51 CHARDON DRIVEWAY
TUNNEY'S PASTURE
OCCUPATIONAL HEALTH UNIT (OHU)
MODERNIZATION
SPRINKLER AND LIGHTING SURVEY

MECHANICAL AND ELECTRICAL REPORT

Prepared by:

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GWA 2014-468
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CONTENTS **PAGE NO.**

1.0 INTRODUCTION:

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To evaluate and review the existing sprinkler and lighting systems, and compare it to industry standards and codes.

The Occupational Health Unit, occupied by Health Canada and located at 51 Chardon Driveway in the Tunney's Pasture complex, was constructed in 1958/59. The building is a one story office/laboratory facility consisting of storage, two garage area and a recently renovated area.

2.0 MECHANICAL

2.1 EXISTING SYSTEM

Existing sprinkler system consists of wet sprinklers located as per attached Figure 1 (Drawing M1). The building is served by a single sprinkler zone. The zone valve is located in the water entry closet. The building occupancy is office space. Under NFPA 13 this is considered a "light hazard" occupancy.

2.2 CONCLUSIONS AND RECOMMENDATIONS

A single sprinkler zone is sufficient for this building as it is one storey and less than the maximum floor area of 52,000 sq.ft. per zone. In general the sprinklers layout is acceptable for a light hazard occupancy with some minor deficiencies that must be corrected. Sprinklers will need to be removed, repaired or replaced as per noted deficiencies. Refer to Figure 1 (Drawing M1) for noted deficiencies.

3.0 ELECTRICAL

3.1 REVIEW OF AS-BUILT DRAWINGS AND SITE CONDITIONS:

.1 Existing Lighting

The lighting system is an ambient lighting system designed for low glare levels and approximately 250 Lux at the workstations. Task lighting is provided in the furniture systems. The present lighting system delivers between 200 and 300 Lux at the workstations. Lower levels are due to lamp burnout in the area. Sample light levels were measured just before sunset. Industrial type fluorescent fixtures are used in garages, converted labs and mechanical rooms. Existing office lighting systems consists of recessed 2'x4' perforated metal shield linear fluorescent 2-32W (T8), recessed 1'x4' perforated metal shield linear fluorescent 1-32W (T8), recessed 2'x4' flat K12 lens linear fluorescent 2-32W (T8), compact fluorescent downlights and wall sconces. Many of fixtures have damaged or missing lenses. The building lighting is controlled by a low voltage relay system controlled by a timer clock.

.2 Existing Emergency Lighting

The existing emergency lighting is on generator power and battery packs. Approximately seventy-five percent of the building is served by un-switched night lighting with backup generator power that feeds 2'x4' fluorescent light fixtures. While the remaining twenty-five percent is on battery packs feeding double remote heads. Emergency lighting system should be tested.

3.2 CONCLUSIONS AND RECOMMENDATIONS:

Overall, the lighting system appears to be functioning adequately for its intended purpose, which is to provide a minimum ambient lighting level, which is supplemented by task lighting at individual workstations. We recommend the following minor deficiencies be rectified: Replace missing 2'x4' and 1'x4' perforated metal shields, and flat K12 lens to reduce unwanted glare from lamps. Disconnect and remove existing 2'x4' light fixture located above wall partition. Relocate/add light switching to make turning on/off of lighting more convenient. Refer to drawing Figure 2 (Drawing E1).

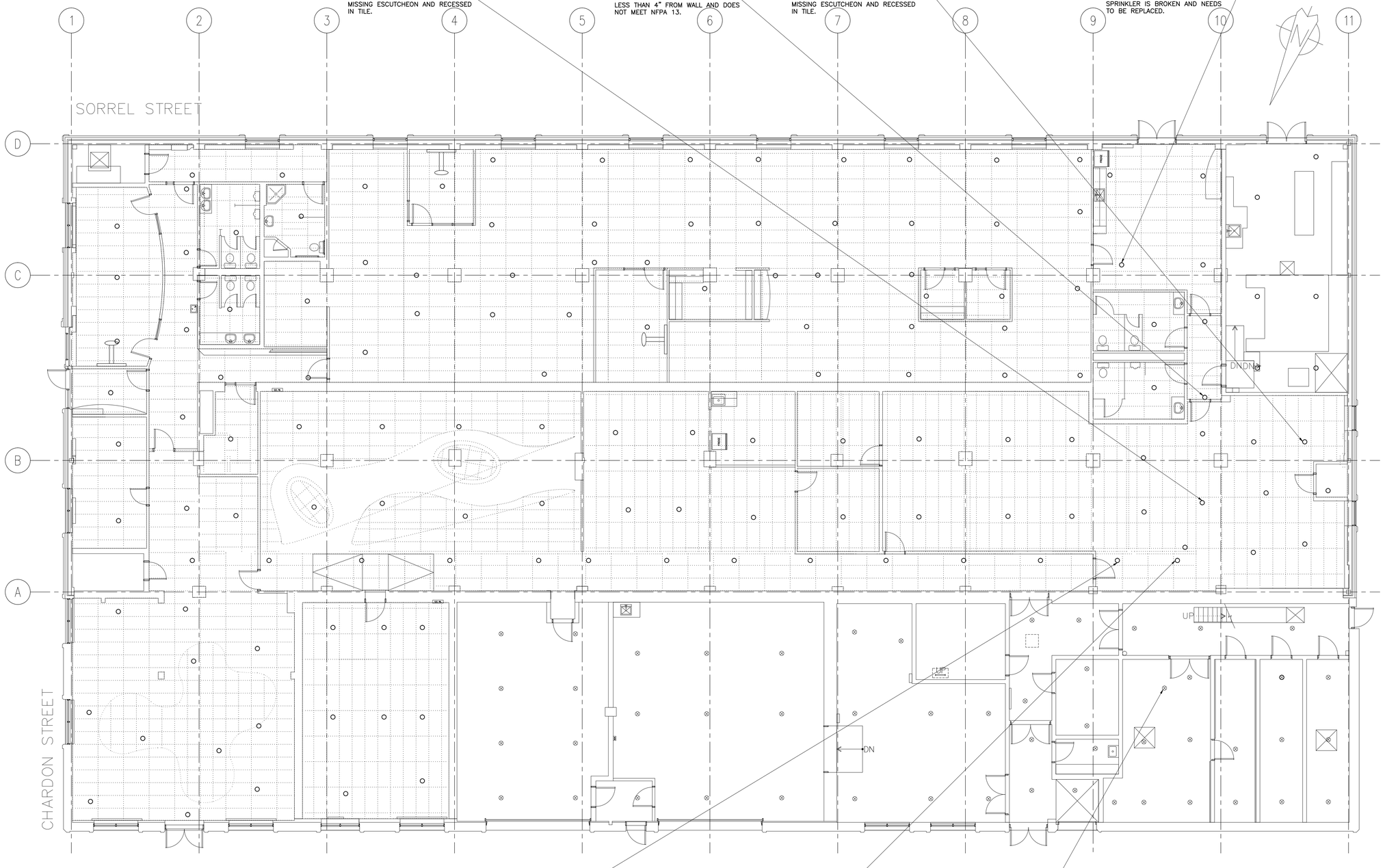
APPENDIX ‘A’
FIGURE 1 & FIGURE 2

MISSING ESCUTCHEON AND RECESSED IN TILE.

LESS THAN 4" FROM WALL AND DOES NOT MEET NFPA 13.

MISSING ESCUTCHEON AND RECESSED IN TILE.

SPRINKLER IS BROKEN AND NEEDS TO BE REPLACED.



OLD STYLE SPRINKLER SHOULD BE REPLACED TO MATCH NEWER SPRINKLERS.

SPRINKLERS ARE LESS THAN 6 FEET APART AND DO NOT MEET NFPA 13 REQUIREMENTS.

EXISTING HEAD NO LONGER REQUIRED. SHOULD BE REMOVED TO PREVENT ACCIDENTAL DISCHARGE.

Scale 1 : 100

0mm 10 20 40 60 80 100 120 140 160 180 200 mm

PWGSC / TPSGC A1

Public Works and Government services Canada
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National Centre of Expertise
Architectural and Engineering Services
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Services d'architecture et génie
Direction générale des services immobiliers

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KEY PLAN
PLAN-REPÈRE

04		
03		
02		
01	ISSUED FOR 99% REVIEW	2014.09.26
revision		date

A detail no. no. du détail
B location drawing no. no. de localisation
C drawing no. no. du dessin

project / projet

OCCUPATIONAL HEALTH UNIT (OHU)
MODERNIZATION
SPRINKLER & LIGHTING SURVEY

51 CHARDON DRIVEWAY

drawing / dessin

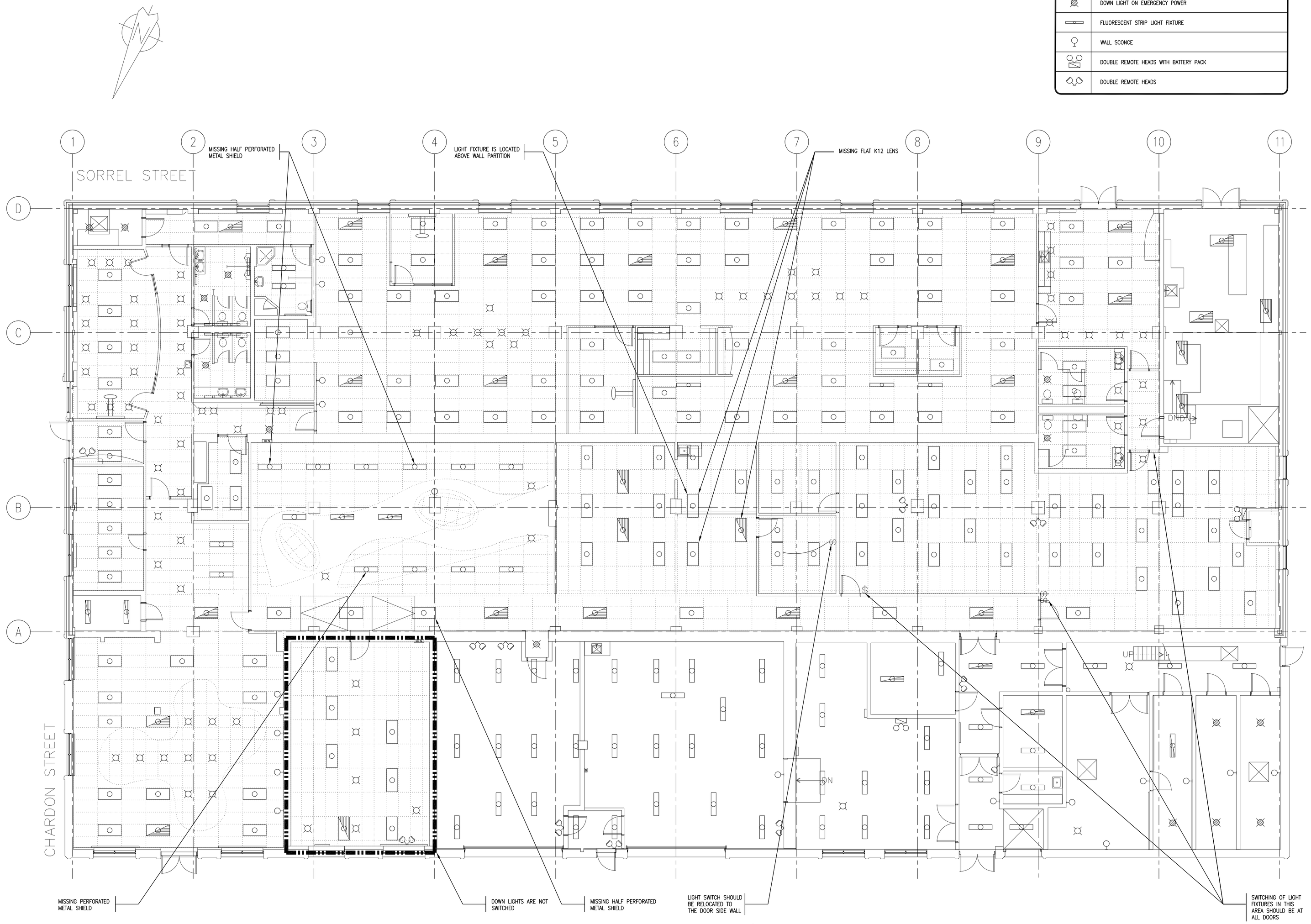
MECHANICAL EXISTING SPRINKLER LAYOUT

designed / conçu: N/A
date:
drawn / dessiné: E.YEH
date: 2014-09-17
revised / revisé
date:
approved / approuvé: S.HAMLITON
date: 2014-09-26
tender / soumission
PWC Project Manager / Administrateur de projets TPC
project no. / no. du projet
drawing no. / no. du dessin

M1 of/de 1

SYMBOLS LEGEND

SYMBOL	DESCRIPTION
	609 x 1219mm FLUORESCENT LIGHT FIXTURE
	609 x 1219mm FLUORESCENT LIGHT FIXTURE ON EMERGENCY POWER
	305 x 1219mm FLUORESCENT LIGHT FIXTURE
	305 x 1219mm FLUORESCENT LIGHT FIXTURE ON EMERGENCY POWER
	DOWN LIGHT
	DOWN LIGHT ON EMERGENCY POWER
	FLUORESCENT STRIP LIGHT FIXTURE
	WALL SCONCE
	DOUBLE REMOTE HEADS WITH BATTERY PACK
	DOUBLE REMOTE HEADS



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drawing / dessin

FIGURE 2: ELECTRICAL EXISTING LIGHTING LAYOUT

designed / conçu	N/A
date	
drawn / dessiné	E.YEH
date	2014-09-25
revised / revisé	
date	
approved / approuvé	W.NNEDHAM
date	
tender / soumission	
PWC Project Manager	Administrateur de projets TPC
project no.	no. du projet
drawing no.	no. du dessin

E1 of/de 1