ADDRESS: 1444 S POTOMAC ST

RSN (Alternative Reference #): 161807

TITLE: CORE AND SHELL - MEDICAL CENTER OF AURORA - CALCS AND SOILS

KEYWORD: CM

STRUCTURAL CALCULATIONS

FOR:

Aurora South MOB

Aurora, CO

SCI# 02-333

Prepared For:
Davis Partnership



STRUCTURAL CONSULTANTS INCORPORATED
3400 E. Bayaud Ave., #300
Denver, Colorado 80209
October 26, 2004

STRUCTURAL CONSULTANTS INCORPORATED	Job Title	Aurora Medical Office Building		Job No.	02-333
	Client	Davis Partnership	By FEB	Date 9/4/04	Sheet ___ of ___

STRUCTURAL DESIGN CRITERIA

REFERENCES

A. INTERNATIONAL BUILDING CODE - 2003 EDITION
B. ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY : 2002
C. AISC MANUAL OF STEEL CONSTRUCTION, LRFD, 3rd EDITION.
D. AISI SPECIFICATION FOR DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS - 1996 EDITION
E. GEOTECHNICAL ENGINEERING REPORT No. 37,708 BY CTL THOMPSON, INC. DATED NOVEMBER 3, 2003

DESIGN LOADS

A. LIVE LOADS

1.	Roofs, Typical :	30 psf snow + drifting, see calculations following
2.	Typical Floor, 2nd, 3rd	80 psf + 20psf partition (reducible)
3.	1st Floor	100 psf (slab-on-grade)
4.	Lobbies, Halls, Stairs, Corridors	100 psf
5.	Mechanical Unit Loads :	Re: Plans and Calculations for RTU loads

B. DEAD LOADS

1. Roof

ballast		15 psf
EPDM		1 psf
insulation, 6" avg.		3 psf
1.5" steel deck		3 psf
(1) layer of 5/8 gyp.		3 psf
	Total to deck	25 psf
structure		8 psf
Fireproofing on Structure		1 psf
C.L.E.M.		8 psf
	TOTAL	**42 psf**

2. Floors

3.25" light weight concrete on 2" metal deck		42 psf
.5" concrete allowance		5 psf
Fireproofing		1 psf
Flooring		2 psf
	Total to deck	50 psf
structure		10 psf
C.L.E.M.		8 psf
Misc.		2 psf
	TOTAL	**70 psf**

3.	Roof top Mecanical and Housekeeping Pad :	6" normal wt. concrete on 1.5B deck	68	psf
		.5" concrete allaowance	5	psf
		Total to deck	73	psf
		structure	10	psf
		Fireproofing	1	psf
		Mech. Units (RTU)	80	psf
		TOTAL	**164**	**psf**

4.	Exterior Walls :	**Brick veneer & metal stud back-up (single wall):**		
		4" Brick veneer	40	psf
		6" studs @ 16" o.c.	2	psf
		1-ply 5/8" gypboard	3	psf
		insulation	2	psf
		mechanical, electrical, misc.	5	psf
		Total - stone veneer system	**52**	**psf**
		Glass curtainwall system:		
		7 1/2" glass curtainwall	15	psf
		insulation	2	psf
		mechanical, electrical, misc.	3	psf
		Total - curtainwall system	**20**	**psf**
		Metal panel facade & metal stud back-up:		
		Metal panel façade	15	psf
		6" studs @ 16" o.c.	2	psf
		2-ply 5/8" gypboard	6	psf
		insulation	2	psf
		mechanical, electrical, misc.	5	psf
		Total - metal panel façade	**30**	**psf**

MATERIALS

A. CONCRETE

1.	Foundation Walls and Footings :	4,000	psi
2.	Interior Slab :	3,000	psi
3.	Exterior Slabs :	4,000	psi
5.	Concrete on Suspended Slabs and Metal Deck :	3,500	psi
6.	Precast Concrete Elements :	5,000	psi
7.	All other concrete :	3,000	psi
8.	Reinforcing steel, ASTM A615 :	60,000	psi
9.	Reinforcing steel, weldable, ASTM A706 :	60,000	psi

B. STEEL

1.	Structural shapes :	ASTM A992, Grade 50
2.	Channels, plates, angles :	ASTM A36
3.	HSS Structural tubing :	ASTM A500, Grade B
4.	Bolts, nuts :	ASTM A325

C. MASONRY

1.	Masonry units :	Lightweight, ASTM C90, Grade N-1	
2.	Assembly strength, f'm :	1,500	psi
3.	Grout, 28 days :	3,000	psi

4. Mortar : ASTM C270, Type S - 2,000 psi compressive strength
5. Special inspection will be required.

FOUNDATIONS

A. Foundation type : Concrete Stem Walls with Strip and Pad Footings
B. Frost depth : 36 inches
C. Foundation Design Capacities and Recommendations :

1. Sub-excavation should be performed to at least elevation 5592.0' (FF = 5598.5) and to at least 5 feet outside the building footprint.
2. Maximum soil bearing pressure to resist gravity loads: 4,000 psf
3. Maximum soil bearing pressure to resist lateral loads: 4,000 psf
4. Minimum Dead Load Pressure: N/A
5. Coefficient of sliding friction to resist lateral loads: 0.40
6. Passive earth pressure used to resist lateral loads: 300 pcf (for compacted backfill)
7. Equivalent fluid pressure for soil against laterally supported walls : 45 pcf
8. Strip footings should have a minimum width of at least 16 inches.
9. Isolated pad footings should have a minimum dimension of at least 24 inches on all sides.
10. Foundation walls should be reinforced as a minimum sufficient to span an unsupported distance of 10 feet.
11. Soil site classification to determine seismic design category : Soil Site Class D.

STRUCTURAL CONSULTANTS INCORPORATED

Job Title Aurora Medical Office Building Job No. 02-333

Client Davis Partnership By FEB Date 9/22/04 Sheet ___ of ___

SEISMIC DESIGN CRITERIA

SEISMIC RESPONSE COEFFICIENT (PER 2003 IBC & ASCE 7/02)

Ordinary Concentric Steel Braced Frames

Seismic Design Category : B **Soil Site Classification :** D **Seismic Factor, I_E :** 1.00

Seismic Use Group : II **Ductility Coefficient, R :** 3.0 **Overstrength Factor, Ω_0 :** 3.0
(For Steel Braced Frames)

S_s : 0.188 F_a : 1.6 $S_{MS} = (F_a)(S_s) =$ 0.301 $S_{DS} = (2/3)S_{MS} =$ **0.201**

S_1 : 0.057 F_v : 2.4 $S_{M1} = (F_v)(S_1) =$ 0.137 $S_{D1} = (2/3)S_{M1} =$ **0.091**

Structure Period : C_t : 0.02 h_n : 41 feet x 0.75 $T_a = (C_t)(h_n)^x =$ 0.324

C_u : 1.7 Maximum Period, $T_{max} = (C_u)(T_a) =$ 0.551

Use $T = T_a =$ 0.324

$Cs = S_{DS}/(R/I_E) =$ 0.067 (Equation 9.5.5.2.1-1 ASCE 7/02)

$Cs = S_{D1}/\{(R/I_E)T\} =$ 0.094 max (Equation 9.5.5.2.1-2 ASCE 7/02)

$Cs = 0.044(S_{DS})(I_E) =$ 0.009 min (Equation 9.5.5.2.1-3 ASCE 7/02)

Therefore, Use Seismic Response Coefficient, Cs = 0.067

AURORA MOD
02-333

MCE Ground Motion - Conterminous 48 States
Zip Code - 80012 Central Latitude = 39.699718
Central Longitude = -104.837353

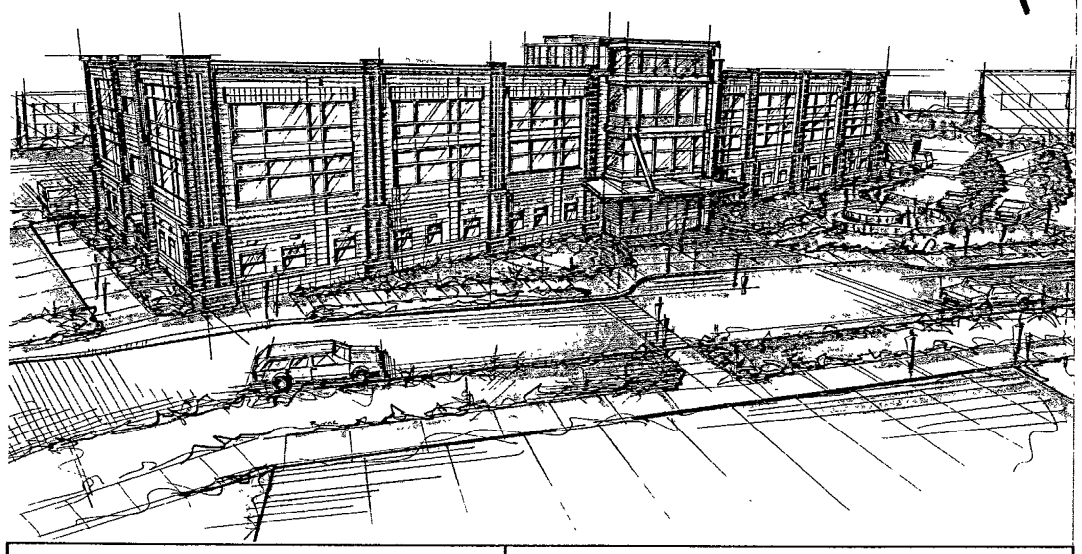
Period (sec)	MCE Sa (%g)	
0.2	018.8	MCE Value of Ss, Site Class B
1.0	005.7	MCE Value of S1, Site Class B
Spectral Parameters for Site Class D		
0.2	030.1	Sa = FaSs, Fa = 1.60
1.0	013.7	Sa = FvS1, Fv = 2.40

MEDICAL CENTER OF AURORA

Medical Office Building

Aurora, Colorado

RSN 161807



Architect's Project No. 02419.00 2301 Blake Street, Suite 100 Denver, CO 80205	Construction Documents Project Manual October 26, 2004

STATE OF COLORADO
DAVID MICHAEL RHYNE
B-1720
10/21/04
LICENSED ARCHITECT

COLORADO REGISTERED
JOHN A. HUGHES
19781
OCT 25 2004
PROFESSIONAL ENGINEER

COLORADO REGISTERED
FRANK E. BUMGARNER III
36269
10/25/04
PROFESSIONAL ENGINEER

COLORADO REGISTERED
STEVEN D. FRAMZ
29089
10-25-04
PROFESSIONAL ENGINEER
PW 15

COLORADO REGISTERED
DUANE A. JANSEN
19892
PROFESSIONAL ENGINEER
10-26-04

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TABLE OF CONTENTS

SPECIFICATIONS

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01230	Alternates
01240	Clarification/Information Procedures
01250	Contract Modification Procedures
01290	Payment Procedures
01320	Construction Progress Documentation
01330	Submittal Procedures
01400	Quality Control Services
01420	References
01600	Materials and Equipment
01770	Closeout Procedures
01782	Operation and Maintenance Data
01820	Demonstration and Training

DIVISION 2 – SITE CONSTRUCTION

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02200	Earthwork
02225	Excavating, Backfilling and Compacting for Utilities
02231	Tree Protection and Trimming
02270	Temporary Erosion and Sedimentation Control
02510	Hot Mix Asphalt Paving
02520	Cement Concrete Pavement
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02720	Storm Drainage
02722	Sanitary Sewer System
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04810	Unit Masonry Assemblies

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05210	Steel Joists
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05511 Metal Stairs, Alternating Tread Devices and Steel Railings
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07620 Sheet Metal Flashing & Trim
07720 Roof Accessories
07811 Sprayed Fire-Resistive Materials
07841 Through-Penetration Firestop Systems
07920 Joint Sealants

DIVISION 8 – DOORS AND WINDOWS

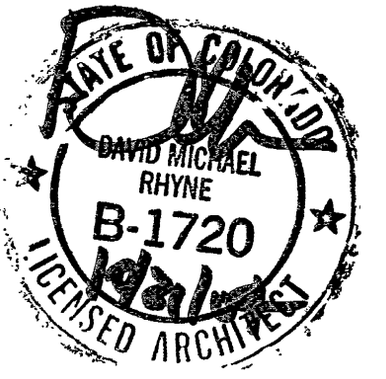
08110 Hollow Metal Doors and Frames
08210 Flush Wood Doors
08311 Access Doors and Frames
08411 Aluminum Framed Entrances and Storefronts
08710 Door Hardware
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12485 Foot Grilles
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DIVISION 13 – (Not Used)

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14240 Hydraulic Elevators

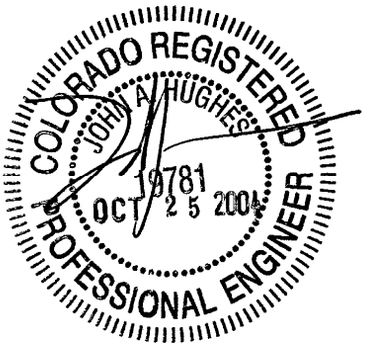
DIVISION 15 – MECHANICAL SYSTEMS

15010 General Mechanical Requirements
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P:\HEALTH ONE\MEDICAL CENTER OF AURORA\2003-264 MEDICAL CENTER OF AURORA MOB\CAD\ELEC\P-ESITE.DWG _ EX1.2-2

Davis Partnership Architects

PROJECT TITLE: AURORA MOB
AT THE MEDICAL CENTER OF AURORA

DRAWING TITLE: ELECTRICAL SITE PLAN SCHEDULE
NONE

DATE: 11-11-04
PROJECT NO. 2003-264

DWG REF: E1.2
CAD FILE: P-ESITE

DRAWING NO. EX1.2-2

ADDENDUM 1

EXTERIOR LUMINAIRE SCHEDULE

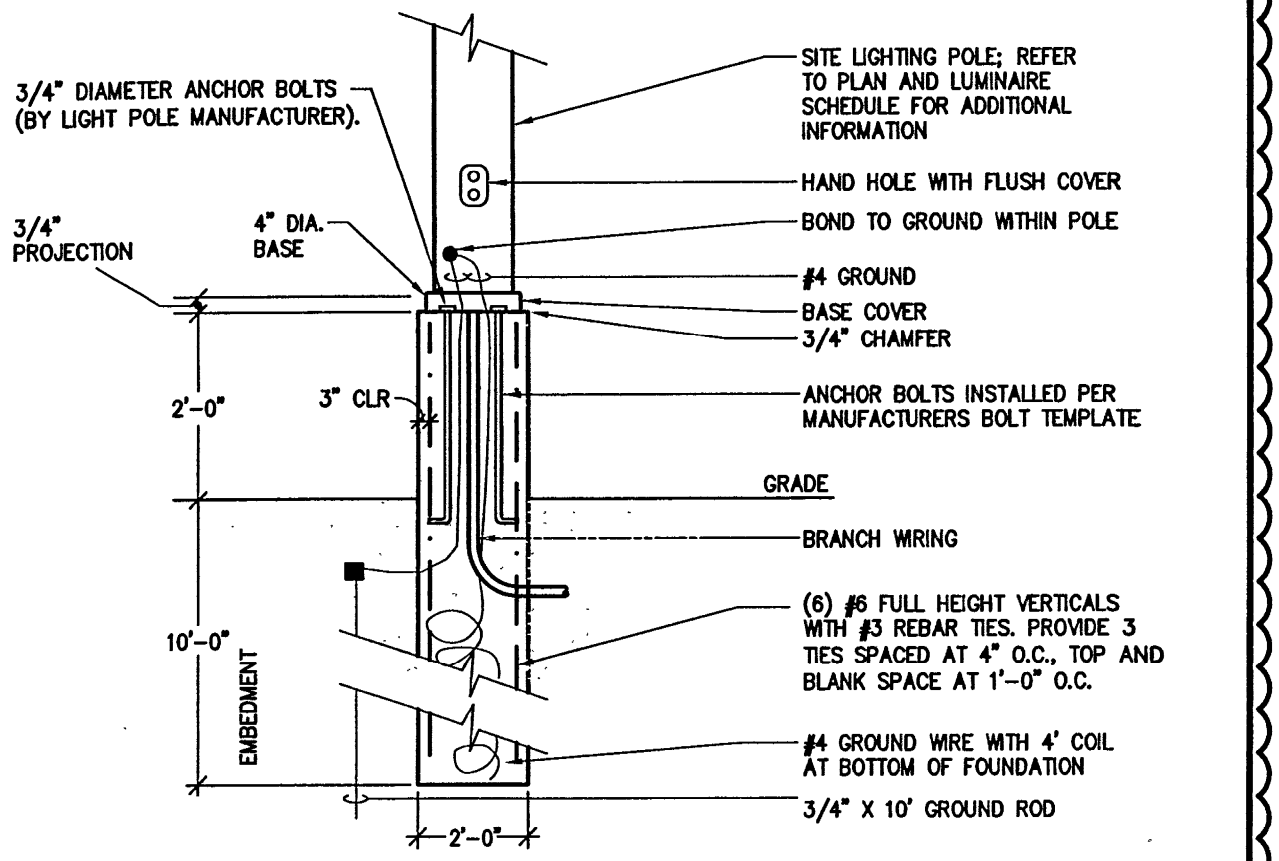
TYPE	DESCRIPTION	LAMPS	VOLT AMPS	MANUFACTURER	CATALOG NO.	VOLTAGE	FINISH	MOUNTING	RECESS
EP1	POST MOUNTED ACCENT FLOODS KIM "BELL" SERIES	1-35W MH PAR20	40	KIM	6160/D/35MHvolt/GR/PL72	277	BRONZE	37" POLE	
EP1	PARKING LOT LUMINAIRE WITH ONE HEAD AND TYPE III DISTRIBUTION	1 - 400W MH MOGUL BASE	420	KIM	1B/RA253/400MH480/BRONZE WITH SAL25-64250BRONZE POLE	277	BRONZE	25' POLE	
EP2	PARKING LOT LUMINAIRE WITH TWO HEADS	2 - 400W MH MOGUL BASE	820	KIM	2B/RA253/400MH480/BRONZE WITH SAL25-64250BRONZE POLE	277	BRONZE	25' POLE	
EP3	POST MOUNTED ACCENT FLOODS KIM "BELL" SERIES	1-35W MH PAR20	40	KIM	6160/D/35MHvolt/GR/PL72	277	BRONZE	37" POLE	

NOTES:

1. CATALOG NUMBER REFERS TO FIRST NAME LISTED UNDER MANUFACTURER PER LUMINAIRE TYPE. REMAINING MANUFACTURERS LISTED ARE CONSIDERED EQUIVALENT PRODUCTS FOR THIS PROJECT AND SHALL MEET ALL CRITERIA LISTED INCLUDING THAT CALLED FOR BY THE SPECIFIC LUMINAIRE CATALOG NUMBER. CATALOG NUMBERS DO NOT NECESSARILY REPRESENT COMPLETE CATALOG NUMBERS. ALL ITEMS LISTED IN THE DESCRIPTION SHALL BE PROVIDED.
2. ALL LIGHTING REQUIRING A BALLAST SHALL BE PROVIDED WITH HIGH POWER FACTOR BALLAST.
3. ALL LENSES LISTED AS .125" MINIMUM SHALL BE 9.1 oz/sq ft.
4. PROVIDE QUANTITY OF BALLASTS FOR INDIVIDUAL LUMINAIRES AS REQUIRED TO ACCOMMODATE SWITCHING ARRANGEMENTS AS SHOWN ON THE DRAWINGS.
5. ALL DIMMER BALLASTS SHALL BE LUTRON.

1

Davis Partnership P.C., Architects
Denver Office: 2301 Blake Street Suite 100 Denver, Colorado 80205-2108 303.861.8555 Fax 303.861.3027
Vail Office: 0137 Main Street Unit C106 P.O. Box 2711 Edwards, Colorado 81632 970.926.8960 Fax 970.926.8961



POLE BASE DETAIL-RAISED

NO SCALE

1. SEE STRUCTURAL DRAWINGS FOR LOAD CALCULATIONS.

11-09-04

2003-264

1

P:\HEALTH ONE\MEDICAL CENTER OF AURORA\2003-264 MEDICAL CENTER OF AURORA MOB\CAD\ELEC\P-ESITE.DWG - EX1.2-1

Davis Partnership Architects	PROJECT TITLE: AURORA MOB AT THE MEDICAL CENTER OF AURORA	DATE: 11-11-04 PROJECT NO. 2003-264	DRAWING NO. EX1.2-1
	DRAWING TITLE: ELECTRICAL SITE PLAN DETAIL SCALE: 1/8"=1'-0"	DWG REF: E1.2 CAD FILE: P-ESITE	ADDENDUM 1

Davis Partnership P.C., Architects | Denver Office: 2301 Blake Street Suite 100 Denver, Colorado 80205-2108 303.861.8555 Fax 303.861.3027
Vail Office: 0137 Main Street Unit C106 P.O. Box 2711 Edwards, Colorado 81632 970.926.8960 Fax 970.926.8961

Permit Number

Checked By/Date

RSN 161807

Envelope Compliance Certificate
2003 IECC

COM*check-EZ* Software Version 3.0 Release 1a
Data filename: P:\PROJECTS\03\03098\03098.cck

Section 1: Project Information

Project Name:	Aurora Medical Office Building
Designer/Contractor:	Rex Winquest
Document Author:	Rex Winquest

Section 2: General Information

Building Location (for weather data):	Aurora, Colorado
Climate Zone:	13b
Heating Degree Days (base 65 degrees F):	6020
Cooling Degree Days (base 65 degrees F):	679
Project Type:	New Construction
Window / Wall Ratio:	0.31

Building Type	Floor Area
Office	60192

Section 3: Requirements Checklist

Bldg. |
Dept. |
Use |

Air Leakage, Component Certification, and Vapor Retarder Requirements

[ ] | 1. All joints and penetrations are caulked, gasketed, weather-stripped, or otherwise sealed.
[ ] | 2. Windows, doors, and skylights certified as meeting leakage requirements.
[ ] | 3. Component R-values & U-factors labeled as certified.
[ ] | 4. Stair, elevator shaft vents, and other dampers integral to the building envelope are equipped with motorized dampers.
[ ] | 5. Cargo doors and loading dock doors are weather sealed.
[ ] | 6. Recessed lighting fixtures are: (i) Type IC rated and sealed or gasketed; or (ii) installed inside an appropriate air-tight assembly with a 0.5 inch clearance from combustible materials and with 3 inches clearance from insulation material.
[ ] | 7 Building entrance doors have a vestibule and equipped with closing devices.
Exceptions:
Building entrances with revolving doors.
Doors that open directly from a space less than 3000 sq. ft. in area.

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Climate-Specific Requirements

Component Name/Description	Gross Area	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
Roof 1: Metal Roof without Thermal Blocks	20064	0.0	27.0	0.036	0.057
Exterior Wall 1: Metal Frame, 16" o.c.	24648	0.0	21.0	0.043	0.087
Window 1: Metal Frame:Double Pane with Low-E Tinted, SHGC 0.31	7739	---	---	0.300	0.586
Floor 1: Slab-On-Grade:Unheated, Vertical 4 ft.	20064	---	3.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

Envelope PASSES: Design 8% better than code

Section 4: Compliance Statement

The proposed envelope design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed envelope system has been designed to meet the 2003 IECC requirements in COM*check-EZ* Version 3.0 Release 1a and to comply with the mandatory requirements in the Requirements Checklist.

DAVID M RHYNE — Principal Envelope Designer-Name

Signature

11/17/04 — Date

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Permit Number

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Mechanical Compliance Certificate
2003 IECC

COM*check-EZ* Software Version 3.0 Release 1a
Data filename: P:\PROJECTS\03\03098\03098.cck

Section 1: Project Information

Project Name:	Aurora Medical Office Building
Designer/Contractor:	Rex Winquest
Document Author:	Rex Winquest

Section 2: General Information

Building Location (for weather data):	Aurora, Colorado
Climate Zone:	13b
Heating Degree Days (base 65 degrees F):	6020
Cooling Degree Days (base 65 degrees F):	679
Project Type:	New Construction

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	HVAC System 1: Heating: Central Furnace, Gas / Cooling: Rooftop Package Unit, Capacity >=760 kBtu/h, Evaporatively Cooled Condenser / Single Zone

Section 4: Requirements Checklist

Bldg. Dept. Use		
		Requirements Specific To: HVAC System 1
[ ]		1. Newly purchased heating equipment meets the heating efficiency requirements
[ ]		2. Equipment minimum efficiency:
		Rooftop Package Unit: 10.8 EER, 10.1 IPLV
[ ]		3. Discharge dampers prohibited with fan motors >25 hp
[ ]		4. Integrated air economizer required
		Generic Requirements: Must be met by all systems to which the requirement is applicable
[ ]		1. Load calculations per 1997 ASHRAE Fundamentals
[ ]		2. Plant equipment and system capacity no greater than needed to meet loads
		- Exception: Standby equipment automatically off when primary system is operating
		- Exception: Multiple units controlled to sequence operation as a function of load
[ ]		3. Minimum one temperature control device per system
[ ]		4. Minimum one humidity control device per installed humidification/dehumidification system
[ ]		5. Thermostatic controls has 5 deg. F deadband

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| | - Exception: Thermostats requiring manual changeover between heating and cooling
[ ] | 6. Automatic Controls: Setback to 55 deg. F (heat) and 85 deg. F (cool); 7-day clock,
| 2-hour occupant override, 10-hour backup
| - Exception: Continuously operating zones
| - Exception: 2 kW demand or less, submit calculations
[ ] | 7. Automatic shut-off dampers on exhaust systems and supply systems with airflow >3,000 cfm
[ ] | 8. Outside-air source for ventilation; system capable of reducing OSA to required minimum
[ ] | 9. R-5 supply and return air duct insulation in unconditioned spaces
| R-8 supply and return air duct insulation outside the building
| R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
| - Exception: Ducts located within equipment
| - Exception: Ducts with interior and exterior temperature difference not exceeding 15 deg. F.
[ ] | 10. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts;
| UL 181A or 181B tapes and mastics
| - Exception: Continuously welded and locking-type longitudinal joints and seams on ducts
| operating at static pressures less than 2 inches w.g. pressure classification
[ ] | 11. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
[ ] | 12. Operation and maintenance manual provided to building owner
[ ] | 13. Balancing devices provided in accordance with IMC 603.15
[ ] | 14. Stair and elevator shaft vents are equipped with motorized dampers

Section 5: Compliance Statement

The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2003 IECC requirements in COM*check-EZ* Version 3.0 Release 1a and to comply with the mandatory requirements in the Requirements Checklist.

REX WINQUEST — Principal Mechanical Designer-Name

Rex Winquest — Signature

11-16-04 — Date

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Permit Number

Checked By/Date

Lighting Compliance Certificate
Colorado Commercial Code

COM*check-EZ* Software Version 3.0 Release 1a
Data filename: P:\Health One\Medical Center of Aurora\2003-264 Medical Center of Aurora MOB\Eng\Elec\Lighting\AuroraMOBComcheck.cck

Section 1: Project Information

Project Name:	Health One Aurora Medical Office Building Core and Shell
Designer/Contractor:	Cator, Ruma and Associates Consulting Engineers 1550 Dover Street Lakewood, CO 80215 (303) 232-6200
Document Author:	Bruce Osborn
Notes:	Model Energy Code Compliance Check

Section 2: General Information

Building Use Description by:	Whole Building Type
Project Type:	New Construction

Building Type	Floor Area
Medical and Clinical Care	68160

Section 3: Requirements Checklist

Bldg. Dept. Use

[ ] **Interior Lighting**

1. Total actual watts must be less than or equal to total allowed watts

Allowed Watts	Actual Watts	Complies(Y/N)
122688	19104	YES

Exterior Lighting

[ ] 2. Type(s) of exterior lighting sources:
X Fluorescent X Metal Halide __High-Pr. Sodium
Exceptions:
Specialized signal, directional, and marker lighting; lighting highlighting exterior features of historic buildings; advertising signage; safety or security lighting; low-voltage landscape lighting.

Controls, Switching, and Wiring

[ ] 3. Master switch at entry to hotel/motel guest room.
[ ] 4. Photocell/astronomical time switch on exterior lights.

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| | *Exceptions:* Areas requiring lighting during daylight hours
[ ] | 5. Electronic ballasts operating all standard output fluorescent lamps
| | *Exceptions:*
| | Lamps < 30 Watts;
| | Lamp diameter <= one inch(T-8);
| | Lamp/ballast luminous efficacy > 75 lm/W.
| | Electronic high-frequency ballasted luminaires not on same switch

Section 4: Compliance Statement

The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the Colorado Commercial Code requirements in COM*check-EZ* Version 3.0 Release 1a and to comply with the mandatory requirements in the Requirements Checklist.

Bruce D. Osborn — Principal Lighting Designer-Name

Bruce D. Osborn — Signature

11/16/04 — Date

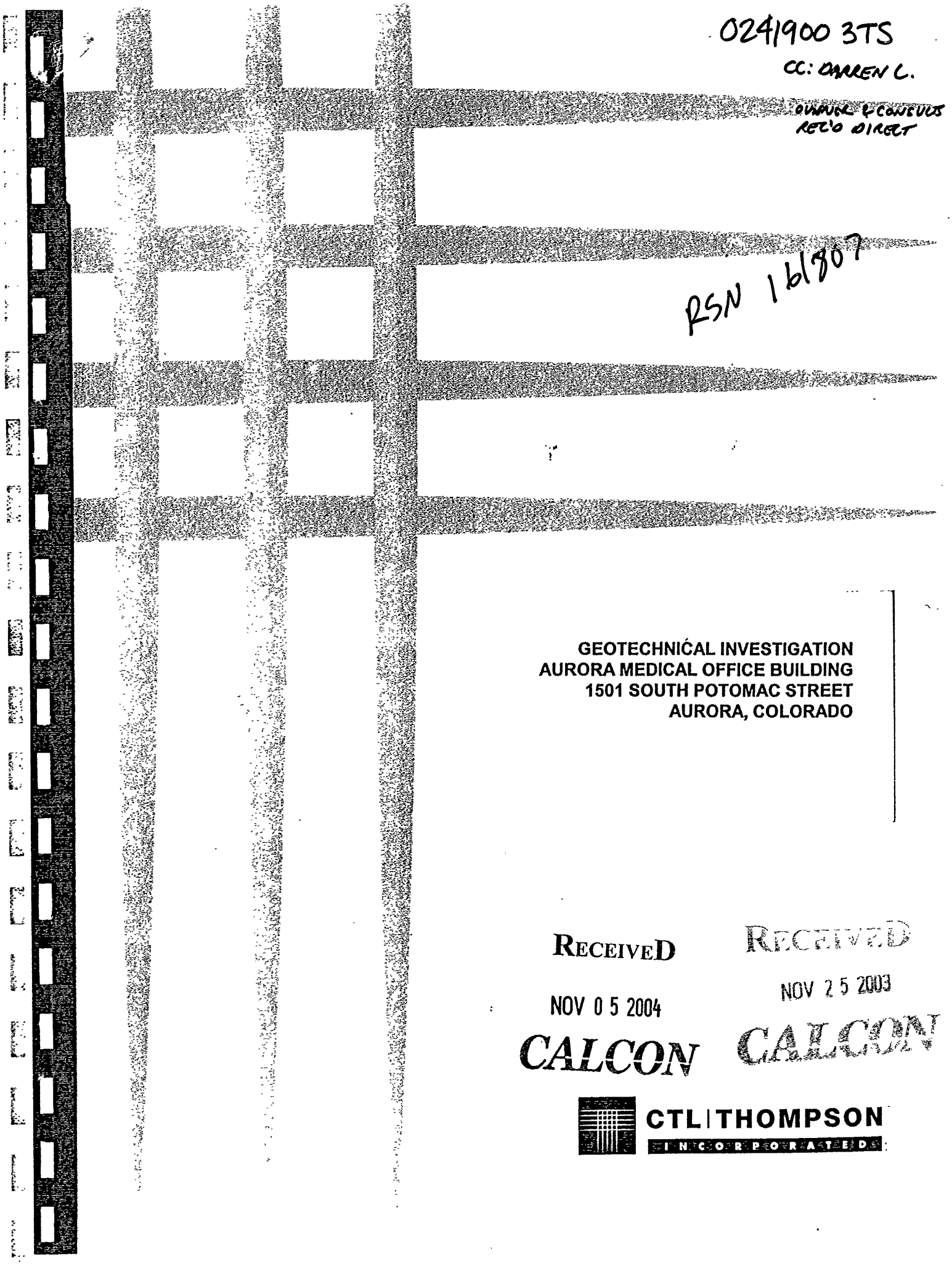
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GEOTECHNICAL INVESTIGATION
AURORA MEDICAL OFFICE BUILDING
1501 SOUTH POTOMAC STREET
AURORA, COLORADO

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GEOTECHNICAL INVESTIGATION
AURORA MEDICAL OFFICE BUILDING
1501 SOUTH POTOMAC STREET
AURORA, COLORADO

Prepared For:

MEDCAP PROPERTIES
4525 Harding Road
Suite 102
Nashville, Tennessee 37205

Attention: Mr. Tom Hulme

Job No. 37,708

November 3, 2003

1971 West 12th Avenue | Denver, Colorado 80204 | Telephone: 303-825-0777 Fax: 303-825-4252

SCOPE

This report presents the results of our Geotechnical Investigation for the proposed Aurora Medical Office Building planned at 1501 South Potomac Street, southeast of the intersection of South Potomac Street and East Arkansas Avenue, in Aurora, Colorado (Fig. 1). The purpose of the investigation was to evaluate the subsurface conditions at the site and provide foundation recommendations and geotechnical design criteria for the project site. The scope was described in our proposal (03-0810) dated October 6, 2002.

The report was prepared from data developed during field exploration, laboratory testing, engineering analysis and experience with similar conditions. The report includes a description of subsoil and bedrock conditions found in our exploratory borings and discussions of site development as influenced by geotechnical considerations. Our opinions and recommendations regarding design criteria and construction details for foundations, floor systems and slabs-on-grade, lateral earth loads, and drainage are provided. If the project grading, building locations/elevations or proposed construction change, we should be notified. A brief summary of our conclusions and recommendations is presented below, with more detailed criteria and recommendations contained in the report.

SUMMARY OF CONCLUSIONS

1. Soils found in our borings consisted of 3 to 5 feet of fill in three borings and/or 17 to 24 feet of clean to silty or clayey sand over clay and sand. Claystone bedrock was encountered at depths of 34 to 38 feet below the ground surface (elevation 5560 to 5564). Ground water was encountered at depths of 18 to 22 feet (elevation 5577 to 5579).

2. Our investigation indicates fill and sand are present near the foundation levels. Existing fill should not support foundations. We recommend existing fill be removed and recompacted within the building footprint.

3. We recommend a spread footing foundation to be used to support the proposed building.

4. Our investigation indicates the near surface soils are non-swelling. We believe a slab-on-grade floor is appropriate for this site. Some movement of slab-on-grade floors should be anticipated. We expect movements will be minor, on the order of 1 inch. If movement cannot be tolerated, structural floors should be considered.

5. We recommend full depth asphalt pavement sections of at least 5 inches for automobile parking areas and 5.5 inches for fire and truck lanes, based on the requirements of the City of Aurora. Additional pavement sections are presented in the report.

6. Surface drainage should be designed for rapid runoff of surface water away from the proposed building. Water should not be allowed to pond adjacent to the building or on pavements.

SITE CONDITIONS

The Aurora Medical Office Building site is located at 1501 South Potomac Street, southeast of the intersection of South Potomac Street and East Arkansas Avenue in Aurora, Colorado (Fig. 1). Interstate 225 borders the site to the east. The west portion of the site is paved surface parking and the east portion of the site is vacant. The east portion is about 1 to 2 feet higher than the surrounding grades and is rough and hummocky. We believe a few feet of fill were placed in this area. A review of aerial photographs appears to show site grading occurred in this area in the early 1980's. The pavement in the western portion appeared to be performing adequately with some cracking.

PROPOSED CONSTRUCTION

We were informed by Structural Consultants, Inc. that the Aurora Medical Office Building will be a three-story structure with no basement. Structural Consultants indicated maximum interior columns loads would be on the order of 250 kips, and exterior columns on the order of 150 kips. Finished floor elevation has not been determined; we estimated a main floor finished elevation near 5597. Parking lots and access drives will surround the structure.