

July 23, 2013

JOEL KING  
Interim Associate Vice Chancellor  
Facilities Design & Construction  
0916

***Subject: Construction Change Orders – Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02***

The final audit report for Construction Change Orders – Structural and Materials Engineering Building, Audit Report 2013-02, is attached. We would like to thank all members of the department for their cooperation and assistance during the audit.

The findings included in this report will be added to our follow-up system. While management corrective actions have been included in the audit report, we may determine that additional audit procedures to validate the actions agreed to or implemented are warranted. We will contact you to schedule a review of the corrective actions, and will advise you when the findings are closed.

UC wide policy requires that all draft audit reports, both printed (copied on tan paper for ease of identification) and electronic, be destroyed after the final report is issued. Because draft reports can contain sensitive information, please either return these documents to AMAS personnel or destroy them at the conclusion of the audit. We also requests that draft reports not be photocopied or otherwise redistributed.

David Meier  
Assistant Vice Chancellor  
Audit & Management Advisory Services

Attachment

cc: D. Larson  
G. Matthews  
S. Vacca  
J. Gillie

# UC San Diego

---

## AUDIT & MANAGEMENT ADVISORY SERVICES

Construction Change Orders – Structural and Materials Engineering  
Building  
June 2013

**Performed By:**

Greg Buchanan, Auditor

**Approved By:**

David Meier, Assistant Vice Chancellor

Project Number: 2013-02

*Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02*

**Table of Contents**

|      |  |   |
|------|--|---|
| I.   | Background.....                                      | 1 |
| II.  | Audit Objective, Scope, and Procedures.....          | 1 |
| III. | Conclusion .....                                     | 2 |
| IV.  | Observations and Management Corrective Actions ..... | 2 |
|      | A. Exceptions to Contract Provisions.....            | 2 |
|      | B. Insurance and Bond Costs.....                     | 4 |
|      | C. Subcontractor Labor Rates.....                    | 5 |

ATTACHMENT A – Simplex Grinnell Labor Rate Breakdown-Journeyman

ATTACHMENT B – Simplex Grinnell Labor Rate Breakdown-Apprentice

ATTACHMENT C – Recalculated Simplex Grinnell Journeyman Labor Rate

ATTACHMENT D – Recalculated Simplex Grinnell Apprentice Labor Rate

ATTACHMENT E – Calculation of Simplex Grinnell Labor Overcharges

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02***

**I. Background**

Audit & Management Advisory Services (AMAS) has completed a review of Construction Change Orders for the Structural and Materials Engineering Building project as part of the approved audit plan for Fiscal Year 2012-2013. This report summarizes the results of our review.

Prior to the passing of Proposition 1D, voters approved \$6.5 billion in state general obligation bonds to further improve assets available to these higher education campuses over the decade. In addition to the \$6.5 billion, the state of California also provided lease revenues in the amount of \$1.6 billion to assist the campuses in gaining more capital assets.

With the passage of Proposition 1D, the University of California was allotted \$690 million dollars over the span of 2006-2009 for their 10 campuses, with an additional \$200 million dollars for expanding the UC's medical education and telemedicine programs. With a majority of UCSD's share of the Proposition 1D funds, an estimated \$75.1 million, UCSD moved forward in designing and building the Structural and Materials Engineering Building. The final cost for planning, design and construction, of the Structural and Materials Engineering Building was approximately \$82.5 million.

The Structural and Materials Engineering building was constructed to provide space for structural and materials engineering research projects while maintaining state mandated standards for environmentally-friendly construction. The project broke ground on October 2008, with an estimated completion date of 2010. However, due to the stoppage of construction the project was not completed until August 2012.

Construction of the project was awarded via competitive bid to M.A. Mortenson Company as a Construction Manager/Contractor (CM/Contractor). The CM/Contractor agreement was executed in two phases: preconstruction services (Phase One) and construction (Phase Two). The cost of preconstruction services was predetermined by the University to be \$75,000. Costs for Phase Two included M.A. Mortenson Company's base fee of \$2,421,317, as well as work performed by subcontractors in the amount of \$57,976,070. As of the date of our review, FD&C had approved approximately 40 Change Orders that adjusted the contract sum by a cumulative amount of \$4,047,289. Each Change Order was comprised of one or more Cost Proposal/Field Order (CP/FO).

**II. Audit Objective, Scope, and Procedures**

The objective of our review was to determine whether Change Orders submitted by the CM/Contractor and their subcontractors were priced in accordance with the Facilities Manual and Structural and Materials Engineering Building Construction Contract. In order to accomplish our objective, we conducted the following procedures:

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02***

- Interviewed the Facilities Design & Construction (FD&C) Project Manager;
- Reviewed the Structural and Material Engineering Building Construction Contract General Conditions Article 7, the Contract Exhibits, and the Supplement to Exhibit 17-Scope of Work;
- Examined supporting documentation for all CPFOs exceeding \$80,000 as of January 2013;
- Reviewed additional documentation requested from the CM/Contractor; and
- Verified that CPFOs exceeding \$100,000 included justification as to why the work was not competitively bid in accordance with the UC Facilities Manual 13.2.7.

### **III. Conclusion**

We concluded that FD&C change order documentation processes could be improved to ensure that justification is provided when change orders include costs that are generally disallowed per the construction contract provisions. We also found that several CPFOs included insurance and bond costs that exceeded the maximum amount allowable per the Construction Contract Article 7. Further, documentation was not adequate to fully evaluate the reasonableness of labor rates being charged by subcontractors. One subcontractor was found to have materially overcharged the University by including indirect costs, overhead and profit as part of their labor rates. These findings are discussed in greater detail in the balance of this report.

### **IV. Observations and Management Corrective Actions**

#### **A. Exceptions to Contract Provisions**

**Change order documentation processes could be improved to ensure that justification is provided when change orders include costs that are generally disallowed per the construction contract provisions.**

The construction contract Article 7, Changes in the Work, included a listing of costs that could be included in a change order (7.3.2) and a listing of costs that could not be included in a change order (7.3.3). Specifically, costs that could not be included in a change order included costs for superintendents, assistant superintendents, project engineers, project managers, schedulers, estimators, drafting and detailing, small tools, office expenses, on- or off-site trailers, site fencing, utilities, etc.

Several CPFOs reviewed included costs that did not appear to be generally allowable per Article 7.3.3. The subcontractors who assessed these costs, the description of the costs provided on the CPFOs, and the total costs are summarized in the following table.

**Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02**

| <b>CPFO #</b> | <b>Sub-Contractor</b> | <b>Description of Charges</b>       | <b>Total Charges</b> |
|---------------|-----------------------|-------------------------------------|----------------------|
| 16C           | Simplex Grinnel       | Design Labor                        | \$7,330              |
| 16C           | University Mechanical | Jobsite Engineering and/or Planning | \$100,497            |
| 27C           | Simplex Grinnel       | Design Labor                        | \$3,383              |
| 27C           | Southland             | MEP Design Labor                    | \$2,160              |
| 27C           | University Mechanical | Jobsite Engineering and/or Planning | \$28,279             |
| 39            | University Mechanical | Jobsite Engineering and/or Planning | \$4,669              |
| 45            | Simplex Grinnel       | Design Labor                        | \$14,872             |
| 45            | University Mechanical | Jobsite Engineering and/or Planning | \$2,665              |
| 46            | Southland             | CAD Operator                        | \$2,880              |
| 51            | University Mechanical | Jobsite Engineering and/or Planning | \$1,951              |
| 67            | Simplex Grinnel       | Engineering/Coordination            | \$676                |
| 67            | University Mechanical | Jobsite Engineering and/or Planning | \$1,300              |
| 68            | University Mechanical | Jobsite Engineering and/or Planning | \$2,146              |
| 72            | Simplex Grinnel       | Engineering/Coordination            | \$1,183              |
| 75            | McMahon Steel         | Detailing                           | \$3,575              |
| 75            | University Mechanical | Jobsite Engineering and/or Planning | \$488                |
| <b>Total</b>  |                       |                                     | <b>\$178,054</b>     |

The CPFO and associated change order documentation did not acknowledge that these costs may not be in strict compliance with the construction contract, and did not include a justification as to why these costs were approved.

In response to inquiries as to why these costs were included in the CPFOs, the CM/Contractor indicated that these changes required a change to the original design and, therefore, each subcontractor was responsible for redesign. The FD&C Project Manager and Senior Director agreed with the CM/Contractor's explanation, and that the subcontractors were entitled to payment for these costs.

It is reasonable to expect that a limited number of change orders may include costs that are not in strict compliance with the construction contract due to extenuating circumstances. However, it is important that exceptions to the construction contract be thoroughly documented in order to avoid the appearance

**Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02**

that the costs were approved without consideration of costing provisions listed in the construction contract.

**Management Corrective Action:**

FD&C Project Managers have been trained to identify costs that are not in strict compliance with the construction contract, and to explicitly document when exceptions to the contract are approved, and the basis for the approval, in the eBuilder construction management system.

**B. Insurance and Bond Costs**

**We noted that insurance and bond costs were charged in excess of the two percent threshold provided in the construction contract.**

General Conditions Article 7.3.2.9 limits the cost of insurance and bonds to 2% of the cost of the extra work (as defined by Article 7.3.2.1 through 7.3.2.8).

For all CPFOs that were reviewed, the CM/Contractor assessed a 1.75% bond fee on the total subcontractor charges plus the 5% CM/Contractor fee. By itself, the CM/Contractor bond fee would not have exceeded the contracts 2% bond/insurance limitation. However, on several occasions the subcontractors assessed their own bond/insurance fees, sometimes up to 2.8%. As a result, total bond/insurance costs materially exceeded the contract limitation for many of the CPFOs included in this review. The excess insurance/bond cost for each CPFO reviewed is detailed in the following table.

| <b>CPFO #</b> | <b>Total Direct Cost</b> | <b>Maximum I&amp;B Costs (2% of Direct Cost)</b> | <b>Total I&amp;B Charged</b> | <b>Difference</b> |
|---------------|--------------------------|--|------------------------------|-------------------|
| <b>16C</b>    | 318,259.00               | 6,365.00   | 15,590.00                    | 9,225.00          |
| <b>9</b>      | 251,396.00               | 5,028.00   | 4,619.00                     | (409.00)          |
| <b>67</b>     | 138,506.00               | 2,770.00   | 4,079.00                     | 1,309.00          |
| <b>51</b>     | 116,529.00               | 2,331.00   | 4,702.00                     | 2,371.00          |
| <b>45</b>     | 96,128.00                | 1,923.00   | 3,086.00                     | 1,163.00          |
| <b>68</b>     | 89,278.00                | 1,786.00   | 4,432.00                     | 2,646.00          |
| <b>27c</b>    | 77,210.00                | 1,544.00   | 3,709.00                     | 2,165.00          |

**Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02**

|              |           |                  |                  |                  |
|--------------|-----------|------------------|------------------|------------------|
| <b>75</b>    | 80,365.00 | 1,607.00         | 2,489.00         | 882.00           |
| <b>46</b>    | 77,846.00 | 1,557.00         | 2,161.00         | 604.00           |
| <b>39</b>    | 79,428.00 | 1,589.00         | 2,712.00         | 1,123.00         |
| <b>18</b>    | 77,571.00 | 1,551.00         | 2,307.00         | 756.00           |
| <b>72</b>    | 75,293.00 | 1,506.00         | 2,040.00         | 534.00           |
| <b>Total</b> |           | <b>29,557.00</b> | <b>51,926.00</b> | <b>22,369.00</b> |

**Management Corrective Action:**

FD&C Management will request an opinion from UCOP Construction Services as to how to apply the 2% bond and insurance cost limitation stated in Article 7, and whether or not the General Contractor and subcontractors are each entitled to bond and insurance costs up to 2% of direct change order costs. Following receipt of an opinion from UCOP, FD&C will review the questioned costs listed above and request reimbursement in an amount deemed appropriate.

**C. Subcontractor Labor Rates**

**During the project construction phase, the CM/Contractor did not provide adequate documentation so that FD&C could fully evaluate the reasonableness of labor rates being charged by subcontractors. Further, one subcontractor overcharged the University by incorporating indirect costs, overhead and profit into the labor rates used to price change orders.**

Labor Rate Breakdown Forms

In accordance with the construction contract General Conditions articles 4.2, 7.3, and the Index to Specifications Section 01035 (Changes in the Work), change orders that are not based upon a lump sum agreed upon amount must be supported using Cost Breakdown and Labor Rate Breakdown forms provided in the contract Exhibit 8. Collection of these forms is important so that the FD&C project manager can effectively evaluate how change orders are priced.

Based on our review of the supporting documentation provided to support change orders costs, it does not appear that the CM/Contractor consistently provided Labor Rate Breakdown forms to support labor rates that were used to price

*Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02*

change orders. In fact, only one subcontractor (Southland Electric) regularly submitted Labor Rate Breakdown forms as part of their change order cost proposals. The absence of Labor Rate Breakdown forms makes it extremely difficult to evaluate the reasonableness of labor rates.

Many of the labor rates that were reviewed appeared reasonable compared to rates published in the California Prevailing Wage schedules. However, there were a limited number of subcontractors who assessed labor rates that appeared high. We requested Labor Rate Breakdown forms from these subcontractors in order to determine how these rates were developed. As of the date of this report, University Mechanical had not provided Labor Rate Breakdown forms supporting the rates charges for Pipe Journeyman (\$66.71/hour), Pipe Foreman (\$73.55/hour) and Pipe General Foreman (\$78.10/hour).

**Management Corrective Action:**

The CM/Contractor has provided Labor Rate Breakdown forms supporting the University Mechanical Pipe labor rates that were used to price change orders. Based on the Labor Rate Breakdown forms provided, labor rates used by University Mechanical to price change orders appear reasonable.

**Labor Rate Overcharges**

The subcontractor responsible for installation of fire sprinklers, Simplex Grinnell, priced change orders using labor rates ranging from approximately \$65 per apprentice hour to \$95 per foreman hour. Because these rates appeared to significantly exceed California Prevailing Wage Rate schedules, we requested and received labor rate breakdown forms from Simplex Grinnell during our review. Labor rate breakdown forms for foreman and apprentice labor are provided at **Attachment A** and **Attachment B**, respectively.

Simplex Grinnell included in their labor rates several costs are not allowable based on a strict interpretation of General Conditions Article 7. For example, the labor rates included several indirect costs such as cell phones, advertising, hand tools, vehicle expenses, site access, etc.

In addition, Simplex Grinnell assessed 15% overhead and profit (OH&P) as part of the labor rate used to price change orders, and charged an additional 15% OH&P on total change order costs including labor. Therefore, Simplex Grinnell effectively assessed 15% OH&P twice on all labor costs.

Using the Labor Rate Breakdown form provided at the contract Exhibit 8, we recalculated the Simplex Grinnell labor rates by excluding all indirect costs and

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02***

OH&P (see **Attachment C** and **Attachment D**). Based on our recalculated labor rates, we estimated that Simplex Grinnell overcharged the University approximately \$14,000 (**Attachment E**).

**Management Corrective Actions:**

FD&C will request reimbursement for the overcharges relating to Simplex Grinnell labor rates.

In addition, FD&C conducted internal reviews of labor rates used by several subcontractors to price change orders over several different ongoing major capital projects. As a result of this review, FD&C found the Simplex Grinnell and 13 other subcontractors had priced change orders using questionable labor rate costs. On June 11, 2013 FD&C wrote letters to each of these subcontractors to request additional information about their labor rates, or to request reimbursement for amounts that FD&C determined to be subcontractor overcharges.

|            |      |
|------------|------|
| Calculator | 2080 |
|            | 320  |
|            | 1760 |

| Labor Wage Determination Chart  |                | Date:   | Revision:       | Addendum's:     |
|---|----------------|---|-----------------|-----------------|
| Quoted to:<br>NAME: Swinerton Builders<br>ADDRESS: 17140 Bernardo Center Dr., Suite 216<br>CITY, STATE: San Diego, CA 92128<br>CONTACT: Mike Mosier<br>TEL: (858) 472-4840<br>FAX: (858) 622-4040 |                | Job Name and Address:<br>UCSD<br>UCSD Campus<br>San Diego, CA 92093 |                 |                 |
|   |                | JOURNEYMAN  |                 |                 |
| WAGE RATES  |                |   |                 |                 |
| DESCRIPTION/ CATEGORY   | PERCENTAGE (%) | BASE RATE   | OVERTIME        | DOUBLE TIME     |
|   |                | \$34.50   | \$51.75         | \$69.00         |
| TAXES: S.D.I  | 1.10%          | 0.38  | 0.57            | 0.76            |
| F.I.C.A.  | 6.20%          | \$2.14  | \$3.21          | \$4.28          |
| Medicare  | 1.45%          | \$0.50  | \$0.75          | \$1.00          |
| FUTA  | 8.00%          | \$2.76  | \$4.14          | \$5.52          |
| SUTA  | 5.90%          | \$2.04  | \$3.05          | \$4.07          |
| Sub Ttl   | 22%            |   |                 |                 |
| <b>FRINGE BENEFITS:</b>   |                |   |                 |                 |
| Medical Insurance   | 23.10%         | \$7.97  | \$7.97          | \$7.97          |
| Dental Insurance  | 1.19%          | \$0.41  | \$0.41          | \$0.41          |
| Short Term Disability   | 0.05%          | \$0.02  | \$0.02          | \$0.02          |
| Basic Life Insurance  | 0.01%          | \$0.00  | \$0.00          | \$0.00          |
| Accidental Death & Dismemberment Ins.   | 0.02%          | \$0.01  | \$0.01          | \$0.01          |
| Jury Duty   | 0.91%          | \$0.31  | \$0.31          | \$0.31          |
| Retirement Savings % Investment Plan  | 6.00%          | \$2.07  | \$2.07          | \$2.07          |
| Vacation  | 9.09%          | \$3.14  | \$3.14          | \$3.14          |
| Holidays  | 5.00%          | \$1.73  | \$1.73          | \$1.73          |
| Incentive pay   | 2.67%          | \$0.92  | \$0.92          | \$0.92          |
| Paid Time Off   | 2.27%          | \$0.78  | \$0.78          | \$0.78          |
| Bereavement   | 0.91%          | \$0.31  | \$0.31          | \$0.31          |
| Sub Ttl   | 51%            |   |                 |                 |
| <b>INSURANCE:</b>   |                |   |                 |                 |
| Workman's Compensation  | 3.50%          | \$1.21  | \$1.21          | \$1.21          |
| General Liability   | 10.20%         | \$3.52  | \$5.28          | \$7.04          |
| Automobile Liability (Using a company truck)  | 8.00%          | \$2.76  | \$4.14          | \$5.52          |
| <b>SUPPORT EXPENSES (Indirect Variable)</b>   |                |   |                 |                 |
| Nextel, Cell Phone  | 1.10%          | \$0.38  | \$0.57          | \$0.76          |
| Tech support services   | 0.90%          | \$0.31  | \$0.47          | \$0.62          |
| Manuals & support materials   | 0.95%          | \$0.33  | \$0.49          | \$0.66          |
| Computers (Inc. software) (hand tools - consumable)   | 0.00%          | \$0.00  | \$0.00          | \$0.00          |
| <b>OTHER EXPENSES (Indirect Variable)</b>   |                |   |                 |                 |
| Training  | 7.27%          | \$2.51  | \$3.76          | \$5.02          |
| Advertise for recruiting  | 0.80%          | \$0.28  | \$0.41          | \$0.55          |
| Site Coordination (Field Meetings - not PM)   | 6.25%          | \$2.16  | \$3.23          | \$4.31          |
| Travel/Parking  | 7.96%          | \$2.74  | \$4.12          | \$5.49          |
| Site access   | 3.13%          | \$1.08  | \$1.62          | \$2.16          |
| Hazards awareness (asbestos, mold, lead, MSDS)  | 1.31%          | \$0.45  | \$0.68          | \$0.91          |
| License and Certifications (NICET/4100U)  | 2.27%          | \$0.78  | \$1.18          | \$1.57          |
| Site Safety (Badging, induction, job walk)  | 1.57%          | \$0.54  | \$0.81          | \$1.08          |
| Vehicle Expense (company truck)   | 8.80%          | \$3.04  | \$4.55          | \$6.07          |
| Hand Tools (consumables)  | 0.92%          | \$0.32  | \$0.48          | \$0.63          |
| <b>TOTAL BURDENED RATE</b>  | <b>2.39</b>    | <b>\$82.39</b>  | <b>\$114.14</b> | <b>\$145.90</b> |
| Overhead & Profit   | Allowance 15%  | 94.75   | 131.26          | 167.78          |
| After markups (OH & profit)   |                | <b>\$94.75</b>  | <b>\$131.26</b> | <b>\$167.78</b> |

| DATA SOURCE AND RATIONALE                              |               |
|--|---------------|
| From Payroll   |               |
| From Payroll   |               |
| From Payroll   |               |
| From Payroll - State specific                          |               |
| From Payroll - family                                  |               |
| From Payroll - family                                  |               |
| From Payroll   |               |
| From Payroll   |               |
| From Payroll   | 16 hrs/yr     |
| From Payroll   | 160 hrs/yr    |
| From Payroll   | 88 hrs/yr     |
| PL150  |               |
| From Payroll   | 40 hrs/yr     |
| From Payroll   | 16 hrs/yr     |
| PL150  |               |
| PL150  |               |
| PL150  |               |
| PL150  |               |
| SG&A - indirect variable cost (including IT support st |               |
| SG&A - indirect variable cost                          |               |
| Site specific requirements                             | 0 Average c   |
| Training breakdown                                     | 128 hrs/yr    |
| PL150  |               |
| Site specific requirements                             |               |
| Variable, dependent on job                             | 40 Hrs. Total |
| Variable, dependent on job                             |               |
| Variable, dependent on job                             | 2 People      |
| Extraordinary requirement                              | 40 hrs/yr     |
| Variable, dependent on job                             | 2 Number of   |
| Total fleet cost (PL150)                               |               |
| PL150  |               |
| Total burden rate result                               |               |

| Labor Wage Determination Chart  |                | Date:   | Revision:            | Addendum's:             |
|---|----------------|---|----------------------|-------------------------|
| NAME: SimplexGrinnell<br>ADDRESS: 3568 Ruffin Rd South<br>CITY, STATE: San Diego<br>CONTACT: Ca<br>TEL.858-633-9100<br>FAX: |                | Job Name and Address:<br><br>Apprentice Level 9 |                      |                         |
|   |                | <b>WAGE RATES</b>                               |                      |                         |
| DESCRIPTION/ CATEGORY   | PERCENTAGE (%) | BASE RATE=<br>\$29.25                           | OVERTIME=<br>\$43.88 | DOUBLE TIME=<br>\$58.50 |
| <b>TAXES:</b>   |                |   |                      |                         |
| F.I.C.A.  | 6.20%          | \$1.81  | \$2.72               | \$3.63                  |
| Medicare  | 1.45%          | \$0.42  | \$0.64               | \$0.85                  |
| FUTA  | 8.00%          | \$2.34  | \$3.51               | \$4.68                  |
| SUTA  | 5.70%          | \$1.67  | \$2.50               | \$3.33                  |
|   | Sub Tot        | 21.35%  |                      |                         |
| <b>FRINGE BENEFITS:</b>   |                |   |                      |                         |
| Medical Insurance   | 23.10%         | \$6.76  | \$6.76               | \$6.76                  |
| Dental Insurance  | 1.19%          | \$0.35  | \$0.35               | \$0.35                  |
| Short Term Disability   | 0.05%          | \$0.01  | \$0.01               | \$0.01                  |
| Basic Life Insurance  | 0.01%          | \$0.00  | \$0.00               | \$0.00                  |
| Accidental Death & Dismemberment Ins.   | 0.02%          | \$0.01  | \$0.01               | \$0.01                  |
| Retirement Savings % Investment Plan  | 6.00%          | \$1.76  | \$1.76               | \$1.76                  |
| Vacation  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Holidays  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Incentive pay   | 2.67%          | \$0.78  | \$0.78               | \$0.78                  |
| Paid Time Off   | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Bereavement   | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
|   | Sub Tot        | 33.04%  |                      |                         |
| <b>INSURANCE:</b>   |                |   |                      |                         |
| Workman's Compensation  | 3.50%          | \$1.02  | \$1.02               | \$1.02                  |
| General Liability   | 10.20%         | \$2.98  | \$4.48               | \$5.97                  |
| Automobile Liability (Using a company truck)  | 8.00%          | \$2.34  | \$3.51               | \$4.68                  |
| <b>SUPPORT EXPENSES (Direct Variable)</b>   |                |   |                      |                         |
| Nextel, Cell Phone  | 1.10%          | \$0.32  | \$0.48               | \$0.64                  |
| Tech support services   | 0.90%          | \$0.26  | \$0.39               | \$0.53                  |
| Manuals & support materials   | 0.95%          | \$0.28  | \$0.42               | \$0.56                  |
| Computers (Inc. software) (hand tools - consumable)   | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| <b>OTHER EXPENSES (Direct Variable)</b>   |                |   |                      |                         |
| Training  | 0.00%          | \$1.00  | \$0.00               | \$0.00                  |
| Site Coordination (Field Meetings - not PM)   | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Travel/per diem/lodging   | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Site access (15 min/day)  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Hazards awareness (asbestos, mold, lead, MSDS)  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| License and Certifications (NICET/4100U)  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Site Safety (Badging, induction, job walk)  | 0.00%          | \$0.00  | \$0.00               | \$0.00                  |
| Vehicle Expense (company truck)   | 8.80%          | \$2.57  | \$3.86               | \$5.15                  |
| Hand Tools (consumables)  | 0.92%          | \$0.27  | \$0.40               | \$0.54                  |
| <b>TOTAL BURDENED RATE</b>  |                | <b>\$56.21</b>                                  | <b>\$77.47</b>       | <b>\$99.74</b>          |
| After markups (OH & profit)   |                | <b>\$64.93</b>                                  | <b>\$89.48</b>       | <b>\$115.20</b>         |

Overhead allowance   
 Profit Allowance

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02  
Recalculated Simplex Grinnell Journeyman Labor Rate***

CONTRACTOR/SUBCONTRACTOR: SIMPLEX GRINNEL Date: Feb 2011

Hourly Rate:

(1) 34.5 Total Hourly Rate for Journeyman Fire Sprinkler Fitter CRAFT

*Prevailing Wage Employer Payments*

8.41 HEALTH AND WELFARE

2.07 PENSION

4.87 VACATION/HOLIDAY

2.51 TRAINING

(2) 17.86 *Subtotal-Employer Payments*

Employer Payments (Burden)

1.21 WORKERS COMP INS. @ 3.5%

2.14 SUI @ 6.2%

0.28 FUI @ 0.8%

2.14 FICA @ 6.2%

0.50 FMI @ 1.45%

0.38 SDI @ 1.1%

(3) 6.64 *Subtotal-Burden*

59.00 Total Lines 1+2+3

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02  
Recalculated Simplex Grinnell Apprentice Labor Rate***

CONTRACTOR/SUBCONTRACTOR: SIMPLEX GRINNEL Date: Feb 2011

Hourly Rate:

(1) 29.25 Total Hourly Rate for Apprentice Fire Sprinkler Fitter CRAFT

*Prevailing Wage Employer Payments*

7.13 HEALTH AND WELFARE

1.76 PENSION

0 VACATION/HOLIDAY

1 TRAINING

(2) 9.89 *Subtotal-Employer Payments*

Employer Payments (Burden)

1.02 WORKERS COMP INS. @ 3.5%

1.81 SUI @ 6.2%

0.23 FUI @ 0.8%

1.81 FICA @ 6.2%

0.42 FMI @ 1.45%

0.32 SDI @ 1.1%

(3) 5.63 *Subtotal-Burden*

44.77 Total Lines 1+2+3

***Construction Change Orders - Structural and Materials Engineering Building  
Audit & Management Advisory Services Project 2013-02  
Calculation of Simplex Grinnell Labor Overcharges***

| CPFO # | Craft                  | Hours<br>(1) | Rate Used<br>(2) | Recalculated<br>Rate<br>(3)         | Actual Labor<br>Charges<br>(1)+(2) | Recalculated Labor<br>Charges<br>(1)+(3) | Difference      |
|--------|------------------------|--------------|------------------|-------------------------------------|------------------------------------|--|-----------------|
| 67     | Unspecified <b>(B)</b> | 24           | \$95             | \$59                                | \$2,280                            | \$1,416                                  | \$864           |
| 45     | Foreman                | 150          | \$95             | \$59                                | \$14,250                           | \$8,850                                  | \$5,400         |
| 45     | Apprentice             | 150          | \$65             | \$45                                | \$9,750                            | \$6,750                                  | \$3,000         |
| 27c    | Journeyman <b>(A)</b>  | 12           | \$88             | \$59                                | \$1,056                            | \$708                                    | \$348           |
| 27c    | Apprentice             | 12           | \$65             | \$45                                | \$780                              | \$540                                    | \$240           |
| 72     | Unspecified <b>(B)</b> | 48.25        | \$95             | \$59                                | \$4,584                            | \$2,847                                  | \$1,737         |
|        |                        |              |                  | <b>Subtotal</b>                     |                                    |  | <b>\$11,589</b> |
|        |                        |              |                  | <b>Subcontractor Markup (15%)</b>   |                                    |  | <b>\$1,738</b>  |
|        |                        |              |                  | <b>Prime Contractor Markup (5%)</b> |                                    |  | <b>\$666</b>    |
|        |                        |              |                  | <b>Total Overcharge</b>             |                                    |  | <b>\$13,994</b> |

## Footnotes

- (A)** Simplex Grinnell did not provide a cost breakdown supporting Journeyman rates. Therefore, the Foreman rate is used here.
- (B)** Simplex Grinnell did not specify the classification of the labor in CPFO 67. However, the rate charged is consistent with the Foreman rate.