**SECTION V – FIELD MANAGEMENT**

710 Wilshire Hotel

Santa Monica, California

**PREMISE**

Congratulations! After several long months of estimating, pricing and negotiations, Morley Builders has finally received Notice to Proceed on the 710 Wilshire Hotel. You are very excited when you learn that your assignment will be to help the General Superintendent with field management on this project. As dreams of hanging out on the future rooftop pool swim through your head, you meet Jefferson, your superintendent, and you begin to realize how real this project really is.

Jefferson informs you that now that Morley has the Notice to Proceed, you are already behind. Construction should be starting, and you haven’t even finalized the site logistics plan. Subs are arriving on your site tomorrow and you need to provide access, water, laydown space, electricity and parking – not to mention find a space for your own office!

Later that day, you meet with the rest of your team and learn your overall responsibilities for the rest of the project. One of several field management responsibilities will be figuring out logistics for the project. Additionally, Jefferson has left you a list of constructability issues that you need to work through with the design team. As you’ve already realized in reviewing architectural drawings, several exterior façade systems will require structural embeds in the concrete slabs. You will need to draw a typical embed plan that the carpenters will use to locate and install embeds. You and another teammate (HINT – it is suggested to choose whichever teammate is working on the mockup estimate) will also participate in an interactive mockup coordination meeting later today.

Daydreaming about that poolside umbrella-drink will have to wait; at the moment you have a lot to do! And remember, Jefferson will expect you to be at the site at 6 AM tomorrow with the site logistics plan complete!

The team has identified the following tasks that they need you to include in the Solutions Binder:

1. Site Logistics
   1. Create a site logistics plan for the project for the start of the job, drawn to scale for clarity.
2. Constructability Issues
3. Create RFIs regarding the constructability issues Jefferson has pointed out to you.
4. **Bonus points**: Create ONE (1) additional RFI off of the contract documents that Jefferson has not pointed out to you as an issue but you see will be when constructing this project.
5. **Bonus points**: Prioritize the RFIs based on project schedule.

C. Embed Plan

1. Create separate embed plans for Level 1 and Level 2 of the mockup. You will submit embed plan(s) for each level of the mockup.

D. Mockup Coordination Meeting

1. Jefferson plans to hold an interactive mockup coordination meeting later in the day in which you and another teammate will participate with other subcontractors. The trade you picked out of the hardhat will determine your meeting time and role in the meeting. Be prepared to discuss the mockup, which will be used by the owner as a model unit to approve both exterior and interior finishes. The meeting will last 30 minutes.

The following exhibits are included in this section:

* Exhibit V.A.1 – Site Plan for Logistics
* Exhibit V.B.1 – Constructability Questions #1
* Exhibit V.B.2 – Constructability Questions #2
* Exhibit V.B.3 – Constructability Questions #3
* Exhibit V.B.4 – Constructability Questions #4
* Exhibit V.B.5 – Constructability Questions #5
* Exhibit V.B.6 – Constructability Questions #6
* Exhibit V.B.7 – Sample Blank RFI Form
* Exhibit V.C.1 – Embed Example Photo
* Exhibit V.C.2 – Embed Information – Stucco
* Exhibit V.C.3 – Embed Information – GFRC
* Exhibit V.C.4 – Embed Information – Window Wall
* Exhibit V.C.5 – Embed Information – Glass Guardrail
* Exhibit V.C.6 – Embed Information – Precast Fins

**A. SITE LOGISTICS**

You are in charge of creating the site logistics plan. This plan should focus specifically on the logistics of early project start up and structural trades. To get you started, Jefferson has prepared a site plan showing the construction site and the area across the alley that the Owner has rented for Morley’s use throughout the duration of the project. Additionally, Jefferson has given you an initial “list of issues and constraints” based on discussions with the owner and the City of Santa Monica. Be sure to thoroughly address all issues listed below. When creating your site logistics plan, keep in mind vehicular control/access as well as pedestrian flow/safety. You can use the Site Plan included (Google Map View) as well as other plan views from the drawing set to clarify your site logistics plan (only if you think additional plan views are required).

**The following is a list of issues and constraints from Jefferson:**

* Review Exhibit V.A.1 – Site Plan for Logistics. The construction site and the area outlined in red are available for your use for the duration of the project. As explained in SECTION IV - ESTIMATING, sidewalks, parking lanes, active traffic lanes, and the alley are also available to use (for a cost!).
* Unless it is taken over for the day via use of a traffic control plan, the alley cannot be used for deliveries or staging.

**The site logistics plan should show the following items at a minimum:**

* Concrete Pump Staging Area
* Jobsite Trailer
* Identify which public spaces (parking lanes, sidewalks, traffic lanes, etc.) will be taken over
* Location for the Exterior Mockup
* Tower Crane(s) Location(s)
* Construction Debris/Trash Chute(s) (for framing subcontractor and other trades after upper level concrete decks are poured)
* Man Lift(s) for Landmark Building
* Man Lift(s) for New Hotel
* Include a narrative to support your logistics plan (1 page minimum, 2 pages maximum)

After completion of the site logistics plan, be sure to incorporate the decisions into SECTION IV - ESTIMATING.

Your final logistics plan(s) should be drawn to scale.

**Deliverables:**

1. Site logistics plan(s) scaled and printed on 11x17

**B. CONSTRUCTABILITY ISSUES**

As stated earlier, the work onsite starts tomorrow. Even though design teams and consultants often have the best intent of providing all necessary details and information within the drawings and specifications in order to allow the contractor to move forward building the project, oftentimes there is additional information and clarification needed. Jefferson, your project superintendent, has been reviewing the drawings and specifications during the preconstruction phase with the intent to identify holes in the design. Since work in the field starts tomorrow, he will be too busy managing the site to get the answers he needs. He needs you to flush out the questions he has prior to construction for those items occurring onsite soon and work that will occur later.

Jefferson has printed out specific details in the drawings and left vague notes alluding to his questions on your desk. It is your responsibility to write Requests For Information (RFIs) to the owner’s representative and design team to get the answers he needs. Make sure you are as thorough as possible as the answer needs to be distributed and understood by all trades involved in the question. However, recognize that the owner’s representatives and designers are busy as well. They do not take it lightly if you ask questions that are already identified in the contract documents. Confirm you have done a thorough check of the contract documents prior to issuing the RFI. If the answer is already in the contract documents and the design team does not need to provide the response, be sure to let Jefferson know this is the case.

Remember, a properly written RFI will address the following concerns, in addition to identifying the question:

* Request to the proper design team members, including engineers and consultants
* Date answer is needed by (indicate activity in your schedule this RFI response will impact)
* Thorough description of the issue, including attachments as necessary
* Reference to all applicable contract documents, including specifications (where the RFI and appropriate answer will eventually need to be posted)
* Indication if the possible response will lead to additional costs and/or schedule impacts
* A potential solution to the issue that minimizes cost and schedule impacts
* Distribution list of subcontractors that will need to see the answer to the subject RFI

**Deliverables:**

1. Create RFIs for the comments/questions left for you by Jefferson (reference Exhibits V.B.1 through V.B.6). These should be submitted on 8-1/2” x 11” documents with all the information needed above. A blank template of a typical RFI is shown in Exhibit V.B.7 to guide you in the right direction. If the answer to any of Jefferson’s comments/questions is already in the documents or not the responsibility of the design team, use a blank template RFI, copy and paste Jefferson’s comment/question into the Question section, and provide the Answer.
2. **Bonus points**: Create ONE (1) or TWO (2) additional RFIs off of the contract documents that Jefferson has not pointed out to you as an issue but you see will be when constructing this project.

**Bonus points**: Prioritize the RFIs based on project schedule by numbering them in the lower right hand corner of each RFI, with 1 being the earliest answer needed and the higher number being the latest answer needed. You do not need to number the Bonus RFI(s) if you came up with any.

**C. EMBED PLAN**

As you’ve noticed during your review of the new hotel drawings, there are several architectural cladding systems that make up the exterior façade of the New Hotel. These architectural cladding systems will rely on embeds cast into the concrete slabs to attach to the concrete structure after the structural work is complete. In designing the mockup, the architect has provided Morley Builders and the subcontractors a chance to build each of the exterior architectural cladding systems before production installation of these cladding systems begins in the field. Jefferson has tasked you with creating embed plans for the mockup.

What is an embed? The definition of embed as a verb is “to set or fix into a surrounding mass.” On construction projects, an embed is an item that is permanently cast into the concrete for use at a later time. Typically, embeds can be steel plates (steel plates are often use to weld another piece of steel on later), anchor bolts (typically used to anchor something with a nut over the bolt), or threaded inserts (MEP subcontractors often use these to hang their mechanical systems), but they can really be anything that gets cast into the concrete for any required use at a later time. See Exhibit V.C.1 for a photo of embeds installed prior to a concrete pour.

Embed plans are drawings that specifically show locations of the embeds without additional information. Even though additional information is not shown on an embed plan, it is critical to take other information into account so that the embeds are placed correctly with the intent that they can be used for their intended purpose at a later date. Embed plans should clearly identify where an embed is to be placed relative to gridlines and should be provided for each level that includes embeds. In order to make sure you are providing enough information, imagine that you are the carpenter standing on top of concrete formwork that has to place these embeds. You need to clearly identify exactly where the embeds will be placed with respect to horizontal and vertical locations.

The following architectural cladding systems will require embeds for attachment to the concrete structure:

* Exterior Stucco/Plaster System
* GFRC
* Window Wall System
* Glass Guardrails
* Precast Fins

The following are parameters for each architectural cladding system:

**Stucco System**

* + Continuous embed is required at the bottom of the concrete slab for stucco columns at each level.
  + See Exhibit V.C.2 for stucco embed size.

**GFRC**

* + Two embeds are required at the top of slab and at each GFRC column at each level.
  + See Exhibit V.C.3 for GFRC embed options. You are to choose 1 of the 2 embeds available to apply to all GFRC columns on the mockup.

**Window Wall System**

* + Embeds are required at the top and bottom of each window (in all exterior facades) 24” on center.
  + Embeds should be in the center of the window top track/mullion.
  + Embeds are not required above glass doors.
  + See Exhibit V.C.4 for window wall embed size.

**Glass Guardrails**

* + Glass guardrail embeds are required 12” on center at each guardrail.
  + Embeds should not protrude into the gap at the ends of the guardrails. Assume 2” gap is to be provided at ends of guardrails.
  + See Exhibit V.C.5 for glass guardrail embed size and location relative to exterior face of slab.

**Precast Fins**

* + Precast Fin embeds are required at the top and bottom of each precast fin.
  + Assume precast fin embeds are centered within the precast fin’s footprint.
  + See Exhibit V.C.6 for precast fin embed size.

**Deliverables:**

1. Embed Plan(s) for each level of the Mockup, scaled and printed on 11x17. Embed plan(s) should be drawn in plan view, and you may need to provide Top of Slab (TOS) and Bottom of Slab (BOS) plans for each level.
2. Provide total quantity for each type of embed (stucco, GFRC, Window Wall, Glass Guardrails, Precast Fins)

**D. Mockup Coordination Meeting**

The mockup is an important component of the project as it will be used by the owner to approve both exterior and interior finishes. Another reason the mockup is important is that it will give Morley Builders and the subcontractors a chance to figure out the best way to install each scope so that all future work on the actual Hotel can be installed as efficiently as possible (more efficiency = more profit). Mockups also provide insight as to whether or not certain design details may need to be reconsidered by the architect or owner. Whether it’s design details or subcontractor sequencing that needs to be reconfigured, it all starts with conversation and coordination meetings with the general contractor and the expert subcontractors (you!).

Jefferson will hold two separate mockup coordination meetings today. At the beginning of the day, one of your teammates pulled a number and letter out of a hard hat. Your number and letter identify your team’s trade and the meeting that your team will attend. You and another teammate will be expected to participate as representatives of your trade. **Two, and only two students from each team must attend.** See below for your role and meeting time based on the number and letter you pulled from the hard hat.The meeting will last 30 minutes.

|  |  |
| --- | --- |
| 2:00 PM Meeting |  |
| **School Number/Judge Name:** | **Role/Trade:** |
| **AJ** | **General Supt./Jefferson** |
| **Izzy** | **Plumber** |
| **Diego** | **Sheet Metal** |
| **Jeremy** | **Waterproofer** |
| **Ryan** | **Morley Project Manager** |
| 1A | Precast Fins |
| 1B | GFRC |
| 1C | HVAC |
| 1D | Glazer |
| 1E | Framer |
| 1F | Stucco/Plaster |

|  |  |
| --- | --- |
| 3:00 PM Meeting |  |
| **School Number/Judge Name:** | **Role/Trade:** |
| **AJ** | **General Supt./Jefferson** |
| **Izzy** | **Plumber** |
| **Diego** | **Sheet Metal** |
| **Jeremy** | **Waterproofer** |
| **Ryan** | **Morley Project Manager** |
| 2A | Precast Fins |
| 2B | GFRC |
| 2C | HVAC |
| 2D | Glazer |
| 2E | Framer |
| 2F | Stucco/Plaster |

As you’ve noticed while estimating the mockup, it captures several exterior conditions as well as a typical interior guest room. For the purpose of the mockup coordination meeting, you and your teammate should be prepared to discuss the Mockup drawings within Bluebeam. See below for Meeting Agenda.

Meeting Agenda:

* + - 1. What’s your trade’s scope on the mockup?
      2. What information does your trade need from other trades?
      3. What are the constructability concerns?
      4. Be prepared to discuss trade sequencing and details based on your scope.

Parameters:

Exterior has to be watertight before interior can begin.

**V – FIELD MANAGEMENT**

**710 Wilshire Project**

**Santa Monica, California**

**EXHIBITS**

The following exhibits are included in this section:

* Exhibit V.A.1 – Site Plan for Logistics
* Exhibit V.B.1 – Constructability Questions #1
* Exhibit V.B.2 – Constructability Questions #2
* Exhibit V.B.3 – Constructability Questions #3
* Exhibit V.B.4 – Constructability Questions #4
* Exhibit V.B.5 – Constructability Questions #5
* Exhibit V.B.6 – Constructability Questions #6
* Exhibit V.B.7 – Sample Blank RFI Form
* Exhibit V.C.1 – Embed Example Photo
* Exhibit V.C.2 – Embed Information – Stucco
* Exhibit V.C.3 – Embed Information – GFRC
* Exhibit V.C.4 – Embed Information – Window Wall
* Exhibit V.C.5 – Embed Information – Glass Guardrail
* Exhibit V.C.6 – Embed Information – Precast Fins