REGION 6
ROCKY MOUNTAIN REGION
AK. AZ. CO. ID. MT. NV. NM. UT. WY

ASSOCIATED SCHOOLS ASC OF CONSTRUCTION

REGION 7
FAR WEST REGION
CA. HI. OR. WA

Region 7- Commercial Building Division

February 3-6, 2021

Problem Statement

Sound Transit
Operations & Maintenance Facility - East

PROBLEM STATEMENT
DAY 2

Bellevue, WA

Problem Sponsor:

HENSEL PHELPS
Plan. Build. Manage.

TABLE OF CONTENTS

PROBLEM SPONSOR

HENSEL PHELPS
Plan. Build. Manage.

Northern California District
4750 Willow Road
Pleasanton, CA 94588
(925) 494.9700

Southern California District
18850 Von Karman Avenue, Suite 100
Irvine, CA 92612
(949) 852-0111

Southwest District
8326 Cross Park Drive
Austin, TX 78754
(512) 834-9848

Southeast District
6557 Hazeltine National Drive, Suite 1
Orlando, FL 32822
(407) 856-2400

Plains District
12121 Grant Street, Suite 410
Thornton, CO 80241
(720) 592-2000

Mid Atlantic District
1600 Tysons Boulevard, Suite 800
Tysons Corner, VA 22102
(703) 720-4900

Western District
3125 E. Wood St, Ste 100
Phoenix, Arizona 85040
(480) 383-8480

Pacific District
841 Bishop Street, Suite 2001
Honolulu, HI 96813
(808) 535-9500

Pacific Northwest Area Office
15375 SE 30th Place, Suite 110
Bellevue, WA 98007
(425) 646-2660

Corporate Office
420 Sixth Avenue
Greeley, CO 80632
(970) 352-6565

www.henselphelps.com

I. COMMERCIAL DIVISION TIMETABLE

WEDNESDAY, FEBRUARY 3RD
Day 1
Opening Conference / Distribute Problem /
Provide Presentation Order ..... 11:15 AM
First Progress Meeting / RFI's Due ..... 2:00 PM
Individual Team Check-In Meetings ..... 4:00 – 5:30 PM
Day 1 Content Due ..... 8:00 PM

THURSDAY, FEBRARY 4TH
Day 2
Opening Conference / Distribute Problem /
Establish Presentation Order ..... 7:00 AM
First Progress Meeting / RFI's Due ..... 9:00 AM
Subcontractor Interviews (10 min. / team)..... 11:00 AM – 2:00 PM
Day 2 Content Due ..... 5:00 PM

FRIDAY, FEBRUARY 5TH
Interview Materials Due (all teams)..... 6:45 AM
Interviews Start ..... 7:00 AM
Project Debriefing..... 6:30 PM

SATURDAY, FEBRUARY 6TH
Career Fair ..... 8:00 AM -12:00 PM
Awards Ceremony..... 1:00 PM

II. PREFACE

WELCOME to the 2021 ASC Student Virtual Competition. All participants are to be commended for the personal time and commitment made in preparing for and participating in this competition during a PANDEMIC. The construction industry has noted these sacrifices and the premier student population that is competing this year. This is evident in the quantity and quality of companies committed to the competition and Career Fair.

The student competition is designed to challenge each team in different facets of the construction industry. Each team's estimating, scheduling, organization, leadership, productivity, and communication skills will be tested and enhanced while participating in this competition.

The competition will present each participant with construction industry exposure that may not otherwise be experienced until after working in the industry. It is Hensel Phelps' desire to present each team member with real life situations through this competition. Some of these "experiences" may seem uncomfortable and/or appear to contain no logic. Be aware the real world is very often not kind, fair, or logical! The construction industry will present situations where people are less than pleasant, and pressure is applied to the extreme, but it will also provide great feelings of accomplishment and team camaraderie. Some questions, both in real life and in this competition, may have multiple answers and some questions may have no correct answer. The superior level of the student competitors attending the competition should embrace these challenges and recognize the value of these lessons.

The judges in the interview presentation portion of this competition may seem to "put you through the wringer" with tough questions and references to deficiencies in your written proposal. Although it is human nature to "take it personal", please understand that these lessons are for the good of your development and excellence. It is not the intent of the judges to frustrate and alienate you, yet the spirit of competition places a duty on the judges to ask the hard questions that will allow team rankings to occur. At the end of the competition each team member should reflect on the knowledge and experience gained, and hopefully the judges can become mentors and friends to you.

As a driven team member, realize that all teams have come to the competition with the main goal of WINNING! However, with so many competitors, also realize that there can only be one winner announced. As an intelligent, driven, and committed individual, you should recognize the vast knowledge, industry exposure, and experience gained in competing and finishing this problem. This is the real reason all teams and individuals are competing. Yes, it is true, every person competing is a winner, regardless of the final overall placement. Make sure you, and your team, understand this; it does make a difference!

Determination of the Winner is based on a uniform grading scale for the written portion of the competition coupled with the oral presentation, judged by a seasoned multi-member judge panel. The combination of these two components, in the scoring ratios listed, determines the overall team placement. Overall team placements will not be posted, but feedback will be provided after the competition.

Congratulations for participating and Good Luck!

III. PROBLEM SCENARIO

Congratulations, your team was successful in the pursuit of the design-build Operation and Maintenance Facility – East project! Your team is working through the Preconstruction and Design phase of the project and has completed the first milestone, Construction Start. Major components of the design and buyout are complete, and you have reached the point of inflection where critical decisions need to be made. Hensel Phelps prides ourselves on our ability to drive the project schedule through self-performed work and this project may be a prime opportunity to utilize our skills. However, there are limitations to available craft in the District as there are multiple projects utilizing these resources. In addition, with construction underway, the team shall evaluate remaining risk items against overall contingency and review any margin enhancement options.

Upper Management has requested a Third Point meeting to review the current status of design, buyout and remaining project risks. The review meeting will be your team's opportunity to present the current project strategy, overall risk mitigation measures and report back on the financial strength of the project. Your written overview is due by **5:00 PM tonight**, and you will be asked to present your findings during the Third Point meeting tomorrow.

Any questions should be delivered, in writing, on the Request for Information form (RFI) to the senior management team at the 9:00 AM meeting. The RFI form has been provided in the Supplemental Information (X.0.3).

Please note that some of the written questions occur later or earlier than the Third Point meeting, at some future or past point in the project. Consider these a "Time Warp" and answer them with that understanding. This is to challenge the team on the full realm of construction issues.

For the oral presentation on Friday, all teams shall include students representing the company's Project Manager, Superintendent, Estimator and Scheduler; other roles will be at the team's discretion. The 30-minute presentation should allow for 20 minutes of team presentation and 10 minutes of questions and answers. Your presentation should focus on the following topics: Cost, Schedule, Site Utilization, Construction Planning, Quality and Safety. Creativity and innovation are encouraged, **shallow marketing pitches are not.**

IV. PROJECT INFORMATION

In 2008, voters of the Central Puget Sound region approved the Sound Transit 2 ballot measure. The ballot measure authorizes Sound Transit to expand the regional commuter system and build 26 additional miles of light rail to form a 55-mile regional system. Sound Transit is extending mass transit light rail service along the east side of Lake Washington from I-90 to Redmond. The East Link Extension will construct light rail service from the Central Business District of Seattle to the Overlake Transit Center, within the City of Redmond. Full service is scheduled to open in 2023.

The function of the Operations and Maintenance Facility - East (OMFE) is to store, maintain and deploy the expanded light rail vehicle fleet to operate the east link and Lynnwood Link extensions in 2023. The facility will be in Bellevue, WA and will be fully staffed and operational to support the commissioning and pre-revenue service of those extensions during 2022.

This OMFE project is proceeding in the context of the redevelopment of the neighboring Spring District and Bel-Red neighborhoods, which will dramatically increase the intensity of commercial and residential uses nearby and offer opportunity for this project to contribute to the dynamic growth of the community.

Sound Transit has determined that this project will be delivered as a Design-Build project awarded based on a best value selection projection process with a not-to-exceed, maximum upset price. The project is a fully functional light rail maintenance and operations facility for the storage and maintenance of 96 light rail vehicles. The awarded team will also be responsible to develop the concept for a Transit Oriented Design (TOD) master plan to the property immediately to the south of the maintenance facility. The design-build scope includes planning and provisions for optimizing the potential surplus properties for future transit-oriented development (TOD) by others as well as the Master Development Plan that will need to be approved by the City of Bellevue and provided to Sound Transit.

PERSPECTIVE VIEW: AERIAL VIEW FROM SOUTH LOOKING NORTH (CONNECTION TO ERC AT BOTTOM LEFT)

PERSPECTIVE VIEW: APPROACH TO TOD FROM LINK STATION

PERSPECTIVE VIEW: ALONG 120TH STREET LOOKING WEST INTO TOD ACCESS ROAD

PERSPECTIVE VIEW: AERIAL VIEW FROM WEST LOOKING EAST TOWARD SPRING DISTRICT

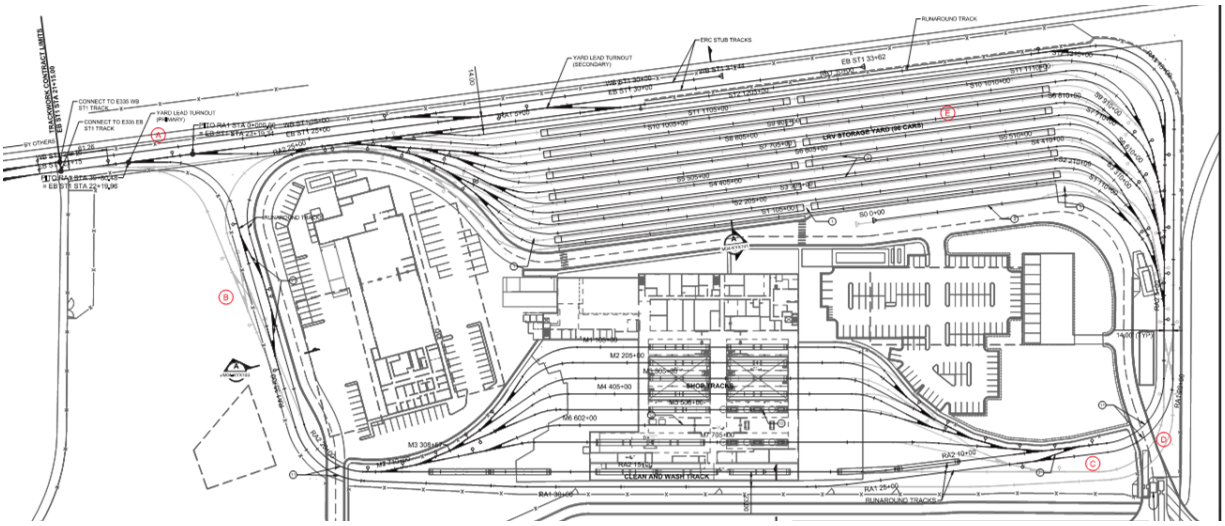
The scope includes an Operations and Maintenance (OMF) Building to service and maintain the Light Rail Vehicles (LRV) and a Maintenance of Way (MOW) Building to service the non-revenue vehicles (NRV) and other measures for the east link guideway. The OMF building is 140,000 SF and houses a variety of functions including ST Admin space, training space, a material storage facility with racking, two lower-level work areas to service the LRVs from below, mezzanines to service the top of the LRVs, overhead cranes, LRV and truck hoists, turntables, wheel truing equipment, an LRV wash bay, and a sanding system. The MOW building is 40,000 SF and houses ST Admin space, locker facilities, drive in work bays, and overhead cranes to service non-revenue vehicles.

AERIAL VIEW OF THE OMF BUILDING'S ROOFSCAPE, LOOKING NORTH

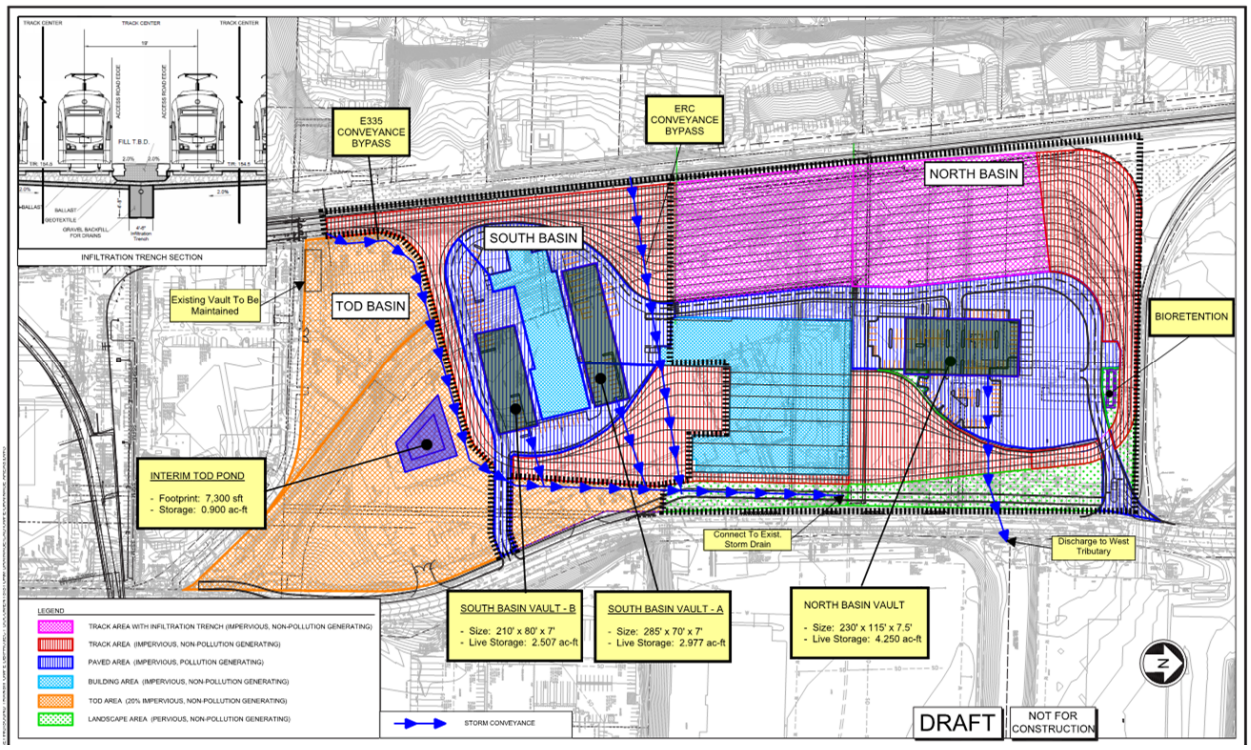
AERIAL VIEW OF THE MOW BUILDING'S ROOFSCAPE, LOOKING NORTH

The project is located on a 23-acre site, that outside of the two buildings is extremely tight and filled with many supporting elements. To kick off the project before construction, demolition is necessary to remove the existing (6) buildings currently on the premises, before performing site grading to level the site. The scope includes all track required to store the LRVs as well as provide access through a run-around track serving the maintenance and wash bays, and a mainline access track to East Link on the south and a future mainline access track to the north. Storage and Maintenance track "fans" provide access to the OMF maintenance bays and storage track

area. The site also includes staff parking areas, parking for NRVs, a smoker's enclosure, hazardous material storage, bulk material storage, access roads, bike storage enclosure, landscaping, emergency generator, equipment storage yard, site fencing and gates, site lighting, ST Artwork, a guard shack building, and above grade and below grade storm water facilities. The trains are powered by an Overhead Catenary System (OCS) power system; therefore the scope includes all OCS power poles and cabling, Traction Power Sub-Station (TPSS), and Signal Houses to support the train power, control and signalization systems.



1.03.7.2 STORMWATER STRATEGY



Outside the project fence, several improvements will be required to maintain vehicle and pedestrian access around the new facility including roadway work, sidewalk construction, urban improvements and landscaping, utility work, replacement of the King County regional sewer line,

Interim Trail improvements in the Eastside Rail Corridor along 120th St NE and north of the OMF-East and coordination with the ST Public art program.

The project is anticipated to start design in 2021 after contract execution and begin construction later in 2021. The OMFE project shall be substantially complete during October 2024, inclusive of Sound Transit controlled float. All commissioning and testing must be complete for Sound Transit to deliver light rail vehicles to the site in January 2025.

The Design-Build Team must consider not only the RFP project requirements that have been stipulated by the Owner but must also work with stakeholders to ensure the design meets their expectations. Hensel Phelps' previous experience in leading Design-Build projects similar in nature in other regions of the country provides your team with confidence in its ability to deliver this project on time and within budget.

V. PROBLEM OUTLINE

Structure and tab your documentation according to the following outline. Include only the information requested in **Section VI. Submission Requirements.**

VI. SUBMISSION REQUIREMENTS:

Please note that some of the following questions do not fit into the time frame of the Problem Scenario described earlier (i.e. they occur earlier or later in the construction phase), consider these a "Time Warp" and answer them with that understanding.

0.1 EARLY DELIVERABLE - BIOGRAPHIES

Although this item has past, as a requirement of the Pre-Problem Statement, your team's final score may reflect a small point deduction if you failed to comply with this item in a timely and professional manner.

0.2 QUALITY OF SUBMITTED PROPOSAL

The appearance and organization of proposals is important in the construction industry as it is often our first opportunity to interact with a new Owner and/or impress the upper management in our company. We want them to see the professional image we are trying to portray and be able to find and understand the information we are presenting. Points will be awarded in this section based upon the appearance and organization of your team's submitted response to the following problems.

0.3 TIMELINESS OF PROPOSAL

Unless stated otherwise, one electronic copies of your proposal are due at **9:00 PM for Day 1 and 5:00 PM for Day 2,** as per the Timetable in Section I. A ½ point penalty will be deducted from the team's score for each minute the proposal is turned in late.

1. FINANCIAL STATUS REPORT (FSR)

Written by Tolu Dayo

One of the most useful tools we have is the Financial Summary Report (FSR) which is developed during the RFP phase to be turned over to the construction team at the start of the project once the project is awarded. The FSR will become a useful tool to the project team for keeping track of buyout of scopes on the project, tracking gain/losses and margins throughout the project. It is a useful tool to communicate with your upper management team the financial health of the project at any given period. The FSR also helps to keep track of any negative or positive changes which allows the team to course correct and implement strategies to correct any possible negative dips in the margin ahead of time.

PART C: Financial Status Report

We've been awarded the project and it is time to buyout the remaining trades. At this time, we may need to re-assess the fee and contingency percentages based on the actual subcontractor buyout values. As the Project Manager, an updated FSR spreadsheet (X.1.2) is essential in tracking all trade partner selections and any financial positive or negative shifts that have occurred throughout the purchasing process.

Using the new information gathered, update the FSR spreadsheet located in section X.1.2.

With all the information you have gathered and compiled into the Financial Status Report, your team will be tasked with providing a written narrative that indicates the current project budget, contingency changes and what the final project margin will be. Please keep this write up brief and concise as your upper management needs a snapshot in time for the financial status of the project.

FSR Deliverables:

1. Submit an electronic copy of the native format (Excel) of the completed Financial Status Report (X.1.2).
2. Submit an electronic copy of the narrative for the current financial status of the project.

2. ESTIMATE

Written by Alexa Watanabe & Eric Freedman

PART B: MOW Concrete Pavement Estimate

Estimate

Due to heavy service vehicles and boom trucks utilizing the Hot Mix Asphalt (HMA) paving originally designed around the Maintenance of Way (MOW) Building, Sound Transit has expressed concern over the long-term longevity of the pavement's performance. To alleviate this concern, they have directed the project team to redesign the current HMA paving to be Portland Cement Concrete (PCC) paving. The design team has developed a new set of drawings (Bulletin 32) which depicts the revised design. Since Hensel Phelps is self-performing the concrete scope on this project, you have been asked by your Senior Estimator to develop an estimate for the total cost of the new concrete pavement scope design to present to the Owner with Bulletin 32.

Use the provided OMFE Design Bulletin 0032 PCC Pavement Drawings (X.2.2) and WSDOT Standard Specification for concrete pavement (X.2.3) to quantify the total costs of the concrete paving scope at the MOW building per Bulletin 32, specifically:

- Bulkheads
- Formwork
- Expansion Joints
- Reinforcement Steel
- Concrete Materials & Accessories
- Place & Finish

Supplemental Information:

- Concrete Paving Estimate Spreadsheet (X.2.4) - This spreadsheet has been formulated for your use in compiling data, all teams will use the same format. Only yellow cells should be edited.
- Cost Data Sheet (X.2.5) – Resource for labor, material, and equipment unit costs.

Assumptions/Clarifications:

- PCC is to be placed prior to HMA roads
- Tooled joints are to be used at placement boundary edge forms in lieu of sawcuts, except at edge forms adjacent to HMA roads/lots or the building slab. Tooled joints need to be tooled from both sides of pour break
- For the purpose of this problem, assume any pours utilizing a concrete pump can use the $26/CY subcontract rate
- For the purpose of this problem, use dowel joints at transverse AND longitudinal contraction/construction joints
- Assume pre-fabricated steel edge forms (see image below) with pre-drilled dowel holes can be used at all non-curved placement boundary edges to maximize labor and cost efficiency

- Through communications with a Hensel Phelps project in the Pacific District (Hawaii), it was agreed that the OMFE-East project will be purchasing the formwork and shipping it out to Hawaii once concrete is complete. Therefore, half of the cost for

formwork will be paid by the Pacific District, which will save money for both projects. This reduced cost is already reflected in the cost data sheet (X.2.5)
- Plywood infill forms should be used at all curved placement boundary edge forms, wherever the steel edge forms cannot be utilized
- Due to cold weather conditions of the Pacific Northwest, additional curing and protection measures have been included in the estimate

PCC Pour Sequence Plan

To develop an accurate cost of this self-performed concrete work, it is important that you consult with your team to determine a safe, cost-effective plan to execute the work. Using the pour plan sequence template provided in X.2.6, illustrate your concrete placement plan. This plan should be reflected into the quantities and durations used in your concrete paving estimate. Use the following assumptions when developing the pour sequence plan:

- Pour break sections have been designated in red. Use this template to indicate which areas are to be included in each pour #
- To minimize overtime labor costs, maintain a pour size below 85 CY (+/- 2 CY) per day
- Site grading and base installation will start at the SW corner and work counterclockwise. Your placement logic should also generally follow this flow
- Assume the durations for forming and placing PCC sections are as follows:
  - Day 1: install formwork with dowels
  - Day 2: place & finish PCC
  - Day 3: strip formwork and sawcut

The information in your placement plan should include:

- Dates and pour numbers of each pour (for the purpose of this question, the PCC concrete is to take place after the MOW building is dried in, and prior to HMA road placement.
- Location of pump (if required)

Pricing Letter to Sound Transit

Upon completion of developing the placement plan and concrete paving estimate, it is now time to present your price to the Owner. Using the letter template provided in X.2.7, submit a letter to the Owner identifying any assumptions made for the estimate and give reasoning as to what factors created the logic behind how your placement plan was created. Other items the letter should reference include:

- Bulletin 0032 illustrating the scope change from HMA to PCC
- Logic behind pour sequence plan
- Assumptions that were included within the PCC estimate
- Any clarification to the quantities provided within the PCC estimate

Estimate PART B Deliverable:

1. Submit an electronic copy in native format (Excel) of your PCC Estimate (X.2.4).
2. Submit an electronic copy (PDF) of your concrete placement plan (X.2.6).
3. Submit an electronic copy (PDF) of your estimate submission letter to Sound Transit (X.2.7).

3. GENERAL CONDITIONS

Written by Isaac Gilles

PART B: Preconstruction Staffing Shuffle

(Note: General Conditions budget from this part should be carried to the FSR section)

The project has just been awarded and now your staffing must be actualized. Instead of simply tracking positions and associated salaries, it is time to make this work happen, seats must be occupied. Using the District Staffing Matrix (X.3.2), analyze Northern California's available personnel. Take note of their statistics and review their experience with transit, experience with construction, etc. Keep in mind you will need to be flexible, sometimes the best fit for the job is just plain unavailable. Keep in mind there may be opportunities for growth as well, see (X.3.5) to review career progression at Hensel Phelps.

As you complete the Staffing Plan, take note of your assumptions and justifications for staffing recommendations that you feel are abnormal or require justification. Grading will be based on logic and reasoning of your staffing recommendations. Any pertinent information to justify your matrix should be written in the assumptions and justifications section of the spreadsheet.

General Conditions PART B Deliverables:

1. Submit an electronic copy in native format (Excel) of your revised Staffing Plan (X.3.1B).
2. Submit an electronic copy (PDF) of your Staff Organizational Chart (with names) (X.3.2B).
3. Submit an electronic copy in native format (Excel) of your revised General Conditions matrix (X.3.4B).

PART C: Staffing Reshuffle (Interns, New Hire FEs & OEs)

*(Time Warp to Pandemic Outbreak. Consider this section independent of other sections unless noted otherwise. **Do not** carry GC value forward to FSR Section.)*

A pandemic has broken out, and the industry is addressing staffing for the foreseeable future. Hensel Phelps prides itself in the quality of our people. Upper management has immediately addressed the issue and is finding ways to enhance the work protocol to be in compliance with pandemic protocols. Everything is in place to ensure your interns feel as safe as possible coming into the last summer of the project. You're tasked with analyzing the status of your current interns and new hires.

In addition to this, other contractors have been forced to rescind offers from top tier intern talent that previously declined Hensel Phelps' offer. With this in mind, there is an opportunity to reach out to students who may have previously rejected an internship with Hensel Phelps and see if there is interest to reconsider. You must analyze how many additional interns the OMFE project is able to accommodate. Revise your staffing plan to show what it will look for the final summer of the project (2024) post pandemic break out.

Provide an updated general condition estimate and recommendation to Upper Management for the new plan for interns. What is the cost impact? Provide a brief justification as to whether investing in additional interns is worth the cost impact on this project. Your justification should be in accordance with your answer provided in Section 8 (Personnel Issues) Part D.

General Conditions PART C Deliverables:

1. Submit an electronic copy in native format (Excel) of your revised Staffing Plan (X.3.1C).
2. Submit an electronic copy in native format (Excel) of your revised General Conditions Estimate (X.3.4C).

4. PROPOSAL SUMMARY (TAB ANALYSIS)

Written by Marvin Perez

Most Design-Build ventures follow a 'fast-tracked' approach to the design, procurement and construction phases of a project. The OMFE project is no different. With construction underway, the structural design and procurement phases are complete. As your field team pushes ahead, the office team is tasked with getting all remaining design and procurement activities complete and ready for coordination.

You are a Project Engineer and have been assigned to help the Project Manager and Estimator complete the evaluation of the next phase of procurement. You've been assigned the miscellaneous metals and stairs, glazing, train wash and sanding equipment scopes of work. Your Estimator has prepared and distributed a Bid Package to several qualified bidders for these scopes of work. Proposals have been collected and your task is to review and determine the lowest qualified bidder for each scope of work.

Proposal Summaries, or 'Bid Tabs,' are used to compare proposals in an easy-to-read format. At this stage, it is important to distinguish which bidders have included all applicable scope items and to determine the true cost of each scope of work. It is imperative to understand which proposals are incomplete (i.e. missing scope items) and if there are any scopes accounted for twice (i.e. items included in multiple proposal summaries; double up on cost for the same scope of work).

The Project Manager and the Estimator in charge of procurement have created summary bid tabs with check questions to determine if the subcontractor has captured the entire scope per plans and specifications. The Scope Desired column has an assigned budget, based on previous estimates, which illustrates a complete scope and the current target value for the respective scope of work.

Review the proposals submitted by the subcontractors and chose your subcontractor wisely to ensure you have captured a complete scope instead of being deceived by the lowest bidder. It is encouraged that all teams round values to the nearest $1,000 to allow for quick summation of the Tabs.

Remember: It is your job to compare complete scopes to determine the correct value to carry. If a subcontractor has not included a certain cost/scope use Blue Numbers (Plug Numbers). Blue Numbers are values derived by your estimating team or through breakout numbers provided by other subcontractors that did capture the scope and provided a breakout number. Red Numbers (Negative Plug Numbers) can be used for the opposite of a Blue Number that a sub included too much scope/cost and should be deducted from that subcontractor as that scope/cost would be on a different bid tab.

You will be allowed to briefly interview each subcontractor video call to ask general scope questions not already included in their proposals or to clarify inclusions or exclusions within their proposals. A representative of that subcontractor will be available through video call between 11:00 AM and 2:00 PM. Each trade will be represented by a separate member of the Hensel Phelps team, giving you the opportunity to interview multiple subcontractors at once. You will be allotted ten (10) minutes to conduct your interviews. Please note that this is intended to be a realistic exercise. Your subcontractors may be rude or evasive; this is not an attempt to frustrate the team, but rather to represent the very real difficulties encountered in real time buyout situations. The following contract requirements must be considered:

- Company Policy requires bonding on all subcontractors with subcontract values over $50,000.
- Ownership has asked that all confirmed pricing be held for 90 days.

Proposal Summaries for miscellaneous metals and stairs, glazing, train wash and sanding equipment included in section X.4.1 are the subcontractor proposals for each scope of work requested for review by your Project Manager and Estimator. Carefully read through each proposal and fill in the values for each line item on the Bid Tabs provided in section X.4.2 using blue and red numbers where necessary to assure a complete scope. Once you have completed your review sum up the total value and select a subcontractor by circling the complete value for the required scope of work.

Proposal Summary Deliverables:

1. Submit an electronic copy in native format (Excel) of each proposal summary with all subcontractor cells filled in and the selected subcontractors total value circled.
2. Submit an electronic copy with a brief narrative for each of the (4) scopes (500 or less words in total) explaining why the subcontractor for each scope was chosen.

5. SCHEDULE

Written by Nick Kawamoto & Anna Cummins

PART C: Detailed Scope Analysis

(Time warp to construction of OMF and MOW building envelope.)

You are a recently promoted Area Superintendent who is overseeing the exterior building envelope scope for both the OMF and MOW buildings. The metal panel subcontractor has just provided you the confirmed metal panel delivery dated of June 13, 2023. In anticipation for Pacific Northwest seasonal conditions, the building envelope needs to be substantially completed by December 1, 2023. Your Project Superintendent has requested a detailed schedule and workflow for this sequence of work, depicting the plan to get from the metal panel delivery date to the date where the building is substantially dry to proceed with interior construction. Your subcontractors have provided you with some production information and durations, but it is your job to put together to complete schedule incorporating all elements of the exterior enclosure, including metal wall panels, glass and glazing, doors and frames, bifold, sectional and coiling doors, roofing, flashing and sealants.

In order to maintain flow and composition, schedules are typically organized by a WBS. The WBS is the outline of a schedule, and acts as an umbrella to capture the theme or specific nature of an activity set. A WBS can contain multiple layers and subsets to aid in the organization of the activities, or it can be simply based on the structure and complexity of the schedule.

Please use the following guides to develop your WBS:

1. Format Criteria:
    1. Activity count: No less than 50 and no more than 75 activities
    2. There should be a continuous logic flow of critical path activities from the Notice to Proceed through to Project Acceptance.
    3. Organize your activities so they are easy to read, grouped intuitively and follow proper sequence to present a nice schedule “flow.”
2. WBS Criteria:
    1. Assume that the concrete stem walls have already been placed, cold form metal framing has been installed, parapet framing and sheathing has been installed and the building is ready to begin exterior construction.
    2. Your metal panel foreman has indicated his crew can install 750 SF of metal panel in a normal or one louver, both inclusive of all gasketing, flashing, and trim in an 8 hour day
    3. Your bifold, coiling and sectional door supplier has confirmed that the doors are readily available, but his crews will need 11 weeks to complete all of the large format doors, and
    4. Your glazing project manager has indicated that all materials for the project are readily available. The 4 framed curtainwall sections will take 2 weeks each, while the ribbon windows will take 8 weeks in total, including flashing, frames, glazing and sealants.
    5. The roofing superintendent has indicated that in dry weather (typically prior to October) his crew can install 2,000 SF of roofing a day. Once the rains start in October, his production drops to an average of 1,250 SF per day due to tarping and moisture mitigation. This crew is available to begin work beginning mid-August.

6. Hensel Phelps will be self-performing the installation of door and frames. Your foreman has indicated his crew can install 5 frames per day and one day per elevation to install the doors.
7. The details are critical to ensuring all materials are installed in the proper order to maintain weather tightness. Putting together this schedule will require an understanding of the details associated with the exterior enclosure and creating a flow of work for all trades.
8. The goal is to put together a schedule that has all trades complete substantially dry prior to the onset of heavy winter.

Schedule PART C Deliverables:

1. Submit an electronic copy of the WBS in Native File Format (i.e. XER file).
2. Submit an electronic copy of the WBS in PDF format.
3. Provide narrative for your plan to complete the work within the constraints provided. If work cannot be accommodated within the given timeframe, an explanation of your acceleration proposal should be included. Any acceleration proposals should have cost implications evaluated. The narrative should be no more than one page in length.

6. COORDINATION OF WORK

Written by Nadine Rivera

PART C: Hensel Phelps Furnish & Installation of Specialties

(Consider this section independent of Part A & B.)

Hensel Phelps is responsible for the purchase and installation of several specialties on the project, including casework, countertops, lockers and benches, and toilet partitions. As you continue to dissect the level 1 Restrooms and Locker Rooms plans, you must ensure a quality review of the product data and shop drawings in order to release material to meet the installation schedule. As you review the submittals for casework & countertops, lockers and benches, and toilet partitions, you request concrete curb as built dimensions to verify sizes of openings. The field engineers provide the curb as-builts as shown in attachment X.6.5.

1. Utilizing the contract documents (X.6.0B) and provided as-built (X.6.5), complete the submittal review and mark up of the lockers, benches, and toilet partitions (X.6.6) of only the following: Men's RR/Shower/Lockers (M04116), Women's RR/Shower/Lockers (M04117), Women's RR/Shower (M04119), and Men's RR/Shower (M04120). This review should be in comparison to the contract drawings intent and provided field as builts.

Coordination of Work PART C Deliverables:

1. Submit an electronic copy (PDF) of the submittal review/mark up.

7. CHANGE MANAGEMENT

Written by Grant Potter

(Time Warp to OMF Building Foundations)

Hensel Phelps subcontracted "Millwright Bros" an equipment supplier for the in-ground vertical car hoists and body stand, truck repair hoist, and truck turntables. The subcontract was issued as a Purchase Agreement for the manufacturing and supply of these 3 large pieces of equipment. The agreement included design-assist services required to integrate this equipment into the final IFC design drawings. During the buyout process, your Project Manager pulled you aside and said, "These guys are cheap, but HP is using them over at maintenance facility in D.C. so we should be okay." At the time this did not seem like a significant comment, however the entire project would be flipped on its head a year later.

Fast forward to late the middle of concrete foundation work, and the Project Engineer overseeing Millwright Bros has a concern about the recent payment request. The terms of the purchase agreement allowed Millwright to bill a large portion of their contract value prior to any equipment hitting the jobsite, see attachment X.7.4. The Project Manager insisted a Supply Bond was provided by Millwright. Millwright did provide a Supply Bond issued by Pegasus Insurance Company.

Then it happens, Millwright Bros closes their doors permanently. Your Project Manager gets a call from the maintenance facility in D.C. where another HP Project Manager discloses the information. Just like that, without any planning and preparation, HP is left without a supplier and has already paid out most of their contract. To further the challenge, your concrete team is a month away from digging the foundations for these hoists and turntables.

PART B: Provide Strategy to Overcome Subcontractor default

Your task is to figure out the best way to overcome this unforeseeable closure of the Millwright Bros company. HP has already paid out a large value of the contract and has nothing to show for it. Your team needs to figure out what the status of the fabricated equipment to see if there is any parts and pieces that can still be utilized. It may be wise to have someone take a trip to visit Millwrights facilities. You must strategize a way find someone else to do this work in a very quick time frame. You should also think about what type of contractual actions need to be taken with Millwright's company, bond, as well as notifying Sound Transit of this impact.

Change Management PART B Deliverable:

1. Submit your narrative of how you will overcome contractual challenges no later than 12:00PM to your One Drive folder. Please use the following as subject reference: *"School Name"* – Change Management Deliverable - Strategy.
2. Utilizing attachment X.7.3 Notification Template submit 3 separate notifications to the subcontractor, surety, and owner no later than 2:00PM to your One Drive folder. Please use the following as subject reference: *"School Name"* – Change Management Deliverable – *Notice Description*.

PART C: Determine Field Impact and Solution

Now that your team has figured out how to deal with Millwright Bros, you now need to provide a technical explanation to explain how you will overcome the impact to the field. Make sure to think about impacts to schedule, sequencing of work for concrete and steel. Since the concrete crew

was in the middle of foundations, you will have to find a way to keep them productive and minimize impacts. You must think outside the box in order to reduce major impacts to the CPM. Some options to consider; you could continue with Millwrights design for foundations and ensure the new supplier's equipment fits, or you could try and leave this area untouched and have your foundation activities work around this area, or you could pull off the foundation activities and shift the crew to other needs per your schedule. Steel erection needs to maintain its schedule start date. See attachment X.7.2 Vehicle Hoist Plans for drawings that your team will use to illustrate your plan. You team can provide multiple phases of re-sequencing of the work around this area.

Change Management PART C Deliverable:

1. Submit your graphical plan of how you will overcome this impact. Your graphical plan shall include notes and details explaining the various phases of the new sequence to maintain schedule. Utilize attachment X.7.2 OMF Vehicle Hoist Plans. Submit an electronic copy (PDF) of your plan and explanation.

8. PERSONNEL ISSUES

Written by Lissette Flores

(TIME WARP TO THE START OF THE PANDEMIC)

The Northern California District typically hosts over 40 interns each summer. Every active project is assigned 1-10 interns based on size, need, and overall experience. The OMFE project had three interns assigned for the last summer of the project. As news of the pandemic hit, management had the challenging task of evaluating whether to stay the course and keep the interns on the jobs for the summer or postpone their offers.

PART B: Internship Program

Upper management has requested you to develop an Internship Flexible Work Plan to assist in their evaluation of the internship program and how interns will remain safe on our projects during the pandemic. You are responsible for developing a two-page memo for the interns that outlines the project's work plan. The plan shall include the following information:

- CDC Guidelines
- Illness, Quarantine, and Sick Leave
- Personal Travel

In addition to the protocols listed above provide information that will help the interns understand what to expect during the summer internship.

- Housing
- Office protocols
- Intern events *(*Bonus point if you provide information on COVID safe intern events)*

Personnel Issues PART B Deliverables:

1. Submit an electronic copy (PDF) of the Internship Flexible Work Plan developed by your team.

PART C

Use the Intern Flexible Work Plan developed in Part B and provide a recommendation to upper management regarding the internship program for the summer. Write a narrative (250 words or less) that highlights your evaluation and final recommendation base on the work plan. In addition to your final recommendation, provide two alternative options that will be provided to your interns who may be required to delay or defer their internships.

Personnel Issues PART C Deliverables:

1. Submit an electronic copy (PDF) of your recommendation narrative.

PART D

Renee Morgan is a Project Engineer for Hensel Phelps and she is part of the recruiting team for the university where she obtained her undergraduate degree. When news hit about COVID-19 Renee's student network and all the recruits for the summer reached out to her with concerns about their summer internship since their peers had internships postponed.

This is a unique situation because the candidate pool has now grown. As a Hensel Phelps employee, you understand people are our biggest asset and internships provide a wonderful

opportunity to find if the company/employee relationship is a good match. You are tasked to determine if it is a good opportunity to bring in two additional interns for the last summer of the project.

Out of the options below choose the one that makes the most sense to you and explain in no more than 100 words the reasoning for your selection.

a. **Bring in candidates that had rejected your initial offer.** These candidates reached out to you looking for a second opportunity several months later.
b. **Participating in additional career fairs to bring in more candidates.** You decide to participate in additional recruiting events because there are additional candidates available.
c. **Keep only the accepted offers for the summer.** You decide to stay with the number of interns that had originally accepted their internship offer. for the OMFE project.

Personnel Issues Part D Deliverables:

1. Submit an electronic copy (PDF) of narrative.

9. SAFETY

Written by Andrew Van Steinburg

PART B - Fall Protection Planning / Activity Hazard Analysis (AHA)

The corporate safety policy at Hensel Phelps dictates that workers must use a form of fall protection when exposed to fall risks 6 ft. or greater. Fall protection is a broad umbrella term that includes preventative measures such as: using a fall restraint/arrest system tied off to anchor points, temporary guard rails, etc.—even hole covers are considered a form a fall protection. In each scenario, however, the effectiveness and practicality between the forms of fall protection may vary greatly. Henceforth, it is imperative that trade partners identify scopes of work that will require a form of fall protection ahead of time so that it can be vetted thoroughly with the working foreman as well an HP superintendent, usually in the form of a Fall Protection Plan or Activity Hazard Analysis (AHA).

Scenario:

The steel erector foreman is planning out some work that will be taking place on top of the mezzanines in a week or so. The mezzanine's working surface is approximately 12 ft. above the surrounding slab on grade and does not have any guard rails around the perimeter. As he looks around in the overhead space above the mezzanine, the foreman is scratching his head because he is used to having his crew use harnesses equipped with lanyards (Fall Restraint System) that attach to appropriate anchor points above—which clearly will not work in this case.

His crew will have to work near the edge of the mezzanine to complete their structural attachments for this scope of work, so he knows he will have to figure something out. A few minutes later, his journeyman points out that the square-edged structural columns already in place could be used as an "anchor point" with the help of a beam strap. The foreman agrees that even though the square edges of the column are somewhat jagged and could potentially fray and weaken the fall protection, it is a feasible solution and jots it down in his AHA draft. The foreman takes stock of the fall protection equipment he has on site in the gangbox and identifies (5) harnesses, (5) standard beam straps, and (5) 15ft. lanyards—one for each iron worker on the crew, perfect! The foreman eventually approaches you, the area superintendent in charge of the work, and hands you his AHA draft for review. Reference AHA document X.9.3.

1. Review the foreman's AHA (X.9.3) and provide written feedback as well as suggestions for a more clear, comprehensive plan to complete the work in this area. Be sure to identify any risks/hazards not addressed explicitly in the AHA, given the scenario above. Identify any control measures listed by the trade partner that are insufficient for the scope of work (not limited to fall protection). An example AHA of a separate scope of work has been provided to highlight the level of detail that is typically expected (X.9.4).

10. SITE UTILIZATION

Written by Matt Rickert

*(**Time warp** – Construction has been in progress for a several months after design. Below is the construction status of some of the main areas right now:*

- *King County Sewer Relocation has already been completed.*
- *The OMF building has been excavated to bottom elevation and is starting foundation and footings.*
- *Stormwater retention vaults on the south end of campus have been completed and buried.*
- *Stormwater retention vault on the north is being excavated and is nearing its bottom elevation.*
- *The MOW building's footprint will begin excavation in the next couple weeks.*
- *Immediately west of the MOW and continuing north is an area of interest for a bulk of the site utilities to soon begin work.)*

Site utilization plans play an integral role in construction by enabling the pictorial representation of both permanent and temporary facilities on site. Effective plans clearly communicate the flow of vehicles, equipment, and personnel, while allocating adequate space for both material laydown and assembly areas. Conversely, a poorly assembled site utilization plan will yield severe downsides to the schedule and budget due to double handling of materials and crew inefficiencies.

PART A: Site Utilization Plan

You are the Area Superintendent assigned to the Site Civil and Utilities scope. You have been keeping the Site Utilization plan updated on a monthly cadence. Your next monthly check-in with the Project Superintendent and trade partner management is tomorrow. Prepare your Site Utilization plan (use the provided drawing/aerial view X.10.1 – page 1) to show the current status of the work and the measures that are being taken to allow for a safe and well-coordinated worksite. Take specific considerations for excavation, foundations, and site utilities. As well, consider these constraints listed below.

Site Constraints:

- 16-18 trucks are constantly hauling off dirt at the North Vault. Maintain Truck traffic.
- Only use two of the gates at a time for Construction Entrance and Construction Exit.

NOTE: As Part of the deliverable, identify more constraints; credit will be placed on quantity and quality of constraints identified.

Site Utilization Plan Requirements:

- Site Fence
- Identify direction North
- Provide Measurement Scale (1 inch = X feet)
- Jobsite trailer for HP and trailers for 5 trade partners.
- Site Access point for Staff and workers.
- Parking Area
- Construction Zone Delineation (100% PPE Required)
- Emergency Assembly Areas
- A.E.D / First Aid location
- Construction Vehicle Access/Exit to and from Site
- Guard Shack at Entrance gate
- Wheel Wash station
- SWPPP Measures

- Material laydown area (min 25,000 sf) to be used by HP and 5 other trade partners.
- Break area/Dry Shack
- Restrooms
- Eye Wash Stations
- Dumpsters
- Temporary Electrical Panels
- Traffic flow / Haul Roads
- The North Vault will soon need laydown space for precast concrete panels. Panel dimensions are 10'x20'. At peak, you will need to stage 150 panels while others are being installed. Panels can be stacked 10 high. One month from now, you expect these will all be installed.

Site Utilization PART A Deliverable

1. Submit an electronic copy (PDF) of your site utilization map with consideration of the project timeframe.
   a. One overall Site Utilization map.
   b. Identify additional constraints. These additional constraints should be listed on a new/separate page from the map PDF. You will be judged on the quantity and quality of constraints identified.

PART B: Utility Phasing Maps

Since you manage the site utilities scope, you know that the site will soon be heavily impacted west of the MOW and West of the OMF due to all the utility installations that will begin. Utilities in this area include: Utility Water, Sewer, Gas, Site Electrical, Track Signal, System Signal, SEC/Comm, Traction Power, and Storm Water. In addition, you just received word from your Trackwork Trade Partner that they have a limited window of availability to be onsite and they have some requirements/constraints to accomplish their work.

1. They will arrive onsite in a month and will need a location (50' wide by 200' long) to deliver and store rail flat. It should be near the storage track yard west of the OMF.
2. Two months from now, they will need location for flash butt welding of rail. One end of this area must build upon the storage area mentioned above in item 1. The size of their area needs to be 50' wide by 900' long, flat. All rail for site will be welded into 800' long strings and stored in stacks until trackwork construction begins.
3. Three months from now, they will need to start trackwork construction. They require at least half of the yard's lanes by 900' long. All underground work, sub-ballast, and under drains must be complete to allow them to install track.
4. Four Months from now, they will need the entire yard for finishing trackwork construction.

For this specific area of the site (use the provided drawing/aerial view X.10.1 – page 2) create 4 phasing maps projecting your plan of how the West utilities will progress over the next 4 months in a way that will accommodate the Tracks scope. Provide a short description of 40-80 words on each of the four phased maps of how your utility work is meeting the needs of the Trackwork trade partner and the rest of the jobsite. It is critical that we enable their success, so phase the utilities work so that all parties can complete their scope in a timely manner.

Here is some Additional Information to help you determine how much work can be accomplished during each month's phase.

*(*Do not use these values in other problem statement sections)*

- Sewer 120 LF/Week

- Storm Water Drain 650 LF/Week
- SEC/Comm 450 LF/Week
- Site Electrical 450 LF/Week
- Traction Power 350 LF/Week
- System Signal 150 LF/Week
- Track Signal 250 LF/Week
- Utility Water 250 LF/Week
- Gas 300 LF/Week

To create these phased plans, copy over any key elements (such as measurement scale, north direction, etc.) from your overall site plan that you have created in Part A (X.10.1 - page 1) and paste them into Part B (X.10.1 - page 2). Then begin to edit your Part B plan to show the Utility locations inside our area of interest. Use the utility color codes provided to you in the Legend (X.10.1 – page 2). Once you have drawn all locations of utilities, copy the page of this Part B Utility plan so that you have four total copied pages for Part B. Customize each of these four copied pages to show the work area of utilities being completed during each of the four months. Highlight the work areas using the provided highlight colors. Identify the space that has been turned over to the Trackwork trade partner at each month's milestone (ex. the map for month two should have a 50'X200' area highlighted purple). Continue until you have a plan created for each month.

Site Utilization PART B Deliverable

1. Submit an electronic copy (PDF) of your West Utilities phasing map(s).
   a. Four monthly iteration maps of the West Utilities addressing constraints identified by Trackwork trade partner.
      i. Each phase map should show what is being accomplished during that month and what space has been turned over to the Trackwork trade partner. Include a short description (40-80 words) of what you are doing to accommodate the trackwork and coordinate with the rest of the jobsite.

11. TEAM MEMBERS RESUMES

Provide each team members personal resume (not a resume tailored to this problem). Include mailing address, telephone and email contact information. Photos are encouraged but not required.

VII. COMPETITION SCORING SYSTEM

Item	Description	POINTS
0.1	Early Deliverable - Biographies	0 (note 1)
0.2	Quality of Submitted Proposal	2
0.3	Timeliness of Proposal	0 (note 2)
1.	General Summary/Financial Status Report	7
2.	Estimate	16
3.	General Conditions	10
4.	Proposal Summary	14
5.	Schedule	24
6.	Coordination of Work	10
7.	Technical Proposal/Change Management	10
8.	Personnel Issues	10
9.	Safety	7
10.	Site Utilization	10
Subtotal		120
Oral Presentation		80
GRAND TOTAL		200 POINTS

Note 1: No points shall be issued in the competition for content of this previously due item; however points may be deducted from the team's score for having failed to comply with this item in a timely and professional manner.

Note 2: **½ point** will be deducted from the total score for **every minute** past the deadline time. Judges reserve the right to "cap" the penalty amount at their discretion; however, no team with a penalty cap will be allowed to place in the competition awards.

As the team placement results often are separated by mere fractions of a point, it is recommended that your team take each point seriously. No points scoring information will be provided to the teams at the conclusion of the competition, but feedback will be provided for each component in an "above-average / average / below-average" format.

VIII. LIST OF JUDGES

Oral Presentation Judges:

Wade Chance, Project Manager
(408) 452-1800
wchance@henselphelps.com
Western District
3125 E. Wood Street, Suite 100
Phoenix, AZ 85040

Anna Cummins, Project Engineer
(360) 930-4207
acummins2@henselphelps.com
Pacific Northwest Area Office
15375 SE 30th Place, Ste 110
Bellevue, WA 98007

Lissette Flores, Project Engineer
(408) 452-1800
lflores@henselphelps.com
Northern California District
4750 Willow Rd. Suite 100
Pleasanton, CA 94588

Isaac Gilles, Project Engineer
(480) 383-8480
igilles@henselphelps.com
Western District
3125 E. Wood Street, Suite 100
Phoenix, AZ 85040

Matt Rickert, Electrical QC Specialist
(706) 941-1356
mrickert@henselphelps.com
Western District
3125 E. Wood Street, Suite 100
Phoenix, AZ 85040

Alexa Watanabe, Project Engineer
(408) 607-2021
awatanabe@henselphelps.com
Southern California District
18850 Von Karman Ave., Suite 100
Irvine, CA 92612

Alternates:

Monica Ashley, Project Manager
(408) 452-1800
mashley@henselphelps.com
Northern California District
4750 Willow Rd. Suite 100
Pleasanton, CA 94588

Administrator / Executive Judge:

Ryan Piper, Operations Manager
(425) 646-2660
rcpiper@henselphelps.com
Pacific Northwest Area Office
15375 SE 30th Place, Ste 110
Bellevue, WA 98007

IX. THE RULES

The rules for the competition are designed to provide each team with an equal opportunity to apply their knowledge in developing their respective solutions and an equal opportunity to present their solutions to the panel of judges. The following rules apply to the Commercial Division and serve to supplement the ASC Competition Rules.

Rule No. 1 Electronic copies of the proposal deliverables must be turned into the judges. Your final submission must be submitted electronically through OneDrive. No proposals will be formally returned. If you desire a copy for yourself or need one for your oral presentation preparation, please make copies prior to the submission of the proposal.

Rule No. 2 The equipment usage for each team is to be as outlined in the Competition Rules as published by the ASC. Use of the Internet is allowable and may be necessary for certain components of the problem. Any additional equipment required for a presentation is the responsibility of the team.

Rule No. 3 The problems that are used for the competition are drawn from actual construction projects. In the past, there have been situations where student team members have worked on, or have specific knowledge of, the project that is the subject of the problem. This can be perceived as giving the team an unfair advantage in developing a solution. If, upon receiving the problem, any student recognizes the project that is the subject of the problem statement, the student shall notify the problem sponsor to discuss the extent of the student's project or problem knowledge. The judges will have the final decision. Failure to notify the problem sponsor makes the team subject to disqualification.

Rule No. 4 While the judges will endeavor to administer the problem with all fairness and appreciation for the team's perspectives, the decisions of the judges shall be final when deciding conflicts and scoring.

Rule No. 5 A one-half (½) point deduction will be taken for each minute the proposal is turned in past the time it is due. Written proposals are due Wednesday at 8:00 PM and Thursday at 5:00 PM. Location of proposal delivery will be announced at opening conference. Other deliverable items, if applicable, will be due as specified elsewhere herein.

Rule No. 6 Oral interviews will begin at 7:00 AM on Friday, February 5th. Presentation materials for all teams are to be turned in by 6:45 AM. No other presentation material will be allowed into the presentation that is not turned into the judges by this time - NO EXCEPTIONS WILL BE ALLOWED.

Rule No. 7 No phone calls or emails may be made to the Owner, Construction Manager, Architect, Civil, or Structural Engineer, or any other design consultants listed on the Drawings. Similarly, no components of the problem may be sent to others outside the team for assistance in completing the problem. Any violations of the above are subject to point penalties or team disqualification, at the Judge's discretion.

Rule No. 8 Due to the sensitive nature of disclosing project information that the Owner and / or design professionals may not wish to be publicly distributed, Hensel Phelps reserves the right to require Confidentially Agreements be signed by each team member prior to distribution of the Problem Statement. This may further require that all or some Contract Documents or other

material provided to the team, both electronically and hard copy, be returned to Hensel Phelps at the conclusion of the competition.

Rule No. 9 The premise of the proposal and oral interview is that you are presenting to the upper management of your own company. It is preferred that your team take the identity of Hensel Phelps but other team / company names are acceptable. You are therefore asked to refrain from including extra peripheral information about your company such as safety plans, company profiles or other marketing materials. Our intent is to test you on your knowledge of construction concepts, means and methods, not your ability to make up or compile marketing materials and canned programs. Please limit your responses generally to the information requested, although innovation and enhancement is encouraged.

Any team observed violating these rules may be asked to withdraw from the competition or be assessed point penalties. These Rules are subject to change; and, the final version will be included in the Problem Statement distributed at the opening conference.

X. SUPPLEMENTAL INFORMATION

Note: Documents are provided in electronic format only on One Drive:

X.0.1	Drawings
X.0.2	Specifications
X.0.3	Request for Information Form
X.0.4	Evaluation Form
X.1.3	FSR Template
X.1.4	FSR Narrative Template
X.2.2	OMFE Design Bulletin 0032 PCC Pavement Documents
X.2.3	WSDOT Concrete Pavement Standard Spec 2020
X.2.4	PCC Estimate Template
X.2.5	Rates and Cost Data Sheet
X.2.6	PCC Pour Sequence Plan Template
X.2.7	Letter to Sound Transit Template
X.3.1B	Project Staffing Matrix
X.3.1C	Project Staffing Matrix
X.3.2	District Staffing Matrix
X.3.2B	Organizational Matrix
X.3.4B	GC Estimate Matrix
X.3.5	Career Progressions
X.4.1	Subcontractor Proposals
X.4.2	Proposal Summary Template
X.5.3	OMFE Exterior Elevation Drawings Package
X.6.0B	Coordination of Work Contract Documents
X.6.5	Curb As-Built
X.6.6	Coordination of Work Part C Submittals
X.7.2	OMF Vehicle Hoist
X.7.3	Notification Template
X.7.4	Millwright Subcontract
X.9.3	AHA Template
X.9.4	Example AHA
X.10.1	Site Utilization Map Template