



## City Council Staff Report

DATE: June 1, 2016

NEW BUSINESS

SUBJECT: REPORT ON BUILDING OFFICIAL APPROVAL OF A REQUEST FOR EARLY CONSTRUCTION START TIME OF 12:00 A.M. TO 7:00 A.M. FROM MONDAY THRU FRIDAY FOR CERTAIN WORK ACTIVITIES AT THE ANDAZ HOTEL CONSTRUCTION SITE FROM JUNE 2, 2016, THROUGH NOVEMBER 3, 2016

FROM: David H. Ready, City Manager

BY: Office of the City Manager

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### SUMMARY

The City has received a request from Penta Building Group, the General Contractor responsible for construction of the Andaz Hotel for Rael Development Corporation, for an early construction start time of 12:00 a.m. Monday through Friday beginning June 2, 2016, and extending to November 3, 2016. Chapter 8.04.220 of the Palm Springs Municipal Code limits the hours of construction from 7:00 a.m. to 7:00 p.m. Monday thru Friday, unless the construction work complies with the terms of a written early work permit issued by the Building Official upon a showing of sufficient need due to circumstances of an unusual or compelling nature. In this case, the Building Official will be approving an early start to construction in consideration of the need to proceed with high volume of continuous concrete construction for reinforced concrete floors, columns and decks that cannot occur during high ambient heat, and to address exposure of construction workers to high heat during the summer months, subject to continuous monitoring of noise complaints and impacts to adjacent properties and businesses.

### RECOMMENDATION:

Receive and file.

### STAFF ANALYSIS:

The Andaz Hotel has commenced construction, and as a reinforced concrete structure, will require placement of over 15,000 cubic yards of concrete and 2.1 million pounds of reinforcing steel. This type of construction is relatively unique to Palm Springs in the scope and quantity, and proceeding with reinforced concrete construction of this magnitude during the summer months is a challenge given restrictions on concrete

ITEM NO. 5.D.

construction methods limiting exposure to concrete at higher temperatures, and the need to protect concrete while curing from such higher temperatures. Penta Building Group, the General Contractor responsible for construction of the Andaz Hotel for Rael Development Corporation, has submitted a request for an early construction start of 12:00 A.M. to 7:00 A.M. for a period extending from June 3 to November 3, 2016, to allow for scheduling of continuous concrete pours for concrete footings, concrete columns, and elevated concrete podium decks for the multi-story structure. On alternative days when concrete pours are not scheduled, early work would commence at 3:00 A.M. for placement of reinforcing steel in advance of the subsequent concrete pour scheduled.

A 500 feet radius location map of the construction site is provided in Figure 1.

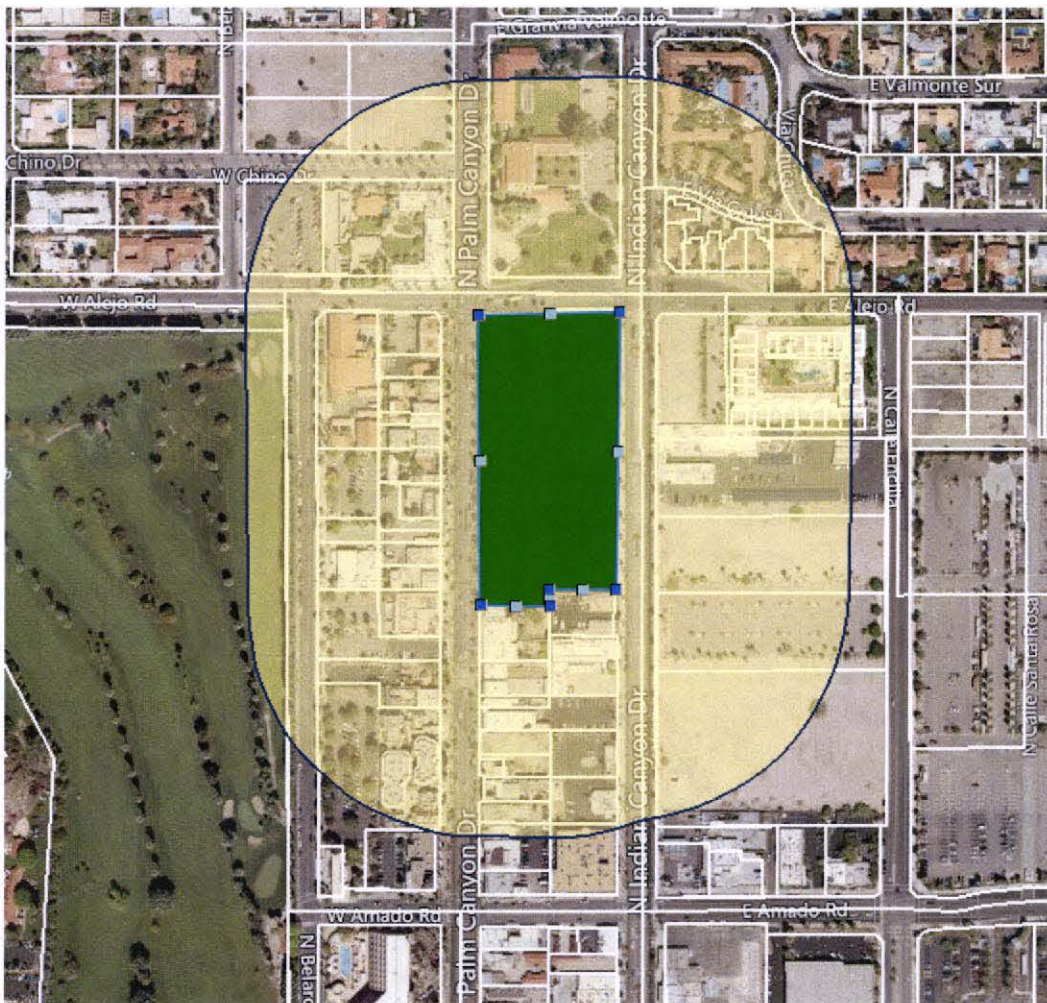


Figure 1

Permitted construction hours per the Palm Springs Municipal Code 8.04.220 are listed in the table below:

### Permitted Hours of Construction

Weekdays	Saturday	Sundays & Holidays*
7 a.m. to 7 p.m.	8 a.m. to 5 p.m.	Not permitted

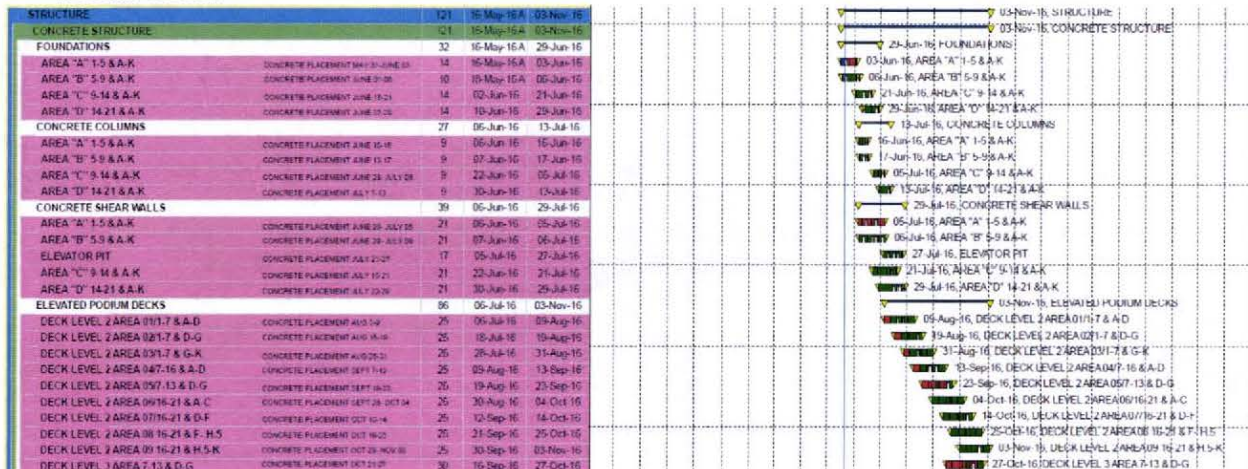
\*Thanksgiving Day, Christmas Day, New Years Day, July 4<sup>th</sup>, Labor Day and Memorial Day

Certain exceptions to these construction hours are allowed in the Municipal Code, including exception (2):

(2) Construction work complying with the terms of a written early work permit which may be issued by the building official upon a showing of sufficient need due to circumstances of an unusual or compelling nature;

Penta Building Group has requested an early start for construction (at 12 AM) to accommodate the anticipated construction which includes setting and forming 2.1 million pounds of steel reinforcing bar, and placing over 15,000 cubic yards of concrete in multiple phases of continuous concrete pours. A copy of the request submitted by Penta Building Group is included as Attachment 1. Included with the request is a tentative construction schedule that outlines an aggressive and sequential schedule with the following sequence:

- Preparation of concrete foundations commencing May 16 through June 29, wherein that period of time four separate concrete pours of 2-3 days would occur;
- Preparation of concrete columns commencing June 6 through July 13, wherein that period of time four separate concrete pours of 2-3 days would occur;
- Preparation of concrete shear walls commencing June 6 through July 29, wherein that period of time five separate concrete pours of 2-3 days would occur;
- Preparation of elevated concrete podium decks commencing July 6 through November 3, wherein that period of time ten separate concrete pours of 2-3 days would occur



Construction will also require specific staging and detour of pedestrian traffic around the site; in order to maintain pedestrian traffic, the existing parking lanes adjacent to the site on N. Palm Canyon Dr. and Indian Canyon Dr. will be eliminated and a secured and barricaded pedestrian path of travel will be established. The entire frontage of the streets adjacent to the project site will be removed and reconstructed to accommodate the new Andaz Hotel. During this time, parking will be temporarily eliminated adjacent to the site; however, existing travel lanes will remain open.

The Building Official is recommending approval of the early start time, to allow for staging of concrete trucks during the continuous multiple-hour concrete pours that will occur periodically throughout the summer. Given the volume of concrete to be placed, with one concrete truck holding 10 cubic yards, throughout the duration of the construction approximately 1,500 concrete trucks will need to be staged on either Palm Canyon Drive or Indian Canyon Drive in sequence to provide a continuous supply of concrete during this construction schedule. Staging this work during the early morning hours will help to minimize disruption to traffic that otherwise would occur if the normal work hour start of 7:00 AM was maintained.

Early morning work will also require temporary outdoor lighting, which may impact adjacent properties.

To mitigate the noise associated with these trades, the Building Official is recommending that the Penta Building Group monitor the use of back-up alarms and radios, and make every effort to minimize construction traffic on adjacent streets on days when continuous concrete pours are not scheduled. The Building Official's approval is contingent on Penta Building Group cooperating with the community, and to periodically meet with the Main Street merchants and affected residents to discuss any needed changes to address light and noise impacts and construction activities affecting businesses during the early morning hours. The Building Official is also requiring that an official notice be mailed to all property owners located within 500 feet of the project site, providing contact information and a phone number to call with complaints related to the early morning construction activities.

Alternatively, if the early construction start time is not approved by the Building Official, Penta Building Group has advised that the construction will be delayed by 10 weeks until the ambient temperatures reduce, which would delay commencement of construction into the holiday season.

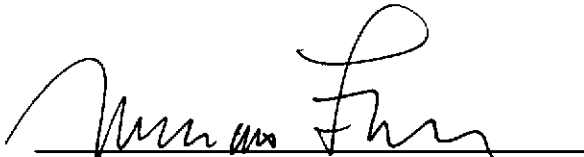
ENVIRONMENTAL IMPACT:

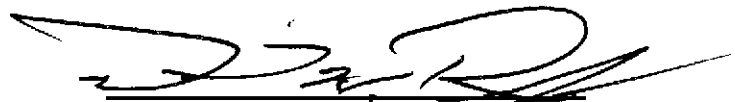
On April 2, 2014, the City Council adopted Resolution No. 23527, approving an amendment to Case No. 5.1091, Planned Development District 324, and related entitlements associated with the development of a 150 room hotel, and finding that the previously adopted Mitigated Negative Declaration Number 2006109031 as sufficient and appropriate environmental documentation for the proposed amendment to Planned Development District 324. No further environmental analysis is required with this action.

FISCAL IMPACT:

None.

SUBMITTED:

  
\_\_\_\_\_  
Marcus L. Fuller, MPA, P.E., P.L.S.  
Assistant City Manager/City Engineer

  
\_\_\_\_\_  
David H. Ready, Esq., Ph.D.  
City Manager

Attachment(s):

1. Penta Building Group Request Letter

# **ATTACHMENT 1**

# PENTA

The PENTA Building Group

May 24, 2016

City of Palm Springs  
Mr. Savat Khamphou  
3200 E. Tahquitz Canyon Way  
Palm Springs, CA 92262

Re: Andaz Hotel Palm Springs

Subject: Construction Work Hours and Jobsite Fencing Layout Plan

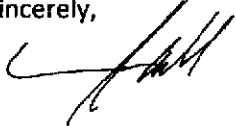
Mr. Khamphou,

The PENTA Building Group is committed to properly and safely completing all aspects of construction on each and every one of its projects and the Andaz Hotel Palm Springs is no exception. In order to accomplish a properly and safely built project we are requesting a variance to the City of Palm Springs construction work hours as well as revision to the project fence plan.

One of the major aspects of construction work at the Andaz Hotel Palm Springs is structural concrete and reinforcing steel. PENTA along with the structural concrete contractor and concrete reinforcing contractor will be placing over 15,000 cubic yards of concrete and installing over 2.1 million pounds of reinforcing steel for this project. We are requesting construction work hours be changed to start at 12:00 AM for concrete placement activities and 3:00 AM for installation of reinforcing steel and formwork for several reason. First and foremost is for the safety of the City's tourists and residents as well as the construction crews by bringing materials and equipment onto the project site early when there is less vehicular and pedestrian. Secondly, concrete material that is placed during hot weather temperatures has the potential for many deficiencies including poor concrete strength, decreased durability, and increased cracking. See attached excerpt from the American Concrete Institute – ACI 305R-99. Finally, if a variance to the City's work hours is not provided the schedule of the project will be delayed by over 50 working days or 10 weeks which will push the concrete activities into the holiday seasons greatly affecting the tourism and traffic during prime vacation. Attached is a copy of the project schedule with the concrete placement dates shown.

Another critical portion of the construction work is the location of the job site fence. This fence protects the public, tourists, and residents of Palm Springs from construction activities. PENTA is requesting to move the jobsite fence to the curb and gutter line. We will place temporary Jersey Barriers along Indian Canyon Drive and Palm Canyon Drive along with proper signage to provide the public, tourists, and residents a safe path of travel around the job site. This plan will not affect vehicular traffic but will consume street parking around the project site. We have attached a pedestrian traffic plan for your reference.

The PENTA Building Group  
Sincerely,



Marc Hall  
Superintendent

# Hot Weather Concreting

Reported by ACI Committee 305

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John M. Scanlon  
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George V. Teodoru  
Habib M. Zein Al-Abidien

*Concrete mixed, transported, and placed under conditions of high ambient temperature, low humidity, solar radiation, or wind, requires an understanding of the effects these environmental factors have on concrete properties and construction operations. Measures can be taken to eliminate or minimize undesirable effects of these environmental factors. Experience in hot weather with the types of construction involved will reduce the potential for serious problems.*

*This committee report defines hot weather, lists possible potential problems, and presents practices intended to minimize them. Among these practices are such important measures as selecting materials and proportions, precooling ingredients, special batching, length of haul, consideration of concrete temperature as placed, facilities for handling concrete at the site, and during the early curing period, placing, and curing techniques, and appropriate testing and inspecting procedures in hot weather conditions. A selected bibliography is included.*

*These revisions involve an editorial revision of the document. The revisions focus in particular on the effects of hot weather on concrete properties, and the use of midrange water-reducing admixtures and extended set-control admixtures in hot weather.*

ACI Committee Reports, Guides, Standard Practices, and Commentaries are intended for guidance in planning, designing, executing, and inspecting construction. This document is intended for the use of individuals who are competent to evaluate the significance and limitations of its content and recommendations and who will accept responsibility for the application of the material it contains. The American Concrete Institute disclaims any and all responsibility for the stated principles. The Institute shall not be liable for any loss or damage arising therefrom.

Reference to this document shall not be made in contract documents. If items found in this document are desired by the Architect/Engineer to be a part of the contract documents, they shall be restated in mandatory language for incorporation by the Architect/Engineer.

**Keywords:** air entrainment; cooling; curing; evaporation; high temperature; hot weather construction; plastic shrinkage; production methods; retempering; slump tests; water content.

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ACI 305R-99 supersedes ACI 305R-91 and became effective October 27, 1999.  
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### CHAPTER 1—INTRODUCTION

#### 1.1—General

Hot weather may create problems in mixing, placing, and curing hydraulic cement concrete. These problems can adversely affect the properties and serviceability of the concrete. Most of these problems relate to the increased rate of cement hydration at higher temperature and increased evaporation rate of moisture from the freshly mixed concrete. The rate of cement hydration is dependent on concrete temperature, cement composition and fineness, and admixtures used.

This report will identify problems created by hot weather concreting and describe practices that will alleviate these potential adverse effects. These practices include suggested preparations and procedures for use in general types of hot weather construction, such as pavements, bridges, and buildings. Temperature, volume changes, and cracking problems associated with mass concrete are treated more thoroughly in ACI 207.1R and ACI 224R.

A maximum “as placed” concrete temperature is often used in an effort to control strength, durability, plastic-shrinkage cracking, thermal cracking, and drying shrinkage. The placement of concrete in hot weather, however, is too complex to be dealt with by setting a maximum “as placed” or “as delivered” concrete temperature. Concrete durability is a general term that is difficult to quantify, but it is perceived to mean resistance of the concrete to weathering (ACI 201.2R). Generally, if concrete strengths are satisfactory and curing practices are sufficient to avoid undesirable drying of surfaces, durability of hot weather concrete will not differ greatly from similar concrete placed at normal temperatures. The presence of a desirable air-void system is needed if the concrete is going to be exposed to freezing cycles.

If an acceptable record of field tests is not available, concrete proportions may be determined by trial batches (ACI

301 and ACI 211.1). Trial batches should be made at temperatures anticipated in the work and mixed following one of the procedures described in Section 2.9, Proportioning. The concrete supplier and contractor are generally responsible for determining concrete proportions to produce the required quality of concrete unless specified otherwise.

According to ASTM C 31/C 31M, concrete test specimens made in the field that are used for checking adequacy of laboratory mixture proportions for strength or as a basis for acceptance or quality control should be cured initially at 60 to 80 F (16 to 27 C). If the initial 24 h curing is at 100 F (38 C), the 28-day compressive strength of the test specimens may be 10 to 15% lower than if cured at the required ASTM C 31/C 31M curing temperature (Gaynor et al 1985). If the cylinders are allowed to dry at early ages, strengths will be reduced even further (Cebeci 1987). Therefore, proper fabrication, curing, and testing of the test specimens during hot weather is critical, and steps should be taken to ensure that the specified procedures are followed.

#### 1.2—Definition of hot weather

1.2.1 For the purpose of this report, hot weather is any combination of the following conditions that tends to impair the quality of freshly mixed or hardened concrete by accelerating the rate of moisture loss and rate of cement hydration, or otherwise causing detrimental results:

- High ambient temperature;
- High concrete temperature;
- Low relative humidity;
- Wind speed; and
- Solar radiation.

1.2.2 The effects of high air temperature, solar radiation, and low relative humidity may be more pronounced with increases in wind speed (Fig. 2.1.5). The potential problems of hot weather concreting may occur at any time of the year in warm tropical or arid climates, and generally occur during the summer season in other climates. Early cracking due to thermal shrinkage is generally more severe in the spring and fall. This is because the temperature differential for each 24 h period is greater during these times of the year. Precautionary measures required on a windy, sunny day will be more strict than those required on a calm, humid day, even if air temperatures are identical.

#### ★ 1.3—Potential problems in hot weather

1.3.1 Potential problems for concrete in the freshly mixed state are likely to include:

- Increased water demand;
- Increased rate of slump loss and corresponding tendency to add water at the job site;
- Increased rate of setting, resulting in greater difficulty with handling, compacting, and finishing, and a greater risk of cold joints;
- Increased tendency for plastic-shrinkage cracking; and
- Increased difficulty in controlling entrained air content.

1.3.2 Potential deficiencies to concrete in the hardened state may include:

- Decreased 28-day and later strengths resulting from

- either higher water demand, higher concrete temperature, or both at time of placement or during the first several days;
- Increased tendency for drying shrinkage and differential thermal cracking from either cooling of the overall structure, or from temperature differentials within the cross section of the member;
- Decreased durability resulting from cracking;
- Greater variability of surface appearance, such as cold joints or color difference, due to different rates of hydration or different water-cementitious material ratios (*w/cm*);
- Increased potential for reinforcing steel corrosion—making possible the ingress of corrosive solutions; and
- Increased permeability as a result of high water content, inadequate curing, carbonation, lightweight aggregates, or improper matrix-aggregate proportions.

#### 1.4—Potential problems related to other factors

Other factors that should be considered along with climatic factors may include:

- Use of cements with increased rate of hydration;
- Use of high-compressive-strength concrete, which requires higher cement contents;
- Design of thin concrete sections with correspondingly greater percentages of steel, which complicate placing and consolidation of concrete;
- Economic necessity to continue work in extremely hot weather; and
- Use of shrinkage-compensating cement.

#### 1.5—Practices for hot weather concreting

Any damage to concrete caused by hot weather can never be fully alleviated. Good judgment is necessary to select the most appropriate compromise of quality, economy, and practicability. The procedures selected will depend on: type of construction; characteristics of the materials being used; and experience of the local industry in dealing with high ambient temperature, high concrete temperatures, low relative humidity, wind speed, and solar radiation.

The most serious difficulties occur when personnel placing the concrete lack experience in constructing under hot weather conditions or in doing the particular type of construction. Last-minute improvisations are rarely successful. Early preventive measures should be applied with the emphasis on materials evaluation, advanced planning and purchasing, and coordination of all phases of work. Planning in advance for hot weather involves detailed procedures for mixing, placing, protection, curing, temperature monitoring, and testing of concrete. Precautions to avoid plastic-shrinkage cracking are important. The potential for thermal cracking, either from overall volume changes or from internal restraint, should be anticipated. Methods to control cracking include: proper use of joints, increased amounts of reinforcing steel or fibers, limits on concrete temperature, reduced cement content, low-heat-of-hydration cement, increased form-stripping time, and selection and dosage of appropriate chemical and mineral admixtures.

The following list of practices and measures to reduce or avoid the potential problems of hot weather concreting are discussed in detail in Chapters 2, 3, and 4:

- Select concrete materials and proportions with satisfactory records in hot weather conditions;
- Cool the concrete;
- Use a concrete consistency that permits rapid placement and effective consolidation;
- Minimize the time to transport, place, consolidate, and finish the concrete;
- Plan the job to avoid adverse exposure of the concrete to the environment; schedule placing operations during times of the day or night when weather conditions are favorable;
- Protect the concrete from moisture loss during placing and curing periods; and
- Schedule a preplacement conference to discuss the requirements of hot weather concreting.

## CHAPTER 2—EFFECTS OF HOT WEATHER ON CONCRETE PROPERTIES

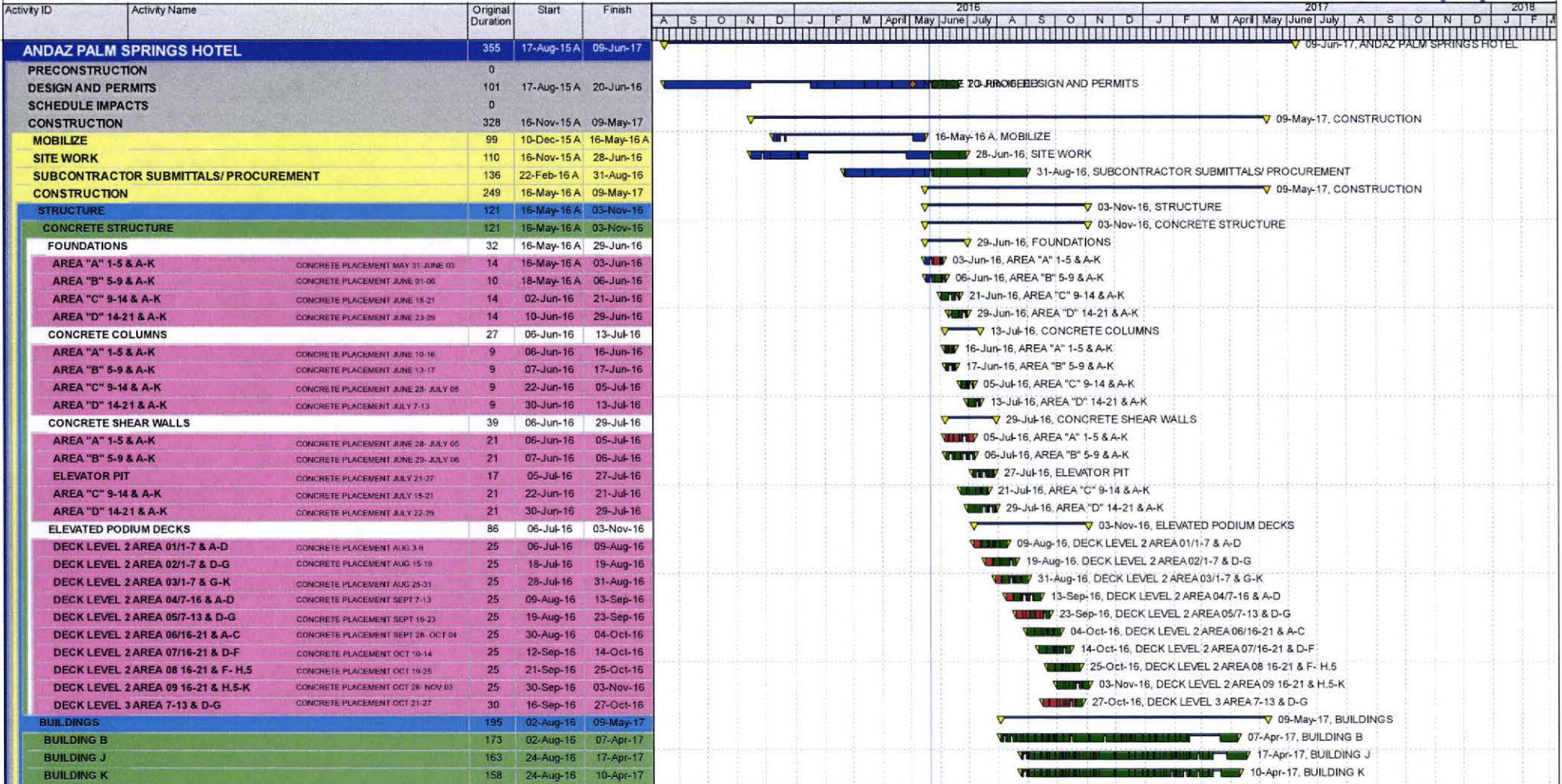
### 2.1—General

**2.1.1** Properties of concrete that make it an excellent construction material can be affected adversely by hot weather, as defined in Chapter 1. Harmful effects are minimized by control procedures outlined in this report. Strength, impermeability, dimensional stability, and resistance of the concrete to weathering, wear, and chemical attack all depend on the following factors: selection and proper control of materials and mixture proportioning; initial concrete temperature; wind speed; solar radiation; ambient temperature; and humidity condition during the placing and curing period.

**2.1.2** Concrete mixed, placed, and cured at elevated temperatures normally develops higher early strengths than concrete produced and cured at lower temperatures, but strengths are generally lower at 28 days and later ages. The data in Fig. 2.1.2 shows that with increasing curing temperatures, 1-day strength will increase, and 28-day strength decreases (Klieger 1958; Verbeck and Helmuth 1968). Some researchers conclude that a relatively more uniform microstructure of the hydrated cement paste can account for higher strength of concrete mixtures cast and cured at lower temperatures (Mehta 1986).

**2.1.3** Laboratory tests have demonstrated the adverse effects of high temperatures with a lack of proper curing on concrete strength (Bloem 1954). Specimens molded and cured in air at 73 F (23 C), 60% relative humidity and at 100 F (38 C), 25% relative humidity produced strengths of only 73 and 62%, respectively, of that obtained for standard specimens moist-cured at 73 F (23 C) for 28 days. The longer the delay between casting the cylinders and placing into standard moist storage, the greater the strength reduction. The data illustrate that inadequate curing in combination with high placement temperatures impairs the hydration process and reduces strength. The tests were made on plain concrete without admixtures or pozzolans that might have improved its performance at elevated temperatures. Other researchers determined that insufficient curing is more detrimental than

# ANDAZ PALM SPRINGS HOTEL



Remaining Level of Effort	Critical Re...
Actual Level of Effort	Milestone
Tertiary Baseline	Summary
Actual Work	
Remaining Work	

CONTRACT MASTER SCHEDULE			
Date	Revision	Checked	Approved
		MH	JS JM





These durations represent periods when the fence will be moved out from the road blocking the parking spaces and requiring pedestrian access to occur between the construction fence and K-rail barriers. These durations will generally occur in one month blocks at a time. There will be short durations when utility contractors will need to be inside beyond the fence. These durations will be noted on the plan. Please refer to the project schedule for short durations (2 days or less).

- Legend**
- Jersey Barriers
  - Fence Line at Curb & Sidewalk
  - Pedestrian Walkway

**REVISIONS**

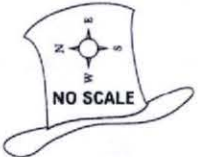
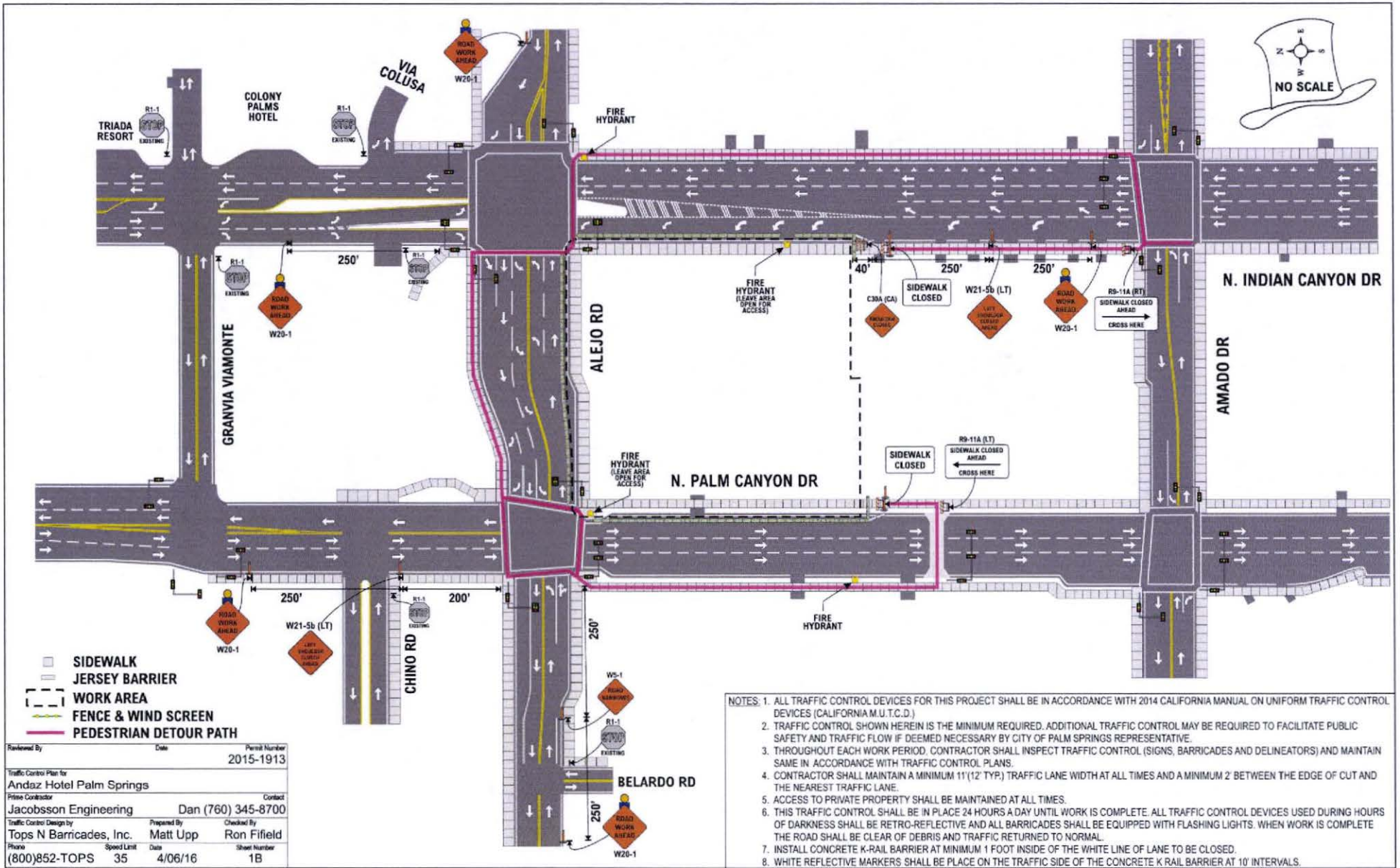
Date	Drawn By	Reviewed By	Remarks
5/24/16	JM		



**Andaz Hotel  
FENCE PLAN**

SCALE  
NTS





- SIDEWALK
- JERSEY BARRIER
- WORK AREA
- FENCE & WIND SCREEN
- PEDESTRIAN DETOUR PATH

Reviewed By	Date	Permit Number
		2015-1913
Traffic Control Plan for Andaz Hotel Palm Springs		
Prime Contractor	Contact	
Jacobsson Engineering	Dan (760) 345-8700	
Traffic Control Design by	Prepared By	Checked By
Tops N Barricades, Inc.	Matt Upp	Ron Fifield
Phone	Speed Limit	Date
(800)852-TOPS	35	4/06/16
		Sheet Number
		1B

- NOTES:
- ALL TRAFFIC CONTROL DEVICES FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CALIFORNIA M.U.T.C.D.)
  - TRAFFIC CONTROL SHOWN HEREIN IS THE MINIMUM REQUIRED. ADDITIONAL TRAFFIC CONTROL MAY BE REQUIRED TO FACILITATE PUBLIC SAFETY AND TRAFFIC FLOW IF DEEMED NECESSARY BY CITY OF PALM SPRINGS REPRESENTATIVE.
  - THROUGHOUT EACH WORK PERIOD, CONTRACTOR SHALL INSPECT TRAFFIC CONTROL (SIGNS, BARRICADES AND DELINEATORS) AND MAINTAIN SAME IN ACCORDANCE WITH TRAFFIC CONTROL PLANS.
  - CONTRACTOR SHALL MAINTAIN A MINIMUM 11'(12' TYP) TRAFFIC LANE WIDTH AT ALL TIMES AND A MINIMUM 2' BETWEEN THE EDGE OF CUT AND THE NEAREST TRAFFIC LANE.
  - ACCESS TO PRIVATE PROPERTY SHALL BE MAINTAINED AT ALL TIMES.
  - THIS TRAFFIC CONTROL SHALL BE IN PLACE 24 HOURS A DAY UNTIL WORK IS COMPLETE. ALL TRAFFIC CONTROL DEVICES USED DURING HOURS OF DARKNESS SHALL BE RETRO-REFLECTIVE AND ALL BARRICADES SHALL BE EQUIPPED WITH FLASHING LIGHTS. WHEN WORK IS COMPLETE THE ROAD SHALL BE CLEAR OF DEBRIS AND TRAFFIC RETURNED TO NORMAL.
  - INSTALL CONCRETE K-RAIL BARRIER AT MINIMUM 1 FOOT INSIDE OF THE WHITE LINE OF LANE TO BE CLOSED.
  - WHITE REFLECTIVE MARKERS SHALL BE PLACED ON THE TRAFFIC SIDE OF THE CONCRETE K RAIL BARRIER AT 10' INTERVALS.