PACDA Application Forms



SULTANATE OF OMAN THE PUBLIC AUTHORITY OF CIVIL DEFENCE & AMBULANCE		سلطنة عُـمـان ة العامة للدفاع المدني والإسعاف
وقاية / مشروعات (١)		مركز/شعبة
الامة على مخططات منشأة	ں مبدئي للأمن والس	طلب الحصول على ترخيص
طط	عـــن المخ	بيانات
رب: : حاتف:	العنوان/ص.ب:	م المالك :
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: ونشا	الحي/ القرية :	رية:
اق :	الزق	سکة :
وابق :	عدد الط	بيعة النشاط:
		عم المكتب الإستشاري :
	تخدام السرس	للإس
سال الدفع:		علسال الطاب:
عصل المالي: 		م مدقق الطلب؛
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SULTANATE OF THE PUBLIC AUTHO CIVIL DEFENCE & AM GENERAL OF CIVIL DEFENCE	RITY OF BULANCE	ی مالی ترخیم	الحصوا	V.	سلطنة عُمان الهيئة العامة للدفاع المدني والإسعاف إدارة الوقاية من أخطار العربة سم /
		نات المنشأة	سا		
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	نم السجل التجاري :	ė,			الرقهم المدنسي:
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الختم	التوقيع				تاريخ المراجعين،

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وقاية / مواد خطر (۲)				كز/شعبة
لية ومشتقاتها وغازات صناعي	ماویة، مشعة، بترو	اماکن تخزین مواد / کیم	بص الأمن والسلامة لا	مصول على ترخي
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Hazards Material Approval Form

Preliminary Approval Form

5/15/2018

Submission

SULTANATE OF OMAN

ROYAL OMAN POLICE

DIRECTORATE GENERAL OF CIVIL DEFENCE

وقاية/مطابقة (١)

سلطنة غمان

شرطة غمان السلطانية الأدارة العامة للدفاع المدني

قسم/مركز/شعبة

طلب الحصول على شهادة مطابقة المعدات والأجهزة والموارد الخاصة بالدفاع المدنى للمواصفات القياسية

انسات مورد المسادة ونوعها	
الصنوان/ص.ب: (.ب: هاتف:	إسم الوكيل :
هاتف: وقم السجل التجاري:	إسم المدير العام :
العشوان :	إسم الشركة الموردة للمنتج :
العنوان :	إسم الشركة الصائعة للمنتج :
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للإستخدام الرسمي	
رقــم إيصــال الدفـع :	تسلسل الطاب :
إسم المحصل المالي:	إسم مدقق الطلب :
التاريخ:	الرسيع الميالي :
ملاحقات المعصل المالي :	ملاحظات مدقق الطلب :
الإمضاء والختم :	التَّــوقَــيــع:

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إسم مستلم الطلب :	سم مقدم الطباب :
التاريخ:	سلسل الطلب :
الإمـــضــاء والختم :	الرياخ المراجعة :

الإدارة الماملة للدقاع المدلكي : ص.ب ، ٢٥٦ - الرمز البريدني : ١٣٠ - مانت ، ١٣٠٠٦٧٠ - فكس ، ١٣٧٠٦٧٠ - البريد الإكتشروني ، ٢٥٦ - الرمز البريدني : ١٣٠٠ - مانت ، ١٣٠٠٩٧٠ - الدفاع المنت المانت ، ١٣٠٠٩٧٠ - الدفاع المنت المانت ، ١٣٠٠٠١٧٠ - الدفاع المنت المنت ، ١٣٠٠٠١٧٠ - الدفاع المنت المنت ، ١٣٠٠٠١٠ - الدفاع المنت ، ١٣٠٠٠١ - الدفاع المنت ، ١٣٠٠٠١٠ - الدفاع المنت ، ١٣٠٠٠١١ - الدفاع المنت ، ١٣٠٠٠١١ - الدفاع المنت ، ١٣٠٠٠١١ - الدفاع المنت ، ١٣٠٠١١١ - الدفاع الدفاع المنت ، ١٣٠٠٠١١ - الدفاع المنت ، ١٣٠٠٠١١ - الدفاع الدفاع الدفاع المنت ، ١٣٠٠٠١١ - الدفاع ال

Material Approval Form

ULTANATE OF OMAN	سلطنة غمان
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CIVIL DEFENCE	م/مرکز/شعبة
وقايـة/تركيبات (١)	. //
ركيبات المعسدات والأجهزة والمواد الخاصة بالدفاع المد	لب الحصول على شهادة بمزاولة أعمال تـ
لشركة / نوع الـتركيبـات	بيانات
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Approved Contarctor Approval Form

SULTANATE OF OMAN ROYAL OMAN POLIC DIRECTORATE GENERAL O	E		ني	سلطنة عَمان طة عُمان السلطانية ة العامة للدفاع المد	ادار
CIVIL DEFENCE وقایة / مواد خطر (۲)				ركز /شعبة	
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	تخزين	نات مسكان الن	بيا		ř,
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		ات عسن المسواد			
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الترخيص	لكها صاحب	ة النقل التي يمت	ت عن و سيلة	بيانا	
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	—اريسخ ، ساء والختم ،			سل الطلب :	
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Hazards Material Approval Form

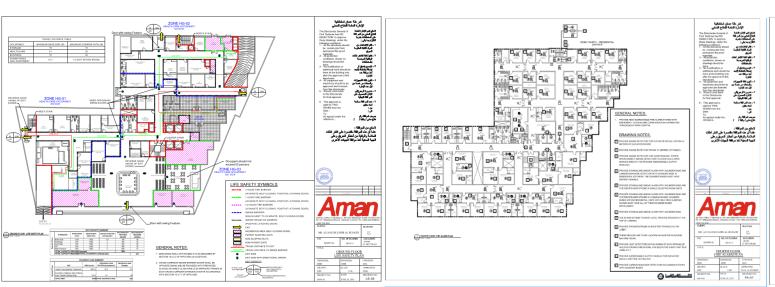
5/15/2018 Aman Fire Protection Consultants



Preliminary Approval Stage

STEP 1

- Review and provide basic requirements for firefighting and fire alarm systems
- Review and provide all necessary requirements for life safety system
- Provide Fire Safety Strategy Report (FSSR)
- Obtain PACDA certificate for preliminary design





| January 2015 | | Main Corsultant | Deletitis: | Mrs. ORPIC Logistics Company | Project Number: | 0114128 | PO Box : 282, PC-3222 | Report Number: | FSSR-W/AMZ-0114128-R0 | Issue Number: | 01 | Prepared by: | Prepared by: | Approved by | WAMAZ.

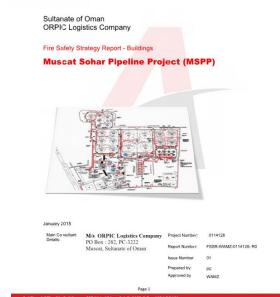


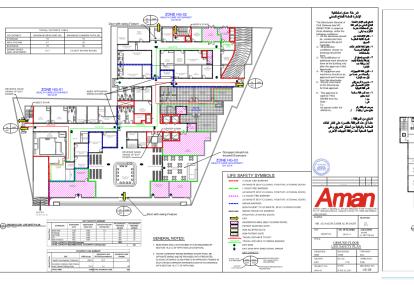
Preliminary Approval Documentation

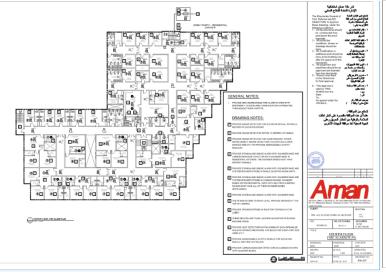
- ✓ FSSR
- ✓ Life Safety Drawings
- ✓ Fire Fighting Drawings
- ✓ Fire Alarm Drawings
- ✓ Hazards Material Analysis

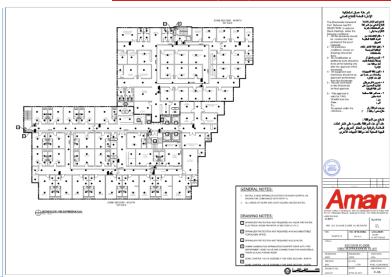
- ✓ Koroki & Mulkia
- ✓ 3 Copies of Drawing
- ✓ Supervision Letter
- ✓ Payment Card
- ✓ See Aman's Checklist











Preliminary Re-approval

Step 2;

- If changes to initial design are made which affect fire protection systems then preliminary approved design must be re-submitted for new approval
- Updating FSSR- what is its purpose and why is it important- UPDATING FSSR
- Fire consultant will update FSSR to present changes.

Detailed Design Review

Step 3;

- Detailed Design review including review of detail design drawings and calculations
- Not formally required to be approved by PACDA.
- It is recommended to avoid changes or extra requirement by PACDA at the end of the project.

Detailed Design Review

Design 4. Detailed of all protection and alarm systems must be approved by PACDA before installation are made at site.

لا ماتع من الترخيص:

()	التفصيلي Detail	()	التعديلات Modifications	()	المبدئي Preliminary
			()	إضافات Addition	()	إعادة دراسة Re-Study
				1	حماية /	قم:	ں ر	بموجب الترخيم

علماً أن الترخيص مقتصر على إشتراطات الحماية المدنية وعلى الجهة المعنية أخذ موافقة الجهات الأخرى.

الهيئة العامة للدفاع المدني والإسعاف

لا ملع ادن الهيئة المامة الدفاع المناء and Ambulance (PACDA) has no والإسطاء من التركيدن الميلي المعلق والإسطاء من التركيدن الميلي المعلق المنادة بشرط الاكن: المنادة على مقطفات المنادة بشرط الاكن: and the following conditions:

- تلتم هيائل المنشآت من المواد الثابيثة of non-combustible and fire

()

				:	ليمر	لا ملع من الش
التفصيلي Detail	()	التعولات Modifications بدر فادر	()	الميدئي Preliminary امادة در ادرة

بموجب الترخيص رقم : حملية /

تاريخ إصدار الترخيص:

طماً أن الترخيص مفتصر على إشتراطات الحماية المننية وعلى الجهة المعنية أغذ مواقلة الجهات الأغرى.

Material Review and Approval

Step 4;

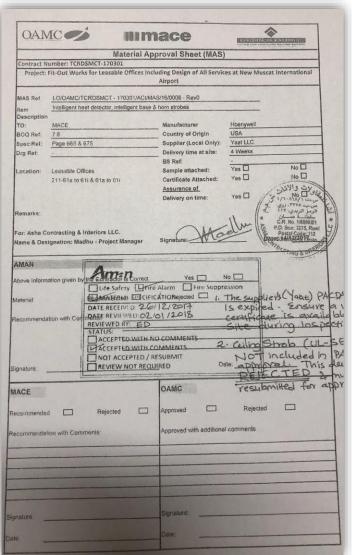
Material review and approval (For any material which has to be Listed as per NFPA)

BEFORE PROCURING ANY MATERIALS

- Submit test certificates, PACDA certificates and local supplier approval details to fire consultant for review and acceptance
- DO NOT SOURCE PRODUCTS FROM OUTSIDE OMAN- MUST BE FROM AN OMAN PACDA APPROVED SUPPLIER or Agree with PACDA if you wish to order material from outside prior to do so.
- Each material/product must have a test certificate from a recognised body which is accepted by PACDA and must have a PACDA approval certificate

Material Review and Approval

5. All fire protection, fire alarm and construction materials -where applicable- must be used as per applicable approved design codes and standards and must approved by PACDA.



الهيئة العامة للدفاع المدنى والإسعاف

The Public Authority of Civil Defence لا متع لدى الهيئة العلمة للشاع المناع ال لعنية على مقططات العنشاة بشرط الأكن: objection to approve these drawings

wed by PACDA before

occu	ALIK.	y.						'dumn'
						:	غرمر	لا مقع من التر.
()	التقصولي Detail	()	التعولات Modifications	()	لميدئي Preliminary
			()	إضافات Addition	()	عادة دراسة Re-Study
				1	مية /	قم :	ی را	بموجب الترخيم

طماً أن الترخيص مفتصر على إشتراطات الحماية المدنية وعلى الجهة

Certificate



FIRE RESISTANT TIMBER FIRE DOORS

Certificate number: FRTD 402/06

This is a product certificate to certify that

Zubair Furnishing LLC

PO Box 2107 Muscat 111 Sultanate of Oman

Who fabricate the following fire doors:

Strebord FD30 Ramkor FD90 Strebord FD60 Ramkor FD120 Moralt FD30

Ramkor FD90 Halspan FD30 Halspan FD90 Ramkor FD120 Halspan FD60 Halspan FD120 Moralt FD30 Moralt FD60 Kingsa FD60 Kingsa FD90 Kingsa FD120

have satisfied the requirements of the above scheme. This includes the testing of products to BS476: Part 22, the inspection of Factory Production Control and continuing surveillance audits and testing of samples of products taken from production. The product specification and field of application to achieve from 30 minutes to 120 minutes integrity are detailed in the schedules referenced below.

Schedules ref: HS01-HS06, SS01, SS02, MS01. KS01-04



First Issued: 4 June 2004 Reissued: 1 May 2013 Revised: 10 November 2015 Valid to: 30 April 2018 Issue No: 6



Modbasi

Director of Certification

IFC Certification Ltd, 20 Park Street, Princes Risborough, Buckinghamshire. UK, HP27 9AH
Tel: +44 (0)1844 27500 Fax: +44 (0)1844 274002. E-mail: info@fricertification.com Web: www.ifccertification.com
Registered No: 4777898 England

The certificate and schedule are held in force by regular annual surveillance visits by IFC Certification and the reader or user should contact IFC Certification to validate its status. This certificate remains the property of IFC Certification and must be returned to them on demand.

F27 ©IFC Certification Ltd 2004



سلطنة عمان الهينة العامة للدفاع المدني والإسعاف الادارة العامة للحماية المدنية

رقم الشهادة(ه. ع. د.م. ۱/ حماية /۲۰۱۷/۱۱٤۸ (ه. ع. د.م. ۱/ حماية /۲۰۱۷/۱۱٤۸ Certificate of Compliance for Equipment, Systems & Materials for Civil Defense Ideal Standards:

شهادة مطابقة للمعدات والأجهزة والمواد الخاصة بالحماية المدنية للمواصفات القياسية

شهد الإدارة العامة للحماية المدنية بأن الأجهزة والمعدات والمواد المبينة أدناه:

١- قواطع زجاجية مع إطارات معدنية مقاومة للحريق(١٢٠-٣٠-٣١ EW)دقيقة

The general management of Civil Defense testifies that the equipments, systems & the materials shown below:

1- Fire resistant glass partitions with metal frames (EW I: 30-60-120) minutes

2- certificate no : Intertek (NE 1364-1 2015)

۲- رقم الشهادة (NE۱۳٦٤-۱:۲۰۱۵)

Manufactured by: White Aluminium Enterpises, and has been tested via international laboratories accredited by us

Upon which the local agency: National Smart Goals L.L.C, is authorized to import & trade with.

المصنعة من قبل: شركة وايت المنيوم، وقد تم فحصها من قبل مختبرات دولية معتمدة لدينا.

وعليه يصرح للوكيل المحلي: الاهداف الذكية الوطنية ش م م ، باستيرادها والإتجار فيها.

هذه الشهادة صالحة اعتباراً من ١٩/٠٥/٢٠١ م

إمضاء القائم الدراسة: النقيب/ بدر بن حمود الرحبي ر

This certificate is valid from: 29/5/2017

until: 28/5/2019

أي كشط أو تعديل يلغي هذه الشهادة.

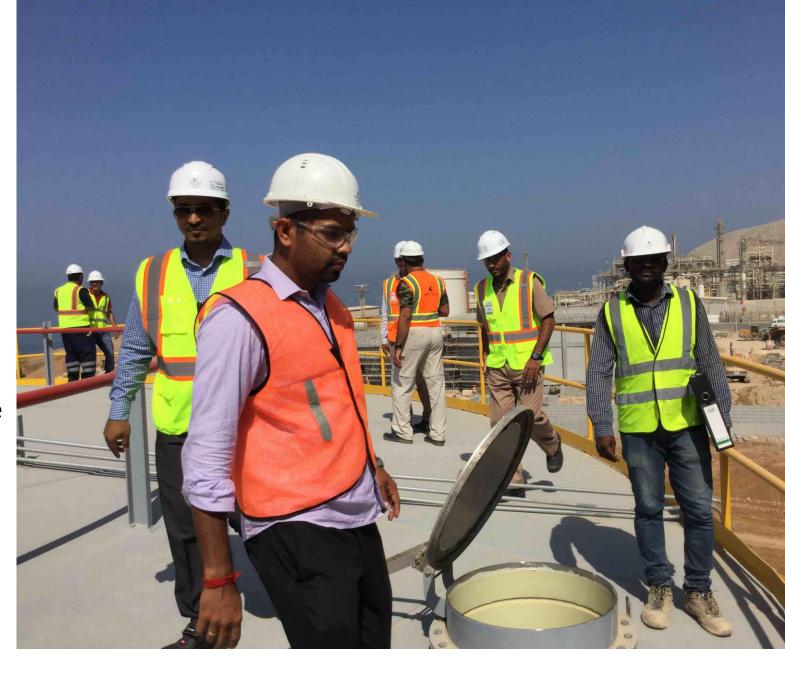
ملاحظات :

[·] يجب تجديد هذه الشهادة عند إنتهاء المدة المحددة دون تأخير

Site Visits

Step 5;

- Site visits inspect installation vs. drawings and NFPA codes & standards
- No need to Involve PACDA at this stage
- Upon Completion of the project; The fire consultant to issue letter to PACDA confirming compliance of the installation.











Witness the Testing and Commission

Step 6;

- Witnessing of testing and commission by Fire Consultant- contractor must test 100% of the systems and submit all test reports etc. in correct format to Fire Consultant for them to review
- Fire Consultant will then visit site and witness testing of approx. 10-20% of the systems to verify the testing done by the contractor

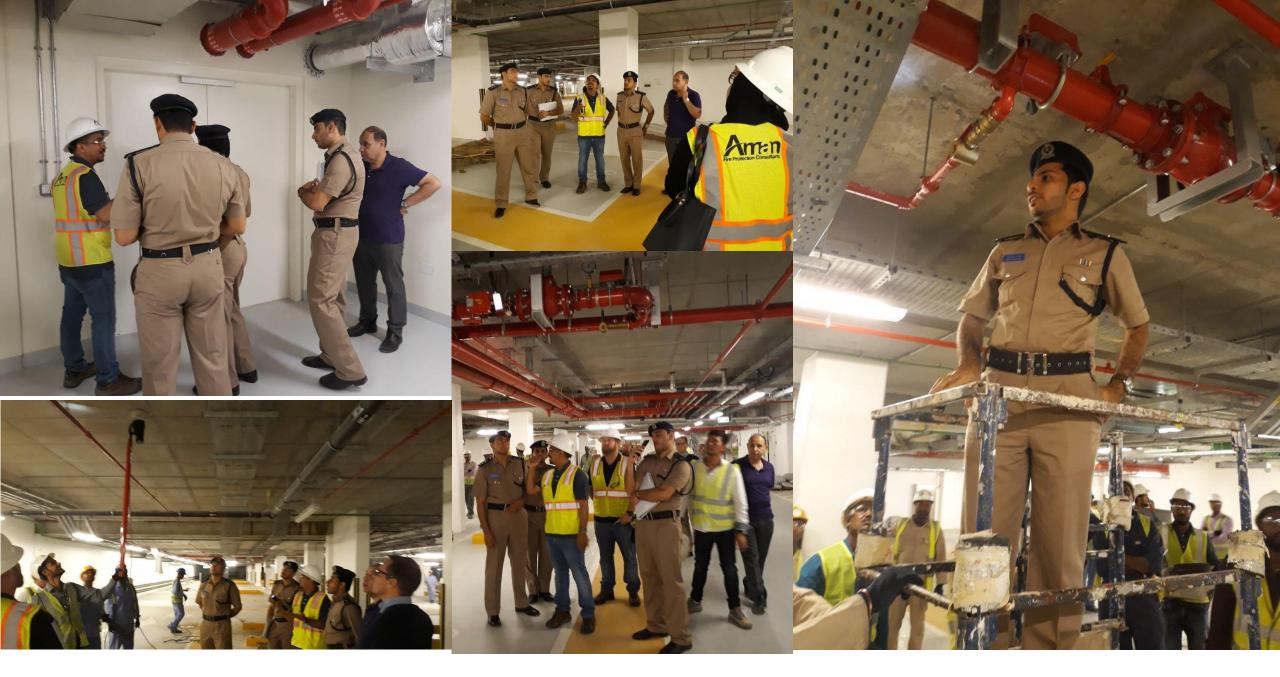


Inviting PACDA for Final approval

Step 7;

- Fire Consultant will prepare for and invite PACDA for final inspection in order to gain final approval from them
- Other important points;
- Fire Protection Contractor must be registered and approved as a specialist- cannot be a general contractor
- It is possible to get partial or temporary approvals in order to not delay the project- this is at the discretion of PACDA





20



سلطنة عُمان شرطة عُمان السلطانية الادارة العامة للدفاع المدني

قسم/مركز/شعبة

تاريخ المراجعة ،

CIVIL DEFENCE وقایة / مشروعات (۲)

SULTANATE OF OMAN

ROYAL OMAN POLICE

DIRECTORATE GENERAL OF

طلب الحصول على ترخيص الأمن والسلامة باستخدام منشأة بعد استكمال متطلبات السلامة من المعدات والأجهزة والمواد الخاصة بالدفاع المدني

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	رقم الترخيص المبدئي للموافقة على المخطط ، تعلَّ على في
سدام السرسسمسي	
رقم ايصال الدفع :	تسلسل الطلب ،
إسم المحصل المالي ا	اسم مدقق الطلب ،
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ملاحظات الحصل المالي ا	ملاحظات مدقق الطلب ،
الإمضـــاء والختم :	التـــوقــيـــع،
اراست	<u> </u>
إسم مستلم الطلب ،	إسم مقدم الطلب :
التاريخ:	تسلسل الطلب ،

الإدارة العامة للدفاع الـمدنـي: ص.ب، ١٥٦ - الرمز البريدي: ١١٢ - هاتـف ، ١٤٧٠ - افاكس ، ٢٤٧٠ - البريد الإلكـتـروني ، ٢٥٠ - الرمز البريدي

الرقاية من خطار الحريق ألحريق - هاتف ، ٢٤٠٢١٨٢ - فاكس ، ٢٤٠٠٠١٩ - الدفاع الدني مسقط ؛ ٢٢٠٠٢٠٠ - فاكس ؛ ٢٤٧٠٩٠ - الدفاع المدني فلفأر ، هاتف ، ٢٢٢٠٠٠٠ - فاكس ؛ ٢٢٠٠٠٠٠ النقاع الدني الباطنة : هانف - ۱۲۸۷ - طاكس - ۱۲۸۵۲۱۸۳ - النقاع الدني الشرقية : هانف - ۱۹۰۱٬۵۰۱ - طاكس - ۱۳۰۱٬۵۰۱ - النقاع الدني الدرجين : اهانف - ۱۳۰۲٬۹۰۱ - طاكس - ۱۳۰۲ - طاك

PACDA Application form

-	L	n
ction C	onsult	ants
	Ction C	Me ction Consult

التاريخ :01/01/ 2018 م ترخيص مهنى رقم : م هـ / 312/ 2013 ر سالة رقع: LT-UD-010116105-AMAN-PACDA-08

الفاضل / مدير عام إدارة الحماية المدنية المحترم

لهيئة العامة للدفاع المدني والاسعاف

السلام عليكم ورحمة الله وبركاته،،

الموضوع: ترخيص الأمن والسلامة لمشروع فندق كمبنسكي- الموج

بالاشارة إلى الموضوع أعلاه، وإلى طلب المقاول الشركة العمانية للضيافة والتي قامت بدورها بتعيننا للقيام بالإشراف واختبار لنظمة الحريق للمشروع ، فإننا نود إفاتكم بأنه سنقوم بمتابعة استكمال الأعمال المتبقية في المشروع والموضحة فالتقرير المرفق وتحمل كاقة المسؤولية للإشراف أمام الهيئة في حال تم الإخلال في ذلك حيث سنقوم بإخطار الهيئة كتابيا لإتخاذ ما يلزم و سيتم التنميق مباشرة بين المالك والهنية حسب توصيات الهيئة في الإجتماعات التي تم عقدها للحصول على الموافقة والتي تم الإشارة لها أثناء الإجتماع مع اللواء عبدالله بن على الحارثي والمقدم حارب النبهاتي.

علما بان الاعمال المتبقية للمقاول سيتم اكمالها خلال الفترة المقبلة حسب الملاحظات وقد تعهد باكمالها قبل 15 يشاير 2018 كما هو موضح في رسالتهم المرفقة في الطلب.

يرجى الملاحظة بان هذا الطلب لمبنى الفندق بإستثناء منطقة النادي الصحى في المبنى رقم 3 ومبنى اللياقة البدنية ونادي الشاطي

علاوة على ما سبق، مرفق لكم بالطي قائمة بعدد المنتجات التابعة لأنظمة الحريق والتي تم تركيبها فالموقع.

شاكرين لكم حسن تعاونكم معنا

وتفضلوا بقبول فائق الإحترام والتقدير ، ، ،

Prepared by:	Reviewed by:	Approved by
De a.	=	واللعيس
Umair Dar Project Manager	Ghada Al Fazari Principal Engineer	Wail AlMuhrazi Director- Muscat
	3/1.11	312/2013
	# P.O.	Box: 169
	Sultan	C.1101 Late of Oman ECTION COMESTS
	ng no. 101 Al Mawaleh Muscat Sultan	nate of Oman
P.O. Box: 169 P.C.: 101	1682 455 8008 Lemail: Wail@amanfor.com	n I www Amanfac com

Fire Consultant Invitation Letter



Preliminary Approval Certificate

S

<u>S</u>.





2017/29 Ref: 293/2017 25 دیسمبر 2017 Date: 25 December 2017

عامة للحماية المدنية General Directorate of Civil Protection مامة للدفاع المدنى **Public Authority for Civil Defense** Sultanate of Oman

Subject: Application for Occupation of Hotel, Kempinski the Wave, Muscat

With reference to the abovementioned subject, we kindly request you to proceed with the final inspection for the Firefighting installations for the hotel building. We will take responsibility to ensure that the Contractor completes the incomplete installations, as indicated in the Contractor's (M/s Carillion Al Alawi LLC (CAL)) attached letter., and will follow all the fire safety measures referenced on the local code/ NFPA. Within this period AMAN will continue to visit the site and ensure that all pending works are fully completed and tested satisfactorily.

We request that we are granted the final approval

We appreciate your continuing support rendered towards this project.



Fathi bin Abdulla AlBalushi

Dy Chairman



Date: 25 December 2017

التاريخ: 25 ديسمبر 2017

الموضوع: الاعتماد النهائي لاشغال فندق كمبينسكي الموج بمسقط

الإشارة إلى الموضوع أعلاه، تتقدم اليكم بطلب التفضل بزيارة المشروع

فحص التركيبات الخاصة بأنظمة الحماية المدنية واستكمال إجراءات اعتماد

الحماية المدنية لاشغال مبنى الفندق عدا منطقة الثادي الصحى في المبنى رقم

المخطط له؛ حيث نتعهد بمتابعة المقاول لاستكمال جميع الأعمال المتبقية في

هذه المناطق كما هو مبين في رسالة المقاول (كريليون العلوي) والتي سيتم

الإنتهاء منها قبل 15 يناير 2018. كما ونتعهد بإتخاذ جميع تدابير

الصادرة من الهيئة العامة للدفاع المدنى والأسعاف.

شاكرين لكم حسن تعاونكم معنا

شفيق حسين

ساعد - قسم الانشانات

وتقضلوا بقبول فانق الإحترام والتقدير

واشتر اطات السلامة والحماية المدنية الواردة في اشتر اططات الحريق

وستواصل أمان خلال هذه الفترة زيارة الموقع للإشراف على عمليات

لتركيبات واختبارها حسب الإجراءات والمتطلبات المعتمدة للأعمال المتبقية

كما وستقوم أمان بدعوتكم لزيارة المنشأة بعد استكمال جميع اعمال التركيبات

واختبارات الانظمة لإستكمال اجراءات اعتماد الحماية المدنية لإشغال المبنى

3 ومبنى اللياقة البدنية ونادى الشاطي فالمبنى رقم واحد وفقاً للمخططات

المرفقة وذلك لتسهيل إستكمال اعمال بناء وتشغيل الفندق حسب الموعد

الادارة العامة للحماية المدنية

الهينة العامة للدفاع المدئى

سلطنة عمان

General Directorate of Civil Protection

Ref: 171225-37441380-SH-PACDA/02

Public Authority for Civil Defense

Sultanate of Oman

Subject: Application for Occupation of Kempinski Hotel the Wave, Muscat

With reference to the abovementioned subject, we kindly request you to proceed with the inspection for the Firefighting installations for the hotel building except for SPA area in building 3, Gym and Beach club in building 1, Restaurant and Front of House area in building 1 and 2 located at the ground floor. We will take responsibility to ensure that the Contractor completes the incomplete installations, as indicated in the Contractor's (M/s Carillion Al Alawi LLC (CAL)) letter by 15 January 2018, and will follow all the fire safety measures referenced on the local code/ NFPA. Within this period AMAN will continue to visit the site and ensure that all pending works are fully completed and tested satisfactorily.

On completion, AMAN will issue a letter inviting you for the final inspection and request to issue the occupancy certificate.

this project.



We appreciate your continuing support rendered towards

Carillion Alawi LLC

Postal Code 112. Sultanate of Oman Tel: 24616111. Fax: 24590893 Email: info@carillionalawi.com CR No. 1/08348/1



کاریلیون علوی ش م م

الفاضل/مدير عام المديرية العامة للدفاع المدنى المحترم

تليفون: ٢٤٦١٦١١١ ، فاكس: ٢٤٥٩ ٠ ٨٩٣ بريد الكتروني: info@carillionalawi.com

2017/دېسمبر /2017

شرطة عمان السلطانية

سلطنة عمان

تحية طبية و بعد،،،

المشروع: فندق و شقق كيمبنسكي

C0084/GEN/002/17

25th December 2017

Directorate General of Civil Defense Royal Oman Police

Sultanate of Oman

After Compliments

Project: Kempinski Hotel and Apartments

Subject : Application for Completion Certificate

With reference to the above mentioned subject, we hereby request you to kindly invite PACDA for completion inspection based on our status declared below.

activities will be completed as mentioned in the Annexure -1

safety measures will be implemented during this occupancy period.

We can ensure that the pending items and

Also we confirm that all necessary fire

إصدار شهادة اكمال البناء / الأمن والسلامة وفقاً مع وضع الموقع الحالي المذكور أدناه كما أننا نؤكد بأن جميع المواد و الإجراءات المعلقة سيتم إكمالها وفقا مع التواريخ المذكورة في المرفق رقم [وأيضا تؤكد أن جميع مسئلز مات السلامة ومكافحة الحريق ستكون منفذة

الموضوع: شهادة اكمال بناء لمشروع فندق و شقق كيمينسكي -

بالإشارة إلى الموضوع أعلاه نرجو من الدفاع بشرطة عمان السلطانية

التكرم بتفتيش منطقة الفندق فقط لمشروع فندق و شقق كيمبنسي و

خلال فترة الإستعمال

شاكرين لكم حسن تعاونكم

و تفضلوا بقبول فائق الاحترام و التقدير

Yours faithfully,

Kindly oblige.

For Carillion Alawi LLC

Mohammed Saif Al Shaqsi

Project Director

عن/شركة كاريليون علوي ش. م.

محمد سيف الشقصس مدير المشروع

Owner of the project letter

ع: الاعتماد النهائي لإشغال فندق كمبينسكي الموج بمسقط

إلى الموضوع أعلاه، نتقدم إليكم بطلب التفضل بزيارة المشروع

لتركيبات الخاصبة بأنظمة الحماية المدنية واستكمال اجر اوات اعتماد

لمدنية لإشغال مبنى الفندق وفقأ للمخططات المرفقة وذلك لتسهيل

، جميع الأعمال المتبقية في هذه المناطق كما هو مبين في الرسالة

الفندق حسب الموعد المخطط له؛ حيث نتعهد بمتابعة المقاول

من المقاول (كريليون العلوي). كما ونتعهد بإتخاذ جميع تدابير

ات السلامة والحماية المدنية الواردة في اشتر اططات الحريق

ل أمان خلال هذه الفترة زيارة الموقع للاشراف على عمليات

ن واختبار ها حسب الإجراءات والمتطلبات المعتمدة للأعمال المتبقية.

من الهيئة العامة للدفاع المدنى والأسعاف

لتكرم بمنحنا الموافقة حسب ما ورد أعلاه

لكم حسن تعاونكم معتا

عبدالله البلوشي

يس مجلس الادارة

بقبول فانق الاحترام والتقدير

Main Consultant invitation letter

Main Contarctor invitation letter

5/15/2018 Aman Fire Protection Consultants 21



بوسف بن أحمد العامري للتجارة ش م م



(Fire Engineering and Industrial Project Division)





















Yousuf Bin Ahmed Al-Aamri Trad. L.L.C.

Date: 26/12/2017 YAAT/344/ROP/11-09/17 The Director General of Fire Prevention القاضل / مدير الوقاية من أخطار الحريق المحترم Royal Oman Police

شرطة عمان السلطانية

الموضوع: توريد و تركيب و اختبار معدات مكافحة الحريق المشروع: فندق كيمبنسكي الموج؛ مسقط

نود ان نزكد لكم بأننا قد قمنا بقوريد وتركيب و اختبار معدات مكاقحة الحريق التالية للجهة المذكورة أعلاه ونرجوا منكم التكرم بإجراء التفتيش للموقع المثمار إليه أعلاه والموافقة

Hose Reel	56	مضخات حريق
Sprinklers	6592	مر شات
5 Kg Co2 Fire Extinguisher	80	5 كجم طفاية حريق ثاني أكسيد الكربون
Fire Blanket	25	بطائبة اطفأء حريق
Aerosal System	22	نظام ایر رسال
2 Kg Co2 Fire Extinguisher	20	2 كجم طفاية حريق ثاني أكسيد الكربون
6 Kg DCP Fire Extinguisher	04	ء حبر 6 كجم طفاية حريق بودرة جافة
Valves	55	مضفك
Fire Extinguishers Control Panel	01	لوحة تحكم طفايات الحريق
Heat Detectors	04	كاشف حرارة

The devices has been inspected and found to be وجدناها صالحة وتعمل بكفاءة عالية وأننا نتحمل كافة in a good condition and operation with high المسؤولية والتبعات المترتبة عن إية عيوب أو أضرار efficiency and we are responsible defects or قد تظهر نتيجة إجراء الفحص عليها من قبل الدفاع any damage due to Civil Defense inspection.

Thanking You

Sultanate of Oman

Client: Kempinski Hotel

inspect and approve the same

Location: Al Mouj

Sub: Supply, Installation & Testing of Fire

We confirm that we have supplied, Installed &

l'ested the fire fighting equipments as mentioned below for the above said premises and request you to

Project: Kempinski The Wave, Muscat

Yousuf Bin Ahmed Al Aamri Trad L.L.C



وتقضلوا بقبول فانق الاحترام... يوسف احمد العامري للتجارة ش م م

هاتف: ۲۰۱۰۲۰ (محول ٥)، فاكس: ۲۴۷۰۳۳۳ ، ص.ب: ۲۰۱۰ الحمرية، الرمز البريدي: ۲۳۱ ، سلطنة عمان، س.ت. رقم: ۳/، ۱۹۹۹ /۱ Tel.: 24701020 (5 Lines), Fax: 24703313, P.O. Box: 1068, Al-Hamriya, Postal Code: 131, Sultanate of Oman, C.R. No.: 1/69990/3 Website: www.yaatgroup.com

Fire contractor letter



PACDA product Certificate



Fire contractor Installer Certificate



Certificate number: FRTD 402/06

This is a product certificate to certify that

Zubair Furnishing LLC

PO Box 2107 Muscat 111 Sultanate of Oman

Who fabricate the following fire doors:

Strebord FD30 Strebord FD60

Ramkor FD90 Ramkor FD120 Moralt FD30 Kingsa FD30

Halspan FD30 Halspan FD90 Halspan FD60 Halspan FD120 Moralt FD60

Kingsa FD60 Kingsa FD90 Kingsa FD120

have satisfied the requirements of the above scheme. This includes the testing of products to BS476: Part 22, the inspection of Factory Production Control and continuing surveillance audits and testing of samples of products taken from production. The product specification and field of application to achieve from 30 minutes to 120 minutes integrity are detailed in the schedules referenced below.

Schedules ref: HS01-HS06, SS01, SS02, MS01. KS01-04



First Issued: 4 June 2004 Reissued: 1 May 2013 Revised: 10 November 2015 Valid to: 30 April 2018 Issue No: 6



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final

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175

Director of Certification

IFC Certification Ltd, 20 Park Street, Princes Risborough, Buckinghamshire. UK, HP27 9AH Tel: +44 (0)1844 275500 Fax: +44 (0)1844 274002 E-mail: info@ifccertification.com Web: www.ifccertification.com Registered No: 4777898 England

The certificate and schedule are held in force by regular annual surveillance visits by IFC Certification and the reader or user should contact IFC Certification to validate its status. This certificate remains the property of IFC Certification and must be returned to them on demand

F27 @IFC Certification Ltd 2004

Product Certificate from Testing Lab

5/15/2018 Aman Fire Protection Consultants

***************************************	- 1000 1000 1000 1000 1000 1000 1000 10	
	(2)	سلطنة عمان
		الهيئة العامة للدفاع المدني والإسعاف
		الإدارة العامة للحماية المدنية
		قسم المشروعات والدراسات الفنية
مرجع:	(۲۰۱۸/۰۰۱۳۷م)	رقم الترخيص(ه. ع. د. م. إ / حماية
	ترخيص الحماية المدنية للمنشأة	
رقم السجل التجاري: ١٨١٦٥٥٠	سقطش. م . ع . م	إسم مالك قطعة الأرض: شركة الموج ما
رقم السجل التجاري: ١١٥٤٩٦٩.	سيافة ش م ع م	إسم المستثمر: الشركة العمانية للض
الكائنة: بمحافظة مسقط	بالمربع: المرحلة الاولى المساحة الكلية للبناء:	موقع قطعة الأرض رقم: ١٧٥
رقم المحل:	حي: هي الموج رقم المبنى:	
رقم السجل التجاري: ١١٥٤٩٦٩.		اسم مالك النشاط: الشركة العمانية للض
كبات وبقية الطوابق تستغل فندق	السنة مباني متعددة الطوابق يستغل طابق القبو فيها مواقف للمرة	طبيعة النشاط: الانشاءات عبارة عن
5 . 451 4 -14-15: - 1 - 6 .	كد من المعدات و الأجهزة والمواد الخاصة بالحماية المدنية ، وقد تبي	تد التغتيث على المنشأة المذكورة أعلاه التأ
يل بالها مستوفيه لمنطلبات الحماية المدلية		
يل بانها مستوفية لمنظلبات الحماية المدنية	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية	حسب ماتقتضيه قوانين ولوائح الهيئة العاما
الما الما الما الما الما الما الما الما	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية . ٢٠١٨/ ٢٠	حسب ماتقتضيه قوانين ولوائح الهيئة العاماً
هندس / حارب بن زهر آن النجهاني در	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية . ٢٠٢٠/ ١/٠١ م الى: ٢٠٢٠/ ١/٠١ م المقدم. م	حسب ماتقتضيه قوانين ولوائح الهيئة العاما
هندس / حارب بن زهر آن النجهاني در	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية . ٢٠٢٠/ ١/٠١ م الى: ٢٠٢٠/ ١/٠١ م المقدم. م	حسب ماتقتضيه قوانين ولوائح الهيئة العاماً
الما الما الما الما الما الما الما الما	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية . ٢٠٢٠/ ١/٠١ م الى: ٢٠٢٠/ ١/٠١ م المقدم. م	حسب ماتقتضيه قوانين ولوائح الهيئة العاما هذا الترخيص صالح اعتباراً من: ١/٠٢٠ امضاء القانم بالتفتيش: الملازم أول/ أحمد بن
هندس / حارب بن زهر أن النجهائي أدر مديسر عسام الحمايات المدنية في مديسر عسام الحمايات المدنية	ة للدفاع المدني والإسعاف الخاصة بالحماية المدنية . المقدم. م الى: ٢٠٢٠/١٠١ م المقدم. م المقدم. م مساعد م مساعد م م المناخير .	حسب ماتقتضيه قوانين ولوائح الهيئة العاما هذا الترخيص صالح اعتباراً من: ١/٠٢٠ امضاء القائم بالتفتيش: الملازم أول/ أحمد بن أي كشط أو تعيل يلغى هذا الترخيص. ملحظات: * يجب تجديد هذا الترخيص عند إنتهاء المدة المحددة دو
هندس / حارب بن زهر أن النجهائي أدر مديسر عسام الحمايات المدنية في مديسر عسام الحمايات المدنية	أه للدفاع المدني والإسعاف الخاصة بالحماية المدنية . المقدم. من سالم العبري المقدم. من سالم العبري المقدم. من تأخير . من تأخير . المدنية كل سنة أشهر ، والإحتفاظ بتقرير الصيانة وعرضها على مرتب الحماية المدنية كل سنة أشهر ، والإحتفاظ بتقرير الصيانة وعرضها على مرتب الحماية	حسب ماتقتضيه قوانين ولوائح الهيئة العاما هذا الترخيص صالح اعتباراً من: ١/٠٢٠ امضاء القائم بالتفتيش: الملازم أول/ أحمد بن أي كشط أو تعيل يلغى هذا الترخيص. ملحظات: * يجب تجديد هذا الترخيص عند إنتهاء المدة المحددة دو

Standpipe 8



سلطنة عمان الهينة العامة للدفاع المدني والإسعاف الإدارة العامـة للحمايـة المدنيـة

رقم الشهادة (ه. ع. د. م. إ / حماية /٢٠١٨/٠٠٠م)

شهادة صلاحية أجهزة الإطفاء

(مدادات جافة / رطبة - حنفيات حريق)

تشهد الإدارة العامة للحماية المدنية بأنه تم فحص أجهزة الإطفاء من نوع:

والمركبة في المنشأة المرخصة بموجب ترخيص الحماية المدنية رقم: هـ ع . د . م . إ / حماية / ١٠١٨/٠٠١٣م

في المبنى لالشركة العمانية للضيافة شم عم، ووجدت بأنها صالحة لأعمال الإطفاء .

هذه الشهادة صالحة اعتباراً من : ٢٠١٨/٠١/٠٢ م إلى : ٢٠٢٠/٠١/٠١ م

إمضاء القانم بالتفتيش : ملازم أول/أحمد بن سالم العبري

As S

المقدم. مهندس / حارب بن أزهران

أي كشط أو تعديل يلغي هذه الشهادة.

ملاحظات:

* يجب تجديد هذه الشهادة عند إنتهاء المدة المحددة دون تأخير .





المحترم

الموضوع : مشروع مصفاة الدقم الحزمة الثانية

- ا. إشارة إلى خطابكم رقم : WAMZ-PACDA-DR-001 المؤرخ في : عيناير ٢٠١٨م والمتضمن الموضوع أعلاه .
 - نود إفادتكم بعدم المانعة من الضي قدماً في الإجراءات التالية :
- مراجعة المخططات التفصيلية والعسابات المتعلقة بتصميم وتركيب الأنظمة التي سيتم تركيبها في هذه البيوت .
- مراجعة جميع المنتجات المقترح تركيبها في هذه البيوت والتأكد من مطابقتها الاشتراطات UL & FM وسيتم استخدامها لاستخدمات في نطاق إعتمادها من الجهات المختبرة.
- فحص الأنظمة قبل شحنها للسلطنة واصدار التقارير التي تأكد مطابقتها مع النتائج المطلوبة والتي يجب أن تكون في حدود إشتراطات الكود وتقارير فحص كل مادة حسب ما ورد في تقارير FM.
 - بعد الإنتهاء من جميع الفحوصات اللازمة موافاتنا بنتائج تلك الفحوصات.
- قيامكم بدعوة الهيئة العامة للدفاع المدني والإسعاف لغرض زيارة نهائية لمعاينة وفحص النظام في كوريا من أجل إعتماده ثم شحنه للسلطنة.

وتفضلوا بقبول فائق الاحترام ،،،

القدم. مهندس رحارب بن زهران النبهائي

ساعد مدير عام الحمايد

قدم الربع المراقع ا

ص. ب ، ۲۵۱ ، الرمز البريدي، ۱۲۱ ، سلطنة تحمسان هاتف ، ۲۵۱ ۱۹۹۸ (۱۹۹۸) (۱۹۹۸) ۱۹۹۸ (۱۹۹۸) البريد الإلكتروني ، P.O. Box: 256, Postal Code: 112, Sultanate of Oman, Tel.: (+968) 24514902, Fax: (+968) 24511163, E-mail: dgfadcd@rop.gov.om

- 1. Fire Training Area;
 - Is there any requirement of safety spacing/location, facilities?
 - PACDA review document/drawing related to fire training area.

2. PACDA Approved Vendor List



كشف بالشركات القائمة بإعمال التركيبات والتسويق لمعدات وأجهزة الدفاع المدنى

الموقع	رقم الكتب	رقسم الهاتسف	أسم الشركسة	•
مسقط	24790572	عرفان : 92226317	مؤسسة إنتصار	1
مسقط	24816155	NA F C O اليوكولاروس 99357228	شركة الضياء للتجارة المقاولات	(2)
مسقط	24816973	92833150 سريش	السعيدي للخدمات الفنية والتجارية	3
مسقط	24795151	ار کی ایکا 99240851 سلطان الشکیلی	تروات الشرق الاوسط	4
مسقط	24813478	۵ ۶۱۲۵ (۵ کیران فی رای 99294284 کیران فی رای	شركة دبيلو جي تاول	(5)
مسقط	24701020	95886607 سمبت	يوسف بن أحمد العامري للتجارة	6
مسقط	24597510	99318348 جوجي	شركة بهوان الهندسية	7
مسقط	22066466	93207977 خالد السيابي	بوابة الموالح للتجارة والمقاولات	8
مسقط		97893044 أحسان	شركة أسكان الخليج	9
مسقط	24815478	نبيل بدار 99331297	شركة الطواش للتجارة والخدمات القنية	10
مسقط		99345390 سىف عبدالله	شركة شعاع الثريا	11
مسقط		99215131 فهد الغيلاني	الذهب للمشاريع والخدمات الفنية	12
مسقط	24693056	93200926 راتشاكران	الجازية للتجارة	13
مسقط	24502646	92903923 سلطان الفارسي	مؤسسة الثريا المتحدة للتجارة	14
مسقط	24493972	94048844	الشركة الفنية لخدمات السلامة	15
مسقط		99777167 محمد الرحبي	روابي بدبد الخضراء	16

- 3. PACDA Approved Manufacturer / Model List;
- For example, Claval Model-123 is PACDA Approved, but Viking Model-456 cannot be used in Oman.



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- 4. Equipment/Component which shall be used PACDA Approved item;
- It is not only for fire fighting equipment. Inst., Arch., Elec., Piping items shall be clarified.

 Preliminary equipment list will be provided to Consultant/Vendor at the meeting.

- 5. Drawings/Documents which shall be approved by PACDA;
- It is not only for fire fighting deliverables. dHSE, Inst., Arch., Elec.,
 Piping items shall be clarified.
- Preliminary deliverable list will be provided to Consultant/Vendor at the meeting.
- Is it stamp only? or should we use certified design company for engineering?

6. Necessity of PACDA Approval or UL/FM Certificate for Firewater System / Gas Suppression System Piping Component bulk items, such as block valve, strainer, drain valve, pipe, fitting, flange, etc.

32

- 7. Necessity of PACDA Approval for Fire Proofing Material
 - A) Leightweight Cementitious Material
 - (1) Fendolite
 - (2) Avikote (ex. AV800)
 - B) Intumescent Epoxy Material
 - (1) Jotachar (ex. JF750)

8. PACDA Approved Vendor List for Fire Proofing Material including manufacturer, Brand name. (If available)

9. Necessity of PACDA Approval for FACP(Fire Alarm Control Panel), Fire Alarm Devices (Fire Detectors and Alarm devices...), VESDA and related devices.

- 10. PACDA certified construction company
- Should we use PACDA certified construction company for Fire Alarm system construction?
- 11. PACDA certified inspector
- Should we use PACDA certified inspector?
- 12. SIL (Safety Integrity Level) Local Regulation
- If there is SIL requirement in local regulation, please inform us SIL level in Oman Local

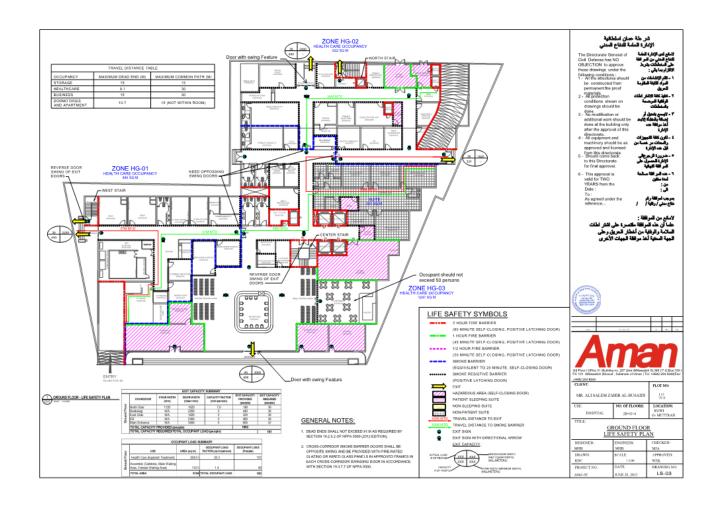
Life Safety

Evaluating compliance with the most recent editions of the National Fire Protection Association (NFPA) codes and standards.

Review include requirements for:

- ✓ Applicable codes,
- ✓ Means of egress,
- ✓ Fire department access
- ✓ Construction type,
- ✓ Building height and area,
- ✓ Fire-rating requirements,
- ✓ Occupancy and use,
- ✓ Occupant load,
- ✓ Egress capacity, and special requirements applicable to the project.

The analysis will be summarized in a Fire Safety Strategy Report (FSSR)



			EXIT CAPACIT	YSUMMARY		
	STAIR/DOOR	STAIR WIDTH (mm)	DOOR WIDTH (Clear mm)	CAPACITY FACTOR (mm/person)	EXIT CAPACITY PROVIDED (people)	EXIT CAPACITY REQUIRED (people)
loor	North Stair	1120	1620	7.6	148	36
1	Radiology	N/A	2200	5	440	36
Ground	East Side	N/A	1620	5	324	36
2	ER	WA	2400	5	480	36
O	Main Entrance	N/A	3000	5	600	37
	TOTAL CAPACITY	PROVIDED (peo	ple)		1992	
	TOTAL CAPACITY	REQUIRED/TOTA	AL OCCUPANT LO	DAD (people)	_	181

	occ	UPANT LOAD S	UMMARY	
0.	USE	AREA (sq m)	OCCUPANT LOAD FACTOR (sq m/person)	OCCUPANTLOAD (People)
Floor	Health Care (Inpatient Treatment)	2243.5	22.3	101
Ground	Assembly (Cafeteria, Male Waiting Area, Female Waiting Area)	112.5	1.4	80
	TOTAL AREA	2356	TOTAL OCCUPANT LOAD	181

LIFE SAFETY SYMBOLS

2 HOUR FIRE BARRIER (90 MINUTE SELF-CLOSING, POSITIVE LATCHING DOOR) 1 HOUR FIRE BARRIER (45 MINUTE SELF-CLOSING, POSITIVE LATCHING DOOR) 1/2 HOUR FIRE BARRIER (20 MINUTE SELF-CLOSING, POSITIVE LATCHING DOOR) SMOKE BARRIER (EQUIVALENT TO 20 MINUTE, SELF-CLOSING DOOR) SMOKE RESISTIVE BARRIER (POSITIVE LATCHING DOOR) **EXIT**

XXM MTD

HAZARDOUS AREA (SELF-CLOSING DOOR)

PATIENT SLEEPING SUITE

NON-SLEEPING SUITE

NON-PATIENT SUITE

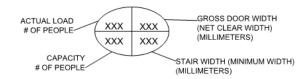
XXM MTD TRAVEL DISTANCE TO EXIT

TRAVEL DISTANCE TO SMOKE BARRIER

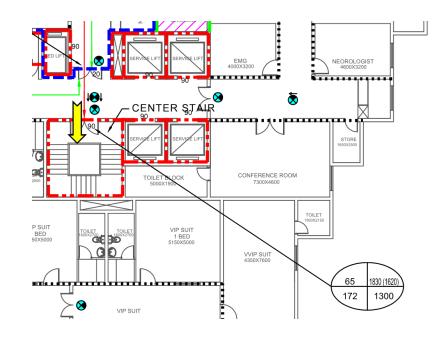
EXIT SIGN

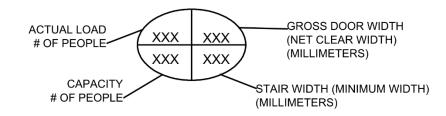
EXIT SIGN WITH DIRECTIONAL ARROW

EXIT CAPACITY:

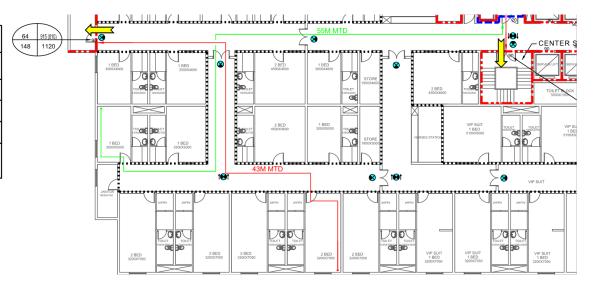


			EXIT CAPACITY	SUMMARY		
	STAIR/DOOR	STAIR WIDTH (mm)	DOOR WIDTH (Clear mm)	CAPACITY FACTOR (mm/person)	EXIT CAPACITY PROVIDED (people)	EXIT CAPACITY REQUIRED (people)
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O	Main Entrance	N/A	3000	5	600	37
	TOTAL CAPACITY	PROVIDED (peo	ple)		1992	
	TOTAL CAPACITY	REQUIRED/TOT	AL OCCUPANT LO	AD (people)		181





	TRAVEL DISTANCE TA	BLE
OCCUPANCY	MAXIMUM DEAD END (M)	MAXIMUM COMMON PATH (M)
STORAGE	15	15
HEALTHCARE	9.1	30
BUSINESS	15	30
DORMITORIES AND APARTMENT	10.7	15 (NOT WITHIN ROOM)



General

- 1.1. **Design Basis**
- Code Basis
- **Related Documents**

Executive Summary

Fire Strategy

- 3.1. Firefighting Operations
- 3.1.1. Firefighter Notification
- 3.1.2. Building Access
- 3.1.3. Planning For Disasters
- Buildings
- 3.3.1. Goals and Objectives
- 3.3.2. General Strategy
- 3.3.3. Standards



Sultanate of Oman **ORPIC Logistics Company**

Fire Safety Strategy Report - Buildings

Muscat Sohar Pipeline Project (MSPP)



M/s ORPIC Logistics Company Project Number: Muscat, Sultanate of Oman

FSSR-WAMZ-0114128- R0

Approved by

3rd Floor | Office 31 Building no. 287 | Jisir AlMawaileh St. 345P.O.Box:169 | FC 101

Building Descriptions

4.1.1 Main Building

Workshop/Warehouse 4.1.2

4.1.3 **Electrical Substation**

Civil Defense building 4.1.4

Security Cabin 4.1.5

Buildings Analysis

Classification and Occupancy 5.1.

> 5.1.1 Classification of Occupancy

5.1.2 Classification of Hazard of Contents

5.1.3 Occupant Load

5.1.4 Classification of Construction

Means of Egress 5.2.

> 5.2.1 General

5.2.2 **Egress Routes**

5.2.3 Capacity of Means of Egress

5.2.4 Exit Access

5.2.5 Exit Discharge

5.2.6 Illumination of Means of Egress

5.2.7 **Emergency Lighting**

Marking of Means of Egress 5.2.8

5.2.9 Doors



Sultanate of Oman ORPIC Logistics Company

Fire Safety Strategy Report - Buildings

Muscat Sohar Pipeline Project (MSPP)



January 2015

Main Consultant

M/s ORPIC Logistics Company Project Number: PO Box: 282, PC-3222 Muscat, Sultanate of Oman

FSSR-WAMZ-0114128- R0

Issue Number Approved by

3rd Floor | Office 31 Building no. 287 | Jisir AlMawailen St. 345P.O.Box:169 | PC 101

Building Descriptions

4.1.1 Main Building

Workshop/Warehouse 4.1.2

Electrical Substation 4.1.3

Civil Defense building 4.1.4

4.1.5 Security Cabin

Buildings Analysis

5.3 Passive Fire Safety Measures

> Structural Elements 5.3.1 5.3.2 Compartmentation

5.3.3 Interior Finish, Contents, and Furnishing 5.3.4 Firestop Systems and Devices Required.

5.4 Active Fire Safety Measures

> 5.4.1 **Automatic Extinguishing Systems**

5.4.2 Fire Detection, Alarm, and Communication Systems

5.4.3 Manual Fire Extinguishing Systems

5.4.4 Other Active Systems

5.4.5 Lighting and Electrical Systems

5.4.6 Cause and Effect Matrix



Sultanate of Oman **ORPIC Logistics Company**

Fire Safety Strategy Report - Buildings

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Fire Safety Management

- Active and Passive Fire System Testing
- Active and Passive Fire System

Maintenance

- **General Maintenance**
- Fire Watch
- Management of Change
- **Impairments**

Conclusion



Sultanate of Oman ORPIC Logistics Company

Fire Safety Strategy Report - Buildings

Muscat Sohar Pipeline Project (MSPP)



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Approved by

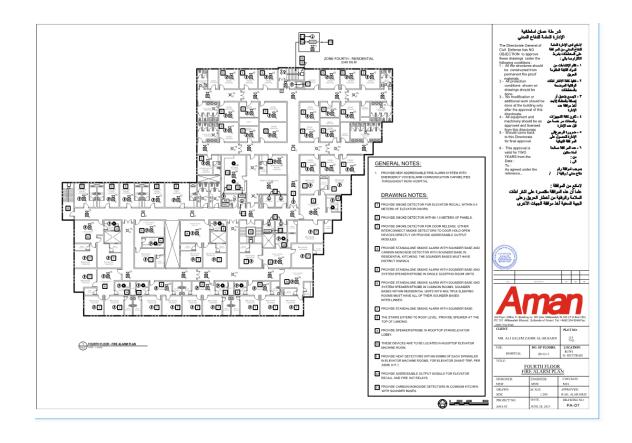
3rd Floor | Office 31 Building no. 287 | Jisir AlMawaileh St. 345P.O.Box:169 | FC 101

Prepare a conceptual fire alarm detection and notification system layout for the proposed facility.

Drawings shall identify required

- ✓ Control panels
- ✓ Sequence of operation
- ✓ Notification appliances
- ✓ Fire alarm initiating devices
- ✓ Locations of smoke detectors
- ✓ Connections to fire protection and building systems, and necessary connections to off-site monitoring facilities. Applicable codes

Provide Fire Alarm System Note



Provide Fire Alarm System Note

- PROVIDE NEW ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION CAPABILITIES THROUGHOUT THE RUWI HOSPITAL IN OMAN. EMERGENCY VOICE/ALARM COMMUNICATION CAPABILITIES ARE REQUIRED PER NFPA 5000 SECTION 55.2.3.6.2 AS TOTAL EVACUATION OF OCCUPANTS IS IMPRACTICAL DUE TO BUILDING CONFIGURATION, PROVIDE ALL NECESSARY MATERIALS AND LABOR TO INSTALL THE NEW SYSTEM, AS DESCRIBED IN THE PROJECT SPECIFICATIONS AND CONTRACT DRAWINGS.
- 2. THE NEW FIRE ALARM CONTROL PANEL MUST BE LOCATED IN THE MAIN ENTRANCE BY RECEPTION ON THE GROUND FLOOR.
- PROVIDE CARBON MONOXIDE DETECTORS IN LIVING UNITS WHERE FUEL BURNING APPLIANCES ARE LOCATED. AUDIBLE ALARM NOTIFICATION APPLIANCES FOR A CARBON MONOXIDE DETECTION SYSTEM MUST PRODUCE SIGNALS THAT ARE DISTINCTIVE FROM FIRE ALARM SYSTEM.
- THE DEVICES SHOWN ON THE DRAWING ARE ESTIMATED QUANTITIES. CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINAL NUMBER AND LAYOUT OF DEVICES, INCLUDING NUMBER OF CONTROL PANELS.

FIRE ALARM SYSTEM PROJECT NOTES

- PROVIDE NEW ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION CAPABILITIES THROUGHOUT THE RUMI HOSPITAL IN OMAIL EMERGENCY VOICE/ALARM COMMUNICATION CAPABILITIES ARE REQUIRED PER NEPA 5000 SECTION 55.2.3.6.2 AS INSTALL THE NEW SYSTEM, AS DESCRIBED IN THE PROJECT SPECIFICATIONS AND CONTRACT DRAWINGS.
- FUEL BURNING APPLIANCES ARE LOCATED, AUDIBLE ALARM NOTIFICATION APPLIANCES FOR A CARBON MONOXIDE DETECTION SYSTEM MUST PRODUCE SIGNALS THAT ARE DISTINCTIVE FROM FIRE
- CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINAL NUMBER AND LAYOUT OF DEVICES, INCLUDING NUMBER OF CONTROL PANELS.
- ALL APPLICABLE LOCAL CODES AND REQUIATIONS
- ALL APPLICABLE DECAL CODES AND REGISTATIONS
 NFPA 70: NATIONAL ELECTRICAL CODE, 2011 EDITION
 NFPA 70: NATIONAL FIRE ALARM AND SIGNALING CODE, 2013 EDITION
 NFPA 804: STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING.
- AND VENTILATING SYSTEMS, 2012 EDITION
 NFPA 720: STANDARD FOR THE INSTALLATION OF CARBON
- MONOXIDE (CO) DETECTION AND WARNING EQUIPMENT, 2012

- PROVIDE WEATHERPROOF DEVICES IN PARKING GARAGE DUE TO THE POTENTIAL OF HIGH HEAT AND HIGH HUNDITY LEVELS AST THIS SPACE.
 IS NOT TO BE CONCIDENCED, ALL OTHER AREAS ARE ASSUMED TO BE PROVIDED WITH A MINIMAN AMBENT TEMPERATURE OF 4 DEGREES CELSIUS, A MAXIMUM TEMPERATURE OF 40 DEGREES OCESUS, BE FREE OF EXCESSIVE DUST PARTICLES, AND MAY ME NORMAL HUNDITY LEVELS. AS DEFINED BY NEPA 72 AND MANUFACTURER'S DATA.
- 7. ALL PATHWAY CLASS DESIGNATIONS MUST BE CLASS A. ALL PATHWAY SURVIVABILITY LEVELS MUST BE LEVEL 3. PATHWAY SURVIVABILITY AND ONE OR MORE OF THE FOLLOWING, PER NFPA 72, SECTION 12.4.4:
- 1) 2-HOUR FIRE RATED CIRCUIT INTEGRITY (D) CABLE 2) 2-HOUR FIRE RATED CABLE SYSTEM (ELECTRICAL CIRCUIT PROTECTIVE SYSTEMS)) 3) 2-HOUR FIRE RATED ENCLOSURE OR PROTECTED AREA 4) 2-HOUR PURY ORMANDE ALTERNATIVES APPROVED BY THE AUTHORITY HAVING JURISDICTION
- 8. ALL ADDRESSABLE MODULES MUST BE LOCATED WITHIN 1 METER OF
- 9. ALL NEW FIRE ALARM SYSTEM WIRING MUST BE 14 AWG THWN DETERMINED BY THE CONTRACTOR AND MUST BE IN ACCORDANCE WITH NFPA 70.
- OF CONTINUE TO TORRES, WHITH THE EXCEPTION OF DOORS TO NOT FIRE ALARM DEVICES AND PANELS. IN AREAS WITH SUSPENDED CELLINGS ALL FIRE ALARM CONDUIT OR SURFACE METAL RACEW. MUST BE CONCEALED. ALL CONCEALED CONDUIT MUST BE RED. AND JUNCTION BOXES, WHERE REQUIRED.
- PROVIDED BY VISIBLE AND AUDIBLE SIGNAL. THE AUDIBLE SIGNAL MUST CONSIST OF A DISTINCTIVE THREE-PLASE TEMPORAL PATTERN COMPLYING WITH ANSI \$3.41, FOLLOWED BY THE VOICE EVOLUTION MESSAGE.

- 12. ZONE FIRE ALARM SYSTEM TO MATCH SPRINKLER ZONES AND SMOKE BARRERS FOR SUBDIVISION OF HEALTHCARE SPACES, AT A MINIMUM, EACH ZONE MUST BE A FRAGING ZONE, IN AUDTORUM, PROVIDE PAGING ZONES FOR EACH STAIR AND ELEVATOR GROUP.
- 14. SPACE THE AUDIBLE AND VISUAL NOTIFICATION APPLIANCES PER NFPA. 72 CHAPTER 18. THE NOTIFICATION APPLIANCES MUST BE INSTALLED BASED ON THE FOLLOWING TWO CRITERIA: 1) EITHER PRIVATE OPERATING MODE OR PUBLIC OPERATING MODE
- FOR FIRE ALARM
 2) INTELLIGIBILITY REQUIREMENTS FOR THE VOICE/ALARM
 COMMUNICATION. VOICE MESSAGES SHALL NOT BE REQUIRED TO MEET
 THE AUDIBILITY REQUIREMENTS.
- SYSTEM HAS AN AVERAGE COMMON INTELLIGIBILITY SCALE (CIS) SCORE GREATER THAN 0.70 IN EACH AREA WHERE BUILDING OCCUPANTS NORMALLY COULD BE FOUND PER NEPA 72 ANNEX D. FOR EXAMPLE, THE FOLLOWING AREAS DO NOT REQUIRE INTELLIGIBILITY
- 18. ALL WALL-MOUNTED AUDIBLE AND VISUAL NOTIFICATION DEVICES MUST BE INSTALLED A MINIMUM OF 2.03 METERS AND A MAXIMUM OF 2.44 METERS ABOVE THE FINISHED FLOOR, PER NFPA 72.
- 19. A 24-HOUR BATTERY BACK-UP WITH 15 ADDITIONAL MINUTES FOR MAXWAIM CONNECTED LOAD SHALL BE PROVIDED FOR INC.
 SECTION 10.6.7.2.1(2). BATTERY CALCULATIONS WILL INCLUDE A 20
 PERCENT SAFETY MARCINE TO THE CALCULATED AND FOUND RATING
 PIR INPT X SECTION 10.6.7.2.1(1). THE PIR ALARM SYSTEM SHALL
 SOUND AT A CONSTANTLY ATTENDED LOCATION, WHICH CAN CALL THE
 FIRED DATA THE WEB TO A A MEMBERORY OF THE CANCULATION.
- 20. CONTRACTOR IS RESPONSIBLE FOR INDENTIFYING ALL FIRE ALARM
- 21. SMOKE DETECTORS LISTED FOR USE IN AIR DISTRIBUTION SYSTEMS ANY BRANCH CONNECTIONS IN AIR SUPPLY SYSTEMS HAVING A TO THE CONNECTION TO A COMMON RETURN AND PROR TO ANY RECIRCULATION OR FRESH AIR INLET CONNECTION IN AIR RETURN SYSTEMS HAVING A CAPACITY GREATER THAN 7000 LISEC AND SERVING MORE THAN ONE STORY
- SHUTOFF FOR HVAC SYSTEMS PER NFPA 90A
- 24. ALL NOTIFICATION APPLIANCES MUST BE RED WITH WHITE LETTERING AND MUST BE FROM THE SAME MANUFACTURER

- COORDINATE BETWEEN NECHANICAL, ELECTRICAL, AND OTHER TRADES. FINAL CONNECTION AND TESTING OF THE FIRE ALARM SYSTEM MUST BE COORDINATED WITH THE APPROPRIATE SUBCONTRACTORISS.
- JUST BE TESTED FOR ACTIVATION OF THE NOTIFICATION DEVICES AS WELL AS TRANSMISSION TO THE OUTSIDE MONITORING STATION
- 31 DENETRATION OF EIRE DATED ASSEMBLIES MINOT BE SEALED BY THE PENE HATTON OF FRE-HATED ASSEMBLES MUST BE SEALED BY THE CONTRACTION WITH A CERTIFIED THROUGH PENETRATED SYSTEM APPROPRIATE FOR THE RATING OF THE WALL PENETRATED. SEE LIFE SAFETY PLANS FOR LOCATIONS OF BARRIERS.
- STRUCTURES, 2011 EDITION, NEPA BIA SECTION 6.3 REQUIRES ALL ENCLOSED PARKING STRUCTURES BE VENTLATED BY A MECHANIC STEM CAPABLE OF PROVIDING A MINIMUM OF 300 LIMIN PER M2 O FLOOR AREA DURING HOURS OF NORMAL OPERATION, MECHANICAL VENTILATING SYSTEMS MUST BE INSTALLED IN ACCORDANCE WITH NEPA 90A. DUCTWORK MUST BE CONSTRUCTED OF NONCOMBUSTIBLE MATERIAL, THIS MECHANICAL VENTILATION SYSTEM REQUIRES NO FIR ALARM DEVICES AND WILL BE PROVIDED BY OTHERS.
- 33. PROVIDE TWO TELEPHONE LINES TO SERVE DIGITAL ALARM TRANSMISSION.

شر طة عمان اسلطانية الإدارة المامة للنفاع المدنى

following conditions : 1 - All the structures shoul

done. 3 - No modification or

be constructed from permanent fire prod materials. 2 - All protection

لاگازام بما يالي :

No modification or additional work should be done at the building only after the approval of this

directorate. 4 - All equipment and - لكرن كافة التبييزات والمحلات مر غصمة من قبل هذه الإدارة

ـ شرورة الرجوجالي الإدارة المصول طي الدر اللة التهالية - هذه البر الله مطعة لدة مكان

6 - This approval is valid for TWO YEARS from the

السلامة والوفاية من الفطار الحريق وعلى الجهة الممنية أغذ موافقة الجهات الأغرى



5/15/2018

System Design Symbols

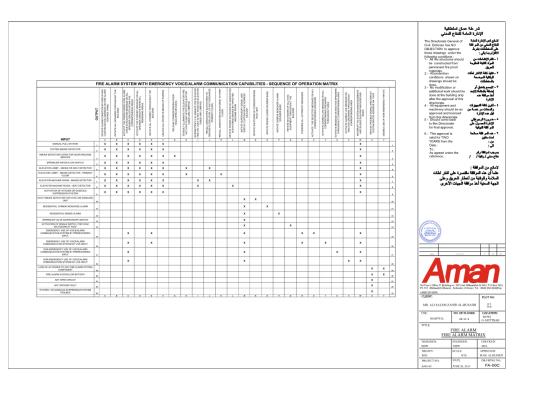
	INITIATING DEVICE SPACING TABLE
P	AT EVERY EXIT AND WITHING A TRAVEL DISTANCE OF 61M
0	9.1M X 9.1M
•	9.1M X 9.1M
٥	IN VICINITY OF EACH FUEL BURNING APPLIANCE IN RESIDENTIAL AREAS

STRO	BE/CANDELA SPACING TABLE
15cd	6.1M X 6.1M
30cd	9.1M X 9.1M
75cd	13.4M X 13.4M
110cd	16.2M X 16.2M

FIRE ALARM SYSTEM SYMBOLS MONITOR MODULE FOR FLOW SWITCH FACP FIRE ALARM CONTROL PANEL FAA FIRE ALARM ANNUNCIATOR PANEL MONITOR MODULE FOR PRESSURE SWITCH FIRE ALARM COMMUNICATOR TRANSMITTER MONITOR MODULE FOR TAMPER SWITCH FIRE ALARM MANUAL PULL STATION FIRE SYSTEM CONTROL PANEL FSCP (SUBSCRIPT DENOTES SYSTEM TYPE) HEAT DETECTOR ADDRESSABLE INPUT MODULE GAS DETECTOR (MONITOR MODULE) ADDRESSABLE OUTPUT MODULE SMOKE DETECTOR (CONTROL MODULE) DUCT SMOKE DETECTOR (SUPERSCRIPT NAC NAC POWER EXTENDER PANEL DENOTES SUPPLY OR RETURN) AA AUDIO AMPLIFIER AUDIBLE NOTIFICATION APPLIANCE FATC FIRE ALARM TERMINAL CABINET VISIBLE NOTIFICATION APPLIANCE (SUBSCRIPT DENOTES CANDELA RATING) COMBINATION AUDIBLE/VISIBLE APPLIANCE (SUBSCRIPT DENOTES CANDELA RATING)

Sequence of Operation

	FI	RE AL	ARM S	SYSTE	M WIT	н ЕМЕ	RGEN	CY VC	ICE/A	LARM	COMM	UNIC	ATIO
	OUTPUT	INITIATE ALARM CONDITION BY DISPLAYING CUSTOM DEVICE ADDRESS ON FIRE ALARM CONTROL PANEL	INTIATE ALL SPEAKERS THROUGHOUT THE BUILDING	ACTUATE THE PRERECORDED FIRE ALARM VOICE EVACUATION MESSAGE ON ALL SPEAKER CIRCUITS WITHIN THE CORRESPONDING AREAS	ACTUATE THE STANDBY MESSAGE ON ALL SPEAKER CIRCUITS WITHIN ALL REMAINING AREAS	INITIATE ALL STROBES THROUGHOUT THE BUILDING	UNLOCK ALL DOORS IN MEANS OF EGRESS.	RELEASE CORRESPONDING DOOR HOLD-OPEN DEVICE(S)	STEADILY ILLUMINATE THE ELEVATOR FIRE HAT LIGHT IN ANY AFFECTED ELEVATOR CAB(S) AND LOBBY(S)	INTERMITTENTLY ILLUMINATE THE ELEVATOR FIRE HAT LIGHT IN ANY AFFECTED ELEVATOR CAB(S) AND LOBBY(S)	RECALL ASSOCIATED ELEVATOR(S) TO GROUND FLOOR (LEVEL OF EXIT DISCHARGE /PRIMARY FLOOR)	RECALL ASSOCIATED ELEVATOR(S) TO FIRST FLOOR	INITIATE POWER SHUTDOWN OF ASSOCIATED ELEVATOR(S) SERVED BY AFFECTED
INPUT		A	В	С	D	E	F	G	Н	1	J	к	L
MANUAL PULL STATION	1	х	х	х	х	х	х						
SYSTEM SMOKE DETECTOR	2	х	х	х	х	х	х						
SMOKE DETECTOR LISTED FOR DOOR RELEASE SERVICE	3	х	х	х	х	х	х	х					
SPRINKLER WATER FLOW SWITCH	4	х	х	х	х	Х	х						
ELEVATOR LOBBY - SMOKE OR HEAT DETECTOR	5	х	х	х	х	х	х		х		х		
ELEVATOR LOBBY - SMOKE DETECTOR - PRIMARY FLOOR	6	х	х	х	х	х	х		х			х	
ELEVATOR MACHINE ROOM - SMOKE DETECTOR	7	Х	х	х	Х	Х	х			х	х		
ELEVATOR MACHINE ROOM - HEAT DETECTOR	8	х	х	х	х	х	х			х			х
ACTIVATION OF KITCHEN OR GASEOUS SUPPRESSION SYSTEM	9	х	х	х	х	х	х						



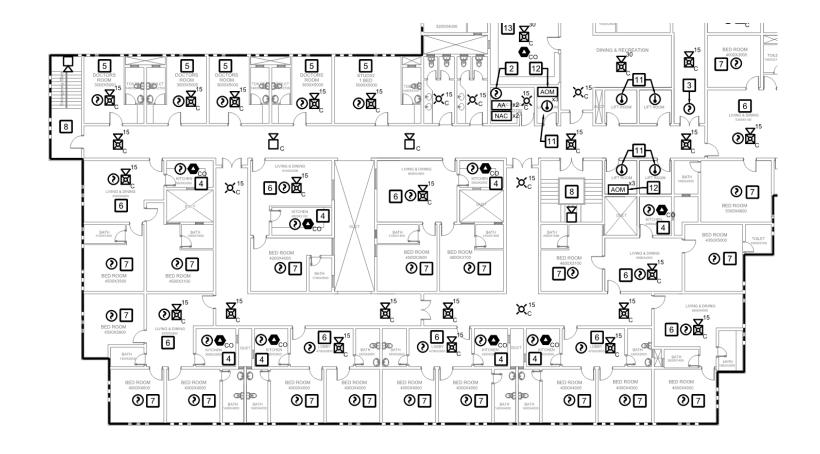
Layout

GENERAL NOTES:

 PROVIDE NEW ADDRESSABLE FIRE ALARM SYSTEM WITH EMERGENCY VOICE/ALARM COMMUNICATION CAPABILITIES THROUGHOUT RUWI HOSPITAL.

DRAWING NOTES:

- 1 PROVIDE SMOKE DETECTOR FOR ELEVATOR RECALL WITHIN 6.4 METERS OF ELEVATOR DOORS.
- PROVIDE SMOKE DETECTOR WITHIN 1.5 METERS OF PANELS
- 3 PROVIDE SMOKE DETECTOR FOR DOOR RELEASE. EITHER INTERCONNECT SMOKE DETECTORS TO DOOR HOLD-OPEN DEVICES DIRECTLY OR PROVIDE ADDRESSABLE OUTPUT MODULES.
- PROVIDE STANDALONE SMOKE ALARM WITH SOUNDER BASE AND CARBON MONOXIDE DETECTOR WITH SOUNDER BASE IN RESIDENTIAL KITCHENS. THE SOUNDER BASES MUST HAVE DISTINCT SIGNALS.
- 5 PROVIDE STANDALONE SMOKE ALARM WITH SOUNDER BASE AND SYSTEM SPEAKER/STROBE IN SINGLE SLEEPING ROOM UNITS.
- PROVIDE STANDALONE SMOKE ALARM WITH SOUNDER BASE AND SYSTEM SPEAKER/STROBE IN COMMON ROOMS, SOUNDER BASES WITHIN RESIDENTIAL UNITS WITH MULTIPLE SLEEPING ROOMS MUST HAVE ALL OF THEIR SOUNDER BASES INTER-LINKED.
- 7 PROVIDE STANDALONE SMOKE ALARM WITH SOUNDER BASE.

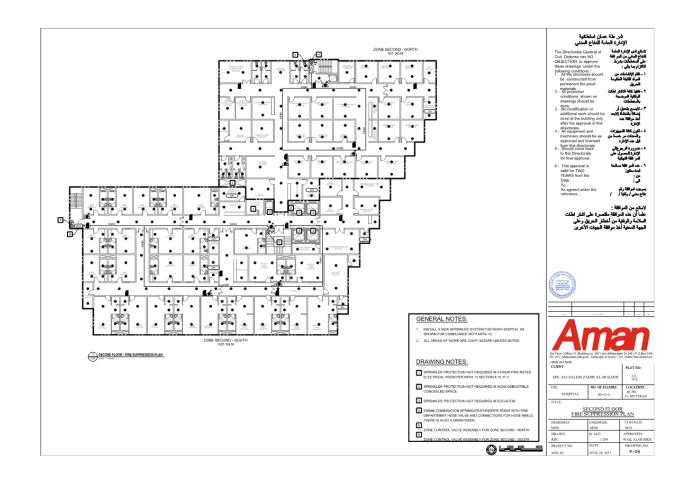


Provide a conceptual sprinkler system layout for the proposed facility.

Drawings shall identify

- points of connection to the available water supply,
- ✓ system zoning,
- ✓ valve room locations,
- √ hazard classifications,
- √ design criteria,
- ✓ conceptual sprinkler locations,
- ✓ sprinkler type,
- ✓ conceptual location of piping, etc.,

Automatic Sprinkler System Note



Provide Automatic Sprinkler System Note

- 1. THE SCOPE OF WORK IS TO PROVIDE COMPLETE FIRE SUPPRESSION SYSTEMS THROUGHOUT THE RUWI HOSPITAL IN OMAN. THESE SYSTEMS WILL INCLUDE SPRINKLERS, STANDPIPE, FIRE HYDRANTS, AND FIRE EXTINGUISHERS. THE CONTRACTOR MUST PROVIDE ALL NECESSARY MATERIALS AND LABOR TO COMPLETE THE NEW SPRINKLER AND STANDPIPE SYSTEMS AS DESCRIBED IN THE CONTRACT DRAWINGS.
- 2. A CLASS I STANDPIPE SYSTEM IS REQUIRED AS THE BUILDING IS FOUR STORIES OR MORE IN HEIGHT. THE STANDPIPE SYSTEM MUST BE AUTOMATIC-WET AS THE FIRE DEPARTMENT IS NOT CAPABLE OF PROVIDING THE REQUIRED STANDPIPE FLOW. PROVIDE 1.893 LPM AT 6.9 BAR FOR THE MOST REMOTE RISER AND 946 LPM AT THE NEXT TWO MOST REMOTE RISERS. PROVIDE HOSE CONNECTIONS IN EACH STAIR AND WITHIN 61M OF ALL FLOOR SPACE
- THE STANDPIPE WILL ALSO CONTAIN HOSE REELS PER LOCAL REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE FINAL NUMBER AND LOCATIONS OF HOSE REELS. PER LOCAL CODES. HOSE REELS MUST BE PROVIDED TO PROTECT ALL FLOOR AREAS WITHIN A 30M HOSE LENGTH AND 6M SPRAY DISTANCE. PROVIDE 379 LPM AT 4.5 BAR AT THE MOST REMOTE HOSE REEL
- 4. THIS SYSTEM MUST BE SUPPLIED FROM A NEW FIRE WATER TANK AND FIRE PUMP. THE SCOPE OF WORK WILL INCLUDE THE INSTALLATION OF THE WATER TANK AND FIRE PUMP.

FIRE SUPPRESSION PROJECT NOTES

- THE SCORE OF MORE IS TO REGULAR COMPLETE FIRE SURRESSOR NECESSARY MATERIALS AND LABOR TO COMPLETE THE NEW SPRINKLER AND STANDPIPE SYSTEMS AS DESCRIBED IN THE
- 2 A CLASS I STANDEDE SYSTEM IS DECUIDED AS THE BUILDING IS EQUE A CLASS I STANDPIRE SYSTEM IS REQUIRED AS THE BULLDING IS FOUR STORIES OR MORE IN HEIGHT. THE STANDPIRE SYSTEM MUST EAUTOMATIC-WET AS THE FIRE DEPARTMENT IS NOT CAPABLE OF PROVIDING THE REQUIRED STANDPIRE FLOW, PROVIDE 1,893 LPM AT 6.9 BAR FOR THE MOST REMOTE RISER AND 486 LPM AT THE NEXT TWO MOST REMOTE RISERS. PROVIDE HOSE CONNECTIONS IN EACH STAIR AND WITHIN 61M OF ALL FLOOR SPACE.
- 3. THE STANDRIDE WILL ALSO CONTAIN HOSE BEELS DEBLOCAL THE STANDARD THE ALSO CONTAIN HOSE MILES PIR COCAL.

 REQUIREMENTS. THE CONTRACTOR IS RESPONSIBLE FOR

 DETERMINING THE FINAL NUMBER AND LOCATIONS OF HOSE REELS.

 PER LOCAL CODES, HOSE REELS MUST BE PROVIDED TO PROTECT ALL PROVIDE 379 LPM AT 4.5 BAR AT THE MOST REMOTE HOSE REEL.
- 4. THIS SYSTEM MUST BE SUPPLIED FROM A NEW FIRE WATER TANK AND
- INSTALLATION OF ALL NEW SPRINGLER AND STANDPIPE SYSTEM PIPING AND COMPONENTS MUST BE IN ACCORDANCE WITH THE FOLLOWING: • NFPA 1: FIRE CODE, 2012 EDITION ◆NFPA 10: STANDARD FOR PORTABLE FIRE EXTINGUISHERS, 2013.
- ALL APPLICABLE LOCAL CODES AND REGULATIONS
- NEPA 20: STANDARD FOR THE INSTALLATION OF STATIONARY PUMPS
- FOR FIRE PROTECTION, 2013 EDITION • NEPA 22: STANDARD FOR WATER TANKS FOR PRIVATE FIRE
- PROTECTION, 2013 EDITION NPPA 24: STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES, 2013 EDITION
 NFPA 5000 BUILDING CONSTRUCTION AND SAFETY CODE, 2012
- THE MANUFACTURER'S REQUIREMENTS
- 6. ALL AREAS ARE ASSUMED TO BE PROVIDED WITH A MINIMUM MINIENT TEMPERATURE OF 4 DEGREES CELSIUS, BE FREE OF AMBIENT TEMPERATURE OF 4 DEGREES CEISTUS, BE PREE OF EXCESSIVE DUST PARTICLES, AND HAVE NORMAL HUMIDITY LEVE UMLESS OFHERWISE NOTED. ADDITIONALLY, CEILING AND WATER TEMPERATURES ARE ASSUMED NOT TO EXCEED 37.8 DEGREES CELSIUS, UNLESS OTHERWISE NOTED.
- 7. A NEW AUTOMATIC WET, PIPE SPRINKLER SYSTEM IS REQUIRED. SPRINKLER SPACING AND HYDRAULIC DESIGN CRITERIA HAS BEEN.

CLOSETS, INTERNAL CORRIDORS - RESIDENTIAL SPRINKLER, THE DESIGN AREA MUST BE THE AREA THAT INCLUDES THE FOUR ADJACENT SPRINKLERS THAT PRODUCE THE GREATEST HYDRAULIC DEMAND.

BESIDENTIAL COMMON CORRIDORS OFFICES STAIRS WAITING BOOMS

ORDINARY HAZARD GROUP LAT 6.1 LPM/SQUARE METER OVER 139 SQUARE METERS, 946 LPM OUTSIDE HOSE DEMAND

PER SECTION 11 2 3 2 3 OF NEPA 13 A REDUCTION IN THE DESIGN AREA.

- A MINIMUM OF ONE HYDRAULIC CALCULATION FOR EACH FLOOR.
- 8. THE FIRE PUMP MUST BE SIZED FOR 3.785 LPM AT 10.5 BAR, THE FIRE WATERFLOW OF 3,785 LPM FOR 4 HOURS.
- TESTING LABORATORY FOR USE.

- 10. ALL NEW SPRINKLER SYSTEM PIPE AND FITTINGS MUST MEET THE
- PIPE SIZES 65MM AND SMALLER: SCHEDULE 40, BLACK STEEL, MEETING

PIPE SIZES ROWM AND LARGER: SCHEDULE 10. BLACK STEEL, MEETING. CHLORINATED POLYVINYL CHLORIDE (CPVC) MEETING ASTM F 442 IS

PERMITTED IN LIGHT HAZARD AREAS ONLY. FLEXIBLE SPRINKLES HOSE IS PERMITTED.

ASTM A135 OR A795 SPECIFICATIONS

ALL BLACK STEEL PIPING 66MM OR LESS IN DIAMETER MUST BE JOINED BY THREADED FITTINGS. THREADED FITTINGS MUST BE MALLEABLE OR CAST IRON CLASS 150 OR 300 CONFORMING TO ASME 816.3.

ALL PIPING ROMM OR LARGER IN DIAMETER MUST BE JOINED BY ALL PHING SUMM OR LANGER IN DIAMETER MUST BE JUNED BY ROLL-GROOVED FITTINGS. ALL COMPONENTS FOR GROOVED FITTINGS MUST BE FROM THE SAME MANUFACTURER.

CPVC PIPE MUST BE JOINED BY SOCKET FITTINGS PER ASTM F4ST. FOR CPVC SPRINKLER ADAPTORS: 1) THREADED BRASS INSERTS MUST MATCH SPRINKLER THREADS 2) ALL THREADS MUST BE BRASS AND MUST FULLY ENCOMPASS A SPRINKLER, PLASTIC THREADS ARE NOT ALLOWED 3) ALL SOCKET FITTINGS MUST HAVE 90-DEGREE STOPS, 4) BEVELED FITTINGS ARE NOT PERMITTED THAT COULD LEAD TO STRESS WHEN CUT/REVELED PIPE IS INSERTED.

- 12. ALL EXPOSED SPRINKLER PIPING MUST BE INSTALLED AS HIGH AS POSSIBLE. IN NO CASE MUST ANY EXPOSED SPRINKLER PIPING BE INSTALLED BELOW THE BOTTOM OF HOZIONTAL PLAN OF LIGHT
- 13. ALL SPRINKLERS MUST BE QUICK RESPONSE
- 14. ALL HANGER ASSEMBLIES MUST BE LISTED FOR USE WITH SPRINKLER SYSTEMS. HANGER INSTALLATION AND SPACING MUST BE IN ACCORDANCE WITH NEPA 13, FOR EXAMPLES, SEE DETAIL 2 ON
- 15. AUXILIARY DRAINS ARE NOT SHOWN ON THESE DRAWINGS. LOCATION OF ALDIT JARY DRAINS MUST BE DETERMINED BY CONTRACTOR WHER OF AUXLIARY DRAINS MUST BE DETERMINED BY CONTRACTOR WHERE A CHANGE IN PPINED DIRECTION PREVENTS PRAINAGE OF THE SYSTEM PIPING THROUGH THE MAIN DRAIN VALVE. SIGNS MUST BE PROVIDED TO INDICATE AUXILIARY DRAINS, AUXILIARY DRAINS MUST NOT BE LOCATED IN PUBLIC AREAS, FOR EXAMPLE CORRODRS OR WAITING
- ALL PIPE AND SPRINKLER LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE LOCATIONS, APPROXIMATE QUANTITIES, AND DO NOT INCLUDE COORDINATION WITH THE REFLECTED CEILING PLANS. DETERMINING THE FINAL NUMBER AND LOCATION OF PIPES AND SPRINKLERS IS THE CONTRACTOR'S RESPONSIBILITY
- IS THE INSTALLING CONTRACTOR MUST COORDINATE RETWEEN ALL TRADES TO FACILITATE AN INSTALLATION WHICH IS CONSIST THE BUILDING DESIGN AND OVERALL GOAL OF CONTINUOUS SYSTEM MUST BE MADE BY AND COORDINATED WITH THE FIRE ALARM
- REPRESENTATIVE OF FIRE MARSHAL WITH THE PUBLIC AUTHORITY OF CIVIL DEFENCE. HYDROSTATIC TESTING MUST BE CONDUCTED IN CCORDANCE WITH NFPA 13 AND WITNESSED BY FIRE MARSHAL WITH THE PUBLIC AUTHORITY OF CAVIL DEFENCE
- 20 PENETRATION OF FIRE-BATED ASSEMBLIES MUST BE SEALED BY THE CONTRACTOR WITH A LISTED THROUGH-PENETRATION ST APPROPRIATE FOR THE RATING OF THE WALL PENETRATE

- 21. ALL NEW SPRINKLERS MUST BE CENTER OF TILE, SEE DETAIL 1 ON
- 600MM SPLASH BLOCKS AT EXTERIOR DRAINS.
- DRAWING F-08. PROVIDE ZONES TO MATCH SMOKE BARRIERS REQUIRED FOR SUBDIVISION OF HEALTHCARE SPACES.
- PRESSURE TO A MAXIMUM OF 6.9 BAR AT HOSE REELS. PROVIDE HOSE REELS ON SEPARATE PIPING FROM SPRINKLER SYSTEM.
- TO OPERATE AT 12.0 BAR FOR ALL ZONE CONTROL VALVE ASSEMBLIES PER NFPA 13 SECTION 7.1.2.1.
- IN CABINETS. AT A MINIMUM, FIRE EXTINGUISHERS IN THE PARKING GARAGE MUST BE 4A:80BC WITH A MAXIMUM TRAVEL DISTANCE TO EXTINGUISHER OF 15 25M AT A MINISHIM ALL OTHER FIRE EXTINGUISHERS MUST BE 2A:10BC WITH A MAXIMUM TRAVEL DISTANCE
- 27. PROVIDE FIRE HYDRANTS TO NEPA AND LOCAL REQUIREMENTS, AT A MINIMUM, PROVIDE FLOOR HYDRANTS SPACED 107M APART
- 28. THE PRIMARY PUMP MUST BE ELECTRIC. A DIESEL BACKUP PUMP IS
- 29. THE PRESSURE WITHIN THE STANDPIPE AND SPRINKLER SYSTEM CAN NOT EXCEED 12 BAR. INCLUDING AT PUMP CHURN

شرطة عمان اسلطانية الإدارة المامة الدفاع المدني لأمالع أدى الإدارة العامة

لالكزام بما يلي :

والمحات مر غم قبل هذه الإثارة

The Directorate General of OBJECTION to approve these drawings under the following conditions: 1 - All the structures should be constructed from nermanent fire proo

- materials. All protection conditions shown of drawings should be done. - No modification or
- additional work should done at the building o after the approval of the directorate.

 I - All equipment and - لكرن كالة التجييز ات
- from this directorate Should come back ـ شرورة الرجوجالي الإدارة المصول على الدو فقة التهالية to this Directorate for final approval.
- ٢ هذه البر فقة مطعة لندة سكون

علما أن هذه الموافقة مقتصرة على اشتر اطات السلامة والوفاية من أغطار العريق وطي





7B+G+4 FIRE SUPPRESSION

NOTES

115 79 E

LOCATION

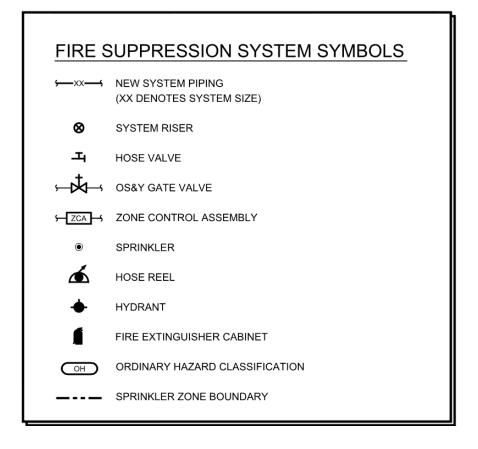
F-00A

5/15/2018 Aman Fire Protection Consultants

System Design Symbols

	SPRINKLER INFORMATION TABLE*
TYPE	STANDARD
POSITION	PENDENT (UPRIGHT OR SIDEWALL ALSO ACCEPTABLE)
RESPONSE	QUICK
k-FACTOR	5.6
TEMPERATURE	57-77°C
ORIFICE	12MM
FINISH	CHROME (OR EQUIVALENT)

^{*} UNLESS OTHERWISE NOTED



System Design Layout

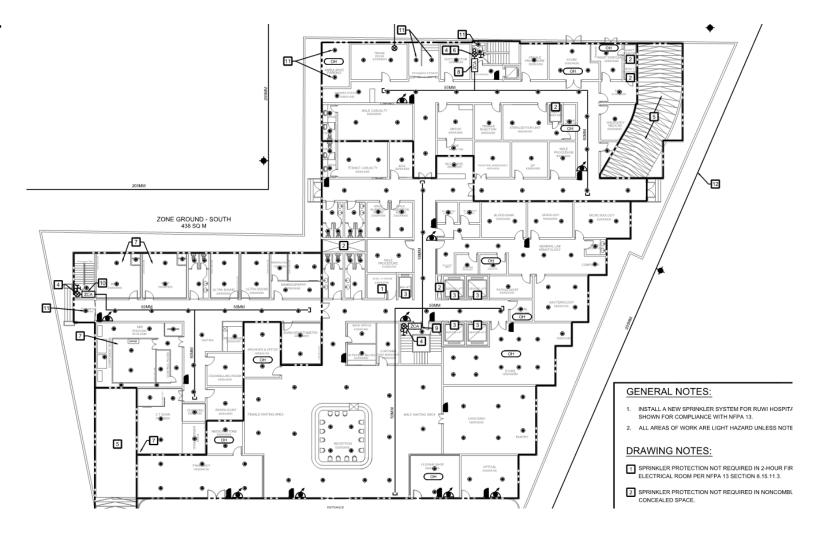
GENERAL NOTES:

- INSTALL A NEW SPRINKLER SYSTEM FOR RUWI HOSPITAL AS SHOWN FOR COMPLIANCE WITH NFPA 13.
- 2. ALL AREAS OF WORK ARE LIGHT HAZARD UNLESS NOTED.

DRAWING NOTES:

- 1 SPRINKLER PROTECTION NOT REQUIRED IN 2-HOUR FIRE-RATED ELECTRICAL ROOM PER NFPA 13 SECTION 8.15.11.3.
- 2 SPRINKLER PROTECTION NOT REQUIRED IN NONCOMBUSTIBLE CONCEALED SPACE.
- 3 SPRINKLER PROTECTION NOT REQUIRED IN ELEVATOR.
- 4 150MM COMBINATION SPRINKLER/STANDPIPE RISER WITH FIRE DEPARTMENT HOSE VALVE AND CONNECTIONS FOR HOSE REELS. THERE IS ALSO A DRAIN RISER.
- THIS AREA IS PROTECTED BY THE ZONE BELOW.
- 6 RE-ROUTE RISER AS NECESSARY IN COORDINATION WITH FIRST FLOOR PRIMARY LANDING.
- 7 PROVIDE NON-FERROUS SPRINKLER PIPE IN THESE SPACES TO PREVENT INTERFERENCE WITH MEDICAL EQUIMENT.
- 8 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND NORTH.
- ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND CENTRAL.
- 10 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND SOUTH.





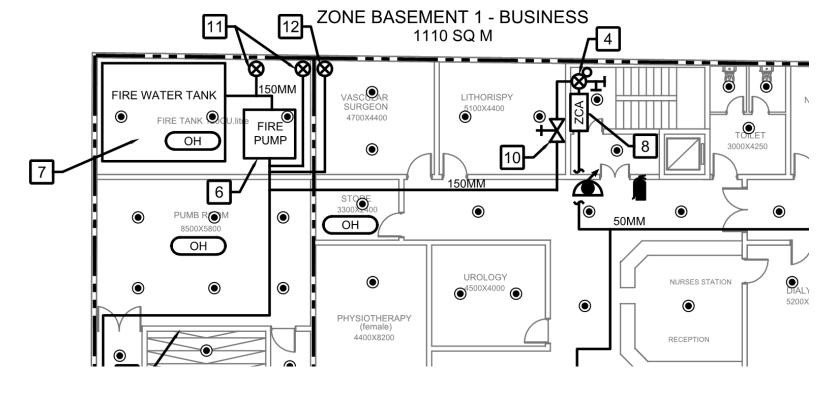
System Design Layout Note

GENERAL NOTES:

- INSTALL A NEW SPRINKLER SYSTEM FOR RUWI HOSPITAL AS SHOWN FOR COMPLIANCE WITH NFPA 13.
- 2. ALL AREAS OF WORK ARE LIGHT HAZARD UNLESS NOTED.

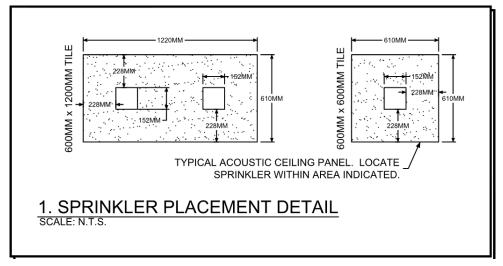
DRAWING NOTES:

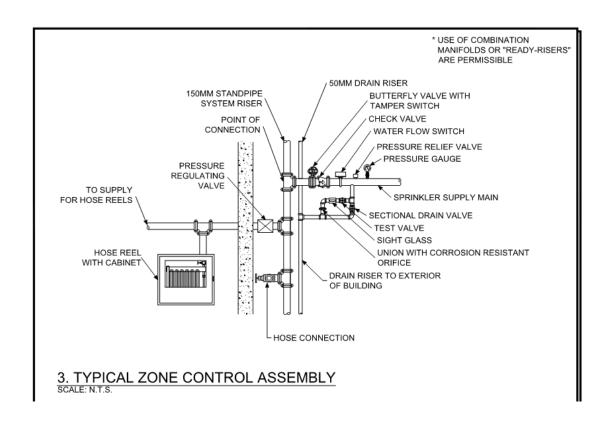
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- 8 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND NORTH
- 9 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND -
- 10 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND SOUTH.



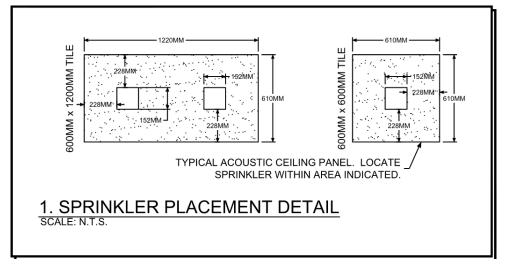


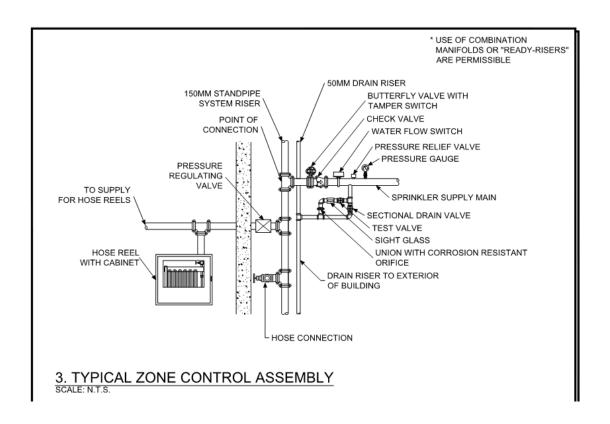
Typical Concept





Typical Concept





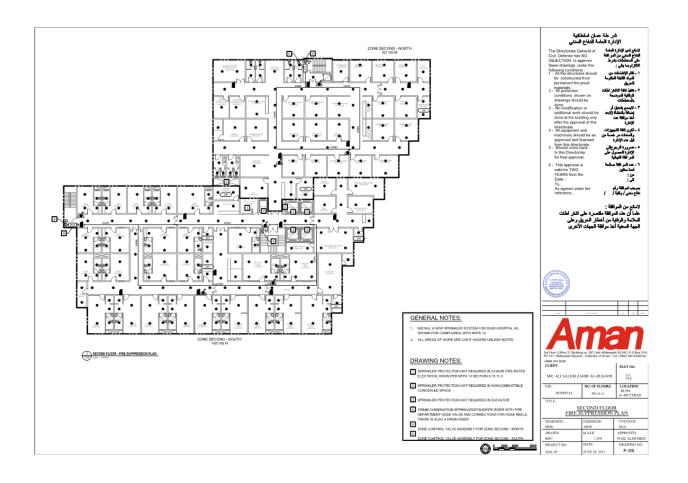
Standpipe system

Prepare standpipe drawings for the proposed facility.

Drawings shall identify

- points of connection to the fire protection infrastructure piping
- ✓ locations for standpipes
- √ hose outlets
- ✓ valve locations
- ✓ design criteria, etc.

Standpipe System Note

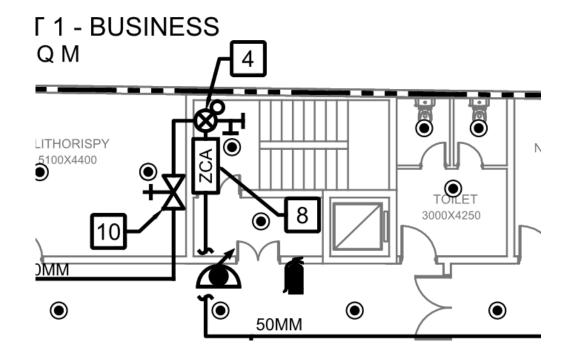


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Standpipe system

System Design Layout

- 4 150MM COMBINATION SPRINKLER/STANDPIPE RISER WITH FIRE DEPARTMENT HOSE VALVE AND CONNECTIONS FOR HOSE REELS. THERE IS ALSO A DRAIN RISER.
- 5 THIS AREA IS PROTECTED BY THE ZONE BELOW.
- 6 RE-ROUTE RISER AS NECESSARY IN COORDINATION WITH FIRST FLOOR PRIMARY LANDING.
- 7 PROVIDE NON-FERROUS SPRINKLER PIPE IN THESE SPACES TO PREVENT INTERFERENCE WITH MEDICAL EQUIMENT.
- 8 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND NORTH.
- 9 ZONE CONTROL VALVE ASSEMBLY FOR ZONE GROUND -CENTRAL.
- 20NE CONTROL VALVE ASSEMBLY FOR ZONE GROUND SOUTH.



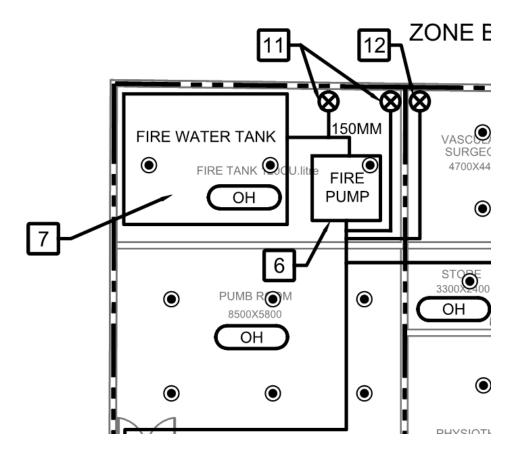
Fire Pumps

Determine the capacity of the fire pump and stored fire protection water source for the facility.

Drawings shall identify

- ✓ The locations of the fire pump
- ✓ Capacity
- ✓ Size
- ✓ stored fire protection water source
- ✓ Protection

Standpipe System Note



- 8. THE FIRE PUMP MUST BE SIZED FOR 3,785 LPM AT 10.5 BAR. THE FIRE WATER TANKS MUST BE 1,000 CUBIC METERS FOR A DESIGN WATERFLOW OF 3,785 LPM FOR 4 HOURS.
- 9. ALL MATERIALS MUST BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY FOR USE.

Check list

Plan Review Check List

Fire Pump

Aman Checklists for Fire Pumps

Suc	tion Piping				
#	Review Question				
1	Where corrosive water conditions exits, has inside of pump suction piping been galvanized or painted with a paint recommended for submerged surfaces?	Yes	☐ No	☐ N/A	
2	Suction piping arranged to prevent freezing?	Yes	☐ No	☐ N/A	
3	Strain relief provided where the fire pump and its suction supply are on separate foundations with rigid interconnecting pipe?	Yes	☐ No	□ N/A	
4	OS&Y valve installed in pump suction piping for maintenance isolation?	Yes	☐ No	☐ N/A	
5	Changes in pump suction piping size made with eccentric tapered reducers oriented to avoid formation of air pockets?	Yes Yes	☐ No	□ N/A	
6	Suction piping sized to prevent pump cavitation in accordance with applicable code or standard?	Yes	☐ No	□ N/A	
D	ischarge Piping				
#	Review Question				
1	Fire pump discharge pipe sized in accordance with applicable code or standard?	Yes	S No	N/A	
	Pipe and fittings downstream of fire pump selected based on highest expected operating pressure?				
2	Fire pump discharge pipe free of pressure regulating devices?	Yes	S No	□ N/A	
3	Fire pump relief valves installed only where required by, and in accordance with the applicable code or standard?				
4	Check valve or backflow preventer provided in pump discharge piping?	Yes	S No	N/A	

Pro	emittal Information ject Number:					
	mittal Number:					
	cription of Submitted Documen	te:				
	mittal Review Date:	ы.				
	mittal Approval:	Approved	Approved with Comm	ents		Rejected
<i>-</i>	инстандриотан.	Пирріотеа	пррточес чиси соли	icito		rejected
Pro	perty Information					
	Iding Name:					
	lding Address:					
	ner Representative Name:					
Ow	ner Representative Address:					
Ow	ner Representative Phone:					
Ow	ner Representative E-mail:					
Des	signer/Contractor (Submitter) Ir	nformation				
Con	npany Name:					
Cor	npany Address:					
	npany Representative Name:					
	npany Representative Qualificat	ions:				
Cor	npany Representative Address:					
	npany Representative Phone:					
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Con his ppr Ger	npany Representative E-mail: form is to be completed by toval. ereal Review Question Pump type appropriate for cor available power supply, and m	nditions? Consider suction sour	rce, space requirements,	Yes	_ No	□ N/
Cor his ppr Ger	npany Representative E-mail: form is to be completed by troval. neral Review Question Pump type appropriate for core available power supply, and m Pump pressure and flow rating	nditions? Consider suction soul aintenance. gs appropriate for conditions?	rce, space requirements, Consider system demand, hose	_	_	□ N/
Cor his ppr Ger #	npany Representative E-mail: form is to be completed by toval. ereal Review Question Pump type appropriate for cor available power supply, and m	nditions? Consider suction sou aintenance. 3s appropriate for conditions? e requirements, and maximum	rce, space requirements, Consider system demand, hose system pressure limitations.	Yes	_ No	N/
Con his ppr Ger # 1 2	npany Representative E-mail: form is to be completed by toval. Review Question Pump type appropriate for cot available power supply, and m Pump pressure and flow rating stream requirements, pressure certified shop test curve show provided by manufacturer?	nditions? Consider suction sour laintenance. gs appropriate for conditions? e requirements, and maximum ing head capacity and brake h	rce, space requirements, Consider system demand, hose system pressure limitations. orsepower of fire pump	☐ Yes ☐ Yes ☐ Yes	No No No	× × ×
Cor his ppr Ger #	npany Representative E-mail: form is to be completed by troval. heral Review Question Pump type appropriate for co available power supply, and m Pump pressure and flow rating stream requirements, pressur Certified shop test curve show provided by manufacturer? All pump unit components tes	nditions? Consider suction sour laintenance. gs appropriate for conditions? e requirements, and maximum ing head capacity and brake h	rce, space requirements, Consider system demand, hose system pressure limitations.	☐ Yes	No	and N/ N/ N/ N/ N/ N/ N/ N
Cor his ppr Ger # 1 2 3	npany Representative E-mail: form is to be completed by toval. neral Review Question Pump type appropriate for cor available power supply, and m Pump pressure and flow rating stream requirements, pressur Certified shop test curve show provided by manufacturer? All pump nuit components tes or design?	nditions? Consider suction sour aintenance. 3s appropriate for conditions? e requirements, and maximum ing head capacity and brake he ted and listed in accordance w	rce, space requirements, Consider system demand, hose system pressure limitations. orsepower of fire pump ith applicable codes, standards,	Yes Yes Yes Yes	No No No No No	
Cor his ppr Ger # 1 2 3	npany Representative E-mail: form is to be completed by troval. heral Review Question Pump type appropriate for co available power supply, and m Pump pressure and flow rating stream requirements, pressur Certified shop test curve show provided by manufacturer? All pump unit components tes	nditions? Consider suction soul aintenance. 5s appropriate for conditions? - e requirements, and maximum ing head capacity and brake he ted and listed in accordance w ttely separated from protected	rce, space requirements, Consider system demand, hose system pressure limitations. orsepower of fire pump ith applicable codes, standards, larea by distance or fire-	☐ Yes ☐ Yes ☐ Yes	No No No	v/ v/ v/
Con his ppr Ger # 1 2	npany Representative E-mail: form is to be completed by toval. Review Question Pump type appropriate for core available power supply, and menuments, pressure and flow rating stream requirements, pressure Certified shop test curve show provided by manufacturer? All pump unit components tes or design? Indoor fire pump units adequated.	nditions? Consider suction soul aintenance. 3s appropriate for conditions? e requirements, and maximum ing head capacity and brake hi ted and listed in accordance w stely separated from protected in accordance with applicable of	rce, space requirements, Consider system demand, hose system pressure limitations. or sepower of fire pump ith applicable codes, standards, area by distance or firecodes, standards, or design?	Yes Yes Yes Yes	No No No No No No No No	
Cor his ppr Ger 1 1 2 3 4	npany Representative E-mail: form is to be completed by toval. neral Review Question Pump type appropriate for convariable power supply, and me Pump pressure and flow rating stream requirements, pressure certified shop test curve show provided by manufacturer? All pump unit components testor design? Indoor fire pump units adequaresistance rated construction it coattion of fire pump unit rook.	nditions? Consider suction sour iaintenance. 35 appropriate for conditions? 16 requirements, and maximum ing head capacity and brake he ted and listed in accordance we stely separated from protected in accordance with applicable of m approved by fire department inst possible interruption of se	rce, space requirements, Consider system demand, hose system pressure limitations. prespower of fire pump ith applicable codes, standards, larea by distance or fire- codes, standards, or design? t? rvice due to explosion, fire,	Yes Yes Yes Yes	No No No No No No No No	
Cor his ppr Ger # 1 2 3 4	npany Representative E-mail: form is to be completed by toval. Review Question Pump type appropriate for cor available power supply, and m Pump pressure and flow rating stream requirements, pressure are provided by manufacturer? All pump unit components tes or design? Indoor fire pump units adequaresistance rated construction in Location of fire pump unit roo Fire pump units protected aga flood, earthquake, rodents, in:	nditions? Consider suction sour iaintenance. 35 appropriate for conditions? 16 requirements, and maximum ing head capacity and brake he ted and listed in accordance we stely separated from protected in accordance with applicable of m approved by fire department inst possible interruption of se	rce, space requirements, Consider system demand, hose system pressure limitations. prespower of fire pump ith applicable codes, standards, larea by distance or fire- codes, standards, or design? t? rvice due to explosion, fire,	Yes Yes	No No No No No No No No	
Cor his ppr Ger 1 1 2 3 4	npany Representative E-mail: form is to be completed by toval. neral Review Question Pump type appropriate for cor available power supply, and m Pump pressure and flow rating stream requirements, pressure Certified shop test curve show provided by manufacturer? All pump unit components tes or design? Indoor fire pump units adequa resistance rated construction i Location of fire pump unit roo Fire pump units protected aga flood, earthquake, rodents, in conditions?	nditions? Consider suction sour aintenance. 3s appropriate for conditions?: e requirements, and maximum ing head capacity and brake he ted and listed in accordance w stely separated from protected in accordance with applicable of m approved by fire departmen inst possible interruption of se sects, windstorm, freezing, van	rce, space requirements, Consider system demand, hose system pressure limitations. or sepower of fire pump ith applicable codes, standards, area by distance or firecodes, standards, or design? t? rvice due to explosion, fire, ddalism, and other adverse	Yes Yes	No	
Ger # 1 2 3 4 5	npany Representative E-mail: form is to be completed by toval. Review Question Pump type appropriate for cor available power supply, and m Pump pressure and flow rating stream requirements, pressure are provided by manufacturer? All pump unit components tes or design? Indoor fire pump units adequaresistance rated construction in Location of fire pump unit roo Fire pump units protected aga flood, earthquake, rodents, in:	nditions? Consider suction soul aintenance. 3s appropriate for conditions? e requirements, and maximum ing head capacity and brake hi ted and listed in accordance we stely separated from protected in accordance with applicable of mapproved by fire department inst possible interruption of se sects, windstorm, freezing, van around all components to allow	cce, space requirements, Consider system demand, hose system pressure limitations. prespower of fire pump ith applicable codes, standards, area by distance or firecodes, standards, or design? t? rvice due to explosion, fire, idalism, and other adverse w for maintenance?	Yes Yes	No No No No No No No No	

Plan Review Checklist

Page 1|5

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Page 2 | 5

Fire Pumps

Aman Checklists for Fire Pumps

Fire Pump

Electric Drivers

#	Review Question			
1	Electric driver source, capacity, and arrangement in accordance with applicable code or standard?	Yes	☐ No	□ N/A
2	Where structure is beyond the pumping capacity of fire department apparatus, is an alternate power source provided?	Yes Yes	☐ No	□ N/A
3	Where an alternate power source is provided, is power automatically transferred to the alternate source upon failure of the primary source?	Yes	☐ No	□ N/A
Die	esel Drivers			
#	Review Question			
1	Diesel driver starter and fuel supply in accordance with applicable code or standard?	Yes	☐ No	□ N/A
	Diesel driver batteries provided in accordance with code or standard?			
2	Diesel engine driver cooling system provided in accordance with code or standard?	Yes	☐ No	□ N/A
3	Diesel fuel supply tank tested and listed in accordance with applicable code or standard?	Yes	☐ No	□ N/A
4	Diesel fuel supply tank located aboveground?	Yes	☐ No	□ N/A
5	Diesel fuel supply tank capacity at least 5.07 L per kW (1 gal per hp), plus 10%?	Yes	☐ No	□ N/A
6	Diesel fuel supply tank provided for each diesel engine?	Yes	☐ No	□ N/A
Co	ontrollers			
#	Review Question			
1	Controllers tested and listed in accordance with applicable code or standard?	Yes	☐ No	☐ N/A
2	Controllers compatible with available electrical supply?	Yes	☐ No	☐ N/A
3	Voltage surge suppressors provided in accordance with applicable code or standard?	Yes	☐ No	☐ N/A
4	Controllers annunciate and transmit required signals in accordance with code or standard?	Yes	☐ No	☐ N/A
5	Controllers provided in enclosures suitable for the environment in which they are installed?	Yes	No	□ N/A

Fire Pumps Plan Review Checklist

Sub	mittal Number:						
Des	cription of Submitted Documents:						
Sub	mittal Review Date:						
Sub	mittal Approval:	Approved		Approved with Comm	ents		Rejecte
Buil Ow Ow	perty Information ding Name: ding Address: ner Representative Name: ner Representative Address: ner Representative Phone: ner Representative E-mail:						
	igner/Contractor (Submitter) Informatio	n					
Cor	npany Address:						
Cor	npany Representative Name:						
Cor	npany Representative Qualifications:						
Cor	npany Representative Address:						
	npany Representative Address: npany Representative Phone:						
Cor	npany Representative Phone: npany Representative E-mail:						
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Cor his ppr Ger	npany Representative Phone: npany Representative E-mail: form is to be completed by the contr oval. eral Review Question Pump type appropriate for conditions?	Consider suction sour			system acc	eptance	_
Cor Cor his ppr Ger #	npany Representative Phone: npany Representative E-mail: form is to be completed by the contr oval. neral Review Question Pump type appropriate for conditions? available power supply, and maintenance	Consider suction sour	rce, space r	equirements,	Yes	_ No	
Cor his ppr Ger	npany Representative Phone: npany Representative E-mail: form is to be completed by the contr oval. eral Review Question Pump type appropriate for conditions?	Consider suction sour te. riate for conditions?	rce, space re	equirements, stem demand, hose	_		
Cor Cor his ppr Ger # 1	pany Representative Phone: npany Representative E-mail: form is to be completed by the contr oval. eral Review Question Pump type appropriate for conditions? available power supply, and maintenane Pump pressure and flow ratings appropri	Consider suction sour ie. riate for conditions? i nents, and maximum	rce, space re Consider sys system pre	equirements, stem demand, hose ssure limitations.	Yes	_ No	
Cor Cor his ppr Ger # 1	pany Representative Phone: npany Representative E-mail: form is to be completed by the controval. erai Review Question Pump type appropriate for conditions? available power supply, and maintenanch Pump pressure and flow ratings appropies tream requirements, pressure requirer Certified shop test curve showing head provided by manufacturer?	Consider suction sour ce. riate for conditions? r nents, and maximum capacity and brake ho	rce, space ro Consider sy: a system pre orsepower o	equirements, stem demand, hose ssure limitations. of fire pump	☐ Yes ☐ Yes ☐ Yes	No No No	
Cor Cor his ppr Ger # 1	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. Review Question Pump type appropriate for conditions? available power supply, and maintenan Pump pressure and flow ratings approp stream requirements, pressure requirer Certified shop test curve showing head provided by manufacturer? All pump unit components tested and lis	Consider suction sour ce. riate for conditions? r nents, and maximum capacity and brake ho	rce, space ro Consider sy: a system pre orsepower o	equirements, stem demand, hose ssure limitations. of fire pump	☐ Yes ☐ Yes	No	
Cor Cor his ppr Ger # 1 2 3	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. teral Review Question Pump type appropriate for conditions? available power supply, and maintenanc Pump pressure and flow ratings appropristream requirements, pressure requirer Certified shop test curve showing head provided by manufacturer? All pump unit components tested and lis or design?	Consider suction sour ize. riate for conditions? (nents, and maximum capacity and brake ho sted in accordance w	rce, space ro Consider sy: I system pre orsepower o vith applicab	equirements, stem demand, hose ssure limitations. of fire pump lle codes, standards,	☐ Yes ☐ Yes ☐ Yes	No No No	
Cor Cor his ppr Ger # 1 2 3	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. Review Question Pump type appropriate for conditions? available power supply, and maintenan Pump pressure and flow ratings approp stream requirements, pressure requirer Certified shop test curve showing head provided by manufacturer? All pump unit components tested and lis	Consider suction sour ce. liate for conditions? I nents, and maximum capacity and brake ho sted in accordance w rated from protected	rce, space re Consider sy: I system pre orsepower o with applicab	equirements, stem demand, hose ssure limitations. of fire pump le codes, standards, tance or fire-	Yes Yes Yes Yes	No No No No No	
Cor Cor his ppr Ger # 1 2 3 4	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. neral Review Question Pump type appropriate for conditions? available power supply, and maintenanc Pump pressure and flow ratings appropi stream requirements, pressure requirer Certified shop test curve showing head provided by manufacturer? All pump unit components tested and lis or design? Indoor fire pump units adequately sepai	Consider suction sour inte for conditions? I nents, and maximum capacity and brake ho sted in accordance w rated from protected nce with applicable of	rce, space ro Consider sy: a system pre orsepower o vith applicab d area by dis codes, stanc	equirements, stem demand, hose ssure limitations. of fire pump le codes, standards, tance or fire-	Yes Yes Yes Yes	No No No No No	
Cor Cor his ppr Ger # 1 2 3 4 5	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. Review Question Pump type appropriate for conditions? available power supply, and maintenance Pump pressure and flow ratings appropriate and requirements, pressure requirer Certified shop test curve showing head in provided by manufacturer? All pump unit components tested and listor design? Indoor fire pump units adequately sepail resistance rated construction in accordate Location of fire pump unit room approvided by manufacture in accordate to the pump unit spotected against possification, carthquake, rodents, insects, win flood, earthquake, rodents, insects, win	Consider suction sour ize. inate for conditions? (nents, and maximum capacity and brake ho sted in accordance wi rated from protected nce with applicable of ed by fire departmen ble interruption of se	codes, space ro consider sy: system pre orsepower or with applicab d area by dis codes, stanc at?	equirements, stem demand, hose ssure limitations. of fire pump lle codes, standards, tance or fire- dards, or design? o explosion, fire,	Yes Yes Yes Yes	No	
Cor Cor his ppr Ger # 1 2 3 4 5	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. Review Question Pump type appropriate for conditions? available power supply, and maintenane Pump pressure and flow ratings approp stream requirements, pressure requirer Certified shop test curve showing head i provided by manufacturer? All pump unit components tested and lis or design? Indoor fire pump units adequately sepai resistance rated construction in accorda Location of fire pump unit room approv Fire pump units protected against possil	Consider suction sour ite. inate for conditions? I nents, and maximum capacity and brake ho sted in accordance w trated from protected nce with applicable of ed by fire departmen ole interruption of se dstorm, freezing, van	rce, space ro Consider sys system pre orsepower of vith applicab d area by dis codes, stand tt? ervice due to dalism, and	equirements, stem demand, hose essure limitations. of fire pump lle codes, standards, tance or fire- lards, or design? o explosion, fire, o ther adverse	Yes Yes	No	
Cor Cor his ppr	npany Representative Phone: npany Representative E-mail: form is to be completed by the controval. teral Review Question Pump type appropriate for conditions? available power supply, and maintenance Pump pressure and flow ratings appropristeram requirements, pressure requirer Certified shop test curve showing head provided by manufacturer? All pump unit components tested and listor design? Indoor fire pump units adequately sepail resistance rated construction in accordate Location of fire pump unit room approve Fire pump units protected against possifications?	Consider suction sour ize. inate for conditions? (nents, and maximum capacity and brake ho sted in accordance w rated from protected nce with applicable of ed by fire departmen ole interruption of se dstorm, freezing, van l components to allow	rce, space ro Consider sy: system pre orsepower of vith applicab d area by dis codes, standat? ervice due to dalism, and w for mainto	equirements, stem demand, hose ssure limitations. of fire pump lle codes, standards, tance or fire- tards, or design? o explosion, fire, other adverse enance?	Yes Yes	No	

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Inspection and Testing Check List

Fire Pump

Inspection Approval:		Approved		Approved with Comments		Rejected		
This form is to be o	completed by the co	ntractor fire protect	ion cons	ultants at the time	of system accepta	nce and		
Pump make:		_Drive:		Electric	Diesel			
Model No. :		_Pump Rating:gpm@psi						
		Rated Speed:	rpm					
What is fire pump fee	eding?							
Automatic Sprinkler System Standpipe system								
Fire Hydrants		others			_			
Present at Test								
	Authorized represen	tative	N	/Janufacture				
Pump								
Engine(if Diesel) Controller								
Transfer Switch								
	I.		 	,				
Date the suction pipi	ng was flushed prior to	o hydrostatic test:						
Flow rate:	Flow rate:gpm							
Pressure at which piping hydrostatic tested:psi								

Fire Pumps			Initial Acceptance Inspection and Testing Checklist				
Inspection Informa	tion						
Project Number:							
Inspection Location							
Inspection Date and							
Inspector Name and							
Inspection Approva	l:	Approved	Approved with C	omments	Rejected		
This form is to be o	ompleted by the co	entractor fire protecti	on consultants at the time	e of system accep	otance and		
Pump make:		_Drive:	☐ Electric	□ Diesel			
Model No. :		_Pump Rating:	_gpm@psi				
		Rated Speed:	_rpm				
What is fire pump fee	eding?						
Automatic Sp	rinkler System	Standpipe	system				
Fire Hydrants	;	others					
Present at Test							
	Authorized services	4-45	8.6				
Pump	Authorized represen	tative	Manufacture				
Engine(if Diesel)							
Controller							
Transfer Switch							
Flow rate:	gpm	o hydrostatic test:psi					
Inspections							
# Review Questi	on				_		
	t installed per the app			_	□ No □ N/A		
		,	with code or standard?	=	□ No □ N/A		
4 Fire pump discharge piping installed per the approved design code? ☐ Yes ☐ No ☐ N/A							
5 Fire pump sensing line installed per the approved design code? Yes No N/A							
			-	= -	No N/A		
8 Jockey pump s	ensing line installed p	er the approved design	f	∐ Yes	No N/A		
Am:n Aman Che	ecklists for Fire Pump:	ş.			Page 1 8		

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Fire Pump

Inspections

Review Question

1	Fire pump unit installed per the approved design code?	Yes Yes	☐ No	☐ N/A
2	Fire pump and motor labeled with nameplate in accordance with code or standard?	Yes	☐ No	☐ N/A
3	Fire pump suction piping installed per the approved design code?	Yes	☐ No	☐ N/A
4	Fire pump discharge piping installed per the approved design code?	Yes Yes	☐ No	☐ N/A
Gei	neral Test Procedures			
#	Review Question			
1	Coordinate with owner, building occupants and any other parties who may be affected by testing to ensure effects of testing do not negatively affect operations without consent.	Yes	☐ No	□ N/A
2	Prior to moving any components into the off-normal position, confirm fire alarm panel, supervising station, and fire department are aware of testing.	Yes	☐ No	□ N/A
3	At the conclusion of testing, confirm fire alarm panel, supervising station, and fire	Yes	☐ No	☐ N/A
	department are aware testing has ended.		_	_
4	Use only the proper tools, calibrated equipment, and materials appropriate for the test.	☐ Yes	∐ No	∐ N/A
Wat	erflow Measurement Procedures – Handheld Pitot Tube and Gauge			
#	Review Question			
1	Note diameter of orifice.	Yes	☐ No	□ N/A
2	Note orifice characteristics (such as smoothness) which affect its flow efficiency.	Yes	☐ No	□ N/A
3	Determine pitot tube gauge pressure necessary to cause the required flow rate.	☐ Yes	☐ No	□ N/
Flus	hing Test Procedures – Fire Pump Suction Piping			
#	Review Question			
1	Flushing shall be conducted before the fire pump is connected to its suction piping.	Yes	☐ No	☐ N/A
2	Flushing shall be conducted before the hydrostatic test.	Yes	☐ No	☐ N/A
3	Confirm pressure gauge(s) calibration within the last year. Gauges must be calibrated.	☐ Yes	☐ No	□ N/A

Fire Pumps		Initial Acceptanc	Initial Acceptance Inspection and Testing Checklist				
Inspection Informa	•:						
Project Number:	tion						
Inspection Location							
Inspection Date and							
Inspector Name and							
Inspection Approva	l:	Approved	Approved with (Comments	Rejected		
	completed by the co	ontractor fire protect	tion consultants at the tim	e of system acco	eptance a	and	
approval.							
Pump make:		_Drive:	☐ Electric	□ Diesel			
Model No. :		Pump Rating:	gpm@psi				
		Rated Speed:	rpm				
What is fire pump fe	eding?						
Automatic Sp	rinkler System	Standpipe system					
Fire Hydrants		others					
Present at Test							
	Authorized represer	ntative	Manufacture				
Pump							
Engine(if Diesel)							
Controller Transfer Switch							
Transier Switch							
D-4-41		- 11					
Date the suction pipi	ng was nusned prior t	o hydrostatic test:					
Flow rate:	gpm						
Pressure at which pip	oing hydrostatic tester	d:ps	i				
Inspections							
# Review Questi	on						
	 t installed per the app	roved design code?		Yes	☐ No	□ N/A	
2 Fire pump and							
3 Fire pump suc							
4 Fire pump disc							
5 Fire pump sen							
6 Jockey pump s	Jockey pump suction piping installed per the approved design?						
7 Jockey pump of	7 Jockey pump discharge piping installed per the approved design?						
8 Jockey pump s	ensing line installed p	er the approved design	1?	Yes	☐ No	□ N/A	
Am:n Amon Ch	ecklists for Fire Pump	•			Pas	e 1 8	
manufacture Periodifi City	comises for the rump	-			- 4 6		

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C: D					Inspector Name and Company:			
H	ire Pump				Inspection Approval: Approved Approved with Comments Rejected			
	rostatic Test Procedures (for aboveground piping, see underground piping checklist for under	ground nin	ing)		This form is to be completed by the contractor fire protection consultants at the time of system acceptance and approval.			
‡	Review Question	ground pip	mig)		Pump make:			
1	Confirm pressure gauge(s) calibration within the last year. Gauges must be calibrated.	Yes	☐ No	☐ N/A	Rated Speed: rom			
2	Visually inspect all fittings, couplings, and joints for proper installation. Do not proceed with test until installation appears "tight".	Yes Yes	☐ No	☐ N/A	What is fire pump feeding?			
3	Confirm fire alarm panel, supervising station, and fire department are aware of testing.	Yes	☐ No	☐ N/A	Automatic Sprinkler System Standpipe system			
1	Fill suction and discharge piping with water. Piping should not contain air pockets as these will compress and result in hydrostatic test failure.	☐ Yes	☐ No	□ N/A	Fire Hydrants others			
Co	entroller Test Procedures (may be performed simultaneously with other tests)				Present at Test			
#	Review Question				Authorized representative Manufacture Pump			
1	Confirm fire alarm panel, supervising station, and fire department are aware of testing.	Yes	No	□ N/A	Engine(if Diesel) Controller			
2	Close isolation control valves so that system pressures do not affect unwanted components.	Yes	☐ No	□ N/A	Transfer Switch			
3	At a minimum, the fire pumps shall be operated at least 6 times automatically and 6 times manually. All pump starts count toward this target.	Yes	☐ No	☐ N/A	Date the suction piping was flushed prior to hydrostatic test:			
4	At least one automatic start shall occur while supplied from the alternate power source.	Yes	☐ No	☐ N/A	Flow rate:gpm			
					Pressure at which piping hydrostatic tested:psi			
٩ut	omatic Transfer Switch (may be performed simultaneously with other tests)				Inspections # Review Question			
‡	Review Question				1 Fire pump unit installed per the approved design code?			
L	With pump operating at peak load, simulate loss of primary power; confirm automatic transfer switch operation and transfer to secondary power supply.	Yes Yes	☐ No	☐ N/A	2 Fire pump and motor labeled with nameplate in accordance with code or standard? Yes No N/A 3 Fire pump suction piping installed per the approved design code? Yes No N/A 4 Fire pump discharge piping installed per the approved design code? Yes No N/A			
2	Transfer from normal to alternate source and retransfer from alternate to normal shall not cause opening of overcurrent protection devices in either line.	Yes Yes	☐ No	☐ N/A	5 Fire pump sensing line installed per the approved design code? Yes No N/A 6 Jockey pump suction piping installed per the approved design? Yes No N/A			
3	Return transfer switch to normal position upon successful completion of testing.	Yes	☐ No	☐ N/A	7 Jockey pump discharge piping installed per the approved design? Yes No N/A 8 Jockey pump sensing line installed per the approved design? Yes No N/A			

Aman Checklists for Fire Pumps

Fire Pumps

Inspection Information Project Number: Inspection Location: Inspection Date and Time:

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Initial Acceptance Inspection and Testing Checklist

