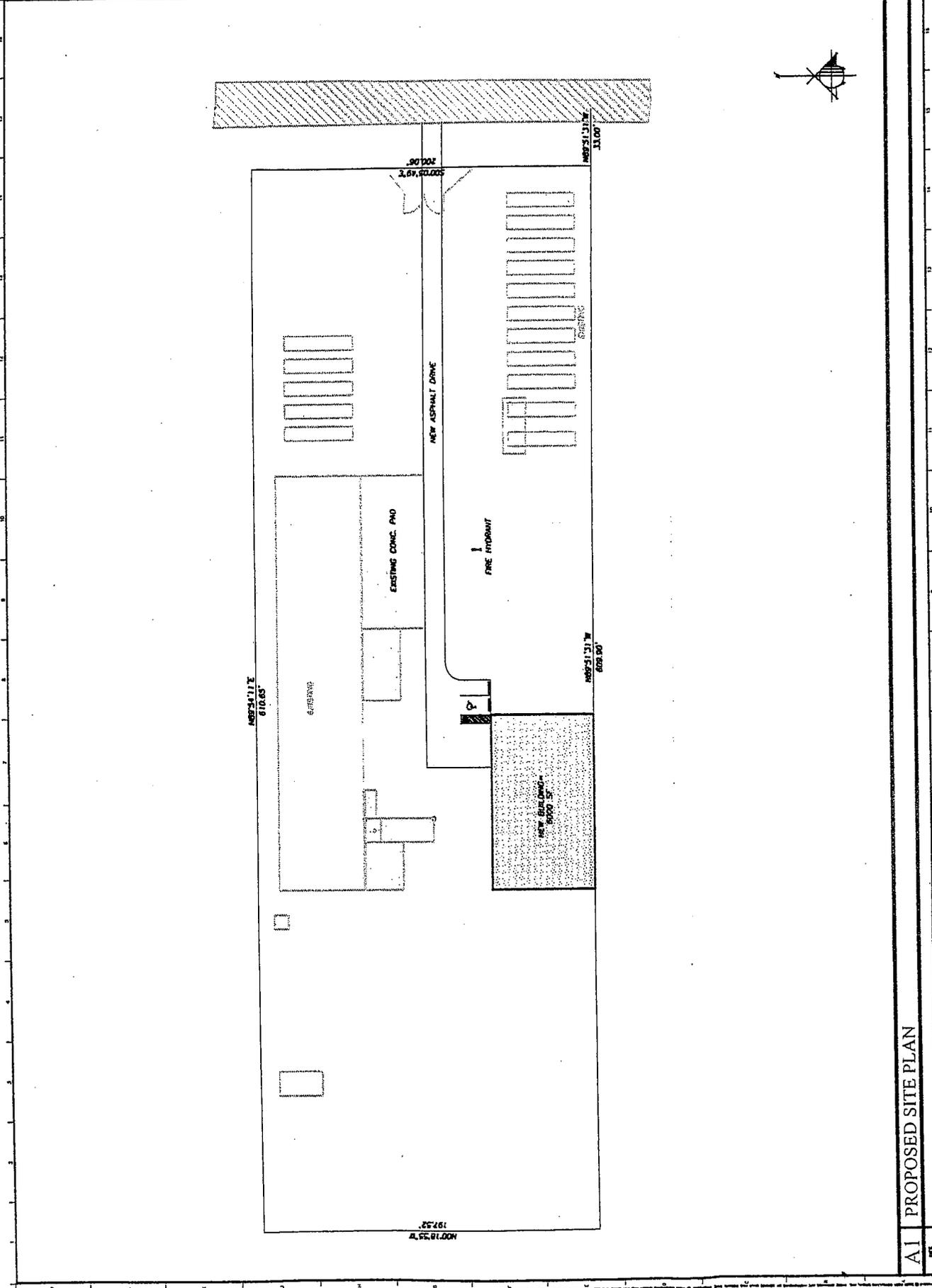
SURVEY DESCRIPTION:

SUU 2.785 ACRE LEGAL DESCRIPTION (REVISED TO IRON COUNTY ENGINEERING SUBMITTAL STANDARD)

BEGINNING N89°51'31"W 33.00 FEET ALONG THE SECTION LINE FROM THE SOUTH ¼ CORNER OF SECTION 34, T35S, R11W, SLB&M; THENCE ALONG SAID SECTION LINE N89°51'31"W, 609.90 FEET; THENCE N0°18'55"W, 197.52 FEET; THENCE N89°54'11"E, 610.65 FEET TO THE WEST RIGHT OF WAY LINE OF BULLDOG ROAD; THENCE ALONG SAID RIGHT OF WAY LINE S0°05'49"E, 200.06 FEET TO THE POINT OF BEGINNING

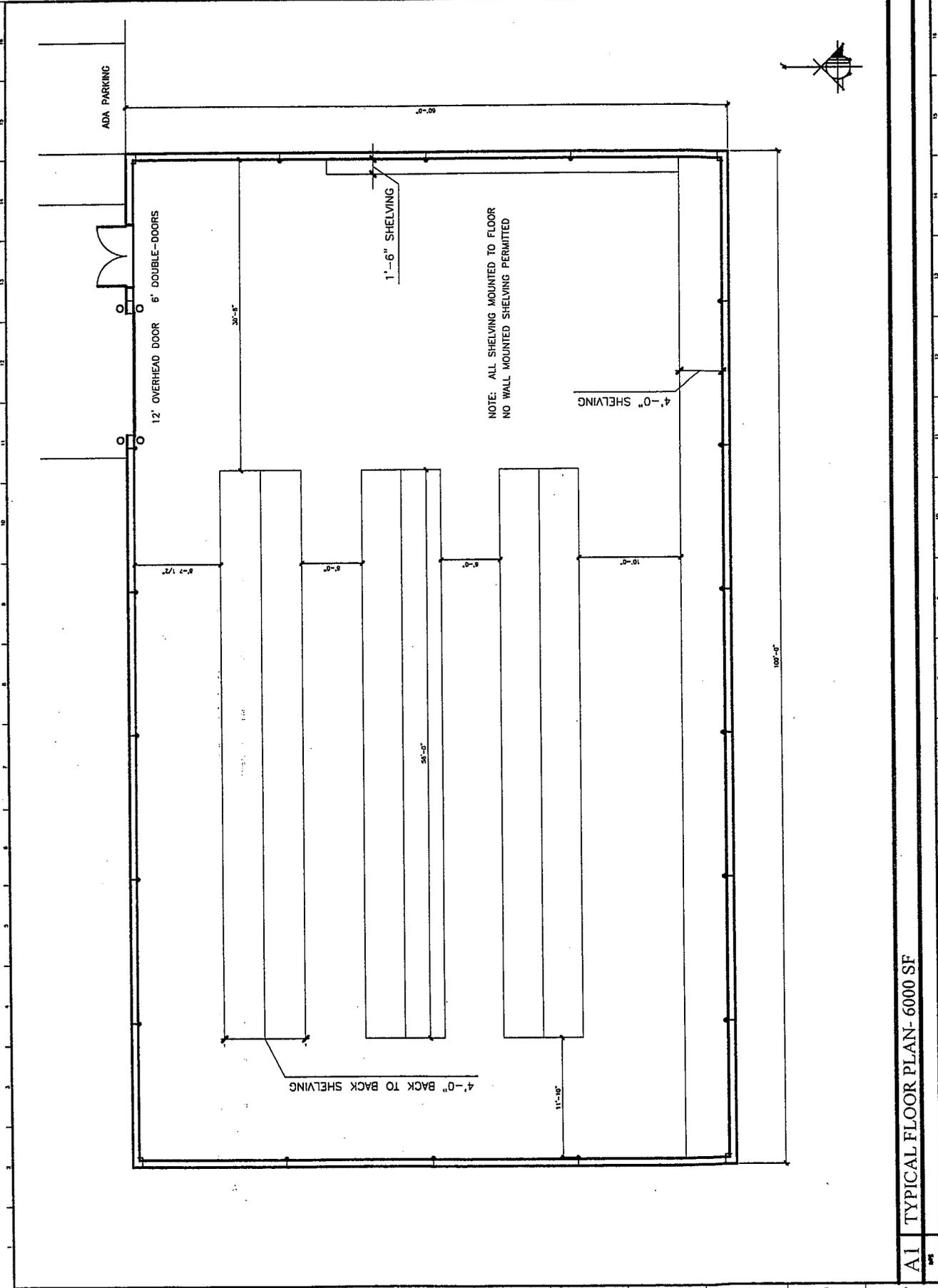
Said property is also known by the street address of:
Vacant Land, Cedar City, UT 84721

Proposed Site Plan



A1 PROPOSED SITE PLAN

Typical Floor Plan



A1 TYPICAL FLOOR PLAN- 6000 SF

Tab Six



Engineering, Inc.

Geotechnical Investigation

Bulldog Metal Building
1635 North Bulldog Road
Cedar City, Iron County, Utah

Prepared For:

Southern Utah University
300 West Center Street
Cedar City, UT 84720

December 3, 2009

Report Number: RG1017

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GEM ENGINEERING, INC.

485 North Aviation Way • Cedar City, UT 84721

Phone (435) 867-6478 • Fax (435) 867-4372

www.gemengineeringinc.com

December 3, 2009

Southern Utah University
300 West Center Street
Cedar City, UT 84720

Subject: Bulldog Metal Building
1635 North Bulldog Road
Cedar City, Iron County, Utah

Enclosed is our geotechnical investigation report for the subject proposed residence to be constructed at the subject site in Cedar City, Utah.

The report details our field exploration and laboratory testing program and presents our analysis, opinions and recommendations for the proposed project.

Collapsible/compressible soils were encountered which will need to be overexcavated and recompacted as outlined in this report.

We appreciate this opportunity to be of service on this phase of the project and look forward to being of service as the project progresses. If you have any questions, please contact this office at your convenience.

Sincerely,
GEM Engineering, Inc.



Joel A. Myers, P.E.
President



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Appendix A

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1.0 INTRODUCTION

1.1 General

This report presents the results of a geotechnical investigation performed for a proposed metal building to be constructed at 1635 North Bulldog Road in Cedar City, Iron County, Utah. The study was conducted in accordance with the client's authorization.

The purposes of this investigation were to: (1) evaluate the general site geologic conditions and identify potential geotechnical hazards to the proposed structures; (2) evaluate the general nature and engineering properties of the subsurface soils at the site; and (3) provide recommendations and opinions regarding general site grading and the design and construction of foundations, concrete slabs-on-grade and asphaltic concrete pavements. The investigation included a site reconnaissance, subsurface exploration, representative soil sampling, laboratory testing, engineering analyses, and preparation of this report.

The recommendations contained in this report are subject to the limitations presented in the "Limitations" section of the report. We recommend that all individuals reading this report read the limitations section of this document.

1.2 Project Description

We understand that a metal structure will be constructed at the location described in Cedar City, Utah. Structural loads are expected to be relatively low to moderate.

The proposed site plan on Plate 1 shows the approximate trench location with respect to the approximate property lines and proposed structure location.

2.0 FIELD EXPLORATION

The subsurface soil conditions were explored by excavating, with a backhoe, 2 exploratory trenches to depths of approximately 10 to 11 feet below the existing site grade. The approximate locations of these explorations are shown on Plate 1. Soils and subsurface conditions encountered in the explorations were classified, logged and recorded at the time of excavation by our field geologists. The results of the explorations are presented on the enclosed Plates 2 and 3. A key to soil symbols and terms is found on Plate 4.

3.0 LABORATORY TESTING

Representative soil samples from the explorations were tested in the laboratory for solubility, Atterberg limits, maximum density and consolidation and expansion behavior. Results are presented on Plates 5 and 6.

4.0 SITE CONDITIONS

4.1 Surface Conditions

As stated previously the site is located at 1635 North Bulldog Road at Cedar City, Iron County, Utah, as shown on Plate 1. At the time of our investigation there was an existing building on the north side of the site. The lot is bounded by a UDOT maintenance property on the south, Western Rock Products on the north, Bulldog Road on the east and vacant land on the west. The site is relatively flat

4.2 Subsurface Conditions

The on site soils encountered in the excavations generally consisted of the following: in trench number 1 medium stiff sandy silt was observed down to a depth of 3 feet below existing grade. In trench number 2 silty sand with gravel was observed to a depth of 1 foot below grade. In both trenches this first layer was followed by a medium dense layer of sandy gravel with cobble. Fine roots were observed in the top three feet of soil. Occasional sand lenses were observed within gravel layer.

Numerous factors contribute to fluctuations in groundwater levels and locations. The evaluation of these factors was beyond the scope of this study. However, groundwater was not encountered during the exploration. The soils were in a slightly moist to moist condition throughout the depths explored.

The encountered subsurface conditions are described in detail on the enclosed trench logs, Plates 2 and 3. Due to the nature and depositional characteristics of the native soils, care should be taken in extrapolating subsurface conditions beyond the exploration locations.

The laboratory tests results indicated that the on-site soils exhibited a relatively low solubility, low plasticity and a low collapse potential.

5.0 ENGINEERING ANALYSIS AND RECOMMENDATIONS

5.1 General

Based on our investigation there are loose, soft and/or collapsible soils located within the site. If these unsuitable soils as described in this report are encountered during excavation, stabilization and/or overexcavation will be required prior to the placement of structural fill. However, it is our opinion that the subject site is suitable for the proposed construction provided that the recommendations contained in this report are followed.

The following sections of this report present our recommendations to reduce the potential for structural damage. They contain specific opinions and recommendations concerning construction considerations, site preparation and grading, structural fill, foundation design, retaining walls, concrete slabs-on-grade, soil corrosion, moisture protection and structural pavement sections.

One of the most critical recommendations to follow in order to reduce potential for structural damage is to set the finished floor slab elevations high enough to facilitate proper drainage away from the structure.

5.2 Construction Considerations

5.2.1 Foundation Systems

After excavation and recompaction are completed, the structures can be supported by conventional strip and/or spread footings founded on properly placed and compacted structural fill.

5.3 Earthwork

5.3.1 Site Preparation and Grading

Within the areas to be graded, existing vegetation, loose soils, and debris, should be removed and hauled off the site. Any undocumented fill soils, and soft, loose,

collapsible and/or disturbed native soils should be excavated to expose competent, dense or medium dense native soils.

It is anticipated that at the majority of locations within the site competent medium dense granular soils will be encountered at footing depth. A GEM Engineering representative will need to observe the excavation and verify that competent granular soils have been reached, that the granular soils extend at least 2 feet below the bottom of footing elevation and that no additional overexcavation is required. If the sandy silt material, as described in trench log number 1 is encountered within 2 feet of the bottom of footing elevation the soils shall be overexcavated as follows: A minimum of 1 foot below the bottom of footing elevation or 2 feet below the existing site grade, whichever is greater. Overexcavations should extend laterally at least 5 feet beyond the edge of footing on each side or to a distance equal to the depth of overexcavation, whichever is greater. In some circumstances, after review of the excavation, GEM Engineering may approve a width of lateral overexcavation less than 5 feet but in no case shall this width be less than the required depth of overexcavation.

Slabs-on-grade, exterior concrete flatwork, and pavements should be supported by a zone of properly placed and compacted structural fill. Overexcavations on the order of 12 inches below the supportive gravel layer or 12 inches below the existing site grade, whichever is greater, are required. As an alternative to the above, 8 inches of Type 1 pit run gravel can be substituted for the 12 inches of recompacted native soils. Excavations shall extend laterally at least 2 feet beyond exterior flatwork and pavement areas.

If loose soft or pumping soils are encountered at the bottom of the overexcavations, stabilization and/or additional overexcavation will be required prior to the placement of structural fill. Overexcavations may be terminated if competent, medium-dense granular soils are encountered. A GEM Engineering

representative should observe excavation and determine if it is acceptable to terminate the excavation or reduce the overexcavation depth.

The majority of on-site soils, free of organics and debris, should be suitable for reuse as structural fill. If using on-site soils for backfill or structural fill a shrinkage factor of up to 20 percent can be expected.

Following excavation of the unsuitable soils as described above, a representative of this office should observe the excavation bottoms prior to the continuance of grading to verify that unsuitable materials have been removed and that competent soils have been exposed. The native soils exposed after overexcavation should be scarified to a depth of 6 inches and brought to within 2 percent of the optimum moisture content for granular soils and slightly above optimum for fine-grained soils. Soil shall then be compacted to at least 90 percent of the maximum dry density for granular soils and 85 percent of the maximum dry density for fine grained soils as determined by ASTM D-1557. The site should then be brought to the proper grade with structural fill as described in the Structural Fill section.

Subgrade materials supporting slabs-on-grade, exterior concrete flatwork, and pavements should be kept moist and not be allowed to dry out and crack. If the subgrade has been disturbed or dried out prior to placement of aggregate base, the exposed soils should be moisture-conditioned and recompacted as outlined in the Structural Fill section of this report.

We recommend that a GEM Engineering representative be allowed to review the grading plans when prepared to evaluate their compatibility with the recommendations of this report.

5.3.2 Excavations

The majority of the soils encountered in our explorations should be excavatable with conventional earthwork equipment. It is also possible that soft pumping soils

may be encountered. Pumping soils will need to be stabilized prior to placing of structural fill. Safety of construction personnel is the responsibility of the Contractor.

5.3.3 Material Volume Changes

There will be shrinkage losses when excavating and compacting the on-site soils. An estimated average shrinkage factor of 20 percent is applicable for the loose to medium-dense near-surface native soils. A subsidence factor of 0.1 should be used in all areas where the surficial soils are scarified and recompactd to a depth of 6 inches.

5.3.4 Structural Fill

All fill placed for the support of slabs-on-grade, exterior concrete flatwork, and pavements should be structural fill. Structural fill may consist of approved excavated on-site or imported fill materials. Structural fill should have a swell potential less than 4 percent under a 60 psf surcharge, have a solubility of less than 3 percent, be free of organics, salts, or inert materials larger than 4 inches nominal size, and be similar in gradation to the on-site soils.

Structural fill should be placed in maximum eight-inch loose lifts and compacted on a horizontal plane, unless otherwise approved by the Geotechnical Engineer. Soils in compacted fills should be compacted to at least 90 percent of the maximum dry density as determined by ASTM-D1557 for fine grained soils and 95 percent for granular soils. The moisture content should be within 2 percent of optimum for granular soils and at least 2 percent above optimum for fine-grained soils. Any imported fill materials should be approved prior to importing. Also, prior to placing any fill, the excavations should be observed by a GEM Engineering representative to observe that unsuitable materials have been removed.

5.4 Foundations

5.4.1 Conventional Foundations

General: Conventional shallow foundations consisting of strip and/or spread footings can be utilized for the support of the proposed building provided that excavation is completed in accordance with the requirements and recommendations of this report as described in the Earthwork section.

For frost protection the bottom of exterior conventional spread and strip footings shall be at least 30 inches below the lowest adjacent final compacted subgrade.

A verified minimum of 2 feet of native granular material or compacted structural fill below the bottom of footings is required for all foundations at this site. Foundations prepared in accordance with the recommendations and requirements of this report, may be designed for an allowable net bearing pressure of 2000 psf. This bearing pressure may be increased by one-third for load combinations containing seismic or wind loads.

Prior to constructing the foundations, the footing excavations should be observed by a GEM Engineering representative to confirm that the soil preparation has been completed in accordance with the requirements and recommendations of this report.

Seismicity: The soil meets the 2006 International Building Code (IBC) requirements for a site class C. The seismic design category for the 2006 International Residential Code (IRC) is D1.

Settlement: Foundations established in accordance with the recommendations and requirements of this report are estimated to subject to 1 ½" or less of settlement if the soils beneath the overexcavation do not become moistened. Estimated differential settlement could be on the order of ½ the total settlement.

Lateral Earth Pressures: The following lateral earth pressure equivalent fluid densities shall be used in the design of the structure.

Properly Compacted On-Site Soils

Active Pressure	33 pcf
At Rest Pressure	51 pcf
Passive Pressure	271 pcf

When passive pressure is used for resistance to lateral loads the top one foot of soil should be neglected. The maximum allowable passive pressure for lateral load resistance should not exceed 1,600 psf.

The seismic lateral earth pressure coefficient (k_h) is 0.10.

Lateral Load Resistance: Horizontal loads acting on foundations will be resisted by friction acting at the base of foundations and/or passive earth pressures acting against the side of footings and concrete walls. If design makes use of passive earth pressures, it is important that a GEM Engineering representative be present during backfill placement.

The friction force acting along the base of footings founded on suitable foundation soils may be calculated using a coefficient of friction of 0.40.

Lateral loads acting on buried utility lines may be resisted by thrust blocks reacting against undisturbed native soil or properly placed and compacted structural fill. The passive lateral earth pressure equivalent fluid density and coefficient of friction, previously listed, may be used for thrust block design.

5.5 Concrete Slabs-On-Grade

Satisfactory support for concrete slabs-on-grade and exterior concrete flatwork may be provided by a 6 inch layer of compacted gravel overlying properly placed and compacted structural fill as recommended in the Site Grading section of this report. The layer of compacted gravel may consist of road base or pit-run gravel with a 2-inch maximum particle size and not more than 12% fines passing the No. 200 sieve. The gravel layer should be compacted to at least 95% of the maximum dry density as determined by ASTM D1557.

All concrete slabs should be designed to minimize cracking as a result of shrinkage. Reinforcement requirements shall be provided by the Structural Engineer. Reinforcement should be installed at the mid-height of the slab unless directed otherwise by the Structural Engineer.

Special precautions must be taken during the placement and curing of all concrete slabs. Excessive slump (high water-cement ratio) of the concrete and/or improper curing procedures used during either hot or cold weather conditions could lead to excessive shrinkage, cracking or curling in the slabs. All concrete placement and curing operations shall be performed in accordance with the American Concrete Institute (ACI) Manual.

5.6 Soil Corrosion and Weathering Considerations

Based on similar studies performed in the area, the on-site soils contain salts in sufficient concentration to be considered corrosive to both concrete and metal. Therefore, all concrete in contact with the on-site soils and used in stem walls should contain Type V or equivalent sulfate-resistant cement, and should be placed with a maximum four inch slump. Furthermore concrete shall meet requirements specified in Table 4.3.1 of ACI 318-05 for moderate sulfate exposure. Special protection to buried metal pipes and water lines should be considered for long term performance of these underground utilities. Consideration should be given to cathodic protection of buried metal pipes, or to the use of PVC pipe where permitted by local building codes.

5.7 Moisture Protection and Drainage

It is imperative that precautions are taken during and after construction to eliminate, or at least minimize, wetting of foundation soils. Drainage and grading shall be constructed in accordance with the requirements of section 1803.3 of the 2006 International Building Code (IBC). Positive drainage shall be established away from the exterior walls of the structure. The required minimum slope is five percent (5%) in landscape areas and two percent (2%) in pavement areas, for a minimum distance of 10 feet from the structure. Roof runoff and other sources of moisture should not be allowed to infiltrate the soils in the vicinity of, or upslope from, the structure. No roof moisture should infiltrate the soils beneath the foundations.

All utility trenches leading into the structures should be backfilled with compacted non-pervious fill. Special care should be taken during installation of sub floor sewer and water lines to reduce the possibility of future subsurface saturation.

Landscape watering adjacent to the structure should be eliminated. As an additional protection a concrete slab could be placed around the structure to facilitate drainage away from the structure as described above. Any planters adjacent to the structure should have sealed bottoms. It is recommended that desert landscaping techniques be utilized.

5.8 Asphaltic Concrete Pavements

Asphaltic concrete pavement sections were developed for non-dedicated areas. In developing our recommendations, we have assumed that: (1) a minimum of 6 inches of Type 1 gravel (3-inch minus pit run) will be provided beneath the pavement section; (2) a Traffic Index value of 5.5 for automobile traffic and parking areas is appropriate; and (3) an R-value of 25 is representative of recompacted native soils. The following table presents the minimum recommended structural pavement sections:

Asphaltic Concrete Pavements

Traffic Condition	Assumed Traffic Index (T.I.)	Asphalt Thickness (in)	Road Base Thickness (in)	Compacted Type 1 Gravel (in)
Light Traffic/Parking	5.5	2.5	6	6

Asphalt and aggregate base material should conform to local requirements. All base material should be compacted to at least (95%) of the maximum dry density (ASTM D-1557). Asphalt should be compacted to minimum of (96%) of the Marshall maximum density. Asphaltic concrete and base materials should be tested prior to delivery to the site and during placement to determine conformance with the project specifications.

It is important that parking area grades be set to provide positive drainage to suitable drainage structures. A desirable slope for drainage in paved areas is two percent.

6.0 CLOSURE

6.1 Limitations

The recommendations contained in this report are based on the field exploration, laboratory tests, and our understanding of the proposed construction. The subsurface data used in the preparation of this report were obtained from the exploration made during this investigation. It is possible that variations in the soil and groundwater conditions could exist elsewhere on the site. The nature and extent of variations may not be evident until construction occurs. If any conditions are encountered at the site which are different from those described in this report, GEM Engineering should be immediately notified so that we may make any necessary revisions to recommendations contained in this report. In addition, if the scope of the proposed construction changes from that described in this report, GEM Engineering should likewise be notified.

This report was prepared in accordance with the generally accepted standard of practice at the time the report was written. Although some potential geologic hazards may be identified in this Geotechnical Investigation Report, this is NOT a Geologic Hazards Report and should not be regarded as such. No warranty, express or implied, is made. It is the Client's responsibility to see that all parties to the project, including the Designer, Contractor, Subcontractors, etc., are made aware of this report in its entirety. The use of information contained in this report for bidding purposes should be done at the Contractor's option and risk. GEM Engineering will not accept the responsibility for damage caused by the uncontrolled action of water at the site.

6.2 Additional Services

The recommendations made in this report are based on the assumption that an adequate program of tests and observations will be made during the construction to verify compliance with the recommendations. These tests and observations should include, but not necessarily be limited to, the following:

- Observations and testing during site preparation, earthwork and structural fill placement
- Observations of footing excavations
- Consultation as may be required during construction

We also recommend that project plans and specifications be reviewed by us to verify compatibility with our conclusions and recommendations. Additional information concerning the scope and cost of these services can be obtained from our office.

Appendix A

Site Plan

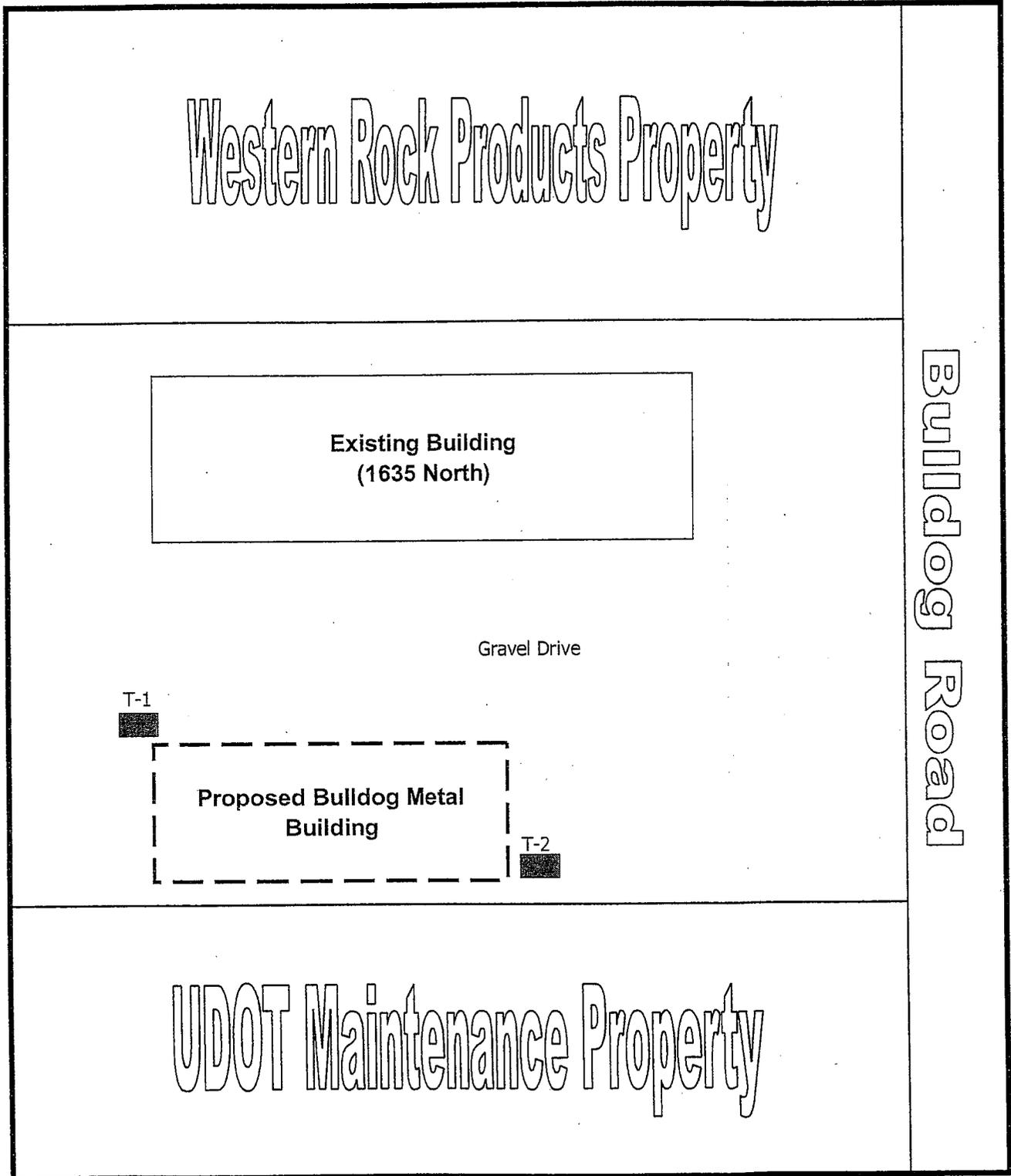
Key

 - Approximate Trench Location

Not to Scale



North



Trench No. 1

Date Excavated: 11/18/2009		Elevation: Not measured						
Location: see plate 1								
Depth (ft.)	Field Moisture %	Dry Density (pcf)	Other Tests *	Samples	SYMBOL +	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
0								
	2.5	97.2		SOL P AT, C	ML	(ML) - Sandy Silt. - Some pinhole voids and trace fine roots observed. - Light Brown	Slightly Moist	Medium Stiff Medium Stiff
5				SOL AT, P	GM	(GM) - Sandy Gravel with Cobble. - Occasional boulders observed. - Occasional well-graded sand lenses observed w/in layer. - Light Brown	Moist	Medium Dense
10								
						Bottom @ 11 feet.		
15								
20								
<p>* Other Tests: C = Consolidation, AT = Atterberg, S = Shear, G = Grain Size, E = Expansion, SOL = Solubility, DS = Direction Shear, P = Proctor</p> <p> = Drive Sample = Bulk Sample = No Recovery </p>							<p>Notes:</p> <ul style="list-style-type: none"> - No groundwater encountered. - No caving of sidewalls. 	



Bulldog Metal Building
1635 North Bulldog Road

Trench No. 2

Date Excavated: 11/18/2009					Elevation: Not measured			
Location: see plate 1								
Depth (ft.)	Field Moisture %	Dry Density (pcf)	Other Tests *	Samples	SYMBOL +	SOIL DESCRIPTION	MOISTURE	CONSISTENCY
0								
					SM	(SM) - Silty Sand with Gravel. Occasional asphalt obs.	Moist	Medium Dense
					GM	(GM) - Sandy Gravel with Cobble. - Sparse fine roots observed in top two (2) feet of layer. - Occasional thin lenses of poorly graded sand, observed. - Light Brown		
5			SOL AT,P					
10						Bottom @ 10 feet.		
15								
20								
<p>* Other Tests: C = Consolidation, AT = Atterberg, S = Shear, G = Grain Size, E = Expansion, SOL = Solubility, DS = Direction Shear, P = Proctor</p> <p> = Drive Sample = Bulk Sample = No Recovery </p>							<p>Notes:</p> <ul style="list-style-type: none"> - No groundwater encountered. - No caving of sidewalls. 	



Bulldog Metal Building
 1635 North Bulldog Road
 Cedar City, Iron County, Utah

The Unified Soil Classification System

MAJOR DIVISIONS			Group	Symbol	TYPICAL NAMES		
COARSE GRAINED SOILS More than 50% of material is larger than the No. 200 sieve.	GRAVELS More than 50 % of coarse part is larger than the No. 4 sieve.	CLEAN GRAVELS	GW		Well graded gravels, gravel sand mixtures, little or no fines		
		Little or no fines	GP		Poorly graded gravels/gravel sand mixtures		
		GRAVELS WITH FINES	GM		Silty gravels, gravel-sand-silt mixtures		
	SANDS More than 50 % of coarse part is smaller than the No. 4 sieve.	CLEAN SANDS	Little or no fines	SW		Well graded sands, gravelly sands, little or no fines	
			Little or no fines	SP		Poorly graded sands or gravelly sands, little or no fines	
		SANDS WITH FINES	Appreciable amount of fines	SM		Silty sands, sand-silt mixtures	
			Appreciable amount of fines	SC		Clayey sands, sand clay mixtures	
		FINE GRAINED SOILS More than 50% of material is smaller than the No. 200 sieve.	SILTS AND CLAYS Liquid limit less than 50		ML		Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with low plasticity
					CL-ML		Inorganic clay-silt mixture and very fine sand, silty or clayey fine sands or clayey silts with low plasticity.
	CL				Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays		
	OL				Organic silts and organic silty clays of low plasticity		
SILTS AND CLAYS Liquid limit greater than 50			MH		Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts		
			CH		Inorganic clays of high plasticity, fat clays		
			OH		Organic clays or medium to high plasticity, organic silts		
HIGHLY ORGANIC SOILS			PT		Peat and other highly organic silts		

Laboratory Test Results

Table #1 - Solubility Analysis

Sample Location	Soil Classification / Description	Percent Soluble by Weight
T-1 @ 2 feet	Sandy Silt	< 1
T-1 @ 5 feet	Sandy Gravel	< 1
T-2 @ 5 feet	Sandy Gravel	< 1

Table #2 - Atterberg Limits

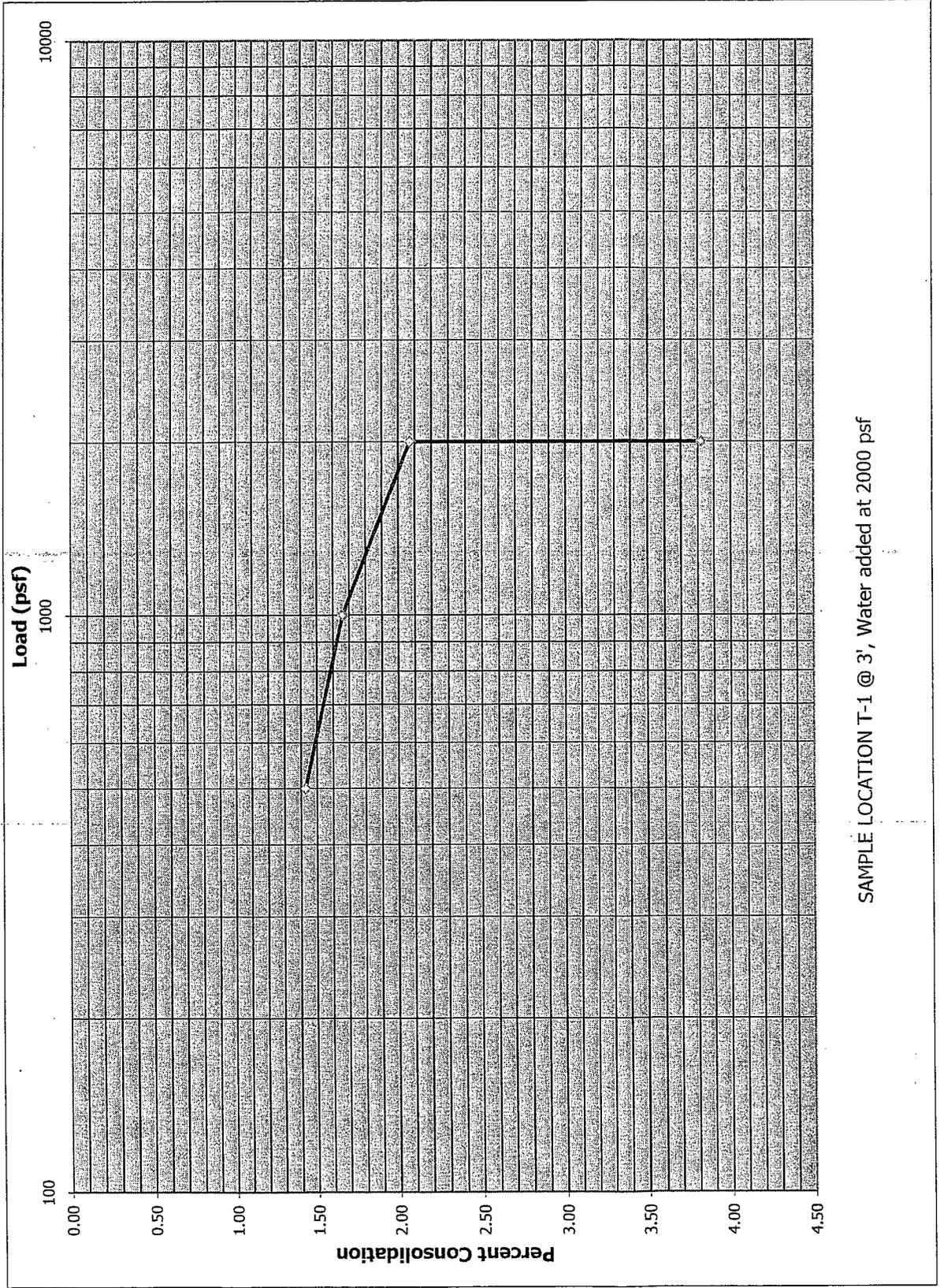
Sample Location	UCS Type	Percent Passing #4 Sieve	Percent Passing #10 Sieve	Percent Passing #40 Sieve	Percent Passing #200 Sieve	Liquid Limit	Plastic Limit	Plasticity Index
T-1 @ 3'	ML	100	100	99.1	51.0	--	--	Non-Plastic
T-1 @ 5'	SW*	56.2	39.4	16.4	2.8	--	--	Non-Plastic
T-2 @ 5'	SM-SP*	58.6	43.6	25.9	8.3	--	--	Non-Plastic

* Lab sample did not include cobble and boulders from site, classification with boulders and cobble included = GM

Table #3 - Maximum Density Test Summary

Sample Location	Soil Classification / Description	Maximum Dry Density (pcf)	Optimum Moisture (%)
T-1 @ 2 feet	Sandy Silt	125.0	10.0%
T-1 @ 5 feet	Sandy Gravel	143.0	5.5%
T-2 @ 5 feet	Sandy Gravel	148.0	4.0%

Consolidation Test Data



SAMPLE LOCATION T-1 @ 3', Water added at 2000 psf

Tab Seven

SUU SOUTHERN
UTAH
UNIVERSITY

LEARNING LIVES FOREVER



State of Utah—Department of Administrative Services

DIVISION OF FACILITIES CONSTRUCTION
AND MANAGEMENT

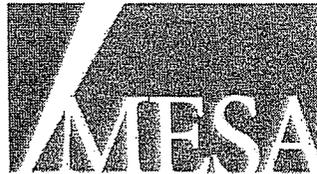
416 State Office Building/5th Floor City, Utah 84143/501-2616

**Utah Shakespearean Festival
And
Southern Utah University**

**METAL STORAGE BUILDING
OUTLINE SPECIFICATION**

DFCM Project #09221730

15 December 2009



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Division	Section Title	Pages
SPECIFICATIONS GROUP		
<i>General Requirements Subgroup</i>		
DIVISION 01 - GENERAL REQUIREMENTS		
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011000	SUMMARY	
<i>Facility Construction Subgroup</i>		
DIVISION 03 - CONCRETE		
033000	CAST-IN-PLACE CONCRETE	2
DIVISION 05 - METALS		
051200	STRUCTURAL STEEL FRAMING	1
DIVISION 07 - THERMAL AND MOISTURE PROTECTION		
071113	BITUMINOUS DAMPPROOFING	1
072100	THERMAL INSULATION	1
DIVISION 08 - OPENINGS		
081113	HOLLOW METAL DOORS AND FRAMES	1
083613	SECTIONAL DOORS	1
087100	DOOR HARDWARE	1
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DIVISION 13 - SPECIAL CONSTRUCTION		
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221113	FACILITY WATER DISTRIBUTION PIPING	1
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SUU/USF Theater Prop Storage
Jedar City, Utah

Mesa # 09032
11/2009

265100	INTERIOR LIGHTING	1
265600	EXTERIOR LIGHTING	1

Site and Infrastructure Subgroup

DIVISION 31 - EARTHWORK

311000	SITE CLEARING	1
312000	EARTH MOVING	2

DIVISION 32 - EXTERIOR IMPROVEMENTS

321216	ASPHALT PAVING	2
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SECTION 011000 - SUMMARY

1.1 PROJECT INFORMATION

- A. Project Identification: SUU/USF Theater Prop Storage.
 - 1. Project Location: Cedar City, Utah.
- B. Owner: Division of Facilities and Construction Management; Southern Utah University; 4110 State Office Building; Salt Lake City, Utah 84114.
 - 1. Owner's Representative: Jeff Reddoor.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of the Project: 6,000 square foot pre-engineered metal building.
- B. Type of Contract: Design/Builder contracts.
- C. Use of Site: Limited to work in areas indicated.

END OF SECTION 011000

SECTION 033000 - CAST-IN-PLACE CONCRETE

1.1 QUALITY ASSURANCE

- A. Quality Standard: ACI 301.
- B. Mockups to demonstrate typical joints, surface finish, texture, tolerances, floor treatments, and standard of workmanship.

1.2 PRODUCTS

- A. Form facing materials.
- B. Steel Reinforcement:
 - 1. Reinforcing Bars: Deformed. ASTM A615
- C. Concrete Materials:
 - 1. Portland Cement: As recommended by geotechnical report (Type V).
 - 2. Admixtures: Calcium Chloride shall not be used as an admixture.
 - 3. Pozzolans: Replacement allowed up to 15% of cement with a 1.5 to 1 replacement ration.
 - 4. Aggregate: Normal weight.
 - 5. Water. (0.45 max. water/cement ratio
 - 6. Air Entrainment: Specify 6-1/4% plus or minus 1-1/4%
 - 7. Synthetic fibrous reinforcement: Specify collated, fibrillated polypropylene with a mix ratio of 1.5 pounds of fiber to 1.0 cubic yards of concrete. To be used in all concrete specified in section 02528.
- D. Mixing: Ready mixed.
- E. Sheet Vapor Retarder: ASTM E 1745, Class A. Include manufacturer's recommended adhesive or pressure-sensitive tape.

1.3 CONCRETE MIXTURES

- A. Compressive Strength (28 Days):
 - 1. Footings: 4500 psi.
 - 2. Foundation Walls: 4500 psi.
 - 3. Slabs-on-Grade: 4500 psi.

1.4 CURING MATERIALS

- A. Clear, Waterborne, Membrane-Forming Curing and Sealing Compound: ASTM C 1315, Type 1, Class A.

1.5 INSTALLATION

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder according to ASTM E 1643 and manufacturer's written instructions.
 - 1. Lap joints 6 inches (150 mm) and seal with manufacturer's recommended tape.
- B. Formed Finishes: Smooth.
- C. Floor and Slab Finishes:
 - 1. Trowel: Surfaces exposed to view.
- D. Curing and Sealing: Specify a combination curing and sealing compound to be used on all exposed concrete flatwork complying with the requirements of ASTM C 309 and AASHTO M 148. The compound shall be acrylic based with a minimum of 18 percent solids and a moisture loss of 0.031 grams per cubic centimeter maximum after 72 hours. Specify a two coat application occurring immediately after surface water dissipation and concrete finishing and at approx. 28 days from placement.

1.6 FIELD QUALITY CONTROL

- A. Testing: By Owner-engaged agency.
- B. Special Inspections: By Owner-engaged special inspector.

END OF SECTION 033000

SECTION 051200 - STRUCTURAL STEEL FRAMING

1.1 SUMMARY

- A. Structural steel as classified by AISC 303.
- B. Grout.

1.2 PERFORMANCE REQUIREMENTS

- A. Fabricator to select or complete simple shear connections, including engineering analysis by a qualified professional engineer, to withstand design loads.

1.3 QUALITY ASSURANCE

- A. Fabricator Qualifications: AISC-Certified Plant, Category STD.
- B. Installer Qualifications: AISC-Certified Erector, Category ACSE.
- C. Quality Standards: AISC 303 and AISC 360.

1.4 MATERIALS

- A. Recycled Content of Steel: Postconsumer plus one-half of preconsumer recycled content not less than 25 percent.
- B. Anchor Rods: Headed rods, nuts, plate washers, and washers.
- C. Grout: Metallic, shrinkage resistant.

1.5 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner engaged.

1.6 INSTALLATION

- A. Field Connections:
 - 1. Bolts: Snug tightened.

1.7 FIELD QUALITY CONTROL

- A. Testing Agency: Owner engaged.

SECTION 071113 - BITUMINOUS DAMPPROOFING

1.1 SUMMARY

- A. Cold-applied, emulsified-asphalt dampproofing applied to the following surfaces:
 - 1. Exterior, below-grade surfaces of concrete foundation walls.

1.2 INSTALLATION

- A. Cold-Applied, Emulsified-Asphalt Dampproofing:
 - 1. Concrete Foundations: Two brush or spray coats, one fibered brush or spray coat, or one trowel coat.

END OF SECTION 071113

SECTION 072100 - THERMAL INSULATION

1.1 MATERIALS

A. Insulation:

1. Foundation Extruded-Polystyrene Board: Type X, 15 psi.
2. Polypropylene-Scrim-Kraft-Faced, Glass-Fiber Blanket: Type II, Class A; Category 1.
(See Section 133419)

END OF SECTION 072100

SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

1.1 SUMMARY

- A. Standard hollow metal doors and frames.

1.2 QUALITY ASSURANCE

- A. Standard Hollow Metal Quality Standard: ANSI/SDI A250.8.

1.3 PRODUCTS

- A. Standard Hollow Metal Doors:

- 1. Design: Flush panel.
- 2. Exterior Doors: Metallic-coated steel sheet faces.
 - a. Level 2 and Physical Performance Level B (Heavy Duty).
 - b. Model: 1 (Full Flush).

- B. Standard Hollow Metal Frames:

- 1. Exterior Frames: Metallic-coated steel sheet; face welded.
 - a. Frames for Level 2 Steel Doors: 0.053-inch- thick steel sheet.

- C. Finishes: Factory-applied paint.

1.4 INSTALLATION

- A. Coordinate installation with metal building supplier, provide all necessary attachments and flashings for a complete installation.

END OF SECTION 081113

SECTION 083613 - SECTIONAL DOORS

1.1 PERFORMANCE REQUIREMENTS

- A. Basic Wind Speed, Exterior Doors: As indicated.
- B. Air Infiltration: Maximum rate of 0.08 cfm/sq. ft..
- C. Seismic performance. AS required by code and building official.

1.2 QUALITY ASSURANCE

- A. Standard for Sectional Doors: DASMA 102.

1.3 WARRANTY

- A. Materials and Workmanship: Five years.
- B. Finish: 10 years for factory-applied finishes.

1.4 DOOR ASSEMBLY

- A. Steel sectional door.
- B. Installed R-Value: 120 Deg. F X h x sq. ft./BTU.
- C. Steel Sections: Galvanized steel sections 2 inches thick with grooved exterior surface and galvanized steel interior facing.
- D. Track Configuration: Standard-lift track.
- E. Weatherseals.
- F. Manual door operator.

1.5 INSTALLATION

- A. Factory-authorized service representative to perform startup service and testing and train Owner's personnel.

END OF SECTION 083613

SECTION 087100 - DOOR HARDWARE

1.1 SUMMARY

- A. Mechanical door hardware for swinging doors.

1.2 WARRANTY

- A. Materials and Workmanship: Three years.

1.3 MAINTENANCE SERVICE

- A. Full-Maintenance Service: Six months.

1.4 PRODUCTS

- A. Scheduled Door Hardware: Products scheduled in "Door Hardware Schedule" in this Section.

1.5 FIELD QUALITY CONTROL

- A. Independent Architectural Hardware Consultant: Owner-engaged to perform inspections.
- B. Provide hardware manufacturer and model to match University Standards as approved by University representative.

1.6 DOOR HARDWARE SCHEDULE

- A. Set #1:

3 ea	Hinges
1 ea	Lockset
1 ea	Closer
1 ea	Stop
1 ea	Threshold
1 ea	Sweep
1 set	Weatherstrip

END OF SECTION 087100

SECTION 099113 - EXTERIOR PAINTING

1.1 QUALITY ASSURANCE

- A. Mockups for each color and finish.

1.2 PAINT, GENERAL

- A. Products MPI listed.

1.3 SOURCE QUALITY CONTROL

- A. Testing: By Owner-engaged agency.

1.4 EXTERIOR PAINTING SCHEDULE

- A. Steel Substrates:
 - 1. Alkyd system.

END OF SECTION 099113

SECTION 104416 - FIRE EXTINGUISHERS

1.1 SUMMARY

- A. Hand-carried fire extinguishers.

1.2 QUALITY ASSURANCE

- A. Fire Extinguishers: NFPA 10 and FMG listed.

1.3 WARRANTY

- A. Materials and Workmanship: Six years.

1.4 PRODUCTS

- A. Portable, Hand-Carried Fire Extinguishers:

- 1. Multipurpose dry-chemical type, manufacturer's standard container.

- B. Mounting Brackets: Galvanized steel with identification lettering.

END OF SECTION 104416

SECTION 133419 - METAL BUILDING SYSTEMS

1.1 QUALITY ASSURANCE

- A. Manufacturer: AISC-certified for Category MB. See DFCM approved manufacturers list.

1.2 WARRANTY

- A. Metal Panel Finishes: 20 years.
- B. Weathertightness for Standing-Seam Metal Roof Panels: 20 years.

1.3 METAL BUILDING SYSTEMS

- A. Description:

1. Primary-Frame Type: Rigid clear span.
2. End-Wall Framing: Expandable.
3. Secondary-Frame Type: Flush-framed girts.
4. Eave Height: 16 feet.
5. Bay Spacing: As determined by manufacturer.
6. Roof Slope: 2 inches per 12 inches.
7. Roof System: Lap seam with field-installed insulation.
8. Exterior Wall System: Tapered rib, exposed fastener with field-installed insulation.

1.4 METAL BUILDING SYSTEM PERFORMANCE

- A. Delegated Design: By a qualified professional engineer.

- B. Structural Performance:

1. Design Loads: MBMA's "Metal Building Systems Manual" and IBC.
2. Deflection Limits: To accommodate deflection of primary building structure.
3. Lateral Drift Limits: Maximum 1/200 of the building height.

- C. Energy Performance:

1. U-Factor for Metal Roof Panel Assemblies: 0.053.
2. U-Factor for Metal Wall Panel Assemblies: 0.053.
3. Solar Reflectance Index not less than 29.
4. DOE's ENERGY STAR Roof Products Qualified Product List for steep-slope roof products.
5. Initial solar reflectance not less than 0.70 and emissivity not less than 0.75.

1.5 COMPONENTS

A. Structural-Steel Framing:

1. Frame Configuration: Single gable.
2. Exterior Column Type: Tapered.
3. Rafter Type: Tapered.
4. Purlins: C- or Z-shaped sections.
5. Girts: C- or Z-shaped sections.

B. Metal Roof and Wall Panels:

1. Material: Zinc-coated (galvanized) steel.
2. Finish: Two-coat fluoropolymer.

C. Metal Soffit Panels: Match wall panels.

D. Thermal Insulation: Faced, metal building.

E. Doors and Frames:

1. Steel Doors: Standard hollow metal doors.
2. Steel Frames: Factory welded standard hollow metal frames.
3. Hardware.
4. Finish: Factory-applied paint.

F. Accessories:

1. Flashing and trim.
2. Gutters.
3. Downspouts.

1.6 SOURCE AND FIELD QUALITY CONTROL

A. Testing: By Owner-engaged testing agency.

END OF SECTION 133419

SECTION 221113 - FACILITY WATER DISTRIBUTION PIPING

1.1 SUMMARY

- A. Fire-service mains outside the building.

1.2 SUBMITTALS

- A. Coordination Drawings.

1.3 QUALITY ASSURANCE

- A. Quality Standard for Electrical Components, Devices, and Accessories: NFPA 70.
- B. Quality Standard for Materials, Installations, Tests, Flushing, and Valve and Hydrant Supervision for Fire-Service-Main Piping: NFPA 24.
- C. Quality Standard for Plastic Potable-Water-Service Piping: NSF 14. Include marking "NSF-pw" on piping.
- D. Quality Standard for Water-Service Piping and Specialties for Domestic Water: NSF 61.
- E. Quality Standard for Fire-Service-Main Products: FMG's "Approval Guide." UL's "Fire Protection Equipment Directory."

1.4 MATERIALS

- A. Underground Fire-Service-Main Piping:
 - 1. PVC, AWWA Class 200 pipe listed for fire-protection service.

1.5 MANUFACTURED UNITS

- A. Gate Valves:
 - 1. Cast Iron: OS&Y, rising stem.
- B. Fire Hydrants:
 - 1. Dry barrel, AWWA UL/FMG, 250 psig.
- C. Flushing Hydrants: Ground-type flushing hydrants.
- D. Fire Department Connections: Three inlets.

END OF SECTION 221113

SECTION 265100 - INTERIOR LIGHTING

1.1 QUALITY ASSURANCE

- A. Quality Standard for Emergency Fluorescent Power Units: UL 924.

1.2 WARRANTY

- A. Emergency Lighting Unit Batteries: 10 years.
- B. Emergency Fluorescent Ballast and Self-Powered Exit Sign Batteries: Seven years.

1.3 PRODUCTS

- A. Ballasts for Linear Fluorescent Lamps:
 - 1. Ballasts for Low-Temperature Environments:
 - a. Temperatures Minus 20 Deg F and Higher: Electromagnetic.
- B. Ballasts for HID Lamps:
 - 1. Electromagnetic Type for Metal-Halide Lamps: Constant-wattage autotransformer or regulating high-power-factor, low-noise type.
- C. HID Lamps:
 - 1. Metal-halide lamps.
- D. Lighting fixture support components.

END OF SECTION 265100

SECTION 265600 - EXTERIOR LIGHTING

1.1 QUALITY ASSURANCE

- A. Quality Standard: AASHTO LTS-4-M.

1.2 WARRANTY

- A. Materials and Workmanship for Luminaires: Five years.

1.3 PRODUCTS

- A. Luminaire Finishes: Manufacturer's standard finish
 - 1. Steel Luminaires: Factory-painted, polyurethane enamel.
- B. Photoelectric Relays: Single throw, factory mounted to luminaire.
- C. HID Lamp Ballasts: Constant-wattage autotransformer or regulating high-power-factor type and suitable for low-temperature starting.
 - 1. Auxiliary, instant-on, quartz system.
- D. HID Lamps: Metal-halide lamps.

END OF SECTION 265600

SECTION 311000 - SITE CLEARING

1.1 SUMMARY

- A. Protecting existing vegetation to remain.
- B. Removing existing vegetation.
- C. Clearing and grubbing obstructions, trees, shrubs, and other vegetation, including grinding stumps and removing roots and debris.
- D. Stripping and stockpiling topsoil and stockpiling surplus topsoil.
- E. Providing temporary erosion- and sedimentation-control measures.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

1.1 SUMMARY

- A. All earthwork shall be in accordance with the Geotechnical Investigation dated December 3, 2009 by Gem Engineering, Inc.
- B. Preparing subgrades for slabs-on-grade pavements.
- C. Excavating and backfilling for buildings and structures.
- D. Drainage course for concrete slabs-on-grade.
- E. Subbase course and base course for asphalt paving.
- F. Subsurface drainage backfill for walls and trenches.
- G. Excavating and backfilling trenches for utilities and pits for buried utility structures.
- H. Excavating well hole to accommodate elevator-cylinder assembly.
- I. Excavation: Classified, with unit prices for rock.

1.2 QUALITY ASSURANCE

- A. Blasting: Where explosives are allowed, seismographic monitoring provided by independent seismic survey agency during blasting operations.

1.3 MATERIALS

- A. Soil Materials:
 - 1. Satisfactory Soils: Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487.
 - 2. Unsatisfactory Soils: Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487.
 - 3. Subbase Material: Graded mixture of gravel, crushed stone, and sand with 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
 - 4. Base Course: Graded mixture of gravel, crushed stone, and sand with 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
 - 5. Engineered Fill: Graded mixture of gravel, crushed stone, and sand with 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
 - 6. Bedding Course: Graded mixture of gravel, crushed stone, and sand with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
 - 7. Drainage Course: Narrowly graded mixture of crushed stone or gravel, coarse-aggregate grading Size 57.
 - 8. Filter Material: Narrowly graded mixture of gravel, or crushed stone and natural sand, coarse-aggregate grading Size 67.
 - 9. Sand: ASTM C 33; fine aggregate.

- 10. Impervious Fill: Clayey gravel and sand mixture.
- B. Controlled Low-Strength Material: Conventional weight concrete with 80 psi compressive strength.
- C. Warning Tape: Detectable, polyethylene film.

1.4 EXCAVATION

- A. Explosives: Not allowed.
- B. Disposal of Surplus and Waste Materials: Off Owner's property.

1.5 FIELD QUALITY CONTROL

- A. Special Inspector and Testing Agency: Owner engaged.

END OF SECTION 312000

SECTION 321216 - ASPHALT PAVING

1.1 SUMMARY

- A. Hot-mix asphalt paving.
- B. Asphalt surface treatments.

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements: Meet area standards of UDOT.

1.3 MATERIALS

A. Asphalt Materials:

1. Asphalt Binder: AASHTO M 320 or AASHTO MP 1a, PG 58-28.
2. Prime Coat: Asphalt emulsion prime coat.
3. Tack Coat: Emulsified asphalt or cationic emulsified asphalt.
4. Fog Seal: Emulsified asphalt or cationic emulsified asphalt.

B. Auxiliary Materials:

1. Herbicide.

C. Asphalt Mixes: Designed according to AI MS-2.

1. Base Course: Standards of Utah State Department of Transportation.
2. Surface Course: Standards of Utah State Department of Transportation.

D. Asphalt Mixes: Designed according to AI MS-2.

1. Base Course: ASTM D 3515, 1-inch maximum aggregate size.
2. Surface Course: ASTM D 3515, 1/2-inch maximum aggregate size.

E. Emulsified-Asphalt Slurry: ASTM D 3910, Type 3.

1.4 INSTALLATION

A. Hot-Mix Asphalt Paving:

1. Proof-roll subgrade at locations receiving full-depth asphalt pavement.
2. Apply herbicide.
3. Apply prime coat over compacted unbound-aggregate base course.
4. Base Course: As indicated in geotechnical report.
5. Surface Course: As indicated in geotechnical report.

B. Surface Treatment: Slurry seal.

1.5 FIELD QUALITY CONTROL

A. Testing: By Owner-engaged agency.

END OF SECTION 321216

APPROVED FABRICATOR LIST FOR 2009

All approvals are site specific. Additional shop locations must be approved individually.

MEDIUM AND HIGH STRENGTH STEEL CATEGORY

<u>Company Name</u>	<u>Address</u>	<u>Certification</u>	<u>Expiration Date</u>
American Building Company 775-887-2900 Fax 775-882-1751 Wayne Thompson QA Supervisor wthompson@americanbuildings.com	2401 Conestoga Drive Carson City NV. 89706	IAS	08-01-2010
AMFAB STEEL SPECIALTIES 801 298-2900 Kathy Jarvie Kathy@amfabsteel.com	787 South 950 West Woods Cross, UT 84087	4 quarterly inspections	12-31-2009
B & L Steel Co., Inc 801-785-7749 Lisa Kelson lkelson@bandlsteel.com	350 N Geneva Road Lindon, Utah 84042 PO Box 828 Pleasant Grove, Utah 84062	AISC	04-30-2009
BEHLEN MFG. CO. 402-562-4199 Roland Augspurger, S.E. Director of Engineering roland.augspurger@behlenedge.com	4025 East 23 rd Street PO Box 569 Columbus, NE 68602-0569	SGS (ISO)	12-31-2009
Beko Associates, Inc. 801-655-0220 Robert Koev Robert@BEKOAssociates.com Beatrix Koev Beatrix@BEKOAssociates.com	701 South 100 East Provo, Utah 84606	AISC	03-31-2010
BlueScope Buildings North America, Inc 559-972-5298 Ulysses Rodriguez urodriguez@butlermfg.com	7440 Doe Avenue Visalia, CA 93279 & 7440 Doe Avenue 18520 67 th Avenue Northeast Arlington, WA 98223-8942	IAS CWB	04-23-2010 01-22-2009

BLUE STAR STEEL 801 908-8302 Jeff Wright Jeff@buestarsteel.com Andre Olsen Andre@bluestarsteel.com	3692 West 500 South Salt Lake City, UT 84104	AISC	10-31-2010
BRAHMA GROUP, Inc. 801 282-2700 Fax: 801-260-0696 Chelsey Lucero ChelseyL@brahmagroupinc.com	5621 West Wells Park Rd. West Jordan, UT 84081	CCDDS-BD	06-27-2010
CBC STEEL BUILDINGS (A NUCOR COMPANY) 209 983-0910 David Burila dburila@cbcsteelbuildings.com	1700 East Louise Avenue Lathrop, CA 95330	CCDDS-BD	05-19-2010
Ceco Building Systems 319-385-8001 Lee Frankenberger frankenberger@cecobuildings.net	305 North Iris Road Mt. Pleasant, IA 52641	CWB	01-02-2010
CO Building Systems Inc. 435-283-4040 Fax 435-283-8326 Brooks Walk Brooks109@cobuildings.net	320 West 100 North Ephraim, UT 84642	CCDDS-BD	05-19-2010
Eagle Span (970) 593-0596 Frank Humbert fhumbert@eaglespan.com	120 NE Frontage Rd. Fort Collins, CO	CWB	08-31-2009
F & J STEEL FABRICATION, INC 801 295-1079 John Parlett admin@f-jsteelfab.com	PO BOX 540414 No. Salt Lake City, UT 84054	AISC 4 Audits in 2008	12-31-2009

GARCO Building Systems (509) 444-7129 Glen Morris	2714 South Garfield RD. Airway Heights, WA 99001	IAS	12-31-2009
GEM (Golden Empire Manuf.) 435-538-5390 Kevin Kotter Clarke@gembuildings.com	1025 North Watery Lane Brigham City, UT 84302	AISC & IAS	04-30-2010
Gos's Welding, Inc. 801-392-9611 Fax:801-392-0425 Robert Emenger, President bob@gwisteel.com	1673 West 2650 South Ogden, Utah 84401	AISC	09-30-2010
H.A. Fabricators 435-750-5096 Fax: 435-750-5096 Tyson Drysdale Tyson@hafab.net	349 West 2500 North Logan, Utah 84341	AISC	10-31-2009
HCI Steel Building Systems, Inc 801-201-3857 Fax 435-753-0155 Larry Lefever larryl@hcisteel.com	937 East 320 North Logan, UT 84321	CWB	09-22-2009
JT STEEL (801) 280-3520 Brian Stephensen bstephensen@jtsteel.com	9550South Hawley park Rd West Jordan, UT 84088	CCDDS-BD	03-15-2010
Legacy Steel Fabricators 801-262-3303 Fax 801 262-3487 Todd Reed drawings@legacysteel.net	575 West 3615 South Salt Lake City 84115	AISC	10-31-2010

**Lundahl Ironworks
Company**

(208) 646-2600
Fax (208) 646-2700
Additional contact:
Steel Concepts
Tom Lower
(801) 646-2151

102 South 100 West
P.O. Box 59
Franklin, Idaho 83237

AISC
CCDDS-BD

09-30-2010
10-30-2009

MASCO, INC.

801 295-4695
Fax 801-292-1350
Louie Coletti
Louie1@mcleodusa.net

50 South 675 West
Centerville, UT 84014

4 Audits
in 2008

12-31-09

Mountain States Steel

801-785-5085 ext.227
Fax: 801-785-1100
Geaniel Rowley
geaniel@mssteel.com

325 South Geneva Rd.
Lindon, Utah 84042

AISC

03-31-2010

NCI Building Systems LP
(Metallic Building Systems)

1-800-643-5555
Mike Turner
Approved Shops

2612 Gribble St.
No. Little Rock, AR 72114

IAS

12-31-09

550 Industry Way
Atwater, Ca 95301

7301 Fairview
Huston, Texas 77041

422 Kirby Drive
Lexington, Tennessee 77381

**NUCOR
BUILDING SYSTEMS**

435 919-3185
Scott A. Russell
srussell@nbsut.com

PO BOX 907
1050 North Watery Lane
Brigham City, UT 84302

CWB

06-30-2010

<p>PORTER CORP 616 399-1963 Eric Pelak ericp@portercorp.com Utah Representative Diana Ross (801) 274-0212 playspace2@earthlink.net</p>	<p>4240 North 136th Avenue Holland, MI 49424</p>	<p>CCDDS-BD</p>	<p>03-20-2010</p>
<p>Rigid Building Systems 281-443-9065 John Long P. E. johnl@rigidbuilding.com</p>	<p>18933 Aldine Westfield Huston, Texas 77073</p>	<p>CCDDS-BD</p>	<p>12-09-2010</p>
<p>Sanpete Steel 435-436-8310 Douglas E. Johnson</p>	<p>PO Box 599 685 East Main Moroni, Utah 84646</p>	<p>AISC</p>	<p>01-31-2010</p>
<p>SME Steel Contractors 801-280-4932 Fax: 801-280-6679 Richard Cook woodyc@smesteel.com</p>	<p>5955 West Wells Park Rd. West Jordan, Utah 84088</p>	<p>CCDDS-BD AISC</p>	<p>01-01-2010 03-31-2010</p>
<p>S & S STEEL 435 635-9801 Charlie Gubler charles@sssteelfab.com or Jeffrey Staples PLEASE FAX MATERIAL TO: 435 635-9804</p>	<p>PO BOX 129 2292 West 500 North Hurricane, UT 84737</p>	<p>AISC</p>	<p>12-31-2009</p>
<p>T & M Manufacturing Inc. 435-257-1400 Travis Scott</p>	<p>1110 North 1000 West Tremonton, Utah, 84337</p>	<p>AISC</p>	<p>03-31-2010</p>
<p>TECH-STEEL, INC 801 328-2543 Quin Harmon quin@tech-steel.com</p>	<p>PO BOX 160386 Clearfield, UT 84016</p>	<p>AISC</p>	<p>10-31-2010</p>

**Theobald Construction,
Inc.**

435-673-4284
Fax 435-634-9432
Brent Theobald
btheobald@infowest.com

215 West Industrial Dr.
Washington, Ut 84780

CCDDS-BD 10-28-2009

**UTAH ORNAMENTAL
& IRON WORKS**

801 973-8678
John (Vice Pres.)
utahornjohnjr@qwest.net

2750 West 900 South
Salt Lake City, UT 84104

Approved Shops

2750 West 900 South
Salt Lake City, UT 84104

CCDDS-BD 01-23-2010

568 South Redwood Rd.
Salt Lake City, UT 84104

CCDDS-BD 01-16-2010

VERCO DECKING INC.

(602) 272-1347
Approved Shops

4340 N. 42nd Avenue
Phoenix, Arizona 85019
4340 N. 42nd Avenue
Phoenix, Arizona 85019

ICBO 12-31-2009

607 Wilbur Avenue
Antioch, California 94509

8333 Lime Street
Fontana, California 92334

VP Buildings

Travis Lefever
travis@buildingsbydesign.com

2250 Lower Lake Rd.
St. Josephm MO 64504

CWB 02-12-2010

Updated 11-17-09

Tab Eight

DFCM
West
Cedar City,
UT, 84720
Year 2009 Quarter 3

Unit Summary Report

Cost Estimate Report
CostWorks
RSMMeans

Date: 4-Dec-09

SUU - Storage

Prepared By:
Leslie Stoker
Mesa Consulting Group

Division Description		Total
Division 02 Site Construction		\$23,967.21
Division 03 Concrete		\$41,298.54
Division 07 Thermal & Moisture Protection		\$7,336.00
Division 08 Doors & Windows		\$2,486.36
Division 13 Special Construction		\$101,640.00
Division 16 Electrical		\$4,107.86
Subtotal		\$180,835.97
General Contractor's Markup on Subs	0.00%	\$0.00
Subtotal		\$180,835.97
General Conditions	5.00%	\$9,041.80
Subtotal		\$189,877.77
General Contractor's Overhead and Profit	5.00%	\$9,493.89
Grand Total		\$199,371.66

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 07 Subtotal					\$7,336.00
Division 08 Doors & Windows					
081102001120	Doors, commercial, steel, flush, full panel, hollow core, hollow metal, 18 ga., 3'-0" x 7'-0" x 1-3/4" thick	1.00	Ea.	\$420.40	\$420.40
083605501200	Doors, overhead, commercial, stock, sectional, heavy duty, wood, 1-3/4" thick x 12' x 12' high, excl. frames	1.00	Ea.	\$2,065.96	\$2,065.96
Division 08 Subtotal					\$2,486.36
Division 13 Special Construction					
131287000800	Pre-Eng Steel Bldg, clear span rigid frame, 30 psf roof and 20 psf wind load, 50' to 100' W x 14' eave H, incl. 26 ga. colored ribbed roofing & siding, excl. footings, slab, anchor bolts	6,000.00	SF Flr.	\$16.94	\$101,640.00
Division 13 Subtotal					\$101,640.00
Division 16 Electrical					
161409100500	Toggle switch, quiet type, single pole, 20 amp	3.00	Ea.	\$19.44	\$58.32
161409102470	Duplex receptacle, grounded, 120 volt, 20 amp	12.00	Ea.	\$21.85	\$262.20
163307604300	Circuit breaker, 2 pole, 125 to 225 amp, type KA	1.00	Ea.	\$1,158.54	\$1,158.54
165104400940	Fluorescent fixture, interior, acrylic lens, grid recess ceiling mounted, 2-32 W, 2' W x 4' L, incl lamps, mounting hardware and connections	20.00	Ea.	\$131.44	\$2,628.80
Division 16 Subtotal					\$4,107.86

DFCM
West
Cedar City,
UT, 84720
Year 2009 Quarter 3

Unit Detail Report

Cost Estimate Report
CostWorks
RSMMeans

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SUU - Storage

LineNumber	Description	Quantity	Unit	Total Incl. O&P	Ext. Total Incl. O&P
Division 02 Site Construction					
020801001120	Water Utility Distribution Fire Hydrants, two way, 2'-6" depth, 4-1/2" valve, includes mechanical joints, excludes excavation and backfill	1.00	Ea.	\$1,545.62	\$1,545.62
020801005520	Water Utility Distribution Fire Hydrants, indicator post, non-adjustable valve size, 4" - 14", 3'-6" bury, includes bolts and gaskets, excludes excavation and backfill	1.00	Ea.	\$845.54	\$845.54
023151202020	Backfill, structural, common earth, 80 H.P. dozer, 50' haul, excludes compaction	1,555.00	L.C.Y.	\$0.82	\$1,275.10
023151203220	Backfill, structural, common earth, 105 H.P. dozer, 150' haul	444.00	L.C.Y.	\$1.66	\$737.04
023153200400	Compaction, structural, select fill, 8" lifts, sheepsfoot or wobbly wheel roller	1,555.00	E.C.Y.	\$1.04	\$1,617.20
023154322220	Excavating, bulk, dozer, open site, bank measure, common earth, 80 H.P. dozer, 150' haul	1,111.00	B.C.Y.	\$4.01	\$4,455.11
023156200750	Excavating, chain trencher, utility trench, common earth, 12 H.P., 8" wide, 36" deep, chain trencher, operator walking	275.00	L.F.	\$1.24	\$341.00
025107502200	Water supply distribution piping, piping polyvinyl chloride, 6" diameter, AWWA C900, Class 150, SDR 18, excludes excavation or backfill, unless specified	275.00	L.F.	\$6.20	\$1,705.00
027403150020	Asphaltic concrete, parking lots & driveways, 6" stone base, 2" binder course, 1" topping	4,560.00	S.F.	\$2.51	\$11,445.60
Division 02 Subtotal					\$23,967.21
Division 03 Concrete					
031104451100	C.I.P. concrete forms, slab on grade, bulkhead with keyway, wood, 6" high, 4 uses, includes erecting, bracing, stripping and cleaning	320.00	L.F.	\$2.62	\$838.40
032106000500	Reinforcing steel, in place, footings, #4 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	4.00	Ton	\$1,832.46	\$7,329.84
032106000600	Reinforcing steel, in place, slab on grade, #3 to #7, A615, grade 60, incl labor for accessories, excl material for accessories	2.00	Ton	\$1,773.90	\$3,547.80
033102200300	Structural concrete, ready mix, normal weight, 4000 PSI, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments	250.00	C.Y.	\$104.86	\$26,215.00
033107004300	Structural concrete, placing, slab on grade, direct chute, up to 6" thick, includes vibrating, excludes material	250.00	C.Y.	\$13.47	\$3,367.50
Division 03 Subtotal					\$41,298.54
Division 07 Thermal & Moisture Protection					
072109500140	Blanket insulation, for walls or ceilings, kraft faced fiberglass, 6" thick, R19, 11" wide	10,480.00	S.F.	\$0.70	\$7,336.00

Tab Nine

For Division of Facilities Construction and Management Design Manual – Current Version, please go to the DFCM Web site at <http://dfcm.utah.gov> . It is available on line under Standard Documents.

Tab Ten

For Division of Facilities Construction and Management General Conditions, please go to the DFCM Web site at <http://dfcm.utah.gov> . It is available on line under Standard Documents.

Tab Eleven

For Division of Facilities Construction and Management Supplemental General Conditions, please go to the DFCM Web site at <http://dfcm.utah.gov> . It is available on line under Standard Documents.