

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0113677

Insp Area: 1

Thos Bros: 297 E6

Site Address: 2030 V ST SAC

Parcel No: 010-0155-022

Sub-Type: REP

Housing (Y/N): N

CONTRACTOR

MCLEAN & TILLOTSON CONSTRUCTION

OWNER

2030 SACRAMENTO CA 95818

ARCHITECT

CALIFORNIA ASSN OF HIGHWAY PATROLMEN

2120 20TH ST SACRAMENTO, CA 95818-1704

Nature of Work: FIRE REPAIR: REPLACE CEILING JOIST OVER PARKING AREA

CONSTRUCTION LENDING AGENCY: I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name

Lender's Address

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class A2B License Number 733993 Date 10/22/01 Contractor Signature [Signature]

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. B & PC for this reason:

Date Owner Signature

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the above mentioned property for inspection purposes.

Date 10/22/01 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE FUND

Policy Number 2276-2001

Exp Date 10/01/2002

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall not comply with these provisions.

Date 10/22/01 Applicant Signature [Signature]

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

**APPLICATION FOR COMMERCIAL BUILDING PERMIT**

**CITY OF SACRAMENTO**  
 DEVELOPMENT SERVICES DIVISION  
 PERMIT SERVICES SECTION  
 1231 I Street, Rm. 200  
 Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

ACTIVITY #	Insp. Area
------------	------------

Applicant **MUST** complete ALL Unshaded areas

ADDRESS 2030 V STREET Suite \_\_\_\_\_

PARCEL # \_\_\_\_\_

<p align="center"><b>CONTACT</b></p> Name <u>MARK TILLOTSON</u> Street Address <u>2120 20TH ST</u> City/State/Zip <u>SACRAMENTO CA</u> Phone <u>454-5954</u> FAX _____ E-mail: _____		<p align="center"><b>LICENSED CONTRACTOR</b> Lic No. # <u>733993</u></p> Name <u>MCLEAN &amp; TILLOTSON CONST</u> Address <u>2120 20TH ST</u> City/State/Zip <u>SACRAMENTO, CA. 95818</u> Phone <u>454-5954</u> FAX <u>456-2881</u> E-mail: _____	
<p align="center"><b>ARCHITECT/ENGINEER</b></p> Name <u>MICHAEL J. O'CONNOR, P.E.</u> Address <u>8303 SIERRA COLLEGE BLVD #130</u> City/State/Zip <u>ROSEVILLE, CA. 95661-9985</u> Phone <u>797-1503</u> FAX _____ E-mail: _____		<p align="center"><b>OWNER</b></p> Name <u>CALIF. ASSN OF HIGHWAY PATROL</u> Address <u>2030 V STREET</u> City/State/Zip <u>SACRAMENTO, CA. 95818</u> Phone _____ FAX _____ E-mail: _____	

→ Will permittee have any employees on the jobsite?  No  Yes → INSURANCE CO: STATE FUND  
 → WORKER'S COMPENSATION POLICY # 692-01 EXPIRATION DATE: 10/1/02

NATURE OF WORK IN DETAIL: FIRE REPAIR - REPLACE CEILING JOIST  
OVER PARKING AREA

OCCUPANT/TENANT: \_\_\_\_\_ VALUATION: \$5,000

FLOOD STATUS:		S.C.A.T.								
JOB DESCRIPTION		BLDG	SHELL	APT	TI ( )	REM ( )	SW	FIRE	ADD	OTH
INSPECTION DISCIPLINES		<u>BLDG</u>		<u>MECH</u>	<u>PLUMB</u>	<u>ELEC</u>		SITE	FIRE	
# Stories	1st flr Area.	Total Area	Use Zone	Occp Group	Const type	Fire Req. Y/N		Fed Code	Vio. File	
<u>1</u>				<u>B</u>		SPR.	ALARM	<u>IS</u>	[H]	[Quad]
<u>B</u>	<u>L</u>	<u>P</u>	<u>M</u>	<u>E</u>	<u>F</u>	<u>S</u>		<u>D</u>	<u>PW</u>	<u>UTIL</u>

COMMENTS: \_\_\_\_\_

REGIONAL SANITATION FEES?  Yes  No HEALTH DEPARTMENT?  Yes  No  
 WATER FLOW TEST FOR NEW BUILDINGS OR ADDITIONS?  Provided  Faxed



Engineering and Fire  
Investigations

8303 Sierra College Blvd.  
Suite 130  
Roseville, CA 95661-9485  
Tel: 916-797-1503  
Fax: 916-797-1114  
www.efiinfo.com

### ENGINEERING & FIRE INVESTIGATIONS

PREPARED FOR

This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.  
The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.

David Morse & Associates  
5175 Pacific Street, Suite B  
Rocklin, CA 95677

Phil Brown

**ISSUED**

OCT 22 2001

Sacramento Building Division



**PRIVILEGED AND CONFIDENTIAL**

Report Number: One  
July 2, 2001

---

**INSURED:** CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN

**DATE OF LOSS:** June 1, 2001

**LOSS LOCATION:** 2030 V Street, Sacramento, CA 95818

**CLAIM NUMBER:** SA011-243

**POLICY NUMBER:** CLU0002581

**INVESTIGATOR:** Michael O'Connor, P.E.

**E.F.I. FILE:** 94605 13086

**THIS REPORT FURNISHED AS PRIVILEGED AND CONFIDENTIAL TO ADDRESSEE. RELEASE TO ANY OTHER COMPANY, CONCERN, OR INDIVIDUAL IS SOLELY THE RESPONSIBILITY OF ADDRESSEE.**

*OK Bryan Walcast*

July 02, 2001

Dear Mr. Brown:

#### Assignment

You assigned ENGINEERING AND FIRE INVESTIGATIONS to inspect the structural damage at the CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN. You indicated that a fire had occurred underneath the building in the carport. You needed to know the extent of the fire damage and recommendations for repair.

#### Observations

The insured was located in a single-story, wood framed office building that was constructed in 1968. The office building was founded on a concrete foundation with concrete masonry retaining walls under some portions of the structure. There was some steel framing in the structure which supported wooden beams, but the primary structural system was light wood framing.

The fire occurred in the carport area which was on the west side of the building. Apparently, a gas line leaked and the gas was ignited providing the fuel for the fire. The area of origin of the fire was clearly defined by the burn patterns on the adjacent walls.

The fire had caused damage to a six-inch thick unreinforced concrete masonry wall which enclosed the south side of the storage area which had been built into the carport sometime after the initial construction of the building. The heat from the fire caused extensive cracking of the unreinforced concrete masonry. The unreinforced concrete masonry was ungrouted and was not tied into the structure. The apparent use of the wall was as a fire break between the carport area and the storage room. See the attached photographs for a depiction of the damage to this area.

The fire also impinged upon a solid-grouted, reinforced eight-inch thick concrete masonry wall which served as a bearing wall underneath the structure. The fire turned this wall a pink color in the vicinity of the gas meter. See the attached photos.

The fire broke through the Portland cement plaster soffit of the carport area and caused damage to the 2x14 floor joists that were supporting the room above. There was a total of 10 floor joists which were damaged by the fire. These floor joists will need to be sistered with new 2x14 floor joists and attached to the wall per the attached drawings and specifications.

At first glance it seemed that the fire had damaged the concrete masonry wall which served as a bearing wall underneath the structure. However, we used a wire brush attached to a cordless drill to scrap away the surface of the wall and found that the pink color of the wall was only due to a color change of the paint that had been applied to the wall. Once this paint was scraped away, the concrete

masonry underneath the paint was a gray color, indicating that the concrete masonry had not been damaged. The attached photographs show there was no color change of the actual concrete masonry, just the paint.

As a further check on the strength of the concrete masonry, we used a digital Schmidt rebound hammer to check the masonry. We first conducted a series of 21 tests at an area that was approximately 30 feet away from the area of origin of the fire and four feet above the slab of the carport. This set of 21 readings showed an average rebound number of 35.5 with a standard deviation of 2.3. A second set of tests was conducted 48 inches above the finished floor at the gas meter. A total of 21 readings were taken. The average of these readings was a rebound number of 35.6 and the standard deviation was 3.8. A third set of readings was taken at the gas meter at 88 inches above the finished floor. A total of 18 readings was taken. These readings showed an average rebound number of 28.7 with a standard deviation of 3.2. The third set of readings was within two standard deviations of the second set of readings. The data showed that there was no significant loss of strength of the masonry due to the fire. In addition, the pink coloration of the masonry was simply due to the discoloration of the paint and was not indicative of any structural damage to the masonry bearing wall.

We also used a masonry bit on the drill to drill into the masonry near the area of origin of the fire. The purpose of the drilling was to check the color of the concrete masonry below the surface. As the attached photographs show, the masonry was a grey color in all cases. Therefore, the masonry was undamaged by the fire.

There were several vertical cracks along the length of the bearing wall. These cracks were not unique to the area of origin of the fire. Instead, the cracks appeared to be nothing more than temperature expansion and contraction cracks caused by the variations of the ambient temperature in the building. There was nothing unique about the cracks that were near the area of origin. That is, the cracks appeared to be very similar to the other cracks in the wall and were at the same spacing. Therefore, they were not attributed to the fire.

#### Discussion

It was clear that the structural bearing wall underneath the building had not been damaged by the fire. This wall can simply be cleaned and repainted. No structural repairs are necessary. However, the six-inch nonstructural wall that was installed to enclose the storage area was heavily damaged by the fire and will need to be torn down and replaced.

The 2x14 floor joists above the area of origin were severely damaged. A total of 10 floor joists will need to be sistered with new 2x14 joists. The attached plans show the detail for installing these reinforcing joists.

### Conclusions

Based on our inspection at the site, our nondestructive testing of the structural components, and our experience as structural engineers, we formed the following conclusions:

- [1] The structural masonry wall adjacent to the area of origin was not damaged by the fire and can simply be cleaned and painted.
- [2] The six-inch unreinforced concrete masonry wall between the carport and the storage area was damaged by the fire. Those portions which were severely cracked will need to be removed and replaced.
- [3] The 2x14 floor joists above the area of origin were severely burned by the fire and will need to be sistered with new floor joists per the attached specifications.

Thank you for calling E.F.I. If you have any questions about this report, please call me.

Sincerely,

ENGINEERING & FIRE INVESTIGATIONS

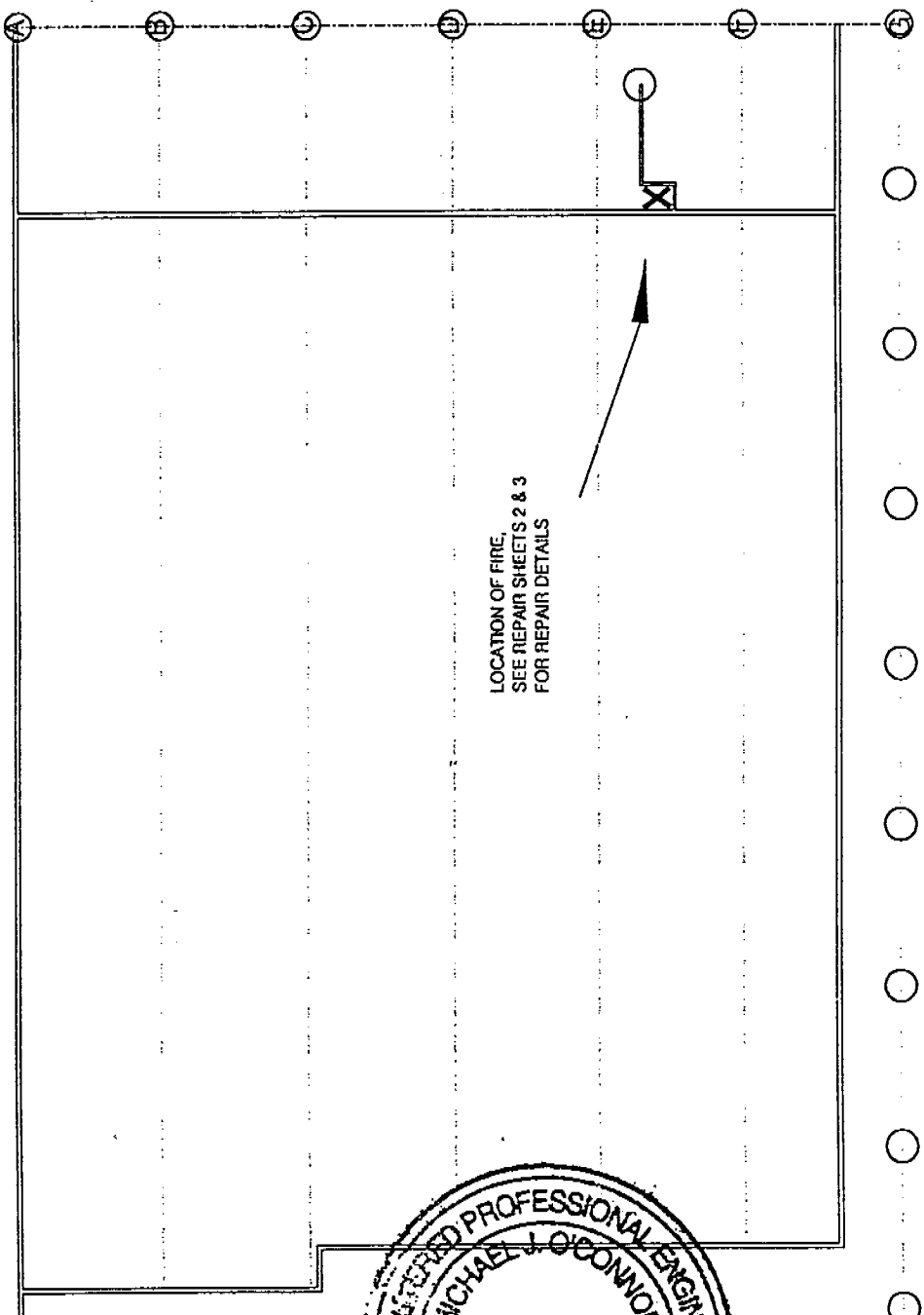


Michael J. O'Connor, P.E.  
LICENSED CIVIL ENGINEER NO. 33404  
LICENSED ELECTRICAL ENGINEER NO. 12719  
LICENSED MECHANICAL ENGINEER NO. 31730  
LICENSED STRUCTURAL ENGINEER NO. 3911  
CERTIFIED FIRE AND EXPLOSION INVESTIGATOR NO. 6356-2409



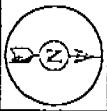
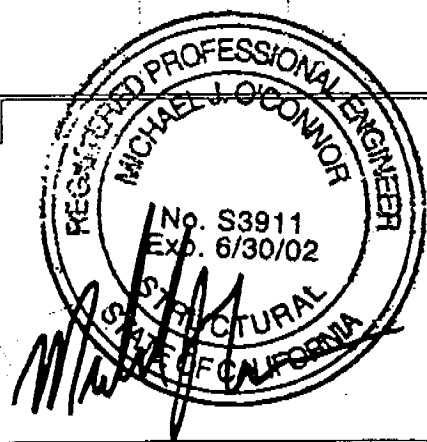
MJO:msm

enclosures: repair plans and detail drawings  
photos




LOCATION OF FIRE.  
SEE REPAIR SHEETS 2 & 3  
FOR REPAIR DETAILS

FRONT

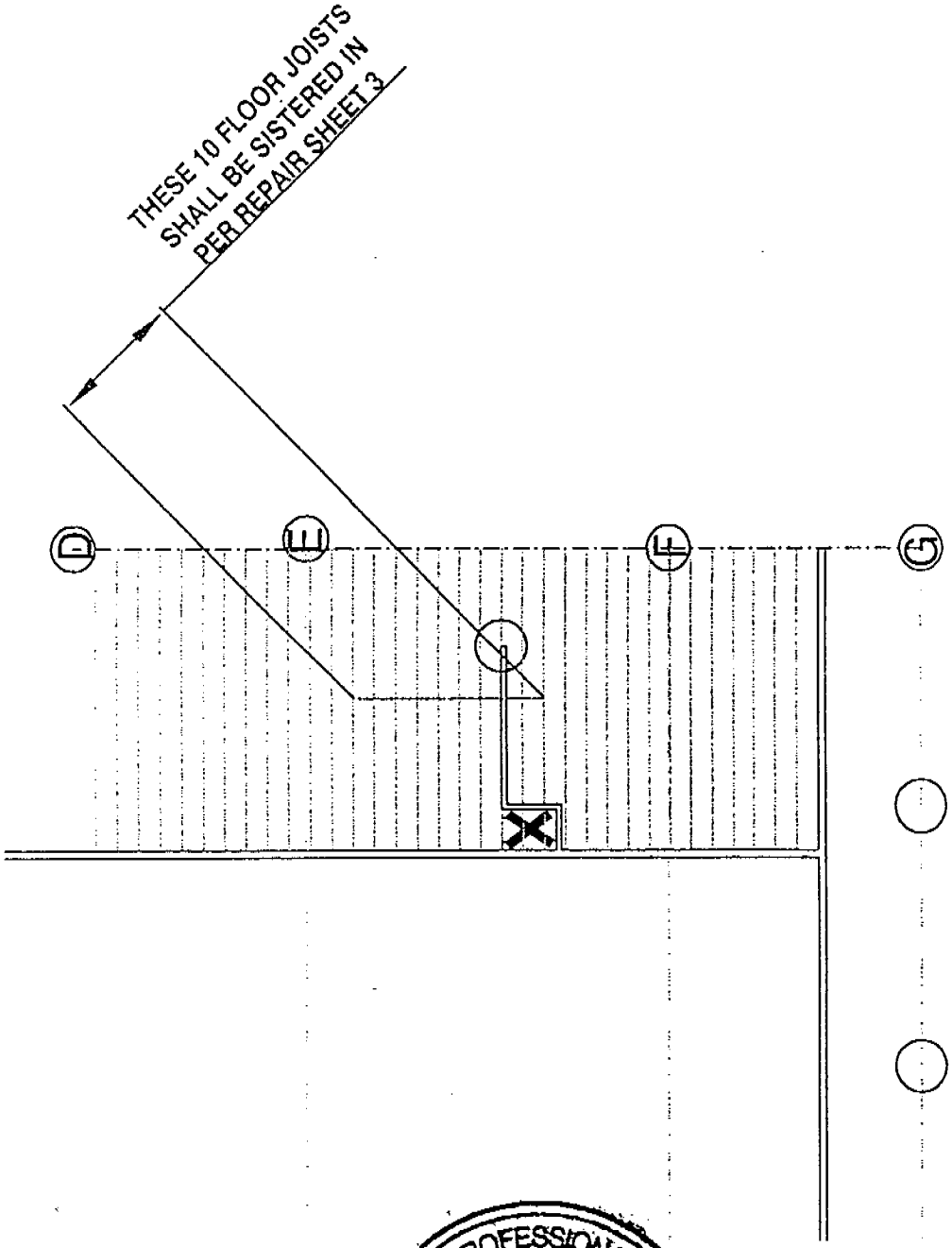


Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN	
Technician	MARTIN	
Date	6/18/01	Scale 1/8"
Job #	94605-13086	

# REPAIR PLAN SHEET 1



**EFI**  
Engineering and Fire  
Investigations  
8305 Sierra College Boulevard, Suite 100  
Roseville, California 95678  
Telephone: (916) 782-0000



THESE 10 FLOOR JOISTS  
SHALL BE SISTERED IN  
PER REPAIR SHEET 3

*Michael J. O'Connor*

REGISTERED PROFESSIONAL ENGINEER  
MICHAEL J. O'CONNOR  
No. S3911  
Exp. 6/30/02  
STRUCTURAL  
STATE OF CALIFORNIA

FRONT

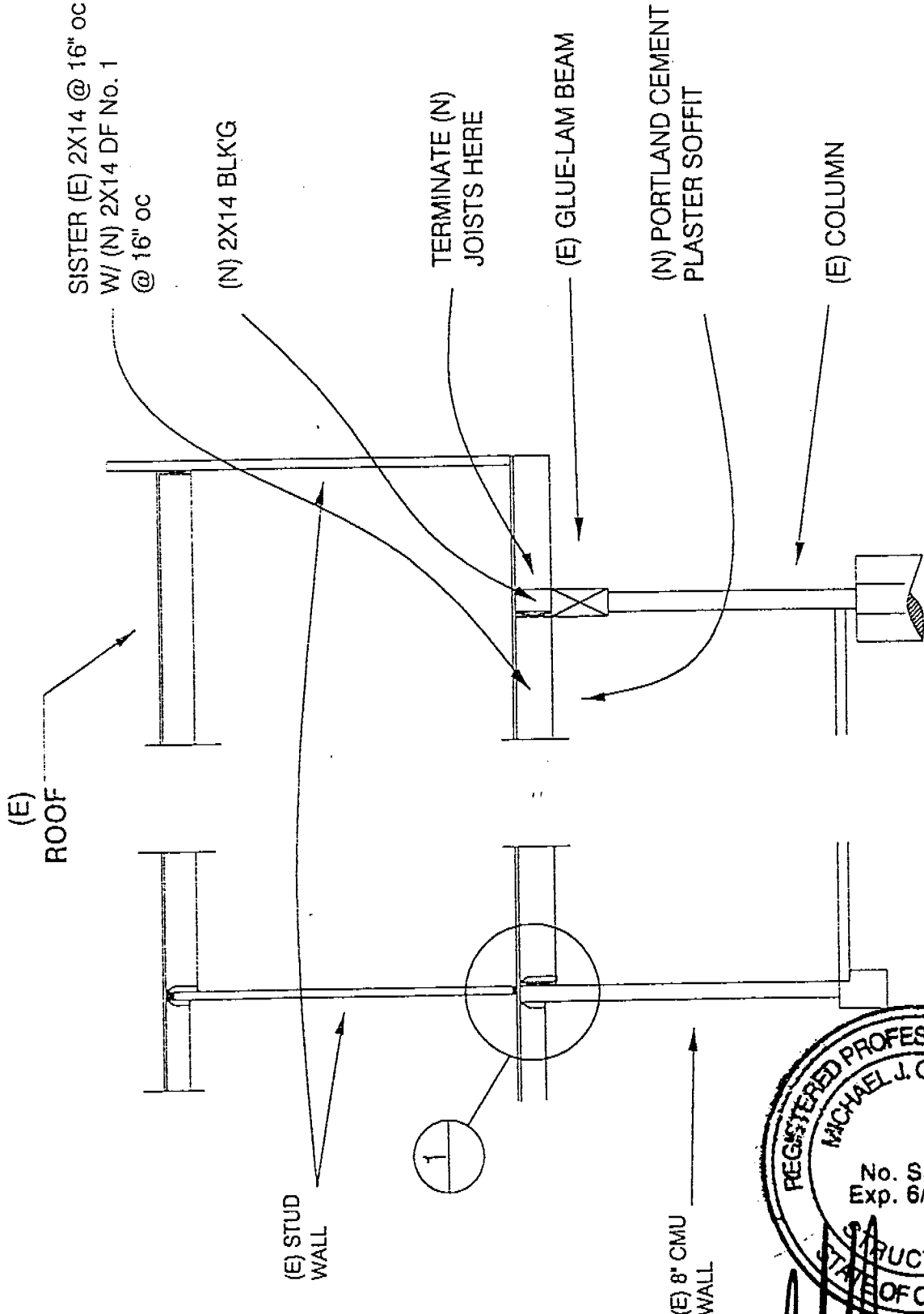


Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
Job #	94605-13086
Scale	1/8"
Technician	MARTIN
Date	6/18/01

REPAIR PLAN SHEET 2

**EFI**  
Engineering and Fire  
Investigations

8403 Sierra College Boulevard, Suite 130  
Roseville, California 95661-9885  
T 916.792-4180 F 916.792-4143



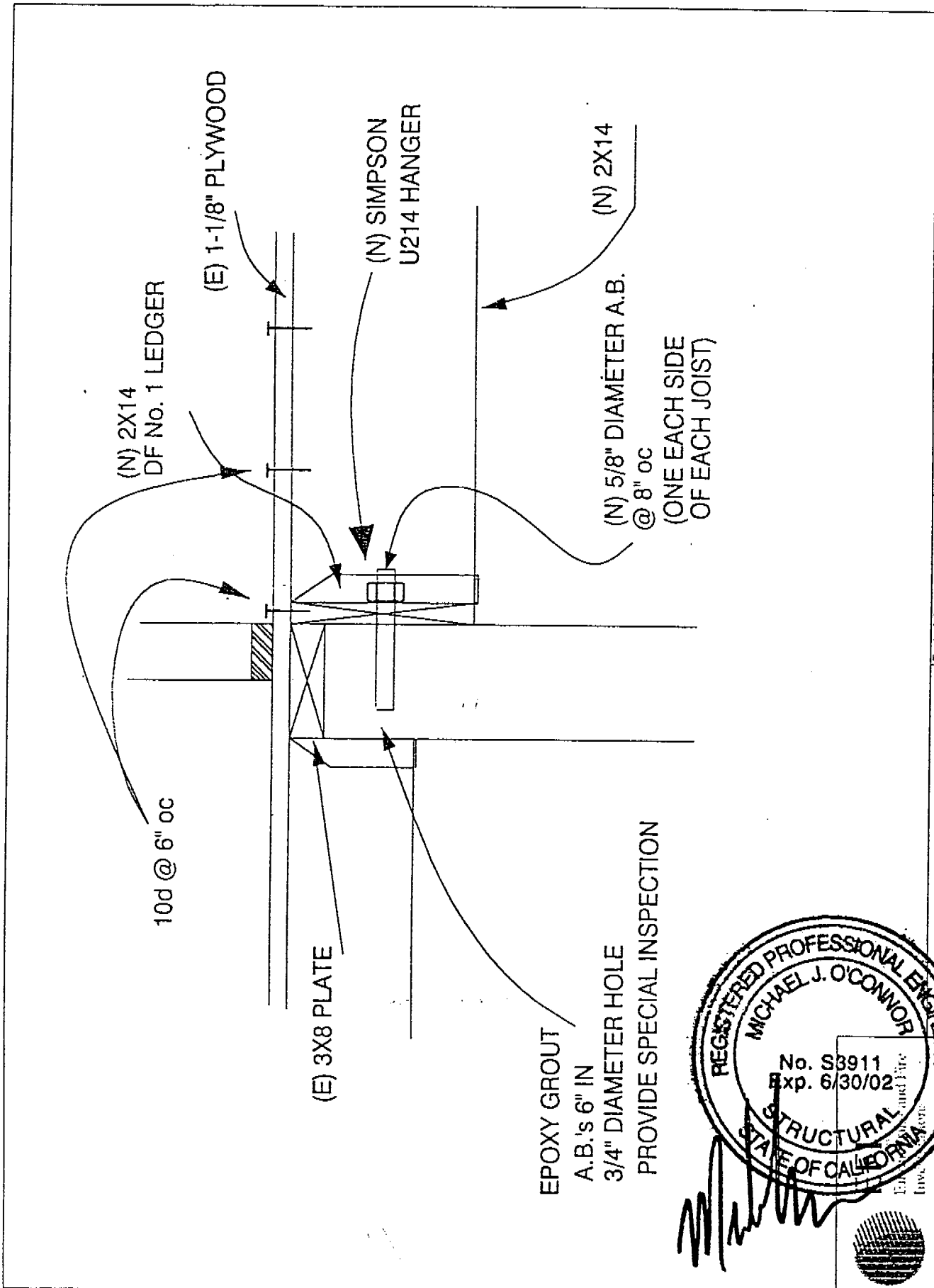
5015 Central Express Boulevard, Suite 100  
 Rosemead, California 91768-1000  
 Telephone: (626) 441-1000

# REPAIR PLAN SHEET 3

Technician **MARTIN**  
 Date **6/18/01**

Job Name **CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN**  
 Job # **94605-13086**

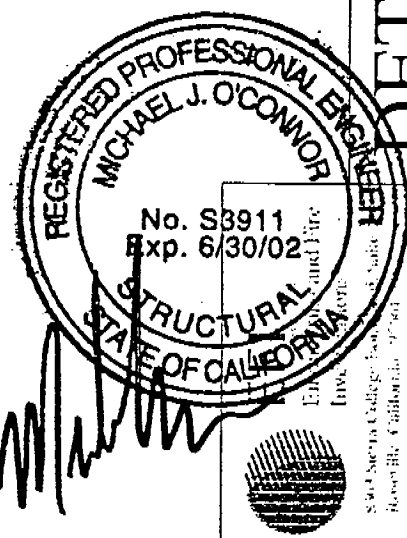
Scale **1/8"**



10d @ 6" OC

(E) 3X8 PLATE

EPOXY GROUT  
 A.B.'s 6" IN  
 3/4" DIAMETER HOLE  
 PROVIDE SPECIAL INSPECTION



**DETAIL ONE**

Technician	MARTIN	Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
Date	6/18/01	Job #	94605-13086
		Scale	NTS

# APPLICATION FOR COMMERCIAL BUILDING PERMIT

**CITY OF SACRAMENTO**  
 DEVELOPMENT SERVICES DIVISION  
 PERMIT SERVICES SECTION  
 1231 I Street, Rm. 200  
 Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

ACTIVITY # _____	Insp. Area _____
------------------	------------------

Applicant **MUST** complete ALL Unshaded areas

ADDRESS 2030 V STREET Suite \_\_\_\_\_  
 PARCEL # \_\_\_\_\_

<p style="text-align: center;"><b>CONTACT</b></p> Name <u>MARK TILLOTSON</u> Street Address <u>2120 20TH ST</u> City/State/Zip <u>SACRAMENTO CA</u> Phone <u>454-5959</u> FAX _____ E-mail: _____	<p style="text-align: center;"><b>LICENSED CONTRACTOR</b> Lic No. # <u>733993</u></p> Name <u>MCLEAN &amp; TILLOTSON CONST</u> Address <u>2120 20TH ST.</u> City/State/Zip <u>SACRAMENTO, CA. 95818</u> Phone <u>454-5959</u> FAX <u>456-2881</u> E-mail: _____
<p style="text-align: center;"><b>ARCHITECT/ENGINEER</b></p> Name <u>MICHAEL J. O'CONNOR, P.E.</u> Address <u>8303 SIERRA COLLEGE BLVD #130</u> City/State/Zip <u>ROSEVILLE, CA. 95661-9985</u> Phone <u>797-1503</u> FAX _____ E-mail: _____	<p style="text-align: center;"><b>OWNER</b></p> Name <u>CALIF. ASSN OF HIGHWAY PATROL</u> Address <u>2030 V STREET</u> City/State/Zip <u>SACRAMENTO, CA. 95818</u> Phone _____ FAX _____ E-mail: _____

→ Will permittee have any employees on the jobsite?  No  Yes → INSURANCE CO: STATE FUND  
 → WORKER'S COMPENSATION POLICY # 692-01 EXPIRATION DATE: 10/1/02

NATURE OF WORK IN DETAIL: FIRE REPAIR - REPLACE CEIL JOIST  
OVER PARKING AREA

OCCUPANT/TENANT: \_\_\_\_\_ VALUATION: \$ 5,000

FLOOD STATUS:				S.C.A.T.						
JOB DESCRIPTION		BLDG	SHELL	APT	TI ( )	REM ( )	SW	FIRE	ADD	OTH
INSPECTION DISCIPLINES			<u>BLDG</u>	<u>MECH</u>	<u>PLUMB</u>	<u>ELEC</u>	SITE		FIRE	
# Stories	1st flr Area.	Total Area	Use Zone	Occp Group	Const type	Fire Req. Y / N		Fed Code	Vio. File	
<u>1</u>				<u>IS</u>		SPR	ALARM	<u>IS</u>	[H]	[Quad]
<u>B</u>	<u>L</u>	<u>P</u>	<u>M</u>	<u>E</u>	<u>F</u>	<u>S</u>		<u>D</u>	<u>PW</u>	<u>UTIL</u>

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REGIONAL SANITATION FEES?  Yes  No HEALTH DEPARTMENT?  Yes  No  
 WATER FLOW TEST FOR NEW BUILDINGS OR ADDITIONS?  Provided  Faxed



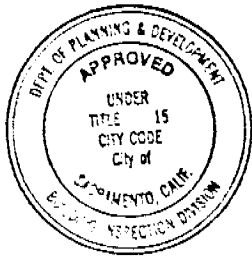
Engineering and Fire  
Investigations

8303 Sierra College Blvd.  
Suite 130  
Roseville, CA 95661-9435  
Tel: 916-797-1503  
Fax: 916-797-1114  
www.efiinfo.com

**ENGINEERING & FIRE INVESTIGATIONS**

**PREPARED FOR**

This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.  
**David Morse & Associates**  
 5175 Pacific Street, Suite B  
 Rocklin, CA 95677  
 The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.  
**Phil Brown**



**ISSUED**

OCT 22 2001

Sacramento Building Division

**PRIVILEGED AND CONFIDENTIAL**

Report Number: One  
July 2, 2001

**INSURED:** CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN  
**DATE OF LOSS:** June 1, 2001  
**LOSS LOCATION:** 2030 V Street, Sacramento, CA 95818  
**CLAIM NUMBER:** SA011-243  
**POLICY NUMBER:** CLU0002581  
**INVESTIGATOR:** Michael O'Connor, P.E.  
**E.F.I. FILE:** 94605 13086

**THIS REPORT FURNISHED AS PRIVILEGED AND CONFIDENTIAL TO ADDRESSEE. RELEASE TO ANY OTHER COMPANY, CONCERN, OR INDIVIDUAL IS SOLELY THE RESPONSIBILITY OF ADDRESSEE.**

*OK Bryon McCalas*

July 02, 2001

Dear Mr. Brown:

Assignment

You assigned ENGINEERING AND FIRE INVESTIGATIONS to inspect the structural damage at the CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN. You indicated that a fire had occurred underneath the building in the carport. You needed to know the extent of the fire damage and recommendations for repair.

Observations

The insured was located in a single-story, wood framed office building that was constructed in 1968. The office building was founded on a concrete foundation with concrete masonry retaining walls under some portions of the structure. There was some steel framing in the structure which supported wooden beams, but the primary structural system was light wood framing.

The fire occurred in the carport area which was on the west side of the building. Apparently, a gas line leaked and the gas was ignited providing the fuel for the fire. The area of origin of the fire was clearly defined by the burn patterns on the adjacent walls.

The fire had caused damage to a six-inch thick unreinforced concrete masonry wall which enclosed the south side of the storage area which had been built into the carport sometime after the initial construction of the building. The heat from the fire caused extensive cracking of the unreinforced concrete masonry. The unreinforced concrete masonry was ungrouted and was not tied into the structure. The apparent use of the wall was as a fire break between the carport area and the storage room. See the attached photographs for a depiction of the damage to this area.

The fire also impinged upon a solid-grouted, reinforced eight-inch thick concrete masonry wall which served as a bearing wall underneath the structure. The fire turned this wall a pink color in the vicinity of the gas meter. See the attached photos.

The fire broke through the Portland cement plaster soffit of the carport area and caused damage to the 2x14 floor joists that were supporting the room above. There was a total of 10 floor joists which were damaged by the fire. These floor joists will need to be sistered with new 2x14 floor joists and attached to the wall per the attached drawings and specifications.

At first glance it seemed that the fire had damaged the concrete masonry wall which served as a bearing wall underneath the structure. However, we used a wire brush attached to a cordless drill to scrap away the surface of the wall and found that the pink color of the wall was only due to a color change of the paint that had been applied to the wall. Once this paint was scraped away, the concrete

masonry underneath the paint was a gray color, indicating that the concrete masonry had not been damaged. The attached photographs show there was no color change of the actual concrete masonry, just the paint.

As a further check on the strength of the concrete masonry, we used a digital Schmidt rebound hammer to check the masonry. We first conducted a series of 21 tests at an area that was approximately 30 feet away from the area of origin of the fire and four feet above the slab of the carport. This set of 21 readings showed an average rebound number of 35.5 with a standard deviation of 2.3. A second set of tests was conducted 48 inches above the finished floor at the gas meter. A total of 21 readings were taken. The average of these readings was a rebound number of 35.6 and the standard deviation was 3.8. A third set of readings was taken at the gas meter at 88 inches above the finished floor. A total of 18 readings was taken. These readings showed an average rebound number of 28.7 with a standard deviation of 3.2. The third set of readings was within two standard deviations of the second set of readings. The data showed that there was no significant loss of strength of the masonry due to the fire. In addition, the pink coloration of the masonry was simply due to the discoloration of the paint and was not indicative of any structural damage to the masonry bearing wall.

We also used a masonry bit on the drill to drill into the masonry near the area of origin of the fire. The purpose of the drilling was to check the color of the concrete masonry below the surface. As the attached photographs show, the masonry was a grey color in all cases. Therefore, the masonry was undamaged by the fire.

There were several vertical cracks along the length of the bearing wall. These cracks were not unique to the area of origin of the fire. Instead, the cracks appeared to be nothing more than temperature expansion and contraction cracks caused by the variations of the ambient temperature in the building. There was nothing unique about the cracks that were near the area of origin. That is, the cracks appeared to be very similar to the other cracks in the wall and were at the same spacing. Therefore, they were not attributed to the fire.

#### Discussion

It was clear that the structural bearing wall underneath the building had not been damaged by the fire. This wall can simply be cleaned and repainted. No structural repairs are necessary. However, the six-inch nonstructural wall that was installed to enclose the storage area was heavily damaged by the fire and will need to be torn down and replaced.

The 2x14 floor joists above the area of origin were severely damaged. A total of 10 floor joists will need to be sistered with new 2x14 joists. The attached plans show the detail for installing these reinforcing joists.

Conclusions

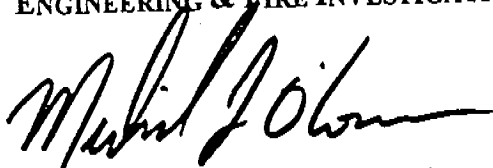
Based on our inspection at the site, our nondestructive testing of the structural components, and our experience as structural engineers, we formed the following conclusions:

- [1] The structural masonry wall adjacent to the area of origin was not damaged by the fire and can simply be cleaned and painted.
- [2] The six-inch unreinforced concrete masonry wall between the carport and the storage area was damaged by the fire. Those portions which were severely cracked will need to be removed and replaced.
- [3] The 2x14 floor joists above the area of origin were severely burned by the fire and will need to be sistered with new floor joists per the attached specifications.

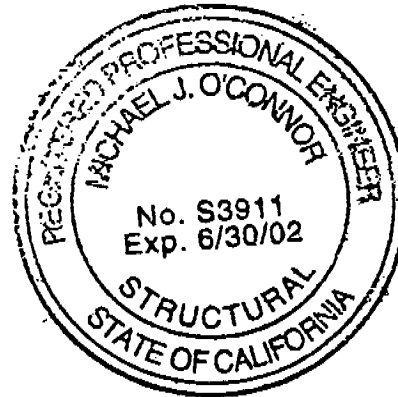
Thank you for calling E.F.I. If you have any questions about this report, please call me.

Sincerely,

ENGINEERING & FIRE INVESTIGATIONS

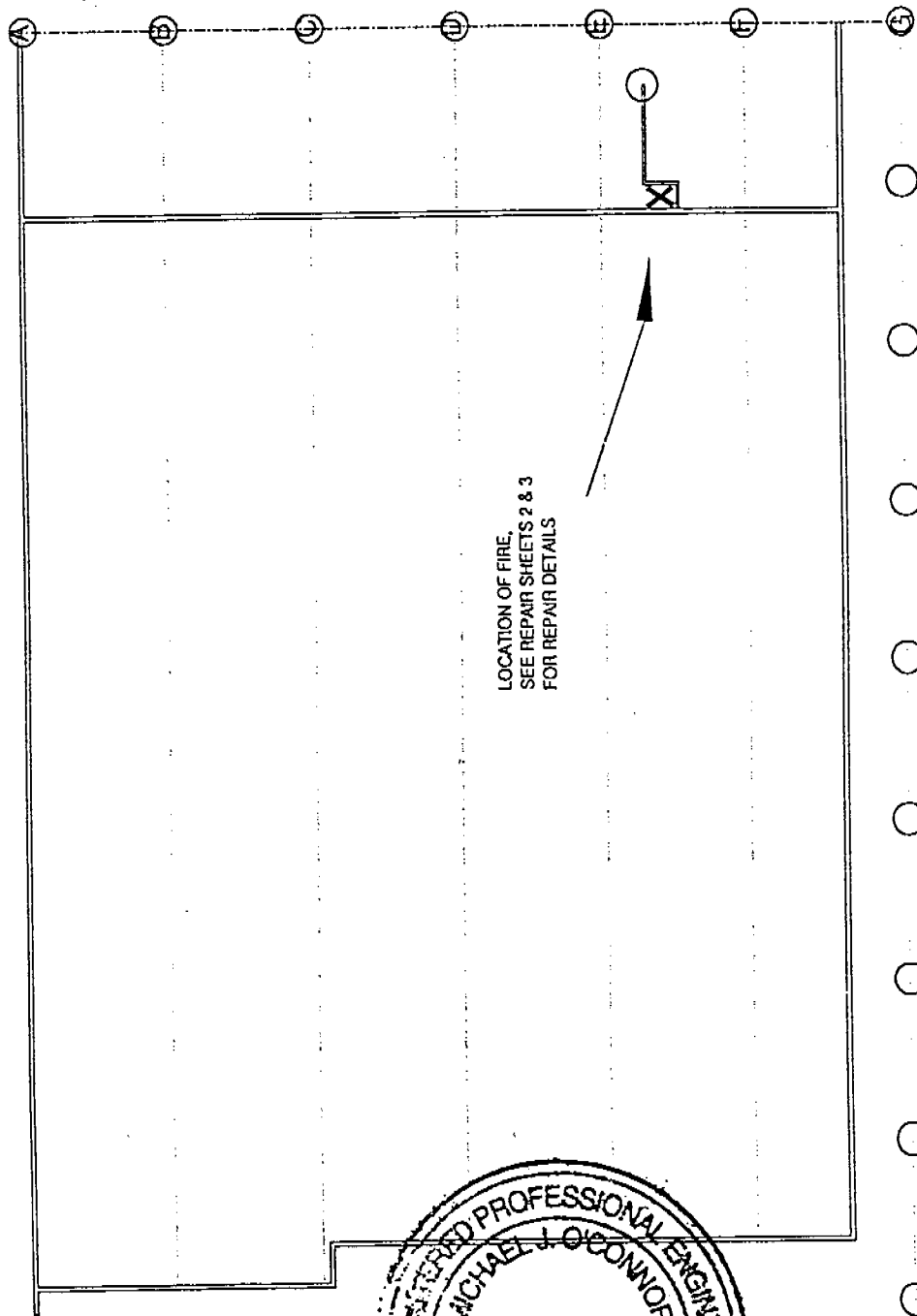


Michael J. O'Connor, P.E.  
LICENSED CIVIL ENGINEER NO. 33404  
LICENSED ELECTRICAL ENGINEER NO. 12719  
LICENSED MECHANICAL ENGINEER NO. 31730  
LICENSED STRUCTURAL ENGINEER NO. 3911  
CERTIFIED FIRE AND EXPLOSION INVESTIGATOR NO. 6356-2409



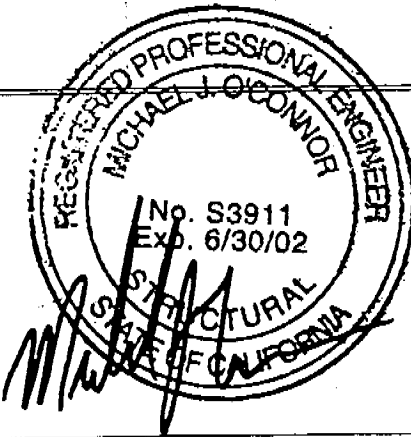
MJO:msm

enclosures: repair plans and detail drawings  
photos



LOCATION OF FIRE.  
SEE REPAIR SHEETS 2 & 3  
FOR REPAIR DETAILS

FRONT

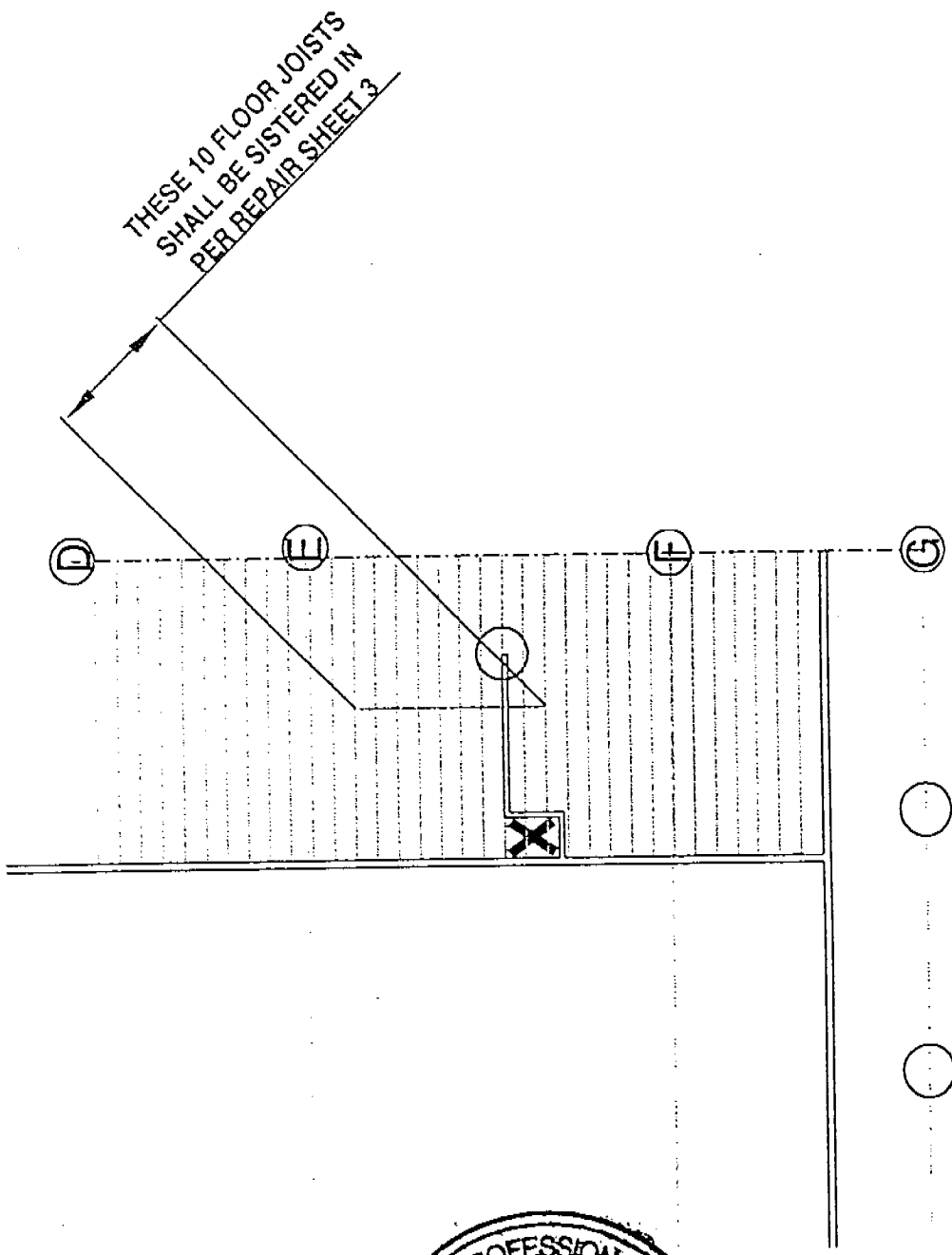


Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN	
Technician	MARTIN	
Job #	94605-13086	Scale 1/8"
Date	6/18/01	

# REPAIR PLAN SHEET 1

**EFI**  
Engineering and Fire  
Investigations

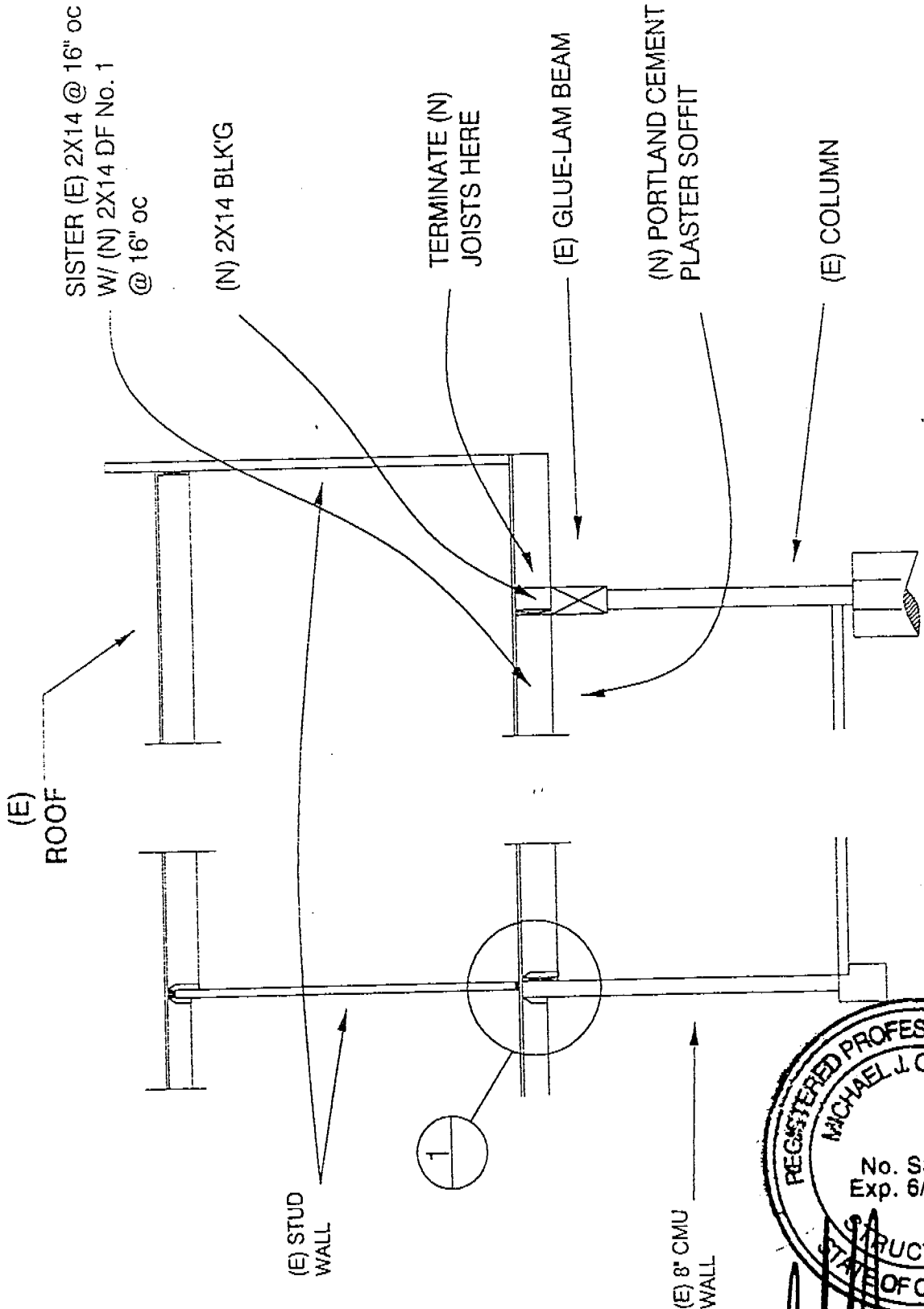
8401 Sierra College Boulevard, Suite 100  
Roseville, California 95678-1000  
Telephone: (916) 782-1000



FRONT

**EFI** Engineering and Fire Investigations
   
 5405 Sierra College Boulevard, Suite 130
   
 Roseville, California 95601-9455
   
 T 916-279-4503 F 916-279-0113

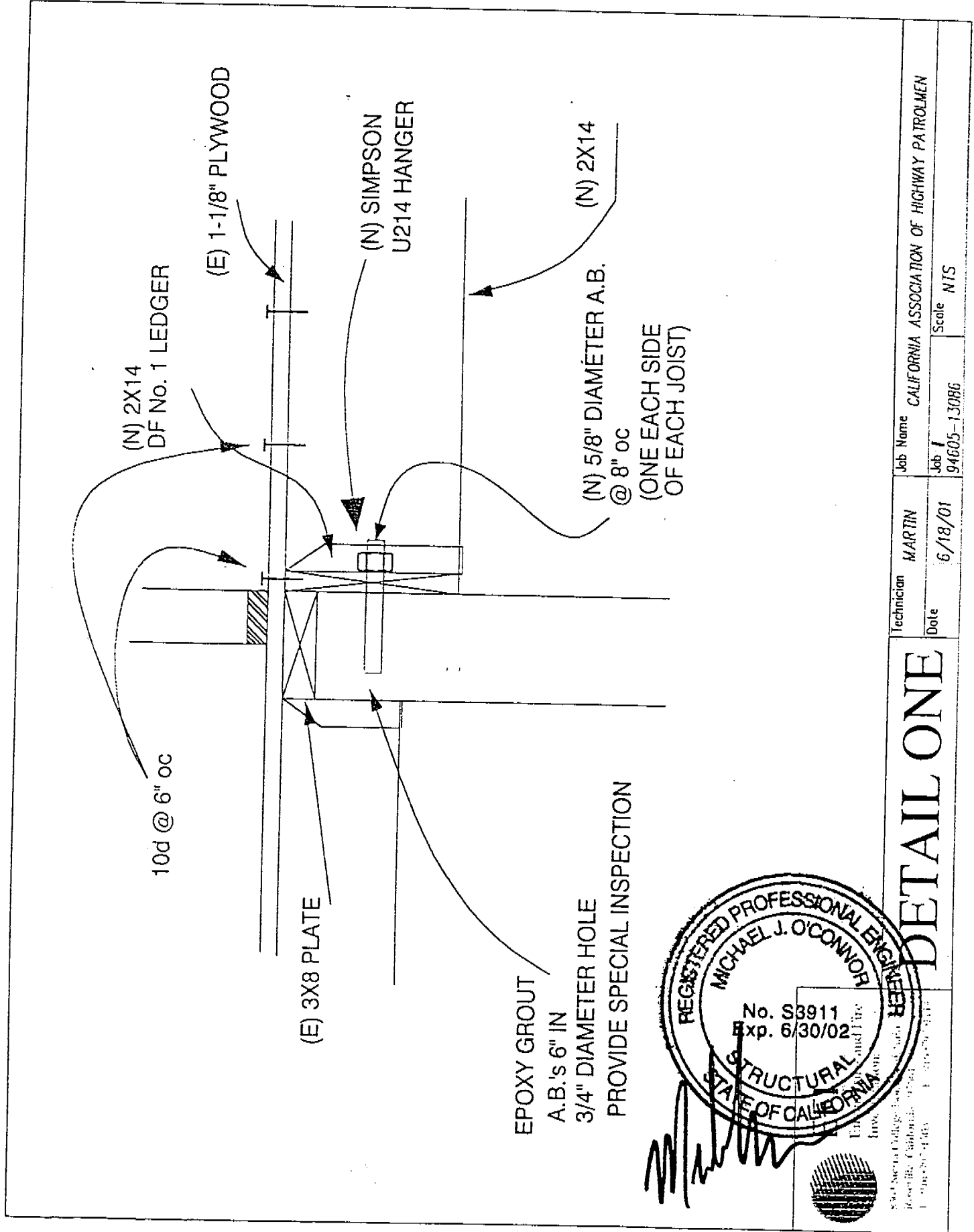
Job Name CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN		Scale 1/8"	
Technician MARTIN	Date 6/18/01	<b>REPAIR PLAN SHEET 2</b>	



**EFI**  
 Engineers and  
 Inspectors  
 5415 Central Expressway, Berkeley, CA 94704  
 Phone: (415) 863-9999  
 Fax: (415) 863-9999  
 www.efi-engineers.com

**REPAIR PLAN SHEET 3**

Technician	MARTIN	Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
Date	6/18/01	Job #	94605-13086
		Scale	1/8"



(N) 2X14  
DF No. 1 LEDGER

(E) 1-1/8\"/>

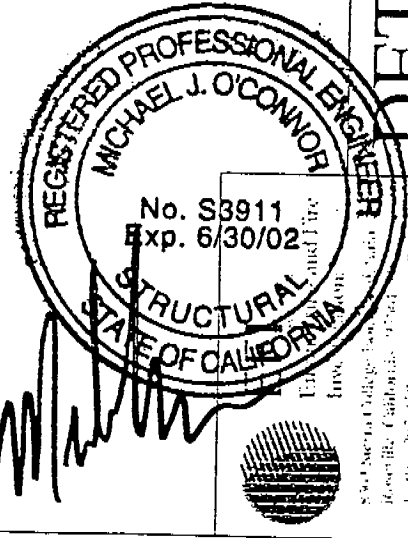
(N) SIMPSON  
U214 HANGER

(N) 5/8\"/>

10d @ 6\"/>

(E) 3X8 PLATE

EPOXY GROUT  
A.B.'s 6\"/>



# DETAIL ONE

Technician	MARTIN	Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
Date	6/18/01	Job #	94605-13086
		Scale	NTS

Sacramento Fire Department - Incident Report

-----  
Incident No : 010024540 Call# : 1055304 Date: 06/01/01 Time: 6:45  
Address : 2030 V ST  
Type : 11 BUILDING FIRE  
Action Taken: 12 VENTILATION, EXTINGUISH, SALVAGE, OVERHAUL  
Property : BUSINESS, OFFICES: GENERAL BUSINESS  
UBC : BUSINESS  
-----

Weather : 60 Degrees / Clear  
Resources : 4 Engines, 1 Truck  
3 Other Apparatus

Fire Casualties : None

Fire Damage : Confined to structure of origin  
Smoke Damage : Confined to structure of origin  
Property Loss : \$40,000 Contents Loss : \$10,000  
Property Value : \$500,000 Contents Value: \$80,000

Area of Origin : Garage, carport, vehicle storage area Level: A01

Caused by : Equipment: Insufficient information

Form of Heat : Undetermined

Ignition Factor : Undetermined

Type of Material : Undetermined

Form of Material : Undetermined

Type of Material : Undetermined

Form of Material : Undetermined

Other Factors : Acts or Omissions: Insufficient information

Extinguished by : Water from hydrant, draft, standpipe

Structure Type : Building with one specific property use

Structure Status : In use  
Occupied

Construction Type: Type III - Ordinary

Roof Type : Built up

Number of Stories: 2

Detector Type : Undetermined/not reported

Extinguishing Sys: No extinguishing system

Report Author : F246

**APPLICATION FOR COMMERCIAL BUILDING PERMIT**

**CITY OF SACRAMENTO**  
 DEVELOPMENT SERVICES DIVISION  
 PERMIT SERVICES SECTION  
 1231 I Street, Rm. 200  
 Sacramento, CA 95814 (916) 264-7619 FAX 264-7046

ACTIVITY # _____	Insp. Area _____
------------------	------------------

Applicant **MUST** complete ALL Unshaded areas

ADDRESS 2030 V STREET Suite \_\_\_\_\_

PARCEL # \_\_\_\_\_

<b>CONTACT</b> Name <u>MARK TILLOTSON</u> Street Address <u>2120 20TH ST</u> City/State/Zip <u>SACRAMENTO CA</u> Phone <u>454-5959</u> FAX _____ E-mail: _____		<b>LICENSED CONTRACTOR</b> Lic No. # <u>733993</u> Name <u>MCLEAN &amp; TILLOTSON CONST</u> Address <u>2120 20TH ST</u> City/State/Zip <u>SACRAMENTO, CA 95818</u> Phone <u>454-5959</u> FAX <u>456-2881</u> E-mail: _____	
<b>ARCHITECT/ENGINEER</b> Name <u>MICHAEL J. O'CONNOR, P.E.</u> Address <u>8303 SIERRA COLLEGE BLVD #139</u> City/State/Zip <u>BASEVILLE, CA 95661-9985</u> Phone <u>797-1503</u> FAX _____ E-mail: _____		<b>OWNER</b> Name <u>CALIF. ASSN OF HIGHWAY PATROL</u> Address <u>2030 V STREET</u> City/State/Zip <u>SACRAMENTO, CA 95818</u> Phone _____ FAX _____ E-mail: _____	

→ Will permittee have any employees on the jobsite?  No  Yes → INSURANCE CO: STATE FUND  
 → WORKER'S COMPENSATION POLICY # 692-01 EXPIRATION DATE: 10/1/02

NATURE OF WORK IN DETAIL: FIRE REPAIR - REPLACE CEIL JOIST  
OVER PARKING AREA

OCCUPANT/TENANT: \_\_\_\_\_ VALUATION: \$5,000

FLOOD STATUS:		S.C.A.T.								
JOB DESCRIPTION		BLDG	SHELL	APT	TI( )	REM( )	SW	FIRE	ADD	OTH
INSPECTION DISCIPLINES		<u>BLDG</u>		<u>MECH</u>	<u>PLUMB</u>	<u>ELEC</u>		SITE		FIRE
# Stories	1st flr Area	Total Area	Use Zone	Occp Group	Const type	Fire Req. Y/N		Fed Code	Vio. File	
<u>B</u>				<u>IS</u>		SPR	ALARM	<u>IS</u>	[H]	[Quad]
	L	P	M	E	F	S		D	PW	UTIL

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

REGIONAL SANITATION FEES?  Yes  No HEALTH DEPARTMENT?  Yes  No  
 WATER FLOW TEST FOR NEW BUILDINGS OR ADDITIONS?  Provided  Faxed



8303 Sierra College Blvd.  
Suite 130  
Roseville, CA 95661-9485  
Tel: 916-797-1503  
Fax: 916-797-1114  
www.efinfo.com

November 10, 2001

Mike Stevens  
McLean & Tillotson Construction  
2120 20<sup>th</sup> Street  
Sacramento, CA 95818-1704

Re: 2030 V Street, Sacramento, CA 95818 - Fire Repair  
EFI File: 94605-13086

Dear Mr. Stevens:

This letter is in response to your letter of 11/6/01 (copy attached). You indicated to me that a gas line was in the way of the ledger to be added onto the existing masonry wall. I gave you permission to notch the top of that ledger to accommodate the gas line. Because of this, you will not be able to nail the existing plywood (10d @ 6" o.c.) to the ledger as called out on the plans. You are hereby authorized to eliminate the nailing.

You sistered the new joists to the old joists with 3-16d sinker nails at 16" o.c. staggered. The nailing was not called for in our original plans. The nailing will ensure that the old and new joists work together and is hereby approved.

You had to head out one set of joists to miss an existing 2" gas line. You provided me with a detail for this header arrangement. Based on your detail, the change is hereby approved.

Thank you for calling Engineering and Fire Investigations. If you have any questions about this letter, please call me.

Sincerely,

Engineering and Fire Investigations

A handwritten signature in black ink, appearing to read "Mike J. O'Connor", is written over the typed name.

Michael J. O'Connor, P.E.  
LICENSED STRUCTURAL ENGINEER NO. 3911  
LICENSED CIVIL ENGINEER NO. 33404  
LICENSED ELECTRICAL ENGINEER NO. 12719  
LICENSED MECHANICAL ENGINEER NO. 31730  
CERTIFIED FIRE AND EXPLOSION INVESTIGATOR NO. 6356-2409



enclosures: copy of your letter and your approved detail



**WALLACE • KUHL & ASSOCIATES INC.**  
 GEOTECHNICAL ENGINEERING • CONSTRUCTION TESTING

3050 Industrial Blvd.  
 PO Box 1137  
 West Sacramento  
 California 95691  
 916-372-1434

DATE 11-02-01		JOB NO. 4850.77		WEATHER		TEMP. ° at AM ° at PM	
PROJECT CAL ASSO. McLEAN & TILLOTSON CONS				Technician I <input type="checkbox"/>		Staff E/G <input type="checkbox"/>	
LOCATION PARKING GARAGE ROOF LEDGER				Technician II <input type="checkbox"/>		Project E/G <input type="checkbox"/>	
TYPE OF WORK TORQUE TEST				Technician III <input type="checkbox"/>		Senior E/G <input type="checkbox"/>	
Inside 50 mi. radius <input checked="" type="checkbox"/>		Outside 50 mi. radius <input type="checkbox"/>		Nuclear Densities <input type="checkbox"/>		Principal E/G <input type="checkbox"/>	
PERSONNEL	REG. HRS	OT HRS	TOTAL HRS	TRAVEL	ON JOB	VEHICLE	MILES
DS	1.5	0	20.5	0	0	# 14	14
OBSERVATIONS:							
ON SITE AS REQUESTED TO PERFORM TORQUE TEST ON 5/8" ALLTHREAD FOR ROOF LEDGER FOR PARKING GARAGE @ A <sup>TORQUE</sup> VALUE OF 80 <sup>+</sup> LBS. A TOTAL OF 30 LEDGER BOLTS INSTALLED, PULLED 100# PER SUPER. LEDGER ON EAST WALL OF PARKING <sup>GARAGE</sup> UNDER BLDG. @ 2030 V. ST. ON WEST SIDE.							
PASSED							
<b>FIELD REPORT</b>							
					Signed		



Engineering and Fire  
Investigations

8303 Sierra College Blvd.  
Suite 130  
Roseville, CA 95661-9485  
Tel: 916-797-1503  
Fax: 916-797-1114  
www.efiinfo.com

**ENGINEERING & FIRE INVESTIGATIONS**

**PREPARED FOR**



This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from same without written permission from the Building Inspection Division. The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.

**David Mome & Associates**  
5175 Pacific Street, Suite B  
Rocklin, CA 95677

**Phil Brown**

ISSUED

00000000

Sacramento, California

**PRIVILEGED AND CONFIDENTIAL**

Report Number: One  
July 2, 2001

**INSURED:** CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN

**DATE OF LOSS:** June 1, 2001

**LOSS LOCATION:** 2030 V Street, Sacramento, CA 95818

**CLAIM NUMBER:** SA011-243

**POLICY NUMBER:** CLU0002581

**INVESTIGATOR:** Michael O'Connor, P.E.

**E.F.I. FILE:** 94605 13086

**THIS REPORT FURNISHED AS PRIVILEGED AND CONFIDENTIAL TO ADDRESSEE.  
RELEASE TO ANY OTHER COMPANY, CONCERN, OR INDIVIDUAL IS SOLELY THE  
RESPONSIBILITY OF ADDRESSEE.**

*OK Bryan Welcas*

July 02, 2001

Dear Mr. Brown:

#### Assignment

You assigned ENGINEERING AND FIRE INVESTIGATIONS to inspect the structural damage at the CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN. You indicated that a fire had occurred underneath the building in the carport. You needed to know the extent of the fire damage and recommendations for repair.

#### Observations

The insured was located in a single-story, wood framed office building that was constructed in 1968. The office building was founded on a concrete foundation with concrete masonry retaining walls under some portions of the structure. There was some steel framing in the structure which supported wooden beams, but the primary structural system was light wood framing.

The fire occurred in the carport area which was on the west side of the building. Apparently, a gas line leaked and the gas was ignited providing the fuel for the fire. The area of origin of the fire was clearly defined by the burn patterns on the adjacent walls.

The fire had caused damage to a six-inch thick unreinforced concrete masonry wall which enclosed the south side of the storage area which had been built into the carport sometime after the initial construction of the building. The heat from the fire caused extensive cracking of the unreinforced concrete masonry. The unreinforced concrete masonry was ungrouted and was not tied into the structure. The apparent use of the wall was as a fire break between the carport area and the storage room. See the attached photographs for a depiction of the damage to this area.

The fire also impinged upon a solid-grouted, reinforced eight-inch thick concrete masonry wall which served as a bearing wall underneath the structure. The fire turned this wall a pink color in the vicinity of the gas meter. See the attached photos.

The fire broke through the Portland cement plaster soffit of the carport area and caused damage to the 2x14 floor joists that were supporting the room above. There was a total of 10 floor joists which were damaged by the fire. These floor joists will need to be sistered with new 2x14 floor joists and attached to the wall per the attached drawings and specifications.

At first glance it seemed that the fire had damaged the concrete masonry wall which served as a bearing wall underneath the structure. However, we used a wire brush attached to a cordless drill to scrap away the surface of the wall and found that the pink color of the wall was only due to a color change of the paint that had been applied to the wall. Once this paint was scraped away, the concrete

masonry underneath the paint was a gray color, indicating that the concrete masonry had not been damaged. The attached photographs show there was no color change of the actual concrete masonry, just the paint.

As a further check on the strength of the concrete masonry, we used a digital Schmidt rebound hammer to check the masonry. We first conducted a series of 21 tests at an area that was approximately 30 feet away from the area of origin of the fire and four feet above the slab of the carport. This set of 21 readings showed an average rebound number of 35.5 with a standard deviation of 2.3. A second set of tests was conducted 48 inches above the finished floor at the gas meter. A total of 21 readings were taken. The average of these readings was a rebound number of 35.6 and the standard deviation was 3.8. A third set of readings was taken at the gas meter at 88 inches above the finished floor. A total of 18 readings was taken. These readings showed an average rebound number of 28.7 with a standard deviation of 3.2. The third set of readings was within two standard deviations of the second set of readings. The data showed that there was no significant loss of strength of the masonry due to the fire. In addition, the pink coloration of the masonry was simply due to the discoloration of the paint and was not indicative of any structural damage to the masonry bearing wall.

We also used a masonry bit on the drill to drill into the masonry near the area of origin of the fire. The purpose of the drilling was to check the color of the concrete masonry below the surface. As the attached photographs show, the masonry was a grey color in all cases. Therefore, the masonry was undamaged by the fire.

There were several vertical cracks along the length of the bearing wall. These cracks were not unique to the area of origin of the fire. Instead, the cracks appeared to be nothing more than temperature expansion and contraction cracks caused by the variations of the ambient temperature in the building. There was nothing unique about the cracks that were near the area of origin. That is, the cracks appeared to be very similar to the other cracks in the wall and were at the same spacing. Therefore, they were not attributed to the fire.

#### Discussion

It was clear that the structural bearing wall underneath the building had not been damaged by the fire. This wall can simply be cleaned and repainted. No structural repairs are necessary. However, the six-inch nonstructural wall that was installed to enclose the storage area was heavily damaged by the fire and will need to be torn down and replaced.

The 2x14 floor joists above the area of origin were severely damaged. A total of 10 floor joists will need to be sistered with new 2x14 joists. The attached plans show the detail for installing these reinforcing joists.

### Conclusions

Based on our inspection at the site, our nondestructive testing of the structural components, and our experience as structural engineers, we formed the following conclusions:

- [1] The structural masonry wall adjacent to the area of origin was not damaged by the fire and can simply be cleaned and painted.
- [2] The six-inch unreinforced concrete masonry wall between the carport and the storage area was damaged by the fire. Those portions which were severely cracked will need to be removed and replaced.
- [3] The 2x14 floor joists above the area of origin were severely burned by the fire and will need to be sistered with new floor joists per the attached specifications.

Thank you for calling E.F.I. If you have any questions about this report, please call me.

Sincerely,

ENGINEERING & FIRE INVESTIGATIONS

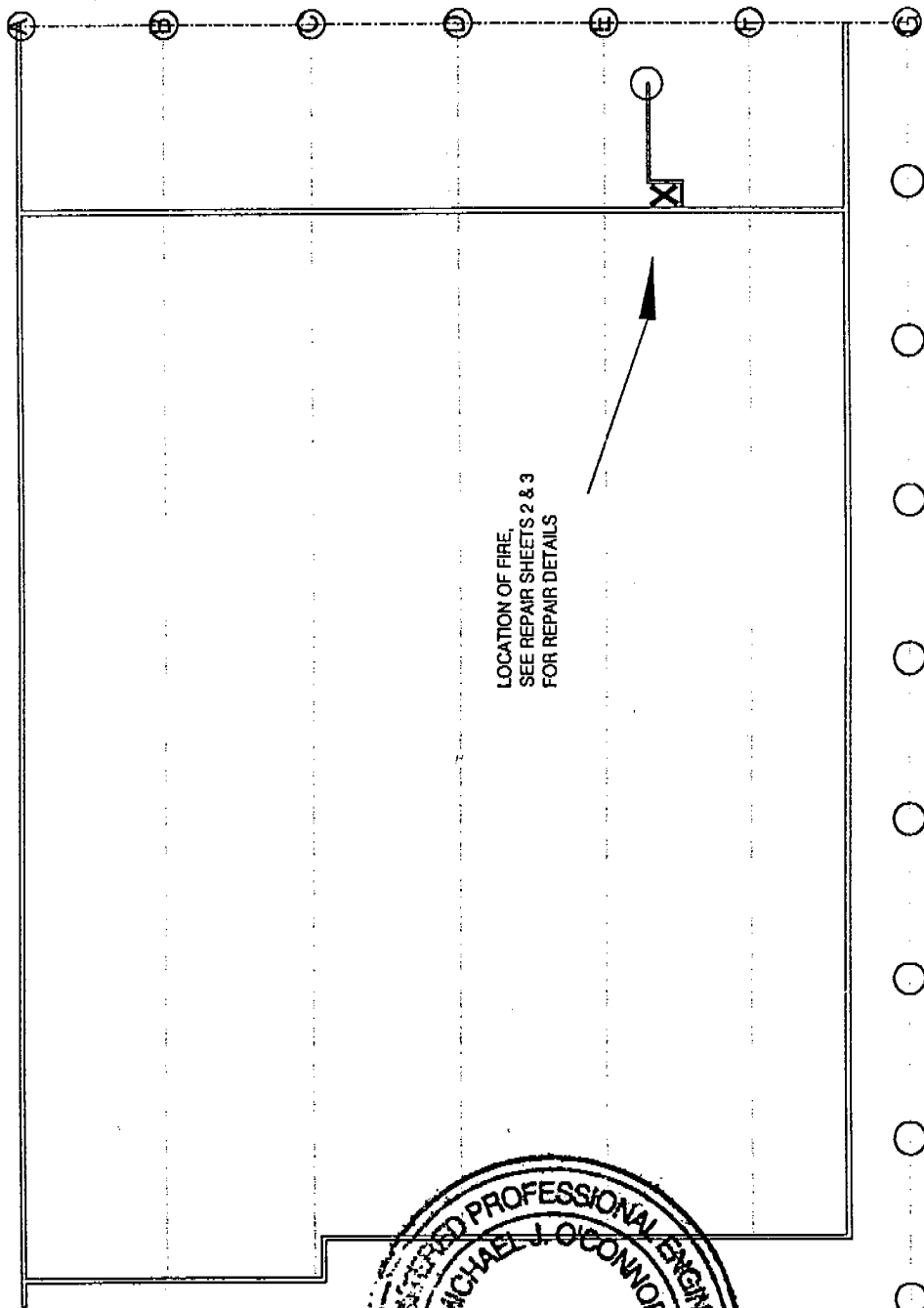


Michael J. O'Connor, P.E.  
LICENSED CIVIL ENGINEER NO. 33404  
LICENSED ELECTRICAL ENGINEER NO. 12719  
LICENSED MECHANICAL ENGINEER NO. 31730  
LICENSED STRUCTURAL ENGINEER NO. 3911  
CERTIFIED FIRE AND EXPLOSION INVESTIGATOR NO. 6356-2409



MJO:msm

enclosures: repair plans and detail drawings  
photos



REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL J. O'CONNOR  
 No. S3911  
 Exp. 6/30/02  
 STRUCTURAL  
 CALIFORNIA

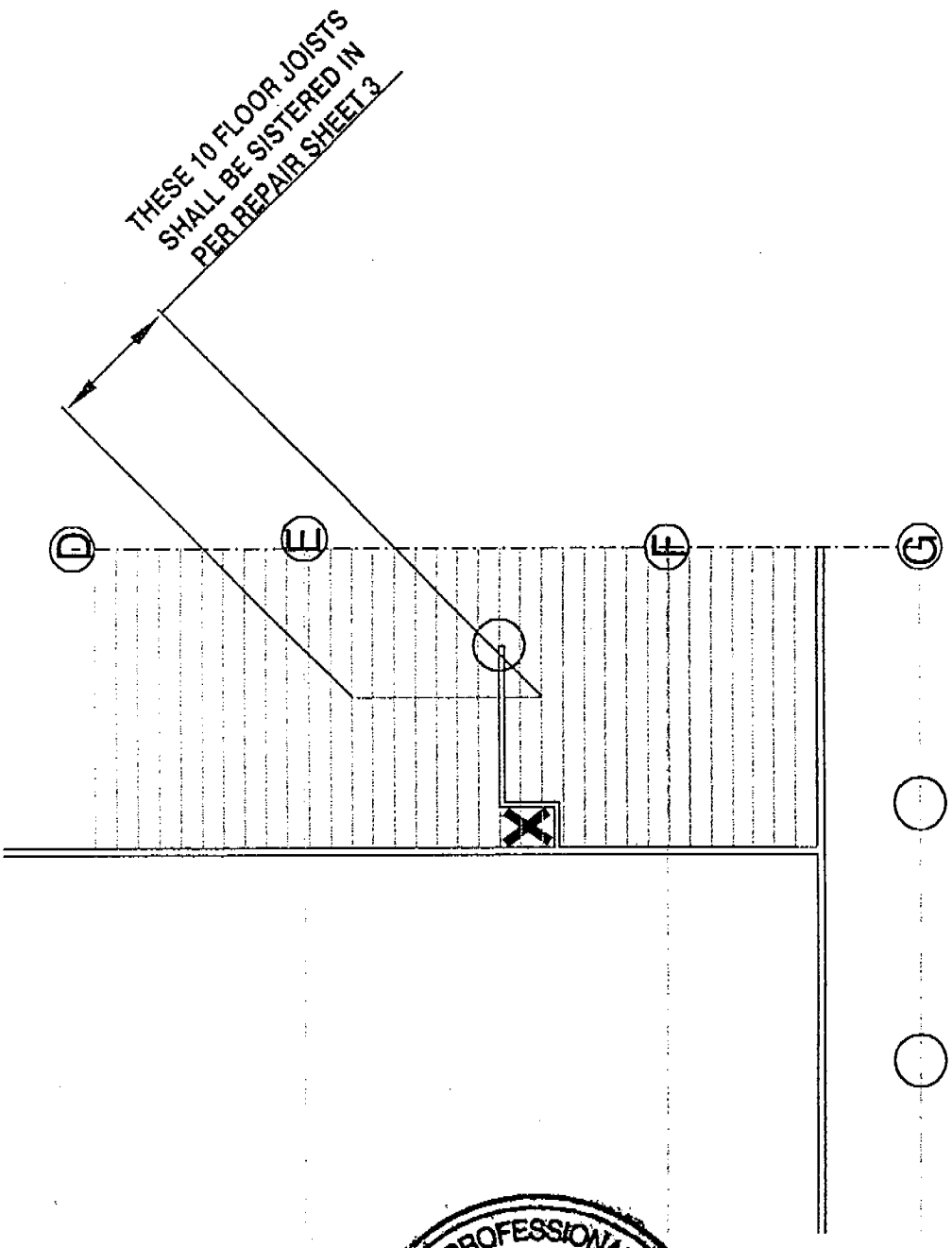
FRONT



Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN	
Technician	MARTIN	
Date	6/18/01	Scale 1/8"
Job #	94605-13086	

REPAIR PLAN SHEET 1

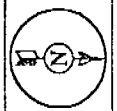
**EFI**  
 Engineering and Fire  
 Investigations  
 8003 Central College Boulevard, San  
 Bernardino, California 92408  
 Phone: (909) 391-4141 Fax: (909) 391-4142



REGISTERED PROFESSIONAL ENGINEER  
 MICHAEL J. O'CONNOR  
 No. S3911  
 Exp. 6/30/02  
 STRUCTURAL  
 STATE OF CALIFORNIA

*Michael J. O'Connor*

FRONT



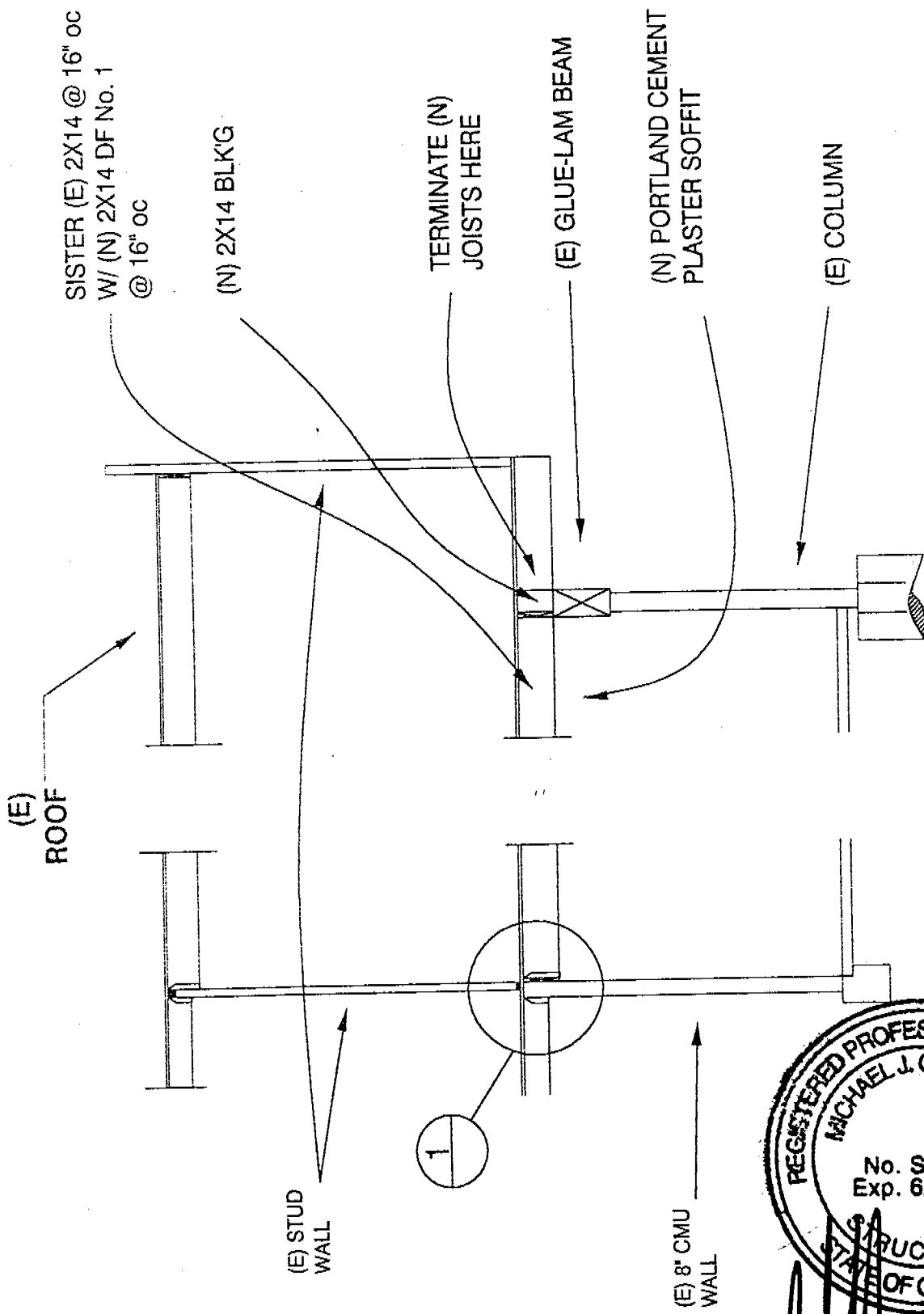
Job Name CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN  
 Job # 94605-13086  
 Scale 1/8"

Technician MARTIN  
 Date 6/18/01

REPAIR PLAN SHEET 2

**EFI**  
 Engineering and Fire  
 Investigations

3013 Sierra College Boulevard, Suite 130  
 Roseville, California 95661-9455  
 T 916-291-4503 F 916-291-4143



SISTER (E) 2X14 @ 16" OC  
W/ (N) 2X14 DF No. 1  
@ 16" OC

(N) 2X14 BLKG

TERMINATE (N)  
JOISTS HERE

(E) GLUE-LAM BEAM

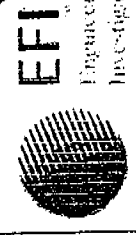
(N) PORTLAND CEMENT  
PLASTER SOFFIT

(E) COLUMN

(E) ROOF

(E) STUD  
WALL

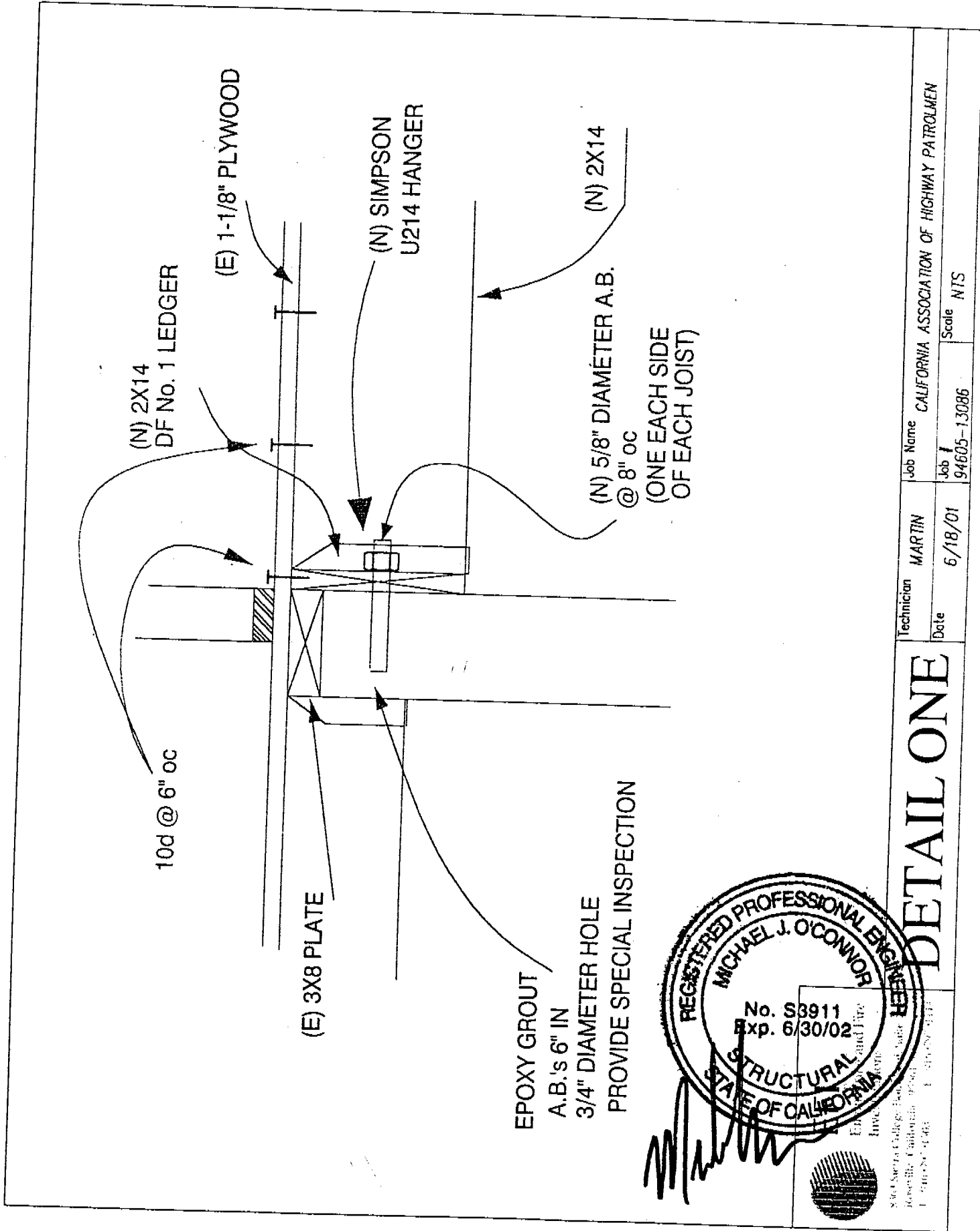
(E) 8" CMU  
WALL



3818 Santa Anita College Road, Suite 101  
Brea, CA 92621  
Tel: 714-992-2222 Fax: 714-992-2222

Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
Job #	94605-13086
Scale	1/8"
Technician	MARTIN
Date	6/18/01

# REPAIR PLAN SHEET 3



(N) 2X14  
DF No. 1 LEDGER

(E) 1-1/8\"/>

(N) SIMPSON  
U214 HANGER

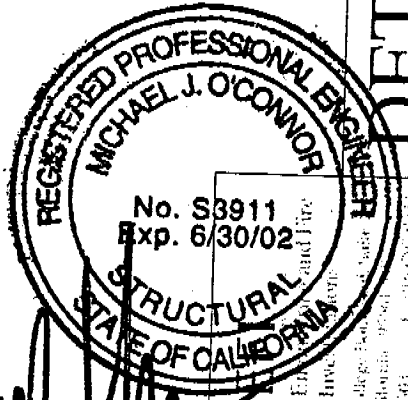
(N) 5/8\"/>

(ONE EACH SIDE  
OF EACH JOIST)

10d @ 6\"/>

(E) 3X8 PLATE

EPOXY GROUT  
A.B.'s 6\"/>



<b>DETAIL ONE</b>		Technician	MARTIN	Job Name	CALIFORNIA ASSOCIATION OF HIGHWAY PATROLMEN
		Date	6/18/01	Job #	94605-13086
				Scale	NTS

