Orange County Transportation Authority

Transit Committee Agenda
Thursday, January 9, 2025 at 9:00 a.m.

Board Room, 550 South Main Street, Orange, California

Committee Members

Fred Jung, Chair
Vicente Sarmiento, Vice Chair
Valerie Amezcua
Patrick Harper
Stephanie Klopfenstein

Accessibility

Any person with a disability who requires a modification or accommodation in order to participate in this meeting should contact the Orange County Transportation Authority (OCTA) Clerk of the Board's office at (714) 560-5676, no less than two business days prior to this meeting to enable OCTA to make reasonable arrangements to assure accessibility to this meeting.

Agenda Descriptions

Agenda descriptions are intended to give members of the public a general summary of items of business to be transacted or discussed. The posting of the recommended actions does not indicate what action will be taken. The Committee may take any action which it deems to be appropriate on the agenda item and is not limited in any way by the notice of the recommended action.

Public Availability of Agenda Materials

All documents relative to the items referenced in this agenda are available for public inspection at www.octa.net or through the Clerk of the Board's office at the OCTA Headquarters, 600 South Main Street, Orange, California.

Meeting Access and Public Comments on Agenda Items

Members of the public can either attend in-person or listen to audio live streaming of the Board and Committee meetings by clicking this link: https://octa.legistar.com/Calendar.aspx

In-Person Comment

Members of the public may attend in-person and address the Board regarding any item within the subject matter jurisdiction of OCTA. Please complete a speaker's card and submit it to the Clerk of the Board and notify the Clerk regarding the agenda item number on which you wish to speak. Speakers will be recognized by the Chair at the time of the agenda item is to be considered by the Board. Comments will be limited to three minutes. The Brown Act prohibits the Board from either discussing or taking action on any non-agendized items.

Written Comment

Written public comments may also be submitted by emailing them to ClerkOffice@octa.net, and must be sent by 5:00 p.m. the day prior to the meeting. If you wish to comment on a specific agenda Item, please identify the Item number in your email. All public comments that are timely received will be part of the public record and distributed to the Board. Public comments will be

made available to the public upon request.

Call to Order

Pledge of Allegiance

Director Harper

Closed Session

There are no Closed Session items scheduled.

Special Calendar

There are no Special Calendar matters.

Consent Calendar (Items 1 through 3)

All items on the Consent Calendar are to be approved in one motion unless a Committee Member or a member of the public requests separate action or discussion on a specific item.

1. Approval of Minutes

Clerk of the Board

Recommendation(s)

Approve the minutes of the November 14, 2024, Transit Committee meeting.

Attachments:

Minutes

2. February 2025 Bus Service Change

Eric Hoch/Rose Casey

Overview

The proposed February 2025 bus service change implements changes to OC Bus service consistent with the Making Better Connections Study. The changes include reducing wait times and adjusting bus routes to improve overall service quality and reliability. The service changes also include adjustments to bus schedules in response to customer comments and operator feedback.

Recommendation(s)

Receive and file as an information item.

Attachments:

Staff Report

Attachment A

Attachment B

Attachment C

3. Measure M2 Community-Based Transit Circulators Program Project V Ridership Report

Charvalen Alacar/Rose Casey

Overview

Measure M2 is a multimodal transportation improvement program and includes a program to fund community-based transit circulators known as Project V. The goal of this program is to provide local transit services that complement regional bus and rail service in areas not adequately served by regional transit. Funding is awarded to local jurisdictions through a competitive call for projects. Local jurisdictions then implement the awarded services and are required to report on the performance of the services to ensure each is meeting required performance standards. This report covers the period from April 2024 to September 2024.

Recommendation(s)

Receive and file the Project V Ridership Report as an information item.

Attachments:

Staff Report

Attachment A

Regular Calendar

4. Approval of Short-Listed Design-Build Teams and Release of Request for Proposals for Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base

George Olivo/James G. Beil

Overview

On September 23, 2024, the Orange County Transportation Authority Board of Directors approved the release of a request for qualifications to initiate a competitive procurement process to retain a contractor for design-build services to deliver the hydrogen fueling station and facility modifications at the Garden Grove Bus Base. As part of the two-step, best value design-build procurement process, staff request Board of Directors' approval of the short-listed design-build teams and approval to release the request for proposals for this project.

Recommendation(s)

A. Approve the short-listing of the three design-build teams: Clean Energy, Wayne Perry, Inc., and Messer, LLC for the design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base.

B. Approve the evaluation criteria, weightings, and best-value selection process for Request for Proposals 4-2683 for design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base through a design-build contract.

C. Approve the release of the Request for Proposals 4-2683 for design and

construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base to the three short-listed design-build teams.

Attachments:

Staff Report
Attachment A
Attachment B

5. OC Streetcar Project Quarterly Update
Jeff Mills/James G. Beil

Overview
The Orange County Transportation Authority is implementing the OC Streetcar project, and updates are provided to the Board of Directors on a quarterly basis. This report covers OC Streetcar project activities from October 2024 through December 2024.

Recommendation(s)
Receive and file as an information item.

Attachments:

Staff Report
Attachment A
Presentation

6. Proposed New Fare Media
Sam Kaur/Andrew Oftelie

Overview
The Orange County Transportation Authority Board of Directors approved the implementation of the rider validation system in October 2023 and complementary fare policy amendments in November 2024. In further support of these actions, a new fare media, commonly known as a smart card, is proposed to be implemented as part of the Rider Validation System. The Federal Transit Administration guidelines require transit agencies to evaluate new fare media implementations for potential impacts to people of minority and/or low-income populations. As part of this evaluation process, the Orange County Transportation Authority will implement a Public Involvement Plan that will gather community feedback about the upcoming changes to fare media.

Recommendation(s)
A. Direct staff to implement a Public Involvement Plan and solicit feedback on the proposed new fare media.

B. Direct staff to return to the Board of Directors on March 24, 2025, to present the preliminary public outreach findings and to conduct a public hearing.

Attachments:

Staff Report
Attachment A
Presentation

7. Agreement for the Paratransit and Microtransit Software
Jack Garate/Johnny Dunning, Jr.

Overview
On July 8, 2024, the Board of Directors approved the release of a request for proposals to select a firm to provide the paratransit and microtransit software. Proposals were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute an agreement for this system.

Recommendation(s)
A. Approve the selection of Spare Labs Inc. as the firm to provide the paratransit and microtransit software.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2258 between the Orange County Transportation Authority and Spare Labs Inc., in the amount of $1,166,555, for a two-year initial term with one, five-year option term to provide the paratransit and microtransit software.

Attachments:

Staff Report
Attachment A
Attachment B
Attachment C
Presentation

Discussion Items

8. Bimonthly Transit Performance Report
Kim Tucker/Johnny Dunning, Jr.

Overview
Staff will provide an update on the OC Bus, OC ACCESS, and OC Flex Services.

Attachments:

Presentation

9. Public Comments

10. Chief Executive Officer's Report

11. Committee Members' Reports

12. Adjournment

The next regularly scheduled meeting of this Committee will be held:

9:00 a.m. on Thursday, February 13, 2025

OCTA Headquarters
550 South Main Street
Orange, California

Committee Members Present
Fred Jung, Chair
Vicente Sarmiento, Vice Chair
Stephanie Klopfenstein
Patrick Harper

Committee Members Absent
Valerie Amezcua

Staff Present
Darrell E. Johnson, Chief Executive Officer
Jennifer L. Bergener, Deputy Chief Executive Officer
Allison Cheshire, Clerk of the Board Specialist, Senior
Gina Ramirez, Assistant Clerk of the Board
James Donich, General Counsel
OCTA Staff

Call to Order

The November 14, 2024, regular meeting of the Transit Committee was called to order by Committee Chair Jung at 9:00 a.m.

Consent Calendar

1. Approval of Minutes

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to approve the minutes of the October 10, 2024, Transit Committee meeting.

2. Approval of Minutes

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to approve the minutes of the September 12, 2024, Transit Committee meeting.

3. Amendment to the Agreement for Contracted Fixed-Route Bus Services

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to authorize the Chief Executive Officer to negotiate and execute Amendment No. 3 to Agreement C-2-2578 between the Orange County Transportation Authority and Keolis Transit Services, LLC, in the amount of $2,217,968, to allow reimbursement of additional maintenance costs, a maintenance software system with support equipment and labor, and to revise certain performance standards within the agreement.

4. Funding Recommendations for the 2024 Enhanced Mobility for Seniors and Individuals with Disabilities Program

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to:

A. Approve the award of $8,623,864 million in local funding to 22 applications submitted for consideration of funding through the Enhanced Mobility for Seniors and Individuals with Disabilities Program.

B. Authorize the Chief Executive Officer to negotiate and execute cooperative agreements with awarded applicants to receive funding through the Enhanced Mobility for Seniors and Individuals with Disabilities Program.

C. Authorize staff to utilize the contingency list for capital applications if an awarded capital project is cancelled and direct unused program funding to support OC ACCESS service.

5. Acceptance of Grant Award from Department of the Homeland Security Transit Security Grant Program

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to:

A. Authorize the Chief Executive Officer, or designee, to accept the award of $116,600 in Federal Emergency Management Agency funding awarded by the Department of Homeland Security through the Transit Security Grant Program and execute grant-related agreements and documents with the Department of Homeland Security.

B. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program, as well as execute any necessary agreements to facilitate the recommendation above.

6. Low Carbon Transit Operations Program Corrective Action Plans

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to:

A. Approve Resolution 2024-084 to authorize the use of prior year Low Carbon Transit Operations Program funds and interest earnings estimated at $3,736,809 for the Youth Ride Free Program and for new or expanded OC Bus Rapid services (recognized as Bravo! 553 Bus Service Operating Subsidy in the funding program).

B. Authorize staff to make all necessary amendments to the Federal Transportation Improvement Program as well as negotiate and execute any necessary agreements with regional, state, or federal agencies to facilitate the recommendation above.

Regular Calendar

7. Integration of the Conduent OrbCAD Computer-Aided Dispatch/Automatic Vehicle Location System with the L3Harris Technologies, Inc. Symphony Dispatch Consoles

Josh Duke, Department Manager, Information Systems, provided a report on this item.

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to authorize the Chief Executive Officer to negotiate and execute sole source Agreement No. C-4-2429 between the Orange County Transportation Authority and L3Harris Technologies, Inc., in the amount of $761,000 for the integration of the Conduent OrbCAD Computer-Aided Dispatch/Automatic Vehicle Location system with the L3Harris Symphony dispatch console.

8. Agreement for Payment Processing Services to Support the OC Bus Fare Collection Systems

Isaac Herrera, Section Manager, Revenue, provided a report on this item.

A motion was made by Director Klopfenstein, seconded by Director Harper, and passed by those present to:

A. Approve the selection of Elavon Inc., as the firm to provide payment processing services for the fare collection system for the Orange County Transportation Authority's fixed-route bus system.

B. Authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C42563 between the Orange County Transportation Authority and Elavon, Inc., in the amount of $617,728, for a two-and-a-half-year initial term with two, two-year option-terms to provide payment processing services for the fare collection system for the Orange County Transportation Authority's fixed-route bus system.

9. Agreement for the Replacement of Fareboxes and Related Fare Collection Equipment

Isaac Hererra, Section Manager, Revenue, provided a presentation on this item.

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Harper, and passed by those present to:

A. Approve the selection of LECIP Inc. as the firm to develop and implement replacement fareboxes and related fare collection equipment for the Orange County Transportation Authority's fixed-route bus system.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2110 between the Orange County Transportation Authority and LECIP Inc., in the amount of $12,287,429, for a six-and-a-half-year initial term with one, five-year option-term for the development and implementation of replacement fareboxes and related fare collection equipment for the Orange County Transportation Authority's fixed-route bus system.

10. Award the Purchase of Battery-Electric Bus Chargers

Cliff Thorne, Director, Maintenance, provided a presentation on this item.

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C-3-3067 between the Orange County Transportation Authority and OneSource Distributors, LLC, the lowest responsive, responsible bidder, in the amount of $2,194,794, for up to 11 battery chargers for 40-foot battery-electric buses.

11. Award the Purchase of Zero-Emission Buses

Cliff Thorne, Director, Maintenance, provided a presentation on this item.

A motion was made by Committee Vice Chair Sarmiento, seconded by Director Klopfenstein, and passed by those present to:

A. Approve the selection of New Flyer of America Inc. as the firm to provide 40 fuel-cell electric buses intended to replace 40 compressed natural gas buses that have exceeded their useful life.

B. Authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C-3-3021 between the Orange County Transportation Authority and New Flyer of America Inc., in the amount of $63,594,512 for the purchase of up to 40, 40-foot fuel-cell electric buses.

C. Approve the selection of New Flyer of America Inc. as the firm to provide ten battery-electric buses intended to replace ten compressed natural gas buses that have exceeded their useful life.

D. Authorize the Chief Executive Officer to negotiate and execute Purchase Order No. C-3-3022 between the Orange County Transportation Authority and New Flyer of America Inc., in the amount of $13,870,388, for the purchase of up to ten, 40-foot battery-electric buses.

12. 2024 OC Transit Vision Progress Update

Charles Main, Principal Transportation Analyst and Project Manager, and Marissa Espino, Section Manager, Public Outreach, provided a presentation on this item.

A motion was made by Director Harper, seconded by Director Klopfenstein, and passed by those present to direct staff to incorporate draft recommendations into the final 2024 OC Transit Vision Report which will inform the upcoming 2026 Long-Range Transportation Plan.

13. Draft Orange County Human Services Transportation Coordinated Plan

Dan Phu, Program Manager, Planning, and Kevin Khouri, Transportation Analyst and Project Manager, provided a presentation on this item.

A motion was made by Director Klopfenstein, seconded by Committee Vice Chair Sarmiento, and passed by those present to direct staff to finalize the Draft Human Services Transportation Coordinated Plan.

Discussion Items

14. Bimonthly Transit Performance Report

Kim Tucker, Department Manager, Scheduling and Bus Operations Support, provided a presentation on this item.

No action was taken on this item.

15. Public Comments

No public comments were received.

16. Chief Executive Officer's Report

Darrell E. Johnson, Chief Executive Officer, reported the OCTA Roadeo is scheduled for Saturday, November 16.

17. Committee Members' Reports

There were no Committee Member's reports.

18. Adjournment

The meeting adjourned at 10:19 a.m.

The next regularly scheduled meeting of this Committee will be held:
9:00 a.m. on Thursday, December 12, 2024
OCTA Headquarters
550 South Main Street
Orange, California

January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: February 2025 Bus Service Change

Overview

The proposed February 2025 bus service change implements changes to OC Bus service consistent with the Making Better Connections Study. The changes include reducing wait times and adjusting bus routes to improve overall service quality and reliability. The service changes also include adjustments to bus schedules in response to customer comments and operator feedback.

Recommendation

Receive and file as an information item.

Background

In October 2022, the Orange County Transportation Authority (OCTA) completed a comprehensive study of the bus transit system, known as the Making Better Connections (MBC) Study. The MBC Study assessed emerging travel trends and recommended optimizing the transit network to better serve Orange County residents, workers, and visitors. The Board of Directors approved the final service plan that emerged from the MBC Study on October 24, 2022. The MBC Study strives to improve bus service on high-ridership routes, reduce wait times, and simplify route structures. OCTA continues to implement these recommendations steadily through the service change process.

OCTA implements regular schedule and route revisions to selected OC Bus routes four times a year (February, May, August, and November). The proposed bus service changes discussed herein are scheduled for implementation on February 9, 2025.

Discussion

OC Bus continues to experience a significant recovery in post-coronavirus (COVID-19) ridership with ridership at 99 percent of pre-COVID-19 levels. These gains outpace the national trend and other peer agencies in Southern California and indicate that the OCTA MBC Study recommendations have been responsive to ridership trends and patterns. The proposed February 2025 changes represent continued progress in implementing the MBC Study recommendations and will boost service in response to the increasing ridership demand.

OCTA regularly monitors OC Bus performance and makes adjustments as needed to improve the service. These adjustments consider changes in traffic conditions, school schedules or land-use changes, customer comments, and coach operator feedback. The changes are intended to improve overall transit service and the performance of the individual bus routes.

The proposed February 2025 changes will focus on MBC Study-related changes and improvements to service quality and reliability. These service changes focus on the following enhancements/modifications:

- Improved frequencies on Routes 59, 60, 71, and 560
- Minor trip additions on Routes 26, 37, and 47
- Reduced frequencies on weekends on Routes 59 and 129
- Route eliminations on Routes 82 and 87
    - Portions of these route will be served by Routes 89 and 177
- Alignment changes on Routes 66, 89, 90, 167, and 177
    - Routes 66, 90, and 167
        - Reroute due to the closure of the Irvine Valley College bus zone
    - Route 89
        - Extend the route from Santa Margarita Parkway/Los Alisos Boulevard to serve Rancho Santa Margarita due to the elimination of Route 82
    - Route 177
        - Extend the route from its current southern terminal at the Laguna Hills Transportation Center to serve Laguna Niguel due to the elimination of Route 87
- Schedule adjustments to improve on-time performance and connections on Routes 29, 47, 55, 59, 64, 66, 83, 89, 90, 91, 123, 129, and 543

A notable improvement included in the February 2025 changes is the creation of timed connections at the Laguna Hills Transportation Center, with only a five-minute wait time between transfers. This scheduling practice makes it easier

for riders to transfer between routes to reach their destination, particularly when bus service runs less frequently than every 30 minutes. This improvement would benefit Routes 83, 89, 91, and 177. For example, an afternoon peak hour trip starting from downtown Laguna Beach on Broadway Street to the Santa Ana train station will save an OC Bus rider 25 minutes in travel time for the trip. The proposed February 2025 bus service change recommendations are detailed in Attachment A and depicted in Attachments B and C.

The proposed changes will increase bus service levels, equating to approximately 31,431 more revenue vehicle hours annually. System-wide service levels will increase to about 1.55 million annual revenue vehicle hours following the implementation of the changes.

Title VI and Environmental Justice Analysis

Staff conducted a Title VI and Environmental Justice Analysis of the MBC Study, per Federal Transit Administration requirements and consistent with OCTA policy. The February 2025 proposed changes were included in that analysis. The analysis accumulated the impacts on minority and low-income communities by comparing the transit service levels before and after the route changes. Based on this analysis, the proposed changes to the bus system, taken in their entirety, will not have a disparate impact on minority people nor a disproportionate burden on low-income people.

Summary

The proposed February 2025 bus service change is a continuation of the implementation of the Making Better Connections Study. This includes improvements to the span and frequency of service and new route alignments with the goal of improving OC Bus connections county-wide. Customers will be notified of the changes three weeks before implementation.

Attachments

A. February 2025 Bus Service Change: Recommendations by Route
B. February 2025 Bus Service Change: Bus Route Recommendations Map
C. Route 82, 87, 89, 177 Alignment Changes Map

Prepared by:

Eric Hoch
Transportation Analyst, Sr.
(714) 560-5830

Approved by:

Rose Casey
Executive Director, Planning
(714) 560-5729

ATTACHMENT A

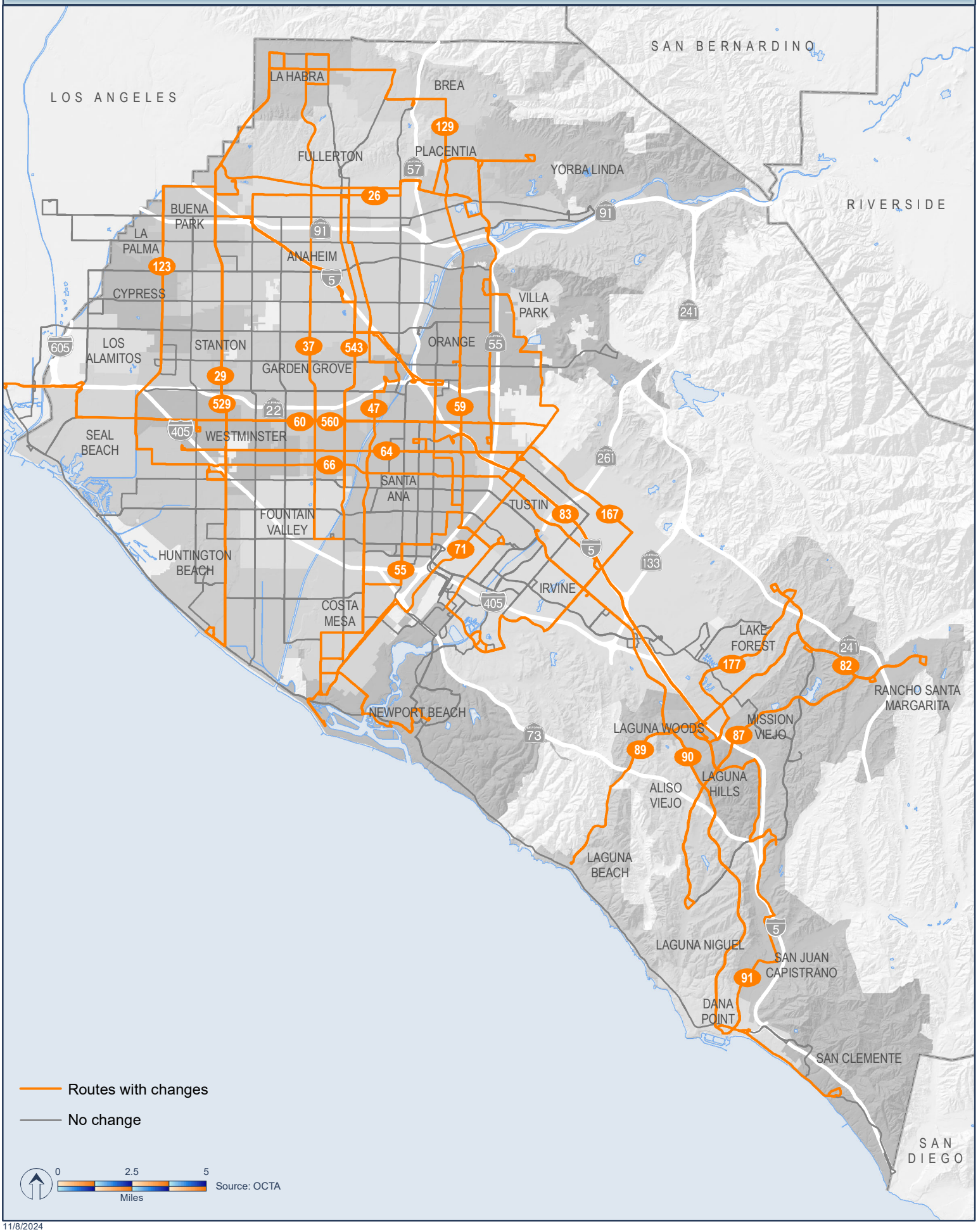
February 2025 Bus Service Change: Recommendations by Route

Route	Description	CHANGE IN SERVICE LEVELS				
		WKD RVH	SAT RVH	SUN RVH	Annual RVH	Peak Vehicles
26	Add three EB WKD trips during the AM period between FTC and CSUF	1.0	-	-	242	1
29	Improve WKD OTP	7.3	-	-	1,854	1
37	Add two early morning SUN trips	-	-	2.9	166	-
47	Add two NB afternoon WKD trips to mitigate overcrowding due to student ridership; Improve WKD/SAT/SUN OTP	11.8	9.3	9.3	4,025	2
55	Improve WKD/SAT/SUN OTP	5.2	0.2	0.2	1,359	-
59	Improve WKD AM and PM peak service to every 20-30 minutes; Reduce WKD late night service to every 60 minutes; Improve WKD/SAT/SUN OTP	9.4	(11.2)	(9.0)	1,290	1
60	Improve WKD service to every 20 minutes	24.7	-	-	6,291	2
64	Improve WKD OTP	0.5	-	-	133	-
66	Reroute due to closure of Irvine Valley College bus zone; Improve WKD OTP	12.7	2.5	2.5	3,517	-
71	Improve WKD service to every 45 minutes	19.2	-	-	4,904	1
82	Eliminate route and extend Route 89 to serve portions of existing alignment	(16.6)	-	-	(4,233)	(1)
83	Adjust WKD/SAT/SUN schedules for timed connections at LHTC	2.9	4.7	(8.1)	518	1
87	Eliminate route and extend Route 177 to serve portions of existing alignment	(27.6)	-	-	(7,038)	(2)
89	Extend route from Santa Margarita Parkway/Los Alisos Boulevard to Rancho Santa Margarita; Improve WKD AM and PM peak service to every 30 minutes; Reduce WKD midday service to every 60 minutes; Improve SAT/SUN OTP	21.6	18.7	19.5	7,605	4
90	Reroute due to closure of Irvine Valley College bus zone; Improve WKD OTP	0.1	-	-	31	-
91	Adjust WKD/SAT/SUN schedules for timed connections at LHTC	6.4	8.8	(4.8)	1,806	(1)
123	Adjust WKD schedule to improve Metrolink train connections at Anaheim Canyon Station; Improve WKD OTP	(0.6)	-	-	(158)	-
129	Reduce SAT/SUN service to every 60 minutes; Improve SAT/SUN OTP	-	(8.2)	(7.9)	(885)	-
167	Reroute due to closure of Irvine Valley College bus zone	0.2	-	-	43	-
177	Extend route from LHTC to Laguna Niguel on the southern end and extend route from Foothill Ranch to Mission Viejo on the northern end; Reduce WKD service to every 60 minutes; Improve SAT service to every 60 minutes; Adjust WKD/SAT/SUN schedules for timed connections at LHTC	13.6	21.5	-	4,584	1
529	Adjust WKD schedule to sync with Route 29 schedule	-	-	-	-	-
543	Improve WKD OTP	7.5	-	-	1,918	2
560	Improve WKD service to every 20 minutes	13.6	-	-	3,460	1
Total		**112.8**	**46.3**	**4.7**	**31,431**	**13.0**

Acronyms
CSUF - California State University Fullerton
EB - Eastbound
FTC - Fullerton Transportation Center
IVC - Irvine Valley College
LHTC - Laguna Hills Transportation Center
NB - Northbound
OTP - on-time performance
RVH - revenue vehicle hour
SAT - Saturday
SUN - Sunday
WKD - weekday

February 2025 Bus Service Change: Bus Route Recommendations

ATTACHMENT B



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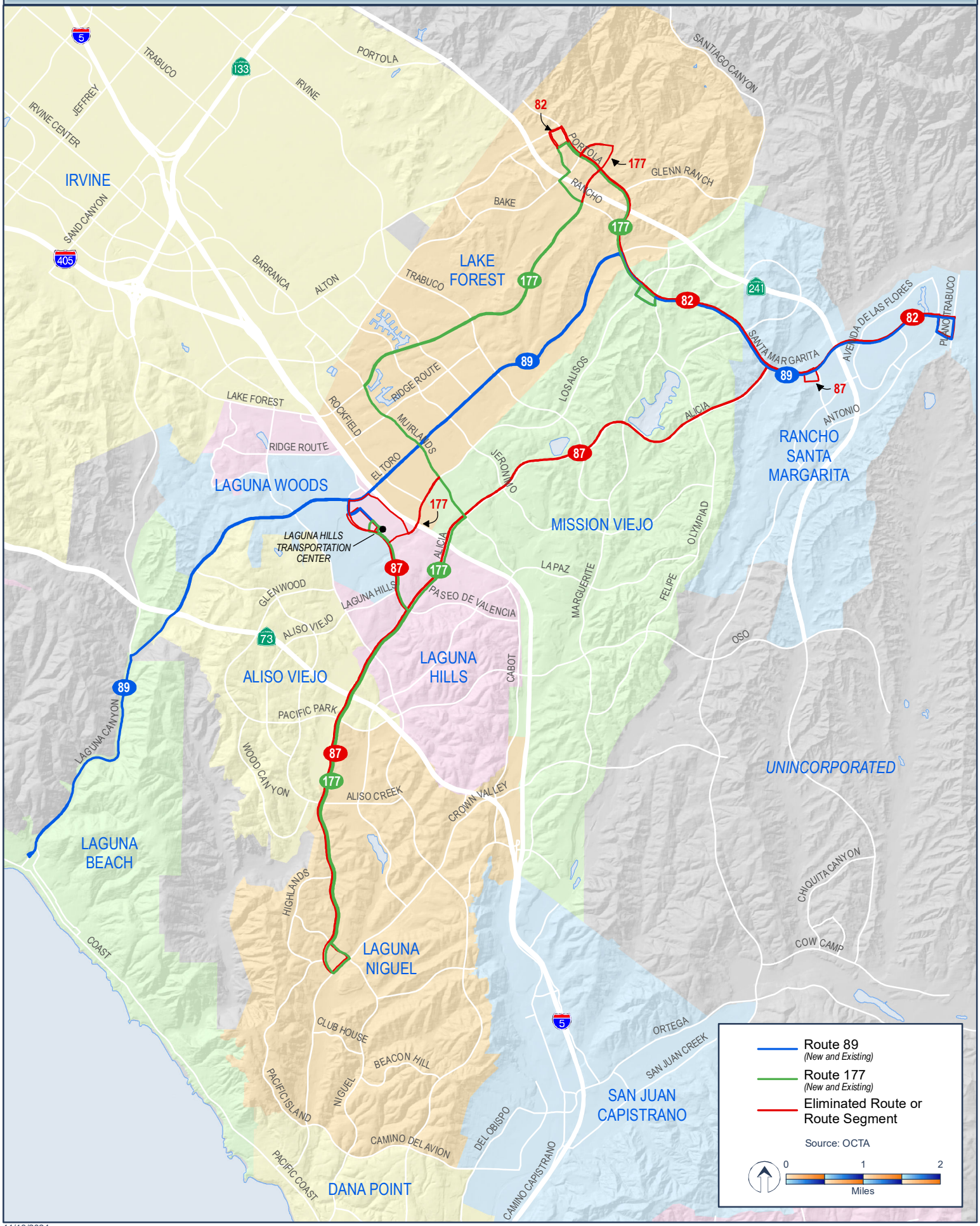
Routes 82, 87, 89, 177 Alignment Changes

ATTACHMENT C



11/13/2024

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January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Measure M2 Community-Based Transit Circulators Program Project V Ridership Report

Overview

Measure M2 is a multimodal transportation improvement program and includes a program to fund community-based transit circulators known as Project V. The goal of this program is to provide local transit services that complement regional bus and rail service in areas not adequately served by regional transit. Funding is awarded to local jurisdictions through a competitive call for projects. Local jurisdictions then implement the awarded services and are required to report on the performance of the services to ensure each is meeting required performance standards. This report covers the period from April 2024 to September 2024.

Recommendation

Receive and file the Project V Ridership Report as an information item.

Background

The Measure M2 (M2) Community-Based Transit Circulators Program, known as Project V, is a competitive grant program that provides funding to develop and implement local transit services. Funded services include seasonal, special-event, commuter, fixed-route, and demand-responsive services intended to complement and not compete with regional transit, while meeting specific local needs.

In November 2023, the Orange County Transportation Authority (OCTA) Board of Directors (Board) directed staff to issue a 2024 call for projects (call), and on September 23, 2024, the Board awarded $43 million to fund 13 local jurisdiction projects, some of which provide multiple Project V services, routes, and multiple service types. The funding will help to continue 11 existing services, with four of those services being expanded, while also funding eight new Project V services.

Project V services are required to adhere to established minimum performance standards and are evaluated on a quarterly basis. This ridership report covers the fourth quarter for fiscal year (FY) 2023-24 and the first quarter for FY 2024-25 and provides information on boardings per revenue vehicle hour, cost per boarding, and achievement of local jurisdictions' customer satisfaction and on-time performance standards.

Consistent with the established program guidelines, Project V-funded services are expected to meet a maximum cost per boarding standard, which is equal to twice the M2 Project V per boarding subsidy. Local jurisdictions are responsible for costs beyond the Orange County Transportation Authority subsidy. Services not meeting this standard are required to disclose the cost per boarding information to their governing board and seek direction on whether to continue, restructure, or cancel the service. This approach provides local jurisdictions with the flexibility to deliver Project V services under metrics that are context sensitive, yet financially sustainable and locally driven. For FY 2023-24, the maximum cost per boarding was established at $21.24 (two times the FY 2023-24 M2 subsidy per boarding of $10.62) and $21.63 for FY 2024-25 (two times the FY 2024-25 M2 subsidy per boarding of $10.81).

Discussion

Project V services active during this reporting period, from April 2024 through September 2024, include a combination of seasonal, special-event, commuter, fixed-route local circulator, and demand-responsive services, which meet a variety of community needs. Since the last ridership report, two new routes in the cities of Irvine and San Clemente, which were funded through the 2024 call, were initiated. Additionally, the City of Dana Point initiated its Trolley Continuity Service, which was awarded in the 2020 Project V call.

During this reporting period, 17 of the 29 current Project V services were in operation, all of which successfully met the required cost per boarding standard. While some local jurisdictions are still developing strategies and tools to meet the on-time performance and customer satisfaction standard[1], based upon the reporting provided in Attachment A, most successfully met their on-time performance and customer satisfaction standard. If on-time performance and customer satisfaction are found to be below local operating objectives, local jurisdictions are required to develop a service improvement plan to address the underperformance, as well as reassess the performance metric standards as appropriate. Two services in the cities of Anaheim and Laguna Beach did not

[1] The Irvine Special Event Circulators Service is anticipated to establish a target standard for on-time performance and customer satisfaction by the end of FY 2024-25.

achieve the on-time performance standard. Detailed grant and service operating information, as well as an explanation for the two services not meeting their on-time performance standards, is provided in Attachment A.

The community-based transit services that were in service during this period include the following:

- Anaheim Canyon Metrolink Connector Service (2020 grant),
- County of Orange Ranch Ride Service (2016 grant),
- Dana Point Summer Trolley Continuity and Expansion (2018 grant),
- Dana Point Trolley Continuity (2020 grant),
- Huntington Beach Southeast Rideshare Pilot Program (2020 grant),
- Irvine Special Event Circulators (2024 grant),
- Laguna Beach Summer Breeze (2018 grant),
- Laguna Beach Off-Season Weekend Trolley Service (2020 grant),
- Laguna Niguel Summer Trolley (2018 grant),
- Mission Viejo Community Circulator (2016 grant),
- Newport Beach Balboa Peninsula Seasonal Trolley (2016 grant),
- Newport Beach Balboa Peninsula Seasonal Trolley Expansion (2018 grant),
- San Clemente Summer Weekend and Seasonal Trolley (2016 grant),
- San Clemente Summer Weekday and Seasonal Trolley Expansion (2018 grant),
- San Clemente Trolley Continuation and Expansion (2024 grant),
- San Juan Capistrano Special Event and Weekend Summer Trolley (2018 grant), and
- San Clemente On-Demand/Ride Hailing Service (2016 grant).

Summary

A ridership and status report on Project V services covering the period of April 2024 through September 2024 is provided. Most of the active services met the ridership and service performance standards. Staff will continue to work with local jurisdictions and monitor these services. A status report on Project V services will continue to be provided to the Board on a semi-annual basis with the next update scheduled in July 2025. In addition, information on new services, starting later this year, will be provided in future reports.

Attachment

A. Project V Services – Semi-Annual Review Ridership Report

Prepared by:

Charvalen Alacar
Section Manager III,
Measure M2 Local Programs
(714) 560-5401

Approved by:

Rose Casey
Executive Director, Planning
(714) 560-5729

Project V Services
Semi-Annual Review Ridership Report

ATTACHMENT A

Reporting Period: Q4 of FY 2023-24 and Q1 of FY 2024-25

No.	Agency	Service Description	Call Cycle Awarded	Measure M2 Multiple Year Grant	Service Type	Service Start Month/Year	Boardings Per RVH (B/RVH) [1,2]	Cost Per Boarding (O&M /B) [1, 2]	Met Customer Satisfaction Threshold	Met On-Time Performance Threshold
1	Anaheim	Anaheim Canyon Circulator [3]	2020	$ 1,141,864	Commuter Service	July 2020	7.0	$ 16.11	Y	N
2	County of Orange	Local Circulator and Special Event Service (OC Ranch Ride)	2016	$ 2,041,547	Local Circulator and Special Event	June 2017	21.5	$ 9.99	Y	Y
3	Dana Point	Dana Point Summer Trolley Continuity and Expansion	2018	$ 1,745,065	Seasonal and Special Event	September 2019	12.2	$ 11.10	Y	Y
4	Dana Point	Dana Point Trolley Continuity	2020	$ 2,209,739	Seasonal Service	July 2024	11.3	$ 11.61	Y	Y
5	Huntington Beach	HB Southeast Rideshare Pilot Program	2020	$ 806,240	Shared-Ride Hailing	July 2023	6.7	$ 8.30	Y	Y
6	Irvine	Irvine Special Event Circulators	2024	$ 4,471,421	Seasonal and Special Event, Local Circulator	August 2024	9.7	$ 14.63	TBD	TBD
7	Laguna Beach	Summer Breeze Bus Service [4]	2018	$ 634,357	Seasonal Service	June 2018	27.1	$ 3.57	Y	N
8	Laguna Beach	Off-Season Weekend Trolley Service	2020	$ 3,850,000	Seasonal and Special Event	September 2021	27.1	$ 3.53	Y	Y
9	Laguna Niguel	Laguna Niguel Summer Trolley - Southern Section	2018	$ 886,082	Seasonal and Special Event	May 2022	21.5	$ 9.54	Y	Y
10	Mission Viejo	Local Community Circulator	2016	$ 3,332,879	Local Circulator	October 2016	8.7	$ 10.48	Y	Y
11	Newport Beach	Balboa Peninsula Seasonal Trolley	2016	$ 685,454	Seasonal Service	June 2017	14.2	$ 12.14	Y	Y
12	Newport Beach	Balboa Peninsula Seasonal Trolley Expansion	2018	$ 278,400	Seasonal Service	August 2018	13.5	$ 13.45	Y	Y
13	San Clemente	Summer Weekend Trolley and Seasonal Service	2016	$ 1,181,393	Seasonal and Special Event	May 2017	47.8	$ 1.52	Y	Y
14	San Clemente	Summer Weekday Trolley and Seasonal Service Expansion	2018	$ 1,537,200	Seasonal and Special Event	July 2018	22.5	$ 3.32	Y	Y
15	San Clemente	Trolley Continuation and Expansion Program	2024	$ 8,235,081	Seasonal and Special Event	July 2024	16.8	$ 5.95	Y	Y
16	San Juan Capistrano	Special Event and Weekend Summer Trolley Service	2018	$ 958,642	Seasonal and Special Event	July 2018	21.0	$ 9.13	Y	Y
17	San Clemente	SC Rides On-Demand Service	2016	$ 2,014,200	Shared-Ride Hailing	October 2016	8.0	$ 6.61	Y	NA

NOTE: Services below the On-Time Performance threshold are shaded.

1. Average of Q4 and Q1 rounded to next whole number.
2. FY 2023-24 maximum cost per boarding is $21.24 and FY 2024-25 maximum cost per boarding is $21.63.
3. OTP threshold set by City of Anaheim: 95% of trips on time. Reported OTP for Q1 was 94% due to late train arrivals impacting bus departure/arrival times and influx of new operators unfamiliar with the route and service requirements.
4. OTP threshold set by City of Laguna Beach: 85% of trips reach route endpoint within six minutes of scheduled arrival time. Reported OTP for Q1 was 54% due to increased construction traffic on Laguna Canyon Road delaying travel times.

NA - data not applicable for current reporting period (i.e., CS survey annual requirement satisfied in prior reporting period, service provides real-time ETA information, service did not operate with a fixed schedule)

TBD - implementing baseline data collection efforts

Minimum Performance Standards for Cost Per Boarding, O&M/B

- Maintain O&M/B below maximum cost per boarding limit
- $21.24 maximum cost per boarding set at twice the allowable per boarding OCTA subsidy rate of $10.62 for FY 2023-24
- $21.63 maximum cost per boarding set at twice the allowable per boarding OCTA subsidy rate of $10.81 for FY 2024-25

Acronyms

B/RVH - Boardings per Revenue Vehicle Hour
Call - Call for Projects
CS - Customer Satisfaction
ETA - Estimated Time of Arrival
FY - Fiscal Year
HB - Huntington Beach
NA - Not Applicable
O&M/B - Operations and Maintenance Cost per Boarding
OC - Orange County
OCTA - Orange County Transportation Authority
OTP - On-Time Performance
Q4 - Quarter 4 (April 2024 - June 2024)
Q1 - Quarter 1 (July 2024 - September 2024)
SC - San Clemente
TBD - To Be Determined
Y/N - Yes/No

OCTA

January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Approval of Short-Listed Design-Build Teams and Release of Request for Proposals for Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base

Overview

On September 23, 2024, the Orange County Transportation Authority Board of Directors approved the release of a request for qualifications to initiate a competitive procurement process to retain a contractor for design-build services to deliver the hydrogen fueling station and facility modifications at the Garden Grove Bus Base. As part of the two-step, best value design-build procurement process, staff request Board of Directors' approval of the short-listed design-build teams and approval to release the request for proposals for this project.

Recommendations

A. Approve the short-listing of the three design-build teams: Clean Energy, Wayne Perry, Inc., and Messer, LLC for the design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base.

B. Approve the evaluation criteria, weightings, and best-value selection process for Request for Proposals 4-2683 for design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base through a design-build contract.

C. Approve the release of the Request for Proposals 4-2683 for design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base to the three short-listed design-build teams.

Discussion

The Orange County Transportation Authority (OCTA) initiated a pilot program to test zero-emission bus (ZEB) technology to obtain operational performance information to determine which ZEB technology, or mix of technologies, best meets OCTA service requirements. The ZEB pilot program was implemented in early 2020 with the introduction of ten hydrogen (H_2) fuel-cell electric buses (FCEB) and an H_2 fueling station at the Santa Ana Bus Base. The pilot was expanded in 2023 with the introduction of ten battery electric buses operating from the Garden Grove Bus Base. OCTA is now underway with expanding the ZEB fleet with the addition of 40 new FCEBs along with the installation of an H_2 fueling station at the Garden Grove Bus Base. H_2 fueling infrastructure at the Garden Grove Bus Base will provide fueling for OCTA's FCEBs along with operational redundancy similar to that of OCTA's compressed natural gas fueling infrastructure. The project will install a liquid H_2 fueling station, FCEB de-fueling appurtenances, H_2 detection in bus maintenance facilities, metered electrical infrastructure, a standby power generator, FCEB maintenance platform, and related work.

As allowed by California Public Contract Code Section 22160 et seq. (PCC 22164), this type of project typically lends itself to being implemented using design-build (DB) delivery methodology. The DB method differs from the design-bid-build method by allowing the same entity to both design and build the project. The DB process is more desirable due to the highly specialized nature of fueling stations which include complex systems and unique components and specifications. All OCTA existing fueling stations have been delivered using this method, including the liquified natural gas, compressed natural gas, and H_2 fueling stations. Having a single entity responsible for the design and construction of the H_2 fueling station helps protect OCTA from the design and construction risk of this complex project by allowing a single entity to design and build the facility. Combining the construction team with the designer minimizes risk, shortens overall delivery time, and helps to control cost.

A two-step, best-value procurement method is required by the Public Contract Code (PCC) for selecting a DB team for the project.

Procurement Approach

The selection of a DB team to design and construct the H_2 fueling station and facility modifications at the Garden Grove Bus Base will be accomplished through a two-step procurement process. The first step, the request for qualifications (RFQ), is used to solicit detailed information about each teams' qualifications and experience related to similar projects and to develop a

short-list of qualified teams. The second step, the request for proposals (RFP), is issued to the short-listed teams to solicit proposals for OCTA's evaluation and selection of a "best value" DB team for the project. Due to the nature of the services needed for the project, the teaming relationships are generally joint ventures as opposed to prime-subcontractor relationships. Following is a more detailed discussion of the two steps.

Step 1 – RFQ

The first step consisted of the issuance of the RFQ, receipt of statements of qualifications (SOQs) by OCTA, and the development of a short list in accordance with PCC 22164 requirements and OCTA's procurement policies and procedures. Approval of the recommended short-listed DB teams included in this staff report will conclude with the first step of the two-step best-value award process. The SOQ scoring will not be carried over into the technical proposal evaluation process or any future stage of the procurement process.

On September 23, 2024, the Board of Directors (Board) authorized the release of RFQ 4-2448, which was electronically issued on CAMM NET. The project was advertised on September 23 and September 30, 2024, in a newspaper of general circulation. An RFQ conference was held on October 2, 2024, with 13 attendees representing seven firms. Three addenda were issued to make available the RFQ conference registration sheets, provide responses to questions received, and handle administrative issues related to the RFQ.

On October 22, 2024, five responsive SOQs were received. The process of evaluating the five SOQs was done in two parts, a compliance review and technical evaluation, as follows:

1. Compliance review of the SOQs was conducted using pass/fail criteria in the areas of minimum requirements, legal structure, and financial capability described in the RFQ. The submittals were reviewed by a team of legal and procurement professionals and all five submittals were found responsive to the requirements of the RFQ in these areas and determined to be a 'pass'. The five submittals were then advanced to the technical evaluation.

2. Technical evaluation of the SOQs that passed the compliance review was conducted using the technical scored categories and weightings described in the RFQ and listed below:

- Design-Build Entity and Design-Build Team Experience 30 percent
- Key Personnel Experience 30 percent
- Organizational and Management Approach and Quality Management Program 40 percent

An evaluation committee consisting of members from OCTA's Contracts Administration and Materials Management, Facilities Engineering, Transportation Modeling, Safety and Environmental, and Maintenance departments met to review the submittals.

The evaluation committee reviewed the SOQs based on the above-mentioned Board-approved evaluation criteria and weightings and short-listed three DB teams, listed below in alphabetical order:

Clean Energy
Headquarters: Newport Beach, California
Project Office: Newport Beach, California

Messer, LLC (Messer)
Headquarters: Bridgewater, New Jersey
Project Office: Bridgewater, New Jersey

Wayne Perry, Inc. (WPI)
Headquarters: Buena Park, California
Project Office: Buena Park, California

The SOQ evaluation process as described herein is not utilized to compare the submittals. It is used to develop a short list of the responsive teams deemed most qualified per the pass/fail and technical requirements of the RFQ. The make-up of each of the DB teams is contained in Attachment A.

Step 2 – RFP

To initiate the second step of the DB procurement process, each of the short-listed DB teams will receive a copy of the RFP following Board approval of the recommended evaluation criteria and weightings.

Evaluation of Proposals

The proposals submitted in response to the RFP will be evaluated to determine the proposal that offers the best value to OCTA, considering the technical and

price proposal. The intent of OCTA in this evaluation process is to create a fair and uniform basis for the evaluation of the proposals.

The proposal evaluation process will include responsiveness and qualitative evaluation of the technical proposal, a responsiveness and qualitative evaluation of the financial proposal, and a best-value determination.

Technical Proposal Responsiveness and Evaluation

Each technical proposal will be evaluated to determine that the requirements of the RFP have been met and scored based on the following recommended criteria and weightings as follows:

- Qualifications of the Firm 35 percent
- Staffing and Project Organization 30 percent
- Technical and Project Delivery Approach 35 percent

Several factors were considered in developing the evaluation criteria weightings. The qualifications of the firm criterion is weighted at 35 percent as the DB teams must demonstrate technical experience with the design and construction of a fueling station of similar scope and scale. The staffing and project organization criterion is weighted at 30 percent as the DB teams must demonstrate the level of expertise, resource availability, and involvement of the roles required for the proposed project team. The technical and project delivery approach criterion is weighted at 35 percent as the DB teams must demonstrate an understanding of OCTA's requirements and present a competitive general and design management approach, project delivery schedule, proposed facility design plan, and construction approach, including aspects such as mobilization strategy, construction staging, risk mitigation, safety plan, and quality management plan.

After the evaluation and scoring of the technical proposals are completed, the price proposals will be opened and evaluated for responsiveness and to obtain the price submitted by each offeror.

Best-Value Determination

The best-value determination will use a formula that includes a component for technical score and a component for price score to arrive at a total score for the offeror's proposal. The DB team with the highest total score will be recommended to the Board as the best-value offeror.

The best value determination will be based on a 100-point scale. The technical score will represent up to 70 points of the total score, and the price score will represent up to 30 points of the total score. The apparent best value will be represented by the highest total proposal score.

OCTA may, at any time after receipt of proposals and prior to final award and execution of the contract, determine that it is appropriate to request changes or clarifications to the proposals. If changes or clarifications to the proposals are required, OCTA may request the DB teams submit a Best and Final Offer to assist with the final evaluation of the proposals.

Procurement Summary

Based on the evaluation of the SOQs, the evaluation committee recommends short-listing three DB teams, Clean Energy, Messer, and WPI. The three DB teams will be issued the RFP and have an opportunity to submit proposals for the design and construction of the H_2 fueling station and facility modifications at the Garden Grove Bus Base.

Fiscal Impact

The project is included in OCTA's Fiscal Year 2024-25 Budget, Capital Programs Division, Account No. 1722-9022-D2157-TTW, and is funded with local transportation funds.

Summary

Board of Directors' approval is requested to approve short-listing three design-build teams, Clean Energy, Messer LLC, and Wayne Perry Inc., and the release of Request for Proposals 4-2683 for the design and construction of the hydrogen fueling station and facility modifications at the Garden Grove Bus Base, as well as the proposed evaluation criteria, weightings and best-value determination.

Attachments

A. Request for Qualifications 4-2448, List of Short-Listed Design-Build Teams
B. Draft Request for Proposals (RFP) 4-2683, Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base

Prepared by:

George Olivo, P.E.
Program Manager, Capital Programs
(714) 560-5872

Pia Veesapen
Director, Contracts Administration and Materials Management
(714) 560-5619

Approved by:

James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646

ATTACHMENT A

Request for Qualifications 4-2448
List of Short-Listed Design-Build Teams

The following three design-build teams are recommended for approval for short-listing:

Clean Energy Team:
Clean Energy
Fueling and Service Technologies doing business as FASTECH
Innova Technologies
Intertek PSI

Messer, LLC Team:
Messer, LLC
Fiedler Group

Wayne Perry, Inc. Team:
Wayne Perry, Inc.
PM Design Group

ATTACHMENT B

DRAFT REQUEST FOR PROPOSALS (RFP) 4-2683

DESIGN-BUILD OF HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE

ORANGE COUNTY TRANSPORTATION AUTHORITY
550 South Main Street
P.O. Box 14184
Orange, CA 92863-1584
(714) 560-6282

Key RFP Dates

Issue Date:	**January 13, 2025**
Pre-Proposal Conference Date:	**January 21, 2025**
Question Submittal Date:	**February 4, 2025**
Proposal Submittal Date:	**March 4, 2025**
Interview Date:	**April 8, 2025**

TABLE OF CONTENTS

January 13, 2025

NOTICE OF REQUEST FOR PROPOSALS

(RFP): 4-2683: "DESIGN-BUILD OF HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE"

TO: ALL OFFERORS

FROM: ORANGE COUNTY TRANSPORTATION AUTHORITY

The Orange County Transportation Authority (Authority) invites proposals from the short-listed design-build teams to **design, construct and deliver a turnkey hydrogen fueling station and facility modifications at the Garden Grove Bus Base (Project).**

The budget for this project is $12 million dollars for a 24-month term with an 18-month operations during training and transition period after completion and acceptance of the Project.

Offerors will be required to hold a valid State of California Class A General Engineering contractor license and either hold a valid State of California C-10 specialty license or subcontract to a valid State of California C-10 specialty licensed subcontractor.

The Authority has completed the evaluation of the Statement of Qualifications (SOQ) received in response to Request for Qualifications (RFQ) 4-2448 for this Project. This RFP is being issued to those design-build teams that were short-listed based on the Authority's evaluation of the SOQs.

To prevent potential conflicts of interest, the following prohibitions apply to this solicitation:

The prime consultant and all subconsultants (at any tier), regardless of the level of service provided by said subcontractor(s), awarded this contract to design and build a turnkey hydrogen fueling station at the Garden Grove Bus Base are precluded from participating in the future **construction management services contract for this Project**.

Please note that by submitting a Proposal, Offeror certifies that it is not subject to any Ukraine/Russia-related economic sanctions imposed by the State of California or the United States Government including, but not limited to, Presidential Executive Order Nos. 13660, 13661, 13662, 13685, and 14065. Any individual or entity that is the subject of any Ukraine/Russia-related economic sanction is not eligible to submit a Proposal. In submitting a Proposal, all Offerors agree to comply with all economic sanctions imposed by the State or U.S. Government.

Proposals must be submitted at or before 2:00 p.m., on March 4, 2025.

Proposals delivered in person or by a means other than the U.S. Postal Service shall be submitted to the following:

Orange County Transportation Authority
Contracts Administration and Materials Management
600 South Main Street, (Lobby Receptionist)
Orange, California 92868
Attention: Megan Bornman, Senior Contract Administrator

Proposals delivered using the U.S. Postal Service shall be addressed as follows:

Orange County Transportation Authority
Contracts Administration and Materials Management
P.O. Box 14184
Orange, California 92863-1584
Attention: Megan Bornman, Senior Contract Administrator

Proposals and amendments to proposals received after the date and time specified above will be returned to the Offerors unopened.

Note: The Authority utilizes a third-party delivery service therefore, Offerors should anticipate a 48-hour delay in delivery of proposals mailed to the P.O. Box listed above. Proposals are considered received once time-stamped at the Authority's physical address.

All firms interested in doing business with the Authority are required to register their business on-line at CAMM NET. The website can be found at https://cammnet.octa.net. From the site menu, click on CAMM NET to register.

A pre-proposal conference will be held on January 21, 2025, at 2:00 p.m. at the Authority's Administrative Office, 550 South Main Street, Orange, CA 92868 in Conference Room 09.

Participation via teleconference will also be available. Prospective Offerors may join or call-in using the following credentials:

- Microsoft Teams Link
- Call-in Number: 916-550-9867
- Conference ID: 549 416 371#

A copy of the pre-proposal conference presentation slides and registration sheet(s) will be issued via addendum prior to the date of the pre-proposal conference.

Immediately following the pre-proposal conference, a job walk will be conducted at 11790 Cardinal Circle, Garden Grove, CA 92843.

All prospective Offerors are encouraged to attend the pre-proposal conference, and the job walk.

Please review "Bus Base Visit Protocol" in Section I. "Instructions to Offerors", Paragraph C.

The Authority has established April 8, 2025, as the date to conduct interviews. All prospective Offerors will be asked to keep this date available.

Offerors are encouraged to subcontract with small businesses to the maximum extent possible.

All Offerors will be required to comply with all applicable equal opportunity laws and regulations.

The award of this contract is subject to receipt of federal, state and/or local funds adequate to carry out the provisions of the proposed agreement including the identified Scope of Work.

SECTION I: INSTRUCTIONS TO OFFERORS

SECTION I. INSTRUCTIONS TO OFFERORS

A. DEFINITIONS

The following terms used in this document shall have the meanings shown below:

Term	Definition
Design-Build	A project delivery process in which both the design and construction of a project are procured from a single entity.
Offeror	Entity submitting an SOQ in response to this solicitation.
Design-Build Entity	A corporation, limited liability company, partnership, joint venture or other legal entity that is able to provide appropriately licensed contracting, architectural, and engineering services as needed pursuant to a design-build contract.
Design-Build Team	The Design-Build Entity itself and the individuals and other entities identified by the Design-Build Entity as members of its team. Members shall include the General Contractor and, if utilized, the Principal Engineering Firm and other Design Firms.
Design-Builder	Lead entity within the design-build entity, responsible for managing the entire project.
Principal Engineering Firm	The firm that will be responsible for the primary design of the Project.
General Contractor	The firm that will be responsible for constructing the Project.
Other Design Firms	Firm(s) that will participate in the design of the Project.

B. PRE-PROPOSAL CONFERENCE

A pre-proposal conference will be held on January 21, 2025, at 2:00 p.m. at the Authority's Administrative Office, 550 South Main Street, Orange, CA 92868 in Conference Room 09.

Participation via teleconference will also be available. Prospective Offerors may join or call-in using the following credentials:

- Microsoft Teams Link
- Call-in Number: 916-550-9867
- Conference ID: 549 416 371#

A copy of the pre-proposal conference presentation slides and registration sheet(s) will be issued via addendum prior to the date of the pre-proposal conference.

Immediately following the pre-proposal conference, a job walk will be conducted at 11790 Cardinal Circle, Garden Grove, CA 92843.

All prospective Offerors are encouraged to attend the pre-proposal conference, and the job walk.

By investigation of the work site, Offerors shall be satisfied as to the nature and location of the work and shall be fully informed as to the conditions and matters, which can in any way affect the work or the cost thereof. Prospective Offerors should familiarize themselves with Authority safety rules that pedestrians must wear approved safety vests.

Please bring a safety vest for the job walk.

C. BUS BASE VISIT PROTOCOL

The Authority has a core value of Safety for all employees, visitors, and the public for all transit related operations, therefore Bus Base Rules are established to prevent incidents and injury.

The Authority's Maintenance bases require proper personal protective equipment (PPE) while at the bus base maintenance areas.

Basic PPE includes:

1. ANSI Class 2 Reflective Vest
2. Proper clothing foot ware (i.e., no open toe shoes, sandals, high heel shoes, etc.)
3. Proper eye protection as required

All Contractors (proposed bidders, visitors, etc.) upon arrival shall report into the base Maintenance Shift Supervisor, with the appropriate OCTA employee escort. Each person shall:

1. Sign in
2. Obtain a briefing of potential hazards and emergency procedures
3. Cell Phones are only allowed inside a building

All job walk visitors shall stay within the group and be attentive to instructions for a safe visit.

Upon completion of the visit each person shall sign out with the Maintenance Shift Supervisor prior to leaving the property.

D. EXAMINATION OF PROPOSAL DOCUMENTS

By submitting a proposal, Offeror represents that it has thoroughly examined and become familiar with the work required under this RFP and that it is capable of performing quality work to achieve the Authority's objectives.

E. ADDENDA

The Authority reserves the right to revise the RFP documents. Any Authority changes to the requirements will be made by written addendum to this RFP. Any written addenda issued pertaining to this RFP shall be incorporated into the terms and conditions of any resulting Agreement. The Authority will not be bound to any modifications to or deviations from the requirements set forth in this RFP as the result of oral instructions. Offerors shall acknowledge receipt of addenda in their proposals. Failure to acknowledge receipt of Addenda may cause the proposal to be deemed non-responsive to this RFP and be rejected.

F. AUTHORITY CONTACT

All communication and/or contacts with Authority staff regarding this RFP are to be directed to the following Contract Administrator:

Megan Bornman, Senior Contract Administrator
Contracts Administration and Materials Management Department
600 South Main Street
P.O. Box 14184
Orange, CA 92863-1584
Phone: 714.560. 5064, Fax: 888.404.6282
Email: mbornman@octa.net

Commencing on the date of the issuance of this RFP and continuing until award of the contract or cancellation of this RFP, no offeror, subcontractor, lobbyist or agent hired by the offeror shall have any contact or communications regarding this RFP with any Authority's staff; member of the evaluation committee for this RFP; or any contractor or consultant involved with the procurement, other than the Contract Administrator named above or unless expressly permitted by this RFP. Contact includes face-to-face, telephone, electronic mail (e-mail) or formal written communication. Any offeror, subcontractor, lobbyist or agent hired by the offeror that engages in such prohibited communications may result in disqualification of the offeror at the sole discretion of the Authority.

G. CLARIFICATIONS

1. Examination of Documents

Should an Offeror require clarifications of this RFP, the Offeror shall notify the Authority in writing in accordance with Section G.3. below. Should it be found that the point in question is not clearly and fully set forth, the Authority will issue a written addendum clarifying the matter which will be sent to all short-listed firms.

2. Preference for Materials

In accordance with the California Public Contract Code Section 3400, reference to any equipment, material, article or patented process, by trade name, make, or catalog number, shall not be construed as limiting competition. In those cases where the specifications call for a designated material, product, or service by specific brand or trade name and there is only one brand or trade name listed, the item involves a unique or novel product application required to be used in the public interest or is the only brand or trade name known to the Authority.

Where the specifications or drawings identify any material, product or service by one or more brand names, whether or not “or equal” is added, and the bidder wishes to propose the use of another item as being equal, approval shall be requested as set forth in below.

3. Submitting Requests

a. All questions, including questions that could not be specifically answered at the pre-proposal conference must be put in writing and received via e-mail at mbornman@octa.net no later than 5:00 p.m., on February 4, 2025.

b. Requests for clarifications, questions and comments must be clearly labeled, "Written Questions RFP 4-2683" in the subject line of the e-mail. The Authority is not responsible for failure to respond to a request that has not been labeled as such.

4. Authority Responses

Responses from the Authority will be provided to the short-listed firms, no later than February 18, 2025. Responses will be sent via email.

Inquiries received after 5:00 p.m. on February 4, 2025 will not be responded to.

H. SUBMISSION OF PROPOSALS

1. Date and Time

Proposals must be received in the Authority's office at or before 2:00 p.m. on March 4, 2025.

Proposals received after the above-specified date and time will be returned to Offerors unopened.

2. Address

Proposals delivered in person or by a means other than the U.S. Postal Service shall be submitted to the following:

Orange County Transportation Authority
Contracts Administration and Materials Management (CAMM)
600 South Main Street, (Lobby Receptionist)
Orange, California 92868
Attention: Megan Bornman, Senior Contract Administrator

Or proposals delivered using the U.S. Postal Services shall be addressed as follows:

Orange County Transportation Authority
Contracts Administration and Materials Management (CAMM)
P.O. Box 14184
Orange, California 92863-1584
Attention: Megan Bornman, Senior Contract Administrator

Note: The Authority utilizes a third-party delivery service therefore, Offerors should anticipate a 48-hour delay in delivery of proposals mailed to the P.O. Box listed above. Proposals are considered received once time-stamped at the Authority's physical address.

3. Identification of Technical Proposals

Offeror shall submit one (1) original hard copy of its technical proposal in a sealed package, by the date and time as required above in H.1., and addressed as shown above in H.2. The outer envelope must show the Offeror's name and address and clearly marked as follows:

RFP 4-2683, "Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base" – Technical Proposal

In addition to the above, Offerors shall also include one (1) electronic copy

of the technical proposal in “PDF” format, on a flash drive.

4. Identification of Price Proposals

Offeror shall submit one (1) original hard copy of its price proposal in a **separate sealed package**, by the date and time as required above in H.1., addressed as shown above in H.2. The outer envelope must show the Offeror’s name and address and clearly marked as follows:

RFP 4-2683, “Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base” – Price Proposal

In addition to the above, Offerors shall also include one (1) electronic copy of the price proposal in “PDF” format, on a flash drive.

5. Acceptance of Proposals

a. The Authority reserves the right to accept or reject any and all proposals, or any item or part thereof, or to waive any informalities or irregularities in proposals.

b. The Authority reserves the right to withdraw or cancel this RFP at any time without prior notice and the Authority makes no representations that any contract will be awarded to any Offeror responding to this RFP.

c. The Authority reserves the right to issue a new RFP for the project.

d. The Authority reserves the right to postpone proposal openings for its own convenience.

e. Each proposal will be received with the understanding that acceptance by the Authority of the proposal to provide the services described herein shall constitute a contract between the Offeror and Authority which shall bind the Offeror on its part to furnish and deliver at the prices given and in accordance with conditions of said accepted proposal and specifications.

f. The Authority reserves the right to investigate the qualifications of any Offeror, and/or require additional evidence of qualifications to perform the work.

g. Submitted proposals are not to be copyrighted.

I. PRE-CONTRACTUAL EXPENSES

The Authority shall not, in any event, be liable for any pre-contractual expenses incurred by Offeror in the preparation of its proposal. Offeror shall not include any such expenses as part of its proposal.

Pre-contractual expenses are defined as expenses incurred by Offeror in:

1. Preparing its proposal in response to this RFP;
2. Submitting that proposal to the Authority;
3. Negotiating with the Authority any matter related to this proposal; or
4. Any other expenses incurred by Offeror prior to date of award, if any, of the Agreement.

J. JOINT OFFERS

Where two or more firms desire to submit a single proposal in response to this RFP, they should form a Design-Build Entity. Members of the Design-Build Entity shall include the General Contractor and, if utilized in the design of the project, all electrical, mechanical, and plumbing contractors. The Authority intends to contract with the Design-Build Entity awarded a contract for this Project.

K. OBLIGATION TO KEEP PROJECT TEAM INTACT

Offerors are advised that all firms and key personnel identified in the SOQ shall remain on the Design-Build Team for the duration of the procurement process and execution of the Project. If extraordinary circumstances require a change, it must be submitted in writing to Authority. Authority, at its sole discretion, will determine whether to authorize a change, recognizing that certain circumstances (such as death or termination of employment) may occur that are beyond the Design-Build Team's control. Unauthorized changes to the Design-Build Team at any time during the procurement process may result in elimination of the Offeror from further consideration.

L. TAXES

Offerors' proposals are subject to State and Local sales taxes. However, the Authority is exempt from the payment of Federal Excise and Transportation Taxes. Offeror is responsible for payment of all taxes for any goods, services, processes and operations incidental to or involved in the contract.

M. PREVAILING WAGES

This project is funded under a financial assistance contract by the U.S. Department of Transportation and is subject to all conditions of the Davis-Bacon Act (40 U.S.C. 3141–48), as supplemented by the Department of Labor regulations 29 CFR part 5, and the Labor Code of the State of California commencing in Section 1770 et. seq. It is required that all mechanics and laborers employed or working at the site be paid not less than the current basic hourly rates of pay and fringe benefits. Wage schedules are available at the Authority's Offices or on the internet at:

http://www.dir.ca.gov/OPRL/statistics_research.html and
http://www.access.gpo.gov/davisbacon/.

Offerors shall utilize the relevant prevailing wage determinations in effect on the first advertisement date of the RFP. In the event there are any differences between the minimum wage rates as determined by the United States Secretary of Labor and those determined by the State of California, the highest rate must be paid.

This Agreement is subject to compliance monitoring and enforcement by the Department of Industrial Relations. The Department of Industrial Relations shall monitor and enforce compliance with applicable prevailing wage requirements for this Agreement. The reporting requirements may be found at https://www.dir.ca.gov/Public-Works/Contractors.html. Bidder is responsible for complying with all requirements of the Department of Industrial Relations, including filing electronic payroll reports.

A contractor or subcontractor will not be qualified to bid on, be listed in a bid proposal, or engage in the performance of any contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5. A contractor or subcontractor will be exempt from this requirement pursuant to Labor Code Section 1771.1(a) if it submits a bid authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

A contractor or subcontractor will not be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

A proposal submitted by a contractor or subcontractor will not be accepted or entered into without proof of the contractor or subcontractor's current registration to perform public work pursuant to Labor Code Section 1725.5.

N. PROTEST PROCEDURES

The Authority has on file a set of written protest procedures applicable to this solicitation that may be obtained by contacting the Contract Administrator responsible for this procurement. Any protests filed by an Offeror in connection with this RFP must be submitted in accordance with the Authority's written procedures.

O. WITHDRAWAL OF PROPOSAL

Offerors may withdraw its proposal at any time prior to the time set for opening of proposals by means of written request signed by the Offeror or its proper authorized representative. Such written request shall be delivered to the Contracts Administrator at the address noted in the cover notice of this RFP.

P. CONTRACT TYPE

It is anticipated that the Agreement resulting from this solicitation, if awarded, will be a firm-fixed price, lump-sum design-build contract.

Q. EXECUTION OF CONTRACT

The successful offeror shall submit to the Authority the required contract bonds, "Guaranty" and acceptable insurance certificates within ten (10) calendar days after notification of contract award from the Authority. Failure to sign the contract and submit applicable bonds, "Guaranty", and acceptable insurance certificates within the specified time shall be cause to cancel the award and the forfeiture of the Proposal Bond. Transfers of contract, or of interest in contracts, are prohibited.

R. CONFLICT OF INTEREST

All Offerors responding to this RFP must avoid organizational conflicts of interest which would restrict full and open competition in this procurement. An organizational conflict of interest means that due to other activities, relationships or contracts, an Offeror is unable, or potentially unable to render impartial assistance or advice to the Authority; an Offeror's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or an Offeror has an unfair competitive advantage. Conflict of Interest issues must be fully disclosed in the Offeror's proposal.

All Offerors must disclose in their proposal and immediately throughout the course of the evaluation process if they have hired or retained an advocate to lobby Authority staff or the Board of Directors on their behalf.

Offerors hired to perform services for the Authority are prohibited from concurrently acting as an advocate for another firm who is competing for a contract with the Authority, either as a prime or subcontractor.

S. PROHIBITION

The following prohibition applies to this procurement:

The prime consultant/contractor and all subconsultants (at any tier), regardless of the level of service provided by said subcontractor(s), awarded this contract to design and build a turnkey hydrogen fueling station at the Garden Grove Bus Base are precluded from participating in the future **construction management services contract for this Project**.

T. CODE OF CONDUCT

All Offerors agree to comply with the Authority's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. All Offerors agree to include these requirements in all of its subcontracts.

U. OWNERSHIP OF RECORDS/PUBLIC RECORDS ACT

All proposals and documents submitted in response to this RFP shall become the property of the Authority and a matter of public record pursuant to the California Public Records Act, Government Code sections 7920.000 et seq. (the "Act"). Offerors should familiarize themselves with the provisions of the Act requiring disclosure of public information. Offerors are discouraged from marking their proposal documents as "confidential" or "proprietary."

If a Proposal does include "confidential" or "proprietary" markings and the Authority receives a request pursuant to the Act, the Authority will endeavor (but cannot guarantee) to notify the Offeror of such a request. In order to protect any information submitted within a Proposal, the Offeror must pursue, at its sole cost and expense, any and all appropriate legal action necessary to maintain the confidentiality of such information. The Authority generally does not consider pricing information, subcontractor lists, or key personnel, including resumes, as being exempt from disclosure under the Act. In no event shall the Authority or any of its officers, directors, employees, agents, representatives, or consultants be liable to a Offeror for the disclosure of any materials or information submitted in response to the RFP or by failing to notify a Offeror of a request seeking its Proposal. The Authority reserves the right to make an independent decision to disclose records and material.

Notwithstanding the above, all information regarding proposal responses will be held as confidential until such time as the evaluation has been completed; an award has been made by the Board of Directors or Authority Staff, as appropriate; and the contract has been fully negotiated.

V. STATEMENT OF ECONOMIC INTERESTS

The awarded Offeror (including designated employees and subconsultants) may be required to file Statements of Economic Interests (Form 700) in accordance with the Political Reform Act (Government Code section 81000 et seq.). This applies to individuals who make, participate in making, or act in a staff capacity for making governmental decisions. The AUTHORITY determines which individuals are required to file a Form 700, and if such determination is made, the individuals must file Form 700s with the AUTHORITY's Clerk of the Board no later than 30 days after the execution of the Agreement, annually thereafter for the duration of the Agreement, and within 30 days of termination of the Agreement.

W. EXCEPTIONS/DEVIATIONS

State any technical and/or contractual exceptions and/or deviations from the requirements of this RFP, including the Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit C), using the form entitled "Proposal Exceptions and/or Deviations" included in this RFP. This Proposal Exceptions and/or Deviations form must be included in the original proposal submitted by the Offeror. If no technical or contractual exceptions and/or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted the Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit C). Offerors will not be allowed to submit the Proposal Exceptions and/or Deviations form or any technical and/or contractual exceptions after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

All exceptions and/or deviations will be reviewed by the Authority and will be assigned a "pass" or "fail" status. Exceptions and deviations that "pass" do not mean that the Authority has accepted the change but that it is a potential negotiable issue. Exceptions and deviations that receive a "fail" status means that the requested change is not something that the Authority would consider a potential negotiable issue. Offerors that receive a "fail" status on their exceptions and/or deviations will be notified by the Authority and will be allowed to retract the exception and/or deviation and continue in the evaluation process. Any exceptions and/or deviation that receive a "fail" status and the Offeror cannot or does not retract the requested change may result in the firm being eliminated from further evaluation.

X. PROPOSAL SECURITY FORM

Proposals shall be accompanied by a certified or cashier's check, or an acceptable proposal bond for an amount not less than ten percent (10%) of the total price proposal, made payable to the order of the Orange County Transportation Authority. A corporate surety (not an individual surety), registered in the state of

California and registered to do business in the county of Orange must issue bid bonds. Said check or bond shall be given as a guarantee that the Offeror will enter into a contract if awarded the work and in case of refusal or failure to enter into said contract, the check or bond, as the case may be, shall be forfeited to the Authority.

Y. BOND REQUIREMENTS

The Design-Build Entity awarded the contract will be required to deliver to Authority performance and payment bonds on forms acceptable to Authority in the full amount of the estimated contract costs to guarantee the faithful performance and payments. For the purposes of providing performance and payment bonds, the estimated contract cost for this Project is 100% of the Project value. Authority reserves the right to reject any bond if, in the opinion of Authority, the Surety's acknowledgment is not in the form as prescribed by law. Authority reserves the right to negotiate the bonding level requirements.

Z. SUBCONTRACTORS AND ASSIGNMENTS

The successful Offeror shall perform work equivalent to **at least ten percent (10%) of the total amount of the construction work** at the site; and, perform the work on the site with its own staff.

Pursuant to the provisions of the California Public Contract Code Section 4104, every Offeror shall in the proposal set forth:

1. The name, business address, and California contractor license number of each subcontractor who will perform work or labor or render service to the Offeror in or about the work in an amount in excess of one-half of one percent (1/2 of 1 %) of the Offeror’s total proposal amount; and

2. The portion of the work that will be done by each subcontractor. The Offeror shall list only one subcontractor for each portion of work as defined by the Offeror in its proposal.

3. The dollar amount of the work, which will be done by each such subcontractor. Offeror shall complete Form D "List of Subcontractors" with the above requested information.

If a subcontractor’s California contractor license number is submitted incorrectly in the proposal, it will not be grounds for filing a protest or grounds for considering the proposal nonresponsive if the corrected subcontractor’s California contractor license number is submitted to the Authority within 24 hours after the proposal opening.

Offeror acknowledges and agrees to comply with all applicable statutes and regulations regarding the listing and substitution of subcontractors, including, but not limited to, Public Contract Code Sections 4100, et seq., and Section 22164.

Each Offeror shall set forth in its proposal the name and location of the place of business address of each subcontractor who will perform work or labor or render service to the prime contractor in connection with the performance of the contract.

Offeror shall not assign any interest it may have in any Agreement with the Authority, nor shall Offeror assign any portion of the work under any such Agreement with a value in excess of one-half of one percent (1/2 of 1%) of Agreement price to be sub-contracted to any one other than these subcontractors listed in Form D in the "List of Subcontractors," except by prior written consent of Authority. Authority's consent to any assignment shall not be deemed to relieve Offeror of its obligations to fully comply with its obligations under its Agreement with the Authority. Offeror with its own forces shall perform minimum of ten percent (10%) calculated as a percentage of the total cost of the project under this Agreement. Offeror shall also include in its subcontract agreements the provisions of its Agreement with Authority including the stipulation that each subcontractor shall maintain adequate insurance coverage compatible to the insurance coverage required of the bidder.

AA. OFFEROR'S LICENSING REQUIREMENTS

In conformance with the current statutory requirements of Section 7028.15 of the Business and Professions Code of the State of California, regarding submission of a bid without a license, the Offeror shall provide as part of the proposal a valid State of California license number, class or type and date of expiration.

Furthermore, the Offeror shall ensure that all subcontractors fully comply with the appropriate licensing requirements. The Offeror shall also certify that all information provided and representations made in the proposal are true and correct, and made under penalty of perjury. Offerors shall provide this information on Form D, "List of Subcontractors" presented in the RFP. Failure to provide the information on the certification form or elsewhere as part of the Offeror shall render the Offeror nonresponsive to this solicitation and will result in the rejection of the proposal.

BB. PERMITS AND INSPECTION COSTS

Successful Offeror shall procure all permits and licenses; pay all charges, assessments and fees, as may be required by the ordinances and regulations of the public agencies having jurisdiction over the areas in which the work is located, and shall comply with all the terms and conditions thereof and with all lawful orders and regulations of each such public agency relating to construction operations under the jurisdiction of such agency.

CC. LIQUIDATED DAMAGES

In the event Offeror, after entering into an Agreement with the Authority, fails to complete the work within the time specified in the Agreement, the Offeror will be

required to pay the Authority the amount of **$600 per calendar day** of delay as agreed to liquidated damages.

SECTION II: ADDITIONAL CONTRACTUAL EXHIBITS

SECTION II. ADDITIONAL CONTRACTUAL EXHIBITS

The following Exhibits will be attached to and incorporated into the signed Agreement resulting from this RFP.

A. SAFETY

The complete safety requirements for this RFP are included in Exhibit F, Safety Specifications. The Offeror will be required to demonstrate compliance with all requirements of the Safety Specifications after Notice to Proceed but prior to mobilization. These requirements include, but are not limited to, an onsite Health Safety and Environmental (HSE) representative to be present at all times during construction. The representative must have a current Board of Certified Safety Professionals (BCSP) certification and a minimum of five years of experience enforcing HSE compliance. BCSP certification requirements may be found at: https://www.bcsp.org/Safety-Certifications.

B. PERFORMANCE BOND

The successful Offeror shall furnish at its own expense a Performance Bond (Exhibit G) satisfactory to the Authority in the amount of one hundred percent (100%) of the full amount of the contract as a guarantee of good faith on behalf of the Offeror that the terms of the contract, including all warranty provisions, shall be complied with in every particular. The bond shall be issued by a corporation surety (not an individual surety) required in the state of California and registered to do business in the county of Orange. The bond shall not be issued from a corporation surety that requires a funds control, funds disbursement, or funds administration company for the issuance of the performance bond.

The bond shall specifically provide that if the Contractor, or its subcontractor, fails to fully perform that the surety or sureties will pay for the same in an amount not exceeding the amount specified in the bond and in case suit is brought against the Authority, that the surety will undertake the defense of same.

C. PAYMENT BOND

The successful bidder shall furnish a Payment Bond (Exhibit H) satisfactory to the Authority in the amount of one hundred percent (100%) of the full amount of the contract. Such bonds shall be in effect during the entire term of the contract and warranty and shall be issued directly by a corporate surety (not an individual surety) registered in the state of California and registered to do business in the county of Orange. The bond shall not be issued from a corporation surety that requires a funds control, funds disbursement, or funds administration company for the issuance of the performance bond.

The bond shall specifically provide that if the Contractor fails to pay for amounts due under the Employment Insurance Act that the surety or sureties will pay for

the same in an amount not exceeding the amount specified in the bond and in case suit is brought against the Authority, that the surety will undertake the defense of same.

Pursuant to California Civil Code sections 9550 through 9554, in conjunction with the Bond and Undertaking Law (Code of Civil Procedure sections 995.010, et. seq.), Bidders must provide the following information as part of their payment bond; a certificate of Authority from the Orange County Clerks Office indicating that the insurer has not been surrendered, revoked, canceled, annulled, or suspended or, in the event that it has, that renewed Authority has been granted.

D. GUARANTY

The successful Offeror shall also submit to the Authority the executed and notarized Guaranty form (Exhibit I) in this RFP.

All forms must be completed and submitted to the Contract Administrator responsible for this procurement within ten (10) calendar days of award notice by the Authority. Failure to submit the completed and signed forms will result in cancellation of the award.

E. CONTRACT CHANGE ORDER

The Authority's Contract Change Order form (Exhibit J) will be attached to and incorporated into the signed Agreement resulting from this RFP.

SECTION III: PROPOSAL CONTENT

SECTION III. PROPOSAL CONTENT

A. PROPOSAL FORMAT AND CONTENT

1. Format

Proposals should be typed with a standard 12-point font, double-spaced, and submitted in 8 1/2" x 11" format. Charts and schedules may be included in 11" x 17" format. Proposals should not include any unnecessarily elaborate or promotional materials. Proposals should not exceed seventy-five (75) pages in length, excluding any appendices, resumes, or forms.

2. Letter of Transmittal

The Letter of Transmittal shall be addressed to Megan Bornman, Senior Contract Administrator and must, at a minimum, contain the following:

a. Identification of Offeror that will have contractual responsibility with the Authority. Identification shall include legal name of Offeror, corporate address, telephone and fax number, and email address. Include name, title, address, email address, and telephone number of the contact person identified during period of proposal evaluation.

b. Identification of all proposed Design-Build Team members including:

(1) Legal name of company and address;

(2) Contact person's name, address, phone number, and email address;

(3) State of California contractors license number, if applicable;

(4) Department of Industrial Relations (DIR) registration number, if applicable; and

(5) Relationship to Offeror, if applicable.

c. Acknowledgement of receipt of all RFP addenda, if any.

d. A statement to the effect that the proposal shall remain valid for a period of not less than 120 days from the date of submittal.

e. Signature of a person authorized to bind Offeror to the terms of the proposal.

f. Signed statement attesting that all information submitted with the proposal is true and correct.

3. Technical Proposal

a. Qualifications, Related Experience and References of Offeror

This section of the proposal should establish the ability of Offeror to satisfactorily perform the required work by reasons of: experience in performing work of a similar nature; demonstrated competence in the services to be provided; strength and stability of the Offeror; staffing capability; work load; record of meeting schedules on similar projects; and supportive client references.

Offeror to:

(1) Provide the business form of Offeror and any entities that will have joint and several liability under the Contract or will provide a guaranty (including any joint venture agreement, partnership agreement, operating agreement, articles of incorporation, bylaws or equivalent documents). If there were any material changes to the makeup of the Design-Build Entity or other information submitted as a part of the SOQ, Offeror shall identify that in this section.

(2) The Offeror to provide a letter signed by each of its team (joint venture) members indicating that each member accepts joint and several liability for the obligations of the Offeror.

(3) Provide a brief profile of the Design-Build Team participants, including the types of services offered; the year founded; form of the organization (corporation, partnership, sole proprietorship); number, size and location of offices; and number of employees.

(4) Describe the Design-Build Team's experience in performing work of a similar nature to that solicited in this RFP, and highlight the participation in such work by the key personnel proposed for assignment to this project.

(5) Identify subcontractors by company name, address, contact person, telephone number, email, and project function. Describe Offeror's experience working with each subcontractor.

(6) Identify all firms hired or retained to provide lobbying or advocating services on behalf of the Offeror by company name, address, contact person, telephone number and email address. This information is required to be provided by the Offeror immediately during the evaluation process, if a lobbyist or advocate is hired or retained.

(7) Provide as a minimum three (3) references for each Design-Build Team participant for the projects cited as related experience. Offeror to furnish the name, title, address, telephone number, and email address of the person(s) at the client organization who is most knowledgeable about the work performed. Offeror may also supply references from other work not cited in this section as related experience. Authority's preference is references from outside the Design-Build Entity.

b. Proposed Staffing and Project Organization

This section of the proposal should establish the method, which will be used by the Offeror to manage the project as well as identify key personnel assigned.

Offeror to:

(1) Identify key personnel proposed to perform the work in the specified tasks and include major areas of subcontract work. Include the person's name, current location, proposed position for this project, current assignment, level of commitment to that assignment, availability for this assignment and how long each person has been with the firm.

(2) Furnish brief resumes (not more than two [2] pages each) for proposed key personnel that includes education, experience, and applicable professional credentials.

(3) Describe the Offeror's general management, including roles, responsibilities, and interrelationships among design, construction, and quality personnel, as well as identified Subcontractors.

(4) Organizational chart(s) showing:

(a) The "chain of command" identifying those responsible for performing the major functions and their reporting relationships.

(b) The reporting relationships and responsibilities of the Design-Build Team and any other firms.

(c) The reporting relationships and responsibilities of all Key Personnel.

(5) Include a statement that key personnel will be available to the extent proposed for the duration of the project acknowledging

that no person designated as "key" to the project shall be removed or replaced without the prior written concurrence of the Authority.

c. Technical and Project Delivery Approach

Offeror should provide a narrative, which addresses the Scope of Work, and shows Offeror's understanding of Authority's needs and requirements.

Offeror to:

(1) Describe the approach to completing the tasks specified in the Scope of Work. The technical and project delivery approach shall be of such detail to demonstrate the Offeror's ability to accomplish the project objectives and overall schedule. Offeror shall include narrative descriptions of the following:

(a) Design Management: Provide a comprehensive strategy for design which includes design review, utility conflict resolution, and the securing of third party approvals.

(b) Mobilization Strategy: Methodology being planned to mobilize for the Project, including timing, location(s), staffing requirements, and OCTA obligations.

(c) Construction Staging: A description of the Proposer's approach to the construction staging and sequencing of the Project.

(d) Risk Mitigation: Methodology and strategy being planned to mitigate various risk elements as identified by the Proposer on the Project.

(e) Safety Plan: The safety plan shall include a description of the roles and responsibilities of the safety personnel during the design and construction phases of the Project including and provide an implementation strategy to meet safety commitments and requirements during the design and construction of the Project.

(f) Quality Management Plan: Identify methods that Offeror will use to ensure quality control as well as budget and schedule control for the project. The Quality Management Plan shall provide a description of Offeror's plan and approach to quality management

during all stages of the Project. The Quality Management Plan shall outline the systems that will be employed to ensure that the work is executed.

(2) Offeror to provide a preliminary baseline schedule.

(3) Offeror to provide the proposed design of the facility.

(4) Identify any special issues or problems that are likely to be encountered in this project and how the Offeror would propose to address them.

(5) Offeror to include a narrative describing unique aspects and innovations included in the Offeror's design solutions that will benefit the project.

4. Price Proposal

In a separate sealed envelope, the Offeror shall submit proposed pricing to provide the required services described in Exhibit A, Scope of Work.

The price proposal shall include:

(a) Price Summary Sheet: The Offeror shall complete the "Price Summary Sheet" form included with this RFP (Exhibit E). It is anticipated that the Authority will issue a firm-fixed-price contract specifying firm-fixed-prices for individual tasks.

(b) Proposal Bond: As described in Section I, Instructions to Offerors, paragraph X entitled "Proposal Security Form".

(c) List of Subcontractors: As described Section I, Instructions to Offerors, paragraph Z entitled "Subcontractors and Assignments".

5. Appendices

Information considered by Offeror to be pertinent to this project and which has not been specifically solicited in any of the aforementioned sections may be placed in a separate appendix section. Offerors are cautioned, however, that this does not constitute an invitation to submit large amounts of extraneous materials. Appendices should be relevant and brief.

B. FORMS

1. Form A - Required Forms Checklist

The Authority has prepared a checklist as a reminder of the documents required to be submitted with the Proposal.

2. Form B - Proposal Exceptions and/or Deviations Form

Offerors shall complete the form entitled “Proposal Exceptions and/or Deviations” provided in this RFP and submit it as part of the original proposal. For each exception and/or deviation, a new form should be used, identifying the exception and/or deviation and the rationale for requesting the change. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed nor considered by the Authority.

3. Form C - Proposal Bond

The Offeror shall include the Proposal Bond with the price proposal in separate sealed envelope.

4. Form D - List of Subcontractors Form

Bidder shall complete Form D, which lists all subcontractors performing work in excess of one-half of one percent (½ of 1%) of the bid amount per the instructions set forth in Section I "Instructions to Bidders".

5. Form E - Campaign Contribution Disclosure Form

In conformance with the statutory requirements of the State of California Government Code Section 84308, part of the Political Reform Act and Title 2, California Code of Regulations 18438 through 18438.8, regarding campaign contributions to members of appointed Board of Directors, Offeror is required to complete and sign the Campaign Contribution Disclosure Form provided in this RFP and submit as part of the proposal.

This form **must** be completed regardless of whether a campaign contribution has been made or not and regardless of the amount of the contribution and submitted as a part of its proposal.

The prime contractor, subconsultants, lobbyists and agents are required to report all campaign contributions made from the proposal submittal date up to and until the Board of Directors makes a selection.

Offeror is required to report any campaign contributions made by the prime contractor, subconsultants, lobbyists and agents after the proposal submittal date, and up to the anticipated Board of Directors selection. The

offeror shall use the campaign contribution form for any additional reporting. The forms must be submitted at least 15 calendar days prior to the Transit Committee date on June 12, 2025 and sent via e-mail to the Contract Administrator.

6. Form F - Status of Past and Present Contracts Form

Offeror shall complete and sign the form entitled “Status of Past and Present Contracts” provided in this RFP and submit as part of its proposal. Offeror shall identify the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative proceedings, and investigations arising out of the contract. Offeror shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of Offeror's proposal.

A separate form must be completed for each identified contract. Each form must be signed by the Offeror confirming that the information provided is true and accurate. Offeror is required to submit one copy of the completed form(s) as part of its proposals and it should be included in only the original proposal.

7. Form G - Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246) (No Form Required)

The Offeror shall include the Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity provides notice to Offeror regarding the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications".

8. Form H – Offeror’s Certificate of Compliance – Workers’ Compensation Insurance

In conformance with current statutory requirements of Section 1860, et. seq., of the Labor Code of the State of California, Offeror shall execute the Offeror’s Certificate of Compliance Regarding Workers' Compensation Insurance.

9. Form I – Offeror’s Certificate of Compliance – Business and Professions Code Section 7028

Offeror shall execute the Offeror’s Certificate of Compliance Regarding State of California Business and Professions Code Section 7028.15.

10. Form J - Certification of Non-Collusion

This form requires the Offeror to certify that the bid is not collusive or a sham. This form is to be signed, dated.

11. Form K – Iran Contracting Certification

This form requires the Offeror to certify that the Offeror is not engaged in specified investment activities in the energy sector of Iran. (Required if the price proposal is equal to or greater than $1,000,000).

SECTION IV: EVALUATION AND AWARD

SECTION IV. EVALUATION AND AWARD

A. RESPONSIVENESS EVALUATION

Upon receipt, the technical proposals will be reviewed by Authority to determine conformance to the RFP instructions regarding organization, format and responsiveness to the requirements set forth in the RFP.

The Authority reserves the right to waive minor informalities, irregularities, and apparent clerical mistakes that are unrelated to the substantive content of the Proposals at the Authority's sole discretion

B. EVALUATION OF TECHNICAL AND PRICE PROPOSALS

Evaluation of the technical proposals will be completed before the price proposals are opened. After the technical proposals and price proposals are scored, the Total Proposal Score (TPS) will be determined for each proposal based on the formula set forth in Section IV, paragraph C "Best-Value Determination", below.

C. BEST-VALUE DETERMINATION

The best-value determination will be based on a 100 point scale. The technical score will represent up to 70 points of the total score and the price score will represent up to 30 points of the total score. The determination of apparent best value shall be based on the highest TPS, computed based upon the following formula:

Total Proposal Score (max 100 points) = ***Technical Score*** (max 70 points) + ***Price score*** (max 30 points)

The ***technical score*** will be based on the following formula:	
Technical score = (Technical / Highest Technical) * 70	
Technical = Offeror's technical proposal score	Highest Technical = Highest technical proposal score submitted by any offeror

The ***price score*** will be based on the following formula:	
Price score = (Lowest Price / Price) * 30	
Lowest Price = Lowest proposal price submitted by any Offeror	Price = Offeror's proposal price

D. EVALUATION CRITERIA – TECHNICAL PROPOSAL

The Authority will evaluate the technical proposals received based on the following criteria:

1. Qualifications of the Offeror 35%

Technical experience in performing work of a closely similar nature; strength and stability of the Design-Build Team; strength, stability, experience and technical competence of subcontractors; assessment by client references.

2. Staffing and Project Organization 30%

Qualifications of project staff, particularly key personnel and especially the Project Manager; key personnel's level of involvement in performing related work cited in "Qualifications of the Firm" section; logic of project organization; effectiveness of management organization, structure and responsibilities; adequacy of labor commitment; concurrence in the restrictions on changes in key personnel.

3. Technical and Project Delivery Approach 35%

Depth of Offeror's understanding of Authority's requirements and overall quality of technical and project delivery approach; effectiveness of the general and design management approach and proposed facility design plan, mobilization strategy, construction staging, risk mitigation, the safety plan, and quality management plan; reasonableness of proposed baseline schedule; utility of suggested technical or procedural innovations.

E. EVALUATION CRITERIA - PRICE PROPOSAL

The Authority will open the price proposals once the evaluations of the Technical Proposals are complete.

The Authority will review and determine the price score. The Offeror's total cost and price score shall be compared to the lowest responsive proposal price submitted by any Offeror. The lowest responsive price will receive the total weighted value for this criterion (30 points) and the other proposals will be scored based on the formula in Paragraph B of this section.

F. EVALUATION PROCEDURE

An evaluation committee will be appointed to review all proposals received for this RFP. The committee is comprised of Authority staff and may include outside personnel. The committee members will evaluate the technical proposals using criteria identified in Section IV, paragraph D "Evaluation Criteria – Technical Proposal".

During the evaluation period, the Authority may interview some or all of the Offerors. The Authority has established April 8, 2025, as the date to conduct interviews. All prospective Offerors are asked to keep this date available. No other interview dates will be provided, therefore, if an Offeror is unable to attend the interview on this date, its proposal may be eliminated from further discussion. The interview may consist of a short presentation by the Offeror after which the evaluation committee will ask questions related to the Offeror's proposal and qualifications.

Offerors may be asked to submit a Best and Final Offer (BAFO). In the BAFO request, the Offerors may be asked to provide additional information, confirm or clarify issues and submit a final price proposal. A deadline for submission will be stipulated.

At the conclusion of the evaluation process, the evaluation committee will recommend to the Transit Committee, the Offeror with the highest TPS. The Transit Committee will review the evaluation committee's recommendation and forward its recommendation to the Board of Directors for final action.

G. AWARD

The Authority's Board of Directors will consider the selection of the firm(s) recommended by the Transit Committee.

The Authority may also negotiate contract terms with the selected Offeror prior to award, and expressly reserves the right to negotiate with several Offerors simultaneously and, thereafter, to award a contract to the Offeror offering the most favorable terms to the Authority.

Offeror acknowledges that the Authority's Board of Directors reserves the right to award this contract in its sole and absolute discretion to any Offeror to this RFP regardless of the evaluation committee's recommendation or recommendation of a Transit Committee.

The Authority reserves the right to award its total requirements to one Offeror or to apportion those requirements among several Offerors as the Authority may deem to be in its best interest. In addition, negotiations may or may not be conducted with Offerors; therefore, the proposal submitted should contain Offeror's most favorable terms and conditions, since the selection and award may be made without discussion with any Offeror.

The selected Offeror will be required to submit to the Authority's Accounting department a current IRS W-9 form prior to commencing work.

H. NOTIFICATION OF AWARD AND DEBRIEFING

Offerors who submit a proposal in response to this RFP shall be notified via e-email of the contract award. Such notification shall be made within three (3) business days of the date the contract is awarded.

Offerors who were not awarded the contract may obtain a debriefing concerning the strengths and weaknesses of their proposal. Unsuccessful Offerors, who wish to be debriefed, must request the debriefing in writing or electronic mail and the Authority must receive it within three (3) business days of notification of the contract award.

EXHIBIT A: SCOPE OF WORK

SCOPE OF WORK

DESIGN-BUILD SERVICES
FOR
HYDROGEN FUELING STATION AND
FACILITY MODIFICATIONS
AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE CA 92843

GENERAL SUMMARY OF WORK

The Orange County Transportation Authority (OCTA or AUTHORITY) owns, operates, and maintains the Garden Grove Bus Base located at 11790 Cardinal Circle, Garden Grove, CA 92843.

The AUTHORITY is seeking a qualified DESIGN-BUILD ENTITY (DESIGN-BUILD TEAM) to design, construct, and deliver a turnkey code-compliant Hydrogen Fueling Station and Facility Modifications (PROJECT) at its Garden Grove Bus Base. PROJECT preliminary plans are included herein as Attachment A. DESIGN-BUILD TEAM shall complete the design of the PROJECT, and obtain all required approvals from authorities having jurisdiction prior to proceeding with construction. DESIGN-BUILD TEAM shall deliver the PROJECT fully commissioned and ready for use, and meet all performance requirements through demonstrated performance testing. There is no scope split, the AUTHORITY shall not perform any work on the PROJECT.

The AUTHORITY requires hydrogen fueling for up to 100 fuel cell electric buses (FCEBs), with total daily fuel consumption of up to 3,000 kilograms. At the time of completion of station delivery and during the transition and training period, the AUTHORITY requires hydrogen fueling for up to 50 fuel cell electric buses (FCEBs), with total daily fuel consumption of up to 1,500 kilograms. The AUTHORITY requires that the hydrogen fueling station design be scalable to accommodate up to 150 FCEBs in the future with a total daily fuel consumption of up to 4,500 kilograms. PROJECT requirements include new hydrogen equipment and appurtenances generally consisting of a liquid hydrogen storage tank, two (2) hydrogen fuel dispensers, and all other hydrogen equipment and components required for the turnkey code-compliant Hydrogen Fueling Station. The liquid hydrogen storage tank shall be a 25,000-gallon tank with a service platform. The liquid hydrogen storage tank shall be manufactured and delivered completely equipped with a ready to use refrigerated controlled storage system inside the tank with piping stub-outs capped on the exterior of the liquid hydrogen storage tank ready for pipe connection and future use. The hydrogen fuel dispensers shall be able to completely fuel a FCEB with the required fill quantity of 30 kilograms in under 6 minutes from time of connecting dispenser to the FCEB until time of disconnecting dispenser from the FCEB. Each dispenser shall be capable of simultaneously fueling FCEBs in back-to-back rapid succession during an 8-hour time window; hydrogen fuel dispensers shall be configured to fuel separate buses simultaneously without one operating hydrogen fuel dispenser compromising the fueling performance of the other operating hydrogen fuel dispenser.

PROJECT requirements include a dedicated electrical service power feed and new electrical service equipment to support the hydrogen fueling station and all related items. Electrical service equipment generally consists of an SCE-compliant 1,600A 480V-3P meter switchboard with 480/208Y-120V transformer and 208Y-120V panelboard, standby generator with automatic transfer switch (ATS), the ATS shall be located inside meter

switchboard. SCE furnished and installed equipment are limited to a new transformer, new PME switch, and 12kV medium voltage primary power feed line to its electrical equipment.

PROJECT requirements include a FCEB defueling area equipped with a hydrogen defueling hose and vent stack. In addition, a dedicated 300A 480V-3P electrical service cabinet is required to accommodate contingent mobile hydrogen fueling operations.

PROJECT requirements include a maintenance platform to service OCTA bus fleet. The maintenance platform shall provide access to bus rooftop for maintenance and inspection purposes within the maintenance building.

PROJECT requirements include soil compaction grouting for the entire hydrogen fueling station and electrical equipment area to improve underlying soils. Earthwork generally consisting of excavation, trenching, grading, and all related work as required for delivery of the PROJECT. Reinforced concrete consisting of a raised foundation for the entire hydrogen fueling station and electrical equipment area, equipment footings, piers and pads to support and level up hydrogen fueling station and electrical equipment. Reinforced concrete pavement and flatwork related to new equipment, trenching, and new construction are required. Fencing and sliding gates, fire-rated masonry walls, and steel bollards are required to enclose the hydrogen fueling station and electrical equipment areas for safety and security purposes. Video surveillance system (VSS) cameras, LED area lighting, signage, painted striping and marking in areas generally related to new construction area also required for safety and security purposes. PROJECT requirements include all demolition work to deliver the PROJECT, and demolished material and equipment shall be legally disposed offsite.

New hydrogen detection systems and emergency shutdown system related to new equipment and other new construction are required and shall be integrated to existing systems. Battery backup systems are required for all electrical controls equipment including hydrogen gas and flame detection, VSS cameras, LED area lighting, and any other related equipment. Battery backup systems shall have required capacity to furnish bridging power during transition to standby generator power to avoid hydrogen fueling station and hydrogen dispenser alarm events at time of grid power outages. New data communications equipment and related work to facilitate and monitor all new systems associated with the hydrogen fueling station and dispenser performance are required and shall be integrated to existing systems. The hydrogen fueling station raised concrete foundation shall have an in-slab drainage gutter system. Service water hose bibs are required to support the hydrogen fueling station areas.

PROJECT requirements include facility modifications generally consisting of work at existing maintenance facilities including the fuel building, maintenance building, brake check building, canopy detail area, vehicle test station canopy, tire shop area affected by

the introduction of hydrogen system to the property. PROJECT facility modifications requirements include addition of new hydrogen flame detection systems, hydrogen gas detection systems, early warning systems, and all related items including integration into existing detection and alarm systems. Installation of new emergency stop devices and all related items including integration into existing emergency shut down systems are also required. Installation of indoor and outdoor signage, detection horn/strobe light assemblies, multi-color beacon light arrays at maintenance facilities are also required. PROJECT facility modifications requirements include upgrades to explosion-proof systems and components for existing video surveillance systems, LED area lighting, and all related items.

PROJECT requirements include startup and commissioning of the hydrogen fueling station, hydrogen fuel dispensers and all related equipment systems. Hydrogen purity testing to ensure fuel meets quality standards is required. Back-to-back performance testing to demonstrate the hydrogen fueling station's ability to refuel FCEB's per PROJECT requirements.

The AUTHORITY requires operations and fuel supply services during a training and transition period of 18 months after completion and acceptance of the PROJECT.

SCOPE OF WORK TASKS

DESIGN-BUILD TEAM shall commence work immediately upon receiving the Notice To Proceed (NTP). DESIGN-BUILD TEAM shall use diligence in completing the work in accordance with the Project Master Schedule, as required in Task 1.2 of this Scope of Work.

DESIGN-BUILD TEAM shall be responsible for all work associated with final design, permitting and approvals, equipment/material sourcing, construction/installation, training, and commissioning necessary to design, construct, and deliver a turnkey Hydrogen Fueling Station and Facility Modifications (PROJECT) at Garden Grove Bus Base, as described herein. DESIGN-BUILD TEAM shall provide operations and fuel supply services during a training and transition period of 18 months after completion and acceptance of the PROJECT.

DESIGN-BUILD TEAM shall furnish all services, supervision, labor, materials, supplies, tools, and equipment to provide a complete and finished product, unless noted otherwise. All materials, equipment, and any other related items to be constructed/installed shall be new.

In case of conflict, ambiguities, discrepancies, or errors or omissions among any of the items of work, DESIGN-BUILD TEAM shall submit the matters to the AUTHORITY for clarification. Any work affected by such conflicts, ambiguities, discrepancies, or errors or omissions which is performed by DESIGN-BUILD TEAM prior to clarification by the AUTHORITY shall be at DESIGN-BUILD TEAM's risk. Such conflicts, ambiguities, discrepancies, or errors or omissions among the references shall not give rise to a claim by DESIGN-BUILD TEAM for extra work unless DESIGN-BUILD TEAM can demonstrate that it has incurred additional expenses as a result thereof.

Task 1: Project Administration, Project Management, and Project Control

DESIGN-BUILD TEAM shall review Task 1 of this Scope of Work herein, and shall determine work/services they will offer related to Project Administration, Project Management, and Project Control; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

1.1. Project Administration, Coordination, Meetings, and Progress Reports

Project Administration and Coordination

DESIGN-BUILD TEAM shall provide overall project administration of the contract such as work assignments, meetings, invoices, and monthly progress reports. DESIGN-BUILD TEAM shall provide directions and overall supervision, including coordination with their subcontractors/subconsultants and vendors throughout the duration of the PROJECT.

Deliverables:

- Monthly Invoices – PDF distribution via email.

Project Meetings

DESIGN-BUILD TEAM shall participate in the following meetings:

- Project Kickoff Meeting: OCTA shall coordinate and conduct kickoff meeting. This meeting shall be held soon after issuance of the NTP. At a minimum, this meeting shall review PROJECT objectives and requirements, establish the communication plan and protocols, key delivery dates, and address other items as necessary to ensure successful PROJECT initiation. This meeting is anticipated to be held at OCTA Garden Grove Bus Base or OCTA Headquarters in City of Orange; this meeting is anticipated to have a duration of one (1) hour. This meeting shall require attendance of OCTA representatives and DESIGN-BUILD TEAM's Project Manager.
- Project Status Meetings: DESIGN-BUILD TEAM shall coordinate and conduct Project Status Meetings throughout the duration of the PROJECT; these meetings are anticipated to be held on a weekly basis, and shall be held at a minimum once every two weeks. At a minimum, DESIGN-BUILD TEAM shall provide the following during these meetings: a project status update, three-week look-ahead schedule, project design and/or construction issues and corresponding proposed solutions, new and outstanding action items, and any other related items. DESIGN-BUILD TEAM are anticipated to have a minimum of two (2) meetings during design phase to present design documents to OCTA, in place of typical status

meetings. Meetings during design phase are anticipated to be held at OCTA Headquarters in City of Orange, while meetings during construction phase are anticipated to be held at OCTA Garden Grove Bus Base; each meeting is anticipated to have a duration of one (1) hour. At a minimum, meetings shall require attendance of OCTA representatives and DESIGN-BUILD TEAM's Project Manager; meetings during construction phase shall also require attendance of DESIGN-BUILD TEAM's Project Superintendent.

- Project Pre-Construction Meeting: OCTA shall coordinate and conduct a pre-construction meeting. This meeting shall be held at least one (1) week prior to anticipated construction mobilization. At a minimum, this meeting shall review use of the premises, work restrictions and permitted working hours, responsibility for temporary facilities and controls, procedures for disruptions and shutdowns, construction waste management and recycling, staging and storage areas, health safety & environmental (HSE) compliance, inspections, and address other items deemed necessary prior to construction mobilization. This meeting shall be held at OCTA Garden Grove Bus Base and is anticipated to have a duration of one (1) hour. This meeting shall require attendance of OCTA representatives and DESIGN-BUILD TEAM's Project Manager, Project Superintendent, and Project HSE Representative, as required in Task 1.5 of this Scope of Work.

DESIGN-BUILD TEAM shall prepare and electronically distribute a meeting agenda, a minimum of two (2) working days prior to each meeting. A hard copy of meeting agenda per each attendee and one sign-in sheet shall be distributed at each meeting. DESIGN-BUILD TEAM shall be responsible for preparing all meeting materials, handouts, and presentation as required.

DESIGN-BUILD TEAM shall prepare and distribute to all attendees meeting minutes within three (3) working days of the meeting.

Deliverables:

- Meeting agendas – PDF distribution via email, and hard copies.
- Meeting sign-in sheets – One (1) hard copy for each meeting.
- Materials, handouts exhibit roll plots, boards, and presentations for each meeting (as required) – PDF distribution via email.
- Meeting minutes – PDF distribution via email.

Project Monthly Progress Reports

DESIGN-BUILD TEAM shall provide tracking of the actual progress relative to the Project Master Schedule, as required in Task 1.2 of this Scope of Work, and shall ensure that all significant completion dates of the PROJECT are being met.

DESIGN-BUILD TEAM shall prepare a Monthly Progress Report and submit to OCTA Project Manager no later than the tenth (10^{th}) calendar day of the month following the month being reported. Monthly Progress Reports shall consist of a written narrative and an updated Project Master Schedule, and shall be based on physical percent complete, such as the number of drawings of deliverables completed or estimated progress toward completion. Progress Payments will be based upon percent complete of the major tasks identified.

The narrative portion of Monthly Progress Reports shall describe the overall progress of the work, discuss significant problems and present proposed corrective action and show the status of major changes. Monthly Progress Reports shall include updates on key milestone delivery, an updated Project Master Schedule, and percent complete detail for each task, particularly those worked during the reporting period.

If the latest completion time for a significant work item does not fall within the time allowed by the original Project Master Schedule, the sequence of work and/or duration shall be revised by DESIGN-BUILD TEAM until the resultant schedule indicates that all significant PROJECT completion dates will be met. If during the course of work, DESIGN-BUILD TEAM falls behind in overall performance in accordance with the current schedule, a project management meeting will be called to determine the cause. If the cause is found to be due to DESIGN-BUILD TEAM's performance, payment to DESIGN-BUILD TEAM may be withheld pending the submittal of an action plan outlining the steps which shall be taken to correct the identified delay(s).

Deliverables:

- Monthly Progress Reports – PDF distribution via email.

1.2. Project Master Schedule

The scheduling requirements for the PROJECT are to be considered and documented for a design-build period of twenty-four (24) calendar months including completion of required performance testing and project closeout, and a training and transition period totaling eighteen (18) calendar months including operations and fuel supply services. Project Master Schedule (PMS) shall be in conformance with terms of executed contract.

DESIGN-BUILD TEAM shall submit to OCTA the PMS for the PROJECT within seven (7) calendar days of NTP, which shall be based on the schedule provided by DESIGN-BUILD TEAM in their proposal. DESIGN-BUILD TEAM shall allow a minimum of seven (7) calendar days for OCTA review process. DESIGN-BUILD TEAM shall address the comments and submit to OCTA for acceptance the revised PMS within seven (7) calendar days from receipt of OCTA comments. At a minimum, the PMS shall include tasks that have been specified within this Scope of Work, and shall identify the critical path. Inclusions of additional critical path items are to be added as necessary. The order sequence and interdependence of significant work items shall be reflected on the PMS. The PMS shall reflect the various levels of reviews for submittals. The PMS shall include:

- PROJECT milestones and delivery of PROJECT Deliverables.
- Reviews of PROJECT documents/deliverables by OCTA, City of Garden Grove, and other AHJ.
- Work items of agencies and other third parties that may affect or be affected by DESIGN-BUILD TEAM's activities.

The following list of tasks shall be used to develop the PMS.

- Task 1: Project Administration, Project Management, and Project Control
- Task 2: Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Safety Requirements, and Site Conditions
- Task 3: Architectural & Engineering Design
- Task 4: Construction – Site Coordination and Mobilization
- Task 5: Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement
- Task 6: Construction – Dedicated Electrical Power Feed and Electrical Service Equipment
- Task 7: Construction – Hydrogen Equipment
- Task 8: Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards
- Task 9: Construction – LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings
- Task 10: Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems
- Task 11: Construction – Maintenance Platform
- Task 12: Inspections, Tests, Startup and Commissioning
- Task 13: Training – Safety, Operations, and First Responder
- Task 14: Back-to-Back Performance Testing and Performance Data
- Task 15: Project Closeout – Project Documentation Package, As-Builts, Warranty

- Task 16: Operations and Fuel Supply Services During Training and Transition Period
- Task 17: All Other Work

The PMS will become the baseline schedule, after approval by OCTA. DESIGN-BUILD TEAM shall provide monthly PMS updates as part of Monthly Progress Reports, as required in Task 1.1 of this Scope of Work, which shall be utilized to compare actual progress against the baseline schedule. If at any point DESIGN-BUILD TEAM falls more than a month behind the baseline schedule, DESIGN-BUILD TEAM shall propose a recovery plan to OCTA for consideration.

Deliverables:

- Draft PMS – PDF distribution via email.
- Final PMS – PDF distribution via email.

1.3. Project Key Personnel

As required in Section III. Proposal Content of this RFP package, DESIGN-BUILD TEAM shall identify key personnel related to the PROJECT. At a minimum, roles of Project Manager, Project Superintendent, and Project Health, Safety, and Environmental (HSE) Representative shall be assigned to facilitate work throughout all different phases of the PROJECT.

Project Manager

DESIGN-BUILD TEAM shall designate a responsible person as Project Manager to manage, oversee, and delegate all authorized work. Project Manager is expected to be the direct responsible charge throughout all phases of the PROJECT. Project Manager is anticipated to visit the site daily during construction, to verify the work is proceeding per approved project documents.

Project Superintendent

DESIGN-BUILD TEAM shall designate a responsible person as Project Superintendent who is in direct responsible charge of the work at the PROJECT site. Project Superintendent must be present, at all times, at the PROJECT site when construction work is in progress.

Project Health, Safety, and Environmental (HSE) Representative

As required in Exhibit E. Safety Specifications of this RFP package, DESIGN-BUILD TEAM shall designate a qualified On-Site HSE Representative; resume of proposed On-Site HSE Representative shall be provided to OCTA for review and

approval. Approved HSE Representative must be present, at all times, at the PROJECT site when construction work is in progress. DESIGN-BUILD TEAM's designated HSE Representative is a key position and shall attend the Pre-Construction Meeting, as required in Task 1.1 of this Scope of Work.

Deliverables:

- Project HSE Representative's Resume – PDF distribution via email.

1.4. Quality Management Plan (QMP), Quality Assurance/Quality Control (QA/QC)

DESIGN-BUILD TEAM shall implement and maintain its QMP, as required in Section III. Proposal Content of this RFP package; QMP shall be in effect during the performance of DESIGN-BUILD TEAM's services, throughout the duration of the PROJECT. QMP is anticipated to provide comprehensive quality control (QC) processes and procedures that outline the checking procedures to be performed on preparation of reports, calculations, drawings, specifications, reviews and management systems, and quality assurance (QA) for internal surveillances and audits, including any subcontractors/subconsultants, to maintain product quality, schedule, and budget adherence.

QMP shall clearly identify the name and title of DESIGN-BUILD TEAM's QA/QC manager and personnel performing the QA/QC for this project.

DESIGN-BUILD TEAM shall certify each deliverable as being prepared and checked in accordance with the DESIGN-BUILD TEAM's QMP and have been found to meet the quality objectives set forth therein. DESIGN-BUILD TEAM QA/QC certification shall be in writing on a form furnished by OCTA and shall be signed by DESIGN-BUILD TEAM's QA/QC manager and DESIGN-BUILD TEAM's Project Manager. Deliverables received by OCTA without DESIGN-BUILD TEAM QA/QC certification may be returned without review by OCTA.

DESIGN-BUILD TEAM shall expect that City of Garden Grove, other Authorities Having Jurisdictions (AHJ), and third parties affected by the PROJECT construction may request to review deliverables submitted by DESIGN-BUILD TEAM during the PROJECT; however, review of deliverables by these parties does not relieve DESIGN-BUILD TEAM's responsibility of maintaining QA/QC and meeting all applicable federal/state/local agencies' standards, procedures, and requirements.

Deliverables:

- QA documents for each submittal – PDF distribution and hard copy.

1.5. All Other Work

All Other Work related to Task 1: Project Administration, Project Management, and Project Control that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 1.1 through Task 1.4 of this Scope of Work.

- All Other Work, related to Task 1: Project Administration, Project Management, and Project Control, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 1.5 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 2: Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Hazard Analysis, Safety Requirements, and Site Conditions

DESIGN-BUILD TEAM shall review Task 2 of this Scope of Work herein, and shall determine work/services they will offer related to related to Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Hazard Analysis, Safety Requirements, and Site Conditions; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

2.1. Authorities Having Jurisdiction

Authorities Having Jurisdiction (AHJ) related to the PROJECT includes, but not limited to, the following:

- City of Garden Grove
- Orange County Fire Authority (OCFA)
    - Responsible for fire protection services for the City of Garden Grove
- Orange County Healthcare Agency (OCHA)
    - Serves as local Certified Unified Program Agency (CUPA)
        - Hazardous Material Disclosure (HMD)
        - Business Emergency Plan (BEP)
        - Hazardous Waste (HW)
        - Underground Storage Tank (UST)
        - Aboveground Storage Tank (AST)
        - California Accidental Release Prevention (CalARP)
- Southern California Air Quality Management District (SCAQMD)
- Southern California Edison (SCE)
- Other Utility Companies
- Federal Transit Administration (FTA)

AHJ Coordination – General Summary

DESIGN-BUILD TEAM shall coordinate, cooperate, and/or consult with OCTA and AHJ throughout the duration of the PROJECT. DESIGN-BUILD TEAM shall include OCTA to all communications with AHJ. DESIGN-BUILD TEAM shall ensure the PROJECT's design and construction are in compliance with all procedures and requirements of OCTA and AHJ.

DESIGN-BUILD TEAM shall coordinate with City of Garden Grove and utility companies to determine if utility lines impacted by the PROJECT, if any, requires relocation. DESIGN-BUILD TEAM shall collect, verify, and map existing conditions available; if necessary, DESIGN-BUILD TEAM shall perform potholing related to existing utilities within PROJECT limits for confirmation and determination of any needs of relocations. All necessary utility relocations and related work shall be part of PROJECT, and shall be included in DESIGN-BUILD TEAM's design.

- Per Attachment A: Project Preliminary Plans, hydrogen equipment area associated with liquid hydrogen storage tank will be situated near multiple SCE pole-mounted transformers, along Cardinal Circle; these transformers may have an impact on the PROJECT, due to potential arching event and presence of gaseous hydrogen coming off vent stacks in the general vicinity. DESIGN-BUILD TEAM shall coordinate and consult with SCE, which shall include discussion for potential installation of non-conductive fiberglass barriers or other work to prevent electric arcs shooting towards the gaseous hydrogen vent stacks and other hydrogen equipment.

Project Plan Check: DESIGN-BUILD TEAM shall be responsible for obtaining plan check approval and paying for all plan check fees to City of Garden Grove and other AHJ, as required in Tasks 3.2 and 3.3 of this Scope of Work.

Project Permitting: DESIGN-BUILD TEAM shall be responsible for obtaining all construction permits and paying for all construction permits fees to City of Garden Grove and other AHJ, as required in Task 4.1 of this Scope of Work. If required by City of Garden Grove and other AHJ, DESIGN-BUILD TEAM shall complete all necessary changes in the plans or specifications, at their own expense, to obtain the required permits. DESIGN-BUILD TEAM shall obtain and include/pay costs for City of Garden Grove business licenses.

Deliverables:

- Project Plan Check Approval – PDF distribution via email.
- Project Construction Permit – PDF distribution via email.
- PDF of project related communications by DESIGN-BUILD TEAM with all AHJ, that may impact the PROJECT.

Dedicated Electrical Power Feed/Service Coordination

DESIGN-BUILD TEAM shall be responsible for coordinating with SCE the delivery of a dedicated electrical power feed/service to support the hydrogen fueling station. OCTA will assist to the extent required as the owner-occupant of the site address.

- OCTA shall be the customer of record with SCE.
- OCTA has initiated application for SCE's Rule 16 electrical power service option. Upon request, OCTA shall provide DESIGN-BUILD TEAM with communications to date with SCE related to the dedicated electrical power service application.

DESIGN-BUILD TEAM shall be responsible for all SCE-related fees associated with the design and construction of the PROJECT.

Deliverables:

- PDF of all project related communications by DESIGN-BUILD TEAM with SCE.
- Draft SCE Service Plan – PDF distribution.
- Final SCE Service Approval – PDF distribution and two (2) hard copies.

2.2. Design Criteria, Code and Regulatory Compliance, Hazard Analysis

The PROJECT shall be designed and constructed, at a minimum, in accordance to codes and standards listed below. All applicable codes and standards shall be the most recent versions, as published by issuing organization at time of contract award.

- California Building Code (CBC), California Electrical Code (CEC), California Mechanical Code (CMC), California Fire Code (CFC)
- National Fire Protection Association (NFPA) 2, NFPA 30A, NFPA 52, NFPA 55, NFPA 70
- Society of Automotive Engineers (SAE)
- American Society of Mechanical Engineers (ASME)
- American National Standards Institute (ANSI)
- Compressed Gas Association (CGA) G-5.5
- All codes and standards adopted by reference within the above list.

Applicable codes, regulations, and standards adopted by OCTA and all appropriate AHJ shall govern minimum requirements for this PROJECT. Where codes, regulations, and standards conflict with the contract documents, these conflicts shall be brought to the immediate attention of OCTA Project Manager.

Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS)

DESIGN-BUILD TEAM shall prepare HMMP and HMIS, pursuant to CFC Sections 5001.5.1 and 5001.5.2, respectively; HMMP and HMIS shall be submitted to OCTA and OCFA for acceptance.

Process Safety Management (PSM) Requirements of CAL/OSHA

DESIGN-BUILD TEAM is responsible for ensuring compliance with the Cal/OSHA §5189, Process Safety Management of Acutely Hazardous Materials standards. All compliance activities shall be documented as required by the regulations.

PSM elements including Process Safety Information, Process Hazard Analysis, Pre-Startup Safety Review, Safe Operating Procedures, and the Mechanical Integrity procedures shall be provided by DESIGN-BUILD TEAM to OCTA in advance of the system being fully commissioned and made ready for fueling buses.

- DESIGN-BUILD TEAM shall conduct a Pre-Startup Safety Review prior to introducing hazardous materials on-site (e.g., hydrogen gas or liquid), which includes field verification of critical process documentation (e.g., P&ID) against as-built conditions.
- DESIGN-BUILD TEAM to conduct Hazard Analysis per NFPA 2 (Hydrogen Technologies Code). Extent, detail, and effort of Hazard Analysis shall, at a minimum, be consistent with industry specific HAZOP or HAZID best practices. Format shall consist of initial meeting(s), followed by formal report and recommendations. DESIGN-BUILD TEAM to seek a qualified third-party facilitator to manage and conduct Hazard Analysis. DESIGN-BUILD TEAM to ensure all recommendations are concluded, as a prerequisite to commissioning and startup.

DESIGN-BUILD TEAM shall serve as the system expert and shall provide training and certification, in conjunction with Task 13.1 of this Scope of Work, to OCTA staff in compliance with §5189(g) https://www.dir.ca.gov/title8/5189.html.

Deliverables:

- PSM Requirements Documentation – PDF distribution via email.

SAE Standards

The hydrogen fueling station and hydrogen supplies shall be compliant with SAE J2601-2 (2023) fueling protocol, SAE J2799 FCEB to station communications, and SAE J2719 fuel quality standards. In order to ensure that the fuel meets quality

standards, DESIGN-BUILD TEAM shall conduct fuel purity tests related to the commissioning phase of the PROJECT, as required in Task 12.1 of this Scope of Work, and prior to filling any of OCTA's buses.

Ventilation Requirements

Per NFPA 2 mechanical exhaust or fixed natural ventilation shall be at a rate of not less than 1 scf/min/ft^2 of floor area; per guidelines, 5 air changes per hour (ACH) is required at the maintenance building.

DESIGN-BUILD TEAM shall provide services to furnish a Testing, Adjusting, and Balancing (TAB) Report for ventilation system at the maintenance building.

Deliverables:

- TAB Report – PDF distribution via email

Noise Ordinance

DESIGN-BUILD TEAM shall ensure compliance with all applicable local noise ordinances. If necessary or requested by City of Garden Grove or other AHJ, DESIGN-BUILD TEAM shall provide noise measurement data at DESIGN-BUILD TEAM's expense.

2.3. Safety Requirements

Hydrogen Safety Plan and Review

DESIGN-BUILD TEAM shall contact the Pacific Northwest National Laboratory (PNNL) or Center for Hydrogen Safety's Hydrogen Safety Panel (HSP) to discuss the PROJECT prior to submitting their proposal, and provide evidence of such contact in their proposal; evidence may include copy of emails. Available contact information– Nick Barilo of HSP: NickB@aiche.org.

DESIGN-BUILD TEAM shall develop a Hydrogen Safety Plan that addresses all aspects of hydrogen safety related to the hydrogen fueling infrastructure being developed and installed as part of this PROJECT.

The Hydrogen Safety Plan must describe the DESIGN-BUILD TEAM's work and activities to ensure safety protocols are followed in all aspects of the PROJECT and include methodology and evaluation procedures for performing a hazard analysis. The Hydrogen Safety Plan must include a detailed description of how DESIGN-BUILD TEAM will address the following:

- Adhere to the National Fire Protection Association (NFPA) 2, Hydrogen Technologies Code 2023 edition.
- Provide safety training for the hydrogen fueling infrastructure's initial operation and safety training for all operators and first responders.

DESIGN-BUILD TEAM is encouraged to download and use the following documents to assist in developing their hydrogen safety plans:

- "Safety Planning for Hydrogen and Fuel Cell Projects," January 2020 (https://h2tools.org/sites/default/files/Safety_Planning_for_Hydrogen_and_Fuel_Cell_Projects.pdf), and
- "Example Safety Plan for Hydrogen and Fuel Cell Projects," September 2020 (https://h2tools.org/sites/default/files/2020-10/Example_Hydrogen_Safety_Plan_September_2020.pdf).

DESIGN-BUILD TEAM shall submit a preliminary Hydrogen Safety Plan to HSP for review; safety plan review is estimated to have an 8-week duration. DESIGN-BUILD TEAM shall prepare a final Hydrogen Safety Plan, addressing HSP's assessment and related comments.

DESIGN-BUILD TEAM shall also participate in an early design review with HSP, by submitting DESIGN-BUILD TEAM's preliminary design to HSP for review.

All charges incurred by HSP staff will be the sole responsibility of DESIGN-BUILD TEAM to pay.

OCTA Level 3 Health, Safety, and Environmental (HSE) Specifications

DESIGN-BUILD TEAM shall comply with all OCTA Health, Safety and Environmental requirements, as required in Exhibit E. Safety Specifications of this RFP package, and all other requirements set forth by terms of executed contract.

Deliverables:

- All required submittals per OCTA Level 3 HSE Specifications – PDF distribution via email.

2.4. Site Conditions

Project Site Review

DESIGN-BUILD TEAM shall collect and review existing data and information relevant to the PROJECT, including available public records from City of Garden Grove and other AHJ. Upon request, OCTA shall provide available as-built documentation and any other related items that may impact the PROJECT.

- All record information provided by OCTA is for reference only. DESIGN-BUILD TEAM.

DESIGN-BUILD TEAM shall conduct site visit(s) to field verify all existing conditions at the PROJECT site that may affect the design and construction of the PROJECT; site visits shall be coordinated by DESIGN-BUILD TEAM in a timely manner with OCTA. DESIGN-BUILD TEAM shall prepare a Site Visit Report, for each site visit, which shall include photos and descriptions detailing existing conditions and site observations; Site Visit Reports shall be submitted to OCTA within three (3) working days after site visit.

- Existing improvements observed during site visits are to be taken into consideration for design, engineering, and construction impacts. Relocation, demolition, or modification of existing improvements which can be identified visually are to be considered within scope.

Deliverables:

- Site Visit Report – PDF distribution via email.

Survey and Mapping

Please refer to Attachment A: Project Preliminary Plans, which includes a Topographic Site Plan (2024) consisting of survey and mapping information related to the project site.

Geotechnical Engineering

Please refer to Attachment B: Project Geotechnical Report for a project-specific geotechnical investigation recently performed at the project site (2024). DESIGN-BUILD TEAM shall review the provided geotechnical report, which provides conclusions and recommendations related to geologic and geotechnical matters, structure foundations and shall be included in the design and construction of the PROJECT.

2.5. All Other Work

All Other Work related to Task 2: Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Hazard Analysis, Safety Requirements, and Site Conditions that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 2.1 through Task 2.4 of this Scope of Work.

- All Other Work, related to Task 2: Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Hazard Analysis, Safety Requirements, and Site Conditions, as defined to be offered by DESIGN-

BUILD TEAM in their proposal shall be amended to either Task 2.5 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 3: Architectural & Engineering Design

DESIGN-BUILD TEAM shall review Task 3 of this Scope of Work herein, and shall determine work/services they will offer related to Architectural & Engineering Design; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

Project Information, Requirements, and Specifications

PROJECT preliminary plans are included herein as Attachment A. DESIGN-BUILD TEAM shall complete the design of the PROJECT, and obtain all required approvals from authorities having jurisdiction prior to proceeding with construction.

In conjunction with PROJECT preliminary plans, Tables 1 through 3 below provides project related information, requirements, and specifications.

Table 1: Fuel Cell Bus Specifications (100 Buses in Fleet)		
Characteristic	**Specification**	**Notes**
Volume of Hydrogen Stored, per Bus	56.5 cu. ft. 1,600 L	
Mass Stored, per Bus	37.5 kg	Nominal Working Pressure (NWP) at 35 MPa and 15 ºC
Fill Pressure, per Bus	38 MPa	Settled pressure at 35 MPa
Usable Mass, per Bus	36 kg	95% to 96%
Number of Cylinders, per Bus	5	320 L each
Cylinder Type Category	Type 4	
Fuel Economy	7 to 8 mi/kg	Varies: Route, Speed, HVAC
Daily Use, per Bus	210 to 240 mi	
Daily Fuel Consumption, per Bus	30 kg	
Fleet Daily Fuel Consumption (100 Buses)	Up to 3,000 kg	
Fleet Annual Fuel Consumption (100 Buses)	Up to 1,095,000 kg	
Fueling Receptacle	TN1 HF with IrDA communication	

Note: Values within Table 1 above are estimates; actual performance shall depend on actual bus characteristics and ambient conditions.

Table 2: Hydrogen Fueling Station Requirements		
Characteristic	**Specification**	**Notes**
Hydrogen Supply	Liquid	Delivered to facility
Liquid Hydrogen Storage	25,000 gal	
Usable Hydrogen Supply		Percentage of storage capacity
High-Pressure Gaseous Storage		(Quantity, kg.)
High-Pressure Storage Vessels		(Quantity, number of vessels)
High-Pressure Storage Maximum Pressure		(Bar) ASME Standard
Hydrogen Dispenser	Two (2)	SAE J2601-2 (2023) H35-HD Fast-fill; dispensers shall be capable to fill simultaneously
Hydrogen Dispenser Make and Model		
Hydrogen Dispenser Accuracy	+/- 3% or better	
Hydrogen Dispenser Nozzle	WEH TK16-HF	120 g/sec max flow rate
Infrared Communications/ Grounding	IrDA	Nozzle interface with TN1 HF receptacle
Pump(s)/Compressor(s)		(Quantity) Equipment shall provide redundancy
Pump/Compressor Make and Model		
Pump/Compressor Flowrate		(Kg/hr)
Pump/Compressor Inlet Pressure		(Bar)
Pump/Compressor Capacity		(Kg/hr)

Note: Hydrogen Fueling Station requirements and specifications are noted within Table 2 above. DESIGN-BUILD TEAM shall be responsible to complete Table 2 above by obtaining further specifications, not provided within the table, that is required to deliver the PROJECT.

Table 3: Peak Fueling Performance Requirements		
Characteristic	**Requirement**	**Notes**
Fueling Time, per Bus	Under 6 minutes	From point of connecting dispenser to the bus until point of disconnecting dispenser from the bus.
Bus fills per hour per dispenser	6 Buses/hr, back-to-back fueling in rapid succession	Fill quantity: 30 kg
State of Charge (SOC)	>95% SOC at settled pressure	Target is 350 Bar at settled pressure
Bus Fueling Window Time Period	6:00 pm to 2:00 am	

In conjunction with PROJECT preliminary plans, the following requirements and specifications shall be incorporated in the PROJECT:

- Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement related work shall be provided by DESIGN-BUILD TEAM.
    - All demolition work and any other related work required to allow delivery of the PROJECT shall be provided.
        - Demolition of existing 8-ft-high CMU wall and existing sliding gate along the northern property line, to allow for subsequent construction, shall be provided.
        - Demolition of existing concrete pavements, to allow for subsequent construction, shall be provided; existing concrete pavements are generally 10-in thick.
        - Demolition of other existing items including, but not limited to, concrete flatwork and light poles, to allow for subsequent construction, shall be provided.
        - Demolition work shall be in compliance with City of Garden Grove and other AHJ requirements.
        - All construction and demolition debris shall be removed from the site and legally disposed offsite.
    - All earthwork required to allow delivery of the PROJECT shall be provided including excavation, trenching, grading, backfill, import, export, and any other related work.
        - Earthwork shall be in compliance with Attachment B: Project Geotechnical Report, City of Garden Grove, and other AHJ requirements and recommendations.
    - Soil Compaction Grouting work shall be provided to address liquefaction hazard at the PROJECT site.
        - Soil Compaction Grouting work shall be in compliance with Attachment B: Project Geotechnical Report requirements and recommendations.
    - All concrete placement work and any other related work required to allow delivery of the PROJECT shall be provided.
        - New reinforced concrete shall be provided including elevated slab/ raised foundation for the entire hydrogen fueling station and electrical equipment areas, equipment footing/piers and pads to support and level up hydrogen fueling station equipment and electrical service equipment, pavements and flatwork related to trenching and new equipment.
            - Elevated slab/raised foundation areas shall be designed in a manner to ensure no pooling or trapping of stormwater or condensation occurs. Correction of such improvements shall be considered within scope.
            - Elevated slab/raised foundation areas related to the hydrogen fueling station shall have an in-slab drainage gutter system, with the intent to catch condensate coming off liquid hydrogen pipe and equipment; the in-slab drainage gutter system shall

include a drain pipe that shall be connected to existing storm drain, and shall have an accessible shut-off valve.
                - New concrete pavements and flatwork shall match existing, at a minimum.
            - New reinforced concrete shall be provided including foundations to support fire-rated walls, fencing, sliding gates, and safety bollards.
- Dedicated Electrical Power Feed and Electrical Service Equipment related work to support the hydrogen fueling station shall be provided by DESIGN-BUILD TEAM, with the exception of related work to be provided by SCE.
    - SCE furnished and installed equipment are generally limited to a new transformer, new PME switch, and 12kV medium voltage primary power feed line to its electrical equipment.
        - All work outside of SCE's scope of work related to the dedicated electrical service shall be provided by DESIGN-BUILD TEAM.
    - 1,600A 480V-3P SCE-compliant meter switchboard with 480/208Y-120V transformer and 208Y/120V-3P-4W panelboard shall be provided by DESIGN-BUILD TEAM.
    - 1,000 kW 480V-3P diesel-powered standby generator with automatic transfer switch (ATS) shall be provided by DESIGN-BUILD TEAM.
        - Standby generator shall be SCAQMD Tier 4 generator and shall meet SCAQMD requirements.
- Hydrogen Equipment related work shall be provided by DESIGN-BUILD TEAM.
    - Non-propriety equipment and components are preferred by OCTA and shall be considered by DESIGN-BUILD TEAM in their design; non-propriety equipment and components are preferred due to benefits related to maintenance and repairs, including material availability.
    - Liquid hydrogen storage tank shall be provided.
        - Liquid hydrogen storage tank shall be a 25,000-gallon tank with a service platform, equipped with railings and access steps at two directions.
        - Liquid hydrogen storage tank shall be manufactured and delivered completely equipped with a ready to use refrigerated controlled storage system inside the tank with piping stub-outs capped on the exterior of the liquid hydrogen storage tank ready for pipe connection and future use.
        - The interface between the liquid hydrogen storage tank and the delivery trailer shall be adaptable to accept fuel supply from multiple competing fuel suppliers
    - Two (2) Hydrogen Fuel Dispensers shall be provided.
        - Hydrogen fuel dispensers shall be pressure class H35 (35 MPa NWP) with a maximum operating pressure of 43.8 MPa, in accordance with SAE J2601-2 (2023). Hydrogen fuel dispensers shall be equipped with a WEH TK16-HF (High Flow) Nozzle.
        - Hydrogen fuel dispensers and fueling nozzles shall provide infrared communication (IrDA) and grounding interfaces with the TN1 HF receptacle on buses, so that only two connections are made between

a fuel dispenser and a bus, one for grounding and the other to connect a fuel dispenser to a bus.
        - Hydrogen fuel dispensers shall have simultaneous fueling capabilities.
    - Piping Bundle and Hydrogen Piping shall be provided.
        - Piping bundle shall include all related components from hydrogen equipment area associated with liquid hydrogen storage tank to the fuel building for hydrogen dispensing equipment.
        - Hydrogen piping shall include all related components to allow for fully operational hydrogen fueling station.
    - All Other Hydrogen Equipment and Components required for the turnkey code-compliant Hydrogen Fueling Station shall be provided.
        - Other hydrogen equipment and components may include, but not limited to, pumps/compressors, vaporizers, gaseous storage vessels, priority control unit/valve panel, control and power container, inert gas/nitrogen purge tank, precooling system.
        - Redundancy of equipment shall be considered by DESIGN-BUILD TEAM and discussed with OCTA, if necessary, which shall be subject for approval by OCTA.
    - Defueling Area shall be provided as a designated space to defuel hydrogen from a FCEB without venting to the atmosphere.
        - Defueling area shall have a minimum area of 15-feet by 40-feet.
        - Defueling area shall be equipped with a defueling hose and vent stack, which shall be incorporated with gaseous hydrogen recovery system for refueling. Defueling hose shall be of sufficient length to easily connect to a bus defuel receptacle.
        - Defueling area shall be equipped with a pressure regulator to monitor and control the pressure control flow.
        - Defueling area shall meet City of Garden Grove and other AHJ requirements, including clearances and sign requirements.
    - Mobile Hydrogen Fueling Trailer Area shall be provided as a designated space that shall be capable to support mobile hydrogen fueling trailers.
        - Mobile hydrogen fueling trailers, which are self-contained trailers (typically 1,000 kg) that include dispenser(s), hydrogen detection systems, and other related items are anticipated for future use and to be designed accordingly.
        - Mobile hydrogen fueling trailer area shall be equipped with an electrical NEMA 3R cabinet, which will house 300A 480V-3P circuit breaker, receptacle, grounding terminal, 30-feet long power cord with plugs on both ends, to accommodate contingent mobile hydrogen fueling operations.
    - Service Water Hose Bibs shall be provided.
        - Service water hose bibs to support the hydrogen fueling station shall be appropriately located in the general vicinity of hydrogen equipment area associated with the liquid hydrogen storage tank,

and in the general vicinity of defueling and mobile hydrogen fueling trailer areas, at a minimum.

- Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards related work shall be provided by DESIGN-BUILD TEAM.
    - Fire-rated walls shall be provided
        - 2-hour fire-rated CMU wall along the northern property line for work related to the electrical equipment area, the hydrogen equipment area, the defueling area, and the mobile hydrogen fueling trailer area shall be provided.
        - 2-hour fire-rated CMU walls between electrical equipment area and hydrogen equipment area associated with liquid hydrogen storage tank, and along southern perimeter of electrical equipment area shall be provided.
        - 2-hour fire-rated CMU wall shall be 15-ft in height.
        - Fire-rated walls shall be provided as required by NFPA and other regulatory codes.
    - Fencing and sliding gates shall be provided to enclose hydrogen fueling station areas and restrict access to authorized personnel only.
        - Fencing and sliding gates, with a lock and key system, shall be provided along the perimeter of the hydrogen equipment area associated with liquid hydrogen storage tank, in areas not occupied by fire-rated walls.
        - Fencing and a sliding gate, with a lock and key system, shall be provided along the perimeter of the electrical equipment area, in areas not occupied by fire-rated walls.
        - Fencing and a sliding gate, with a lock and key system, shall be provided at location adjacently north of the fuel building related to hydrogen equipment.
        - DESIGN-BUILD TEAM shall reference the following fencing system as the basis of design: ClearVu Invisible Wall (https://www.cochraneglobal.com/clearvu-invisible-wall/)
    - New sliding gate along the northern property line shall be provided to replace existing sliding gate. New sliding gate shall be of like-kind material and system to the existing sliding gate system being replaced, which shall be subject for review and approval by OCTA.
    - Safety bollards shall be provided.
        - Safety bollards shall be appropriately located, generally along new perimeter walls, fencing, and gates related to the electrical equipment area and the hydrogen equipment area associated with liquid hydrogen storage tank.
        - Safety bollards shall be appropriately located, generally along new fencing and gates related to the hydrogen equipment area adjacently north of the fuel building.
        - Safety bollards shall be 6-inch in diameter and spaced 4-feet center-to-center. Safety bollards shall be of steel pipe material and protected from corrosion.

        - Removable safety bollards along sliding gate locations shall be provided.
- LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings related work shall be provided by DESIGN-BUILD TEAM.
    - Explosion-proof LED area lighting shall be provided to support hydrogen fueling station areas and related electrical equipment area.
        - Minimum lamination at any point within hydrogen fueling station areas are 5-ft-candles, with a minimum of 10-ft-candles available at any accessible equipment or electrical panel access points.
    - Explosion-proof VSS cameras shall be provided to oversee all of the hydrogen fueling station areas and related electrical equipment area, as well as maintenance platform area.
        - VSS camera locations shall be selected by OCTA during design phase and at OCTA's discretion.
        - VSS cameras shall have capability of identifying vehicle license plates and facial recognition.
    - Signage shall be provided and shall include safety and warning signs for hydrogen fueling station areas and related electrical equipment area.
        - Signage shall be provided as required by NFPA and other regulatory codes.
        - Signs shall be made of UV-resistant material, all-weather material.
    - Paint striping and markings shall be provided for hydrogen fueling station areas and related electrical equipment area.
        - Paint striping and markings shall be provided to clearly identify walkway areas, restricted/hazard areas, loading areas, and/or parking areas at hydrogen fueling station areas.
        - Perimeter and edges of all elevated work surface shall be painted.
- Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems related work shall be provided by DESIGN-BUILD TEAM.
    - Hydrogen detection systems shall be provided and include gas detectors, flame detectors, alarms, detection horn/strobe light assemblies, multi-color beacon light arrays for hydrogen fueling station areas and shall all be strategically located.
        - New hydrogen detection system shall be integrate into existing detection/alarm systems.
        - Gas detectors and flame detectors that are triggered falsely or in error shall be corrected by DESIGN-BUILD TEAM; repeated falsely triggered devices shall be replaced with an alternate approved device as a means of eliminating false alarms.
    - Emergency shutdown (ESD) system shall be provided and include ESD buttons and an integrated panel, where the ESD system can be reset after a trigger.
        - ESD buttons shall be provided at both hydrogen dispensers and within the enclosed hydrogen equipment area associated with liquid hydrogen storage tank, at a minimum. Final locations of ESD buttons shall be approved by OCTA and AHJ.

        - ESD buttons shall immediately stop all fueling operations related to the hydrogen fueling station when activated.
        - ESD buttons at each hydrogen dispenser location shall shut down all fueling within the fuel building, including CNG.
        - ESD buttons within the enclosed hydrogen equipment area associated with liquid hydrogen storage tank shall stop all fueling operations related to the hydrogen fueling station, including both hydrogen dispensers, but not CNG or other fueling within the fuel building.
        - Integrate new ESD system into existing ESD systems at Garden Grove Bus Base.
    - Battery backup systems shall be provided.
        - Battery backup systems shall have required capacity to furnish bridging power during transition to standby generator power to avoid hydrogen fueling station and hydrogen dispenser alarm events at time of grid power outages.
        - Battery backup system shall be provided for all electrical controls equipment, gas and flame detectors, VSS cameras, area lighting, and any other related equipment associated with the hydrogen fueling station that shall have backup battery power to ensure continued operation should there be a loss of grid power.
- Maintenance Platform to service OCTA bus fleets shall be provided by DESIGN-BUILD TEAM.
    - DESIGN-BUILD TEAM shall provide maintenance platform to access bus rooftop for maintenance and inspection purposes within the maintenance building. DESIGN-BUILD TEAM shall reference the following platform system as the basis of design: The ZEvolve Access System (https://www.spikamfg.com/industry/mass-transit).
    - The maintenance platform shall comply with CBC and other regulatory codes, including design considerations related to seismic anchoring and bracing.
- Utility Piping, Conduits, and Conductors/Wirings related work shall be provided by DESIGN-BUILD TEAM.
    - All piping and conduits (underground and aboveground) shall run as directly as possible and shall be secured.
    - Underground piping and conduits shall be protected from damage by movement of the ground and shall be protected from corrosion (e.g., use concrete-encased PCV Schedule 80 for conduits).
    - Underground piping shall be of welded construction (without valves, unwelded mechanical joints, or connections installed underground).
    - Aboveground piping and conduits shall be protected from corrosion (e.g., use rigid galvanized steel material for conduits).
    - Aboveground piping and conduits on the exterior of buildings shall be concealed in an aesthetical manner (e.g., sheet metal shroud painted the same color to match), as approved by OCTA. All exposed piping and

conduits, excluding stainless steel tubing, shall be painted to match adjacent surfaces.
    - Conductors/wiring shall be of copper material.
- Data Communications related work shall be provided by DESIGN-BUILD TEAM.
    - DESIGN-BUILD TEAM shall be responsible for establishing communication and data lines related to the hydrogen fueling station, which includes the following:
        - Verification and evaluation of existing local data/internet main point of entry (MPOE) at Garden Grove Bus Base (Maintenance Building), for integration/utilization with the hydrogen fueling station.
        - Coordination with OCTA IT department for IT system requirements.
    - Cellular data connection shall be considered, if such connection can be proven to be better value with lower cost and/or better reliability.
    - DESIGN-BUILD TEAM shall ensure data/internet specifications are in compliance with requirements of hydrogen equipment manufacturer, VSS cameras, and all other needs.
    - DESIGN-BUILD TEAM shall integrate the hydrogen fueling station with Supervisory Control and Data Acquisition (SCADA) systems, including OCTA's Fleetwatch system; materials and/or equipment necessary to achieve such integration is to be considered within scope.
        - OCTA uses an industry standard system (Fleetwatch) to collect fueling data on each vehicle in its fleet as the vehicles are fueled and serviced. DESIGN-BUILD TEAM shall integrate the hydrogen fuel dispensers and control systems with the Fleetwatch system.
        - DESIGN-BUILD TEAM shall provide a means for remote monitoring of fueling system operation and ESD status, which shall be integrated to existing systems.
- Facility Modifications required shall be provided by DESIGN-BUILD TEAM and generally consists of work at existing maintenance facilities including the fuel building, maintenance building, brake check building, canopy detail area, vehicle test station canopy, tire shop area affected by the introduction of hydrogen system to the property.
    - DESIGN-BUILD TEAM shall provide new hydrogen detection systems including gas detectors, flame detectors, alarms, detection horn/strobe light assemblies, multi-color beacon light arrays at maintenance facilities.
        - New hydrogen detection system shall be integrate into existing detection/alarm systems.
        - Gas detectors and flame detectors that are triggered falsely or in error shall be corrected by DESIGN-BUILD TEAM; repeated falsely triggered devices shall be replaced with an alternate approved device as a means of eliminating false alarms.
    - DESIGN-BUILD TEAM shall provide early warning systems that shall alert staff of potential issue.
        - Early warning systems shall include infrared thermal sensors to scan temperature of bus roofs for excessive heat due to overheating batteries, and/or sensors to detect lithium off-gassing.

- DESIGN-BUILD TEAM shall provide new ESD systems including ESD buttons at maintenance facilities.
    - Integrate new ESD system into existing ESD systems.
- DESIGN-BUILD TEAM shall remove existing non-explosion proof area lighting and replace with new explosion-proof LED area lighting at maintenance facilities.
    - Minimum lamination at any point within hydrogen fueling station areas are 5-ft-candles, with a minimum of 10-ft-candles available at any accessible equipment or electrical panel access points.
- DESIGN-BUILD TEAM shall remove existing non-explosion proof VSS cameras and replace with new explosion-proof VSS cameras at Garden Grove Base.
    - New VSS cameras shall be of like-kind equipment to the existing cameras, which shall be subject for review and approval by OCTA.
- DESIGN-BUILD TEAM shall provide new signage including safety and warning sings, related to hydrogen system, at maintenance facilities.
    - Signage shall be provided as required by NFPA and other regulatory codes.
    - Signs shall be made of UV-resistant material, all-weather material.

Project Design Package

DESIGN-BUILD TEAM shall develop and submit a complete 100% (Final) Design Package including, but not limited to, plans and specifications ready for construction. Final Design Package shall be developed utilizing information, requirements, and specifications provided herein Task 3 of this Scope of Work and/or Attachment A: Project Preliminary Plans. Final Design Package shall include all documentations required to construct the Hydrogen Fueling Station and Facility Modifications in compliance with all requirements from OCTA, City of Garden Grove, and other AHJ.

DESIGN-BUILD TEAM shall, at a minimum, include plan/drawing sheets consisting of the following details and information: site plans, demolition plan, grading plan, soil compaction grouting, site survey, equipment plan, equipment staging area, elevations, foundation plan, anchoring details/plan, new electrical service site plan, single line diagram, load schedule, panel schedule, conduit and conductor routing plan, grounding plan, lighting plan, Title 24 compliance forms, piping and instrumentation diagram (P&ID), piping plan, maintenance platform details.

3.1. 60% Design Phase

60% Design (Design Development) Package shall include PROJECT civil, architectural, structural, mechanical, plumbing, electrical, control, phasing plans and all other applicable plans and specifications, as required by OCTA, City of Garden Grove, and other AHJ. All plans and specifications shall be detailed as to be ready for plan check and construction of PROJECT except the designed

features that are undecided/undetermined by OCTA, City of Garden Grove, and/or other AHJ.

DESIGN-BUILD TEAM shall prepare and submit 60% Design Package to OCTA for review and comments. DESIGN-BUILD TEAM shall allow OCTA a minimum of fourteen (14) calendar days to review. All OCTA's comments shall be addressed in the 90% Design Submittal Package.

At 60% Design Phase, DESIGN-BUILD TEAM shall obtain and provide OCTA all plan check requirements, timeline, and plan check fees from City of Garden Grove and other AHJ.

Deliverables:

- 60% Design Package – PDF distribution via email and/or approved electronic shared folder.
- One (1) hard copy of full-size plans and three (3) hard copies of half-size plans.
- Two (2) hard copies of specifications.

3.2. 90% Design Phase

At 90% Design (Construction Document Development) Phase, DESIGN-BUILD TEAM shall submit to OCTA for review and comments Design Package including PROJECT civil, architectural, structural, mechanical, plumbing, electrical, control, phasing plans and all other required plans and specifications. 90% Design Package shall be detailed and ready for City of Garden Grove and other AHJ plan check. DESIGN-BUILD TEAM shall allow OCTA a minimum of fourteen (14) calendar days for review and comments.

After addressing all OCTA's comments on 90% Design Package, DESIGN-BUILD TEAM shall submit the Construction Documents to City of Garden Grove and other AHJ for plan check review. DESIGN-BUILD TEAM shall be responsible for obtaining plan check approval and paying for all plan check fees to City of Garden Grove and other AHJ. DESIGN-BUILD TEAM shall submit to OCTA a duplicate copy of Construction Documents submitted to City of Garden Grove and other AHJ for plan check at the time of submittal.

At the end of this phase, DESIGN-BUILD TEAM shall provide video animation and still renderings for the PROJECT features and include them in DESIGN-BUILD TEAM's presentation to OCTA.

Deliverables:

- 90% Design Package – PDF distribution via email and/or approved electronic shared folder.
- One (1) hard copy of full-size plans and three (3) hard copies of half-size plans.
- Two (2) hard copies of specifications.
- One (1) hard copies of calculations.
- Duplicate copy of all plan check submittal packages – PDF distribution via email and/or approved electronic shared folder.

3.3. 100% Design Phase

After addressing all OCTA's comments and plan check comments from City of Garden Grove and other AHJ, DESIGN-BUILD TEAM shall prepare and submit 100% Design (Final Construction Document Development) Package. DESIGN-BUILD TEAM shall allow OCTA a minimum of seven (7) calendar days to review and comments. DESIGN-BUILD TEAM shall address all comments and submit the Final Design Package ready for construction bid process within seven (7) calendar days upon receipt of OCTA's comments.

DESIGN-BUILD TEAM shall include in 100% Design Package a list of DESIGN-BUILD TEAM's submittals for equipment, materials, products, shop drawings, and procedures required to be reviewed for conformance with the plans and specifications prior to manufacturing/installation.

DESIGN-BUILD TEAM shall submit PROJECT fact sheet to OCTA. PROJECT fact sheet shall be one page containing, at a minimum, project overview, locations, information/data, construction cost, schedule, and graphical illustrations to provide high-level information for the PROJECT. Fact sheet sample will be provided by OCTA.

Deliverables:

- 100% Design Package – PDF distribution via email and/or approved electronic shared folder.
- One (1) hard copy of full-size plans and three (3) hard copies of half-size plans.
- Two (2) hard copies of specifications.
- One (1) hard copies of calculations.
- Project Fact Sheet – PDF distribution via email.

3.4. All Other Work

All Other Work related to Task 3: Architectural & Engineering Design that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 3.1 through Task 3.3 of this Scope of Work.

- All Other Work, related to Task 3: Architectural & Engineering Design, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 3.4 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 4: Construction – Site Coordination and Mobilization

DESIGN-BUILD TEAM shall review Task 4 of this Scope of Work, and shall determine work/services they will offer related to Site Coordination and Mobilization; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

4.1. Site Coordination and Mobilization

DESIGN-BUILD TEAM shall be responsible for obtaining all construction permits and paying for all construction permits fees to City of Garden Grove and other AHJ, prior to start of construction.

Prior to mobilization to the project site for construction, DESIGN-BUILD TEAM shall coordinate (with OCTA) and shall be responsible clearing construction work areas associated with the PROJECT.

- DESIGN-BUILD TEAM shall clear the work areas of all equipment, vehicles, storages, and debris; DESIGN-BUILD TEAM shall provide these areas in a “broom-clean” condition.
- DESIGN-BUILD TEAM shall remove any and all existing above-ground improvements (that constitute an obstruction) within the work areas, leaving these areas in an unobstructed condition. DESIGN-BUILD TEAM shall be responsible for determining if there is any underground equipment in the work areas; as well as removing all nonfunctional underground equipment in these areas.
- DESIGN-BUILD TEAM shall confirm with OCTA in writing which improvements shall be removed; improvement(s) removed by DESIGN-BUILD TEAM without OCTA’s written approval can be the subject of replacement by DESIGN-BUILD TEAM at no additional cost to OCTA.
- Ensure that all vehicles using the work areas have been removed and all rights of others to this area extinguished prior to construction.

DESIGN-BUILD TEAM shall comply with OCTA's requirements for specified critical operating areas (including but not limited to pedestrian and vehicular access routes, maintenance access, loading areas) that shall be maintained during construction. Permitted locations to stage and store materials shall be coordinated with OCTA and approval shall be obtained in writing. DESIGN-BUILD TEAM shall indicate how access to sites are to be maintained without impacting transit operation or maintenance.

- DESIGN-BUILD TEAM shall restore all temporary staging areas to original condition prior to completion of the PROJECT.

DESIGN-BUILD TEAM shall provide temporary fencing to prevent unauthorized entry to construction areas and to protect existing facilities and adjacent properties from damage from construction operations; barricades and other types of alternative protective barriers are not permitted, unless approved in writing by OCTA.

4.2. All Other Work

All Other Work related to Task 4: Construction – Site Coordination and Mobilization that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 4.1 of this Scope of Work.

- All Other Work, related to Task 4: Construction – Site Coordination and Mobilization, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 4.2 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 5: Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement

PROJECT information, requirements, and specifications related to Demolition, Earthwork, Soil Compaction Grouting, and Concrete are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 5 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

5.1. Demolition

DESIGN-BUILD TEAM shall perform all demolition work and any other related work required to allow delivery of the PROJECT, as described herein.

DESIGN-BUILD TEAM shall perform demolition work related to existing CMU wall and existing sliding gate along the northern property line, and any other related items, to allow for construction of PROJECT, as described herein.

DESIGN-BUILD TEAM shall perform demolition work related to existing concrete pavement, existing concrete flatwork, existing light poles, and any other related items, to allow for construction of PROJECT, as described herein.

DESIGN-BUILD TEAM shall perform all construction and demolition debris removal/disposal work, as described herein. All construction and demolition debris shall be removed from the site and legally disposed offsite.

5.2. Earthwork

DESIGN-BUILD TEAM shall perform all earthwork required including excavation, trenching, grading, backfill, import, export, and any other related work, to allow for construction of PROJECT, as described herein.

5.3. Soil Compaction Grouting

DESIGN-BUILD TEAM shall perform soil compaction grouting and any other related work, per requirements and recommendation within Attachment B: Project Geotechnical Report.

5.4. Concrete Placement

DESIGN-BUILD TEAM shall perform all concrete placement work and any other related work required to allow delivery of the PROJECT, as described herein.

DESIGN-BUILD TEAM shall construct reinforced concrete elevated slab/raised foundation, equipment footing/piers/pads to support and level up hydrogen equipment and electrical service equipment, and any other related items, as described herein. DESIGN-BUILD TEAM shall construct in-slab drainage gutter system, and any other related items, as described herein.

DESIGN-BUILD TEAM shall construct reinforced concrete pavements and flatwork related to utility trenching and equipment areas, as described herein.

DESIGN-BUILD TEAM shall construct reinforced concrete foundations to support fire-rated walls, fencing, sliding gates, safety bollards, and any other related items, as described herein.

5.5. All Other Work

All Other Work related to Task 5: Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 5.1 through Task 5.4 of this Scope of Work.

- All Other Work, related to Task 5: Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 5.5 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 6: Construction – Dedicated Electrical Power Feed and Electrical Service Equipment

PROJECT information, requirements, and specifications related to Dedicated Electrical Power Feed and Electrical Service Equipment are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 6 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Dedicated Electrical Power Feed and Electrical Service Equipment; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

6.1. SCE furnished Dedicated Electrical Power Feed and Service Equipment

A dedicated 12kV primary electrical power feed and service equipment, generally consisting of a new transformer and a new PME switch, shall be furnished by SCE and provide electrical power feed/service for the hydrogen fueling station.

- The hydrogen fueling station will utilize SCE's Rule 16 electrical service option, as discussed within Task 2.1 of this Scope of Work.

DESIGN-BUILD TEAM shall perform all work, outside of SCE's scope of work (per SCE's Rule 16), related to construction of dedicated electrical service and any other related work, to provide electrical service for the hydrogen fueling station.

6.2. Meter Switchboard

DESIGN-BUILD TEAM shall furnish and install a dedicated SCE-compliant meter switchboard with transformer and panelboard, and any other related items, to support the hydrogen fueling station, as described herein.

6.3. Standby Generator with Automatic Transfer Switch

DESIGN-BUILD TEAM shall furnish and install a diesel-powered standby generator with automatic transfer switch, and any other related items, to serve backup power for the hydrogen fueling station, as described herein.

6.4. Conduits and Conductors/Wirings

DESIGN-BUILD TEAM shall furnish and install all required conduits, conductors/wiring, grounding, and any other related items, as described herein, to allow for fully operational equipment/systems associated with Dedicated Electrical Power Feed and Electrical Service Equipment as required herein Task 6 of this Scope of Work.

6.5. All Other Work

All Other Work related to Task 6: Construction – Dedicated Electrical Power Feed and Electrical Service Equipment that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 6.1 through Task 6.4 of this Scope of Work.

- All Other Work, related to Task 6: Construction – Dedicated Electrical Power Feed and Electrical Service Equipment, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 6.5 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 7: Construction – Hydrogen Equipment

PROJECT information, requirements, and specifications related to Hydrogen Equipment are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 7 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Hydrogen Equipment; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

7.1. Liquid Hydrogen Storage Tank

DESIGN-BUILD TEAM shall furnish and install a liquid hydrogen storage tank and any other related items, within designated hydrogen equipment area, as described herein.

DESIGN-BUILD TEAM shall furnish and install service platform and any other related items for the liquid hydrogen storage tank, within designated hydrogen equipment area, as described herein.

7.2. Hydrogen Fuel Dispensers

DESIGN-BUILD TEAM shall furnish and install two (2) hydrogen fuel dispensers and any other related items, within the fuel building, as described herein; each hydrogen fuel dispenser shall be equipped with fueling nozzle and related components.

7.3. Piping Bundle and Hydrogen Piping

DESIGN-BUILD TEAM shall furnish and install piping bundle from the hydrogen equipment area associated with liquid hydrogen storage tank to the fuel building, and any other related items, as described herein.

DESIGN-BUILD TEAM shall furnish and install piping related to all hydrogen equipment, and any other related items, to allow for fully operational hydrogen fueling station as described herein.

7.4. All Other Hydrogen Equipment for the Hydrogen Fueling Station

DESIGN-BUILD TEAM shall furnish and install all other hydrogen equipment and components required for the turnkey code-compliant Hydrogen Fueling Station, as described herein; other hydrogen equipment and components may include, but not limited to, pumps/compressors, vaporizers, gaseous storage vessels, priority control unit/valve panel, control and power container, inert gas/nitrogen purge tank, precooling system.

7.5. Defueling Area

DESIGN-BUILD TEAM shall provide a defueling area, nearby the hydrogen equipment area associated with liquid hydrogen storage tank, as described herein.

DESIGN-BUILD TEAM shall furnish and install defueling hose and vent stack, which shall be incorporated with gaseous hydrogen recovery system for refueling, a pressure regulator to monitor and control the pressure control flow, and any other related items, within the defueling area as described herein.

7.6. Mobile Hydrogen Fueling Trailer Area

DESIGN-BUILD TEAM shall provide a mobile hydrogen fueling trailer area, adjacent to the defueling area as described herein.

DESIGN-BUILD TEAM shall furnish and install a NEMA 3R electrical cabinet with power service, receptacle, grounding terminal, power cord, and any other related items, within the mobile hydrogen fueling trailer area as described herein.

7.7. Service Water Hose Bibs

DESIGN-BUILD TEAM shall furnish and install service water hose bibs with hose, and any other related items, within and/or adjacent to the hydrogen equipment area associated with liquid hydrogen storage tank, and within and/or adjacent to the defueling and mobile hydrogen fueling trailer areas, as described herein.

7.8. Utility Piping, Conduits, and Conductors/Wirings

DESIGN-BUILD TEAM shall furnish and install all required utility piping, conduits, conductors/wiring, grounding, and any other related items, as described herein, to allow for fully operational equipment/systems associated with Hydrogen Equipment as required herein Task 7 of this Scope of Work.

7.9. Data Communications

DESIGN-BUILD TEAM shall include all required work, and furnish and install all required items, to facilitate new data/internet service to support and allow for fully operational equipment/systems associated with Hydrogen Equipment as required herein Task 7 of this Scope of Work.

DESIGN-BUILD TEAM shall furnish, install, and integrate Fleetwatch system to collect fueling data, and any other related items, at the fuel building adjacent to hydrogen fuel dispenser locations, as described herein.

DESIGN-BUILD TEAM shall furnish, install, and integrate data communication equipment/system to provide a means for remote monitoring of fueling system operation and ESD status, which shall be integrated to existing systems, and any other related items, as described herein.

7.10. All Other Work

All Other Work related to Task 7: Construction – Hydrogen Equipment that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 7.1 through Task 7.9 of this Scope of Work.

- All Other Work, related to Task 7: Construction – Hydrogen Equipment, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 7.10 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 8: Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards

PROJECT information, requirements, and specifications related to Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 8 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

8.1. Fire-Rated Walls

DESIGN-BUILD TEAM shall construct a fire-rated wall, and any other related items, along the northern property line and adjacent to the electrical equipment area, the hydrogen equipment area associated with liquid hydrogen storage tank, the defueling area, and the mobile hydrogen fueling trailer area, as described herein.

DESIGN-BUILD TEAM shall construct a fire-rated wall and any other related items, generally between the electrical equipment area and the hydrogen equipment area associated with liquid hydrogen storage tank, as described herein.

8.2. Fencing and Sliding Gates

DESIGN-BUILD TEAM shall furnish and install fencing and sliding gates, with a lock and key system, and any other related items, to enclose the hydrogen equipment area associated with liquid hydrogen storage tank, as described herein.

DESIGN-BUILD TEAM shall furnish and install fencing and sliding gate, with a lock and key system, and any other related items, to enclose the electrical equipment area as described herein.

DESIGN-BUILD TEAM shall furnish and install fencing and sliding gate, with a lock and key system, and any other related items, to enclose the hydrogen equipment area adjacently north of the fuel building as described herein.

DESIGN-BUILD TEAM shall furnish and install sliding gate and any other related items, as a replacement gate along the northern property line, as described herein.

8.3. Safety Bollards

DESIGN-BUILD TEAM shall furnish and install safety bollards and any other related items, to secure the hydrogen equipment area associated with liquid hydrogen storage tank, as described herein.

DESIGN-BUILD TEAM shall furnish and install safety bollards and any other related items, to secure the electrical equipment area, as described herein.

DESIGN-BUILD TEAM shall furnish and install safety bollards and any other related items, to secure the hydrogen equipment area adjacently north of the fuel building, as described herein.

8.4. All Other Work

All Other Work related to Task 8: Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 8.1 through Task 8.3 of this Scope of Work.

- All Other Work, related to Task 8: Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 8.4 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 9: Construction – LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings

PROJECT information, requirements, and specifications related to LED Area Lighting, VSS Cameras, Signage, Paint Striping and Markings are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 9 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – LED Area Lighting, VSS Cameras, Signage, Paint Striping and Markings; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

9.1. LED Area Lighting

DESIGN-BUILD TEAM shall furnish and install new explosion-proof LED area lighting and any other related items, to support the hydrogen equipment area associated with liquid hydrogen storage tank and defueling area, as described herein.

DESIGN-BUILD TEAM shall furnish and install new explosion-proof LED area lighting and any other related items, to support the electrical equipment area, as described herein.

DESIGN-BUILD TEAM shall furnish and install new explosion-proof LED area lighting and any other related items, to support the hydrogen equipment area adjacently north of the fuel building, as described herein.

Facility Modifications

Where affected by introduction of hydrogen system, DESIGN-BUILD TEAM shall remove existing non-explosion-proof area lighting, furnish and install new explosion-proof LED area lighting, and any other related items, at the maintenance facilities, as described herein.

9.2. Video Surveillance System (VSS) Cameras

DESIGN-BUILD TEAM shall furnish and install new explosion-proof VSS cameras and any other related items, to oversee the hydrogen equipment area associated with liquid hydrogen storage tank and defueling area, as described herein.

DESIGN-BUILD TEAM shall furnish and install new explosion-proof VSS cameras and any other related items, to oversee the electrical equipment area, as described herein.

DESIGN-BUILD TEAM shall furnish and install new explosion-proof VSS cameras and any other related items, to oversee the hydrogen equipment area adjacently north of the fuel building, as described herein.

DESIGN-BUILD TEAM shall furnish and install new explosion-proof VSS cameras and any other related items, to oversee the maintenance platform area adjacently north of the fuel building, as described herein.

Facility Modifications

Where affected by introduction of hydrogen system, DESIGN-BUILD TEAM shall remove existing non-explosion-proof VSS cameras, furnish and install new explosion-proof VSS cameras, and any other related items, at Garden Grove Bus Base, as described herein.

9.3. Signage

DESIGN-BUILD TEAM shall furnish and install safety and warning signs, and any other related items, to provide caution of appropriate hazards at hydrogen fueling station areas, as described herein.

DESIGN-BUILD TEAM shall furnish and install safety and warning signs, and any other related items, to provide caution of appropriate hazards at the electrical equipment area, as described herein.

Facility Modifications

DESIGN-BUILD TEAM shall furnish and install safety and warning signs related to hydrogen system, and any other related items, to provide caution of appropriate hazards at the maintenance facilities, as described herein.

9.4. Paint Striping and Markings

DESIGN-BUILD TEAM shall furnish and apply paint and any other related items, to provide striping and markings, and painted perimeter and edges of elevated work surfaces, at hydrogen fueling station areas, as described herein.

DESIGN-BUILD TEAM shall furnish and apply paint and any other related items, to provide striping and markings, and painted perimeter and edges of elevated work surfaces, at the electrical equipment area, as described herein.

9.5. Conduits and Conductors/Wirings

DESIGN-BUILD TEAM shall furnish and install all required conduits, conductors/wiring, grounding, and any other related items, as described herein, to allow for fully operational equipment/systems associated with LED Area Lighting and VSS Cameras, as required herein Task 9 of this Scope of Work.

9.6. Data Communications

DESIGN-BUILD TEAM shall include all required work, and furnish and install all required items, to facilitate new data/internet service, as described herein to support and allow for fully operational equipment/systems associated with VSS Cameras as required herein Task 9 of this Scope of Work.

9.7. All Other Work

All Other Work related to Task 9: Construction – LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 9.1 through Task 9.7 of this Scope of Work.

- All Other Work, related to Task 9: Construction – LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 9.8 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 10: Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems

PROJECT information, requirements, and specifications related to Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 10 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

10.1. Hydrogen Detection Systems

DESIGN-BUILD TEAM shall furnish and install new hydrogen detection systems, and integrate new system with existing detection systems, for hydrogen fueling station areas, as described herein.

- DESIGN-BUILD TEAM shall furnish and install new hydrogen gas detectors and hydrogen flame detectors, and any other related items, for the hydrogen equipment area associated with liquid hydrogen storage tank, the defueling area, and the mobile hydrogen fueling trailer area.
- DESIGN-BUILD TEAM shall furnish and install new hydrogen gas detectors and hydrogen flame detectors, and any other related items, for the electrical equipment area.
- DESIGN-BUILD TEAM shall furnish and install new hydrogen gas detectors and hydrogen flame detectors, and any other related items, for the hydrogen equipment area adjacently north of the fuel building.
- In addition to new hydrogen gas detectors and hydrogen flame detectors, DESIGN-BUILD TEAM shall furnish and install new alarms, detection horn/strobe light assemblies, multi-color beacon light arrays for hydrogen fueling station areas and shall all be strategically located.

Facility Modifications

DESIGN-BUILD TEAM shall furnish and install new hydrogen detection systems, and integrate new detection systems with existing detection systems, and any other related items, for the maintenance facilities affected by introduction of hydrogen system, as described herein.

DESIGN-BUILD TEAM shall furnish and install early warning systems, and integrate new system with existing alarm systems, and any other related items, for the maintenance facilities affected by introduction of hydrogen system, as described herein.

10.2. Emergency Shutdown Systems

DESIGN-BUILD TEAM shall furnish and install new emergency shutdown (ESD) system, and integrate new system with existing ESD systems, for the hydrogen fueling station, as described herein.

- DESIGN-BUILD TEAM shall furnish and install new ESD buttons, and any other related items, for the hydrogen equipment area associated with liquid hydrogen storage tank.
- DESIGN-BUILD TEAM shall furnish and install new ESD buttons, and any other related items, for the two (2) hydrogen fuel dispenser locations.

Facility Modifications

DESIGN-BUILD TEAM shall furnish and install new ESD system, and integrate new ESD system with existing ESD systems, and any other related items, for the maintenance facilities affected by introduction of hydrogen system, as described herein.

10.3. Battery Backup Systems

DESIGN-BUILD TEAM shall furnish and install new battery backup system, and any other related items, for all required equipment and components associated with the hydrogen fueling station, as described herein.

Facility Modifications

DESIGN-BUILD TEAM shall furnish and install new battery backup system, and any other related items, for all required equipment and components affected by introduction of hydrogen system within Garden Grove Bus Base, as described herein.

10.4. Conduits and Conductors/Wirings

DESIGN-BUILD TEAM shall furnish and install all required conduits, conductors/wiring, grounding, and any other related items, as described herein, to allow for fully operational equipment/systems associated with Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems as required herein Task 10 of this Scope of Work.

10.5. Data Communications

DESIGN-BUILD TEAM shall include all required work, and furnish and install all required items, to facilitate new data/internet service to support and allow for fully operational equipment/systems associated with Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems as required herein Task 10 of this Scope of Work.

10.6. All Other Work

All Other Work related to Task 10: Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 10.1 through Task 10.5 of this Scope of Work.

- All Other Work, related to Task 10: Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 10.6 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 11: Construction – Maintenance Platform

PROJECT information, requirements, and specifications related to Maintenance Platform are provided within Task 3: Architectural & Engineering Design of this Scope of Work and/or Attachment A: Project Preliminary Plans for reference.

DESIGN-BUILD TEAM shall review Task 11 of this Scope of Work herein, and shall determine work/services they will offer related to Construction – Maintenance Platform; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

11.1. Maintenance Platform

DESIGN-BUILD TEAM shall furnish and install maintenance platform, and any other related items, that will service OCTA bus fleets as described herein.

11.2. All Other Work

All Other Work related to Task 11: Construction – Maintenance Platform that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 11.1 of this Scope of Work.

- All Other Work, related to Task 11: Construction – Maintenance Platform, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 11.2 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 12: Inspections, Tests, Startup and Commissioning

DESIGN-BUILD TEAM shall review Task 12 of this Scope of Work herein, and shall determine work/services they will offer related to Inspections, Tests, Startup and Commissioning; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

12.1. Inspections and Tests (in preparation for Commissioning)

DESIGN-BUILD TEAM shall be responsible for proving, to the satisfaction of OCTA, that requirements for the hydrogen fueling station, as described herein (and other approved project documents), have been met. OCTA shall require the execution of various inspections and tests (including appropriate documentation) prior to accepting the hydrogen fueling station as being complete and in compliance with these requirements. Such inspections and tests may be based on recommendations by OCTA, DESIGN-BUILD TEAM, primary equipment vendor, manufacturer/vendors of various components and systems, as well as tests specified herein. Neither inspections, witnessing of tests, nor waiving of any such procedure by OCTA shall release DESIGN-BUILD TEAM, primary equipment vendor, or other vendors from full responsibility for compliance with equipment, materials and functional requirements according to specifications.

Inspections shall be carried out by OCTA to determine compliance with requirements that may be beyond the scope of jurisdictional inspections. OCTA shall prepare a punch list as a result of physical inspections, startup tests, and functional demonstrations. The completion schedule for the punch list shall be agreed upon by OCTA and DESIGN-BUILD TEAM.

Purity Testing

In order to ensure that the fuel meets quality standards, DESIGN-BUILD TEAM shall conduct fuel purity tests during the commissioning phase of the PROJECT and prior to filling any of OCTA's buses. The purity test shall check for particulates, CO, and hydration levels, as well as other contaminants. Additional tests are required following any repairs that have the potential of introducing contaminants to the closed system. DESIGN-BUILD TEAM is responsible for payment of purity testing.

Deliverables:

- Test Results/Findings Documentation – PDF distribution via email.

12.2. Startup and Commissioning

DESIGN-BUILD TEAM shall be responsible for providing OCTA a detailed Hydrogen Fueling Station Commissioning Plan that shall identify at a minimum the steps, tasks, responsibilities, and schedule of entire commissioning process of the hydrogen fueling station. DESIGN-BUILD TEAM shall include in the plan a list of activities to be performed by a third-party vendor during installation that would require technical support, and provide details on how DESIGN-BUILD TEAM plans to provide technical support for these activities. A Draft Commissioning Plan shall be submitted to OCTA for review and comments at least ninety (90) calendar days in advance of the start of the commissioning process. DESIGN-BUILD TEAM shall allow a minimum of seven (7) calendar days for OCTA review process. DESIGN-BUILD TEAM shall address the comments and submit to OCTA for acceptance the revised Commissioning Plan within seven (7) calendar days from receipt of OCTA comments.

During commissioning of the hydrogen fueling station, DESIGN-BUILD TEAM shall submit written (Daily) Field Reports and Logs to OCTA, which shall (at a minimum) include the following:

- Project name, date, DESIGN-BUILD TEAM's field staff,
- Description of activities performed (and status of activities),
- Start time and end time of activities performed,
- Listing of all incidents and unusual system performance issues (if any),
- Subsequent actions taken/performed (to address incidents and unusual system performance issues (if any)).

Commissioning shall confirm that the hydrogen fueling station meets fueling performance, as described herein (and other approved project documents).

- Commissioning and related testing shall demonstrate that the installed hydrogen fuel dispensers are each capable of fueling a FCEB (fuel cell electric buses), with a required fill quantity of 30 kg, under 6 minutes (from point of connecting dispenser to the bus until point of disconnecting dispenser from the bus); additionally, each installed dispenser shall demonstrate capability of fueling FCEBs in back-to-back rapid succession during an 8-hour time window.
- Commissioning and related testing shall demonstrate that the installed hydrogen fuel dispensers are capable of fueling separate buses simultaneously, without an operating hydrogen fuel dispenser compromising the fueling performance of another operating hydrogen fuel dispenser.
- Commissioning and related testing shall demonstrate that the installed hydrogen fuel dispensers are calibrated to record quantity of fuel dispensed to within plus or minus three percent (+/- 3%) accuracy or better.

- Commissioning and related testing shall demonstrate the successful operation of any data monitoring services, emergency shutdown (ESD) system, and any other related items. OCTA personnel may observe any testing in progress.

Deliverables:

- Draft and Final Commissioning Plan – PDF distribution via email and three (3) hard copies.
- Daily Field Reports and Logs (during Commissioning) – PDF distribution via email and one (1) hard copy per day.

12.3. All Other Work

All Other Work related to Task 12: Inspections, Tests, Startup and Commissioning that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 12.1 through Task 12.2 of this Scope of Work.

- All Other Work, related to Task 12: Inspections, Tests, Startup and Commissioning, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 12.3 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 13: Training – Safety, Operations, and First Responder

DESIGN-BUILD TEAM shall review Task 13 of this Scope of Work herein, and shall determine work/services they will offer related to Training – Safety, Operations, and First Responder; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

13.1. Training – Safety, Operations, and First Responder

DESIGN-BUILD TEAM shall be responsible for organizing and coordinating training courses with DESIGN-BUILD TEAM, OCTA, and local first responders to ensure that all relevant OCTA staff and first responders are fully trained on all safety systems and (the safe and successful) operations of the hydrogen fueling station. DESIGN-BUILD TEAM shall conduct several courses over a three-week period.

DESIGN-BUILD TEAM shall provide up to 40 hours of training for OCTA personnel upon initial system installation and for future operation of the system. DESIGN-BUILD TEAM shall provide all necessary materials and equipment to facilitate the training. OCTA shall specify the time and location of the on-site training courses at a later date, after coordination with all parties involved on availability. DESIGN-

BUILD TEAM shall provide a Training Plan, which includes the training syllabus and all training material, for review and approval by OCTA Project Manager prior to commencement of training. The Training Plan shall consist of the following details: description of the courses, suggested attendees, course length, and suggested timing. The following training courses shall be provided by DESIGN-BUILD TEAM:

- Operations training
- Safety training
- First Responder training

OCTA reserves the right to modify the proposed Training Plan to meet the needs of OCTA.

Training sessions shall include but not limited to the following:

- Use of hydrogen fuel dispensers with fuel management systems
- Use of training manual
- Defueling
- Emergency response in case of leak or malfunction
- Emergency shutdown system

DESIGN-BUILD TEAM shall provide up to 50 training manuals (bound sets) for the initial training session and up to 20 training manuals (bound sets) per year thereafter. Additionally, DESIGN-BUILD TEAM to provide training manuals in electronic PDF format to OCTA.

The training course instructor shall be capable of training approximately 10 course attendees simultaneously in each course.

DESIGN-BUILD TEAM shall provide OCTA employees with a 4-hour refresher course within sixty (60) calendar days before expiration of contract between OCTA and DESIGN-BUILD TEAM.

DESIGN-BUILD TEAM shall prepare an Emergency Response Plan that can be distributed to first responders to place in their trucks and engines. The guide shall provide a map showing the location of all hydrogen fueling station equipment and ESD devices, as well as the distances to these equipment from the entry driveway and nearby structures.

- The Emergency Response Plan shall be prepared by DESIGN-BUILD TEAM and submitted to OCTA for approval prior to the introduction of hydrogen at Garden Grove Maintenance and Operations Bus Base.

Deliverables:

- Draft and Final Training Plan – PDF distribution via email.

- Training Manuals – PDF distribution via email and hard copies per requirement.
- Emergency Response Plan – PDF distribution via email and hard copies per requirement.

13.2. All Other Work

All Other Work related to Task 13: Training – Safety, Operations, and First Responder that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 13.1 of this Scope of Work.

- All Other Work, related to Task 13: Training – Safety, Operations, and First Responder, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 13.2 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 14: Back-to-Back Performance Testing and Performance Data

DESIGN-BUILD TEAM shall review Task 14 of this Scope of Work herein, and shall determine work/services they will offer related to Back-to-Back Performance Testing and Performance Data; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

14.1. Back-to-Back Performance Testing and Performance Data

Back-to-Back Performance Testing

DESIGN-BUILD TEAM shall conduct (initiate) Back-to-Back Performance Testing no later than thirty (30) calendar days after the hydrogen fueling station is fully commissioned. DESIGN-BUILD TEAM shall provide the AUTHORITY advance notice of Back-to-Back Performance Testing activities to minimize disruptions to normal transit service.

Back-to-Back Performance Testing shall demonstrate the hydrogen fueling station's ability to refuel FCEBs (fuel cell electric buses) with the following testing criteria and requirements:

- Testing duration shall be performed within 1.5 hours (or 90 minutes).
- Two (2) hydrogen fuel dispensers shall be utilized simultaneously during testing.
- Eighteen (18) FCEBs shall be utilized during testing.
- Each FCEB shall be refueled under 6 minutes (from point of connecting dispenser to the bus until point of disconnecting dispenser from the bus).

- Each FCEB shall be refueled with a fill quantity of 30 kg (or demonstrate an average fill rate of 5 kg/min or greater).
- A minimum of 95% SOC of each FCEB at settled pressure shall be achieved.
- Nine (9) FCEBs shall be refueled back-to-back in rapid succession by one (1) hydrogen fuel dispenser, within the 1.5-hour window.

Back-to-Back Performance Testing shall also include activation and demonstration of all safety shutdown systems and demonstration that data monitoring systems are operating and accurately capturing required data. DESIGN-BUILD TEAM shall allow the AUTHORITY unimpeded access to all data from the Back-to-Back Performance Testing. DESIGN-BUILD TEAM shall provide a Back-to-Back Performance Testing Report within seven (7) calendar days of performance testing completion. Back-to-Back Performance Testing Report shall include at a minimum the following:

- Summary of test plan and any deviations
- Summary table of each fill event with:
    - Start/Stop Date-Time
    - Start/Stop Hose Pressure
    - Start/Stop Hose Temperature
    - Start/Stop Tank Pressure
    - Start/Stop Storage Bank Pressures
    - End of fill SOC
    - Kg dispensed
    - Station Energy Consumption
    - Mean Ambient Temperature
    - Any alarms/faults encountered listed for each fill
- End of fill SOC calculation details
- Any root cause analysis required if test not passed

<u>Performance (Fueling) Data</u>

DESIGN-BUILD TEAM shall provide OCTA at least three (3) months of fueling data and evaluation of the hydrogen fueling station performance on a continuous basis (which shall be initiated after the hydrogen fueling station is fully commissioned, but no later than thirty (30) calendar days following commissioning).

- OCTA Fleetwatch system to collect fueling data on each vehicle in its fleet, as the vehicles are fueled and serviced; DESIGN-BUILD TEAM shall integrate the hydrogen fuel dispensers and control systems with the Fleetwatch system. DESIGN-BUILD TEAM shall also provide a template of a log consisting of performance metrics (for OCTA's review and approval)

that will be utilized by DESIGN-BUILD TEAM to log fueling activities, to compare with the Fleetwatch system.

- DESIGN-BUILD TEAM shall supply equipment required to implement and allow the Fleetwatch system to be functional with the dispensing system (in an effort to capture fuel quantity dispensed) as a turnkey system. The vendor that manages OCTA's Fleetwatch system should be contacted.
- Fueling accuracy shall be within + or – 3% to effectively measure fuel dispensed, in order for OCTA to calculate vehicle fuel economy.

14.2. All Other Work

All Other Work related to Task 14: Back-to-Back Performance Testing and Performance Data that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 14.1 of this Scope of Work.

- All Other Work, related to Task 14: Back-to-Back Performance Testing and Performance Data, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 14.2 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 15: Project Closeout – Project Documentation Package, As-Builts, Warranty

DESIGN-BUILD TEAM shall review Task 15 of this Scope of Work herein, and shall determine work/services they will offer related to Project Closeout; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

15.1. Project Documentation Package

DESIGN-BUILD TEAM to provide OCTA complete project documentation package at completion of the hydrogen fueling station commissioning. Content of package shall be precise and accurate to final as-built state. At a minimum, package shall include the following:

- Equipment
  - Product Data sheets
  - General arrangement drawings
  - Foundation, anchoring, and lifting plans/procedures
  - Mechanical and electrical termination list and diagrams
  - Operations manuals
- Complete As-Built drawings package, updated in CAD format
  - Single Line Diagram, load list, and panel schedules
  - Process Flow Diagram (PFD) & Piping and Instrumentation Diagram (P&ID)

- Complete Specifications package
- Complete Shop Drawings package
- QA/QC documentation
    - Documentation of all City of Garden Grove, other AHJ, deputy, and periodic inspections
- Emergency Response Plan (ERP), with considerations for inclusion into current ERP of Garden Grove Bus Base
- Hazardous Materials Management Plan and Hazardous Materials Inventory Statement
- Process Safety Management (PSM) Requirements documentation
- Testing, Adjusting, and Balancing (TAB) Report for ventilation system at the maintenance building
- Warranty
- Permit Sign-Off

Project documentation package shall be reviewed for completeness, consistency, and content by OCTA prior to acceptance.

Deliverables:

- Draft Project Documentation Package – PDF distribution and one (1) hard copy.
- Final Project Documentation Package – PDF distribution and three (3) hard copies.

15.2. As-Built Drawings

DESIGN-BUILD TEAM shall be responsible for the preparation of the as-built drawings based on the information available after construction is completed. The as-built information shall be assembled and placed on the original drawings by DESIGN-BUILD TEAM as the final revision to the drawings.

DESIGN-BUILD TEAM shall submit the draft as-built drawings and specifications to OCTA for verification on the completeness. DESIGN-BUILD TEAM shall incorporate any changes required by OCTA into the final as-built drawings within seven (7) calendar days upon receipts of OCTA's comments on drawings and specifications.

As-built drawing files in AutoCAD, version 2018 or newer, DWG format with all X-ref files fully loaded, include all applicable plot files.

Deliverables:

- PDF files and two (2) half-size hard copies of draft as-built drawings.

- PDF files, one (1) full-size hard copy, and two (2) half-size hard copies of final as-built drawings.
- One (1) set of full-size Mylar of final as-built drawings.
- PDFs files and one (1) hard copy of draft as-built specifications.
- PDFs files and two (2) hard copies of final as-built specifications.
- PDFs files and two (2) hard copies of design calculations.
- All native files of as-built drawings and specifications.

15.3. Warranty

DESIGN-BUILD TEAM shall provide a minimum three-year warranty on all major components/equipment (including but not limited to liquid hydrogen storage tank, pumps/compressors, vaporizers, gaseous storage vessels, hydrogen fuel dispensers) of the hydrogen fueling station.

Deliverables:

- PDF files and two (2) hard copies of all warranty documentation.

15.4. All Other Work

All Other Work related to Task 15: Project Closeout – Project Documentation Package, As-Builts, Warranty that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 15.1 through Task 15.3 of this Scope of Work.

- All Other Work, related to Task 15: Project Closeout – Project Documentation Package, As-Builts, Warranty, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 15.4 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 16: Operations and Fuel Supply Services During Training and Transition Period

DESIGN-BUILD TEAM shall review Task 16 of this Scope of Work herein, and shall determine work/services they will offer related to Operations and Fuel Supply Services During Training and Transition Period; DESIGN-BUILD TEAM shall define the extent of work they are offering within their technical proposal, and include pricing for such work within their price proposal.

16.1. Operations During Training and Transition Period

Operations Service Plan

DESIGN-BUILD TEAM shall provide operations services during a training and transition period of 18 months after completion and acceptance of the PROJECT. DESIGN-BUILD TEAM shall provide OCTA with an Operations Service Plan that will describe in detail their services, including response times, to minimize the downtime of the hydrogen fueling station for both scheduled and unscheduled maintenance and repairs; DESIGN-BUILD TEAM shall include the following parameters within their Operations Service Plan:

- DESIGN-BUILD TEAM is expected to be available to receive reports of malfunction 24 hours a day, every day of the year.
- A representative of the original equipment manufacturer (OEM), of the malfunctioning equipment/component or system, shall be on-site at OCTA's property within 24 hours of receiving notice of a hydrogen fueling station issue from OCTA. The malfunctioning component or system shall be properly functioning within 48 hours of receiving notice of an issue from OCTA.
- If during the warranty period, any replacement, repair, or modification on a hydrogen fueling station component, made necessary by defective design, materials, or workmanship is not completed within 48 hours, the warranty period for the entire system shall be extended by the number of days equal to the delay period.
- The hydrogen fueling station shall not be taken offline for more than 24 hours without DESIGN-BUILD TEAM providing an alternate fueling solution.
- DESIGN-BUILD TEAM shall provide all maintenance as required to keep the hydrogen fueling station fully functional, including all labor, consumables, repair, rebuild, and replacement costs. DESIGN-BUILD TEAM shall provide all preventative maintenance for the hydrogen fueling station by experienced and qualified personnel with necessary tools and equipment. Preventative maintenance shall include all weekly, monthly, and annual service as required and recommended by the manufacturers of the systems and components being provided by DESIGN-BUILD TEAM. Maintenance shall also include handling, storage, and disposal of all waste generated during operations activities in full compliance with all federal, state and local laws.
- Scheduled or preventive maintenance of the hydrogen fueling station shall not be performed during OCTA's daily fueling period, from 6:00 pm to 2:00 am. Unscheduled or corrective maintenance should be avoided between the hours of 6:00 pm and 2:00 am, if at all possible.
- DESIGN-BUILD TEAM shall be solely responsible for controlling, storing, and disposing of all hazardous byproducts and waste that are generated as

a result of operations activities at the hydrogen fueling station, per codes and requirements of City of Garden Grove and other AHJ, including any licensing requirements.

- DESIGN-BUILD TEAM shall submit to OCTA every three (3) months, records of all scheduled and unscheduled maintenance and repairs performed at the hydrogen fueling station. DESIGN-BUILD TEAM shall submit maintenance records throughout the 18 months (training and transition period) operations services, and shall include reports on any failures, accidents, and other significant events.
- At the conclusion of the operations services, DESIGN-BUILD TEAM shall provide OCTA a complete set of updated Operations Manuals, as-built drawings, and the complete maintenance records for the hydrogen fueling station, dating back from the start of the operations services.

DESIGN-BUILD TEAM shall provide OCTA with standard operating procedures or response protocols that shall be incorporated into their Emergency Response Plan for any emergency situations that may occur during the operations services of the hydrogen fueling station.

As part of the hydrogen fueling station maintenance plan, which is automated to trigger the various preventative maintenance tasks required to maintain the entire system, a further trigger shall be programmed to schedule the bi-annual purity testing requirement. DESIGN-BUILD TEAM shall meet SAE J2719 fuel quality standard for hydrogen.

Operations Manual

DESIGN-BUILD TEAM shall provide OCTA with 10 copies Operations Manuals (bound sets) prior to the start of the hydrogen fueling station commissioning.

- DESIGN-BUILD TEAM shall provide OCTA with Operations Manual updates for any equipment or components that are replaced or added, and that are not listed in the original Operations Manual; DESIGN-BUILD TEAM shall provide Operations Manual updates throughout the 18 months (training and transition period) operations services.

Operations Manuals shall identify and list both preventive and corrective maintenance tasks. Operations Manuals shall include parts bulletins for all major components and systems (including but not limited to liquid hydrogen storage tank, pumps/compressors, vaporizers, gaseous storage vessels, hydrogen fuel dispensers and hoses). Operations Manuals shall identify and list parts and/or equipment that are expected to be replaced under the operations service. Operations Manuals shall include Recommended Spare Parts List (RSPL) for all listed components.

Hydrogen Fueling Station Access

DESIGN-BUILD TEAM shall permit trained OCTA personnel to enter all portions of the hydrogen fueling station to perform routine or emergency inspections and take routine or emergency readings; OCTA personnel shall also be able to follow and observe DESIGN-BUILD TEAM's technicians during their normal duties at the hydrogen fueling station.

Maintenance of the hydrogen fueling station may be performed at any time; however, if maintenance requires the hydrogen fueling station to be off-line for more than 30 minutes, the maintenance work shall not be performed between the hours of 6:00 pm and 2:00 am.

16.2. Fuel Supply Services

Fuel Supply

DESIGN-BUILD TEAM shall sell to OCTA and OCTA shall buy from DESIGN-BUILD TEAM the fuel supply (liquid hydrogen) during a transitional period of 18 months after completion and acceptance of the PROJECT; fuel supply transaction shall be based on agreed upon milestones, deliverables, and payments in accordance with associated costs and prices from DESIGN-BUILD TEAM's price proposal. Estimated fuel supply pricing shall be based on a total daily fuel consumption of 1,500 kilograms for 18 months

Hydrogen Fueling Station Access

Delivery of hydrogen fuel supply may be delivered seven (7) days a week between the hours of 5:00 am and 6:00 pm.

Backup Hydrogen Fuel Supply

DESIGN-BUILD TEAM shall develop a plan to provide a backup supply of hydrogen (alternate fueling solution) to reduce the risk of not being able to fuel OCTA's buses for more than 24 hours (during the critical daily fueling window, from 6 pm to 2:00 am).

Hydrogen Quality

DESIGN-BUILD TEAM shall meet SAE J2719 fuel quality standard for hydrogen.

Renewable Hydrogen

DESIGN-BUILD TEAM shall provide renewable hydrogen as prescribed for fueling stations receiving state funds included in the California Code, Health and Safety Code Section 43869. No less than 33.3 percent of the hydrogen dispensed by the fueling station shall be made from eligible renewable energy resources as defined in Section 399.12 of the Public Utilities Code.

DESIGN-BUILD TEAM shall report renewable fuel dispensed through CARB's Low Carbon Fuel Standard program (https://ww2.arb.ca.gov/our-work/programs/low-carbon-fuel-standard).

Low Carbon Fuel Standards (LCFS) Credits

DESIGN-BUILD TEAM irrevocably assigns and transfers to OCTA all of DESIGN-BUILD TEAM's right, title and interest in and to any and all environmental attributes, credits or benefits of any kind associated with or arising out of the (consumption or dispensing) of electricity/hydrogen as vehicle fuel or operation of equipment necessary to generate environmental credits, including, without limitation, low carbon fuel standard credits, renewable identification numbers, greenhouse gas emission reduction recognition in any form, verified emission reductions, offsets, allowances, credits, avoided compliance costs, emission rights and authorizations under any law or regulation, or any emission reduction registry, trading system, or reporting or reduction program for greenhouse gas emissions that is established, certified, maintained, or recognized by any international, governmental, or nongovernmental authority.

16.3. All Other Work

All Other Work related to Task 16: Operations and Fuel Supply Services During Training and Transition Period that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 16.1 through Task 16.2 of this Scope of Work.

- All Other Work, related to Task 16: Operations and Fuel Supply Services During Training and Transition Period, as defined to be offered by DESIGN-BUILD TEAM in their proposal shall be amended to either Task 16.3 of this Scope of Work or another appropriate existing task of this Scope of Work.

Task 17: All Other Work

DESIGN-BUILD TEAM shall review entire Scope of Work, and shall determine work/services that have been excluded, if any, but will be offered by DESIGN-BUILD TEAM; the extent of work to be offered shall be defined by DESIGN-BUILD TEAM within their technical proposal, and include pricing for such work within their price proposal.

All Other Work, that are offered by DESIGN-BUILD TEAM, but are not clearly defined within Task 1 through Task 16 of this Scope of Work; DESIGN-BUILD TEAM shall define All Other Work that are offered by DESIGN-BUILD TEAM, if any, in their proposal and include the associated prices in their pricing proposal.

- All Other Work, as defined by DESIGN-BUILD TEAM in their proposal, that are offered by DESIGN-BUILD TEAM shall be amended to Task 17 of this Scope of Work, unless such work belongs within an existing task (within Task 1 through Task 16 of this Scope of Work) of which such work shall be amended to that appropriate task.

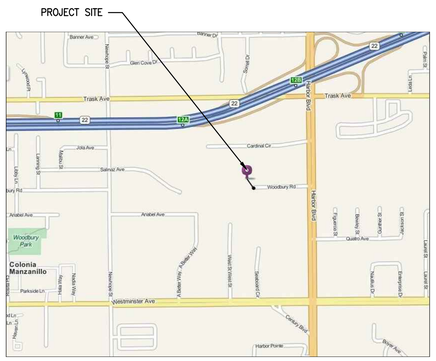
EXHIBIT B: SCOPE OF WORK ATTACHMENTS

ORANGE COUNTY TRANSPORTATION AUTHORITY

DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA 92843

REQUEST FOR PROPOSALS RFP-4-2683

VICINITY MAP



PROJECT LOCATION

PROJECT INFORMATION

OWNER:	ORANGE COUNTY TRANSPORTATION AUTHORITY
SITE ADDRESS:	11790 CARDINAL CIRCLE, GARDEN GROVE, CA 92843
FACILITY USE:	BUS MAINTENANCE
ZONE:	INDUSTRIAL
REFERENCE:	–
BUILDING FOOT PRINT:	N/A
ALLOWABLE FLOOR AREA:	N/A
TYPE OF CONSTRUCTION:	N/A
SPRINKLERS REQUIREMENT:	N/A
HAZARD MATERIAL:	NO HAZARDOUS MATERIAL IS STORED NEARBY

CLIENT
ORANGE COUNTY TRANSPORTATION AUTHORITY
550 S. MAIN STREET
ORANGE, CA 92868

CONSULTING ENGINEERS
DAHL, TAYLOR & ASSOCIATES
2960 DAIMLER STREET
SANTA ANA, CA 92705

CODES AND STANDARDS

2022 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, TITLE 24 C.C.R.

2022 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 C.C.R.

2022 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 C.C.R.

2022 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24 C.C.R.

2022 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24. C.C.R

2022 CALIFORNIA ENERGY CODE, PART 6, TITLE 24 C.C.R.

2022 CALIFORNIA FIRE CODE, PART 9, TITLE 24 C.C.R.

2022 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN CODE), TITLE 24 C.C.R.

2023 NFPA 2 – HYDROGEN TECHNOLOGIES CODE

ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THESE CODES AND ALL APPLICABLE LOCAL ORDINANCES. WHERE CONTRACT DOCUMENTS EXCEED THESE REQUIREMENTS WITHOUT VIOLATING CODE AND REGULATION REQUIREMENTS, CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE. WHERE CODES CONFLICT, THE MORE STRINGENT SHALL APPLY.

OFFERORS BID NOTES

1. THE DRAWINGS AS PROVIDED WERE PREPARED FOR A DESIGN–BUILD PROPOSAL REQUEST.
2. OFFERORS BIDDING ON THIS PROJECT SHALL VERIFY EXISTING SITE CONDITIONS AND REVIEW THE ENTIRE REQUEST FOR PROPOSALS (RFP) PACKAGE IN PREPARATION OF THEIR RESPONSES TO RFP–4–2683.
3. GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR THE SCOPE OF WORK AS DESCRIBED IN THE ENTIRE RFP–4–2683 PACKAGE AND WILL BE RESPONSIBLE TO COORDINATE ALL TRADES.
4. GENERAL CONTRACTOR AND ABATEMENT CONTRACTOR ARE TO COORDINATE ALL RELATED WORK.

SCOPE OF WORK

1. READ AND REVIEW THE SCOPE OF WORK INCLUDED IN THE REQUEST FOR PROPOSALS (RFP–4–2683) PACKAGE.

DRAWING INDEX

SHEET		DESCRIPTION
1	GG–T001	TITLE SHEET, DRAWINGS INDEX, SCOPE OF WORK, PROJECT LOCATION AND VICINITY MAP
2	GG–C100	TOPOGRAPHIC SITE PLAN
3	GG–E100	SITE PLAN
4	GG–E101	DEMOLITION PLAN FOR LH2 EQUIPMENT AREA
5	GG–E102	LIQUID HYDROGEN (LH2) STORAGE & FUELING FACILITIES PLANS
6	GG–E103	HC–50 CHILLER EQUIPMENT AND CONCRETE FOUNDATION PLANS AT FUELING & VACUUM BUILDING
7	GG–E104	SAFETY BUS SERVICE PLATFORM AT MAINTENANCE BUILDING
8	GG–E105	LIQUID HYDROGEN (LH2) EQUIPMENT CONCRETE FOUNDATION PLAN
9	GG–E106	HAZARDOUS ZONES PLAN AND ELEVATION

DAHL, TAYLOR & ASSOCIATES
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2960 DAIMLER STREET
SANTA ANA, CALIFORNIA 92705
TEL: # (949) 254–8016
qvu@dahltaylor.com

REGISTERED PROFESSIONAL ENGINEER
QUANG V. U
No. 17536
Exp. 12-31-2025
CIVIL
STATE OF CALIFORNIA

MARK	DATE	REVISIONS
1		

Sheet Title
TITLE SHEET, DRAWINGS INDEX, SCOPE OF WORK, PROJECT LOCATION AND VICINITY MAP

Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
DESIGN BY:	SDV
DRAWN BY:	TMP
CHECKED BY:	QV
DATE	12–12–2024
SCALE	AS NOTED
SHEET	GG-T001

550 South Main Street
Orange, CA 92668
714/560/OCTA

OCTA

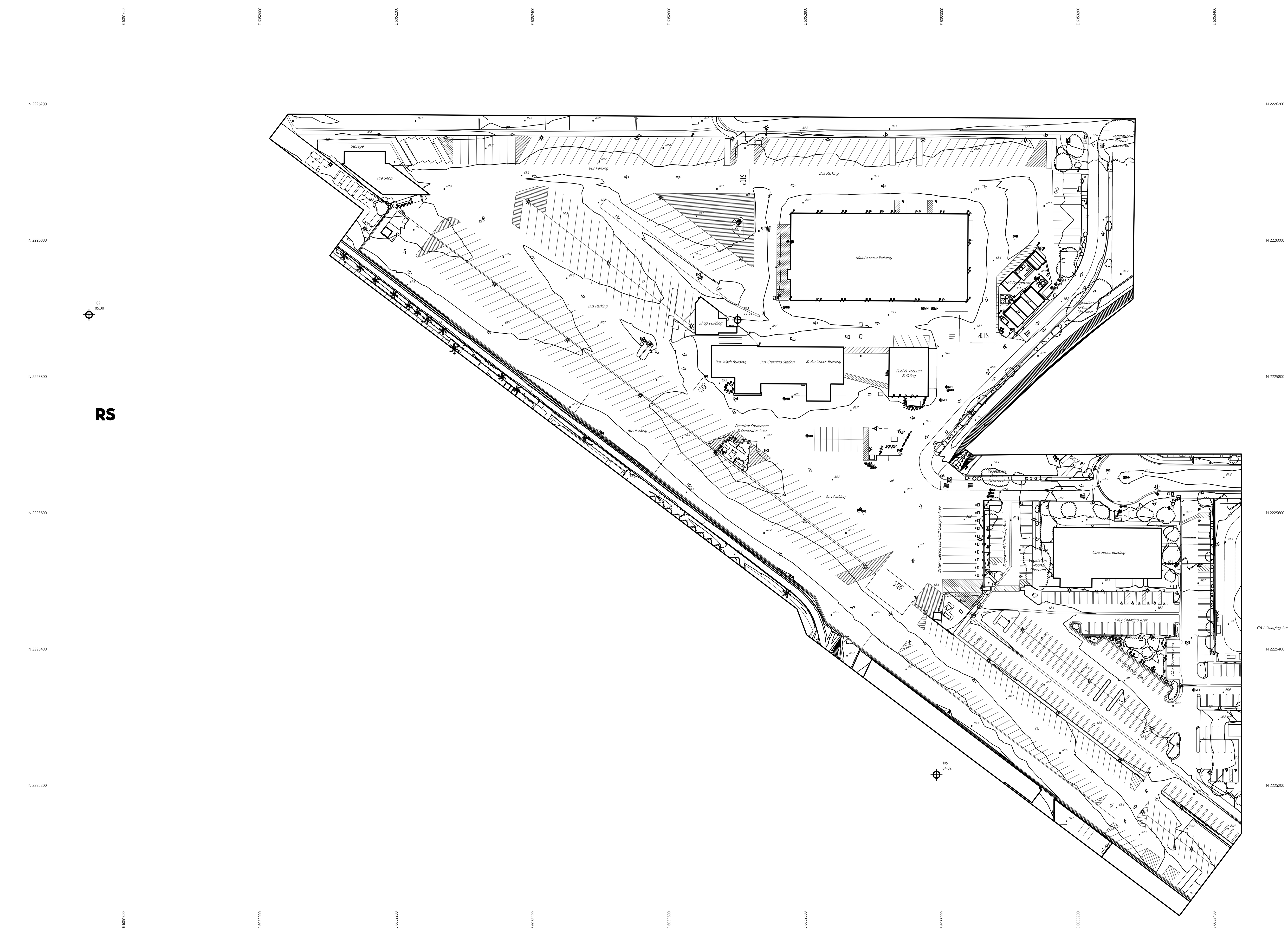
PRELIMINARY STUDY

HUITT ZOLLARS
2603 Main Street, Suite 400
Irvine, California 92614
949.988.5815
www.huitt-zollars.com

Legend

SYMBOLS	DESCRIPTIONS
	AERIAL PANELS
N 80000	GRID TEXT
	GRID TICK
x 2980.5	SPOT ELEVATION
	CACTUS
	PALM TREE
	SINGLE TREE
	FLAG
	GATE
	SIGNS
	BILLBOARD
	OVERHEAD SIGNS
	STREET SIGN
P	POST / BOLLARD
FH	FIRE HYDRANT
	METER / UTILITY
MH	MANHOLE
	VALVE
	CATCH BASIN
	CULVERT
	UTILITY POLE
	TRANSMISSION
	TV DISH
	LIGHT POLE
	TRAFFIC SIGNAL
	PEDESTRIAN SIGNAL
	STREET LIGHT
	STRAIGHT ARROWS
	DIRECTIONAL ARROWS
	MINE
	BIKE LANE
	HANDICAP
EXIT STOP	TRAFFIC PAINT
AHEAD ONLY YIELD	TRAFFIC PAINT
	BUILDING
	SWIMMING POOL
	BRIDGE
	CANOPY
	ROCKS
	TRAFFIC LANE PAINT
	PARKING STRIPES
	ROAD / PAVEMENT
	DIRT ROAD / TRAIL
	CURB / GUTTER
	CONCRETE
	RAILROAD
	FENCE
	RETAINING WALL
	GUARD RAIL
3130	INDEX CONTOUR / TEXT
	INTER CONTOUR
3130	INDEX DEPRESSION / TEXT
	INTER DEPRESSION
	WASH / WATER
	VEGETATION LINE
	GOLF FAIRWAY
	GOLF GREEN / TEE
	GOLF SANDTRAP
	FIELD / GRASS

PROFESSIONAL LAND SURVEYOR
MICHAEL G. KREMER
NO. 8425
STATE OF CALIFORNIA



N

TOPHOGRAPHIC SITE PLAN

SCALE 1"=80'-0" | 1

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CONSULTING ENGINEERS
2960 DAIMLER STREET
SANTA ANA, CALIFORNIA 92705
TEL: # (949) 254-8016
qvu@dahltaylor.com

REGISTERED PROFESSIONAL ENGINEER
QUANG D. VU
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS
-	-	-	-

Sheet Title
TOPOGRAPHIC SITE PLAN

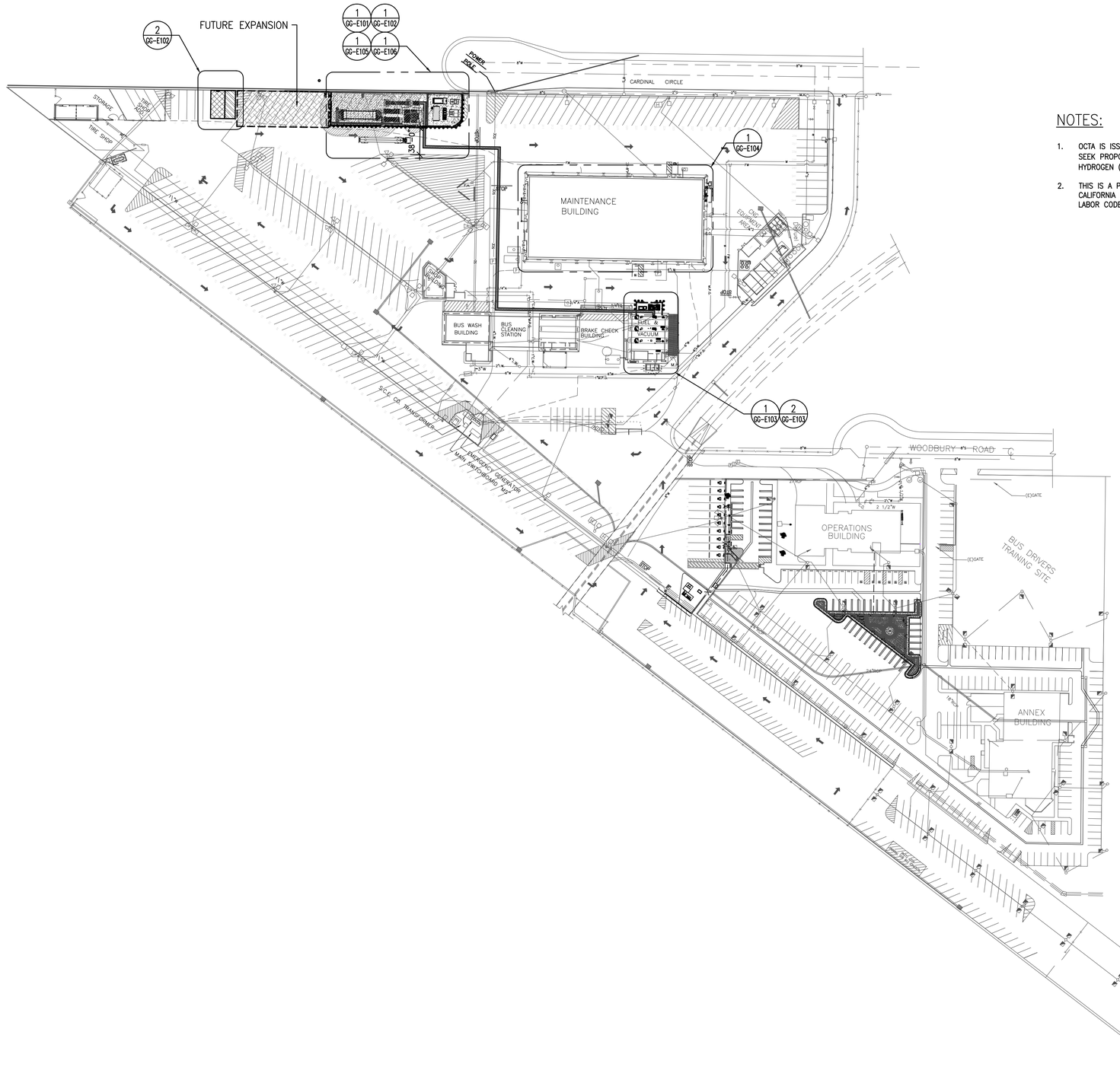
Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
DESIGN BY:	SDV
DRAWN BY:	TMP
CHECKED BY:	QV
DATE	12-12-2024
SCALE	AS NOTED
SHEET	GG-C100

550 South Main Street
Orange, CA 92668
714/560/OCTA

OCTA

PRELIMINARY STUDY



NOTES:

1. OCTA IS ISSUING THIS REQUEST FOR PROPOSALS (RFP) INCLUDING THESE PLANS AND ELEVATIONS TO SEEK PROPOSALS FROM QUALIFIED INDIVIDUALS AND/OR FIRMS TO PROVIDE DESIGN–BUILD SERVICES FOR HYDROGEN (H2) FUELING STATION AND FACILITY MODIFICATIONS.
2. THIS IS A PUBLIC WORKS PROJECT SUBJECT TO COMPLIANCE MONITORING AND ENFORCEMENT BY THE CALIFORNIA DEPARTMENT OF INDUSTRIAL RELATIONS PURSUANT TO SECTION 1771.4 OF THE CALIFORNIA LABOR CODE.

SITE PLAN (OPTION)

SCALE 1"=80'-0" (1)

PRELIMINARY STUDY

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2960 DAIMLER STREET
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TEL: # (949) 254-8016
qvu@dahltaylor.com

REGISTERED PROFESSIONAL ENGINEER
QUANG V. U
NO. 17436
EXP. 12-31-2025
CIVIL
STATE OF CALIFORNIA

MARK	DATE	BY	REVISIONS
1			

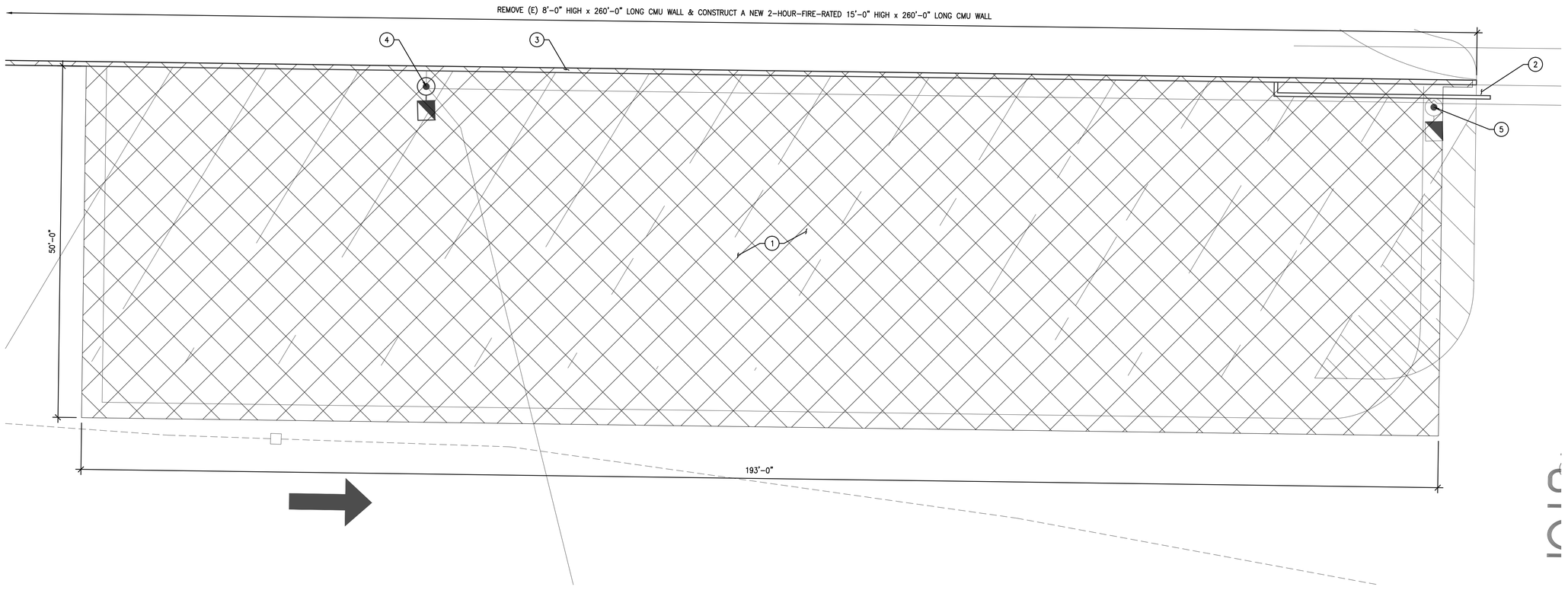
Sheet Title SITE PLAN

Project DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
DESIGN BY:	SDV
DRAWN BY:	TMP
CHECKED BY:	QV
DATE	12-12-2024
SCALE	AS NOTED
SHEET	GG-E100

550 South Main Street
Orange, CA 92668
714/560/OCTA

OCTA



DEMOLITION KEY NOTES:

1. AREA REQUIRES SAW CUTTING, CONCRETE PAVEMENT REMOVAL, GROUND EXCAVATION, AND SOIL COMPACTION GROUTING FOR CONSTRUCTION OF NEW CONCRETE FOUNDATIONS, PADS, PIERS, AND DRAINAGE TO SUPPORT HYDROGEN (H2) FUELING STATION. PROTECT SURROUNDING CONCRETE PAVEMENT FROM DAMAGE DURING CONSTRUCTION.
2. EXISTING AUTOMATED STEEL GATE TO BE REMOVED AND REPLACED WITH NEW AUTOMATED ELECTRIC SLIDING STEEL GATE.
3. REMOVE EXISTING 260'-0" LONG x 8'-0" HIGH CMU WALL FOR CONSTRUCTION OF NEW 15' HIGH 2-HOUR FIRE-RATED CMU WALL IN COMPLIANCE WITH 2022 CBC, ASCE 7-16, AND NFPA 2 FOR LIQUID HYDROGEN STORAGE AND FUELING FACILITIES.
4. REMOVE EXISTING LIGHT POLE, FOUNDATION, AND WIRING AND INSTALL A NEW REPLACEMENT LIGHT POLE, LED FIXTURES, FOUNDATION, AND WIRING AT A DIFFERENT LOCATION AND IN COMPLIANCE WITH NFPA 70 NATIONAL ELECTRICAL CODE (NEC) CLASS 1 DIVISION 2.
5. EXISTING LIGHT POLE, FOUNDATION, AND WIRING TO BE REMOVED AND REPLACED WITH NEW LIGHT POLE COMPLIANT WITH NEC CLASS 1 DIVISION 2.

N

DEMOLITION FOR LIQUID HYDROGEN (LH2) EQUIPMENT AREA

SCALE 1/8"=1'-0" | 1

PRELIMINARY STUDY

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Sheet Title DEMOLITION FOR LH2 EQUIPMENT AREA

Project DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
DESIGN BY:	SDV
DRAWN BY:	TMP
CHECKED BY:	QV
DATE	12-12-2024
SCALE	AS NOTED
SHEET	GG-E101

550 South Main Street
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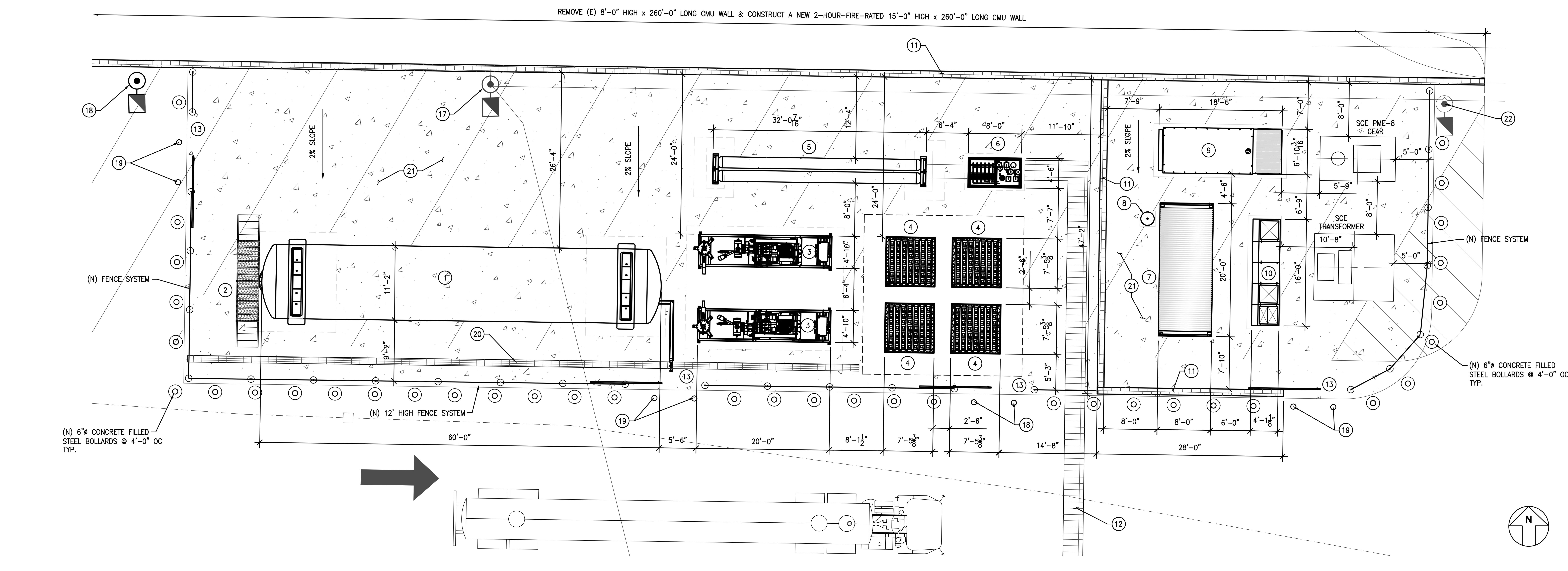
714/560/OCTA

OCTA



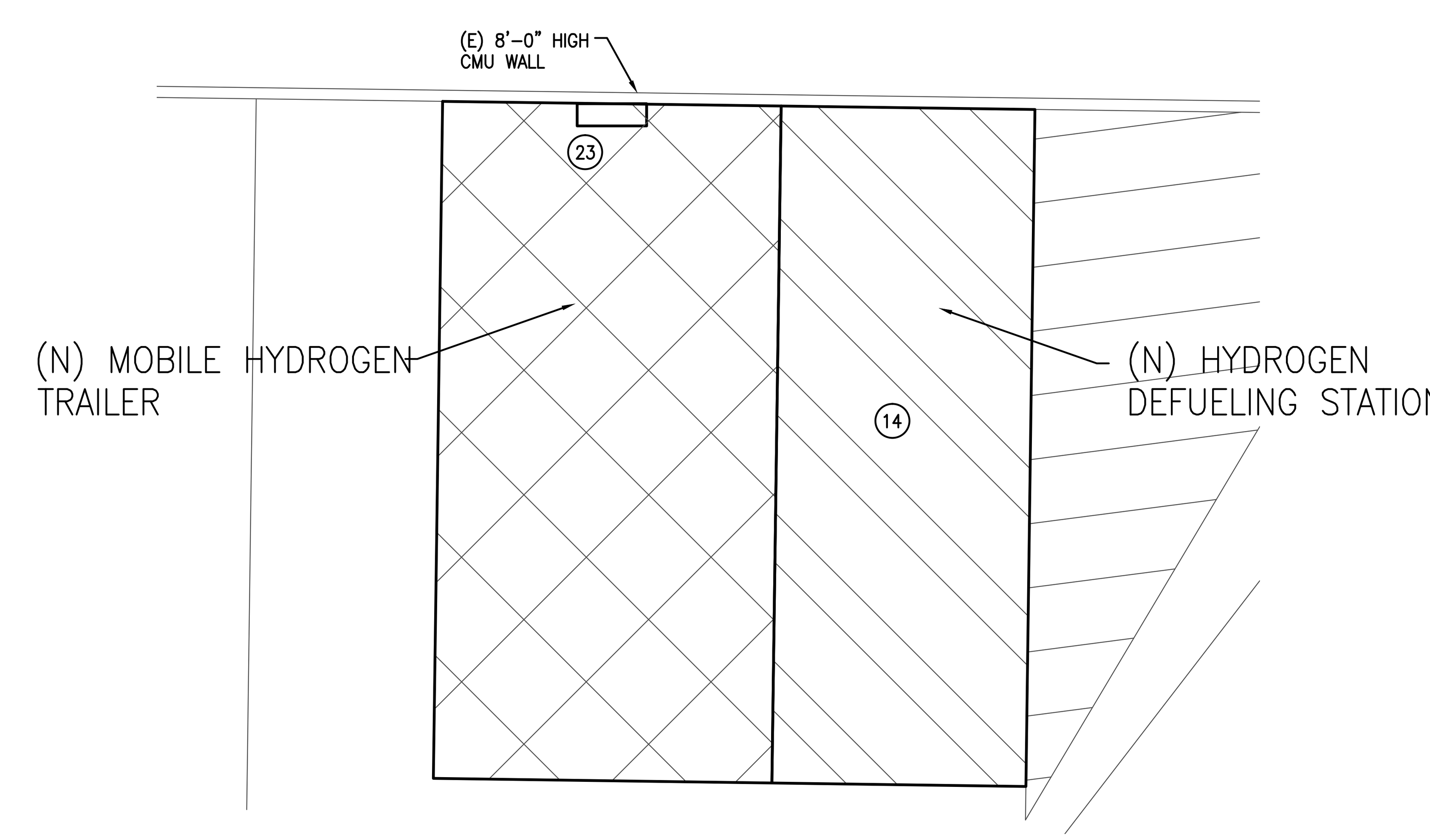
LIQUID HYDROGEN (LH2) STORAGE AND FUELING EQUIPMENT PLAN

SCALE 1/8"=1'-0" (1)

1. 25,000-GALLON LIQUID HYDROGEN (LH2) STORAGE TANK WITH PROVISIONS FOR CONTROLLED COLD LH2 STORAGE.
2. LH2 STORAGE TANK SERVICE PLATFORM W/ RAILINGS & ACCESS STEPS ON BOTH ENDS.
3. LH2 BOOST AND PISTON PUMPS AND COLD CAPTURE HEAT EXCHANGERS (CC-HEX).
4. AMBIENT VAPORIZERS / HEAT EXCHANGERS (HEX), 200 KGS/HR EACH. (APPROXIMATELY 8'-3" SQUARE x 34'-0" HT.)
5. STACKED LOW & MEDIUM PRESSURE GASEOUS HYDROGEN (GH2) STORAGE VESSELS, 10 VESSELS PER STACK FOR A TOTAL OF 20 VESSELS. VESSEL DIMENSIONS: 16" OD, 35' LONG, 22.18 CUBIC FEET (628L) WATER CAPACITY.
6. PRIORITY CONTROL UNIT.
7. CONTROL AND POWER CONTAINER.
8. NITROGEN PURGE TANK.
9. 1,000 KW, 480V, 3P, SCAQMD TIER 4 STANDBY POWER GENERATOR W/ 48-HR DIESEL TANK.
10. 1,600A, 480V, 3P METER SWITCHBOARD WITH ATS, 480/208Y-120V TRANSFORMER & 208Y/120V PANEL BOARD.
11. 2-HR FIRE RATED 15' HIGH CMU WALL.
12. TRENCHES FOR PIPING BUNDLES AND CONDUIT DUCT BANKS.
13. 12'-0" WIDE SLIDING FENCE GATE.
14. 15' x 40' HYDROGEN DEFUELING STATION WITH DEFUELING HOSE AND NOZZLE PANEL TO BE INCORPORATED WITH A GASEOUS HYDROGEN (GH2) RECOVERY SYSTEM FOR REFUELING.
15. NOT USED.
16. NOT USED.
17. REMOVE EXISTING LIGHT POLE AND INSTALL CLASS 1 DIV. 2 LIGHT POLES AT NEW LOCATIONS.
18. NEW LIGHT POLES, CONCRETE FOUNDATION, AND WIRING AT NEW LOCATION. INSTALLATION SHALL COMPLY WITH ELECTRICAL CLASS 1 DIVISION 2 HAZARDOUS AREA.
19. 6"ø REMOVABLE CONCRETE FILLED STEEL BOLLARD WITH LIFTING EYE.
20. IN-SLAB DRAINAGE GUTTER WITH TRAFFIC RATED GRATE.
21. NEW ELEVATED CONCRETE SLAB. RAISED LEVEL EQUIPMENT FOUNDATIONS, ELECTRICAL CLASS 1 DIVISION 1 LIGHTING, FLAME & GH2 DETECTORS, ALARM INDICATOR BEACON LIGHTS, AND VIDEO SECURITY SURVEILLANCE (VSS) CAMERAS FOR THE ENTIRE EQUIPMENT AREA. FULLY INTEGRATE NEW SYSTEMS WITH EXISTING SYSTEMS.
22. EXISTING LIGHT POLE TO BE REMOVED AND REPLACED AFTER CONSTRUCTION OF NEW 15' HIGH CMU WALL.
23. 20' WIDE MOBILE HYDROGEN TRAILER AREA WITH ELECTRICAL NEMA 3R CABINET HOUSING 300A, 480V, 3P CIRCUIT BREAKER, RECEPTACLE, GROUNDING TERMINAL, AND 30' LONG POWER CORD WITH PLUGS ON BOTH ENDS.

EQUIPMENT KEY NOTES

SCALE NONE (3)



GENERAL NOTE

DEFUELING AREA HATCHBACK IS TO EMPHASIZE ITS LOCATION. IT IS NOT STRIPING.

FCEB DEFUELING AREA PLAN

SCALE 1/8"=1'-0" (2)

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Sheet Title
LIQUID HYDROGEN (LH2) STORAGE & FUELING FACILITIES PLANS

Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
DESIGN BY:	SDV
DRAWN BY:	TMP
CHECKED BY:	QV
DATE	12-12-2024
SCALE	AS NOTED
SHEET	GG-E102

550 South Main Street
Orange, CA 92668
714/560/OCTA

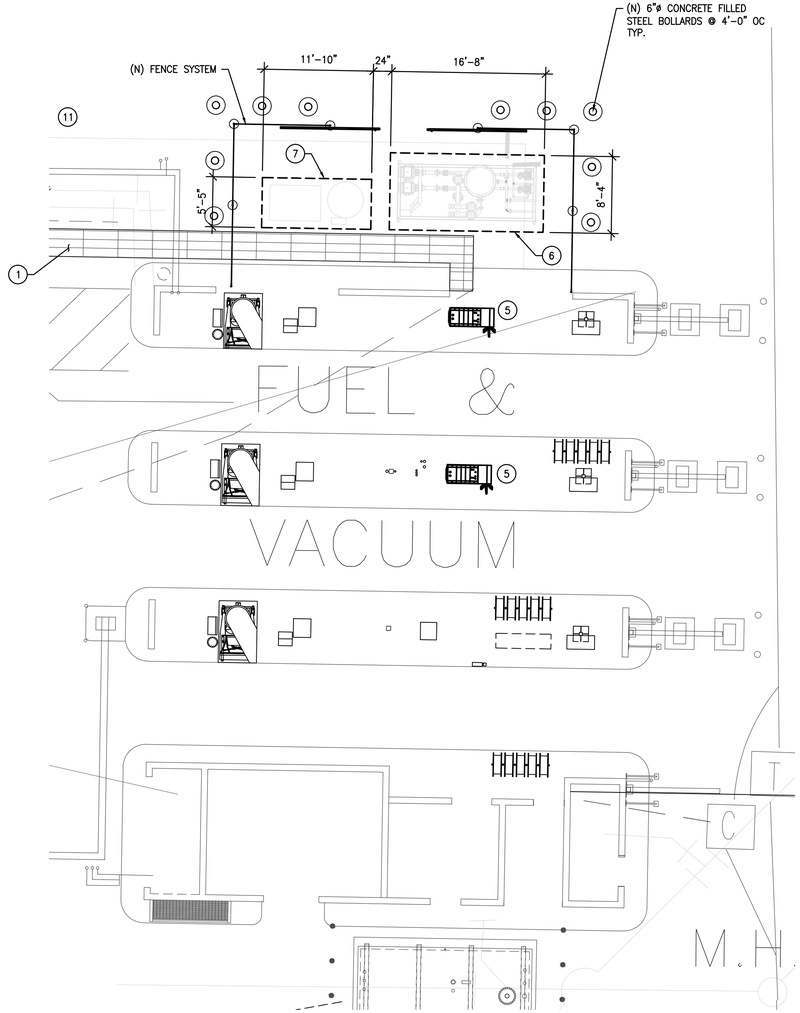
OCTA

PRELIMINARY STUDY

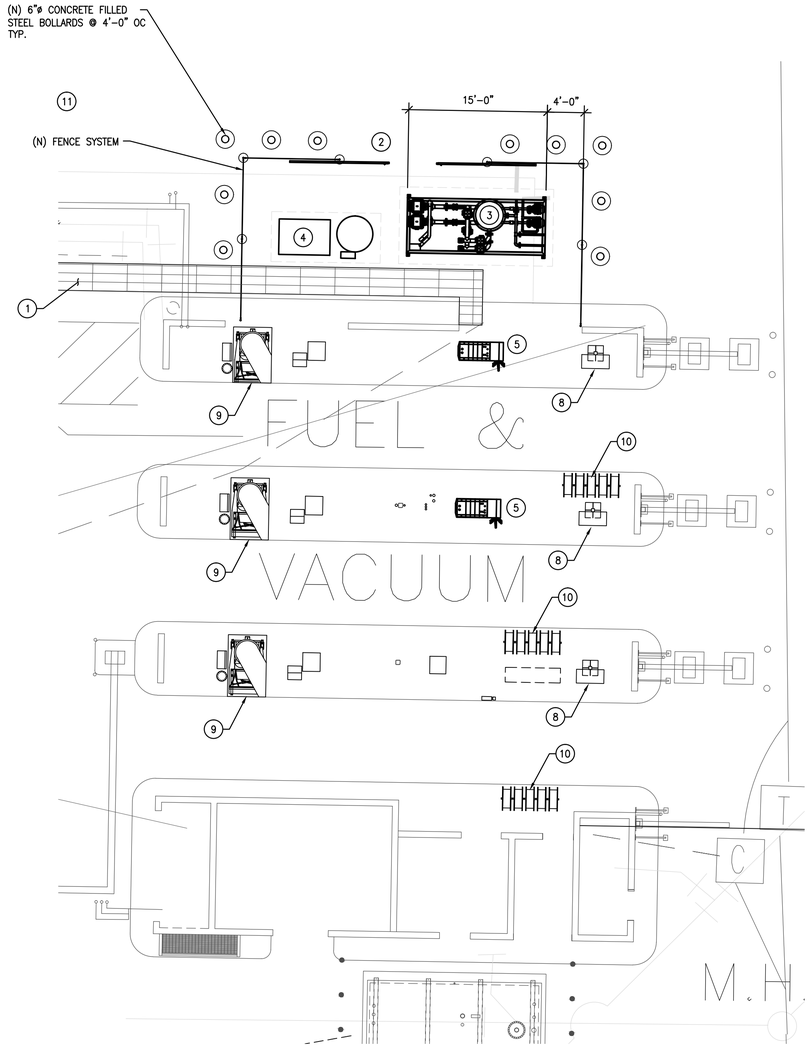
EQUIPMENT KEY NOTES:

1. TRENCH FOR UNDERGROUND PIPES AND ELECTRICAL CONDUITS.
2. 12'–0" WIDE SLIDING FENCE GATE.
3. HC–50 HEAT EXCHANGER & PUMP PACKAGE.
4. HC–50 CHILLER & COOLING TOWER PACKAGE.
5. 350 / 700 BAR GASEOUS HYDROGEN (GH2) DISPENSER TO BE INSTALLED AT MINIMUM 15 FEET AWAY FROM EXISTING CNG DISPENSER. PROVIDE CONCRETE FOUNDATION AND SEISMIC ANCHORAGE IN COMPLIANCE WITH 2022 CBC, ASCE 7–16, AND NFPA 2.
6. HC–50 HEAT EXCHANGER (HX) & PUMP PACKAGE RAISED FOUNDATION.
7. HC–50 CHILLER & COOLING TOWER PACKAGE RAISED FOUNDATION.
8. EXISTING CNG TRANSIT DISPENSER.
9. EXISTING VACUUM MACHINE.
10. EXISTING HOSE REEL.
11. STRIPE VEHICLE PARKING STALLS AND ADJUST / MOVE ALL SIGNS AFTER HC–50 CHILLER INSTALLATION.

EQUIPMENT KEY NOTES | SCALE: NONE | 3



FUELING & VACUUM BUILDING PLAN – NEW EQUIPMENT FOUNDATION | SCALE: 1/8"=1'–0" | 2



FUELING & VACUUM BUILDING PLAN – NEW EQUIPMENT | SCALE: 1/8"=1'–0" | 1

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REGISTERED PROFESSIONAL ENGINEER — QUANG V. VU — NO. 17536 — EXP. 12-31-2025 — MECHANICAL — STATE OF CALIFORNIA

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Sheet Title
HC-50 CHILLER EQUIPMENT AND CONCRETE FOUNDATION PLANS AT FUELING & VACUUM BUILDING

Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
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SCALE	AS NOTED
SHEET	GG-E103

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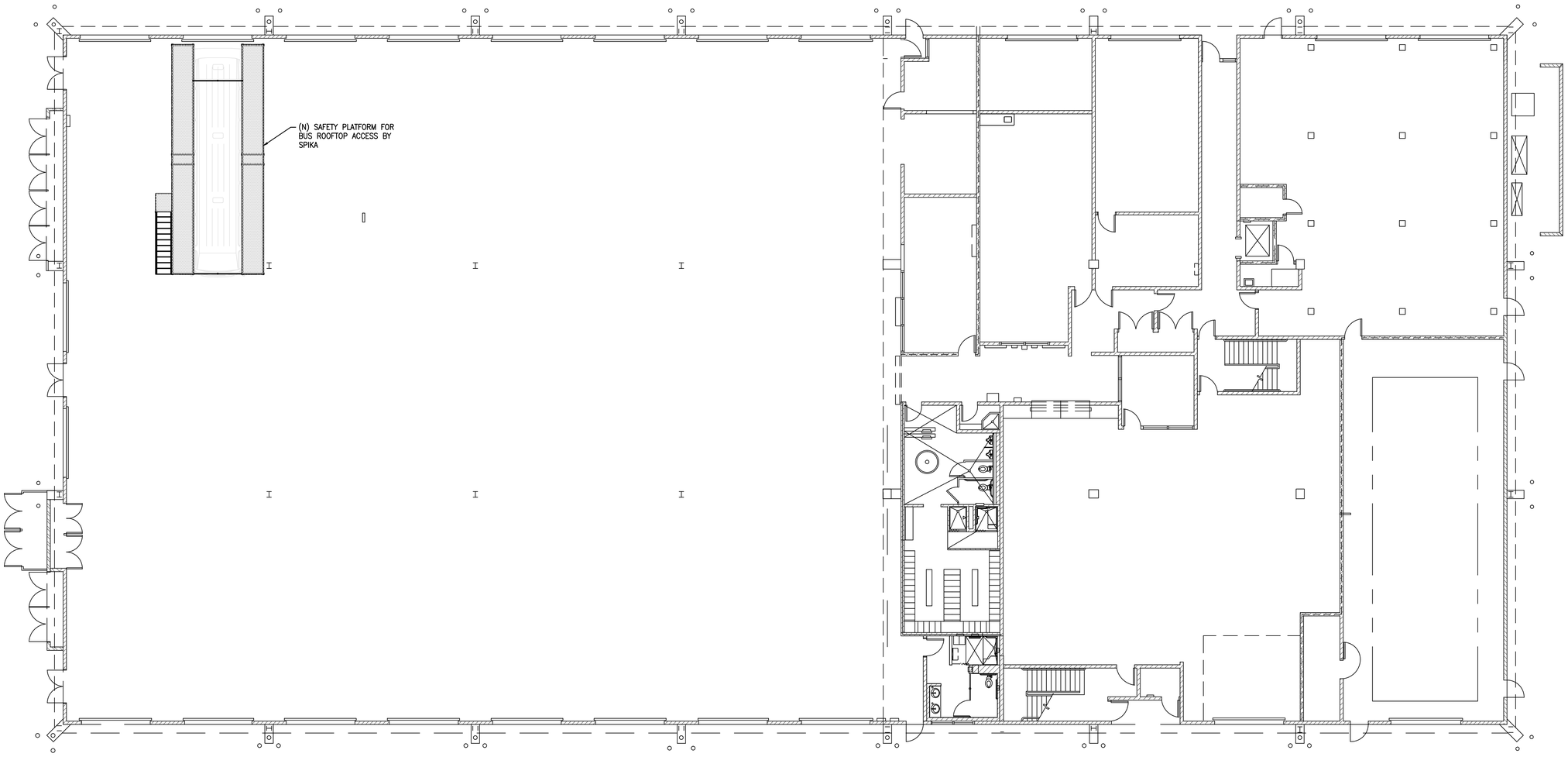
PRELIMINARY STUDY



NOTES:

1. NEW BUS ROOFTOP ACCESS SAFETY PLATFORM SHALL BE SEISMICALLY ANCHORED AND BRACED TO COMPLY WITH 2022 CALIFORNIA BUILDING CODE (CBC).
2. RELOCATE EXISTING COMPONENTS AND EQUIPMENT THAT OBSTRUCT INSTALLATION OF NEW BUS ROOFTOP ACCESS SAFETY PLATFORM WHICH SHALL PROVIDE FULL MOVEMENT ON TOP OF BUS.
3. INSTALL A NEW INFRARED THERMAL SENSING SYSTEM TO SCAN TEMPERATURE ON BUS ROOF AREA, NOTIFY OCCUPANTS VIA WARNING BEACON LIGHTS, AND INTERLOCK WITH THE EXISTING FIRE ALARM SYSTEM FOR NOTIFICATION IN THE EVENT OF EXCESSIVE TEMPERATURE CAUSED BY FAILURE AND MAL-FUNCTION OF ENERGY STORAGE BATTERIES.

MAINTENANCE BUILDING PLAN – NEW BUS ROOFTOP ACCESS SAFETY PLATFORM

SCALE 1"=10'-0" 1

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Sheet Title
SAFETY BUS SERVICE PLATFORM AT MAINTENANCE BUILDING

Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
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SCALE	AS NOTED
SHEET	GG-E104

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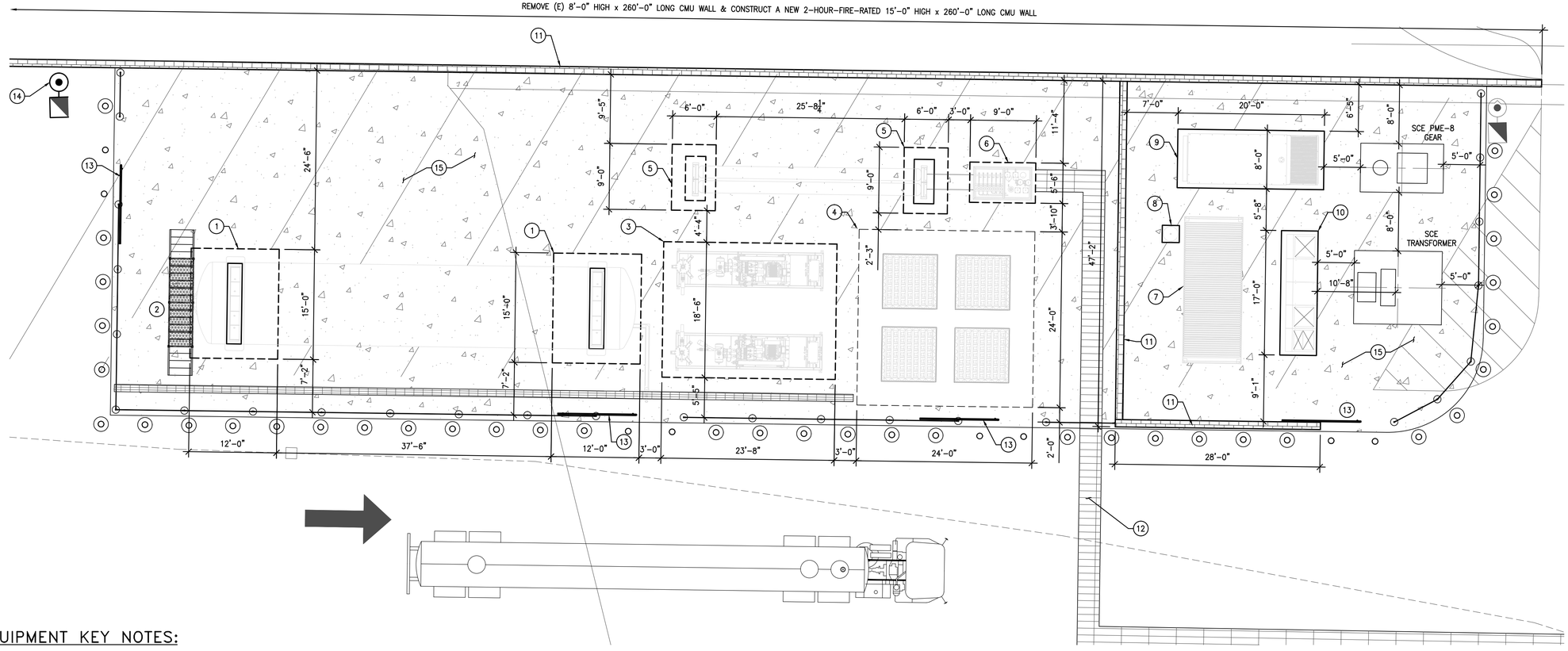
PRELIMINARY STUDY



EQUIPMENT KEY NOTES:

ALL EQUIPMENT AND FACILITY IMPROVEMENTS SHALL BE CONSTRUCTED, SUPPORTED, AND ANCHORED AS PER 2022 CBC, ASCE 7-16, AND NFPA 2 AND AS RECOMMENDED IN THE GEOTECHNICAL REPORT PREPARED BY NMG GEOTECHNICAL, INC.

1. 25,000 GALLON LIQUID HYDROGEN (LH2) STORAGE TANK FOUNDATION.
2. LIQUID HYDROGEN (LH2) STORAGE TANK SERVICE PLATFORM.
3. LH2 PUMP AND COLD CAPTURE HEAT EXCHANGER (CC-HEX) FOUNDATION.
4. AMBIENT VAPORIZER FOUNDATION.
5. GASEOUS HYDROGEN (GH2) STORAGE VESSEL FOUNDATION.
6. PRIORITY CONTROL UNIT FOUNDATION.
7. CONTROL AND POWER CONTAINER.
8. NITROGEN PURGE TANK FOUNDATION.
9. 1,000 KW STANDBY POWER DIESEL GENERATOR FOUNDATION.
10. 1,600A METER SWITCHBOARD FOUNDATION.
11. 15' HIGH 2-HR FIRE RATED CMU WALL WITH GRADE BEAM & CAISSON PILES WITHIN OCTA PROPERTY. REPAIR AND PATCH NEIGHBORING PAVEMENT. COORDINATE WITH ADJACENT PROPERTY OWNERS ON CONSTRUCTION SITE REQUIREMENTS, SAFETY, AND SECURITY.
12. TRENCH FOR UNDERGROUND PIPES AND ELECTRICAL CONDUITS.
13. 12'-0" WIDE SLIDING FENCE SYSTEM GATE.
14. NEW ELECTRICAL CLASS 1 DIVISION 1 LIGHT POLE FOUNDATION.
15. RAISED CONCRETE SLAB AT APPROXIMATELY 6" HIGHER THAN THE EXISTING CONCRETE PAVEMENT. TOP OF EQUIPMENT MOUNTING FOUNDATIONS SHALL BE LEVEL AND 2" AT MINIMUM HIGHER THAN THE RAISED CONCRETE SLAB TO FACILITATE PROPER DRAINAGE. DESIGN CONCRETE FOUNDATIONS FOR ANCHORING EQUIPMENT AND SUPPORTING CMU WALL IN COMPLIANCE WITH 2022 CBC AND ASCE 7-16.

LIQUID HYDROGEN (LH2) EQUIPMENT CONCRETE FOUNDATION PLAN

SCALE 1/8"=1'-0" (1)

PRELIMINARY STUDY

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STATE OF CALIFORNIA

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1			

Sheet Title
LIQUID HYDROGEN (LH2) EQUIPMENT CONCRETE FOUNDATION PLAN

Project
DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
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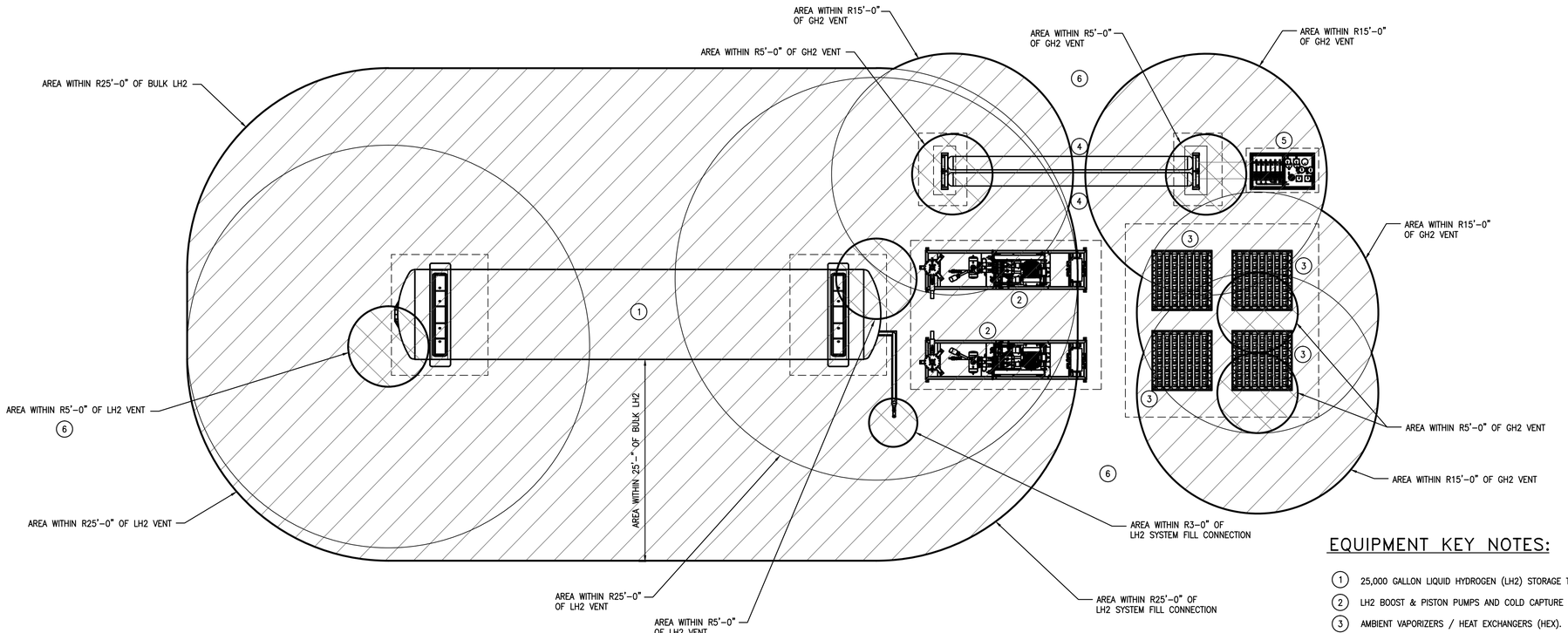
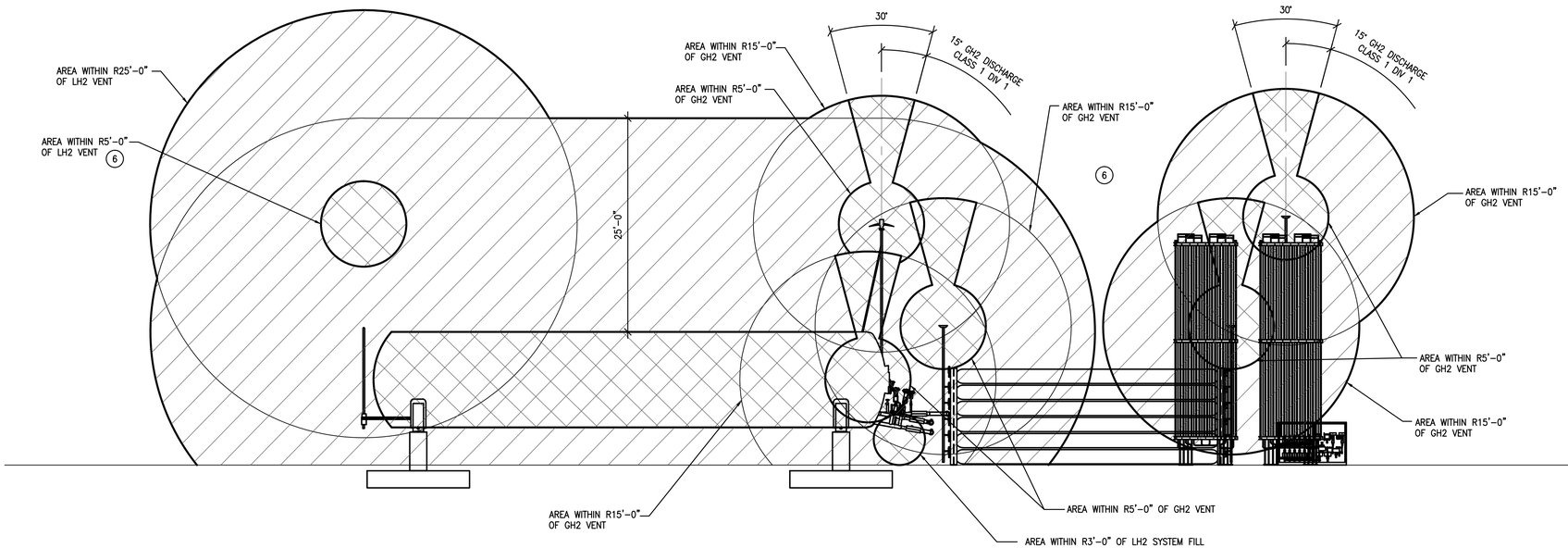


ELECTRICAL HAZARDOUS ZONES PLAN



ELECTRICAL HAZARDOUS ZONES ELEVATION

EQUIPMENT KEY NOTES:

1. 25,000 GALLON LIQUID HYDROGEN (LH2) STORAGE TANK WITH PROVISIONS FOR CONTROLLED COLD LH2 STORAGE.
2. LH2 BOOST & PISTON PUMPS AND COLD CAPTURE HEAT EXCHANGERS (CC-HEX).
3. AMBIENT VAPORIZERS / HEAT EXCHANGERS (HEX).
4. STACKED LOW & MEDIUM PRESSURE GASEOUS HYDROGEN (GH2) STORAGE VESSELS.
5. PRIORITY CONTROL UNIT.
6. CLASS 1 DIV 2 POLE LIGHTS IN THE ENTIRE HYDROGEN EQUIPMENT FACILITIES.

LEGEND:

- CLASS 1, DIVISION 1, GROUP B
- CLASS 1, DIVISION 2, GROUP B

N

ELECTRICAL HAZARDOUS ZONES PLAN AND ELEVATION

SCALE 1/8"=1'-0" (1)

PRELIMINARY STUDY

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MARK	DATE	BY	REVISIONS
1	.	.	.

Sheet Title HAZARDOUS ZONES PLAN AND ELEVATION

Project DESIGN-BUILD SERVICES FOR HYDROGEN FUELING STATION AND FACILITY MODIFICATIONS AT GARDEN GROVE BUS BASE
11790 CARDINAL CIRCLE, GARDEN GROVE, CA

JOB #	1.24.3
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SHEET	GG-E106

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NMG Geotechnical, Inc.

August 16, 2024

Project No. 19175-02
OCTA Agreement No. C-0-2113 CTO03

To: Dahl, Taylor & Associates, Inc.
Consulting Engineers
2960 Daimler Street
Santa Ana, CA 92705-5824

Attention: Mr. Quang Vu

Subject: Geotechnical Report of Exploration for Design and Construction of Hydrogen Storage and Fueling Facilities and Facility Modifications at OCTA Garden Grove Bus Base, 11790 Cardinal Circle, Garden Grove, California

In accordance with your request and authorization, NMG Geotechnical, Inc. (NMG) has performed a geotechnical design study for the subject proposed Orange County Transit Authority (OCTA) project at the existing bus maintenance facility in Garden Grove. This report summarizes our findings, conclusions and recommendations for the design and construction of the project.

The geotechnical exploration and study performed included a review of background information including prior geotechnical studies, field reconnaissance, concrete coring to advance two cone penetrometer soundings (CPT), and geotechnical analysis of the collected data in order to provide preliminary recommendations for design and construction of the project.

In summary, the proposed project is feasible provided the primary geotechnical constraint of liquefaction is mitigated. We estimate total liquefaction related settlement on the order of 4 inches with a high potential for associated surface manifestations of liquefaction such as sand boils and loss of bearing capacity in the event of the design earthquake. From past fueling facility projects by OCTA where significant liquefaction was present, we understand that OCTA has elected to mitigate such liquefaction with ground improvement technology. From the CPT exploration and analysis, the following mitigation alternatives are determined for the Garden Grove site:

Ground Improvement Zone	***Resulting Total Remaining Settlement***	***Differential Settlement Over a 40-Foot Span***
5 to 10 feet	3 inches	1.5 inch
5 to 25 feet	2 inches	1 inch
5 to 35 feet	1 inch	½ inch

Due to the critical nature of the fueling facility, we recommend the treatment zone of sufficient depth to limit the total settlement to 1 inch or less. Foundations should be designed accordingly. Per our consultations with a ground improvement contractor, methods which require taller equipment masts will not be feasible due to the proximity of existing overhead power lines (electrical arcing hazard). Therefore, the most viable option will be compaction grouting. That method also will generate less quantities of soil spoils and result in the least amount of disruption

of bus facility operation. Static load settlements are expected to be relatively minor with the site conditions and will be mitigated if structures are designed for the above seismic settlements.

If you have any questions regarding this report, please contact us. We appreciate the opportunity to provide our services.

Respectfully submitted,

NMG GEOTECHNICAL, INC.

William Goodman, CEG
Principal Geologist

Ted Miyake, RCE 44864
Principal Engineer

TM/WG/ad

Email Distribution: Addressee
Mr. Stephen Vu, Dahl Taylor and Associates

TABLE OF CONTENTS

TABLE OF CONTENTS (Cont'd)

Appendices

1.0 INTRODUCTION

1.1 Scope of Services

The purpose of our geotechnical study was to evaluate the existing site and subsurface conditions in light of the proposed project at the subject site in order to provide recommendations for design and construction. Our study and this report are based upon our review of the preliminary project planning information provided by Dahl Taylor and OCTA.

Our scope of work included the following:

- Review of background information, including historic aerial photos, groundwater data, and readily available geotechnical reports from online, in-house, and OCTA archives.
- Site visit to evaluate the existing conditions and accessibility for CPT rig.
- Marking of CPT probe locations and notifying Underground Service Alert; use of geophysics to locate pavement reinforcement and buried utilities; and meeting with OCTA bus base staff for approval of pavement coring and exploration locations.
- Pavement coring of two locations for hand-auger borings to approximately 5 feet below existing ground surface (bgs).
- Two CPT soundings at the cored pavement locations to approximately 60 feet bgs.
- Compilation of laboratory testing and boring data from prior geotechnical studies of the site.
- Geotechnical and geological analysis, including soil and groundwater characterization; foundation and slab-on-grade design parameters; seismic parameters; lateral earth pressures; and recommendations for site preparation and excavations/trenches.
- Geotechnical analysis of liquefaction potential and preliminary recommendations for remedial ground improvement alternatives.
- Preparation of this geotechnical report summarizing our findings and providing our conclusions and recommendations.

Our scope of services did not include evaluation of environmental issues (potential soil and groundwater contaminants, onsite hazardous materials, etc.)

1.2 Site Location and Existing Conditions

The project site is an existing OCTA bus maintenance facility located at 11790 Cardinal Circle, in the city of Garden Grove, California. The site is occupied by several structures including an administrative building and facilities for bus washing, maintenance and fueling. Various storage containers and other equipment is also onsite. The remainder of the site is paved with concrete. Where cored by NMG and others, the PCC pavement thickness is on the order of 8 inches thick. Ground penetrating radar scans at the two CPT locations indicated steel reinforcement bar spaced at approximately 16 to 18 inches on center in both directions.

1.3 Site History and Prior Geotechnical Studies

The original bus maintenance facility site was investigated in 1975, and the original construction was finished sometime thereafter (completed in a 1987 aerial photo). Prior to that, the site was used for agriculture and was vacant as the surrounding area began to be developed for commercial and industrial use.

A number of reports of past studies were acquired and reviewed for our study, including the original 1975 geotechnical design reports for bus facility by Soils International. These studies included numerous bucket-auger borings, soil sampling and laboratory testing with recommendations for site grading and structure design and construction. NMG conducted two studies of the site in 1994 and 2015 for minor improvements to the bus wash facility. Ninyo and Moore conducted a study for the CNG fuel station at the east side of the site in 2007. Another study was performed for pavement improvements by Group Delta in 2014. These reports are listed in Appendix A. Boring logs and laboratory data from these studies relevant to the site are included in Appendices B and C, respectively.

1.4 Proposed Hydrogen Fueling Station

The planned hydrogen fueling equipment will include storage equipment located in an area of existing bus parking at the north central portion of the site. We understand that the equipment in that area, including a 25,000-gallon storage tank (full weight of 10 tons) will be constructed on individual spread foundations. The existing concrete pavement will be removed for the storage equipment area.

The hydrogen fuel dispensing equipment is planned some distance from the storage area at an existing fuel and service building. Piping from the storage area to the dispensers will require cutting of the existing pavement for underground installation. The proposed storage and dispensing locations are shown on the CPT and Boring Location Map, Figure 3.

1.5 Field Investigation

The subsurface CPT exploration was conducted on June 28, 2024, by Kehoe Testing and Engineering, Inc. Prior to testing, the CPT-1 and CPT-2 locations were reported to DigAlert, surveyed with ground penetrating radar and cleared with OCTA staff. The pavement was cored and the first five feet of soil was excavated with a hand-auger in order confirm there were no utilities that might be damaged by the CPT probe. The CPTs were advanced 60 feet bgs.

The CPTs use an integrated electronic cone system that measures and records tip resistance, sleeve friction, and friction ratio parameters at 5-cm depth intervals. As expected from prior boring data, the CPT verified alluvial materials with soil behavior types consisting of heterogeneous layers of sands, silts, silty sands, and sandy silts with lesser amounts of clays. The CPT data provided detailed subsurface profile information and is the state of the practice for analyzing liquefaction potential and associated impacts including settlement, surface manifestations, and lateral ground spreading. The CPT data was used with the adjacent boring information and laboratory test data to develop a consistent interpretation of the subsurface conditions.

With the abundance of prior borings and laboratory testing, no additional soil sampling and testing was conducted for this study.

1.6 Laboratory Testing

Prior soil testing by others included the tests listed below. The laboratory test results are presented in Appendix C. In-situ moisture and dry density results are also included on the geotechnical boring logs (Appendix B).

- In-situ moisture content and dry density;
- Maximum density and optimum moisture content;
- Grain-size distribution (sieve and/or hydrometer);
- Atterberg Limits;
- Consolidation settlement and collapse;
- Direct shear;
- Expansion index;
- Corrosivity and soluble sulfates, and
- R-value.

2.0 GEOTECHNICAL FINDINGS

2.1 Geologic Conditions and Seismicity

The subject OCTA facility lies within the County of Orange portion of the southern part of the Central Block of the Los Angeles Basin (CGS, 1997). The site is underlain by thousands of feet of marine and non-marine sedimentary deposits. The upper deposits are Holocene and Quaternary age alluvial soils consisting predominantly of interlayered sands, silts and clays. No known active faults cross the bus maintenance facility. The nearest active faults to the site are the San Juaquin Hills Blind Thrust Fault (approximately 4.8 miles southeast) and the Newport-Inglewood Fault (approximately 7.8 miles southwest). Seismic parameters including maximum moment magnitude are presented in Section 3.5. The site is not located within a State of California mapped Alquist-Priolo fault zone but is within a mapped liquefaction hazard zone (CDMG, 1998).

2.2 Groundwater

Historic high groundwater at the site is estimated to be on the order of 7.0 feet below ground surface (bgs) from groundwater maps published by the State (CGS, 2008). Exploration at the site in 2014 to 11.5 feet bgs did not encounter groundwater (Group Delta, 2014). In 2007 groundwater was reported at 17.5 feet bgs (Ninyo and Moore, 2007).

2.3 Soil Conditions and Engineering Properties

Site studies indicate the upper few feet of soil is artificial fill. Subsurface explorations and soil testing classify the alluvial soils below as primarily medium dense to dense silty sands and sands (Unified Soil Classifications of SM, SP, ML) and lesser layers of low plasticity clays (CL). Grain size analyses indicate minor clay contents (less than 10 percent) in the soils in the upper 15 feet. Soil moisture contents in the upper 10 feet when the site was vacant with bare ground were reported as predominantly less than 5 percent (Soils International, 1975a) while the later studies after the site was developed reported moisture contents as high as 18 percent.

Shear strengths reported and assumed by others ranged from 25 to 32 degrees for internal friction angle with varying cohesion. Based on our study a design value of 28 degrees with nominal cohesion was assumed for this project.

The near surface soils are generally non-plastic with very low expansion potential and relatively high R-values ranging from 52 to 67.

Soil corrosivity testing indicates close to neutral pH, low chloride, low soluble sulfate contents, and electrical resistivities in the non-corrosive range (Ninyo and Moore, 2007).

Laboratory test results for engineering properties of site soils are included in Appendix C.

2.4 Liquefaction Potential

Our field investigation and laboratory testing were performed in part to evaluate the subsurface soils for liquefaction potential. The California Geological Survey has developed seismic hazard maps as a part of the Seismic Hazards Mapping Act of 1991. The subject site is shown on Figure 2 as being mapped within a zone of liquefaction potential (CDMG, 1997a). Liquefaction is a phenomenon in which earthquake-induced cyclic stresses generate excess pore water pressure in low density (loose), saturated, sandy soils and soft silts below the water table. This causes a loss of shear strength and, in many cases, ground settlement. Liquefaction is generally thought to be a problem in earthquake-prone areas where conditions that promote liquefaction are present in the upper 50 feet of earth.

For liquefaction to occur, all the following four conditions must be present:

- There must be severe ground shaking, such as occurs during a strong earthquake.
- The soil material must be saturated or nearly saturated, generally below the water table.
- The corrected normalized standard penetration test (SPT) blow counts (N_1) or the CPT tip resistance (Q) must be relatively low.
- The soil material must be granular (usually sands or silts) with, at most, only low plasticity. Clayey soils and silts of relatively high plasticity are generally not subject to liquefaction.

Our liquefaction potential assessment was performed using the computer program CLiq Version 2.2.0.18 developed by Geologismiki, which provides results and plots of the calculations. The liquefaction potential analysis is performed using the Robertson method (T.L. Youd, et al., 1996). The program provides the basic CPT data interpretation through to final plots of factor-of-safety, liquefaction potential index, and post-earthquake displacements, including vertical settlement.

The liquefaction analysis assumed a design earthquake magnitude of 7.26 (M_W) and a peak ground acceleration (PGA) of 0.63g, as determined in our site seismicity analysis discussed in Sections 2.1 and 3.6. A design groundwater depth of 7.0 feet was used for the analysis as discussed in Section 2.2.

Our analysis indicated a significant liquefaction potential at the subject site, with overall probability and risk for liquefaction from low to high. The calculated liquefaction settlement in the upper 50 feet in both CPT-1 and CPT-2 was 4 inches. Ninyo and Moore (2007) calculated liquefaction settlement for the CNG fuel station of 6 inches. However, their analysis was based on boring data alone and did not include CPT data, which today is considered more accurate.

Potential surface manifestations such as sand boils and loss of bearing capacity caused by liquefaction is a function of the thickness of the non-liquefiable surface cover (consisting of the reworked onsite materials plus design fill) over the thickness of the underlying liquefiable layers. Based on the generalized subsurface profile and our overall liquefaction evaluation, the site has a potential for ground surface damage caused by liquefaction. Because of the relatively small

improvement area with an existing paved site, lateral spread analysis was not performed for this study.

The liquefiable layers included thin sandy lenses less than a foot thick but were predominantly layers that were 2 to 4 feet thick. Numerous liquefiable layers are distributed relatively evenly from 5 to 45 feet. In other words, there were no large zones of liquefiable and non-liquefiable layers in that soil column. Three of the four inches of estimated total settlement is predicted to take place in the upper 30 to 35 feet of soil.

The liquefaction analysis summaries are included in Appendix D.

2.5 Settlement Potential

The seismic settlements of 3 to 4 inches due to potential liquefaction are likely to govern structural design. The design liquefaction settlement values with various levels of mitigation are provided in Section 3.4, Ground Improvement. Consistent with the findings of prior studies, total static and differential settlements should not exceed 1 inch and ½ inch over a 40-foot span respectively. The resulting ground pressure beneath the 10-ton storage tank should be relatively low with a reasonably sized spread foundation. With the sandy site soil, a significant percentage of the static settlement will occur during construction.

3.0 CONCLUSIONS AND PRELIMINARY RECOMMENDATIONS

3.1 Conclusions

Based on the results of our study and our understanding of the proposed project, the subject hydrogen fueling improvements planned at the site are feasible, provided the recommendations herein are implemented for design and construction.

The primary geotechnical constraint at the site requiring design mitigation is the usual seismic ground shaking from nearby active faults and the resulting potential liquefaction.

The following recommendations are preliminary and are subject to review/revision once structural loads and plans are finalized and if unexpected soil conditions are encountered during construction. The recommendations are also considered minimum and may be superseded by more stringent requirements of others.

3.2 Site Preparation and Earthwork

3.2.1 Site Preparation

Following demolition and disposal of the existing concrete in the storage equipment area and establishment of design subgrades, the upper 12 inches of soil should be scarified, moisture conditioned as needed, and compacted with heavy equipment. If lighter compaction equipment such as "whackers" or small vibratory plates are used, the upper six inches below design grades should be removed. The bottom 6 inches should be scarified and compacted prior to placement and compacting of the final 6-inch lift. Areas where existing utilities or other buried structures are removed should be backfilled with compacted and certified fill.

3.2.2 Fill Placement

Import soils are not expected for the subject project. Onsite materials that are relatively free of deleterious material should be suitable for use as compacted fill. Fill materials should be at or slightly above optimum moisture content per ASTM D1557. Relative minimum compaction of fills below foundations and non-vehicular pavements should be 90 percent per ASTM D1557. For PCC pavements constructed directly on soil subgrade, the subgrade should have a minimum relative compaction of 95 percent.

3.3 Settlement Potential and Ground Improvement

Ground improvement to mitigate the potential liquefaction hazards of settlement and loss of bearing capacity are recommended for the proposed project. The following table provides the recommended design values of settlement depending on the depth of ground improvement. An analysis of the cost of ground improvement and resulting foundation cost may dictate the selected depth of ground improvement.

Ground Improvement Zone	*Resulting Total Remaining Settlement*	*Differential Settlement Over a 40-Foot Span*
5 to 10 feet	3 inches	1.5 inch
5 to 25 feet	2 inches	1 inch
5 to 35 feet	1 inch	½ inch

Due to the critical nature of the fueling facility, we recommend the treatment zone to a sufficient depth to limit the total settlement to 1 inch or less. Foundations should be designed accordingly. Per our consultations with a ground improvement contractor, ground improvement methods such as deep soil mixing and stone columns that require taller equipment masts will not be feasible due to the proximity of existing overhead power lines (electrical arcing hazard). Therefore, the most viable method will be compaction grouting. That method also will generate less quantities of soil spoils and result in the least amount of disruption of bus facility operation. Static load settlements are expected to be relatively minor with the site conditions and will be mitigated if structures are designed for a total seismic settlement of 1 inch with a differential settlement of ½ inch over a 40-foot span.

3.4 Foundation and Slab Design Guidelines

The following foundation recommendations are provided for onsite soils (no imported soil) with the assumption that the recommendations included in Section 3.2 are implemented during preparation of the site. The geotechnical parameters and recommendations provided are intended for the design of the footings, slab, and foundation system of the proposed structures. The design of shallow footings and slab-on-grade foundations may require collaboration between the geotechnical and structural engineers based on the anticipated structural loading conditions and considering the requirements of the 2022 CBC. The allowable bearing values are for native soils without ground improvements. Much higher bear values may be used for foundations on improved ground. Those values will require selection of the improvement method and would be provided by the specialty contractor's engineer.

3.4.1 Allowable Bearing Capacity and Other Parameters

The recommended net allowable bearing capacity for a 2-foot-square footing embedded 18 inches below adjacent grade is 1,800 psf. For other sized continuous and isolated footings, including retaining walls the following formula may be used:

$q_{all} = 700\ D + 200\ B + 350 \leq 4{,}000$ psf, where:

D = embedment depth of footing, in feet

B = width of footing, in feet

The following parameters may be used for design of foundation and slabs on grade:

- Soil unit weight = 120 pcf
- Coefficient of Friction = 0.35
- Passive resistance = 330 psf
- Mat foundation subgrade modulus (k_v) of 150 pci
- For mats of a specific width B, use subgrade modulus: $k_b = k_v[(B+1)/2B]^2$

The dead load of concrete below adjacent grades (buried concrete foundations) may be neglected. The allowable bearing pressure and friction coefficient may be increased by one-third for wind and seismic loading. Full design values may be assumed when combining passive and frictional lateral resistances.

3.4.2 Slabs-on-Grade

Slabs-on-grade at this site may be construction directly on competent native soil. Structural slabs-on-grade design is the purview of the structural engineer.

Vehicular pavement recommendations are provided in Section 3.8, Pavements.

3.5 Seismic Design

The following table summarizes the seismic design criteria for the subject site. The seismic design parameters are developed in accordance with 2022 CBC and ASCE 7-16, including Supplement Nos. 1 through 3.

Selected Seismic Design Parameters from 2022 CBC/ASCE 7-16	***Seismic Design Values***	***Reference***
Latitude	33.7651 North	
Longitude	117.9250 West	
Controlling Seismic Source	Compton Fault	USGS, 2024
Distance to Controlling Seismic Source	6.9 Miles (11.2 km)	USGS, 2024
Site Class per Table 20.3-1 of ASCE 7-16	D	
Ss, Spectral Acceleration for Short Periods	1.35 g	SEA/OSHPD, 2024
S_1, Spectral Accelerations for 1-Second Periods	0.48 g	SEA/OSHPD, 2024
F_a, Site Coefficient, Table 11.4-1 of ASCE 7-16	1.0	SEA/OSHPD, 2024
F_v, Site Coefficient, Table 11.4-2 of ASCE 7-16	1.82	
S_{DS}, Design Spectral Response Acceleration at Short Periods from Equation 11.4-3 of ASCE 7-16	0.90 g	SEA/OSHPD, 2024
S_{D1}, Design Spectral Response Acceleration at 1-Second Period from Equation 11.4-4 of ASCE 7-16	0.87 g*	
T_S, S_{D1}/ S_{DS}, Section 11.4.6 of ASCE 7-16	0.97 sec*	
T_L, Long-Period Transition Period	8 sec	SEA/OSHPD, 2024
PGA_M, Peak Ground Acceleration Corrected for Site Class Effects from Equation 11.8-1 of ASCE 7-16	0.63 g	SEA/OSHPD, 2024
Seismic Design Category, Section 11.6 of ASCE 7-16	D	

**These values have been increased by 50% as outlined in Supplement No. 3 of ASCE 7-16 Chapter 11.4.8.*

3.6 Lateral Earth Pressures for Retaining Structures

Recommendations for lateral earth pressures for retaining walls and structures (if any) with approved onsite drained soils are listed below. These parameters are based on a soil internal friction angle of 28 degrees and soil unit weight of 120 pcf.

Lateral Earth Pressures	
Equivalent Fluid Pressure (psf/ft.)	
Conditions	***Level***
Active	43
At Rest	64
Passive	330

Retaining structures/walls may also need to be designed for additional lateral loads if other structures are planned within a 1H:1V projection.

Drainage behind retaining walls should also be provided for wall retaining more than 30 inches of soil (net difference in grades in front of wall and behind wall).

To design an unrestrained retaining wall, such as a cantilever wall, the active earth pressure may be used. For a restrained retaining wall, the at-rest pressure should be used. Passive pressure is used to compute lateral soils resistance developed against lateral structural movement. The passive pressures provided above may be increased by one-third for wind and seismic loads. Passive resistance is taken into account only if it is ensured that the soil against embedded structure will remain intact with time.

For sliding resistance, the friction coefficient of 0.35 may be used at the concrete and soil interface. The coefficient of friction may be increased by one-third for wind and seismic loads. The retaining walls may also need to be designed for additional lateral loads if other structures or walls are planned within a 1H:1V projection. Full design values may be assumed when combining passive and frictional resistances.

Seismic lateral earth pressure does not apply to walls retaining less than, or equal to, 6 feet of soil (2022 CBC Section 1803.5.12). No significant retaining walls are anticipated for this project.

3.7 Pavements

3.7.1 Vehicular Pavements

At minimum, new vehicular pavements should match the existing concrete pavements which are on the order of 8 inches thick, reinforced with No. 4 rebar at 18 inches on-center in both directions. This section has performed well at the site owing to the design and the excellent subgrade soils.

Repairs to saw cut concrete pavement should match the existing thicknesses. Slip dowels equivalent to No. 4 reinforcing bar should be provided at repair joints embedded a minimum of 6 inches on both sides of the joint and spaced at 18 inches on center.

3.7.2 Non-vehicular Pavement

Non-structural, non-vehicular PCC pavements should be a minimum of 4 inches thick. Steel reinforcement is not considered necessary due to the non-expansive nature of site soils.

Should asphalt paving be selected for non-vehicular areas in the storage equipment area, a minimum thickness of 4 inches of asphalt concrete (AC) over native subgrade is recommended. AC pavement should be constructed in accordance with Standard Specifications for Public Works Construction (Green Book) specifications.

Subgrades for the pavements constructed on native subgrade should be prepared and compacted as recommended in Section 3.3.2 (95 percent relative compaction).

Decomposed granite (DG) material for non-vehicular spaces should be placed in accordance with the product specifications and compacted to a minimum of 90 percent.

3.8 Soil Corrosivity and Cement Type

Soil at the site is considered "non-corrosive" with respect to metals in contact with it.

Concrete mix requirements for structural concrete may be based on the "S0" exposure class of Table 19.3.2.1 in ACI-318-14 that lists the appropriate type of cement, maximum water-cement ratio, and minimum concrete compressive strength. The chloride levels within the soils are classified as Class C0 (negligible).

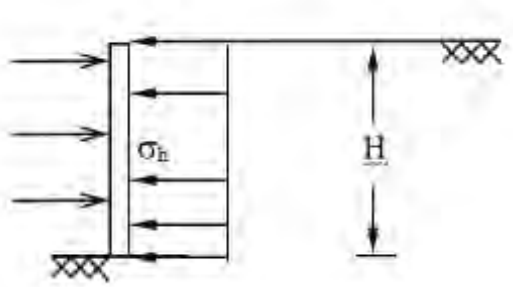
3.9 Pipelines, Trench Excavations, and Backfill

Utility and pipeline trenches parallel to existing structures should not be located below a 1:1 projection down from structural foundation bottoms within 10 lateral feet of the edge of such footings. Exceptions may be reviewed and accepted by a geotechnical consultant.

3.9.1 Excavations

Excavations should conform to the latest edition of OSHA requirements (shoring or layback of trench or excavation walls). The compacted near-surface soils across most of the site are anticipated to be classified as Type B for CalOSHA trenching and shoring requirements. Excavations deeper than approximately 4 feet below existing ground surface may encounter friable, running sands and should be classified as Type C soils. Any soil with groundwater should also be considered Type C.

The published OSHA shoring design systems may be used for conventional shoring excavations less than 20 feet in depth. Soil loadings are provided below that do not include the effects of the additional loads from other surcharges. The geotechnical consultant should review the conditions during the deeper excavation and installation of shoring. Care should be taken at all times by personnel and/or equipment operators working adjacent to the excavations.



Where $\sigma_h = 28H$

Temporary Shoring Earth Pressure

3.9.2 Bedding and Backfills

Trench bottoms for pipe and conduit should expose competent soil. Bedding and pipe zone materials (shading) should be relatively clean sands with a sand equivalent of 30 or greater. Open graded gravel is not recommended due to the fine sands and silts that will surround the sand.

Native granular soils should generally be suitable for use as trench backfill. Backfill materials should be compacted to a minimum relative compaction of 90 percent (per ASTM D1557). We recommend that moisture content of native backfill to be over optimum moisture content. Native soils that are found to be wet will require reprocessing (e.g., mixing or drying) to achieve the uniform moisture content. Select backfill may be used in lieu of native soils. Sands with a sand equivalent of 30 or greater may be placed as backfill and water jetted for densification.

Special bedding material may be required for trenches that encounter wet and soft soils at pipe depth. Recommendations provided after observing field conditions may include removal and replacement of the soft soil with more competent material and/or geofabric reinforcement of the bottom and pipe bedding.

3.10 Surface Drainage

Surface drainage should be carefully taken into consideration during design and construction. Positive surface drainage should be provided to direct surface water and storm runoff away from structures and other improvements to suitable drainage devices. Ponding of water adjacent to the structures and equipment areas should not be allowed. Paved areas should be provided with adequate drainage devices, gradients, and curbing to prevent run-off flowing from paved areas onto adjacent unpaved areas.

3.11 Additional Geotechnical Review and Evaluation

Future improvement plans including underground piping and utilities, and the equipment foundation plans should be reviewed and accepted by the geotechnical consultant upon completion to verify that the assumptions for design and the construction details are consistent with the conclusions and recommendations in this report.

3.12 Observation and Testing During Site Preparation and Construction

The findings, conclusions and recommendations in this report are based upon interpretation of data and data points having limited spatial extent. Anticipated geotechnical conditions should be verified during site preparation, any grading and construction. At minimum, geotechnical observation and testing should be conducted during construction at the following stages:

- During site preparation, clearing and demolition, prior to site processing;
- During backfill of excavations after removal of existing structures, improvements, and utility pipelines;
- During earthwork operations, including remedial removals (if any are required) and fill placement;
- During excavation, backfilling and installation of utilities and pipelines;
- Upon completion of any foundation excavations, prior to placement of reinforcement and concrete;
- During slab and hardscape subgrade preparation prior to pavement construction;
- During construction of structural pavement sections;
- During construction of retaining walls, including subdrains (if any); and,
- When any unusual soil conditions are encountered.

4.0 LIMITATIONS

This report has been prepared for the exclusive use of our client, Dahl Taylor and Associates, and the project owner, OCTA, within the specific scope of services requested by them for the subject hydrogen fueling improvements at the subject site. This report or its contents should not be used or relied upon for other projects or purposes or by other parties without the written consent of NMG, our client, and OCTA and the involvement of a geotechnical professional. The means and methods used by NMG for this study are based on local geotechnical standards of practice, care, and requirements of governing agencies. No warranty or guarantee, express or implied is given.

The findings, conclusions, and recommendations herein are professional opinions based on interpretations and inferences made from geologic and engineering data from specific locations and depths, observed or collected at a given time. By nature, geologic conditions can vary from point to point, can be very different in between points, and can also change over time. Our conclusions and recommendations are subject to verification and/or modification during excavation and construction when more subsurface conditions are exposed.

NMG's expertise and scope of services did not include assessment of potential subsurface environmental contaminants or environmental health hazards.

0 250 500 Feet
1 inch =500 feet
N

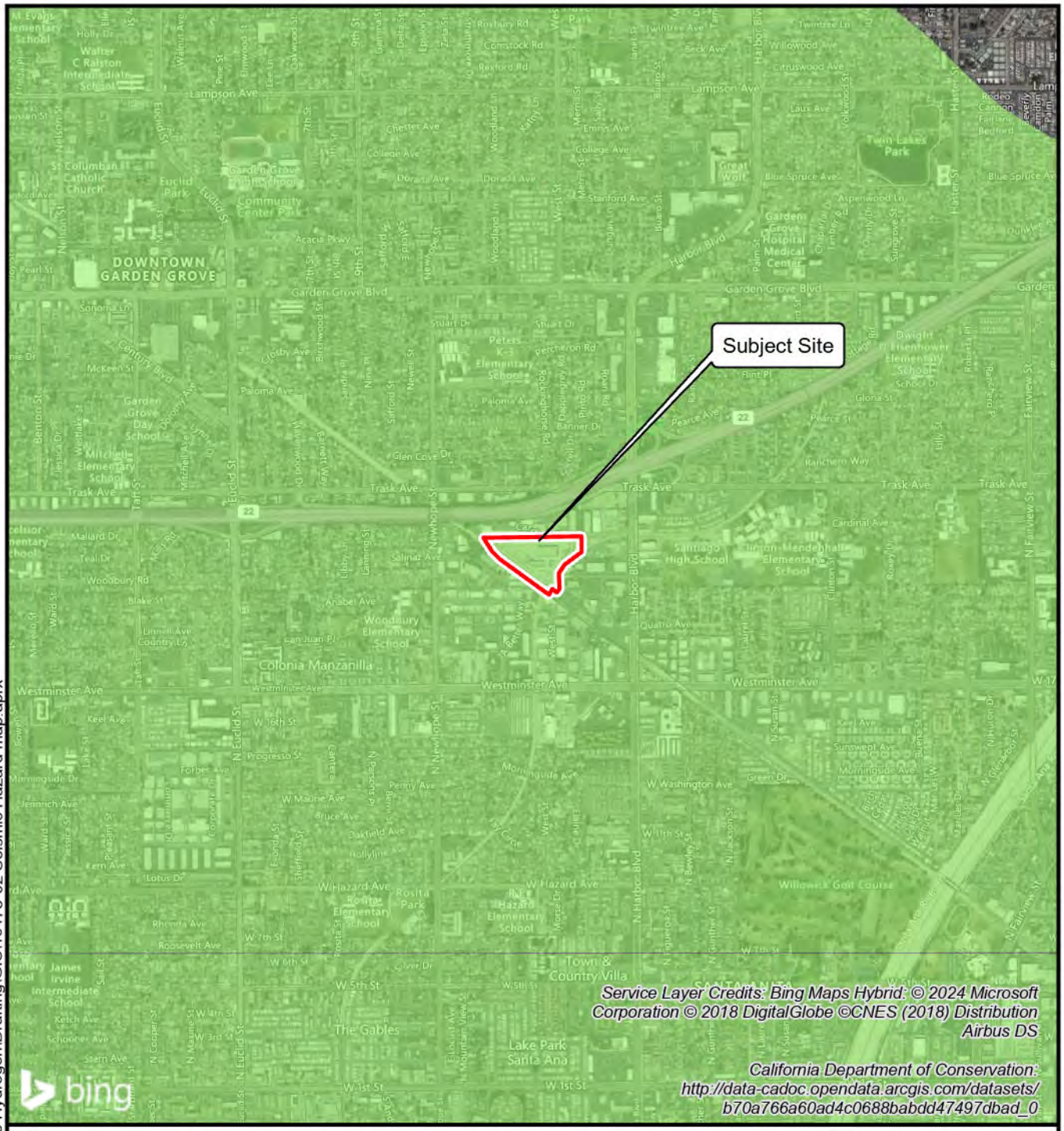
SITE LOCATION MAP

OCTA GARDEN GROVE BUS MAINTENANCE FACILITY
11790 CARDINAL CIRCLE
CITY OF GARDEN GROVE, CALIFORNIA

Project Number: 19175-02 By: TM
Project Name: Dahl Taylor/OCTA G.G.
Date: 8/6/2024 Figure 1

NMG

P:\2019\19175-02 Dahl Taylor OCTA GG Bus Base Hydrogen\Drafting\GIS\19175-02 Site location map.aprx



Legend

- Liquefaction Zones
- Earthquake-Induced Landslide Zones

0 1,000 2,000 Feet

1 inch =2,000 feet

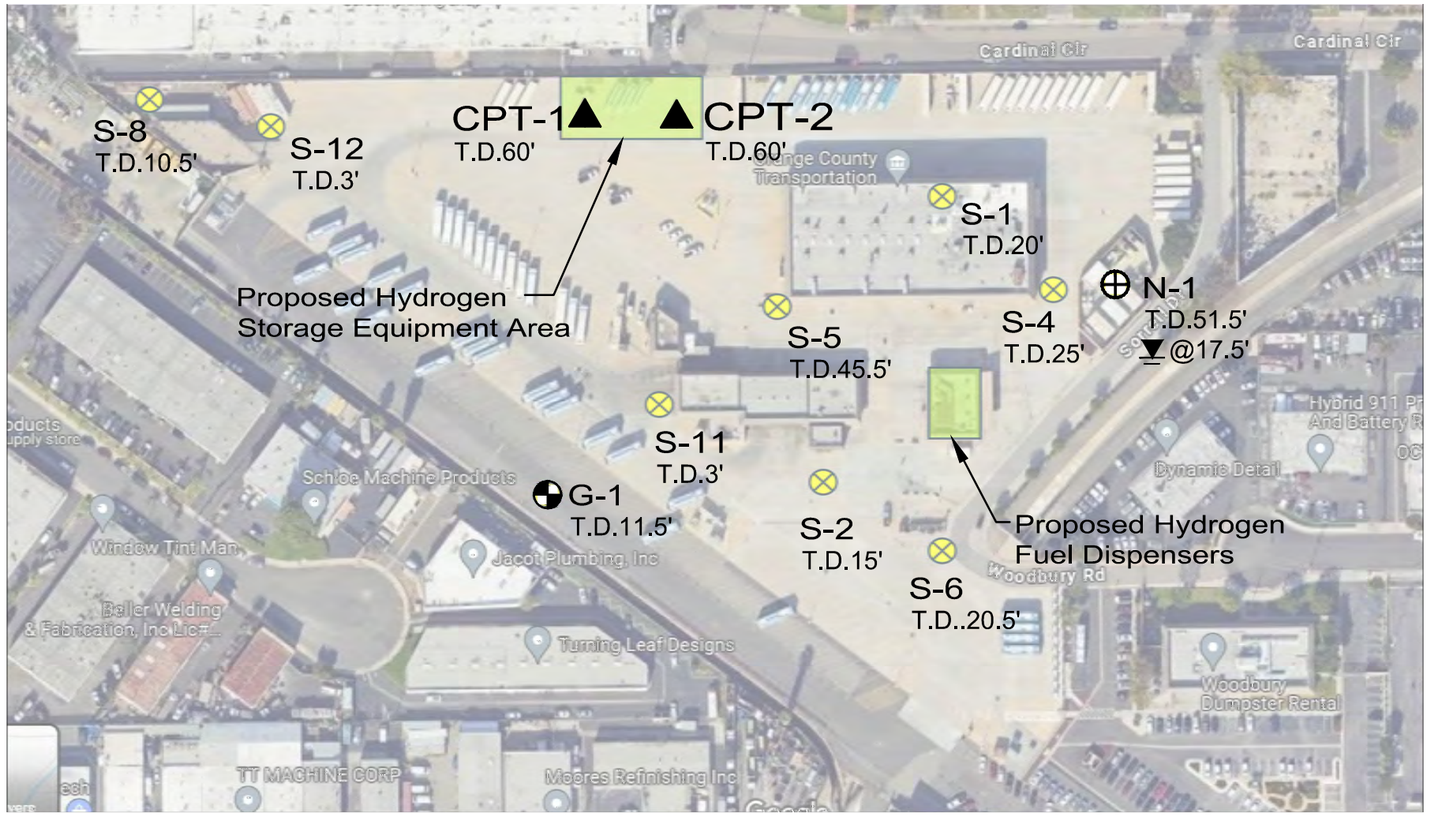
N

SEISMIC HAZARDS MAP

Base: California Geological Survey, Earthquake Zones of Required Investigation, Tustin Quadrangle
Dated: January 17, 2001

OCTA GARDEN GROVE BUS MAINTENANCE FACILITY 11790 CARDINAL CIRCLE CITY OF GARDEN GROVE, CALIFORNIA	Project Number: 19175-02 By: TM Project Name: Dahl Taylor/OCTA G.G. Date: 8/6/2024 Figure 2	NMG

P:\2019\19175-02 Dahl Taylor OCTA GG Bus Base Hydrogen\Drafting\GIS\19175-02 Seismic Hazard map.aprx



LEGEND

ALL LOCATIONS ARE APPROXIMATE

▲CPT-2 T.D.60'	CONE PENETROMETER TEST BY NMG THIS STUDY SHOWING TOTAL DEPTH
G-1 T.D.11.5'	BORING BY GROUP DELTA (2014) SHOWING TOTAL DEPTH
N-1 T.D.51.5' ▼@17.5'	BORING BY NINYO AND MOORE (2007) SHOWING TOTAL DEPTH AND DEPTH TO GROUNDWATER
S-12 T.D.25'	BORING BY SOILS INTERNATIONAL INC. (1975) SHOWING TOTAL DEPTH

BASE MAP : GOOGLE MAPS 2024

Not to Scale

CPT AND BORING LOCATION MAP

OCTA GARDEN GROVE BUS MAINTENANCE FACILITY
11790 CARDINAL CIRCLE
CITY OF GARDEN GROVE, CALIFORNIA

Project Number: 19175-02 BY: TM
Project Name: Dahl Taylor/OCTA G.G.
Date: 8/6/2024 Figure 3

NMG Geotechnical, Inc.

APPENDIX A

APPENDIX A

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APPENDIX B

Kehoe Testing and Engineering
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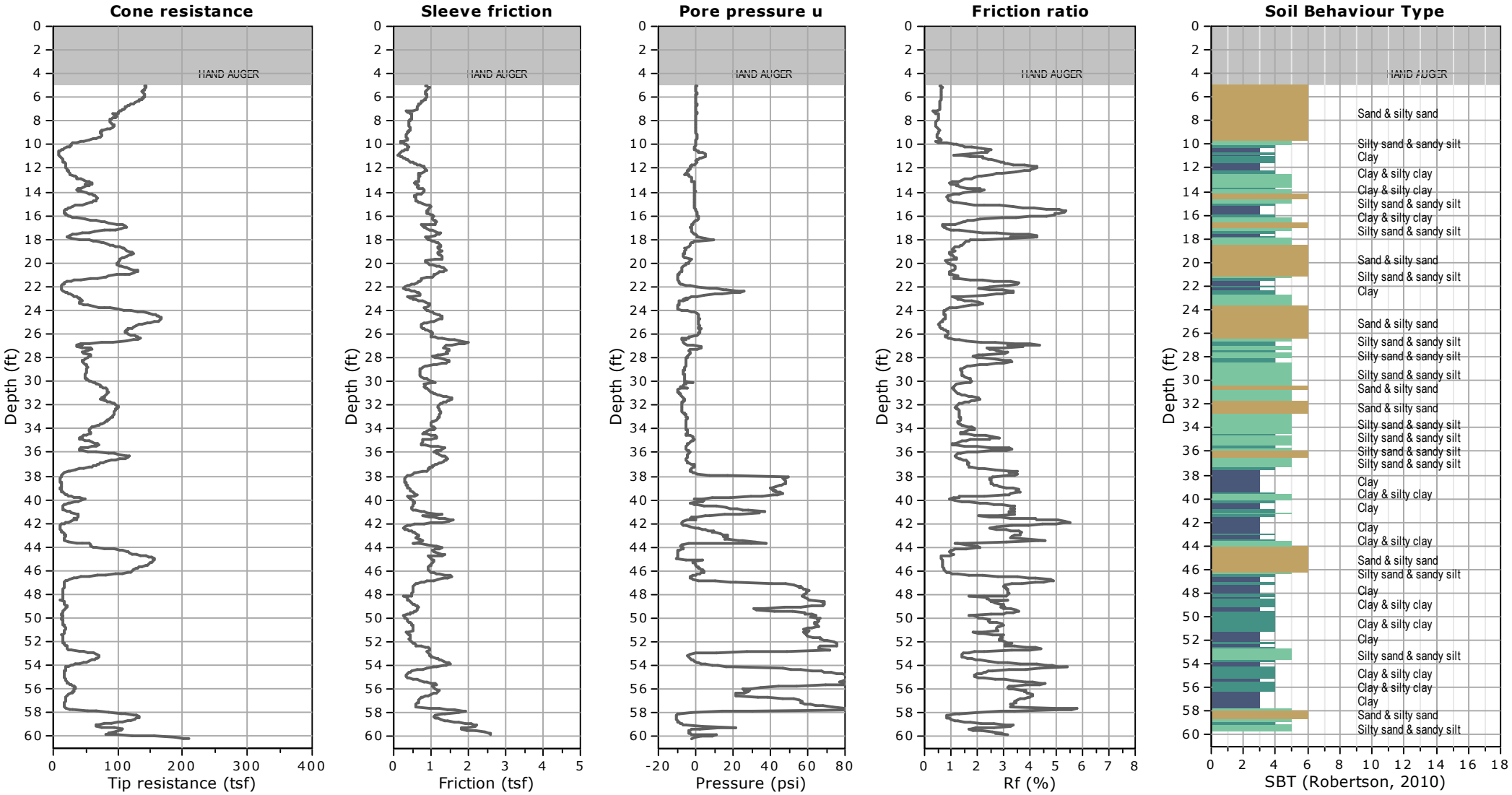
steve@kehoetesting.com
www.kehoetesting.com

Project: **NMG Geotechnical / OCTA Garden Grove Bus Base**
Location: **11790 Cardinal Cir, Garden Grove, CA**

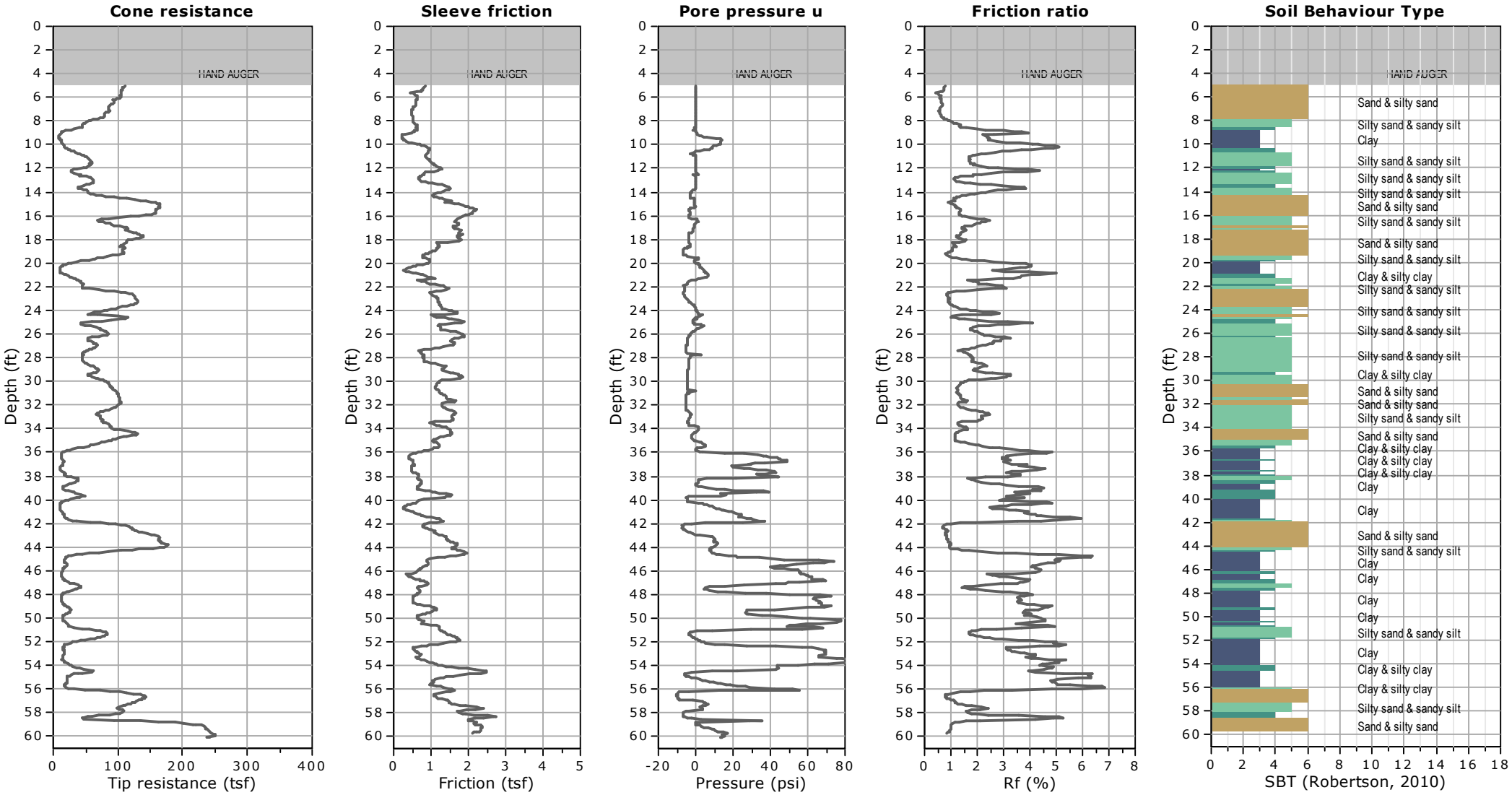
CPT-1
Total depth: 60.18 ft, Date: 6/28/2024



Kehoe Testing and Engineering
714-901-7270
steve@kehoetesting.com
www.kehoetesting.com

Project: **NMG Geotechnical / OCTA Garden Grove Bus Base**
Location: **11790 Cardinal Cir, Garden Grove, CA**

CPT-2
Total depth: 60.11 ft, Date: 6/28/2024



BORING LOGS BY OTHERS

BORING RECORD

PROJECT NAME	PROJECT NUMBER	HOLE ID
AC Repair Phase 5 - Garden Grove and Fullerton	IR 526	A-14-001

SITE LOCATION	START	FINISH	SHEET NO.
Garden Grove, Fullerton, CA	3/14/2014	3/14/2014	1 of 1

DRILLING COMPANY	DRILL RIG	DRILLING METHOD	LOGGED BY	CHECKED BY
ABC Drilling	CME 75	Hollow Stem Auger	Terry	Sathis

HAMMER TYPE (WEIGHT/DROP)	HAMMER EFFICIENCY (ERi)	BORING DIA. (in)	TOTAL DEPTH (ft)	GROUND ELEV (ft)	DEPTH/*ELEV.* GW (ft)
Automatic, (140#, 30")	74	8	11.5	NA	▽ NE / *na* DURING DRILLING

DRIVE SAMPLER TYPE(S) & SIZE (ID)	NOTES	
SPT (1.4"), CAL (2.4")	N60* = 1.23 Nspt = 0.83 Ncal	▼ NE / *na* AFTER DRILLING

DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	SPT N^*_{60}	RECOVERY (%)	RQD (%)	MOISTURE (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS (LL:PI)	OTHER TESTS	DRILLING METHOD	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
			B-1									R			ASPHALT (4 to 5 inches) Silty SAND (SM); medium dense; dark gray; moist; mostly fine SAND; trace coarse SAND; some fines; few fine to coarse GRAVEL; nonplastic.
			R-2-1	10 16 19	35	29			13.2	105		PA			Light brown. 66% SAND; 34% fines
5			B-3 R-4-1	5 8 12	20	17			4.0	94					Poorly-Graded SAND with SILT (SP-SM); medium dense; light brown; moist; mostly fine SAND; few fines; nonplastic.
10			R-5-1	3 3 7	10	8			18.4	108					Sandy lean CLAY (CL); stiff to very stiff; brown; moist; mostly fines; some fine SAND; medium plasticity; PP=2.0.
															Bottom of borehole at 11.5 feet. Boring terminated at planned depth.
15															This Boring Record was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010).
20															

GDC_LOG_BORING_2011 IR 526 PHASE 5 - GARDEN GROVE AND FULLERTON.GPJ GDCLOG.GDT 4/7/14

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THIS SUMMARY APPLIES ONLY AT THE LOCATION OF THIS BORING AND AT THE TIME OF DRILLING. SUBSURFACE CONDITIONS MAY DIFFER AT OTHER LOCATIONS AND MAY CHANGE AT THIS LOCATION WITH THE PASSAGE OF TIME. THE DATA PRESENTED IS A SIMPLIFICATION OF THE ACTUAL CONDITIONS ENCOUNTERED.

FIGURE
A-2

BORING RECORD

PROJECT NAME	PROJECT NUMBER	HOLE ID
AC Repair Phase 5 - Garden Grove and Fullerton	IR 526	**A-14-002**

SITE LOCATION	START	FINISH	SHEET NO.
Garden Grove, Fullerton, CA	3/14/2014	3/14/2014	1 of 1

DRILLING COMPANY	DRILL RIG	DRILLING METHOD	LOGGED BY	CHECKED BY
ABC Drilling	CME 75	Hollow Stem Auger	Terry	Sathis

HAMMER TYPE (WEIGHT/DROP)	HAMMER EFFICIENCY (ERi)	BORING DIA. (in)	TOTAL DEPTH (ft)	GROUND ELEV (ft)	DEPTH/*ELEV.* GW (ft)
Automatic, (140#, 30")	74	8	11.5	NA	▽ NE / *na* DURING DRILLING

DRIVE SAMPLER TYPE(S) & SIZE (ID)	NOTES	
SPT (1.4"), CAL (2.4")	N60* = 1.23 Nspt = 0.83 Ncal	▼ NE / *na* AFTER DRILLING

DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	SPT N^*_{60}	RECOVERY (%)	RQD (%)	MOISTURE (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS (LL:PI)	OTHER TESTS	DRILLING METHOD	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
															ASPHALT (3 inches)
															AGGREGATE BASE (7 inches)
			B-1									R			Poorly-Graded SAND with SILT (SP-SM); medium dense; light brown; moist; mostly fine SAND; trace fine GRAVEL; nonplastic.
			R-2-1	10 13 17	30	25			5.9	106		PA			88% SAND; 11% fines; 1% GRAVEL
5			B-3	5	19	16									Few medium SAND; no GRAVEL.
			R-4-1	8 11					2.9	96					
10			R-5-1	5 8 12	20	17			10.5	90					Silty SAND (SM); medium dense; light brown; moist; mostly fine SAND; little fines; nonplastic.
															Bottom of borehole at 11.5 feet. Boring terminated at planned depth.
15															This Boring Record was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010).
20															

GDC_LOG_BORING_2011 IR 526 PHASE 5 - GARDEN GROVE AND FULLERTON.GPJ GDCLOG.GDT 4/7/14

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FIGURE
A-3

BORING RECORD

PROJECT NAME	PROJECT NUMBER	HOLE ID
AC Repair Phase 5 - Garden Grove and Fullerton	IR 526	**A-14-003**

SITE LOCATION	START	FINISH	SHEET NO.
Garden Grove, Fullerton, CA	3/14/2014	3/14/2014	1 of 1

DRILLING COMPANY	DRILL RIG	DRILLING METHOD	LOGGED BY	CHECKED BY
ABC Drilling	CME 75	Hollow Stem Auger	Terry	Sathis

HAMMER TYPE (WEIGHT/DROP)	HAMMER EFFICIENCY (ERi)	BORING DIA. (in)	TOTAL DEPTH (ft)	GROUND ELEV (ft)	DEPTH/*ELEV.* GW (ft)
Automatic, (140#, 30")	74	8	11.5	NA	▽ NE / *na* DURING DRILLING

DRIVE SAMPLER TYPE(S) & SIZE (ID)	NOTES	
SPT (1.4"), CAL (2.4")	N60* = 1.23 Nspt = 0.83 Ncal	▼ NE / *na* AFTER DRILLING

DEPTH (feet)	ELEVATION (feet)	SAMPLE TYPE	SAMPLE NO.	PENETRATION RESISTANCE (BLOWS / 6 IN)	BLOW/FT "N"	SPT N^*_{60}	RECOVERY (%)	RQD (%)	MOISTURE (%)	DRY DENSITY (pcf)	ATTERBERG LIMITS (LL:PI)	OTHER TESTS	DRILLING METHOD	GRAPHIC LOG	DESCRIPTION AND CLASSIFICATION
															ASPHALT (2.5 to 3 inches)
															AGGREGATE BASE (6.5 inches)
															Silty SAND (SM); medium dense; light brown; moist; mostly fine SAND; few medium SAND; trace coarse SAND; little fines; nonplastic.
			B-1	7											
			R-2-1	10 11	21	17									
5															
			R-3-1	6 8 10	18	15									Poorly-Graded SAND with SILT (SP-SM); medium dense; light brown; moist; mostly fine to medium SAND; trace coarse SAND; few fines; nonplastic.
10															
			R-4-1	3 8 15	23	19									Bottom of borehole at 11.5 feet. Boring terminated at planned depth.
15															This Boring Record was prepared in accordance with the Caltrans Soil & Rock Logging, Classification, and Presentation Manual (2010).
20															

GDC_LOG_BORING_2011 IR 526 PHASE 5 - GARDEN GROVE AND FULLERTON.GPJ GDCLOG.GDT 4/7/14

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FIGURE
A-4

DATE DRILLED 8/20/07 BORING NO. B-1

GROUND ELEVATION 85' ± (MSL) SHEET 1 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (Martin Drilling Company)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY JRS LOGGED BY JRS REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
0							PORTLAND CEMENT CONCRETE: Approximately 8 1/2 inches thick.
						SP	AGGREGATE BASE:
						ML	Brown, dry to damp, medium dense, fine to coarse SAND; little to some gravel; approximately 6 1/2 inches thick.
							FILL: Medium to dark brown, damp, medium dense, very fine sandy SILT.
5		28	2.8	101.3		SP	ALLUVIUM: Light brown, dry, medium dense, fine to medium SAND.
10		13	16.3	113.6		SM	Brown, damp, loose, silty very fine to fine SAND.
15		18					Moist; medium dense.
			▽				@17.3': Groundwater encountered during drilling.
							Saturated.
20							

Ninyo & Moore

BORING LOG

CNG Facility, OCTA Garden Grove Base
Orange County, California

PROJECT NO.	DATE	FIGURE
207232001A	12/07	A-1

DATE DRILLED 3/20/07 BORING NO. B-1

GROUND ELEVATION 85' ± (MSL) SHEET 2 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling Company)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY JRS LOGGED BY JRS REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
20		53	18.6	103.1		SP	ALLUVIUM: (Continued) Light brown, saturated, dense, fine to medium SAND.
25		37					Very dense.
30		16	25.0	101.8			Brown; medium dense; very fine sandy clay lense.
35		10				ML	Brown, saturated, medium dense, sandy SILT.
40							

Ninyo & Moore

BORING LOG

CNG Facility, OCTA Garden Grove Base
Orange County, California

PROJECT NO.	DATE	FIGURE
207232001A	12/07	A-2

DATE DRILLED 8/20/07 BORING NO. B-1

GROUND ELEVATION 85' ± (MSL) SHEET 3 OF 3

METHOD OF DRILLING 8" Hollow-Stem Auger (Martini Drilling Company)

DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"

SAMPLED BY JRS LOGGED BY JRS REVIEWED BY CAP

DEPTH (feet)	SAMPLES (Bulk / Driven)	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DESCRIPTION/INTERPRETATION
40		17	24.1	102.3		SM	ALLUVIUM: (Continued) Brown, saturated, medium dense, silty fine SAND; few clay.
45		13					
50		11	22.3	101.8		MH	Grayish brown, saturated, stiff, clayey SILT; trace coarse sand.
							Total Depth = 51.5 feet. Groundwater encountered during drilling at approximately 17.3 feet. Backfilled with bentonite and capped with quick-set concrete on 8/20/07. Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
55							
60							

Ninyo & Moore

BORING LOG

CNG Facility, OCTA Garden Grove Base
Orange County, California

PROJECT NO.	DATE	FIGURE
207232001A	12/07	A-3

LOG OF BORING Nº 1

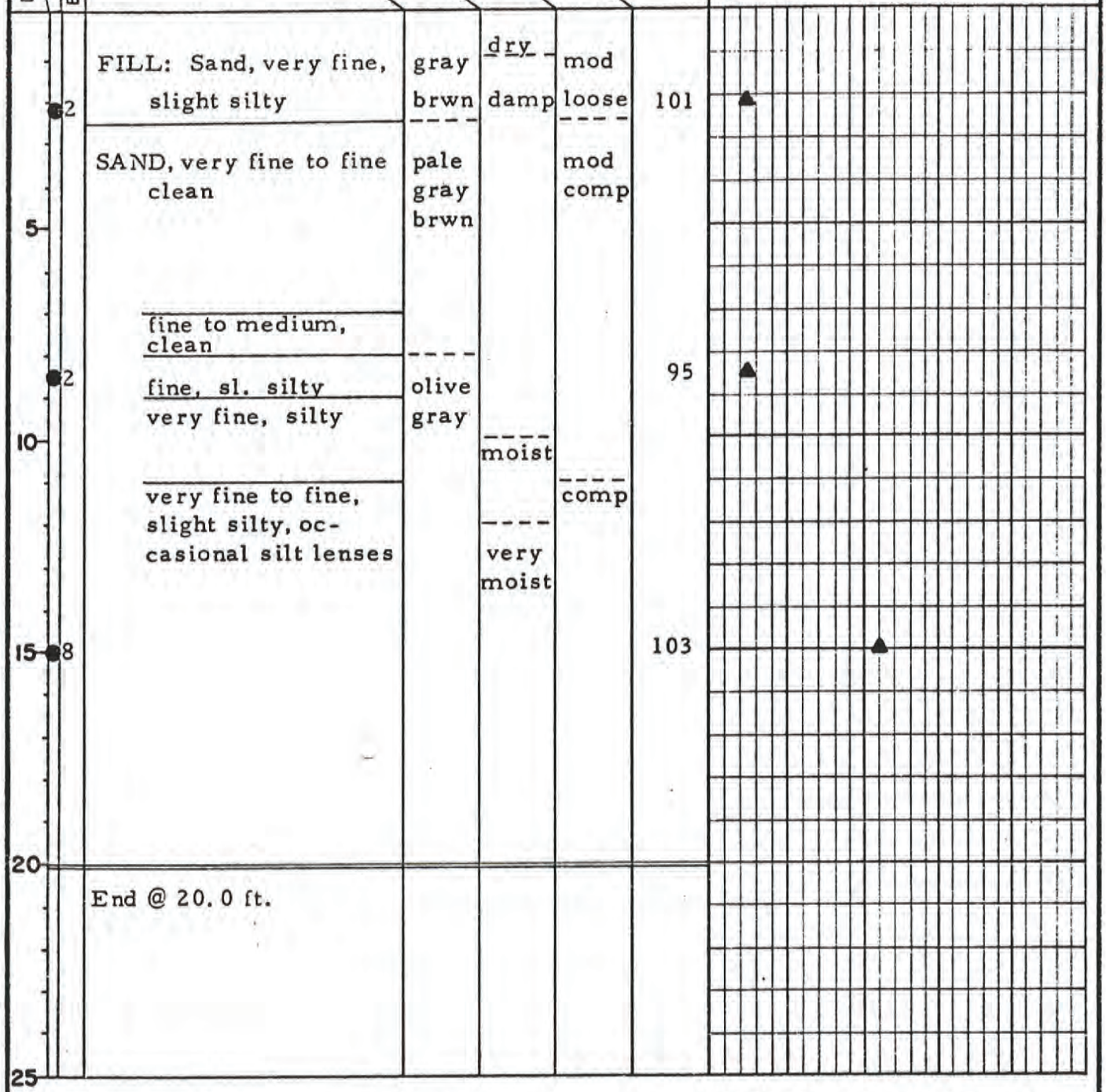
DATE DRILLED 6-18-73 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1650 lbs. - 12" drop | SURFACE ELEVATION 98.9

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT LB. PER CU. FT.
			FILL: Sand, very fine, slight silty	gray brwn	dry damp	mod loose	101
			SAND, very fine to fine clean	pale gray brwn		mod comp	
			fine to medium, clean				
			fine, sl. silty	olive gray			95
			very fine, silty		moist		
			very fine to fine, slight silty, occasional silt lenses		very moist	comp	103
			End @ 20.0 ft.				

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50



OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE B

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 2

DATE DRILLED 6/18/73 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1650 lbs. - 12" drop | SURFACE ELEVATION 98.9

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU. FT.
			FILL: Sand, fine, sl. silty	gray brwn	dry damp	loose mod comp	
			SAND, very fine to fine, slight silty				
			fine, clean	pale gray brwn	dry		
5							98
	●	6			moist		
			fine, sl. silty	olive		comp	
	●	4	very fine, silty	gray			108
10			very fine to fine, slight silty				
			fine, clean	pale gray brwn			
			fine, sl. silty				
15			End @ 15.0 ft.				
20							
25							

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE C

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

RFP 4-2683
ATTACHMENT B TO EXHIBIT A

LOG OF BORING Nº 4

DATE DRILLED 6/5/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION 99.4

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5
MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT LB. PER CU. FT.
			SAND, very fine to fine, silty, porous	light gray brwn	dry	loose	87
		3					
			fine, clean	tan		mod comp	96
		6					
5							
		6					96
			fine, silty	gray	moist		
			fine, clean	brwn			
			very fine to fine, silty				108
10		3					
			fine, silty				
			fine, clean		very moist		
			very fine to fine, very silty	dark gray brwn			
15		2					92
			very fine to fine, silty	gray	wet		
					▽ Grd. water		
20		4					
			fine to medium, sl. silty to clean			comp	
							104
25		21					

End @ 25.0 ft.

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE E

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 5

DATE DRILLED 6/4/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION 98.7

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5
MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU. FT.
			SAND, very fine to fine silty porous	gray	dry	loose	85
		3					
			fine, clean	tan		mod comp	95
		4					
5							
		5		gray brwn	moist		100
			fine, silty to slight silty	gray			
10		2					104
			very fine to fine, very silty		very moist to wet		97
		6					
15							
			fine, clean		▽ Grd. water		
20		3	very fine to fine silty	olive gray			104
			fine to medium, clean	gray		comp	
		21					106
25							

Cont. on Plate G

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE F

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 5 cont.

DATE DRILLED 6/4/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION 98.7

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5
MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT LB. PER CU. FT.
			SAND, fine to medium, clean	gray	Sat.	comp	
			very fine to fine, silty	dark gray			
			SILT, sandy, clayey	olive		firm	
30	●	8	SAND, very fine, very silty	gray		comp	97
			fine, clean				
			very fine, silty				
35	●	2	SILT, sandy, clayey, occasional sand lenses			firm	90
40	●	3					95
			SAND, fine, silty			comp	
			fine, clean				
45	●	14	SILT, sandy				99
			End @ 45.5 ft.				

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE G

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 6

DATE DRILLED 6/4/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION 99.3

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5
MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT LB. PER CU. FT.
			SAND, very fine to fine, silty, porous	gray	dry	loose	91
	1				moist		
					dry		
			fine, sl. silty			mod	97
			fine, clean	tan		comp	
5							
	6						97
			very fine to fine, silty	gray brwn	moist		
10	4						104
				gray			
					very moist		
			fine, clean				
15	1		SILT, clayey, sandy	olive brwn		mod soft	84
			SAND, very fine to fine, silty	olive gray		comp	
			fine, clean	light gray			
					▽ Grd. water		
20	14						106
			End @ 20.5 ft.				
25							

OCTD Administrative and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE H

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

RFP 4-2683
ATTACHMENT B TO EXHIBIT A

LOG OF BORING Nº 8

DATE DRILLED 6/4/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION 100.1

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT L.B. PER CU. FT.
			SAND, fine, silty	gray	dry	mod loose	102
		3	fine, clean	tan			
						mod comp	
		4	fine to medium, clean				96
5							
			fine to coarse, clean, scat. pea gravel				104
		6					
			fine to medium, clean				
10		5					101
			End @ 10.5 ft.				
15							
20							
25							

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE K

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LOG OF BORING Nº 11 & 12

DATE DRILLED 6/4/75 | DRILLING EQUIPMENT Bucket Auger

DRIVING WEIGHT 1350 lbs. - 12" drop | SURFACE ELEVATION

Depth in Feet	Samples	Blows per foot	SOILS CLASSIFICATION	COLOR	MOISTURE	CONSISTENCY	DRY UNIT WEIGHT LB. PER CU. FT.
0			Nº 11 SAND, very fine to fine, very silty	gray brwn	dry	mod loose	
5			End @ 3.0 ft.				
0			Nº 12 SAND, fine, sl. silty	gray brwn	dry	mod loose	
5			End @ 3.0 ft.				

SHEAR RESISTANCE @ ANTICIPATED PRESSURE - KIPS PER SQUARE FOOT
● 1 2 3 4 5

MOISTURE CONTENT - % DRY WEIGHT
▲ 10 20 30 40 50

OCTD Administration & Maintenance Facilities, Garden Grove, California

PROJECT No. S-0040-F1

PLATE M

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

APPENDIX C

LAB BY OTHERS

Boring No.	Sample No.	Depth (ft)	Sample Type	Geologic Unit	USCS Group Symbol	SPT N*60 (blows/ft)	Undrained Shear Strength, Su (ksf)			Moisture Content (%)	Dry Unit Weight (pcf)	Total Unit Wt (pcf)	Atterberg Limits			Grain Size Distribution (%) by dry weight			Clay	Other Tests
							Pocket Pen.	Mini Vane	UU Test				LL	PL	PI	Gravel	Sand	Fines		
A-14-001	B-1	0.3	BULK		SM															R
A-14-001	R-2	2.5	MC		SM	29														
A-14-001	R-2-1	3.8	MC		SM					13.2	105	119				0	66	34		PA
A-14-001	B-3	4.5	BULK		SP-SM															
A-14-001	R-4	5.0	MC		SP-SM	17														
A-14-001	R-4-1	6.3	MC		SP-SM					4.0	94	98								
A-14-001	R-5	10.0	MC		CL	8														
A-14-001	R-5-1	11.3	MC		CL		2.0			18.4	108	128								
A-14-002	B-1	0.8	BULK		SM															R
A-14-002	R-2	2.5	MC		SM	25														
A-14-002	R-2-1	3.8	MC		SP-SM					5.9	106	112				1	88	11		PA
A-14-002	B-3	4.5	BULK		SP-SM															
A-14-002	R-4	5.0	MC		SP-SM	16														
A-14-002	R-4-1	6.3	MC		SP-SM					2.9	96	99								
A-14-002	R-5	10.0	MC		SM	17														
A-14-002	R-5-1	11.3	MC		SM					10.5	90	99								
A-14-003	B-1	0.8	BULK		SM															
A-14-003	R-2	2.5	MC		SM	17														
A-14-003	R-2-1	3.8	MC		SM															
A-14-003	R-3	5.0	MC		SP-SM	15														
A-14-003	R-3-1	6.3	MC		SP-SM															
A-14-003	R-4	10.0	MC		SP-SM	19														
A-14-003	R-4-1	11.3	MC		SP-SM															

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TABLE B-1: Summary of Laboratory Results

Project: AC Repair Phase 5 - Garden Grove and Fullerton

Location: Garden Grove, Fullerton, CA

Number: IR 526 Sheet 1 of 1

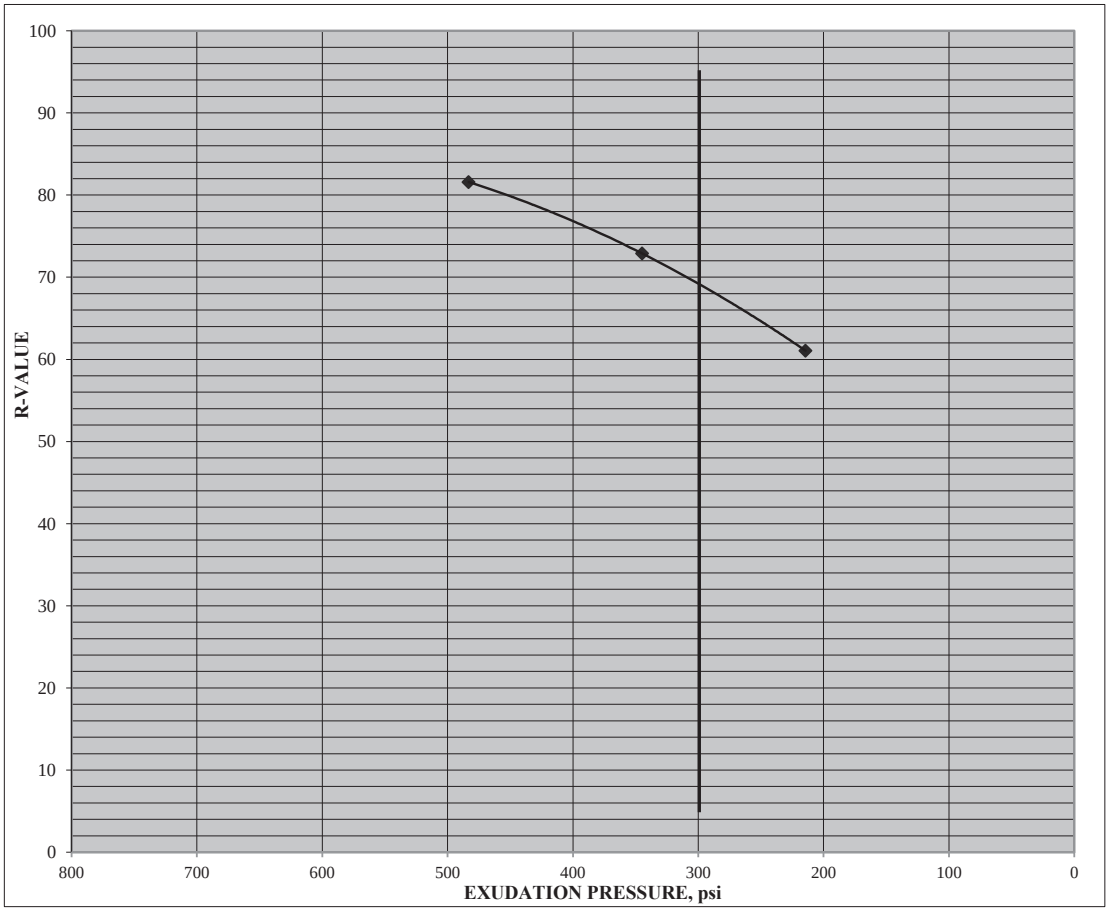
ATTACHMENT B TO EXHIBIT A

RFP 4-2008

GDC TABLE B-1 IR 526 PHASE 5 - GARDEN GROVE AND FULLERTON.GPJ GDC2013.GDT 4/7/14

RESISTANCE VALUE

Project Name: STV OCTA - Garden Grove Base
Project No.: IR526 Phase 5
Sample No.: A-14-001 @ 1' to 5'
Material Description: Dark gray to light brown, Silty Sand
Report Date: 3/27/2014



Specimen No.	A	B	C
Moisture at Test, %	10.9	11.4	12.0
Dry Unit Weight at Test, pcf	122.6	123.7	123.8
Expansion Pressure, psf	0	0	0
Exudation Pressure, psi	483	345	214
Resistance Value	82	73	61

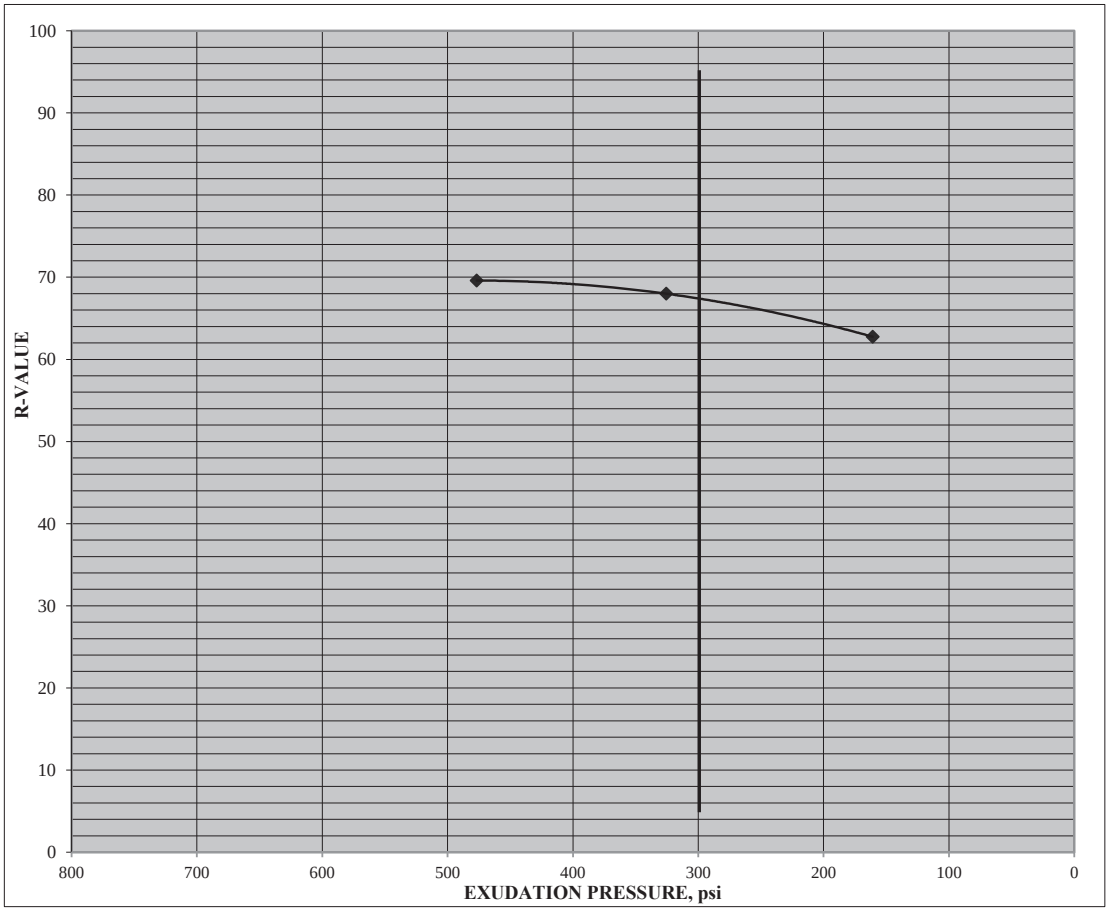
R - VALUE AT 300 PSI EXUDATION PRESSURE	69

Test Procedure: CTM 301 / ASTM D2844

Figure B-1

RESISTANCE VALUE

Project Name: STV OCTA - Fullerton Park & Ride
Project No.: IR526 Phase 5
Sample No.: A-14-002 @ 1' to 5'
Material Description: Light brown, Poorly-Graded Sand with Silt
Report Date: 3/27/2014



Specimen No.	A	B	C
Moisture at Test, %	10.1	10.6	11.1
Dry Unit Weight at Test, pcf	126.5	127.1	126.4
Expansion Pressure, psf	0	0	0
Exudation Pressure, psi	477	326	161
Resistance Value	70	68	63

R - VALUE AT 300 PSI EXUDATION PRESSURE	67

Test Procedure: CTM 301 / ASTM D2844

Figure B-2

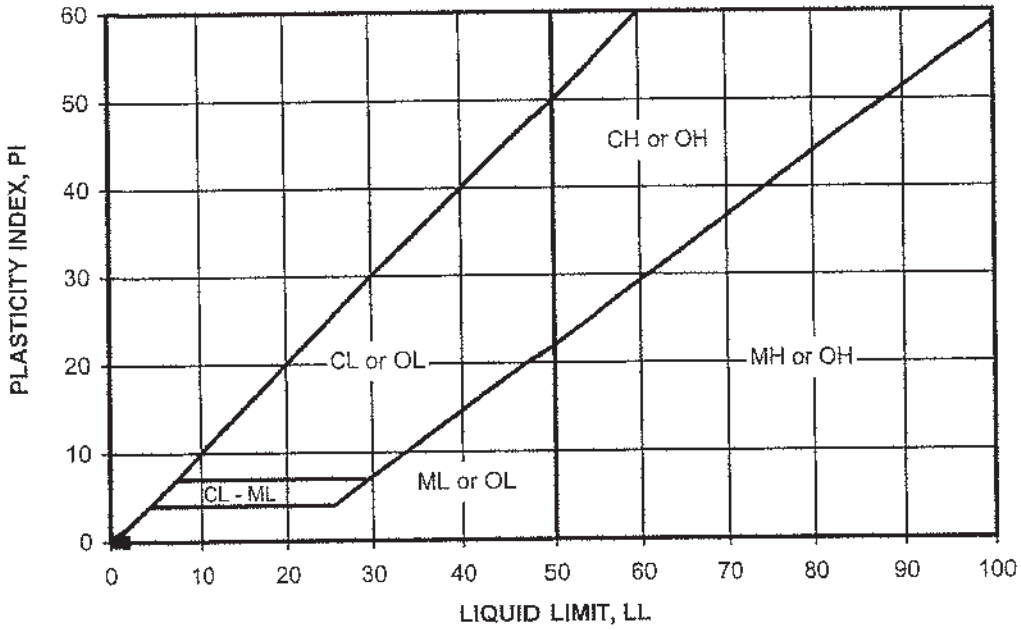
SAMPLE LOCATION	SAMPLE DEPTH (FT)	DESCRIPTION	PERCENT PASSING NO. 4	PERCENT PASSING NO. 200	USCS (TOTAL SAMPLE)
B-1	10.0-11.5	Silty SAND	100	36	SM
B-1	15.0-16.5	Silty SAND	100	43	SM
B-1	20.0-21.5	Poorly Graded SAND	100	5	SP
B-1	35.0-36.5	Sandy SILT	100	73	ML
B-1	40.0-41.5	Silty SAND	100	31	SM

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 1140-00

Ninyo & Moore	NO. 200 SIEVE ANALYSIS	FIGURE
PROJECT NO. 207232001A / DATE 12/07	CNG Facility OCTA Garden Grove Base Orange County, California	B-1

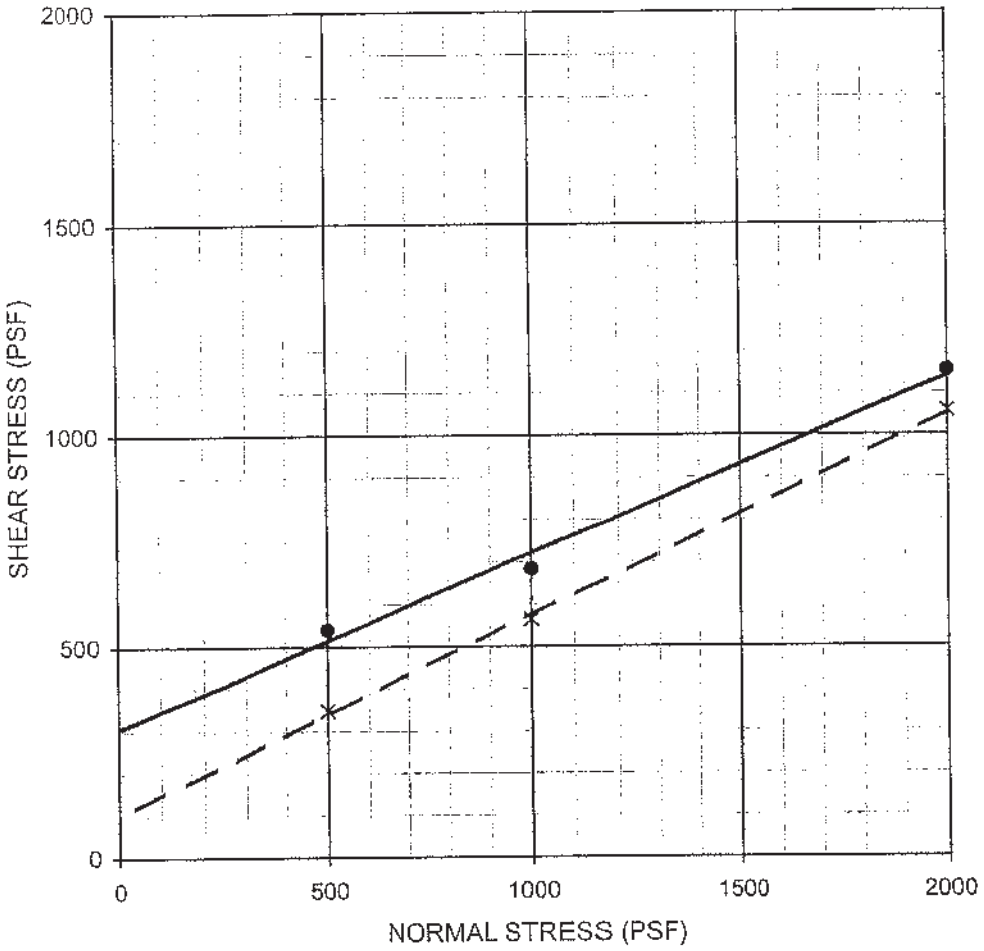
SYMBOL	LOCATION	DEPTH (FT)	LIQUID LIMIT, LL	PLASTIC LIMIT, PL	PLASTICITY INDEX, PI	USCS CLASSIFICATION (Fraction Finer Than No. 40 Sieve)	USCS (Entire Sample)
●	B-1	15.0-16.5	-	-	-	NP	SM
■	B-1	35.0-36.5	-	-	-	NP	ML
◆	B-1	40.0-41.5	-	-	-	NP	SM

NP - INDICATES NON-PLASTIC



PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 4318-05

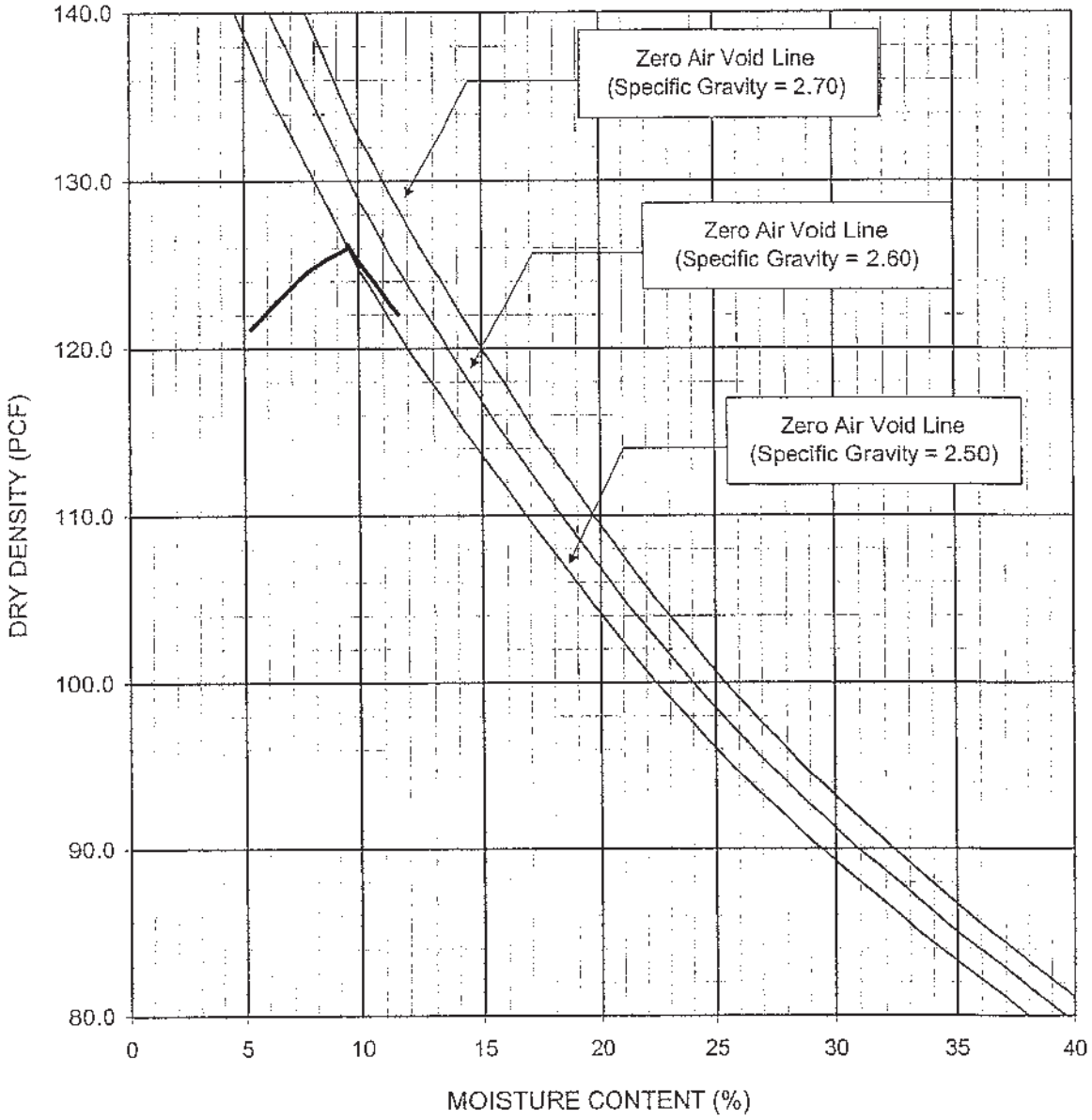
Ninyo & Moore	ATTERBERG LIMITS TEST RESULTS	FIGURE
PROJECT NO. 207232001A / DATE 12/07	CNG Facility OCTA Garden Grove Base Orange County, California	B-2



Description	Symbol	Sample Location	Depth (ft)	Shear Strength	Cohesion, c (psf)	Friction Angle, ϕ (degrees)	Soil Type
Sandy SILT	—●—	B-1	1.3-4.0	Peak	306	23	ML
Sandy SILT	- - X - -	B-1	1.3-4.0	Ultimate	102	25	ML

PERFORMED IN GENERAL ACCORDANCE WITH ASTM D 3080-04 ON A SAMPLE REMOLDED TO 90 PERCENT RELATIVE COMPACTION

Ninyo & Moore	DIRECT SHEAR TEST RESULTS	FIGURE
PROJECT NO. / DATE	CNG Facility OCTA Garden Grove Base Orange County, California	B-3
207232001A / 12/07		



Sample Location	Depth (ft)	Soil Description	Maximum Dry Density (pcf)	Optimum Moisture Content (%)
B-1	1.3-4.0	Medium to Dark Brown Sandy SILT	126.0	9.5
Dry Density and Moisture Content Values Corrected for Oversize (ASTM D 4718-87)				

PERFORMED IN GENERAL ACCORDANCE WITH ☑ ASTM D 1557-02 ☐ ASTM D 698-00a METHOD ☑ A ☐ B ☐ C

Ninyo & Moore	PROCTOR DENSITY TEST RESULTS	FIGURE
PROJECT NO. 207232001A / DATE 12/07	CNG Facility OCTA Garden Grove Base Orange County, California	B-4

SAMPLE LOCATION	SAMPLE DEPTH (FT)	pH [1]	RESISTIVITY [1] (Ohm-cm)	SULFATE CONTENT [2]		CHLORIDE CONTENT [3] (ppm)
				(ppm)	(%)	
B-1	1.3-4.0	8.8	3,550	60	0.006	65

[1] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 643
[2] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 417
[3] PERFORMED IN GENERAL ACCORDANCE WITH CALIFORNIA TEST METHOD 422

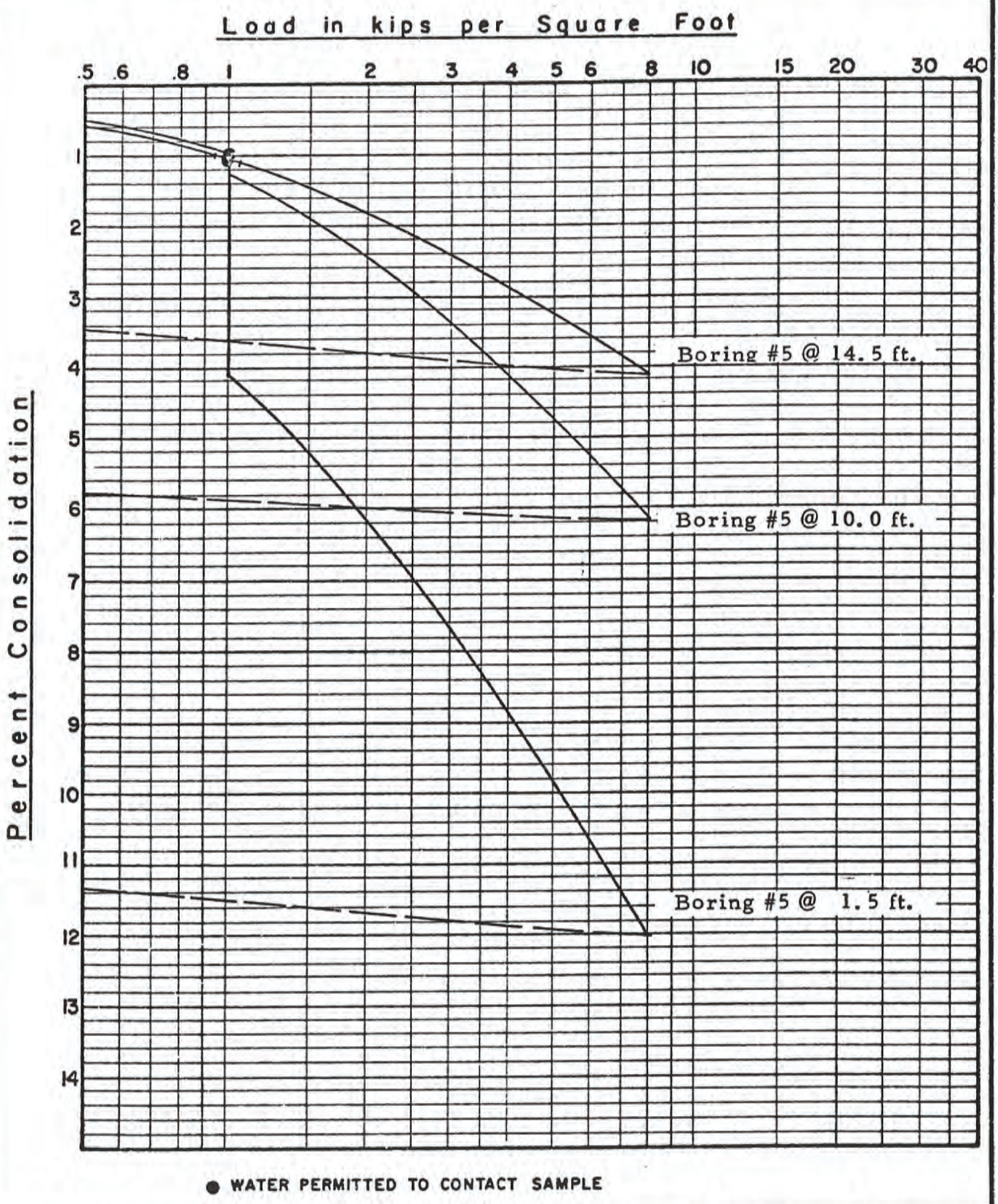
Ninyo & Moore	CORROSIVITY TEST RESULTS	FIGURE
PROJECT NO. / DATE	CNG Facility OCTA Garden Grove Base Orange County, California	B-5
207232001A / 12/07		

SAMPLE LOCATION	SAMPLE DEPTH (FT)	SOIL TYPE	SAND EQUIVALENT
B-1	1.3-4.0	ML	13

PERFORMED IN GENERAL ACCORDANCE WITH AASHTO T176/CT 217

Ninyo & Moore		SAND EQUIVALENT VALUE	FIGURE
PROJECT NO.	DATE	CNG Facility OCTA Garden Grove Base Orange County, California	B-6
207232001A	12/07		

CONSOLIDATION TEST



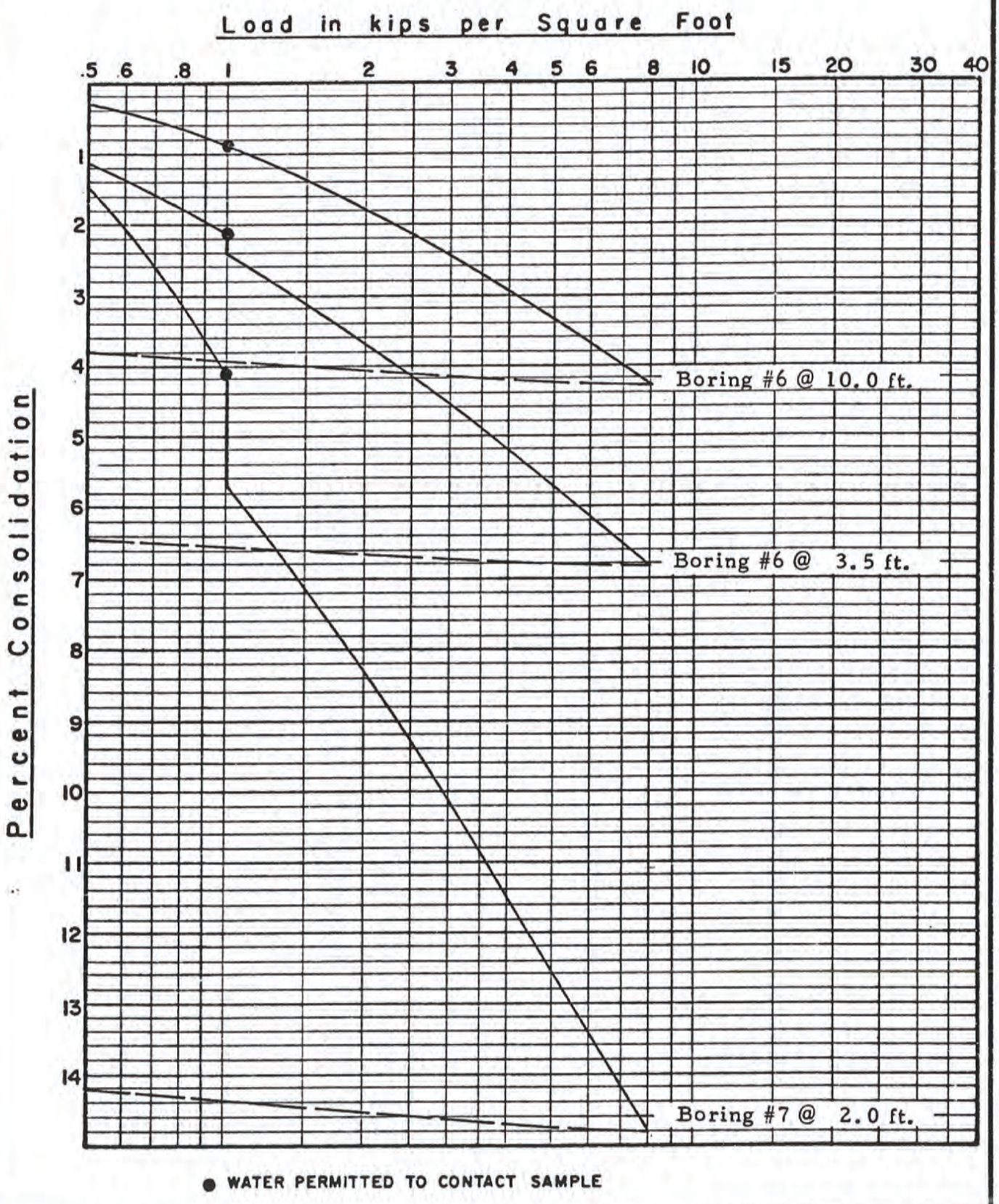
● WATER PERMITTED TO CONTACT SAMPLE

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No.	S-0040-FI
PLATE	N

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

CONSOLIDATION TEST

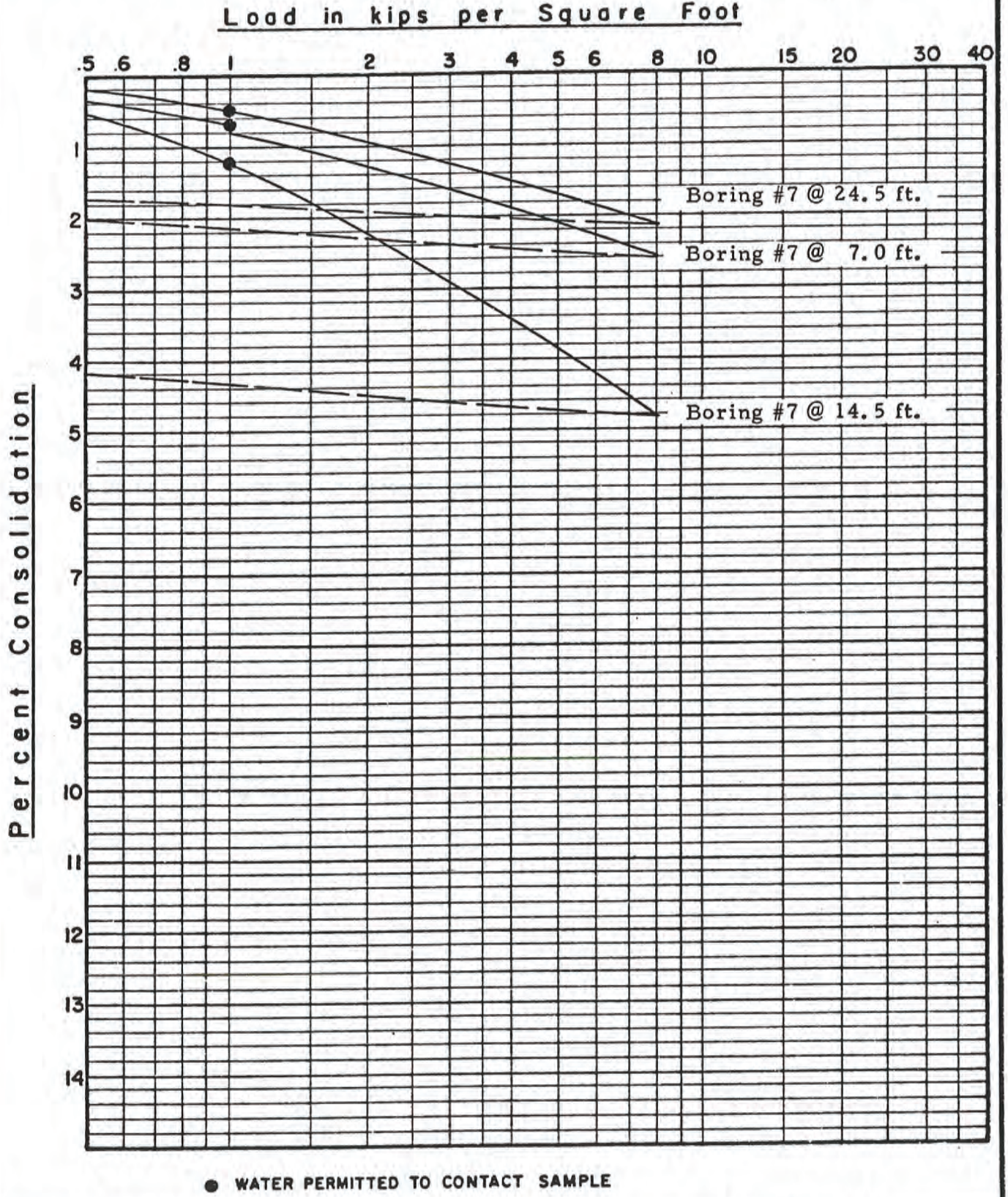


● WATER PERMITTED TO CONTACT SAMPLE

OCTD Administration and Maintenance Facilities, Garden Grove, California	PROJECT No.	S-0040-FI
	PLATE	0

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

CONSOLIDATION TEST



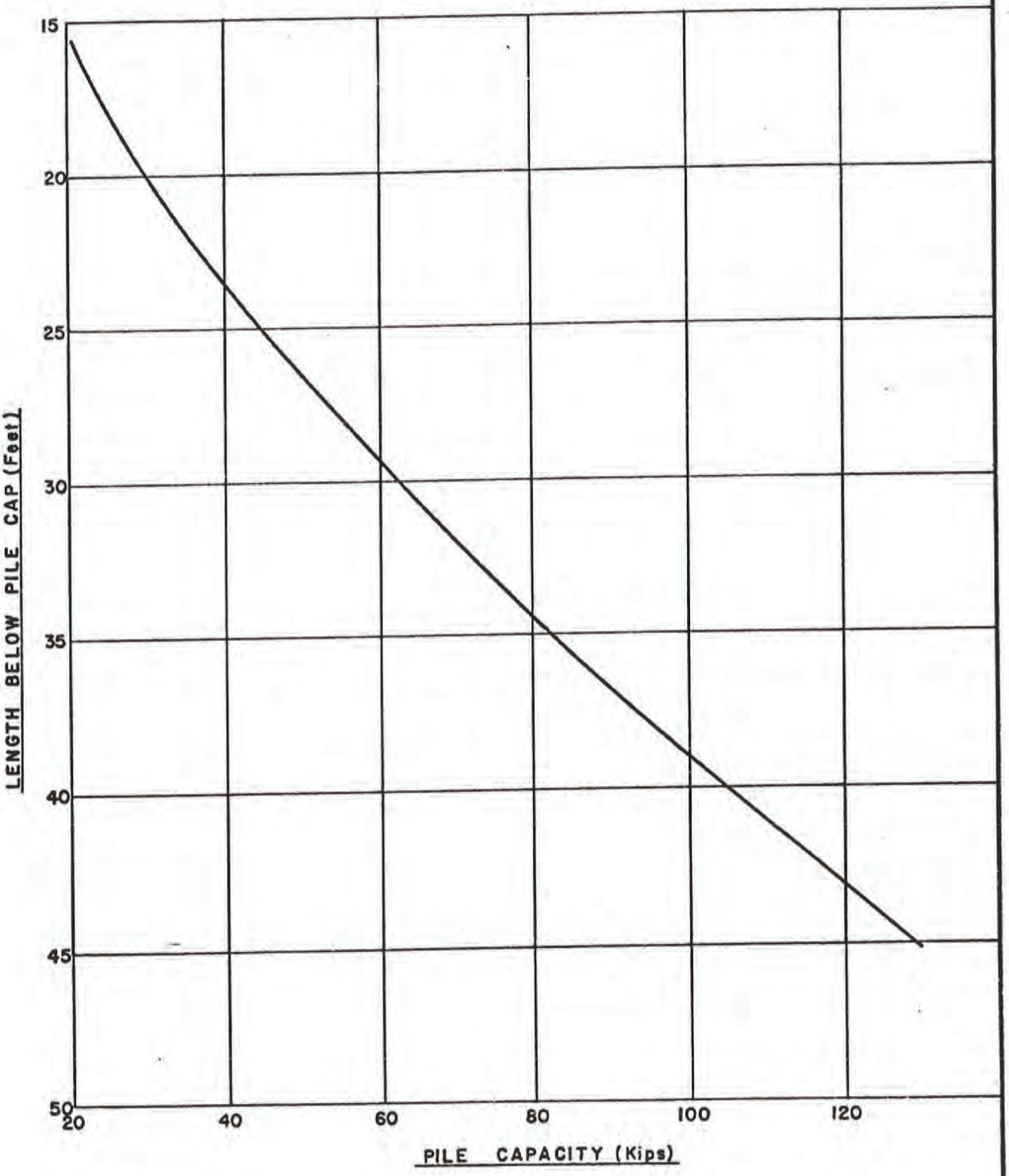
● WATER PERMITTED TO CONTACT SAMPLE

OCTD Administration and Maintenance Facilities, Garden Grove, California

PROJECT No.	S-0040-FI
PLATE	P

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

PILE CAPACITY



Note: Above design curve is for an 18-inch diameter straight shaft pile. For other pile diameters apply a direct proportion.

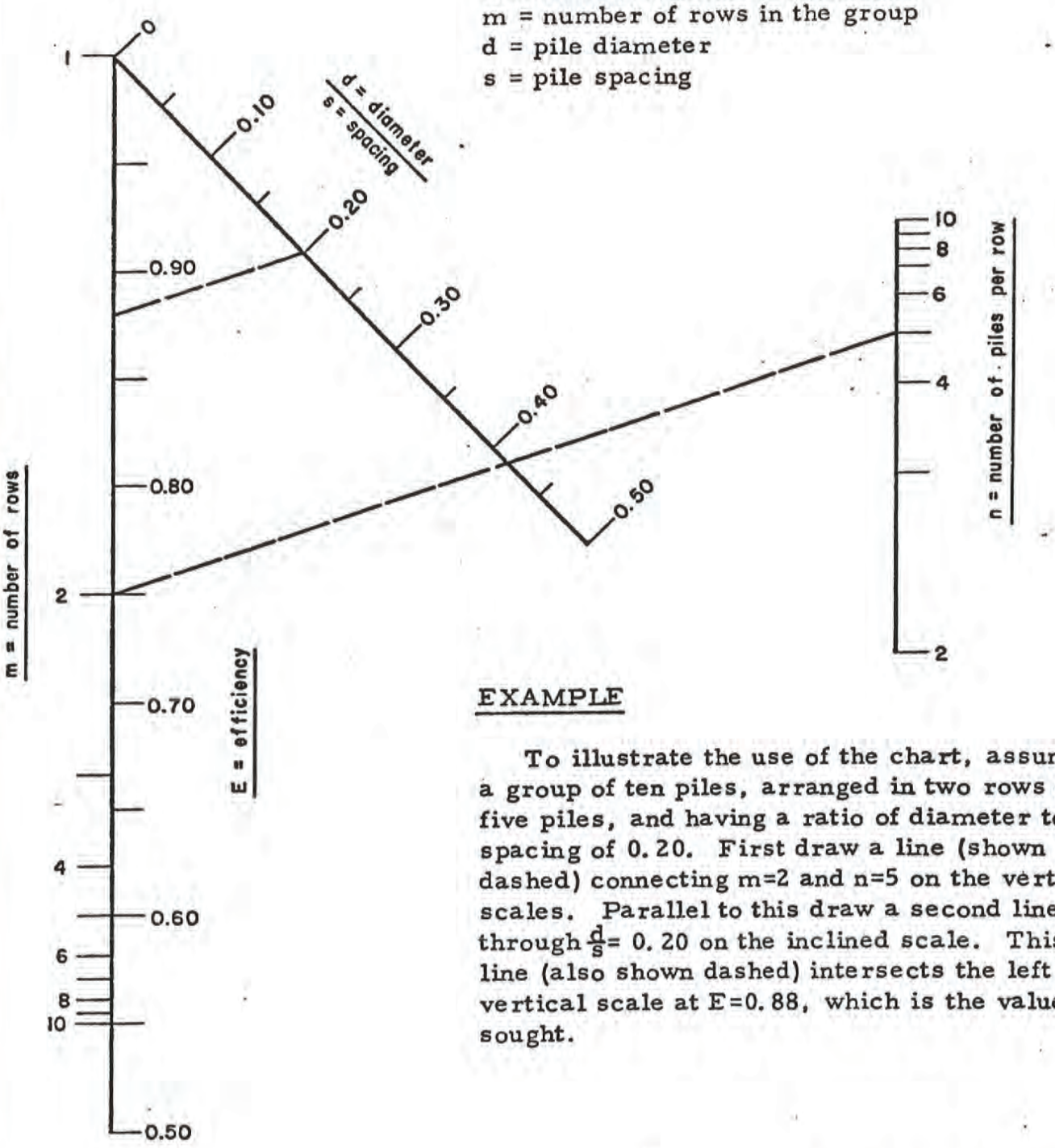
OCTD Administrative and Maintenance Facilities, Garden Grove, California	PROJECT No.	S-0040-F1
	PLATE	Q

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

PILE EFFICIENCY CHART

$$E = 1 - \frac{d}{smn\pi}\left[(n-1)\,m + (m-1)\,n + \sqrt{2}\,(m-1)(n-1)\right]$$

E = efficiency of a pile in the group, relative to its single pile value
n = number of piles in each row
m = number of rows in the group
d = pile diameter
s = pile spacing



EXAMPLE

To illustrate the use of the chart, assume a group of ten piles, arranged in two rows of five piles, and having a ratio of diameter to spacing of 0.20. First draw a line (shown dashed) connecting m=2 and n=5 on the vertical scales. Parallel to this draw a second line through $\frac{d}{s}$= 0.20 on the inclined scale. This line (also shown dashed) intersects the left vertical scale at E=0.88, which is the value sought.

OCTD Administrative and Maintenance Facilities, Garden Grove, California

PROJECT No.	S-0040-F1
PLATE	R

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CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

LATERAL PILE DESIGN

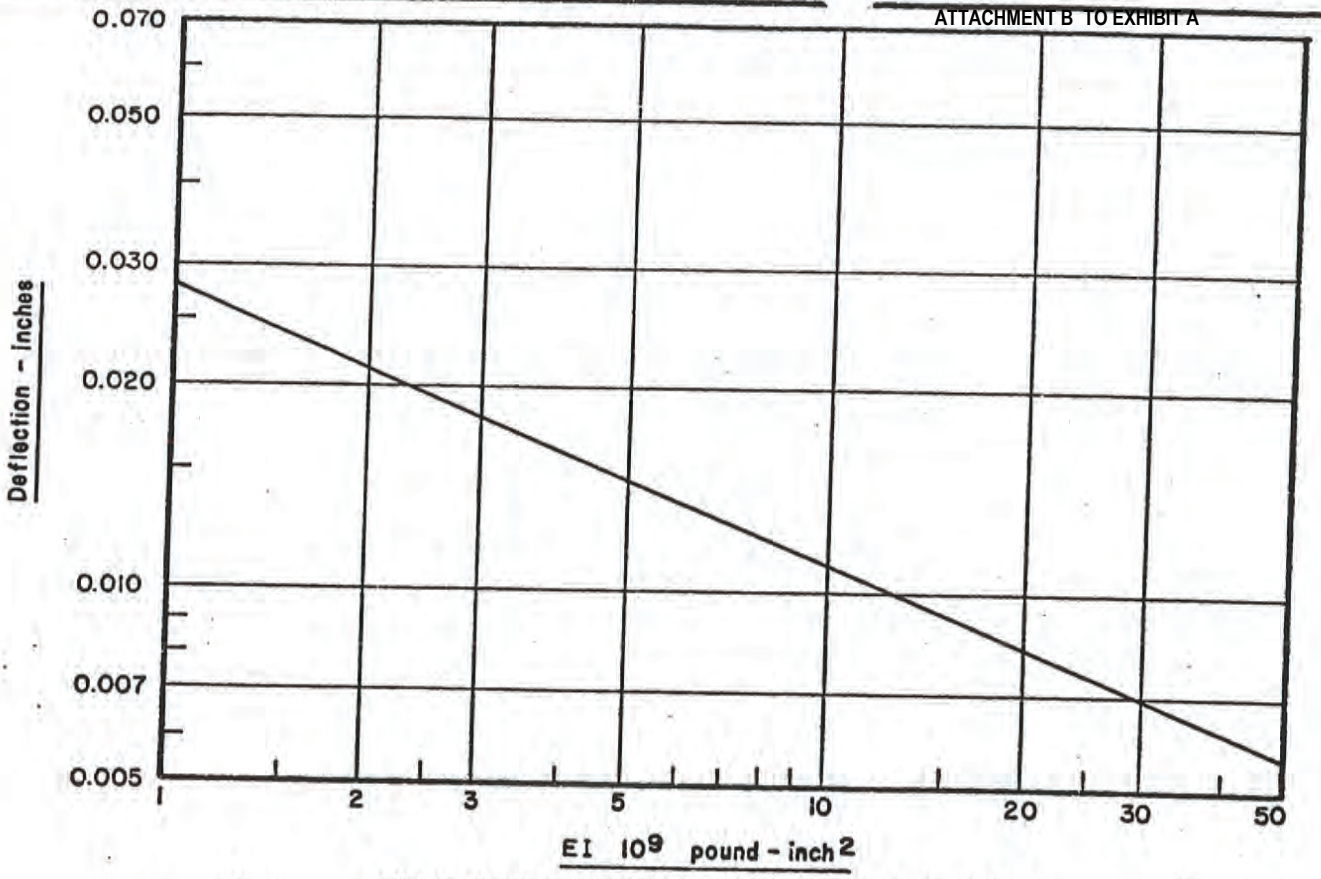


Fig. 1: Maximun Deflection for One-Kip Lateral Load

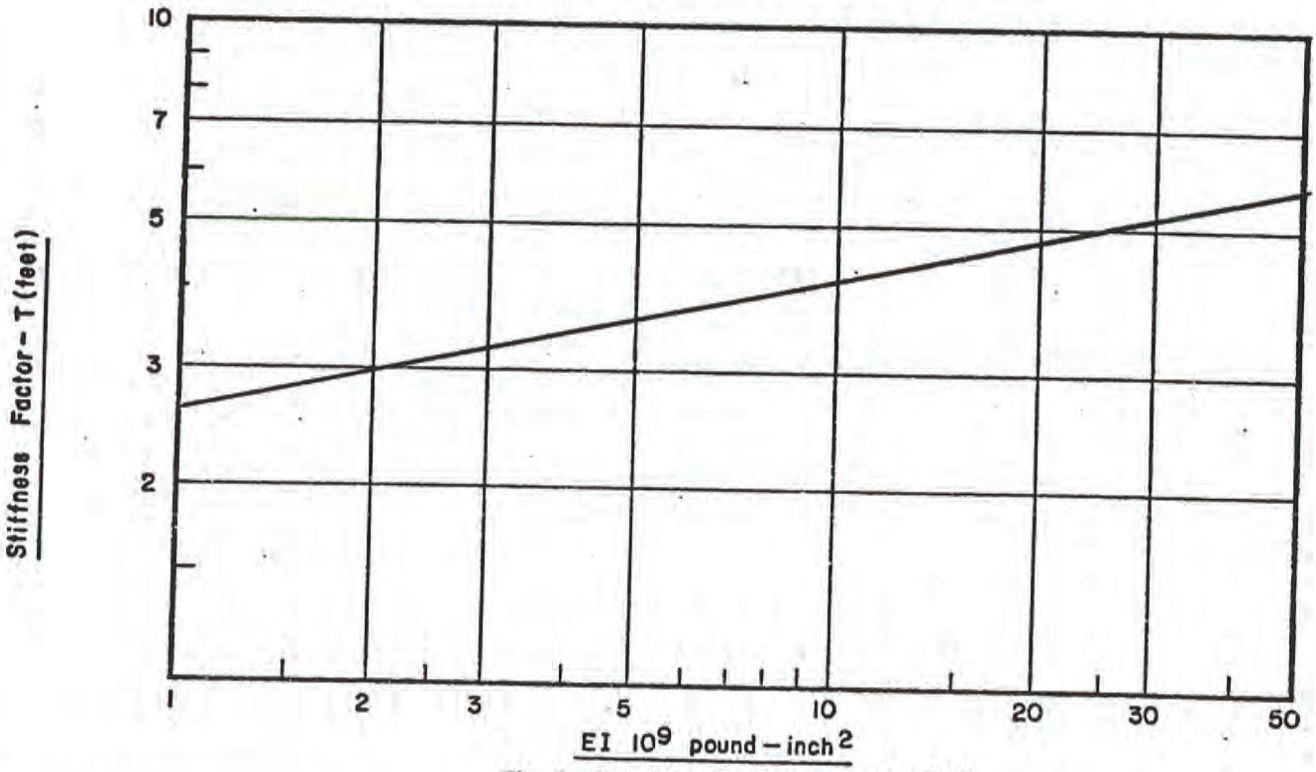


Fig. 2: Relative Stiffness Factor "T"

OCTD Administrative and Maintenance Facilities, Garden Grove, California	PROJECT No.	S-0040-F1
	PLATE	S

SOILS INTERNATIONAL
CONSULTING FOUNDATION ENGINEERS & ENGINEERING GEOLOGISTS

NMG Geotechnical, Inc.
17991 Fitch
Irvine, CA 92614

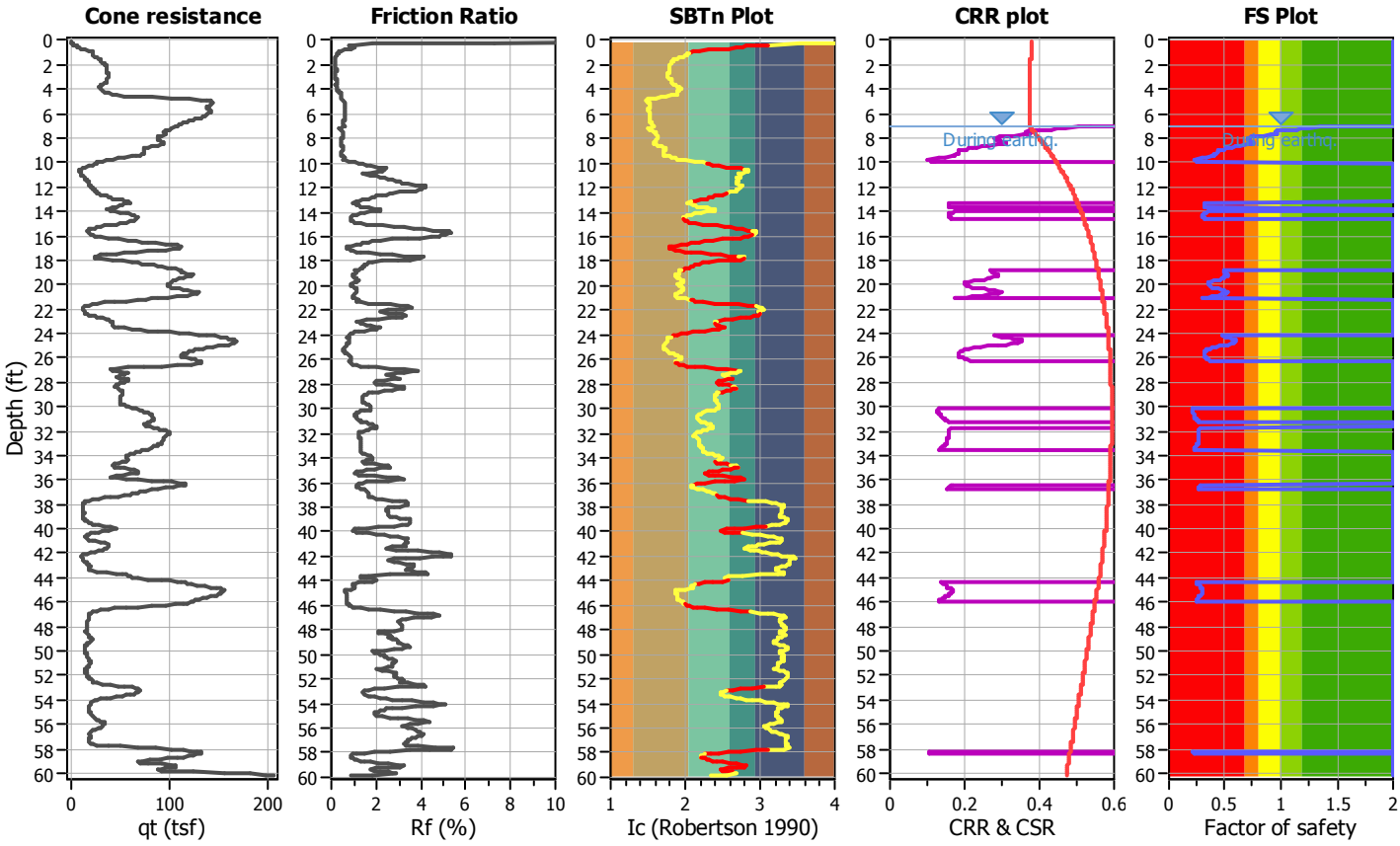
LIQUEFACTION ANALYSIS REPORT

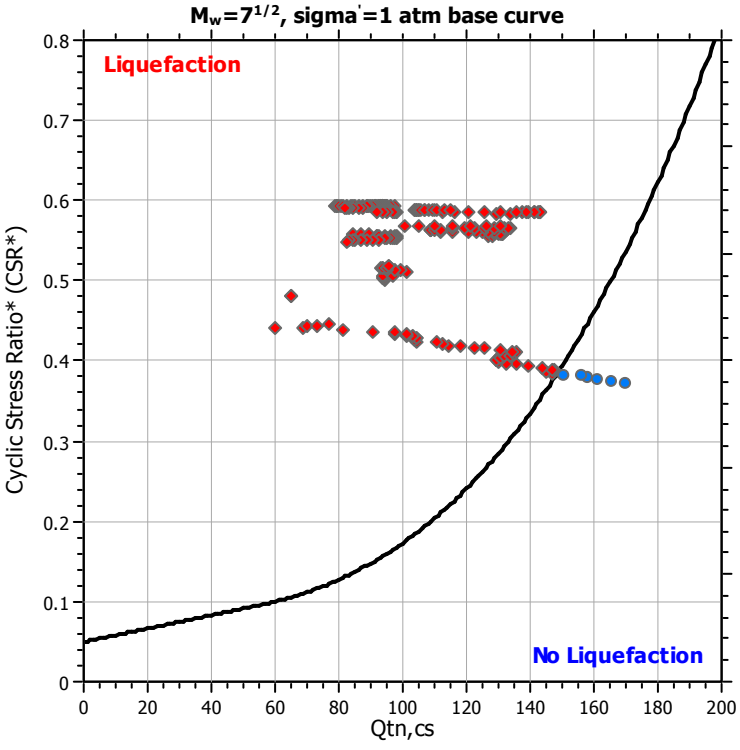
Project title : 19175-02 Dahl Taylor/OCTA GG Bus Base .. **Location : Garden Grove, CA**

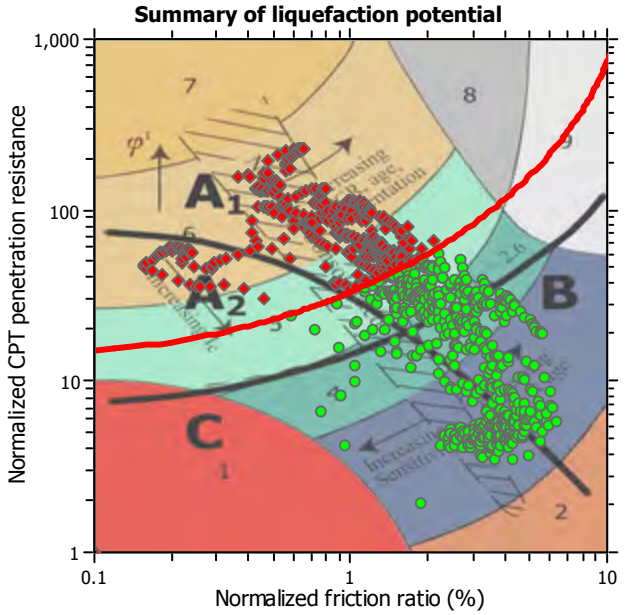
CPT file : CPT-1

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	60.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	7.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
Earthquake magnitude M_w:	7.26	Ic cut-off value:	2.30	Trans. detect. applied:	Yes	MSF method:	Method based
Peak ground acceleration:	0.63	Unit weight calculation:	Based on SBT	K_σ applied:	No		

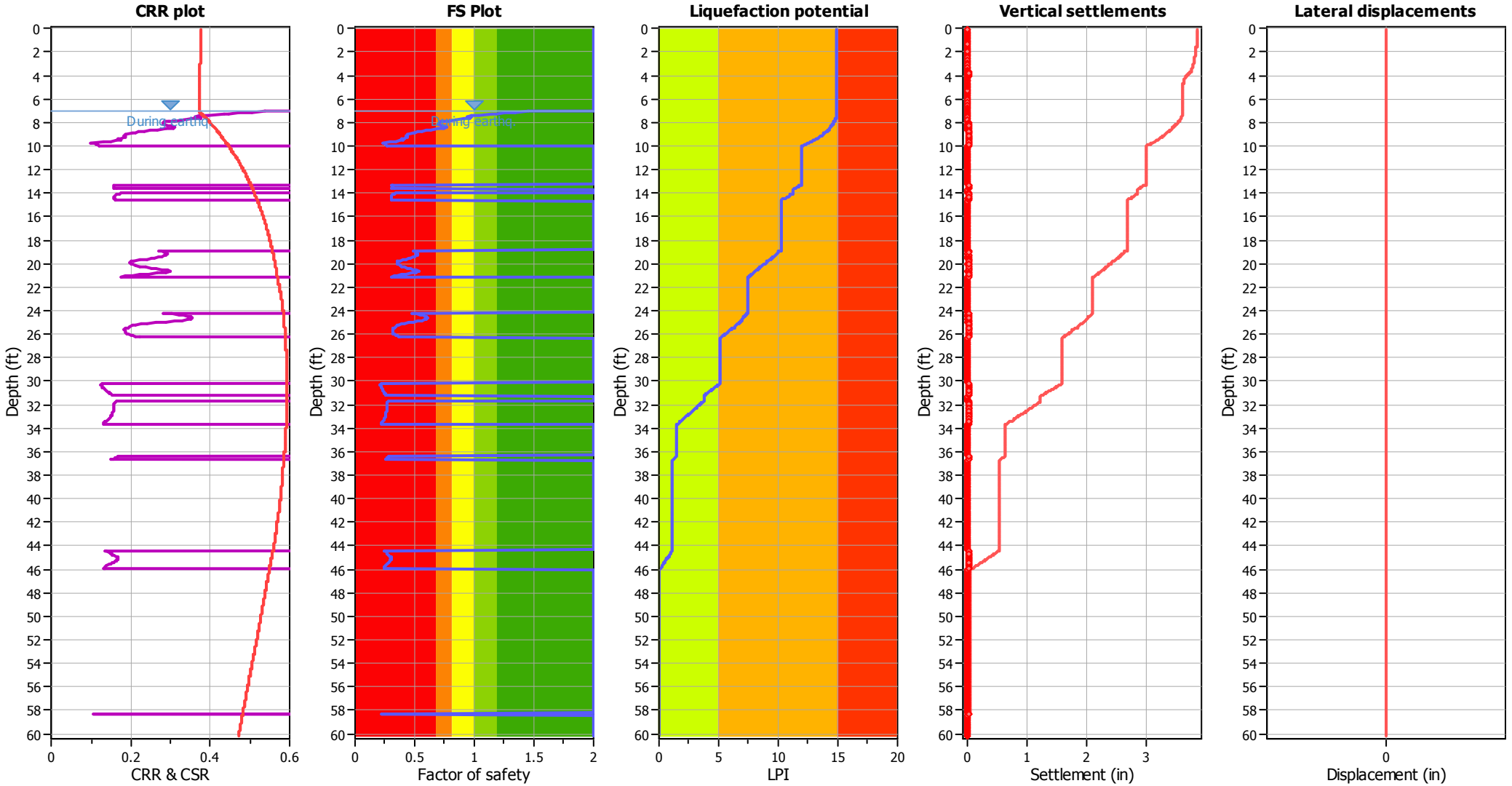






Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
Zone A_2: Cyclic liquefaction and strength loss likely depending on loading and ground geometry
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	7.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.30	K_σ applied:	No
Earthquake magnitude M_w:	7.26	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.63	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	60.00 ft	Fill height:	N/A	Limit depth:	N/A

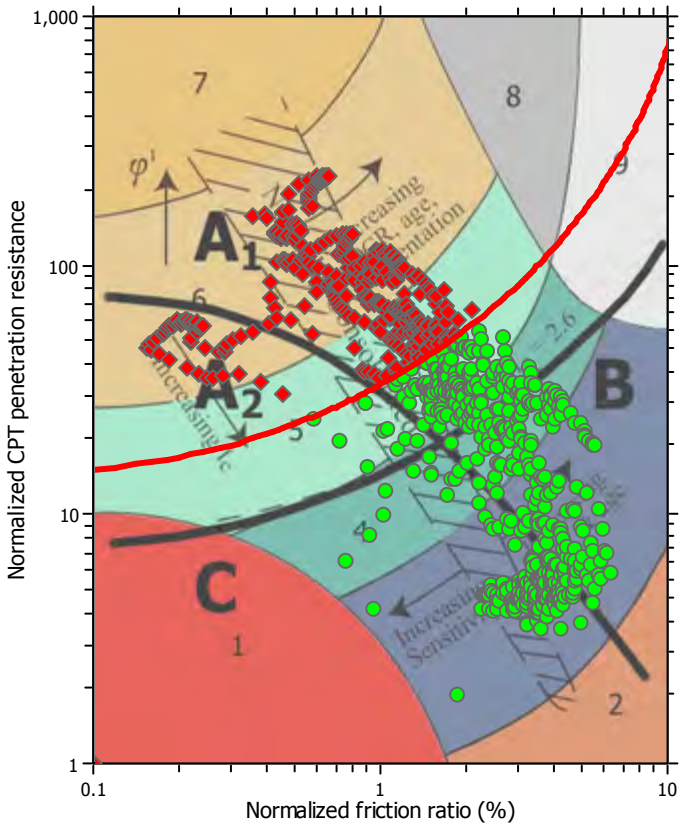
F.S. color scheme

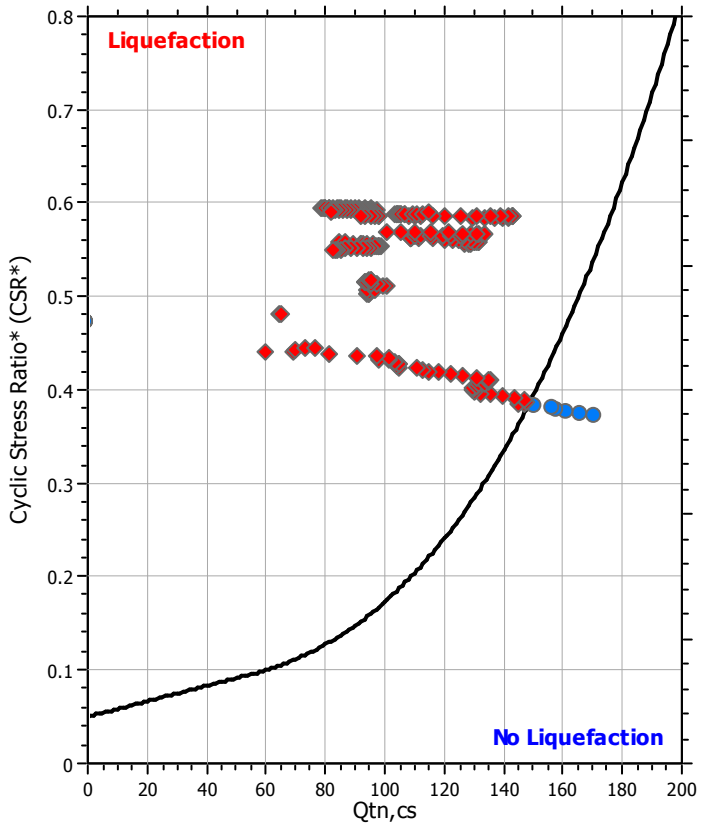
- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liq. are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

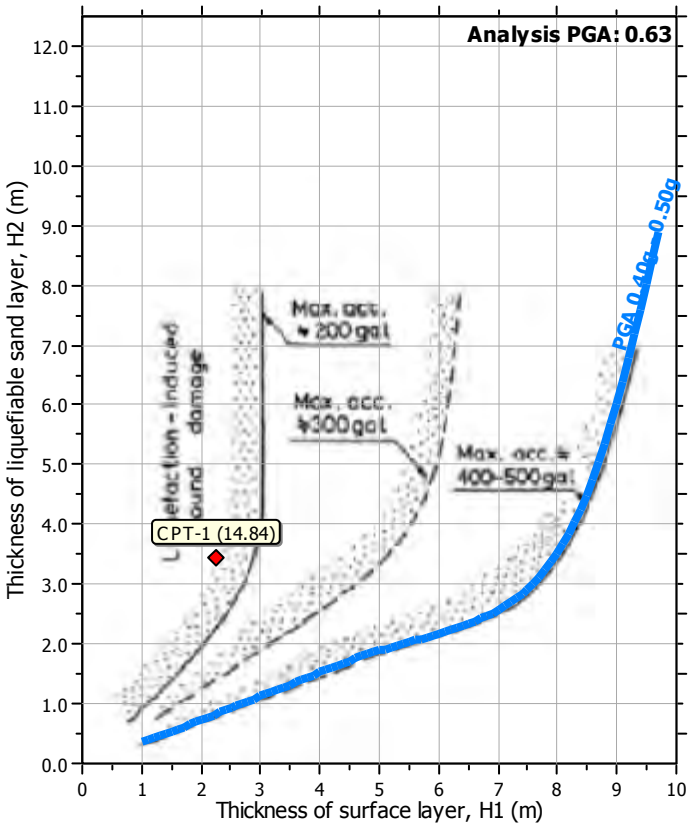
LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis summary plots







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NMG Geotechnical, Inc.
17991 Fitch
Irvine, CA 92614

LIQUEFACTION ANALYSIS REPORT

Project title : 19175-02 Dahl Taylor/OCTA GG Bus Base

Location : Garden Grove, CA

CPT file : CPT-2

Input parameters and analysis data

Analysis method:	NCEER (1998)	G.W.T. (in-situ):	60.00 ft	Use fill:	No	Clay like behavior applied:	Sands only
Fines correction method:	NCEER (1998)	G.W.T. (earthq.):	7.00 ft	Fill height:	N/A	Limit depth applied:	No
Points to test:	Based on Ic value	Average results interval:	3	Fill weight:	N/A	Limit depth:	N/A
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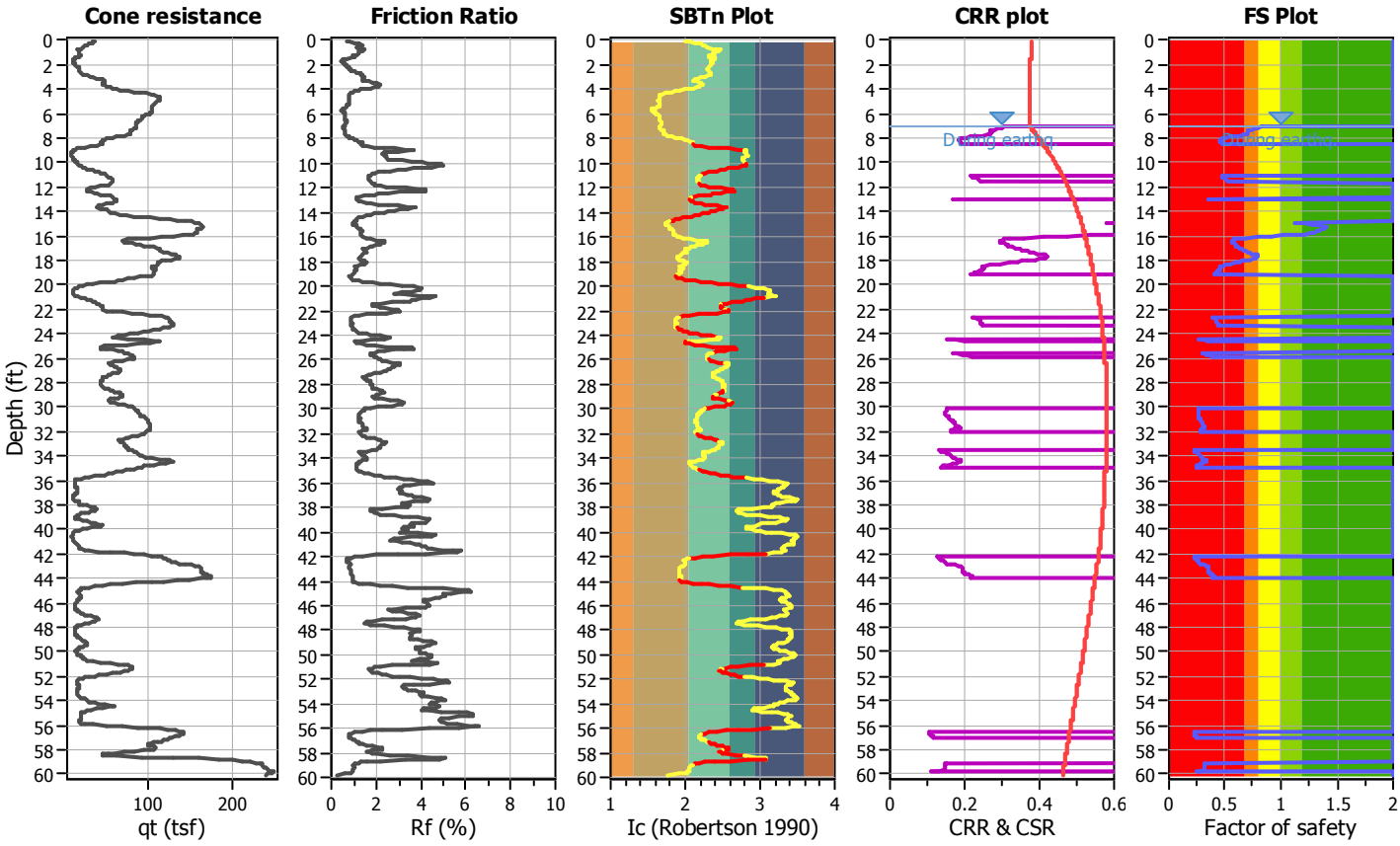
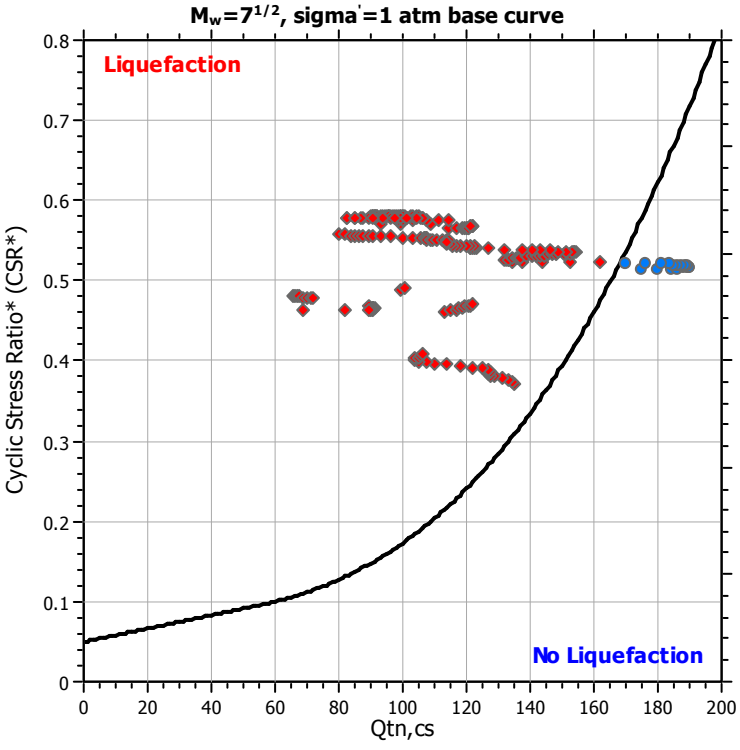
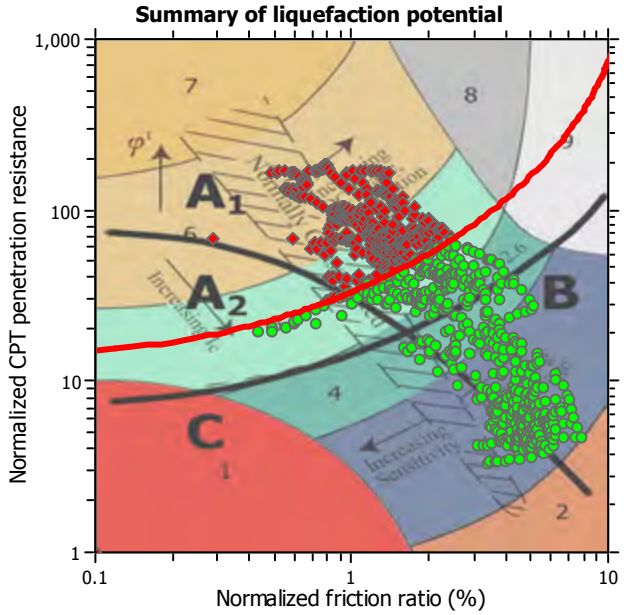
Peak ground acceleration:	0.63	Unit weight calculation:	Based on SBT	K_σ applied:	No		







Zone A_1: Cyclic liquefaction likely depending on size and duration of cyclic loading
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Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening
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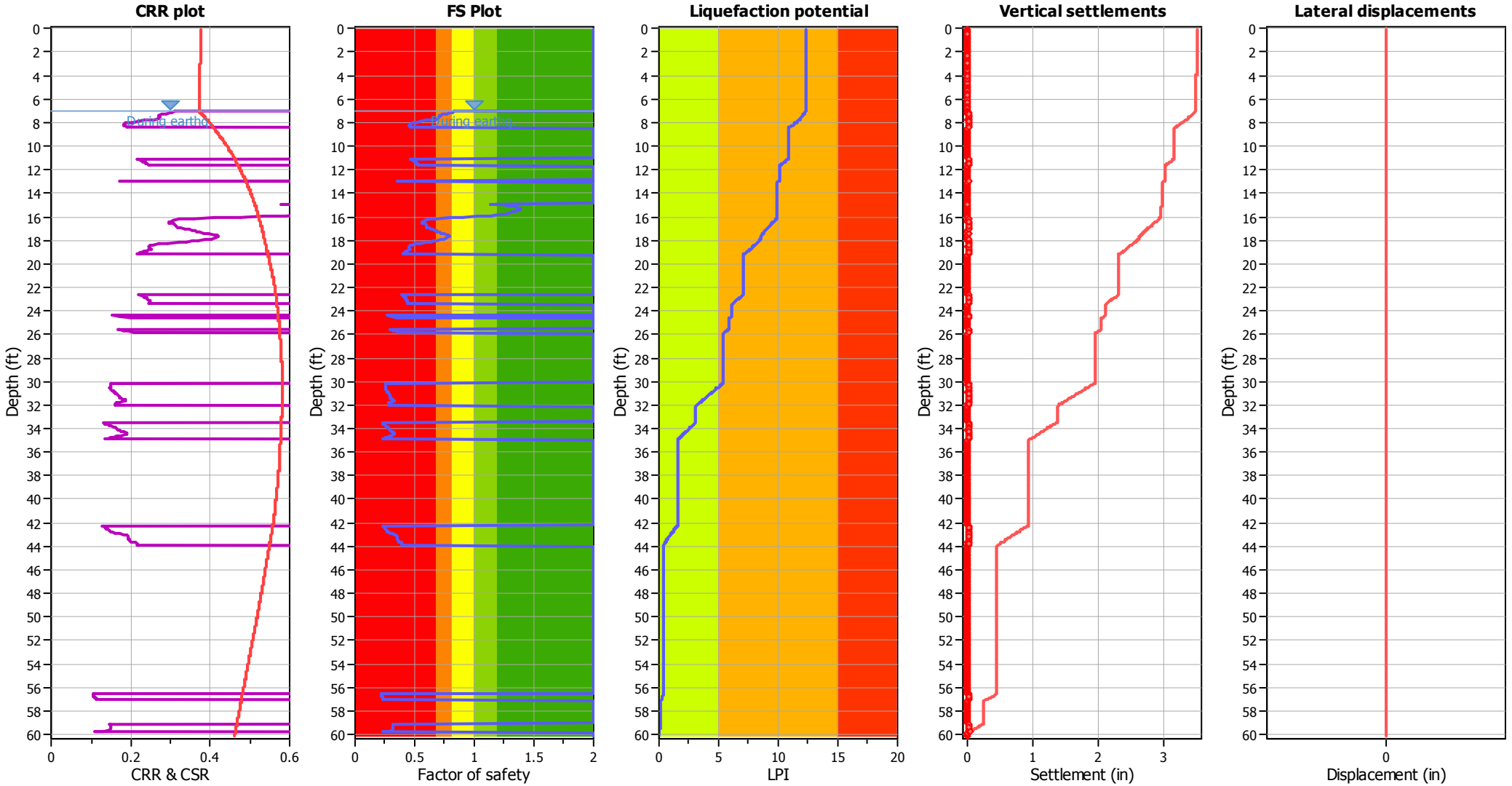
Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	7.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.30	K_σ applied:	No
Earthquake magnitude M_w:	7.26	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.63	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	60.00 ft	Fill height:	N/A	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
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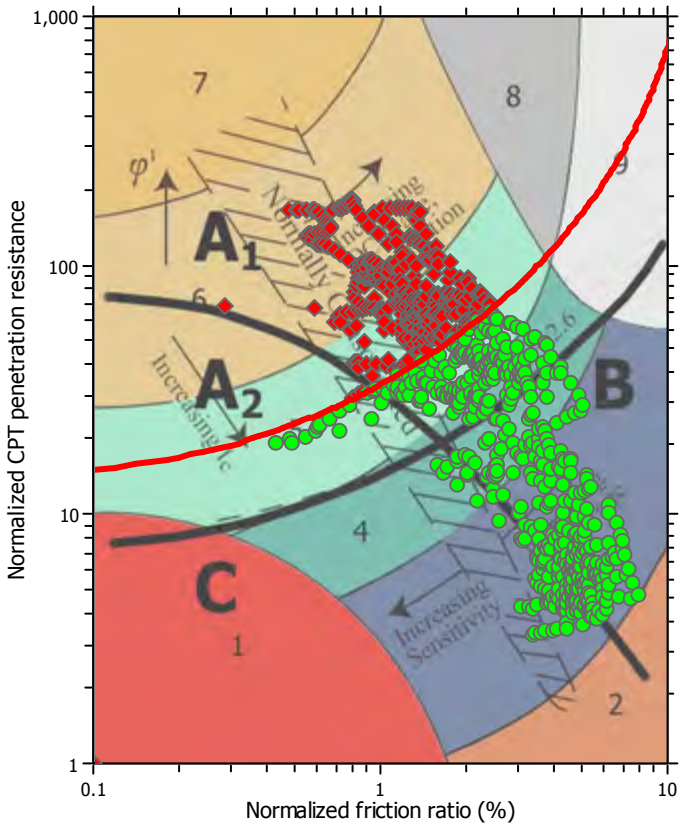
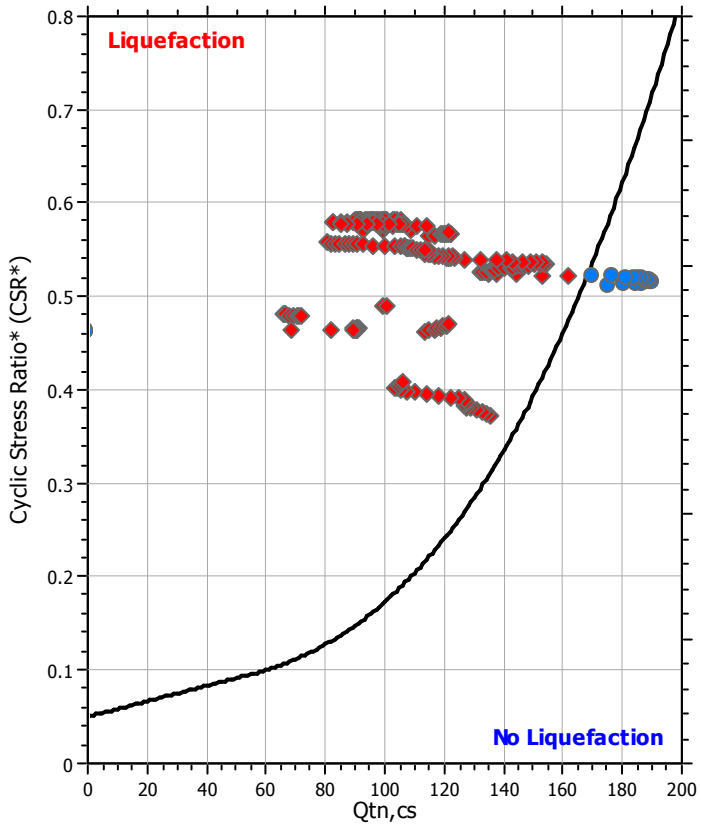
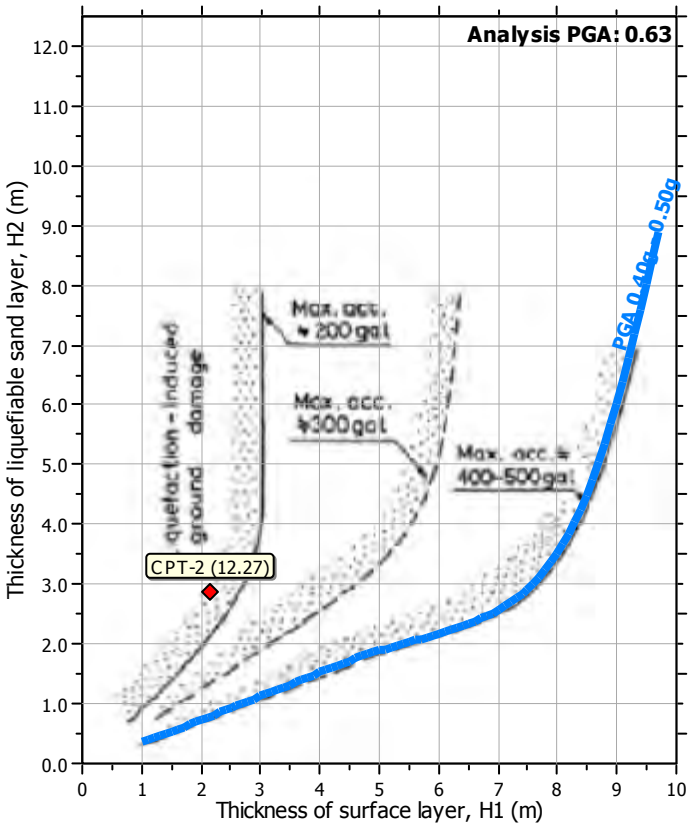
Liquefaction analysis summary plots







Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	7.00 ft	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	Yes
Points to test:	Based on Ic value	Ic cut-off value:	2.30	K_σ applied:	No
Earthquake magnitude M_w:	7.26	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.63	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	60.00 ft	Fill height:	N/A	Limit depth:	N/A

USGS web services were down for some period of time and as a result this tool wasn't operational, resulting in *timeout* error.
USGS web services are now operational so this tool should work as expected.

OSHPD

Latitude, Longitude: 33.7651, -117.9250

Date	7/15/2024, 5:05:17 PM
Design Code Reference Document	ASCE7-16
Risk Category	II
Site Class	D - Stiff Soil

Type	Value	Description
S_S	1.347	MCE_R ground motion. (for 0.2 second period)
S_1	0.479	MCE_R ground motion. (for 1.0s period)
S_{MS}	1.347	Site-modified spectral acceleration value
S_{M1}	null -See Section 11.4.8	Site-modified spectral acceleration value
S_{DS}	0.898	Numeric seismic design value at 0.2 second SA
S_{D1}	null -See Section 11.4.8	Numeric seismic design value at 1.0 second SA

Type	Value	Description
SDC	null -See Section 11.4.8	Seismic design category
F_a	1	Site amplification factor at 0.2 second
F_v	null -See Section 11.4.8	Site amplification factor at 1.0 second
PGA	0.573	MCE_G peak ground acceleration
F_{PGA}	1.1	Site amplification factor at PGA
PGA_M	0.631	Site modified peak ground acceleration
T_L	8	Long-period transition period in seconds
SsRT	1.347	Probabilistic risk-targeted ground motion. (0.2 second)
SsUH	1.461	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration
SsD	1.984	Factored deterministic acceleration value. (0.2 second)
S1RT	0.479	Probabilistic risk-targeted ground motion. (1.0 second)
S1UH	0.52	Factored uniform-hazard (2% probability of exceedance in 50 years) spectral acceleration.
S1D	0.681	Factored deterministic acceleration value. (1.0 second)
PGAd	0.812	Factored deterministic acceleration value. (Peak Ground Acceleration)
PGA_{UH}	0.573	Uniform-hazard (2% probability of exceedance in 50 years) Peak Ground Acceleration
C_{RS}	0.922	Mapped value of the risk coefficient at short periods

Type	Value	Description
C_{R1}	0.921	Mapped value of the risk coefficient at a period of 1 s
C_V	1.369	Vertical coefficient

DISCLAIMER

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U.S. Geological Survey - Earthquake Hazards Program

Unified Hazard Tool

Please do not use this tool to obtain ground motion parameter values for the design code reference documents covered by the U.S. Seismic Design Maps web tools (e.g., the International Building Code and the ASCE 7 or 41 Standard). The values returned by the two applications are not identical.

Please also see the new USGS Earthquake Hazard Toolbox for access to the most recent NSHMs for the conterminous U.S. and Hawaii.

Input

Edition

Dynamic: Conterminous U.S. 2014 (u…

Spectral Period

Peak Ground Acceleration

Latitude

Decimal degrees

33.7651

Time Horizon

Return period in years

2475

Longitude

Decimal degrees, negative values for western longitudes

-117.925

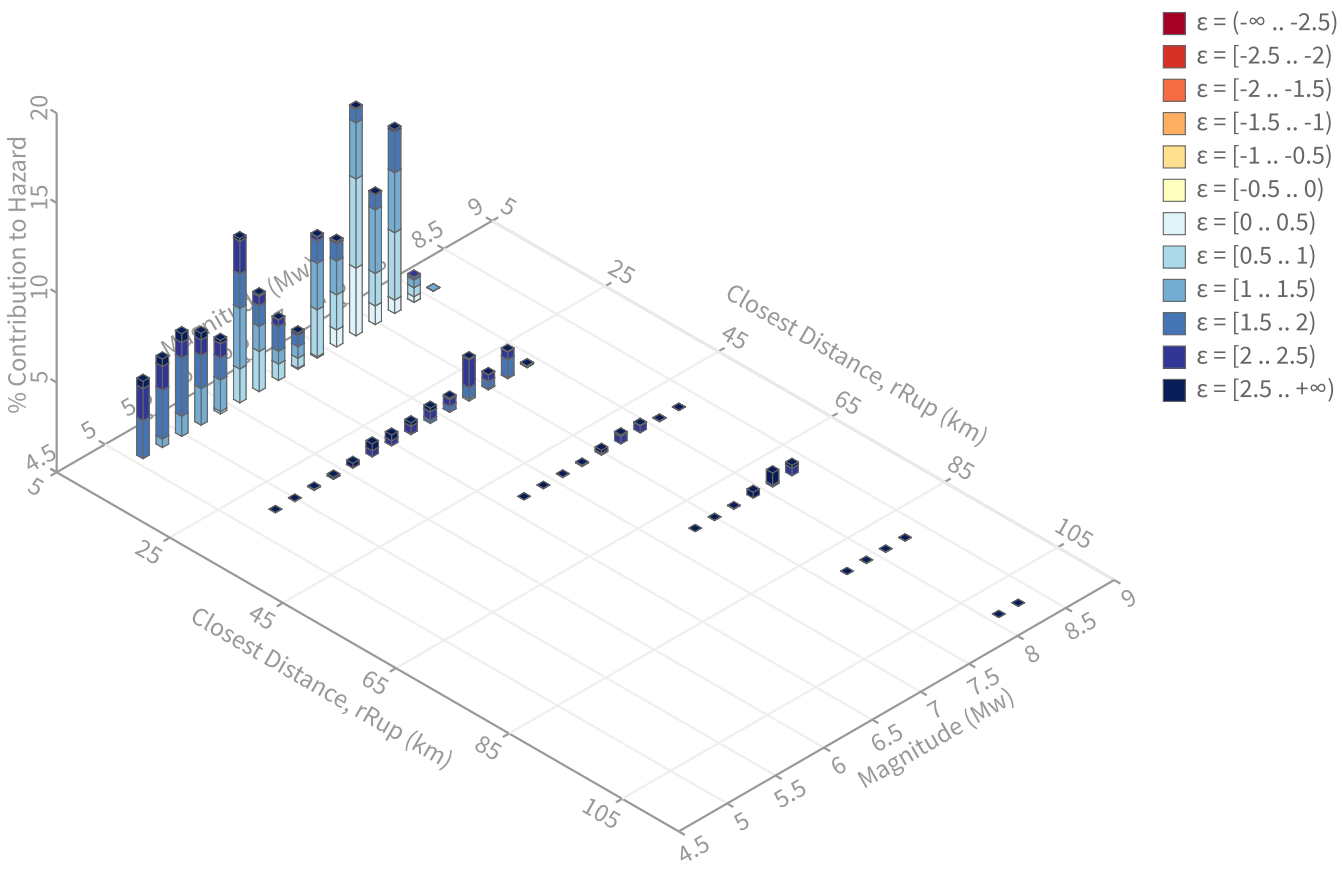
Site Class

259 m/s (Site class D)

Deaggregation

Component

Total



Summary statistics for, Deaggregation: Total

Deaggregation targets

Return period: 2475 yrs
Exceedance rate: 0.0004040404 yr^{-1}
PGA ground motion: 0.66225019 g

Recovered targets

Return period: 2993.8693 yrs
Exceedance rate: 0.00033401592 yr^{-1}

Totals

Binned: 100 %
Residual: 0 %
Trace: 0.06 %

Mean (over all sources)

m: 6.69
r: 13.28 km
ε_0: 1.41 σ

Mode (largest m-r bin)

m: 7.3
r: 10.68 km
ε_0: 0.79 σ
Contribution: 12.65 %

Mode (largest m-r-ε_0 bin)

m: 7.3
r: 10.33 km
ε_0: 0.69 σ
Contribution: 4.96 %

Discretization

r: min = 0.0, max = 1000.0, Δ = 20.0 km
m: min = 4.4, max = 9.4, Δ = 0.2
ε: min = -3.0, max = 3.0, Δ = 0.5 σ

Epsilon keys

ε0: [-∞ .. -2.5)
ε1: [-2.5 .. -2.0)
ε2: [-2.0 .. -1.5)
ε3: [-1.5 .. -1.0)
ε4: [-1.0 .. -0.5)
ε5: [-0.5 .. 0.0)
ε6: [0.0 .. 0.5)
ε7: [0.5 .. 1.0)
ε8: [1.0 .. 1.5)
ε9: [1.5 .. 2.0)
ε10: [2.0 .. 2.5)
ε11: [2.5 .. +∞]

Deaggregation Contributors

Source Set ↳ Source	Type	r	m	ε_0	lon	lat	az	%
UC33brAvg_FM32	System							31.83
Compton [0]		11.17	7.26	0.64	118.043°W	33.702°N	237.53	6.16
Anaheim [0]		5.38	6.69	0.72	117.943°W	33.780°N	315.69	3.77
San Joaquin Hills [0]		10.58	7.21	1.19	117.934°W	33.674°N	184.75	3.58
Newport-Inglewood alt 2 [1]		11.81	7.49	1.18	118.001°W	33.681°N	216.88	3.41
Puente Hills (Coyote Hills) [0]		14.80	7.32	1.47	117.922°W	33.893°N	1.03	2.10
Whittier alt 2 [3]		19.89	7.62	1.64	117.838°W	33.928°N	23.89	1.83
Peralta Hills [1]		10.66	7.34	1.20	117.885°W	33.854°N	20.43	1.63
Richfield [1]		14.39	6.46	1.94	117.870°W	33.882°N	21.33	1.39
Yorba Linda [0]		10.99	7.57	0.65	117.889°W	33.858°N	17.94	1.29
Palos Verdes [7]		28.25	7.46	2.12	118.179°W	33.624°N	236.39	1.27
UC33brAvg_FM31	System							29.62
Compton [0]		11.17	7.21	0.65	118.043°W	33.702°N	237.53	5.83
Newport-Inglewood alt 1 [1]		11.91	7.46	1.19	117.995°W	33.676°N	213.40	3.79
Anaheim [0]		5.38	6.67	0.73	117.943°W	33.780°N	315.69	3.78
San Joaquin Hills [0]		10.58	7.55	1.02	117.934°W	33.674°N	184.75	3.06
Whittier alt 1 [4]		19.95	7.56	1.67	117.833°W	33.927°N	25.13	2.36
Peralta Hills [1]		10.66	7.01	1.42	117.885°W	33.854°N	20.43	1.73
Yorba Linda [0]		10.99	7.44	0.65	117.889°W	33.858°N	17.94	1.31
Palos Verdes [7]		28.25	7.30	2.22	118.179°W	33.624°N	236.39	1.13
UC33brAvg_FM31 (opt)	Grid							19.35
PointSourceFinite: -117.925, 33.833		8.71	5.72	1.63	117.925°W	33.833°N	0.00	3.52
PointSourceFinite: -117.925, 33.833		8.71	5.72	1.63	117.925°W	33.833°N	0.00	3.52
PointSourceFinite: -117.925, 33.806		6.61	5.74	1.32	117.925°W	33.806°N	0.00	3.31
PointSourceFinite: -117.925, 33.806		6.61	5.74	1.32	117.925°W	33.806°N	0.00	3.31
UC33brAvg_FM32 (opt)	Grid							19.20
PointSourceFinite: -117.925, 33.833		8.74	5.71	1.64	117.925°W	33.833°N	0.00	3.43
PointSourceFinite: -117.925, 33.833		8.74	5.71	1.64	117.925°W	33.833°N	0.00	3.43
PointSourceFinite: -117.925, 33.806		6.62	5.74	1.32	117.925°W	33.806°N	0.00	3.23
PointSourceFinite: -117.925, 33.806		6.62	5.74	1.32	117.925°W	33.806°N	0.00	3.23

EXHIBIT C: PROPOSED AGREEMENT

PROPOSED AGREEMENT NO. C-4-2683

BETWEEN

ORANGE COUNTY TRANSPORTATION AUTHORITY

AND

THIS AGREEMENT is effective as of this _____ day of _____, 20__ ("Effective Date"), by and between the Orange County Transportation Authority, 550 South Main Street, P.O. Box 14184, Orange, CA 92863-1584, a public corporation of the State of California (hereinafter referred to as "AUTHORITY"), and , , , (hereinafter referred to as "DESIGN-BUILDER").

WITNESSETH:

WHEREAS, AUTHORITY has determined that it requires the design and construction of a hydrogen fueling station and facility modifications at the Garden Grove Bus Base; and

WHEREAS, said work cannot be performed by the regular employees of AUTHORITY; and

WHEREAS, DESIGN-BUILDER has represented that it has the requisite personnel and experience, and is capable of performing such services; and

WHEREAS, DESIGN-BUILDER wishes to perform these services; and

WHEREAS, the AUTHORITY's Board of Directors authorized this Agreement on _____;

NOW, THEREFORE, it is mutually understood and agreed by AUTHORITY and DESIGN-BUILDER as follows:

ARTICLE 1. COMPLETE AGREEMENT

A. This Agreement, including all exhibits and documents incorporated herein and made applicable by reference, constitutes the complete and exclusive statement of the terms and conditions of the agreement between AUTHORITY and DESIGN-BUILDER and it supersedes all prior representations, understandings and communications. The invalidity in whole or in part of any term or condition of this Agreement shall not affect the validity of other terms or conditions.

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B. AUTHORITY's failure to insist in any one or more instances upon the performance of any terms or conditions of this Agreement shall not be construed as a waiver or relinquishment of AUTHORITY's right to such performance by DESIGN-BUILDER or to future performance of such terms or conditions and DESIGN-BUILDER obligation in respect thereto shall continue in full force and effect. Changes to any portion of this Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY by way of a written Amendment to this Agreement and issued in accordance with the provisions of this Agreement.

C. AUTHORITY assumes no responsibility for any understanding or representations concerning conditions made by any of its officers, employees or agents prior to the execution of this Agreement, unless such understanding or representations by AUTHORITY are expressly stated in this Agreement.

D. Time shall be of the essence hereunder; but DESIGN-BUILDER shall perform work hereunder only to the minimum extent consistent with requirements herein.

E. Changes to any portion of this Agreement shall not be binding upon AUTHORITY except when specifically confirmed in writing by an authorized representative of AUTHORITY and issued in accordance with the provisions of this Agreement.

ARTICLE 2. AUTHORITY DESIGNEE

The Chief Executive Officer of AUTHORITY, or designee, shall have the authority to act for and exercise any of the rights of AUTHORITY as set forth in this Agreement.

ARTICLE 3. SCOPE OF WORK

A. DESIGN-BUILDER shall provide all labor, equipment, materials and facilities necessary for all work related to at the AUTHORITY's in strict compliance with all the requirements specified herein and in:

Exhibit A, entitled "General Provisions";

Addendum No's ;

Exhibit B, entitled "Scope of Work";

Exhibit C, entitled "Preliminary Plans";

Exhibit D, entitled "List of Subcontractors";

Exhibit E, entitled "Performance Bond";

Exhibit F, entitled "Payment Bond";

Exhibit G, entitled "Guaranty";

Exhibit H, entitled “Safety Specifications” and

Exhibit I, entitled “Contract Change Order”;

all of which documents are attached to and, by this reference, incorporated in and made a part of this Agreement. By this reference, also incorporated in and made a part of this Agreement are all applicable provisions of IFB and all representations made by DESIGN-BUILDER in its original bid to AUTHORITY, including, but not limited to, DESIGN-BUILDER's certifications relative to Workers' Compensation Insurance, and compliance with Section 7028.15 of the State of California Business and Professions Code.

B. DESIGN-BUILDER shall provide the personnel listed below to perform the above-specified services, which persons are hereby designated as key personnel under this Agreement.

Names	**Functions**

C. No person named in paragraph B of this Article, or his/her successor approved by AUTHORITY, shall be removed or replaced by DESIGN-BUILDER, nor shall his/her agreed-upon function or level of commitment hereunder be changed, without the prior written consent of AUTHORITY. Should the services of any key person become no longer available to DESIGN-BUILDER, the resume and qualifications of the proposed replacement shall be submitted to AUTHORITY for approval as soon as possible, but in no event later than seven (7) calendar days prior to the departure of the incumbent key person, unless DESIGN-BUILDER is not provided with such notice by the departing employee.

AUTHORITY shall respond to DESIGN-BUILDER within seven (7) calendar days following receipt of these qualifications concerning acceptance of the candidate for replacement.

ARTICLE 4. DELIVERY / RECOVERY SCHEDULE

A. DESIGN-BUILDER shall fully complete the herein above described work within ( ) calendar days from the effective date of written Notice to Proceed (NTP) issued by AUTHORITY. DESIGN-BUILDER shall give AUTHORITY not less than seventy-two (72) hours advance notice of the start of any work. Within five (5) calendar days after said notice, DESIGN-BUILDER shall provide any construction schedules as may be requested by AUTHORITY.

B. If at any time, the critical path schedule reflects -30 or a greater negative number of days of total float, then DESIGN-BUILDER, within ten days after DESIGN-BUILDER first becomes aware of such schedule delay, shall prepare and submit to AUTHORITY for review and approval a Recovery Schedule demonstrating DESIGN-BUILDER's proposed plan to regain lost schedule progress and to achieve the original contractual milestones in accordance with the Contract. AUTHORITY shall notify DESIGN-BUILDER within ten days after receipt of each such Recovery Schedule whether the schedule is deemed accepted or rejected. Within five days after AUTHORITY's rejection of the schedule, DESIGN-BUILDER will resubmit a revised Recovery Schedule incorporating AUTHORITY's comments. When AUTHORITY accepts DESIGN-BUILDER's Recovery Schedule, DESIGN-BUILDER shall, within five days after AUTHORITY's acceptance, incorporate and fully include such schedule into the Project Schedule and deliver it to AUTHORITY.

C. All costs incurred by DESIGN-BUILDER in preparing, implementing and achieving the Recovery Schedule shall be borne by DESIGN-BUILDER and shall not result in a change to the contract price.

D. In the event that DESIGN-BUILDER fails to provide an acceptable Recovery Schedule within 30 days of DESIGN-BUILDER's receipt of a notice to do so, DESIGN-BUILDER shall have no right to receive progress payments until DESIGN-BUILDER has prepared and AUTHORITY has approved such Recovery Schedule.

ARTICLE 5. START OF WORK

DESIGN-BUILDER shall incur no costs, and shall not perform or furnish any work, services, materials or equipment under this Agreement, unless and until a written Notice to Proceed has been given to DESIGN-BUILDER by AUTHORITY. Conditions precedent to AUTHORITY issuing said Notice to Proceed are DESIGN-BUILDER furnishing the Exhibit E "Performance Bond," Exhibit F "Payment Bond," Exhibit G "Guaranty," and certificates of insurance as set forth in Article 10 hereunder. DESIGN-BUILDER shall furnish said documents within ten (10) calendar days after notification of contract award from AUTHORITY. Upon receipt of acceptable bonds, guaranty, and insurance certificates, AUTHORITY will within ten (10) working days thereafter issue the written Notice to Proceed.

ARTICLE 6. PAYMENT

A. For DESIGN-BUILDER's full and complete performance of its obligations under this Agreement, and subject to the maximum cumulative payment obligation provision set forth in Article 7, AUTHORITY shall pay DESIGN-BUILDER the firm fixed sum of ____ Dollars ($ .00).

B. Progress payments and the final payment will be made by AUTHORITY to DESIGN-BUILDER in accordance with the terms as set forth in Exhibit A, "General Provisions," under the "Progress Payments" and "Final Payment and Claims" sections therein. The acceptance by DESIGN-BUILDER of AUTHORITY's final payment hereunder shall constitute a waiver of all claims against AUTHORITY under or arising out of this herein Agreement, as such may from time to time be amended.

C. Failure by AUTHORITY to pay amount in dispute shall not alleviate, diminish or modify in any respect the DESIGN-BUILDER's obligation to achieve final acceptance of and all work in accordance with the contract documents, and DESIGN-BUILDER shall not cease or slow down its performance under this Agreement on account of any such amount in dispute. DESIGN-BUILDER shall proceed as directed by AUTHORITY pending resolution of dispute. Upon resolution of dispute, each party shall promptly pay any amount owing.

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ARTICLE 7. MAXIMUM OBLIGATION

Notwithstanding any provisions of this Agreement to the contrary, AUTHORITY and DESIGN-BUILDER mutually agree that AUTHORITY's maximum cumulative payment obligation hereunder (including obligation for DESIGN-BUILDER 's profit), shall be _____ Dollars ($ .00), which shall include all amounts payable to DESIGN-BUILDER for its subcontracts, leases, materials and costs arising from, or due to termination of, this Agreement.

ARTICLE 8. NOTICES

All notices hereunder and communications regarding the interpretation of the terms of this Agreement, or changes thereto, shall be effected by delivery of said notices in person or by depositing said notices in the U.S. mail, registered or certified mail, returned receipt requested, postage prepaid and addressed as follows:

To DESIGN-BUILDER:		To AUTHORITY:	
		Orange County Transportation Authority	
		550 South Main Street	
		P.O. Box 14184	
,		Orange, CA 92863-1584	
ATTENTION: Title:		ATTENTION: Title:	Megan Bornman Senior Contract Administrator
Phone: Email:		Phone: (714) 560 - 5064 Email: mbornman@octa.net	
		Cc: Eric Torres, Project Manager Phone: (714) 560 – 5345 Email: etorres1@octa.net	

ARTICLE 9. INDEPENDENT CONTRACTOR

A. DESIGN-BUILDER's relationship to AUTHORITY in the performance of this Agreement is that of an independent contractor. DESIGN-BUILDER's personnel performing services under this Agreement

shall at all times be under DESIGN-BUILDER's exclusive direction and control and shall be employees of DESIGN-BUILDER and not employees of AUTHORITY. DESIGN-BUILDER shall pay all wages, salaries and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

B. Should DESIGN-BUILDER's personnel or a state or federal agency allege claims against AUTHORITY involving the status of AUTHORITY as employer, joint or otherwise, of said personnel, or allegations involving any other independent contractor misclassification issues, DESIGN-BUILDER shall defend and indemnify AUTHORITY in relation to any allegations made.

ARTICLE 10. INSURANCE

A. DESIGN-BUILDER shall procure and continuously maintain in full force and effect through contract completion, insurance coverages specified herein. Coverages shall not be subject to self-insurance provisions. DESIGN-BUILDER shall provide the following insurance coverage:

B. Commercial General Liability, to include Products/Completed Operations, Independent Contractors', Contractual Liability, and Personal Injury, and Property Damage with a minimum limit of $1,000,000 per occurrence and $2,000,000 general aggregate.

C. Automobile Liability to include owned, hired and non-owned autos with a combined single limit of $1,000,000 each accident;

D. Workers' Compensation with limits as required by the State of California, including waiver of subrogation, in favor of AUTHORITY, its officers, directors, employees and agents.

E. Builders All Risk policy or course of construction including earthquake and flood coverage with minimum limits of $(project amount);

F. Employers' Liability with minimum limits of $1,000,000;

G. Professional Liability with minimum limits of $2,000,000 per occurrence and $4,000,000 general aggregate;

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H. Pollution Liability with minimum limits of $2,000,000 per occurrence and $4,000,000 general aggregate;

I. Prior to commencement of any work hereof, DESIGN-BUILDER shall furnish to AUTHORITY's Contract Administrator broker-issued insurance certificate showing the required insurance coverages and further providing that:

1. AUTHORITY, its officers, directors, employees and agents must be named as additional insured on Commercial General Liability and Automobile Liability policy with respect to performance hereunder; and

2. The coverage shall be primary and noncontributory as to any other insurance with respect to performance hereunder; and

J. Thirty (30) days prior written notice of cancellation or material change be given to AUTHORITY.

K. In addition, DESIGN-BUILDER shall provide insurance policy blanket endorsement.

L. "Occurrence," as used herein, means any event or related exposure to conditions, which result in bodily injury or property damage.

M. DESIGN-BUILDER shall submit required insurance certificates to AUTHORITY's insurance tracking contractor, InsureTrack. DESIGN-BUILDER shall respond directly to InsurTrack's request for updated insurance certificates and other insurance-related matters by email to octa@instracking.com

N. DESGIN-BUILDER shall include on the face of the certificate of insurance, the following information:

1. The Agreement Number C-4-2683 and, the Contract Administrator's Name, Megan Bornman.

2. For Certificate Holder: The Orange County Transportation Authority, its officers, directors, employers and agents, c/o InsureTrack, P.O. Box 60840 Las Vegas, NV 89160.

O. Upon AUTHORITY's request, certified, true and exact copies of each of the insurance policies shall be provided to AUTHORITY.

P. AUTHORITY shall notify DESIGN-BUILDER in writing of any changes in the requirements to insurance required to be provided by DESIGN-BUILDER. Except as set forth in this Article, any additional cost from such change shall be paid by AUTHORITY and any reduction in cost shall reduce the contract price pursuant to a change order.

Q. DESIGN-BUILDER shall also include in each subcontract the stipulation that subcontractors shall maintain coverage in the amounts required as provided in this Agreement.

R. DESIGN-BUILDER shall be required to immediately notify AUTHORITY of any modifications or cancellation of any required insurance policies.

ARTICLE 11. BONDS

A. By submitting Exhibit E, entitled “Performance Bond," and Exhibit F, entitled "Payment Bond," DESIGN-BUILDER shall satisfy AUTHORITY's requirements that DESIGN-BUILDER deposit with AUTHORITY bonds with values in the sum of 100 percent of this Agreement's price to cover DESIGN-BUILDER's failure to fully perform hereunder and DESIGN-BUILDER's failure to pay its labor, material or failure to comply with Article 33 of this Agreement, in performing hereunder. If the contract price is increased in connection with a Change Order, the AUTHORITY may, in its sole discretion, require a corresponding increase in the amount of the Performance and Payment bonds or new bonds covering the Change Order work.

B. DESIGN-BUILDER’s parent companies are the guarantors of the DESIGN-BUILDER’s obligations under this Agreement. The guarantees provided by such Guarantors, in the form attached as Exhibit G, assure performance of the DESIGN-BUILDER’s obligations under this Agreement and shall be maintained in full force and effect throughout the duration of the Agreement.

C. Notwithstanding any other provision set forth in this Agreement, performance by a Surety or Guarantor of any obligations of DESIGN-BUILDER shall not relieve DESIGN-BUILDER of any of its obligations thereunder.

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ARTICLE 12. ORDER OF PRECEDENCE

Conflicting provisions hereof, if any, shall prevail in the following descending order of precedence: (1) the provisions of this Agreement, including all exhibits; (2) the provisions of RFP4-2683; (3) DESIGN-BUILDER's technical proposal dated , DESIGN-BUILDER's price proposal dated , and (4) all other documents, if any, cited herein or incorporated by reference.

ARTICLE 13. CHANGES

A. By written notice or order, AUTHORITY may, from time to time, order work suspension and/or make any change in the general scope of this Agreement, including, but not limited to, changes in the drawings, specifications, schedules (either deceleratory or acceleratory) or any other particular of the specifications or provisions of this Agreement. If any such work suspension or change causes an increase or decrease in the price or time required for performance, DESIGN-BUILDER shall promptly notify AUTHORITY thereof and assert its claim for adjustment within ten (10) calendar days after the change or work suspension is ordered, and an equitable adjustment shall be negotiated. However, nothing in this clause shall excuse DESIGN-BUILDER from proceeding immediately with the Agreement as changed. Changes will be made in accordance with the terms as set forth in Exhibit A, "General Provisions," paragraph F, Extra Work and Changes, by written Change Order.

B. No claims by DESIGN-BUILDER for equitable adjustment hereunder shall be allowed if asserted after final payment under this Agreement.

C. Any work done beyond the technical provisions specified in this Agreement, or any extra work done without AUTHORITY's written authority, will be considered unauthorized work and will not be paid for. Upon order of AUTHORITY's Engineer or its designee, unauthorized work shall be remedied, removed or replaced at DESIGN-BUILDER's expense.

ARTICLE 14. MODIFICATION PROPOSALS-PRICE BREAKDOWN

DESIGN-BUILDER, in connection with any proposal it makes for an agreement modification, shall furnish a price breakdown, itemized as required by AUTHORITY. Unless otherwise directed, the breakdown shall be in sufficient detail to permit an analysis of all material, labor, equipment, subcontract

and overhead costs, as well as profit, and shall cover all work involved in the modification, whether such work was deleted, added or changed. Any amount claimed for subcontracts shall be supported by a similar price breakdown. In addition, if the proposal includes a time extension, a justification therefore shall also be furnished. The proposal, together with the price breakdown and time extension justification, shall be furnished by the date specified by AUTHORITY.

ARTICLE 15. DISPUTES

A. Except as otherwise provided in this Agreement, when a dispute arises between DESIGN-BUILDER and AUTHORITY, the project managers shall meet to resolve the issue. If project managers do not reach a resolution, the dispute will be decided by AUTHORITY's Director of Contracts Administration and Materials Management (CAMM), who shall reduce the decision to writing and mail or otherwise furnish a copy thereof to DESIGN-BUILDER. The decision of the Director, CAMM, shall be the final and conclusive administrative decision.

B. Pending final decision of a dispute hereunder, DESIGN-BUILDER shall proceed diligently with the performance of this Agreement and in accordance with the decision of AUTHORITY's Director, CAMM. Nothing in this Agreement, however, shall be construed as making final the decision of any AUTHORITY official or representative on a question of law, which questions shall be settled in accordance with the laws of the State of California.

ARTICLE 16. TERMINATION FOR CONVENIENCE

A. AUTHORITY may terminate this Agreement for its convenience at any time in whole or in part, by giving DESIGN-BUILDER written notice thereof. AUTHORITY shall terminate by delivering to DESIGN-BUILDER a written Notice of Termination for Convenience specifying the extent of termination and its effective date. Upon termination, AUTHORITY shall pay DESIGN-BUILDER its allowable costs incurred to date of that portion terminated. The rights, duties and obligations of the parties shall be construed in accordance with the applicable provisions of CFR Title 48, Chapter 1, Part 49, of the Federal Acquisition Regulation (FAR) and specific subparts and other provisions thereof applicable to termination for convenience. If AUTHORITY sees fit to terminate this Agreement for convenience, said notice shall

be given to DESIGN-BUILDER in accordance with the provisions of the FAR referenced above and Article 8, herein. Upon receipt of said notification, DESIGN-BUILDER shall immediately proceed with all obligations, regardless of any delay in determining or adjusting any amounts due under this Article, and agrees to comply with all applicable provisions of the FAR pertaining to termination for convenience.

ARTICLE 17. TERMINATION FOR DEFAULT-DAMAGES FOR DELAY-TIME EXTENSIONS

A. If DESIGN-BUILDER refuses or fails to prosecute the work, or any separable part thereof, with such diligence as will ensure its completion within the time specified in this Agreement, or any extension thereof, or fails to complete said work within such time, AUTHORITY may, by written notice to DESIGN-BUILDER, terminate DESIGN-BUILDER's right to proceed with the work or such part of the work as to which there has been delay. In such event, AUTHORITY may take over the work and prosecute the same to completion, by Agreement or otherwise, and may take possession of and utilize in completing the work such materials, appliances and plant as may be on the site of the work and necessary therefore. Whether or not DESIGN-BUILDER's right to proceed with the work is terminated, it and its sureties shall be liable for any damage to AUTHORITY resulting from its refusal or failure to complete the work within the specified time.

B. If AUTHORITY so terminates DESIGN-BUILDER's right to proceed, the resulting damage will consist of such liquidated damages as set forth in the Article 31 in this Agreement entitled "Liquidated Damages," until such reasonable time as may be required for final completion of the work together with any increased costs occasioned AUTHORITY in completing the work. If AUTHORITY does not so terminate DESIGN-BUILDER's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

C. DESIGN-BUILDER's right to proceed shall not be so terminated nor the DESIGN-BUILDER charged with resulting damage if:

1. The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of DESIGN-BUILDER, including but not restricted to, acts of God, acts of the public enemy, acts or omissions of AUTHORITY, acts of another DESIGN-BUILDER in

the performance of an Agreement with AUTHORITY, fires, floods, epidemics, quarantine restrictions, freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from unforeseeable causes beyond the control and without the fault or negligence of both DESIGN-BUILDER and such subcontractors or suppliers; and

2. DESIGN-BUILDER, within ten (10) calendar days from the beginning of any such delay, notifies AUTHORITY in writing of the causes of delay. AUTHORITY shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in its judgment, the findings of fact justify such an extension, and its findings of fact shall be final and conclusive on the parties, subject only to appeal as provided in the "Disputes" clause of this Agreement. Any such time extensions will not become effective until approved by AUTHORITY's Engineer in writing. AUTHORITY's Engineer will furnish DESIGN-BUILDER a weekly statement showing the number of calendar days charged to the Agreement for the preceding week, the number of calendar days of time extensions being considered or approved, the number of calendar days originally specified for the completion of this Agreement and the number of calendar days remaining to complete this Agreement, and the extended date for completion thereof.

3. Should at any time extensions be included by AUTHORITY's Engineer on the Weekly Statement of Contract Calendar Days, a change order covering the sum total of the time extensions will be issued to DESIGN-BUILDER at periodic intervals during the project.

D. If, after notice of termination of DESIGN-BUILDER's right to proceed under the provisions of this clause, it is determined for any reason that DESIGN-BUILDER was not in default under the provisions of this clause, or that the delay was excusable under the provisions of this clause, the rights and obligations of the parties shall be the same as if the notice of termination had been issued pursuant to Article 16, entitled "Termination for Convenience."

E. The rights and remedies of AUTHORITY provided in this clause are in addition to any other rights and remedies provided by law or under this Agreement.

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F. As used in paragraph C.1 of this Article, the term "subcontractors or suppliers," means subcontractors or suppliers at any tier.

ARTICLE 18. INDEMNIFICATION

A. DESIGN-BUILDER shall indemnify, defend and hold harmless AUTHORITY, its officers, directors, employees and agents (indemnities) from and against any and all claims (including attorneys' fees and reasonable expenses for litigation or settlement) for any loss or damages, bodily injuries, including death, damage to or loss of use of property caused by the negligent acts, omissions or willful misconduct by DESIGN-BUILDER, its officers, directors, employees, agents, subconsultants or suppliers in connection with or arising out of the performance of this Agreement.

B. DESIGN-BUILDER shall indemnify, defend, and hold harmless AUTHORITY, its officers, directors, employees and agents from and against any and all claims (including attorneys' fees and reasonable expenses for litigation or settlement) for any loss, costs, penalties, fines, damages, bodily injuries, including death, damage to or loss of use of property, arising out of, resulting from, or in connection with the performance of DESIGN-BUILDER, its officers, directors, employees, agents, subcontractors or suppliers under the Agreement. Notwithstanding the foregoing, such obligation to defend, hold harmless, and indemnify AUTHORITY, its officers, directors, employees and agents shall not apply to such claims or liabilities arising from the sole or active negligence or willful misconduct of AUTHORITY.

C. Notwithstanding the foregoing, to the extent that DESIGN-BUILDER'S duty to indemnify arises out of a claim to which Civil Code section 2782.8 would apply, DESIGN-BUILDER shall indemnify and defend the Indemnitees to the maximum extent permitted by Civil Code section 2782.8.

ARTICLE 19. ASSIGNMENTS AND SUBCONTRACTS

A. Neither this Agreement nor any interest herein nor claim hereunder may be assigned by DESIGN-BUILDER either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by DESIGN-BUILDER, without the prior written consent of AUTHORITY. Consent by

AUTHORITY shall not be deemed to relieve DESIGN-BUILDER of its obligations to comply fully with all terms and conditions of this Agreement.

B. DESIGN-BUILDER shall be fully responsible to AUTHORITY for all acts and omissions of its own employees, and of subcontractors and their employees. DESIGN-BUILDER shall coordinate the work performed by subcontractor.

C. AUTHORITY shall have the right, but not the obligation, to review the form of subcontract used by DESIGN-BUILDER for the project and to require modifications thereto to conform to the requirements set forth herein.

D. AUTHORITY hereby consents to DESIGN-BUILDER's subcontracting of portions of the Scope of Work to the parties identified below for the functions described in DESIGN-BUILDER's proposal. DESIGN-BUILDER shall include in the subcontract agreement the stipulation that DESIGN-BUILDER, not AUTHORITY, is solely responsible for payment to the subcontractor for the amounts owing and that the subcontractor shall have no claim, and shall take no action, against AUTHORITY, its officers, directors, employees or sureties for nonpayment by DESIGN-BUILDER.

Subcontractor Name/Address	**Subcontractor Amounts**

ARTICLE 20. AUDIT AND INSPECTION OF RECORDS

DESIGN-BUILDER shall provide AUTHORITY, or other agents of the AUTHORITY, such access to DESIGN-BUILDER's accounting books, records, payroll documents and facilities of the DESIGN-BUILDER which are directly pertinent to this Agreement for the purposes of examining, auditing and inspecting all accounting books, records, work data, documents and activities related hereto. DESIGN-BUILDER shall maintain such books, records, data and documents in accordance with generally accepted accounting principles and shall clearly identify and make such items readily accessible to such parties during DESIGN-BUILDER's performance hereunder and for a period of four (4) years from the

date of final payment by AUTHORITY, except in the event of litigation or settlement of claims arising from the performance of this Agreement, in which case DESIGN-BUILDER agrees to maintain same until AUTHORITY, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto. AUTHORITY's right to audit books and records directly related to this Agreement shall also extend to all first-tier subcontractors. DESIGN-BUILDER shall permit any of the foregoing parties to reproduce documents by any means whatsoever or to copy excerpts and transcriptions as reasonably necessary.

ARTICLE 21. FEDERAL, STATE AND LOCAL LAWS

DESIGN-BUILDER warrants that in the performance of this Agreement, it shall comply with all applicable federal, state and local laws, statutes and ordinances and all lawful orders, rules and regulations promulgated thereunder.

ARTICLE 22. EQUAL EMPLOYMENT OPPORTUNITY

In connection with its performance under this Agreement, DESIGN-BUILDER shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age or national origin. DESIGN-BUILDER shall take affirmative action to ensure that applicants are employed, and that employees are treated during their employment, without regard to their race, religion, color, sex, age or national origin. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

ARTICLE 23. PRIVACY ACT

DESIGN-BUILDER shall comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. §552a. Among other things, DESIGN-BUILDER agrees to obtain the express consent of the Federal Government before DESIGN-BUILDER or its employees operate a system of records on behalf of the Federal Government. DESIGN-BUILDER understands the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply

with the terms of the Privacy Act may result in termination of the underlying Agreement.

ARTICLE 24. PROHIBITED INTERESTS

DESIGN-BUILDER covenants that, for the term of this Agreement, no director, member, officer or employee of AUTHORITY during his/her tenure in office/employment or for one (1) year thereafter shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

ARTICLE 25. OWNERSHIP OF REPORTS AND DOCUMENTS

A. The originals of all letters, documents, reports and other products and data produced under this Agreement shall be delivered to, and become the property of AUTHORITY. Copies may be made for DESIGN-BUILDER's records but shall not be furnished to others without written authorization from AUTHORITY. Such deliverables shall be deemed works made for hire and all rights in copyright therein shall be retained by AUTHORITY.

B. All ideas, memoranda, specifications, plans, manufacturing, procedures, drawings, descriptions, and all other written information submitted to DESIGN-BUILDER in connection with the performance of this Agreement shall not, without prior written approval of AUTHORITY, be used for any purposes other than the performance for this project, nor be disclosed to an entity not connected with the performance of the project. DESIGN-BUILDER shall comply with AUTHORITY's policies regarding such material. Nothing furnished to DESIGN-BUILDER, which is otherwise known to DESIGN-BUILDER or becomes generally known to the related industry shall be deemed confidential. DESIGN-BUILDER shall not use AUTHORITY's name, photographs of the project, or any other publicity pertaining to the project in any professional publication, magazine, trade paper, newspaper, seminar or other medium without the express written consent of AUTHORITY.

C. No copies, sketches, computer graphics or graphs, including graphic art work, are to be released by DESIGN-BUILDER to any other person or agency except after prior written approval by AUTHORITY, except as necessary for the performance of services under this Agreement. All press releases, including graphic display information to be published in newspapers, magazines, etc., are to be handled only by AUTHORITY unless otherwise agreed to by DESIGN-BUILDER and AUTHORITY.

ARTICLE 26. PATENT AND COPYRIGHT INFRINGEMENT

A. In lieu of any other warranty by AUTHORITY or DESIGN-BUILDER against patent or copyright infringement, statutory or otherwise, it is agreed that DESIGN-BUILDER shall defend at its expense any claim or suit against AUTHORITY on account of any allegation that any item furnished under this Agreement or the normal use or sale thereof arising out of the performance of this Agreement, infringes upon any presently existing U.S. letters patent or copyright and DESIGN-BUILDER shall pay all costs and damages finally awarded in any such suit or claim, provided that DESIGN-BUILDER is promptly notified in writing of the suit or claim and given authority, information and assistance at DESIGN-BUILDER's expense for the defense of same. However, DESIGN-BUILDER will not indemnify AUTHORITY if the suit or claim results from: (1) AUTHORITY's alteration of a deliverable, such that said deliverable in its altered form infringes upon any presently existing U.S. letters patent or copyright; or (2) the use of a deliverable in combination with other material not provided by DESIGN-BUILDER when such use in combination infringes upon an existing U.S. letters patent or copyright.

B. DESIGN-BUILDER shall have sole control of the defense of any such claim or suit and all negotiations for settlement thereof. DESIGN-BUILDER shall not be obligated to indemnify AUTHORITY under any settlement made without DESIGN-BUILDER's consent or in the event AUTHORITY fails to cooperate fully in the defense of any suit or claim, provided, however, that said defense shall be at DESIGN-BUILDER's expense. If the use or sale of said item is enjoined as a result of such suit or claim, DESIGN-BUILDER, at no expense to AUTHORITY, shall obtain for AUTHORITY the right to use and sell said item, or shall substitute an equivalent item acceptable to AUTHORITY and extend this patent and copyright indemnity thereto.

ARTICLE 27. REQUIREMENTS FOR REGISTRATION OF DESIGNERS

All design and engineering work furnished by DESIGN-BUILDER shall be performed by or under the supervision of persons licensed to practice architecture, engineering or surveying (as applicable) in the State of California, by personnel who are careful, skilled, experienced and competent in their respective trades or professions, who are professionally qualified to perform the work in accordance with

the contract documents and who shall assume professional responsibility for the accuracy and completeness of the design documents and construction documents prepared or checked by them.

ARTICLE 28. FINISHED AND PRELIMINARY DATA

A. All of DESIGN-BUILDER's finished technical data, including but not limited to illustrations, photographs, tapes, software, software design documents, including without limitation source code, binary code, all media, technical documentation and user documentation, photoprints and other graphic information required to be furnished under this Agreement, shall be AUTHORITY's property upon payment and shall be furnished with unlimited rights and, as such, shall be free from proprietary restriction except as elsewhere authorized in this Agreement. DESIGN-BUILDER further agrees that it shall have no interest or claim to such finished, AUTHORITY-owned, technical data; furthermore, said data is subject to the provisions of the Freedom of Information Act, 5 USC 552.

B. It is expressly understood that any title to preliminary technical data is not passed to AUTHORITY but is retained by DESIGN-BUILDER. Preliminary data includes roughs, visualizations, software design documents, layouts and comprehensives prepared by DESIGN-BUILDER solely for the purpose of demonstrating an idea or message for AUTHORITY's acceptance before approval is given for preparation of finished artwork. Preliminary data title and right thereto shall be made available to AUTHORITY if DESIGN-BUILDER causes AUTHORITY to exercise ARTICLE 13, and a price shall be negotiated for all preliminary data.

ARTICLE 29. CONVICT LABOR

In connection with the performance of work under this Agreement, DESIGN-BUILDER agrees not to employ any person undergoing sentence of imprisonment at hard labor. This does not include convicts who are on parole or probation.

ARTICLE 30. NOTICE OF LABOR DISPUTE

Whenever DESIGN-BUILDER has knowledge that any actual or potential labor dispute may delay its performance under this Agreement, DESIGN-BUILDER shall immediately notify and submit all relevant information to AUTHORITY. DESIGN-BUILDER shall insert the substance of this entire clause

in any subcontract hereunder as to which a labor dispute may delay performance under this Agreement. However, any subcontractor need give notice and information only to its next higher-tier subcontractor.

ARTICLE 31. LIQUIDATED DAMAGES

If DESIGN-BUILDER fails to complete the work within the time specified in Article 4 of this Agreement, or any AUTHORITY authorized extension thereof, the actual damage to AUTHORITY for the delay will be difficult or impossible to determine. Therefore, in lieu of actual damages, DESIGN-BUILDER shall pay to AUTHORITY as fixed, agreed-to liquidated damages for each calendar day of delay the sum of Six Hundred Dollars ($600.00). Alternatively, AUTHORITY may terminate this Agreement in whole or in part as provided in Article 16 of this Agreement, and in that event, DESIGN-BUILDER shall be liable, in addition to the excess costs provided in Article 16 of this Agreement, for such liquidated damages accruing until such time as AUTHORITY may reasonably obtain delivery or performance of similar supplies or services from a different source. DESIGN-BUILDER shall not be charged with liquidated damages when the delay is determined to be excusable in accordance with Article 45 hereunder. AUTHORITY shall ascertain the facts and extent of the delay and shall extend the time for performance of the Agreement when in its judgment, the findings of fact justify an extension.

ARTICLE 32. WARRANTY

A. In addition to any other warranties set forth in this Agreement, whether expressed or implied, DESIGN-BUILDER warrants that (1) all work performed and all equipment and material provided under this Agreement by DESIGN-BUILDER or any of its subcontractors or suppliers at any tier, conforms to the requirements herein and is free of any defects; (2) equipment furnished by DESIGN-BUILDER or any of its subcontractors or suppliers at any tier, shall be of modern design, in good working condition and fit for use of its intended purpose; and (3) all work shall meet all of the requirements of this Agreement. Such warranty shall continue for a period of one (1) year from AUTHORITY's acceptance as shown in Article 34 hereunder. Under this warranty, DESIGN-BUILDER shall remedy at its own expense any such failure to conform or correct any such defect. In addition, DESIGN-BUILDER shall remedy at its own expense any damage to AUTHORITY owned or controlled real or personal property, when that damage

is the result of DESIGN-BUILDER's failure to conform to Agreement requirements or any such defect of equipment, material, workmanship or design. DESIGN-BUILDER shall also restore any work damaged in fulfilling the terms of this clause. DESIGN-BUILDER's warranty with respect to work repaired or replaced hereunder will run for one year from the date of such repair or replacement.

B. AUTHORITY shall notify DESIGN-BUILDER in writing within a reasonable time after the discovery of any failure, defect or damage. DESIGN-BUILDER has seven days from receipt of notice from AUTHORITY to respond to AUTHORITY's notification and indicate how DESIGN-BUILDER will remedy the failure, defect, or damage. If AUTHORITY is not satisfied with the remedy proposed by DESIGN-BUILDER, DESIGN-BUILDER and AUTHORITY shall meet and mutually agree when and how DESIGN-BUILDER shall remedy such violation. In the case of an emergency requiring immediate corrective action, DESIGN-BUILDER shall implement such action, as it deems necessary and shall notify AUTHORITY in writing of the urgency of a decision and action taken. DESIGN-BUILDER and AUTHORITY shall, then promptly meet in order to agree on a remedy. If DESIGN-BUILDER and AUTHORITY fail to agree on the remedy within a five-day period, AUTHORITY, after notice to DESIGN-BUILDER, shall have the right to perform or have performed by third parties the necessary remedy, and the costs thereof shall be borne by DESIGN-BUILDER.

C. Should DESIGN-BUILDER fail to remedy any failure, defect or damage described in paragraph A above within a reasonable time after receipt of notice thereof, AUTHORITY shall have the right to replace, repair or otherwise remedy such failure, defect or damage at DESIGN-BUILDER's expense and DESIGN-BUILDER shall be liable for all damages, including, but not limited to, actual or consequential damages and cost of any suit to enforce AUTHORITY's rights hereunder, including reasonable attorney's fees.

D. In addition to the other rights and remedies provided by this clause, all subcontractors, manufacturers, and suppliers' warranties, expressed or implied, respecting any work and materials furnished hereunder, shall, at the direction of AUTHORITY, be enforced by DESIGN-BUILDER for the benefit of AUTHORITY. In such case if DESIGN-BUILDER's warranty under paragraph A above has

expired, any suit directed by AUTHORITY shall be at the expense of AUTHORITY. DESIGN-BUILDER shall obtain any warranties, which the subcontractors, manufacturers or suppliers would give in normal commercial practice and shall cause all subcontractor or supplier warranties to be extend to AUTHORITY.

E. If directed by AUTHORITY, DESIGN-BUILDER shall require any such warranties to be executed in writing to AUTHORITY.

F. Notwithstanding any other provision of this clause, unless such a defect is caused by the negligence of DESIGN-BUILDER or its subcontractors or suppliers at any tier, DESIGN-BUILDER shall not be liable for the repair of any defects of material or design furnished by AUTHORITY nor for the repair of any damage which results from any such defect in AUTHORITY furnished material or design.

G. The warranty specified herein shall not limit AUTHORITY's rights under the Inspection and Acceptance clause of this Agreement with respect to latent defects, gross mistakes or fraud.

H. Defects in design or manufacture of equipment specified by AUTHORITY on a "brand name and model" basis shall not be included in this warranty. DESIGN-BUILDER shall require any subcontractors, manufacturers or suppliers thereof to execute their warranties in writing directly to AUTHORITY.

I. Any disagreement between AUTHORITY and DESIGN-BUILDER relating to this section shall be subject to dispute resolution in accordance with Article 15.

ARTICLE 33. GENERAL WAGE RATES

A. DESIGN-BUILDER warrants that all mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices employed by DESIGN-BUILDER or subcontractor at any tier for any work hereunder, shall be paid unconditionally and not less often than once a week and without any subsequent deduction or rebate on any account (except such payroll deductions as are permitted or required by federal, state or local law, regulation or ordinance), the full amounts due at the time of payment, computed at a wage rate and per diem rate not less than the aggregate of the highest of the two basic hourly rates and rates of payments, contributions or costs for any fringe benefits contained in the current general prevailing wage rate(s) and per diem rate(s), established by the Director of the Department of Industrial

Relations of the State of California, (as set forth in the Labor Code of the State of California, commencing at Section 1770 et. seq.), or as established by the Secretary of Labor (as set forth in Davis-Bacon Act, 40 U.S.C. 267a, et. seq.), regardless of any contractual relationship which may be alleged to exist between DESIGN-BUILDER or subcontractor and their respective mechanics, laborers, journeypersons, workpersons, craftspersons or apprentices. Copies of the current General Prevailing Wage Determinations and Per Diem Rates are on file at AUTHORITY's offices and will be made available to DESIGN-BUILDER upon request. DESIGN-BUILDER shall post a copy thereof at each job site at which work hereunder is performed.

B. In addition to the foregoing, DESIGN-BUILDER agrees to comply with all other provisions of the Labor Code of the State of California, which is incorporated herein by reference, pertaining to workers performing work hereunder including, but not limited to, those provisions for work hours, payroll records and apprenticeship employment and regulation program. DESIGN-BUILDER agrees to insert or cause to be inserted the preceding clause in all subcontracts which provide for workers to perform work hereunder regardless of the subcontractor tier.

ARTICLE 34. INSPECTION AND ACCEPTANCE

A. All work (which term includes but is not restricted to materials, equipment, workmanship, and manufacture and fabrication of components) shall be subject to inspection and test by AUTHORITY at all reasonable times and at all places prior to acceptance. Any such inspection and test is for the sole benefit of AUTHORITY and shall not relieve DESIGN-BUILDER of the responsibility of providing quality control measures to assure that the work strictly complies with requirements of this Agreement. No inspection or test by AUTHORITY or its representative shall be construed as constituting or implying acceptance. Inspection or test shall not relieve DESIGN-BUILDER of responsibility for damage to or loss of the material prior to acceptance, nor in any way affect the continuing rights of AUTHORITY after acceptance of the completed work under the terms of paragraph F of this Article, except as herein above provided.

B. DESIGN-BUILDER shall, without charge, replace any material or correct any workmanship found by AUTHORITY not to conform to the requirements of this Agreement, unless in the public interest

AUTHORITY consents to accept such material or workmanship with an appropriate adjustment in the price of this Agreement. DESIGN-BUILDER shall promptly segregate and remove rejected material from the premises.

C. DESIGN-BUILDER shall furnish promptly, without additional charge, all facilities, labor, equipment and material reasonably needed for performing such safe and convenient inspection and test as may be required by AUTHORITY. All inspections and tests by AUTHORITY shall be performed in such manner as to not unnecessarily delay the work. AUTHORITY reserves the right to charge to DESIGN-BUILDER any additional cost of inspection or test when material or workmanship is not ready at the time specified by DESIGN-BUILDER for inspection or test or when reinspection or retest is necessitated by prior rejection.

D. If DESIGN-BUILDER does not promptly replace rejected material or correct rejected workmanship, AUTHORITY (1) may, by Agreement or otherwise, replace such material or correct such workmanship and charge the cost thereof to DESIGN-BUILDER, or (2) may terminate DESIGN-BUILDER's right to proceed in accordance with the clause of this Agreement entitled "Termination for Default."

E. Should it be considered necessary or advisable by AUTHORITY at any time before acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, DESIGN-BUILDER shall, on request, promptly furnish all necessary facilities, labor and material. If such work is found to be defective or nonconforming in any material respect, due to the fault of DESIGN-BUILDER or its subcontractors, DESIGN-BUILDER shall pay all costs of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of this Agreement, an equitable adjustment shall be made in the Agreement price to compensate DESIGN-BUILDER for the additional services involved in such examination and reconstruction and, if completion of the work has been delayed thereby, it shall in addition, be granted a suitable extension of time.

F. Unless otherwise provided in this Agreement, acceptance by AUTHORITY shall be made as promptly as practicable after completion and inspection of all work required by this Agreement, or that

portion of the work that AUTHORITY determines can be accepted separately. Acceptance shall be final and conclusive except as regards latent defects, fraud, or such gross mistakes as may amount to fraud or as regards AUTHORITY's rights under the warranty provisions set forth herein.

ARTICLE 35. MATERIAL AND WORKMANSHIP

A. Unless otherwise specifically provided in this Agreement, all equipment, material, and articles incorporated in the work covered by this Agreement are to be new and of the most suitable grade for the purpose intended. Unless otherwise specifically provided in this Agreement, reference to any equipment, material, article or patented process, by trade name, make or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition, and DESIGN-BUILDER may, at its option, use any equipment, material, article or process which, in the judgment of AUTHORITY, is equal to that named. DESIGN-BUILDER shall furnish to AUTHORITY for its approval the name of the manufacturer, the model number and other identifying data and information respecting the performance, capacity, nature and rating of the machinery and mechanical and other equipment, which DESIGN-BUILDER contemplates incorporating in the work. When required by this Agreement or when called for by AUTHORITY, DESIGN-BUILDER shall furnish AUTHORITY, for approval, full information concerning the material or articles, which it contemplates incorporating in the work. When so directed, samples shall be submitted for approval at DESIGN-BUILDER's expense, with all shipping charges prepaid. Machinery, equipment, material and articles installed or used without required approval shall be at the risk of subsequent rejection.

B. All work under this Agreement shall be performed in a skillful and workmanlike manner. Notwithstanding the provisions of Article 3 hereof, AUTHORITY may, in writing, require DESIGN-BUILDER to remove from the work any employee AUTHORITY deems incompetent, careless or otherwise objectionable.

ARTICLE 36. NON-CONFORMING WORK

A. Nonconforming work rejected by AUTHORITY shall be removed and replaced so as to conform to the requirements of this Agreement, at DESIGN-BUILDER’s cost and without a time

extension; and DESIGN-BUILDER shall promptly take all action necessary to prevent similar deficiencies from occurring in the future. The fact that AUTHORITY may not have discovered the nonconforming Work shall not constitute an acceptance of such nonconforming Work. If DESIGN-BUILDER fails to correct any nonconforming work within ten days of receipt of notice from AUTHORITY requesting correction, or if such nonconforming work cannot be corrected within ten days, and DESIGN-BUILDER fails to (1) provide to AUTHORITY a schedule for correcting any such nonconforming work acceptable to AUTHORITY within such ten-day period, (2) commence such corrective work within such ten-day period and (3) thereafter diligently prosecute such correction in accordance with such approved schedule to completion, then AUTHORITY may cause the nonconforming work to be remedied or removed and replaced and may deduct the cost of doing so from any moneys due or to become due DESIGN-BUILDER and/or obtain reimbursement from DESIGN-BUILDER for such cost.

B. If AUTHORITY agrees to accept any Nonconforming Work without requiring it to be fully corrected, AUTHORITY shall be entitled to reimbursement of a portion of the Contract Price in an amount equal to the greater of the amount deemed appropriate by AUTHORITY to provide compensation for future maintenance and/or other costs relating to the Nonconforming Work, or 100% of DESIGN-BUILDER's cost savings associated with its failure to perform the Work in accordance with Contract requirements. Such reimbursement shall be payable to AUTHORITY within ten days after DESIGN-BUILDER's receipt of an invoice thereof. DESIGN-BUILDER acknowledges and agrees that AUTHORITY shall have sole discretion regarding acceptance or rejection of Nonconforming Work and that AUTHORITY shall have sole discretion with regard to the amount payable in connection therewith.

ARTICLE 37. CONTRACTOR INSPECTION SYSTEM

DESIGN-BUILDER shall maintain an adequate inspection system and perform such inspections as will assure that the work performed under this Agreement conforms to the specified requirements, and shall maintain and make available to AUTHORITY adequate records of such inspections.

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ARTICLE 38. SUPERINTENDENCE BY CONTRACTOR

DESIGN-BUILDER, at all times during performance and until the work is completed and accepted, shall give its personal superintendence to the work or have on the work a competent superintendent, satisfactory to AUTHORITY and with authority to act for and on behalf of DESIGN-BUILDER.

ARTICLE 39. OTHER CONTRACTS

AUTHORITY may undertake or award other agreements for additional work, and DESIGN-BUILDER shall fully cooperate with such other DESIGN-BUILDER's and AUTHORITY's employees and carefully fit its own work to such additional work as may be directed by AUTHORITY. DESIGN-BUILDER shall not commit or permit any act, which will interfere with the performance of work by any other DESIGN-BUILDER or by AUTHORITY.

ARTICLE 40. INSPECTION OF SITE

DESIGN-BUILDER acknowledges that it has investigated and satisfied itself as to the conditions affecting the work including, but not restricted to, those bearing upon transportation, disposal, handling and storage of materials, availability of labor, water, electric power and roads and uncertainties of weather, river stages, tides or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during prosecution of the work. DESIGN-BUILDER further acknowledges that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by AUTHORITY, as well as from information presented by the drawings and specifications made a part of this Agreement. Any failure by DESIGN-BUILDER to acquaint itself with the available information will not relieve it from responsibility for the difficulty or cost of successfully performing the work. AUTHORITY assumes no responsibility for any conclusions or interpretations made by DESIGN-BUILDER on the basis of the information made available by AUTHORITY.

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ARTICLE 41. DIFFERING SITE CONDITIONS

A. DESIGN-BUILDER shall immediately, and before such conditions are disturbed, notify AUTHORITY in writing of: (1) subsurface or latent physical conditions at the site which differ materially from those indicated in this Agreement, or (2) unknown physical conditions at the site, of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Agreement. AUTHORITY will investigate the conditions within three business days of receipt of notification, and if it finds that such conditions do materially so differ and cause an increase or decrease in DESIGN-BUILDER's cost of, or the time required for, performance of any part of the work under this Agreement, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the Agreement modified in writing accordingly.

B. No claim of DESIGN-BUILDER under this Article shall be allowed unless DESIGN-BUILDER has given the written notice required above; no claim by DESIGN-BUILDER for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Agreement.

ARTICLE 42. OPERATIONS AND STORAGE AREAS

A. All operations of DESIGN-BUILDER (including storage of materials and equipment) on AUTHORITY owned premises shall be confined to areas authorized or approved by AUTHORITY. DESIGN-BUILDER shall hold AUTHORITY and its officers and agents free and harmless from liability of any nature occasioned by DESIGN-BUILDER's operations.

B. Temporary building (storage sheds, shops, offices, etc.) may be erected by DESIGN-BUILDER with the written consent of AUTHORITY, and shall be built with labor and materials furnished by DESIGN-BUILDER without expense to AUTHORITY. Such temporary buildings and utilities shall remain the property of DESIGN-BUILDER and shall be removed by DESIGN-BUILDER at its expense upon the completion of the work. With the written consent of AUTHORITY, such buildings and utilities may be abandoned and need not be removed.

C. DESIGN-BUILDER shall, under regulations prescribed by AUTHORITY, use only established roadways or construct and use such temporary roadways as may be authorized by AUTHORITY. Where

materials are transported in the prosecution of work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state or local law or regulation. When it is necessary to cross curbing or sidewalks, protection against damage shall be provided by DESIGN-BUILDER and any damaged roads, curbing or sidewalks shall be repaired by, or at the expense of, DESIGN-BUILDER.

ARTICLE 43. PROTECTION OF VEGETATION, UTILITIES, IMPROVEMENTS

A. DESIGN-BUILDER shall preserve and protect all existing vegetation such as trees, shrubs and grass on or adjacent to the site of work which is not to be removed and which does not unreasonably interfere with the construction work. Care will be taken in removing trees authorized for removal to avoid damage to vegetation to remain in place. Any limbs or branches of trees broken during such operations or by the careless operation of equipment, or by workmen, shall be trimmed with a clean cut and painted with an approved tree pruning compound as directed by AUTHORITY.

B. DESIGN-BUILDER shall protect from damage all existing improvements or utilities at or near the site of the work, the location of which is made known to it, and will repair or restore any damage to such facilities resulting from failure to comply with the requirements of this Agreement or the failure to exercise reasonable care in the performance of the work. If DESIGN-BUILDER fails or refuses to repair any such damage promptly, AUTHORITY may have the necessary work performed and charge the cost to DESIGN-BUILDER.

ARTICLE 44. CLEANING UP

A. DESIGN-BUILDER shall at all times keep the construction area, including storage areas used by it, free from accumulations of waste material or rubbish, and prior to completion of the work remove any rubbish from AUTHORITY owned premises and all tools, scaffolding, equipment and materials not the property of AUTHORITY. Upon completion of the construction, DESIGN-BUILDER shall leave the work and premises in a clean, neat and workmanlike condition satisfactory to AUTHORITY.

B. After completion of all work on the project, and before making application for acceptance of the work, DESIGN-BUILDER shall clean the construction site, including all areas under the control of

AUTHORITY, that have been used by DESIGN-BUILDER in connection with the work on the project and remove all debris, surplus material and equipment, and all temporary construction or facilities of whatever nature, unless otherwise approved by AUTHORITY. Final acceptance of the work by AUTHORITY will be withheld until DESIGN-BUILDER has satisfactorily complied with the foregoing requirements for final cleanup of the project site.

C. Full compensation for conforming to the provisions in this Article, not otherwise provided for, shall be considered as included in price of this Agreement and no additional compensation will be allowed therefore.

ARTICLE 45. USE AND POSSESSION TO COMPLETION

AUTHORITY shall have the right to take possession of or use any completed or partially completed part of the work. Prior to such possession or use, AUTHORITY shall furnish DESIGN-BUILDER an itemized list of work remaining to be performed or corrected on such portions of the project as are to be possessed or used by AUTHORITY, provided that failure to list any item of work shall not relieve DESIGN-BUILDER of responsibility for compliance with the terms of this Agreement. Such possession or use shall not be deemed an acceptance of any work under this Agreement. While AUTHORITY has such possession or use, DESIGN-BUILDER shall be relieved of the responsibility for the loss or damage to the work resulting from AUTHORITY's possession or use. If such prior possession or use by AUTHORITY delays the progress of the work or causes additional expense to DESIGN-BUILDER, an equitable adjustment in the Agreement price or the time of completion will be made and the Agreement shall be modified in writing accordingly.

ARTICLE 46. CONTRACTOR PURCHASED EQUIPMENT

A. If during the course of this Agreement, additional equipment is required, which will be paid for by the AUTHORITY, DESIGN-BUILDER must request prior written authorization from the AUTHORITY's project manager before making any purchase. As part of this purchase request, DESIGN-BUILDER shall provide a justification for the necessity of the equipment or supply and submit copies of three (3) competitive quotations. If competitive quotations are not obtained, DESIGN-BUILDER must provide the

justification for the sole source.

B. DESIGN-BUILDER shall maintain an inventory record for each piece of equipment purchased that will be paid for by the AUTHORITY. The inventory record shall include the date acquired, total cost, serial number, model identification, and any other information or description necessary to identify said equipment or supply. A copy of the inventory record shall be submitted to the AUTHORITY upon request.

C. At the expiration or termination of this Agreement, DESIGN-BUILDER may keep the equipment and credit AUTHORITY in an amount equal to its fair market value. Fair market value shall be determined, at DESIGN-BUILDER's expense, on the basis of an independent appraisal. DESIGN-BUILDER may sell the equipment at the best price obtainable and credit AUTHORITY in an amount equal to the sales price. If the equipment is to be sold, then the terms and conditions of the sale must be approved in advance by AUTHORITY's project manager.

D. Any subconsultant agreement entered into as a result of this Agreement shall contain all provisions of this clause.

ARTICLE 47. CONFLICT OF INTEREST

A. DESIGN-BUILDER agrees to avoid organizational conflicts of interest. An organizational conflict of interest means that due to other activities, relationships or contracts, the DESIGN-BUILDER is unable, or potentially unable to render impartial assistance or advice to the AUTHORITY; DESIGN-BUILDER's objectivity in performing the work identified in the Scope of Work is or might be otherwise impaired; or the DESIGN-BUILDER has an unfair competitive advantage. DESIGN-BUILDER is obligated to fully disclose to the AUTHORITY in writing Conflict of Interest issues as soon as they are known to the DESIGN-BUILDER. All disclosures must be submitted in writing to AUTHORITY pursuant to the Notice provision herein. This disclosure requirement is for the entire term of this Agreement.

B. If the AUTHORITY determines that DESIGN-BUILDER, its employees, or subconsultants are subject to disclosure requirements under the Political Reform Act (Government Code section 81000 et seq.), DESIGN-BUILDER and its required employees and subconsultants shall complete and file Statements of Economic Interest (Form 700) with the AUTHORITY's Clerk of the Board disclosing all

required financial interests.

ARTICLE 48. CODE OF CONDUCT

DESIGN-BUILDER agrees to comply with the AUTHORITY's Code of Conduct as it relates to Third-Party contracts which is hereby referenced and by this reference is incorporated herein. DESIGN-BUILDER agrees to include these requirements in all of its subcontracts.

ARTICLE 49. PROHIBITION ON PROVIDING ADVOCACY SERVICES

DESIGN-BUILDER and all subconsultants performing work under this Agreement, shall be prohibited from concurrently representing or lobbying for any other party competing for a contract with AUTHORITY, either as a prime consultant or subconsultant. Failure to refrain from such representation may result in termination of this Agreement.

ARTICLE 50. HEALTH AND SAFETY REQUIREMENTS

DESIGN-BUILDER shall comply with all requirements set forth in Exhibit H, Level 3 Safety Specifications. As used therein, "Contractor" shall mean "Consultant," and "Subcontractor" shall mean "Sub-consultant."

ARTICLE 51. LIMITATION ON GOVERNMENTAL DECISIONS

DESIGN-BUILDER shall not make, participate in making, or use its position to influence any governmental decisions as defined by the Political Reform Act, Government Code section 8100 et seq., and the implementing regulations in Title 2 of the California Code of Regulations section 18110 et seq. DESIGN-BUILDER's personnel performing services under this Agreement shall not authorize or direct any actions, votes, appoint any person, obligate, or commit AUTHORITY to any course of action or enter into any contractual agreement on behalf of AUTHORITY. In addition, DESIGN-BUILDER's personnel shall not provide information, an opinion, or a recommendation for the purpose of affecting a decision without significant intervening substantive review by AUTHORITY personnel, counsel, and management.

ARTICLE 52. FORCE MAJEURE

Either party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by an unforeseeable cause beyond its control,

including but not limited to: any incidence of fire, flood; acts of God; commandeering of material, products, plants or facilities by the federal, state or local government; national fuel shortage; or a material act or omission by the other party; when satisfactory evidence of such cause is presented to the other party, and provided further that such nonperformance is unforeseeable, beyond the control and is not due to the fault or negligence of the party not performing.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement No. C-4-2683 to be executed as of the date of the last signature below.

DESIGN-BUILDER

By: _____

ORANGE COUNTY TRANSPORTATION AUTHORITY

By: _____
Darrell E. Johnson
Chief Executive Officer

APPROVED AS TO FORM:

By: _____
James M. Donich
General Counsel

APPROVED:

By: _____
James G. Beil, P.E.
Executive Director, Capital Programs

EXHIBIT D: GENERAL PROVISIONS

GENERAL PROVISIONS

A. COST BREAKDOWN

Within fifteen (15) calendar days after "Notice to Proceed," the Contractor shall, upon request by the Authority, submit a cost breakdown of the lump sum Bid entered on the Bid Form for all construction work. This cost breakdown will form the basis for progress payments in accordance with these Specifications and shall show all of the major categories and subcategories of work and equipment requested by the Authority. Additionally, all costs shall be segregated between off-site and on-site costs. Mobilization costs shall not exceed ten percent (10%) of total construction costs. Bonds and insurance costs will be identified as a separate line item. Such cost breakdown shall not be required if the Authority, at its sole discretion, elects to pay the Contractor in lump sum within thirty (30) calendar days of receipt of proper invoice following the Contractor's satisfactory completion and the Authority's acceptance of all work.

B. PROGRESS PAYMENTS

1. The Authority, no later than the twenty-fifth (25^{th}) day of each month, shall prepare a progress payment estimate based on the estimated percentage of completion of each Bid Item and on the Contractor's actually incurred allowable expenses on such Bid Items. The Authority will issue the progress payment, in the amount it deems appropriate, by approximately the fifteenth (15^{th}) day of the following month.

2. For purposes of calculating the progress payments, Authority will use the cost breakdown submitted by the Contractor for each Bid Item at the start of this Agreement. In no event will the Authority make a progress payment that, when added to the prior progress payments, amounts to a sum more than the Contractor's actual aggregate incurred expenses, adjusted to include Contractor's overhead and profit as allocated to such incurred expenses.

3. The Authority will pay only ninety-five percent (95%) of each progress payment amount as determined above, retaining five percent (5%) as part security for the fulfillment of this Agreement by the Contractor, subject to Public Contract Code 22300.

4. The amount retained in accordance with paragraph B.3., hereinabove from the progress payments will be paid in full to the Contractor as part of the final payment upon Contractor's full completion of this Agreement, except that one half of one percent (½ of 1%) of this Agreement's total price shall be retained for one (1) year beyond the date of the Notice of Completion filed for this Agreement as partial security for fulfillment of the warranty obligations by the Contractor under this Agreement.

5. No progress payments will be made for materials not installed.

6. Progress payments made by Authority in no way shall be deemed or construed as acceptance by the Authority of work or waiver by the Authority of any rights hereunder.

7. The Contractor shall pay subcontractors, promptly upon receipt of each Authority progress payment; the respective amounts allowed the Contractor on account of the work performed by subcontractors, to the extent of each such subcontractor's interest therein. Such payments to subcontractors shall be based on estimates made pursuant to this Agreement. Any diversion by the Contractor of payments received for prosecution of a contract, or failure to reasonably account for the application or use of such payments, constitutes ground for termination of the Contractor's control over the work and for taking over the work, in addition to disciplinary action by the Contractor's State License Board. The subcontractor shall notify, in writing, the Contractor's State License Board and the Authority of any payment less than the amount or percentage approved for the class or item of work as set forth in this Agreement.

8. In addition to other amounts properly withheld under this Agreement, the Authority shall withhold all legally required sums for, but not necessarily limited to, stop notices, labor and tax liens, etc.

C. FINAL INSPECTION AND ACCEPTANCE

Promptly after Substantial Completion has occurred, Contractor shall perform all Punch List Work, if any, which was deferred for purposes of Project Completion, and shall satisfy all of its other contractual obligations under the contract documents.

When the Contractor determines that the work is fully completed, including satisfactory completion of all inspections, tests, and required documentation, Punch List and clean-up items, Contractor shall give the Authority a written request for Final Acceptance within ten (10) days thereafter, specifying that the work is completed and the date on which it was completed.

Within thirty (30) days after receipt of the request for Final Acceptance from Contractor, Authority will make a final inspection of the work and will either:

1. Reject the request for Final Acceptance, specifying the defective or uncompleted work; or

2. Issue a written Final Acceptance and record Notice of Completion with County Recorder.

Substantial Completion is defined herein as; In the opinion of the Authority, that work or portion thereof that is sufficiently complete and in accordance with the Contract, that it can be utilized by the Authority for the purpose for which it was intended. A determination of Substantial Completion does not waive, but may not

require the prior completion of minor items, which do not impair the Authority's ability to safely occupy and utilize the Work for its intended purpose.

D. CLAIMS

A "Claim" that falls within the definition of Public Contract Code Section 9204 (hereafter, "Section 9204"), as may be amended, means a separate demand by Contractor, sent by registered mail or certified mail with return receipt requested, for one or more of the following: (a) a time extension, including, without limitation, for relief from damages or penalties for delay assessed by Authority; (b) payment by Authority of money or damages arising from work done by, or on behalf of, the Contractor and payment for which is not otherwise expressly provided or to which Contractor is not otherwise entitled; and/or (c) payment of an amount that is disputed by the Authority.

It is important that the Authority be promptly notified of any potential claims so that it can timely and reasonably investigate the merits of the Claim when the events giving rise to the Claim are current and, when appropriate, make timely adjustments in the work in response thereto. Contractor shall submit to Authority a Notice of Claim within fifteen (15) calendar days after receipt of or the discovery of information, or the occurrence of an event, or any actions of Authority or its agents, that Contractor believes may result in a Claim. The Notice of Claim shall state the reason(s) for the Claim and the nature of the additional costs or delay that Contractor believes it will incur. Such Notice shall be submitted prior to the submission of the Claim documentation described below. If a Notice of Claim is not submitted within the fifteen (15) day period, it shall be deemed waived.

The Authority and Contractor agree to attempt to informally resolve any disputes which may give rise to a Claim. The Authority and Contractor shall meet within twenty (20) calendar days, or any mutually agreeable extension thereof, from the date the Notice of Claim is received by Authority in a good faith effort to resolve the dispute. Contractor shall provide a representative at the meeting who has authority to resolve the claim on the Contractor's behalf. If a resolution is not reached and the Authority and Contractor have not, in writing, mutually agreed to continue with informal efforts at resolution, Contractor shall file a Claim within thirty (30) calendar days after the informal resolution process has concluded, or such Claim shall be deemed waived.

The Authority and the Contractor shall process the Claim in accordance with Section 9204 and the requirements set forth herein.

1. Claim Requirements.

a. Any submittal intended by the Contractor to be evaluated by Authority as a Claim shall be entitled “Claim” and sent to Authority by registered mail or certified mail with return receipt requested. The Contractor may present a Claim on behalf of a subcontractor or a lower tier subcontractor meeting the requirements of Section 9204(d)(5).

b. All Claims shall be submitted by the Contractor within thirty (30) calendar days after the conclusion of the informal resolution process discussed above; however, this timeframe may be extended unilaterally by Authority in writing. Any Claim not submitted within the specified thirty (30) calendar days, or as otherwise authorized by Authority, shall be deemed untimely and waived.

c. All Claims shall include reasonable documentation in support, including a detailed factual statement that sets forth names, dates, and specific events that took place. In addition, supporting documents shall include a detailed analysis of a request for a time extension, if applicable, and a detailed breakdown of a request for additional compensation. A revised construction schedule shall also be included identifying the impact of the delays, including proposals to minimize any of the impacts.

d. Claims filed by the Contractor shall be in sufficient detail to enable the Authority to ascertain the basis and amount of said Claims. The Authority will consider and determine the Contractor's Claims, and it will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Authority to determine the facts or contentions involved in its Claims. Failure to submit sufficient information and details will be cause for Authority to deny the Claim and/or find the Claim untimely and, therefore, waived. If the Claim is silent regarding entitlement to extra time, the Contractor shall be entitled to no extra time in connection with the Claim. If the Claim is silent regarding additional compensation, the Contractor shall be entitled to no additional compensation in connection with the Claim.

e. No Claims shall be filed later than the date of final payment.

f. All Claims and any amendments thereto shall include the fully executed certification set forth below. Any Claim submitted without a fully executed certification shall be rejected by Authority and returned to the Contractor.

Certificate

Under the penalty of law for perjury or falsification with specific reference to the California False Claims Act, Government Code Section 12650 et. Seq., the undersigned,

_____
(Name)

_____
(Title)

_____
(Company)

herby certifies that the claim for the additional compensation and time, if any, made herein for the work on this Contract is a true statement of the actual cost incurred and time sough, and is fully documented and supported under the Contract between the parties

Dated: _____

Signature: _____

Subscribed and sworn before this _____ day of _____, 202__
_____ .

_____
Notary Public

My Commission Expires: _____

2. Claim Review

Within forty-five (45) calendar days of receipt of the Claim, or any extension thereof agreed upon by the Authority and the Contractor, the Authority will conduct a reasonable review of the Claim and provide the Contractor with a written statement identifying what portion of the Claim is disputed and what portion is undisputed. Payment of any undisputed portion of the Claim shall be made within sixty (60) calendar days after the Authority issues its written statement. If the Authority does not provide a written statement within the time specified, the Claim shall be deemed rejected.

3. Claim Settlement Conference

If the Contractor disputes the Authority's written statement or if the Claim is deemed rejected, the Contractor may demand in writing, by registered or certified mail to the Authority, return receipt requested, an informal conference to meet and confer in an effort to settle the disputed portion of any Claim. Within thirty (30) calendar days of receipt of such written demand, the Authority shall schedule a meet and confer conference. Such conference shall be attended by an officer or principle of the Contractor who has the authority to resolve the Claim on the Contractors' behalf.

If any portion of the Claim remains in dispute after the conference, the Authority shall, within ten (10) business days of the conclusion of the conference, provide the Contractor with a written statement identifying any portion that remains in dispute and any portion that is undisputed. Payment of any undisputed portion shall be made within sixty (60) calendar days after the Authority issues its written statement.

Any remaining disputed portion shall be submitted to nonbinding mediation, unless the Contractor and Authority waive the mediation upon mutual written agreement. Mediation includes any nonbinding process, including, but not limited to, a neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. The Authority and the Contractor will share in the costs of mediation equally in accordance with Section 9204.

Within ten (10) business days after issuance of the Authority's written statement, the Authority and Contractor shall select a mutually-agreeable mediator. If the parties cannot agree to a mediator, the Authority and Contractor will each select a mediator who will then select a qualified neutral third party to mediate with regard to the disputed portion of the Claim. Authority and Contractor will each bear its own fees and costs for its respective mediator in connection with the selection of the neutral mediator.

Claims which are not resolved through this Claims settlement process shall be resolved in accordance with the laws of the State of California.

E. FINAL PAYMENT

1. After the filing of the Notice of Completion, (or acceptance of the Project), the Authority will make a proposed final estimate, in writing, of the total amount payable to the Contractor, including therein an itemization of said amount, segregated as to Contract item quantities, extra work and any other basis for payment, and shall also show therein all deductions made or to be made for prior payments and amounts to be kept or retained under the provisions of the contract. All prior estimates and payments shall be subject to correction in the proposed final estimate. Within fifteen (15) days after proposed final estimate

has been submitted, Contractor shall submit to the Authority written approval of proposed final estimate and/or a written statement of all claims of the Contract. No claim will be considered that was not included in written statement of claims, nor will any claim be allowed unless the Contractor has previously complied with the notice and protest requirements.

2. On the Contractor's approval, or if he files no claim within stated period, Authority will issue a final written estimate, in accordance with the proposed final estimate submitted to the Contractor; and thirty-five (35) days after the date of filing the Notice of Completion (or acceptance) Authority will pay the entire sum found to be due. Such final estimate and payment thereon shall be conclusive and binding against the Contractor on all questions relating to the amount of work done and the compensation payable therefore, except as otherwise provided.

3. If the Contractor within said period of fifteen (15) days files claims, Authority will issue a semi-final estimate in lieu of the final estimate submitted to the Contractor; and thirty-five (35) days after the date of filing of the Notice of Completion, the Authority will pay the sum found to be due. Such semi-final estimate and payment thereon shall be conclusive and binding against the Contractor on all questions relating to the amount of work done and the compensation payable therefore, except insofar as affected by the claims filed within the time and in the manner required hereunder and except as otherwise provided.

4. Upon final determination of any outstanding claims, the Authority shall then make and issue a final estimate in writing and within thirty (30) days thereafter, the Authority will pay the entire sum, if any, found due. Such final estimate shall be conclusive and binding against the Contractor on all questions relating to the amount of work done and the compensation payable therefore, except as otherwise provided.

F. EXTRA WORK AND CHANGES

1. New and unforeseen work, which in the judgment of the Authority is found necessary or desirable for the satisfactory completion of the work, will be classified as extra work, as well as work specifically designated as such in the plans or specifications. The Contractor shall do such extra work and furnish material and equipment therefore as directed by the Engineer in writing by a change order. No extra work will be paid for or allowed unless the same was done upon written change order of the Engineer and after all legal requirements have been complied with.

   The Contractor agrees that he will accept as full compensation for any extra work or changes in the work, so ordered, an amount to be determined by one of the following methods:

a. A price mutually agreed upon in writing by the Engineer and Contractor (hereafter Agreed Price).

b. Force Account as hereafter provided.

All compensation for extra work or changes in the work will be provided through a written change order. Nothing herein shall excuse the Contractor from proceeding with the work as otherwise directed by the Agreement.

2. It is mutually agreed that on the agreed price, the Contractor and subcontractor(s) shall add not more than a total markup of 20% to be divided between the Contractor and subcontractor(s) as full compensation for all other expenses including overhead, profit, bond, superintendence, insurance and small tools.

3. When extra work is to be paid for on a force account basis, compensation will be determined as follows:

a. Materials

A sum equal to the actual cost to the Contractor of the materials furnished by him, as shown by paid receipts, plus not more than fifteen percent (15%). Only installed materials shall be paid for.

b. Labor

1. The actual wages paid as shown on the certified copies of Contractor's payroll, for all labor directly engaged in the work and including the cost of any compensation insurance paid for by the Contractor, subsistence and travel allowance aid to such workmen as required by collective bargaining agreements plus not more than twenty percent (20%).

2. To the actual wages as described in 1 above will be added a labor surcharge of not more than seventeen percent (17%), and shall constitute full compensation for all other payments, including payments imposed by State and Federal laws.

c. Equipment

1. Equipment will be paid for as a rental charge whether owned by the Contractor or not, and said rental rates prevailing in the area for comparable equipment will be paid. To the direct costs of "Equipment Rental" will be added a not more than fifteen percent (15%) markup.

2. All extra work at Force Account shall be adjusted daily upon report sheets prepared by the Engineer, furnished to the

Contractor and signed by both parties. Said daily reports shall thereafter be considered the true record of all extra work done. The decision of the Engineer as to whether extra work has in fact been performed shall be conclusive and binding upon both parties to the contract.

4. A contract change order approved by Authority may be issued to the Contractor at any time. Should the Contractor disagree with any terms or conditions set forth in the contract change order, the Contractor shall submit a written protest to the Authority within 15 days after the receipt of the contract change order. The protest shall state the points of disagreement and, if possible, the contract specification references, quantities and costs involved. If a written protest is not submitted within the above period, payment will be made as set forth in the approved contract change order and such payment shall constitute full compensation for all work included therein or required thereby. Such unprotested approved contract change orders will be considered as executed contract change orders.

5. Contractor shall promptly notify the Authority in writing when it receives direction, instruction, interpretation or determination from any source other than the Authority or its designated representatives that may lead to or cause change in the work. Such written notification shall be give to the Authority before the Contractor acts on said direction, instruction, interpretation or determination.

G. EXTENDED FIELD OFFICE OVERHEAD COSTS

1. Within thirty (30) days after receipt of the Notice to Proceed, the Contractor shall submit a written statement to the Authority detailing its field office overhead costs which are time related. The Authority will review this cost submittal and reach a written agreement with the Contractor on a daily field office overhead cost rate which shall be issued as an agreed upon Change Order. The daily rate agreed to in this Change Order will be applicable throughout the duration of the Contract. No field office costs will be paid until such agreement is reached between the Authority and the Contractor and the Change Order concerning this daily rate is executed by both parties.

2. The individual cost components of the daily field office overhead rate shall represent costs which increase as a direct result of any time extension caused solely and exclusively by an act of the Authority. This listing may include such cost items as on-site project management, supervision, engineering and clerical salaries; on-site office utilities and rent; on-site company vehicles and their operating expenses; and site maintenance and security expenses. Field office overhead costs which are unaffected by increased time shall not be allowable costs in calculating the daily field office overhead rate. These non-time related costs include, but are not limited to, acquisition and installation of stationary equipment; temporary construction facilities; utilities and office furnishings (unless

such items are rented or leased); the preparation of the site including clearing, grubbing, grading and fencing; mobilization and demobilization costs; and the costs of permits, bonds and insurance coverage for the project.

3. The individual wage cost components used to calculate the daily field office overhead rate shall be supported by actual employee payroll records, not salary ranges or estimates. Hourly rates for management, supervisory, engineering and clerical employees shall be based upon 2,080 work hours per year and shall not include allowances for holidays, vacation or sick time. However, the daily field office overhead rate shall only reflect the actual on-site time required in the field office. All other field office overhead cost components shall be evidenced by records demonstrating actual field office costs incurred by the Contractor.

4. The daily field office overhead rate shall be multiplied by the number of days the Contract is delayed or extended by Change Order and shall be added to the agreed upon Change Order cost. The days of delay shall be those caused solely by action of the Authority and documented by a time impact analysis prepared and submitted by the Contractor. In the event of a deductive Change Order is issued which reduces time under the Contract, the daily field office overhead rate shall be added to the deductive amount. No allowance for overhead costs and no profit allowance shall be added to the extended field office overhead cost.

H. ACCELERATION

1. Authority reserves the right to accelerate the work of the Contract at any time during its performance. In the event that the Authority directs acceleration, such directive will be given to the Contractor in writing. The Contractor shall keep cost and other Project records related to the acceleration directive separately from normal Project cost records and shall provide a written record of acceleration costs to the Authority on a daily basis.

2. In the event that the Contractor believes that some action or inaction on the part of the Authority constitutes an acceleration directive, the Contractor shall immediately notify the Authority in writing that the Contractor considers the actions or inactions an acceleration directive. This written notification shall detail the circumstances of the acceleration directive. The Contractor shall not accelerate their work efforts until the Authority responds to the written notification. If acceleration is then directed or required by the Authority, all cost records referred to in Subsection H.1 shall be maintained by the Contractor and provided to the Authority on a daily basis.

3. In order to recover additional costs due to acceleration, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will only be overtime or shift premium costs or the cost of additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will only be the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

I. VALUE ENGINEERING

Authority encourages the Contractor to submit Value Engineering Proposals (VEP's) whenever it identifies areas and/or instances in which improvements can be made, in order to avail the Authority of potential cost savings. Contractor and the Authority will share any savings in the manner described below.

A VEP applies to a Contractor developed and documented VEP that:

1. Requires a change to the contract.

2. Reduces the total contract price without impairing essential functions or characteristics of the work.

3. Results in an estimated total net savings to the Authority equal to or greater than $1,000.

At a minimum, a VEP should include the following information:

1. A description of the existing contract requirements that are involved in the proposed change.

2. A description of the proposed change, and all specifications and/or plans necessary for the complete evaluation of the proposed change. Include a discussion of the differences between existing requirements and the proposed change, together with advantages and disadvantages of each changed item. All relevant back up documentation needs to be included to support proposed changes.

3. Cost estimate for existing contract requirements correlated to the Contractors lump sum breakdown and the proposed changes in those requirements, including costs of development and implementation by the Contractor.

Contractor shall submit the VEP to the Authority. At its sole discretion, Authority may accept, in whole or in part and by Change Order, any VEP submitted pursuant to this section. Until a Change Order is issued on a VEP, Contractor shall remain obligated to perform in accordance with the Contract. The decision of the Authority as to the rejection or acceptance of a VEP shall be at the sole discretion of the Authority.

If a VEP, submitted by the Contractor pursuant to this section is accepted by the Authority, the total Contract price shall be adjusted based upon a sharing of the net savings by the Contractor and the Authority (50% Authority, 50% Contactor). Contractor's profit shall not be reduced by application of the VEP.

Net savings are defined as gross savings less the Contractor's costs and less the Authority's costs.

1. Contractors cost means reasonable costs incurred by the Contractor in preparing the VEP and making the change.

2. Authority's costs means reasonable costs incurred by the Authority for evaluating and implementing the VEP.

3. Contractor is not entitled to share in either concurrent, collateral or future Contract savings. Collateral savings are those measurable net reductions in the Authority's costs of operation that result from the VEP. Concurrent savings cover the reductions in the cost of performance of other contracts.

Contractor shall include appropriate VEP provisions in all subcontracts greater than $25,000.

J. STOP NOTICES

The Authority, at its sole discretion, may, at any time, retain out of any amounts due the Contractor, sums sufficient to cover claims filed pursuant to Section 9358 et seq. of the California Civil Code.

K. ORDER OF WORK

Contractor shall perform work hereunder at such places, and in such order or precedence, as may be determined necessary by the Engineer to expedite completion of the required work.

L. DAVIS-BACON LABOR PROVISIONS (2 CFR SECTION 5.5)

1. Prevailing Wages

Contractor shall comply with all applicable requirements of Division 2, Part 7, Chapter 1 of the California Labor Code. If this Agreement is funded, in whole or in part, by federal funds, Contractor shall comply with these Davis-Bacon Labor Provisions ("Labor Provisions") and all applicable federal requirements respecting prevailing wages, including, but not limited to, the Davis-Bacon Act, 40 U.S.C. Sections 3141-3144, and Sections 3146-3148, as supplemented by U.S. DOL regulations at 29 CFR part 5, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction."

If there is a difference between the minimum wage rates predetermined by the Secretary of Labor and the wage rates determined by the Director of the Department of Industrial Relations (DIR) for similar classifications of labor, the Contractor and subcontractors shall not pay less than the higher wage rate. The DIR will not accept lower state wage rates not specifically included in the Federal minimum wage determination.

2. Minimum Wages

   a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally, and not less often than once a week and without subsequent deduction or rebate on any account, the full amount of wages and bona fide fringe benefits (Or cash equivalents thereof) due at time of payment computed at wage rates not less than those specified in the General Wage Determinations referenced in this section regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics; and the wage determination decision shall be posted by the Contractor at the site of the work in a prominent place where it can be easily seen by the workers. For the purpose of this clause, contributions made or cost reasonably anticipated under the Labor Code of the State of California on behalf of laborers or mechanics are considered wages paid by such Laborers or mechanics. Also for the purpose of this clause, regular contributions made or costs incurred for more than a weekly period under plans, funds or programs, but covering the particular weekly period, are deemed to be constructively made or incurred during such weekly period.

b. Authority shall require that any class of laborers or mechanics, including helpers, apprentices and trainees, which is not listed in the General Wage Determinations and which is to be employed under this Contract, shall be classified conformably to such wage determinations. The Authority will approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met: (1) the work to be performed by the classification requested is not performed by a classification in the wage determination; and (2) the classification is utilized in the area by the construction industry; and (3) the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination. If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the Authority agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the Authority to the Administrator of the Wage and Hour Division, U.S. Department of Labor. The Administrator will approve, modify, or disapprove every additional classification action within thirty (30) days from receipt and so advise the Authority or will notify the Authority within the thirty (30)-day period that additional time is necessary.

c. In the event the Authority does not concur in the Contractor's proposed classification or reclassification of a particular class of laborers and mechanics (including apprentices and trainees) to be used, the question, accompanied by the recommendation of the Authority, shall be referred to the State Director of Industrial Relations for determination. The wage rate (including fringe benefits where appropriate) determined pursuant to this subsection shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

d. Authority shall require, whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly wage and the Contractor is obligated to pay a cash equivalent of such a fringe benefit, an hourly cash equivalent thereof to be established. In the event the interested parties cannot agree upon cash equivalent of the fringe benefit, the questions, accompanied by the recommendation of the Authority, shall be referred to the State Director of Industrial Relations for determination.

e. If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided that the Secretary of Labor has found, upon written request of Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of

obligations under this plan or program.

f. All disputes concerning the payment of wages or the classification of workers under this Agreement shall be promptly reported to the Authority.

3. Deductions

Authority may deduct from each progress payment and the Final Payment the following:

a. Any Authority or third-party claims or losses for which Contractor is responsible hereunder or any Liquidated Damages which have accrued as of the date of the application for payment;

b. If a notice to stop payment is filed with Authority, due to the Contractor's failure to pay for labor or materials used in the work, money due for such labor or materials, plus the 25% prescribed by law, will be withheld from payment to the Contractor. In accordance with Section 9358 of the Civil Code, Authority may accept a bond by a corporate surety in lieu of withholding payment;

c. Any sums expended by or owing to Authority as a result of Contractor's failure to maintain the as-built drawings;

d. Any sums expended by Authority in performing any of the Contractor's obligations under the Contract which Contractor has failed to perform; and

e. Any other sums which Authority is entitled to recover from Contractor under the terms of the Contract.

f. The amount of the accrued payments or advances as many be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the Contract, the Authority may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

The failure by Authority to deduct any of these sums from a progress payment shall not constitute a waiver of Authority's right to such sums.

All amounts owing by Contractor to Authority under the Contract shall earn interest from the date on which such amount is owing at the lesser of (i) ten percent (10%) per annum or (ii) the maximum rate allowable under applicable Governmental Rules.

4. Payrolls and Basic Records

   a. Payrolls and basic records relating thereto will be maintained during the course of the work and preserved for a period of three (3) years thereafter for all laborers and mechanics working at the site of the work. Such records will contain the name, address and social security number of each such worker, the correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in Section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the rations and wage rates prescribed in the applicable programs.

   b. Contractor will submit weekly a copy of all payrolls to the Authority as required in these "Labor Provisions." The copy shall be accompanied by a statement signed by the employer or its agent indicating that the payrolls are correct and complete; that each laborer or mechanic (including helpers, apprentices, and trainees) have been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR part 3; that the wage rates contained therein are not less than those determined by the State Director of Industrial Relations and that the classifications as set forth for each laborer or mechanic conform to the work performed. A submission of the "Weekly Statement of Compliance," which is required under this Contract, shall satisfy this requirement. The prime Contractor shall be responsible for the submission of copies of payrolls of all subcontractors. The Contractor will make the records required under the labor standard clauses of the Contract available for the inspection by authorized

representatives of the Authority, and will permit such representatives to interview employees during working hours on the job.

5. Apprentices and Trainees

   a. Apprentices: Apprentices will be permitted to work at less than the predetermined rate for the work they perform when they are employed and individually registered in a bona fide apprenticeship program as defined in Section 1777.5 of the Labor Code of the State of California. The allowable ratio of apprentices to journeymen in any craft classification shall not be greater than the ratio permitted to the Contractor as to his entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate who is not registered or otherwise employed as stated above, shall be paid the wage rate determined by the State Director of Industrial Relations for the classification of work he actually performed. The Contractor or subcontractor will be required to furnish to the Authority or the State Director of Industrial Relations written evidence of the registration of his program and apprentices as well as the appropriate ratios and wage rates (expressed in percentages of the journeyman's rate contained in the applicable wage determination).

   b. Trainees: Except as provided in 29 CFR Section 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to or individually registered in a program which has received prior approval, evidenced by formal certification, by the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training. The ratio of trainees to journeymen shall not be greater than that permitted under the plan approved by the Bureau of Apprenticeship and Training. Every trainee must be paid at not less than the rate specified in the approved program for his level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage-Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate determined by the Secretary of Labor for the classification of work he actually performed. The Contractor or subcontractor will be required to furnish the contracting officer or a representative of the Wage-Hour Division of the U.S. Department of

Labor written evidence of the certification of his program, the registration of the trainees, and the ratios and wage rates prescribed in that program. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal Employment Opportunity: The utilization of apprentices, trainees, and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, 29 CFR part 30, and 41 CFR part 60.

6. Compliance with Copeland Regulations (29 CFR part 3)

The Contractor shall comply with the Copeland "Anti-Kickback" Act (18 U.S.C. 874 and 40 U.S.C. 276c). The Contractor shall also comply with the Copeland Regulations (29 CFR part 3), which are herein incorporated by reference.

7. Contract Termination; Debarment

A breach of Subsections 1 through 6 above may be grounds for termination of the Contract, and for debarment as a contractor and subcontractor provided in 29 CFR Section 5.12.

8. Overtime Requirements

No Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any laborer or mechanic in any work week in which he is employed on such work to work in excess of eight (8) hours a day or forty (40) hours in such work week unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of eight (8) hours a day or forty (40) hours in such work week.

9. Violation; Liability for Unpaid Wages

Pursuant to Section 1775 of the Labor Code of the State of California, in the event that any workman employed on this public works project is paid less than the amount specified in the General Prevailing Wage Determinations or less than is required, relative to overtime, the Contractor and any subcontractor responsible therefore shall be liable to the affected workman for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the State of California or the Authority for liquidated damages. Such liquidated damages shall be computed with respect to each individual

workman found to be underpaid and shall be in the amount of $50 per calendar day that a workman was underpaid.

10. Withholding for Liquidated Damages

The Authority may withhold or cause to be withheld, from any monies payable on account of work performed by the Contractor or subcontractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for liquidated damages as provided in this section.

11. Final Labor Summary

The Contractor and each subcontractor shall furnish to the Authority, upon the completion of the Contract, a summary of all employment, indicating for the completed project, the total hours worked and the total amount earned.

12. Final Certificate

Upon completion of the Contract, the Contractor shall submit to the Authority, with the voucher for a final payment for any work performed under the Contract, a certification concerning wages and classifications for laborers and mechanics, including apprentices and trainees employed on the project, in the following form:

The undersigned, Contractor on

_____
(Contract No.)

hereby certifies that all laborers, mechanics, apprentices and trainees employed by the Contractor or by a subcontractor performing work under the contract on the project have been paid wages at rates not less than those required by the contract provisions, and that the work performed by each such laborer, mechanic, apprentice or trainee conformed to the classifications set forth in the contract or training program provisions applicable to the wage rate paid.

_____
Signature and Title

13. Notice to the Authority of Labor Dispute

Whenever the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this contract, the Contractor shall immediately give notice thereof, including all relevant information with respect thereto, to the Authority.

14. Disputes Clause

a. Disputes arising out of these Labor Provisions will be resolved in accordance with the procedures set forth in 29 CFR parts 5, 6, and 7, including disputes between the Authority, the Contractor (or any of its subcontractors), the U.S. Department of Labor, or the employees or their representatives. All disputes concerning the payment of prevailing wage rates or classifications shall be promptly reported to the Authority for its referral to DOT for decision or, at the option of the Authority, DOT referral to the Secretary of Labor. The decision of DOT or the Secretary of Labor, as the case may be, shall be final.

b. All questions relating to the application or interpretation of the Copeland Act, the Contract Work Hours Standards Act, the Davis-Bacon Act, or Section 13 of the Act shall be sent to the Federal Transit Administration (FTA) for referral to the Secretary of Labor for ruling or interpretation, and such ruling or interpretation shall be final.

15. Compliance with Davis-Bacon and Related Act requirements

All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference.

16. Certification of Eligibility

By entering into this Agreement, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded government contracts by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). No part of this Contract shall be subcontracted to any person or firm ineligible for award of a government contract by virtue of Section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1). The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. Section 1001.

17. Insertion in Subcontracts

The Contractor shall set forth in all subcontracts Subsections 1 through 16 above so that all of the provisions of this section will be inserted in all construction subcontracts of any tier, and such other clauses as the Government may by appropriate instructions require.

18. Certified Payroll Records

a. The Authority shall obtain from the Contractor and each subcontractor a certified copy of each weekly payroll within seven (7) days after the regular payroll date. Following a review by the Authority for compliance with State and Federal labor laws, the

payroll copy shall be retained at the project site for later review by FTA.

b. Contractor may use the Department of Labor Form WH-347, "Optional Payroll Form," which provides for all the necessary payroll information and certifications.

c. If, on or before the twentieth (20^{th}) of the month, the Contractor has not submitted satisfactory payrolls covering its work and the work of all subcontractors for all payroll periods ending on or before the sixty (6^{th}) of that month, such payrolls will be considered to be delinquent. Regardless of the number of delinquent payrolls, an amount equal to ten percent (10%) (but not less than $1,000 or more than $10,000) shall be deducted from the estimate. Deductions will be made separately for each estimate period in which a new delinquency appears and will be continued until payrolls have been submitted.

d. Contractors employing apprentices or trainees under approved programs shall include a notation on the first weekly certified payrolls submitted to the Authority that their employment is pursuant to an approved program and shall identify the program.

M. TIME EXTENSION/DELAYS

a. Contractor may be granted an extension of time for any portion of a delay in completion of the work due to acts of God, the public enemy, wars, civil unrest, fires, quarantine restrictions, or weather more severe than normal, providing that (1) the aforesaid causes were not foreseeable and did not result from an act or omission by the Contractor, (2) Contractor has taken reasonable precautions to prevent further delays owing to such causes, and (3) Contractor notifies Authority in writing of the cause(s) for the delay within ten (10) days from the beginning of any such delay. No claims for additional compensation or damages for the foregoing delays shall be allowed to the Contractor, and the extension of time provided for herein shall be the sole remedy of the Contractor on account of any such delays.

b. An extension of time will not be granted for a delay described in the above paragraph(s) caused by a shortage of materials, except if materials are furnished by Authority, unless the Contractor supplies the Authority with documented proof that every effort to obtain the materials from all known sources that (a) such materials could have been obtained only at exorbitant prices or (b) the prices were entirely inconsistent with current rates, taking into account the quantities; and (c) such facts could not have been known or anticipated at the time the Notice To Proceed was issued. Contractor shall also submit proof, that the inability to obtain such materials when

originally planned, did in fact, cause a delay in completion of the work that could not be compensated for by revising the sequence of its operations. Only the physical shortage of material will be considered as a basis for an extension of time.

c. An extension of time for weather more severe than normal shall be granted only to the extent the work is actually delayed as determined by the Authority. Normal is defined as the monthly average of the temperature and rainfall wherein the work was performed for the prior twenty (20) years before the execution of the Contract.

d. In the event Contractor is actually and necessarily delayed by an act or omission on the part of the Authority, as determined by the Authority, the Contractor shall notify the Authority in writing within five (5) days from the beginning of any such delay. The time for completion of the work may be extended at the sole discretion of the Authority.

e. Within thirty (30) days after the last day of delay, Contractor shall provide Authority with detailed information concerning the circumstances of the delay, the number of days actually delayed, and the measures taken to minimize or prevent the delay. Failure to submit information shall be sufficient reason to deny the claim. Authority shall ascertain the facts and the extent of the delay; and provide the Contractor its written findings, which will be final and conclusive. Except for the additional compensation for herein and except as provided in Public Contract Code Section 7102, Contractor shall have no claim for damages or compensation for any delay or hindrance.

f. No extension of time will be granted for any Authority caused delay or delay as defined in which (a) the performance of work would have been concurrently delayed by Contractor induced causes, including but not limited to an act or omission of the Contractor, or (b) remedies are included or excluded by any other Contract provision. Only the actual delay necessarily resulting from the causes specified in this Article shall be grounds for extension of time. Should the Contractor be delayed at any time for any period by two or more of the causes specified in this article, Contractor shall only be entitled to one time extension for the entire delay.

g. Any time extension granted to Contractor shall not release the Contractor or surety from its obligations. Work shall continue and be carried on in accordance with the Contract provisions, unless formally suspended or terminated by the Authority.

N. AFFIRMATIVE ACTION

If this Agreement is funded in whole, or in part, by federal funds, Contractor and subcontractors holding a value of work of $10,000 or more must submit a Monthly

Employment Utilization Report (Form 257) to the Authority Engineer by the fifth (5^{th}) of each month or sanctions shall be applied for late submittal, non-submittal and incomplete forms returned to the Contractor and resubmitted after the due date.

The reporting period shall be for each calendar month.

The report shall include the information requested for each Contractor's aggregate work force (for all workers on all projects within Orange County) and not just for workers on this project.

If the form is not received by the fifth (5^{th}) of the month, a deduction of ten (10%) (with a minimum of $1,000 and a maximum of $10,000) will be withheld from the monthly estimate at the option of the Authority.

The Contractor shall designate an Equal Employment Officer for the project and notify the Authority in writing whom that person is prior to beginning of work. All workers shall also be informed who the EEO Officer is.

O. STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

If this Agreement is funded in whole, or in part, by federal funds, Contractor and subcontractors holding a value of work of $10,000 or more shall comply with the Standard Federal Equal Employment Opportunity Construction Contract Specifications, set forth in 41 CFR Section 60-4.3, which are incorporated herein by this reference.

P. CONFLICT OF INTEREST

All Contractors responding to this Invitation For Bids must avoid organizational conflicts of interest which would restrict full and open competition in this procurement. An organizational conflict of interest means that due to other activities, relationships or contracts, a Contractor is unable, or potentially unable to render impartial assistance or advice to the Authority; a Contractor's objectivity in performing the work identified in the specifications is or might be otherwise impaired; or a Contractor has an unfair competitive advantage. Contractor is obligated to fully disclose to the Authority in writing any conflict of interest issues as soon as they are known. All disclosures must be disclosed at the time of bid submittal.

Q. CODE OF CONDUCT

Contractor agrees to comply with the Authority's Code of Conduct as it related to Third-Party contracts, which is hereby referenced and by this reference is

incorporated herein. Contractor agrees to include these requirements in all of it's subcontracts.

R. GOVERNMENT INSPECTIONS

The Authority and Federal Government representatives shall have access to the construction site and shall have the right to inspect all project works.

S. LICENSING, PERMITS AND INSPECTION COSTS

1. The Contractor warrants that it has all necessary licenses and permits required by the laws of the United States, State of California, the County of Orange, the Local Jurisdictions, and all other appropriate governmental agencies, and agrees to maintains these licenses and permits in effect for the duration of the Agreement. Further, Contractor warrants that its employees, agents, and Contractors and subcontractors shall conduct themselves in compliance with such laws and licensure requirements including, without limitation, compliance with laws applicable to nondiscrimination, sexual harassment and ethical behavior throughout the duration of this Agreement. Contractor further warrants that it shall not retain or employ an unlicensed subcontractor to perform work on this Project. Contractor shall notify the Authority immediately and in writing of its employees', agents', Contractors' or subcontractors' inability to obtain or maintain, irrespective of the pendency of any appeal, any such licenses, permits, approvals, certificates, waivers, and exemptions. Such inability shall be cause for termination of this Agreement.

2. Contractor shall procure all permits and licenses; pay all charges, assessments and fees, as may be required by the ordinances and regulations of the public agencies having jurisdiction over the areas in which the work is located, and shall comply with all the terms and conditions thereof and with all lawful orders and regulations of each such public agency relating to construction operations under the jurisdiction of such agency.

T. HAZARDOUS SUBSTANCES

1. CAL-OSHA Requirements

   All flammable, corrosive, toxic, or reactive materials being bid must have a complete CAL-OSHA Safety Data Sheet (SDS) accompanying the submitted bid.

2. South Coast Air Quality Management District (SCAQMD)

   All materials (paints, coatings, inks, solvents, and adhesives) shall comply with the volatile organic compounds (VOC) content requirements of the applicable SCAQMD rules.

3. Notice of Hazardous Substances

   Title 8, California Code of Regulations, Section 5194 (e) (c), states that the employer must inform any Contractor employers with employees working in the employer's workplace of the hazardous substances to which their employees may be exposed while performing their work. In compliance with this requirement, the Authority hereby gives notice to all bidders that the following general categories of hazardous substances are present on the Authority's premises:

   - Adhesives, sealant, patching, and coating products
   - Antifreezes, coolants
   - Cleaners, detergents
   - Paints, thinners, solvents
   - Pesticides, Petroleum products (diesel and unleaded fuel, oil products)
   - Printing, photocopying materials
   - Propane Welding materials/compressed gases (e.g., acetylene, oxygen, nitrogen)

   More specific information may be obtained from the Authority's Safety and Benefits office at (714) 560-5854, and from Safety Data Sheets (SDS) for individual products.

4. Hazardous Waste Labels

   Containers containing hazardous substances must be labeled with the following information:

   - Identity of hazardous substance-chemical name, not manufacturer or trade name;
   - Appropriate health warning relative to health and physical hazard; and

   - Name and address of manufacturer or other responsible party.

All containers containing hazardous substances may be rejected unless containers are properly labeled. Containers of 55 gallons or larger must have either weather resistant labels or the information should be painted directly on the containers.

U. CHANGES IN LAWS AND REGULATIONS

CONTRACTOR shall at all times comply with all applicable state and local regulations, policies, procedures and directives, including without limitation those listed directly or by reference in this Agreement. CONTRACTOR's failure to so comply shall constitute a material breach of Contract.

V. MEDIA AND THE PUBLIC

Contractor shall immediately refer all inquires from the news media or other public

sources to the Authority's Project Manager, or designated representative, relating to this project.

W. COORDINATION AND ACCESS

Authority may undertake or award other contracts for additional work at the project site. Contractor is responsible for coordinating its work with the work of other Contractors as appropriate. The Contractor acknowledges that they do not have any exclusive access to the site or other work areas Authority may require that certain facilities and areas be used concurrently by the Contractors and others. Contractor shall cooperate fully with Authority Contractors/consultants that may be performing work in the construction area.

X. UTILITIES RELATED DELAYS

If, due to interruptions caused by the undocumented utilities, Contractor sustains loss which could not have been avoided by the judicious handling of forces, equipment and plant, there shall be paid to the Contractor that amount that the Authority may find to be a fair and reasonable compensation for the part of the Contractor's actual loss, that, in the opinion of Authority was unavoidable, determined as follow: Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra work paid for on a force account basis, as provided in Section F. Extra Work and Changes, Item 3,c. Equipment with the following exceptions:

1. The utility related delay factor for each classification of equipment shown in the Department of Transportation publication entitled Labor Surcharge And Equipment Rental Rates will be applied to that equipment rental rate.

2. The time for which the compensation will be paid will be the actual normal working time during which the delay condition exists, but in no case will exceed eight (8) hours in any one day.

3. The days for which compensation will be paid will be the calendar days, excluding Saturdays, Sundays and legal holidays, during the existence of the delay, except that when the rented equipment can be returned or used elsewhere on the project, then no payment will be made for utilities related delays.

Actual loss shall be understood to include no items of expense other than idle time of equipment and necessary payments for idle time of workers, and cost of extra moving of equipment. Compensation for idle time of equipment will be determined as provided in this section and compensation for idle time of workers will be determined as provided in Section F. Extra Work and Changes, Item 3, b. "Labor," and no markup will be added in either case for overhead and profit. The cost of extra moving of equipment will be paid for as extra work and changes as provided in Section F of General Provisions.

If performance of the Contractor's work is delayed as the result of the Utilities Related Delays, an extension of time determined pursuant to the provisions in Article 18. Termination for Default – Damages for Delay – Time Extensions will be granted.

Y. UTILITIES AND SUBSURFACE STRUCTURES

Contractor shall protect from damage utility and other subsurface structures that are to remain in place, be installed, relocated or otherwise rearranged (as used herein, rearranged includes installation, relocation, alteration or removal).

The right is reserved to the Authority, or their authorized agents, to enter upon the site for the purpose of making those changes that are necessary for the rearrangement of their facilities or for making necessary connections or repairs to their properties. Contractor shall cooperate with forces engaged in this work and shall conduct operations in such a manner as to avoid any unnecessary delay or hindrance to the work being performed by the other forces. Wherever necessary, the work of Contractor shall be coordinated with the rearrangement of utility or other non-highway facilities, and Contractor shall make arrangements with the owner of those facilities for the coordination of the work.

Attention is directed to the possible existence of underground main or trunk line facilities not indicated on the plans or in the special provisions and to the possibility that underground main or trunk lines may be in a location different from that which is indicated on the plans or in the special provisions. Contractor shall ascertain the exact location of underground main or trunk lines whose presence is indicated on the plans or in the special provisions, the location of their service laterals or other appurtenances, and of existing service lateral or appurtenances of any other underground facilities which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage any of the facilities or interfere with their service.

If Contractor cannot locate an underground facility whose presence is indicated on the plans or in the special provisions, the Contractor shall so notify the Authority in writing. If the facility for which the notice is given is in a substantially different location from that indicated on the plans or in the special provisions, the additional cost of locating the facility will be paid for as extra work as provided in Section F.

If Contractor discovers underground main, trunk lines or other structures and utilities not indicated on the plans or in the special provisions, Contractor shall immediately give the Authority and the Utility Company written notification of the existence of those facilities. Such facilities shall be located and protected from damage as directed by the Authority, and the cost of that work will be paid for as extra work as provided in Section F. Contractor shall, if directed by the Authority repair any damage which may occur to the main or trunk lines. The cost of that repair work, not due to the failure of the Contractor to exercise reasonable care, will be paid for as extra work as provided in Section F. Damage due to Contractor's

failure to exercise reasonable care shall be repaired at the Contractor's cost and expense.

Where it is determined by the Authority that the rearrangement of an underground facility is essential in order to accommodate the project work and the plans and specifications do not provide that the facility is to be rearranged, Authority will provide for the rearrangement of the facility by other forces or the rearrangement shall be performed by Contractor and will be paid for as extra work as provided in Section F.

When ordered by the Authority in writing, Contractor shall rearrange any utility or other subsurface structures necessary to be rearranged as a part of the project work and that work will be paid for as extra work as provided in Section F.

Should Contractor desire to have any rearrangement made in any utility facility, or other improvement, for the Contractor's convenience in order to facilitate the Contractor's construction operations, which rearrangement is in addition to, or different from, the rearrangements indicated on the plans or in the special provisions, the Contractor shall make whatever arrangements are necessary with the owners of the utility or other subsurface structure for the rearrangement and bear all expenses in connection therewith.

Contractor shall immediately notify the Authority of any delays to the Contractor's operations as a direct result of underground utilities or other structures which were not indicated on the plans or in the special provisions or were located in a position substantially different from that indicated on the plans or in the special provisions, (other than delays in connection with rearrangements made to facilitate the Contractor's construction operations or delays due to a strike or labor dispute). These delays will be considered utilities related delays within the meaning of Section X. Utilities Related Delays and compensation for the delay will be determined in conformance with the provisions in Section M. Contractor shall be entitled to no other compensation for that delay.

Z. LOCATION OF UNDERGROUND FACILITIES (OFFSITE WORK ONLY)

Contractor is required to obtain digging permits prior to start of excavation by contacting the appropriate permitting agencies 15 calendar days in advance. For the Offsite work scan the construction site with electromagnetic or sonic equipment, and mark the surface of the ground where existing underground utilities are discovered. Verify the elevations of existing piping, utilities, and any type of underground obstruction not indicated or specified to be removed but indicated or discovered during scanning in locations to be traversed by piping, ducts, and other work to be installed. Verify elevations before installing new work closer than nearest manhole or other structure at which an adjustment in grade can be made. Perform potholing to confirm location of all the utilities along the construction alignment prior to start of the construction. The Contractor is responsible for all costs associated with these investigations including the cost of equipment, labor

and materials required for any confined space entry.

AA. UNFORESEEN HAZARDOUS OR REGULATED MATERIALS

All known hazardous or regulated materials are indicated in the Contract documents. If material that is not indicated in the Contract documents is encountered that may be dangerous to human health upon disturbance during construction operations, stop that portion of work and notify Authority immediately. Intent is to identify materials such as PCB, lead paint, mercury, petroleum products, and friable and non-friable asbestos. Within 14 calendar days, the Authority will determine if the material is hazardous. If the material is not hazardous or poses no danger, the Authority will direct Contractor to proceed without change. If the material is hazardous and handling of the material is necessary to accomplish the work, Authority will contract with a qualified environmental remediation/hazardous materials removal Contractor for such remediation or removal as may be necessary. The remediation or removal will be performed in compliance with applicable State, Federal, and local environmental laws and regulations.

Contractor shall immediately notify the Authority of any delays to the Contractor's operations as a direct result of Unforeseen Hazardous and Regulated Materials These delays will be considered utilities related delays within the meaning of Section Z. Utilities Related Delays and compensation for the delay will be determined in conformance with the provisions in Section M. Contractor shall be entitled to no other compensation for that delay.

BB. TRENCHING AND EXCAVATIONS

In the event the Contractor is required to dig any trench or excavation that extends deeper than four (4) feet below the surface in order to perform the work authorized under the Agreement, Contractor agrees to promptly notify the Authority in writing and before further disturbing the site, if any, of the conditions set forth below are discovered:

1. Materials that the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with the provisions of existing law.

2. Subsurface or latent physical conditions at the site differing from those indicated by information about the site made available to bidders prior to the deadline for submitting bids.

3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Agreement.

The Authority will promptly investigate the conditions, and if it determines that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a Change Order under the procedures described in the Agreement.

In the event that a dispute arises between the Authority and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the Agreement, but shall proceed with all work to be performed under the Contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

EXHIBIT E: COST & PRICE FORM

REQUEST FOR PROPOSALS (RFP) 4-2683

Enter below the proposed price for each of the work phases described in the Scope of Work, Exhibit A. Prices shall include direct costs, indirect costs, and profits. The Authority's intention is to award a lump-sum design-build contract.

Description	**Price**
Task 1: Project Administration, Project Management, and Project Control	$_____
Task 2: Authorities Having Jurisdiction, Design Criteria, Code and Regulatory Compliance, Safety Requirements, and Site Conditions	$_____
Task 3: Architectural & Engineering Design	$_____
Task 4: Construction – Site Coordination and Mobilization	$_____
Task 5: Construction – Demolition, Earthwork, Soil Compaction Grouting, and Concrete Placement	$_____
Task 6: Construction – Dedicated Electrical Power Feed and Electrical Service Equipment	$_____
Task 7: Construction – Hydrogen Equipment	$_____
Task 8: Construction – Fire-Rated Walls, Fencing, Sliding Gates, and Safety Bollards	$_____
Task 9: Construction – LED Area Lighting, Video Surveillance System (VSS) Cameras, Signage, Paint Striping and Markings	$_____
Task 10: Construction – Hydrogen Detection Systems, Emergency Shutdown Systems, and Battery Backup Systems	$_____
Task 11: Construction – Maintenance Platform	$_____
Task 12: Inspections, Tests, Startup and Commissioning	$_____
Task 13: Training – Safety, Operations, and First Responder	$_____
Task 14: Back-to-Back Performance Testing and Performance Data	$_____

Task 15: Project Closeout – Project Documentation Package, As-Builts, Warranty	$_____
Task 16: Operations and Fuel Supply Services During Training and Transition Period	$_____
Task 17: All Other Work	$_____
Total Price	$_____

_____

1. I acknowledge receipt of RFP 4-2683 and Addenda No.(s) _____

2. This offer shall remain firm for _____ days from the date of proposal
(Minimum 120)

COMPANY NAME _____

ADDRESS _____

_____

TELEPHONE _____

FACSIMILE # _____

EMAIL ADDRESS _____

SIGNATURE OF PERSON AUTHORIZED TO BIND OFFEROR _____

NAME AND TITLE OF PERSON AUTHORIZED TO BIND OFFEROR _____

_____

DATE SIGNED _____

EXHIBIT F: SAFETY SPECIFICATIONS

LEVEL 3 HEALTH, SAFETY AND ENVIRONMENTAL (HSE) SPECIFICATIONS

REQUIRED HSE SUBMITTAL SUMMARY

The contractor shall submit copies of the items listed below for contract scope work on OCTA projects and property. Copies shall be provided prior to contractor's mobilization onto OCTA projects and property. Contractor shall provide compliant written Health, Safety & Environmental (HSE) submittals within 30 days of the contract notice to proceed.

HSE submittals shall comply with the 1988 Drug Free Workplace Act, or the Department of Transportation (DOT), or the Federal Transportation Administration (FTA) requirements (according to OCTA procurement funding guidelines) and comply with the California Code of Regulations (CCR) Title 8 regulatory standards.

Contractor's established written programs/plans shall comply with CCR Title 8 regulatory standards. All HSE related programs/plans submitted to OCTA for acceptance shall be prepared and submitted by a qualified HSE professional who is recognized by an organization of industry standard (i.e., CSP, CIH, CHST, CHMM, etc.) and is experienced in developing compliant written HSE programs. The site safety HSE representative shall participate in the HSE submittal process.

1. Contractor shall provide a copy of Company's Injury Illness Prevention Program in accordance with CCR Title 8, Section 3203.

2. Contractor shall provide a copy of their Company HSE Policy/Procedure Manual, in compliance with CCR Title 8 Standards for awarded scope.

3. Contractor shall provide a copy of their Policy or Substance Abuse Prevention Program.

4. Contractor shall provide a copy of their Hazard Communication Program and SDS Management Program in compliance with CCR Title 8, Section 5194, Hazard Communication Standard.

5. On-Site HSE Representative:
   On Facility Modification Projects, The Contractor shall submit a resume of the designated on-site qualified HSE Representative. The HSE Representative shall possess a current certification from the Board of Certified Safety Professionals (BCSP), plus five (5) years construction or scope agreement HSE experience enforcing HSE compliance on heavy or industrial construction project sites, the last two years of which have been administering HSE in the construction or scope discipline for which the Contractor is contracting with the Authority. The designated HSE Representative shall participate in all HSE related submittals through completion of scope.

   On Capital Programs, The Contractor's on-site qualified HSE Representative shall be a Certified Safety Professional (CSP) with current standing from the Board of Certified Safety Professionals (BCSP) or a Construction Health and Safety Technician (CHST) with current standing from the (BCSP) or a Certified Industrial Hygienist (CIH) with current standing from the American Board of Industrial Hygiene (ABIH), or an equal professional HSE Certificate of standing from The

National Examination Board in Occupational Safety and Health **(**NEBOSH), that is acceptable to the Authority. The Contractor's on-site HSE Representative(s) shall provide a resume and have a minimum of seven (7) years heavy construction experience in administering HSE programs on heavy construction project sites, the last two years of which have been administering HSE in the construction/scope discipline for which Contractor is contracting with the Authority.

6. A Detailed Site Specific HSE Work Implementation Plan:
   This plan shall be prepared and submitted by a recognized HSE professional experienced in developing compliant written HSE programs. Indicate the methods and procedures, and include the sequence of tasks as listed on the project schedule, include the hazards, tools and equipment, and the safe work practices to mitigate the hazards in a format acceptable OCTA. Specify safety measures in accordance with applicable Cal/OSHA standards, South Coast Air Quality Management District (SCAQMD) rules, National Fire Protection Association (NFPA), National Electric Code (NEC), American National Standards Institute (ANSI) codes and regulations, job hazard analysis, policies, procedures, HSE training requirements and known and potential hazards of Contractor's scope. Plans shall be prepared as specified above, and may require if necessary a professional engineer licensed to practice in the state of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.

PART I – GENERAL

1.0 GENERAL HEALTH, SAFETY AND ENVIRONMENTAL REQUIREMENTS

A. The Contractor, its subcontractors, suppliers, and employees have the obligation to comply with all Authority health, safety and environmental compliance department (HSEC) requirements of this safety specification, project site requirements, and bus yard safety rules, as well as all federal, state, and local regulations pertaining to scope of work or agreements with the Authority including California Department of Transportation safety requirements and special provisions. Additionally, manufacturer requirements are considered incorporated by reference, as applicable, to this scope of work.

B. Observance of unsafe acts or conditions, serious violation of health and safety standards, non-conformance of Authority HSEC requirements, or disregard for the intent of these safety specifications to protect people and property, by Contractor may be reason for termination of scope or agreements with the Authority, at the sole discretion of the Authority.

C. The Authority HSEC requirements, and references contained within this scope of work shall not be considered all-inclusive as to the hazards that might be encountered. Safe work practices shall be pre-planned and performed, and safe conditions shall be maintained during the course of this work scope.

D. The Contractor shall specifically acknowledge that it has primary responsibility to prevent and correct all health, safety and environmental hazards for which it

and its employees, or its subcontractors (and their employees) are responsible. The Contractor shall further acknowledge their expertise in recognition and prevention of hazards in the operations for which they are responsible, that the Authority may not have such expertise, and is relying upon the Contractor for such expertise. The Authority retains the right to notify the Contractor of potential hazards and request the Contractor to evaluate and, as necessary, to eliminate those hazards.

E. The Contractor shall provide all necessary tools, equipment, and related safety protective devices to execute the scope of work in compliance with the Authority's HSEC requirements, CCR Title 8 Standards, and recognized safe work practices.

F. The Contractor shall instruct all its employees, and all associated sub-contractors under contract with the Contractor who works on Authority projects in the following; recognition, identification, and avoidance of unsafe acts and/or conditions applicable to its work.

PART II – SPECIFIC REQUIREMENTS

2.0 While these safety specifications are intended to promote safe work practices, Contractors are reminded of their obligation to comply with all federal (Code of Federal Regulations (CFR) Sections 1926 & 1910 Standards), state (CCR Title 8 Standards), local and municipal safety regulations, and Authority health, safety and environmental requirements applicable to their project scope. Failure to comply with these standards may be cause for termination of scope or agreements with the Authority, at the sole discretion of the Authority.

2.1 REQUIRED DOCUMENTATION / REPORTING REQUIREMENTS

The Contractor at a minimum shall provide the following documents to the Authority's Project Manager. Items A through E below shall be submitted and accepted by the Authority's Project Manager prior to Contractor mobilization. Item F upon each occurrence, and for items G through K, contractor shall verify the following documentation is in place, prior to and during contract scope and make the same available to the Authority upon request within 72 hours.

Contractor's established written programs/plans shall comply with CCR Title 8 regulatory standards. All new programs/plans shall be prepared and submitted by a qualified HSE professional who is recognized by an organization of industry standard (i.e., CSP, CIH, CHST, STS, CHMM, etc.) and is experienced in developing compliant written HSE programs. The site safety HSE representative shall participate in the scope submittal process.

A. A Comprehensive Project Specific Health, Safety, and Environmental (HSE) Work Plan.

   a. The Contractor shall develop a site project plan that may include, but is not limited to: Permits, Evacuation, Emergency Plan, Roles and Responsibilities, Scope and Construction Activity Details, Constructability Review, Contractor Coordination Process, Safe Work Methods, Hazard

Identification & Risk Control, First Aid and Injury Management, Emergency Procedures, Public Protection, Authority and Contractor Site Rules, Incident Reporting and Investigation, Specialized Work or Licensing, Training and Orientation Requirements, Chemical Management, and Subcontractor Management.

b. A Detailed Site Specific HSE Implementation Plan: This plan shall be prepared and submitted by a recognized HSE professional (current BCSP Certification in good standing, i.e., CSP, CHST, OHST) experienced in developing compliant written HSE programs, acceptable to OCTA. Indicate the methods and procedures, and include the sequence of tasks as listed on the project schedule, include the hazards, tools and equipment, and the safe work practices to mitigate the hazards in a format acceptable OCTA. Specify safety measures in accordance with applicable Cal/OSHA standards, SCAQMD rules, NFPA, NEC, ANSI codes and regulations, job hazard analysis, policies, procedures, HSE training requirements and known and potential hazards of Contractor's scope. Plans shall be prepared as specified above, and may require if necessary a professional engineer licensed to practice in the state of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.

B. Contractor shall provide a copy of their Company HSE Policy/Procedure Manual, in compliance with CCR Title 8 Standards for awarded scope.

C. Contractor shall provide a copy of Company's Injury Illness Prevention Program in accordance with CCR Title 8, Section 3203.

D. Contractor shall provide a copy of their Policy or Substance Abuse Prevention Program that complies with the 1988 Drug Free Workplace Act.

E. Contractor shall provide the resume and qualifications/certifications of assigned project designated Onsite HSE Representative for this scope as identified in section 2.3 of this specification.

F. Accident/Incident investigation report within 24 hours of event (immediate verbal notification to Authority Project Manager, followed by Written Report).

The following required documentation shall be provided to the Authority's Project Manager, upon Authority request, within 72 hours.

G. A copy of Contractor weekly site safety inspection report with status of corrections, upon request, within 72 hours.

H. Contractor shall provide a copy of the Contractors and subcontractors competent person list (submit to Authority Project Manager, upon Authority request, within 72 hours).

I. Contractors and subcontractors training records for qualified equipment operators, electrical worker certification (NFPA 70E), confined space training, HAZWOPER training, and similar personnel safety training certificates as applicable to the agreement scope and as requested by the OCTA Project Manager and/or HSEC department, upon Authority request, within 72 hours and prior to starting or during the scope activity (submit to Project Manager).

J. A monthly report that includes number of workers on project, a list of subcontractors, work hours (month, year to date, & project cumulative) of each contractor, labor designation, OSHA Recordable injuries and illnesses segregated by medical treatment cases, restricted workday cases, number of restricted days, lost workday cases, and number of lost work days, and recordable incident rate. Contractor shall provide to the Authority, upon request, within 72 hours.

K. TRAINING DOCUMENTATION

To ensure that each employee is qualified to perform their assigned work, when applicable to scope work, Contractor shall verify training documentation is in place, prior to and during contract scope, and make available to the Authority, upon request, within 72 hours. Training may be required by the Authority or CCR Title 8 Standards and required for activity on Authority's property and/or Authority projects. Contractor shall provide to Authority, upon request, within 72 hours.

2.2 HAZARD COMMUNICATION (CCR Title 8, Section 5194)

A. Contractor shall comply with CCR Title 8, Section 5194 Hazard Communication Standard. Prior to chemical use on Authority property and/or project work areas the Contractor shall provide to the Authority Project Manager copies of Safety Data Sheet (SDS) for all applicable products used, if any.

B. All chemicals including paint, solvents, detergents and similar substances shall comply with SCAQMD Rules 103, 1113, and 1171.

2.3 DESIGNATED HEALTH, SAFETY, ENVIRONMENTAL (HSE) REPRESENTATIVE

A. Before beginning on-site activities, the Contractor shall designate an On-site HSE Representative. This person shall be a Competent or Qualified Individual as defined by the Occupational, Safety, and Health Administration (OSHA), familiar with applicable CCR Title 8 Standards, and has the authority to affect changes in work procedures that may have associated cost, schedule and budget impacts.

B. The Contractor's on-site qualified HSE Representative for all Authority projects is subject to acceptance by the Authority Project Manager and the HSEC Department Manager. All contact information of the On-site HSE Representative (name, phone, and fax and pager/cell phone number) shall be provided to the Authority Project Manager.

QUALIFICATIONS – On Capital Programs, the Contractor shall submit a resume of the full time, on-site qualified HSE Representative(s) who reports directly to the Contractor's Project Manager or Superintendent, and who is responsible for HSE oversight for field operations on the project no later than ten (10) days after receipt of Notice to Proceed, and prior to mobilization. The Contractor's On-site HSE Representative(s) shall have a minimum of seven (7) years heavy construction experience in administering HSE programs on heavy construction project sites, the last two years of which have been administering HSE in the construction discipline for which Contractor is contracting with the Authority. The Contractor's On-site HSE Representative shall be a Certified Safety Professional (CSP) with current standing from the Board of Certified Safety Professionals (BCSP), or a Construction Health and Safety Technician (CHST) with current standing from the BCSP or a Certified Industrial Hygienist (CIH) with current standing from the American Board of Industrial Hygiene (ABIH), or an equal professional HSE Certificate of standing from The National Examination Board in Occupational Safety and Health **(**NEBOSH), that is acceptable to the Authority. The Contractor's On-site HSE Representatives(s) shall be on site during all operational hours. The On-site HSE Representative(s) shall set up, carry forward and aggressively and effectively maintain the project specific safety program and IIPP covering all phases of the work. If at any time the Contractor wishes to replace their On-site HSE Representative(s), the Contractor must provide written notice thirty (30) days prior to change of personnel to the Authority. The Contractor shall take all precautions and follow all procedures for the safety of, and shall provide all protection to prevent injury to, all persons involved in any way in the scope work and all other persons, including, without limitation, the employees, agents, guests, visitors, invitees and licensees of the Authority who may be involved. This requirement applies continuously and is not limited to normal working hours. The designated HSE Representative shall participate in all HSE related submittals. The Authority reserves the right to allow for an exception to modify these minimum qualification requirements for unforeseen circumstances, at the sole discretion of the Authority Project Manager and HSEC Department Manager.

On Facility Modification Projects, the Contractor shall submit a resume of the full time qualified on-site HSE Representative who reports directly to the Contractor's Project Manager or Superintendent, and who is responsible for safety oversight for field operations on the project no later than ten (10) days after receipt of Notice to Proceed, and prior to mobilization. The Contractor's On-Site HSE Representative shall hold a current certification from the BCSP, plus five (5) years construction or scope HSE experience enforcing HSE compliance on heavy construction or industrial construction project sites, the last two years of which have been administering HSE in the construction or scope discipline for which Contractor is contracting with the Authority. The Contractor's On-site HSE Representative(s) shall be on site during all operational hours. The designated HSE Representative shall participate in all HSE related submittals. The Authority reserves the right to allow for an exception and to modify these minimum qualification requirements for unforeseen circumstances, at the sole discretion of the Authority Project Manager and HSEC Department Manager.

1. Capital Programs may include, but are not limited to, projects involving demolition and construction of; heavy construction, rail projects, highway projects, parking lots and structures, fuel stations, building construction, facility modifications, bus base construction, EPA/DTSC remediation, AQMD air or soil monitoring, fuel tank removal or modification, major bus base modifications, handling potential hazardous waste projects, and similar projects as deemed a Capital Program at the sole discretion by the Authority.

2. Facility Modification Projects may include, but are not limited to, projects involving minor demolition and construction or improvement projects for transportation centers, bus base sites and/or building modifications, equipment and/or building upgrades, and similar projects as deemed a Facility Modification Project at the sole discretion by the Authority.

3. Competent Individual means an individual who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees and/or property, and who has authorization to take prompt corrective measures to eliminate them.

4. Qualified Individual means an individual who by possession of a recognized degree, certificate, certification or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work, or the project.

C. The Contractor shall designate a Competent Individual for each task, as required by Cal-OSHA standards or laws. The task Competent Individual shall be responsible for the prevention of accidents. If the Authority or any public agency with jurisdiction notifies the Contractor of any claimed dangerous condition at the site that is within the Contractor's care, custody or control, the Contractor shall take immediate action to rectify the condition at no additional cost to the Authority. The Contractor shall be responsible for the payment of all fines levied against the Authority for deficiencies relating to the Contractor's supervision or conduct and/or control of the scope agreement.

D. On Facility Modification Projects, the Authority Project Manager reserves the right to require the Contractor to provide one additional full-time safety representative with qualifications as identified in section 2.3 (C), above whenever the number of individuals from the Contractor, its subcontractors, suppliers, and vendors meets or exceeds 15 workers, there are multiple scope work sites, or as warranted by the scope of work at the sole discretion by the Authority.

E. On Capital Programs, the Authority's Project Manager reserves the right to require the Contractor to provide one additional full-time safety representative with qualifications as identified in item 2.3 (C) above whenever the number of individuals from the Contractor, its subcontractors, suppliers, and vendors meets or exceeds 50 workers, or is warranted by the scope of work.

2.4 SITE HSE ORIENTATION

The Contractor shall conduct and document a project site safety orientation for all Contractor personnel, subcontractors, suppliers, vendors, and new employees assigned to the project prior to performing any work on Authority projects, a copy of the HSE orientation attendance list shall be provided to the Authority Project Manager. The safety orientation, at a minimum, shall include, as applicable, Personal Protection Equipment (PPE) requirements, eye protection, ANSI class 2 reflective vests, designated smoking, eating, and parking areas, traffic speed limit and routing, cell phone policy, and barricade requirements. When required by scope, additional orientation shall include fall protection, energy isolation lock-out/tag-out (LOTO), confined space, hot work permit, security requirements, and similar project safety requirements.

2.5 INCIDENT NOTIFICATION AND INVESTIGATION

A. The Authority shall be promptly notified of any of the following types of incidents:

1. Damage to Authority property (or incidents involving third party property damage);

2. Reportable and/or recordable injuries (as defined by the U. S. Occupational Safety and Health Administration);

3. Incidents impacting the environment, i.e. spills or releases on Authority property.

B. Notifications shall be made to Authority representatives, employees and/or agents. This includes incidents occurring to contractors, vendors, visitors, or members of the general public that arise from the performance of Authority contract work. An initial immediate verbal notification, followed by a written incident investigation report shall be submitted to Authority's Project Manager within 24 hours of the incident.

A final written incident investigative report shall be submitted within seven (7) calendar days, and include the following information. The current status of anyone injured, photos of the incident area, detailed description of what happened, the contributing factors that led to the incident occurrence, a copy of the company policy or procedure associated with the incident and evaluation of effectiveness, copy of the task planning documentation, and the corrective action initiated to prevent recurrence. This information shall be considered the minimum elements required for a comprehensive incident report acceptable to OCTA.

C. A Serious Injury, Serious Incident, OSHA Recordable Injury / Illness, or Significant Near Miss shall require a formal incident review at the discretion of the Authority's Project Manager. The incident review shall be conducted within seven (7) calendar days of the incident. This review shall require a senior executive from the Contractors' organization to participate in the presentation. The serious incident presentation shall include action taken for the welfare of

the injured, a status report of the injured, causation factors leading to the incident, a root cause analysis, and a detailed recovery plan that identifies corrective actions to prevent a similar incident, and actions to enhance safety awareness.

1. Serious Injury: includes an injury or illness to one or more employees, occurring in a place of employment or in connection with any employment, which requires inpatient hospitalization for a period in excess of twenty-four hours for other than medical observation, or in which an employee suffers the loss of any member of the body, or suffers any serious degree of physical disfigurement.

2. Serious Incident: includes property damage of $500.00 or more, an incident requiring emergency services (local fire, paramedics and ambulance response), news media or OCTA media relations response, and/or incidents involving other agencies (Cal/OSHA, EPA, AQMD, DTSC, etc.) notification or representation.

3. OSHA Recordable Injury / Illness: includes and injury / illness resulting in medical treatment beyond First Aid, an injury / illness which requires restricted duty, or an injury / illness resulting in days away from work.

4. Significant Near Miss Incident; includes incidents where no property was damaged and no personal injury sustained, but where, given a slight shift in time or position, damage and/or injury easily could have occurred.

2.6 REGULAR INSPECTIONS & THIRD PARTY INSPECTIONS

A. Frequent and regular inspections of the project jobsite shall be made by the Contractor's On-site HSE Representative, or another Competent Individual designated by the Contractor. Unsafe acts and/or conditions noted during inspections shall be corrected immediately.

B. The Contractor is advised that representatives of regulatory agencies (i.e., CAL-OSHA, EPA, SCAQMD, etc.), upon proper identification, are entitled to access onto Authority property and projects. The Authority Project Manager shall be notified of their arrival as soon as possible.

2.7 ENVIROMENTAL REQUIREMENTS

A. The Contractor shall comply with Federal, State, county, municipal, and other local laws and regulations pertaining to the environment, including noise, aesthetics, air quality, water quality, contaminated soils, hazardous waste, storm water, and resources of archaeological significance. Expense of compliance with these laws and regulations is considered included in the agreement. Contractor shall provide water used for dust control, or for pre-wetting areas to be paved, as required; no payment will be made by OCTA for this water.

B. The Contractor shall prevent pollution of storm drains, rivers, streams, irrigation ditches, and reservoirs with sediment or other harmful materials. Fuels, oils,

bitumen, calcium chloride, cement, or other contaminants that would contribute to water pollution shall not be dumped into or placed where they will leach into storm drains, rivers, streams, irrigation ditches, or reservoirs. If operating equipment in streambeds or in and around open waters, protect the quality of ground water, wetlands, and surface waters.

C. The Contractor shall protect adjacent properties and water resources from erosion and sediment damage throughout the duration of the contract. Contractor shall comply with applicable NPDES permits and Storm Water Pollution Prevention Plan (SWPPP) requirements.

D. Contractor shall comply with all applicable EPA, Cal EPA, Cal Recycle, DTSC, SCAQMD, local, state, county and city standards, rules and regulations for hazardous and special waste handling, recycling and/ disposal. At a minimum, Contractor shall ensure compliance where applicable with SCAQMD Rule 1166, CCR Title 8, Section 5192, 29 CFR Subpart 1910.120, 49 CFR Part 172, Subpart H, 40 CFR Subpart 265.16 and CCR Title 22 Section 6625.16. Contractor shall provide OCTA a schedule of all hazardous waste and special or industrial waste disposal dates in advance of transport date. Only authorized OCTA personnel shall sign manifests for OCTA generated wastes. Contractor shall ensure that only current registered transporters are used for disposal of hazardous waste and industrial wastes. The Contractor shall obtain approval from OCTA for the disposal site locations in advance of scheduled transport date.

E. If the Contractor encounters on the site material reasonably believed to be asbestos, polychlorinated biphenyl (PCB) or other Hazardous Substance (as defined in California Health and Safety Code, and all regulations pursuant thereto) which has not been rendered harmless, the Contractor shall immediately stop work in that area affected and report the condition to the Authority in writing. The work in the affected area shall not thereafter be resumed except by written agreement of the Authority and Contractor if in fact the material is asbestos or polychlorinated biphenyl (PCB) or other hazardous substance and has not been rendered harmless. The work in the affected area shall be resumed in the absence of asbestos or polychlorinated biphenyl (PCB) or other hazardous substance, or when it has been rendered harmless, by written agreement of the Authority and the Contractor, or in accordance with a final determination by an Environmental Consultant employed by the Authority.

F. The Contractor shall not permit any hazardous substances to be brought onto or stored at the Project Site or used in the construction of the work, except for specified materials and commonly used construction materials for which there are no reasonable substitutes. All such materials shall be handled in accordance with all manufacturers' guidelines, warnings and recommendations and in full compliance with all applicable laws. All notices required to be given with respect to such materials shall be given by the Contractor. The Contractor shall not intentionally release or dispose of hazardous substances at the Project Site or into the soil, drains, surface or ground water, or air, nor shall the Contractor allow any Sub-Contractor, subcontractor or supplier or any other person for whose acts the Contractor or any subcontractor, vendor or supplier may be liable, to do so. For purposes of Contract Documents, "hazardous

substance" means any substance or material which has been determined or during the time of performance of the work is determined to be capable of posing a risk of injury to health, safety, property or the environment by any federal, state or local governmental authority.

2.8 VEHICLE AND ROADWAY SAFETY REQUIREMENTS

A. The Contractor shall ensure that all Contractor vehicles, including those of its subcontractors, suppliers, vendors and employees are parked in designated parking areas, are identified by company name and/or logo, and comply with traffic routes, and posted traffic signs in areas other than the employee parking lots.

B. Personal vehicles belonging to Contractor employees shall not be parked on the traveled way or shoulders including any section closed to public traffic, or areas of the community that may cause interference or complaints

C. The Contractor shall comply with California Department of Transportation safety requirements and special provisions when working on highway projects.

D. The Contractor shall conform to American Traffic Safety Services Association (Quality Standard for Work Zone Control Devices 1992).

2.9 LANGUAGE REQUIREMENTS

For safety reasons, the Contractor shall ensure employees that do not read, or understand English, shall be within visual and hearing range of a bilingual supervisor or responsible designee at all times when on the Authority property or projects.

2.10 PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING

Contractors, and all associated subcontractors, vendors and suppliers are required to provide their own personal protective equipment (PPE), including eye, head, foot, and hand protection, respirators, reflective safety vests, and all other PPE required to perform their work safely on Authority projects.

A. RESPIRATORS (CCR Title 8, Section 5144) - The required documentation for training and respirator use shall be provided to the Authority's Project Manager upon request within 72 hours. All compliance documentation as required by CCR Title 8, Section 5144, Respiratory Protective Equipment.

B. EYE PROTECTION – The Authority requires eye protection on construction projects and work areas that meet ANSI Z-87.1 Standards.

C. BUS BASE – Minimum PPE required includes but is not limited to; Eye protection, class 2 reflective vest, steel toe or construction type footwear that meets ANSI Z41 1991 are recommended.

D. CONSTRUCTION PROJECTS - Minimum PPE required includes but is not limited to; hard hat, eye protection, hand protection, class 2 reflective vest, safety toe footwear that meets ANSI Z41 1991 are recommended.

E. HARD HATS: Approved hard hat that meet ANSI Z89. 1 (latest revision). Hard hats should be affixed with the company/agency logo and/or name. The bill shall be worn forward. Metal hard hats and cowboy style are forbidden on Authority projects.

F. FOOTWEAR: Enclosed leather that covers the ankles, such as a construction type boot. Employees shall not wear casual dress shoes, open toe, sneakers, sandals, canvas-type shoes, or other shoes that have thin soles or heels that are higher than normal in construction work areas. Safety toe footwear that meets ANSI Z41 1991 are recommended on construction sites and in operating facilities.

G. CLOTHING/SHIRTS: minimum or waist length shirts with sleeves (4" minimum).

H. CLOTHING/TROUSERS: Cover the entire leg. If flare-legged trousers are worn, the trouser bottoms must be tied to prevent catching. No sweat pants, or trousers with holes.

2.11 AERIAL DEVICES (CCR Title 8, Section 3648)

Aerial devices are defined in CCR Title 8 as any vehicle-mounted or self-propelled device, telescoping extensible or articulating, or both, which is primarily designed to position personnel. If aerial devices are to be used, the required documentation in CCR Title 8, Section 3648 shall be provided to the Authority's Project Manager, upon request, within 72 hours.

2.12 CONFINED SPACE ENTRY (CCR Title 8, Section 5157)

Before any employee will be allowed to enter a confined space, the required documentation as required by CCR Title 8, Section 5157 shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. RECOMMENDED: a copy of the most recent calibration record for each air monitoring unit, 3-gas monitor or "sniffer" to be used by the Entry Supervisor prior to entering permit-required confined spaces.

2.13 CRANES

A. Crane activity shall comply with 29 CFR 1926.550, CCR Title 8 Standards, manufacture's recommendations and requirements, applicable American Society of Mechanical Engineers (ASME), and ANSI Standards. In addition, Contractor shall comply with the following requirements: Prior to using mobile cranes, the Contractor shall provide to the Authority Project Manager, items I,

2 & 3 of the following documentation a minimum of seven (7) days prior to activity, and item 4 on each day of crane activity.

1. Cranes require a submittal of the annual certification, and copy of the cranes most recent quarterly inspection.

2. A copy of each crane operator's qualification (NCCCO or equivalent) of company-authorized crane operators that have been properly trained in the equipment's use and limitations. Operator certification as required by CCR Title 8, Section 5006.1.

3. A rigging plan is required for all lifts. Critical lifts require an engineered plan designed by a registered professional engineer licensed in the State of California.

4. Contractor shall provide the name and qualifications of each "Qualified Rigger" as defined by OSHA.

5. Rigging scope activity shall comply with 29 CFR Subparts1926.250, 1929.753 and CCR Title 8 Standards.

6. All rigging equipment shall be free from defects, in good operating condition and maintained in a safe condition.

7. Rigging equipment shall be inspected by a designated, competent employee prior to initial use on the project, prior to each use, and documented inspections performed regularly. Records shall be kept on jobsite of each of these inspections by contractor and be made available to the Authority upon request within 72 hours.

8. Only one (1) sling eye should be in a hook, for multiple slings a shackle shall be used to prevent separation of slings, and prevent stress on weak points of the hook.

9. Contractor shall prepare a documented daily crane inspection report.

B. Pick and carry with rubber tired cranes is forbidden on Authority projects.

C. Engineered Critical Lifts

A critical lifts is established where any one of the following conditions are created:

1. Where in the crane's current configuration at any point during the lift, a gross load weight exceeds 75% of the capacity of the crane.

2. A gross weight equal to, or greater than 10 tons.

3. Lifts over buildings, equipment, public roadways, structures, or power lines.

4. A single lift where two or more cranes are used, including tandem lifts and tailing cranes.

5. Lifts made in close proximity of power lines, as defined by CCR Title 8 voltage clearance specifications.

6. Lifts involving helicopters, and specialized or unique and complex rigging equipment.

7. Hoisting of suspended work platforms.

8. Static tower crane erection and dismantlement.

9. Making lifts below the ground level where the crane is positioned.
   Note: Where the below the ground lift is minimal (evaluated by California registered professional engineer), a critical lift plan may not be required.

D. Critical Lift Plan

Where a critical lift will be performed, a written critical lift plan shall be submitted to the Authority Project Manager prior to commencing with the lift. The written plan shall include the following:

1. Crane manufacturer, capacity, and all specifications for the configuration to be used for the lift.

2. Load chart data for the crane to be used to make the lift. Total calculated weight of the load to be lifted including all rigging and other deductions consistent with the manufacturer's load chart.

3. Engineering data shall be provided on the hook assembly (manufacture's certification or independent laboratory testing and load testing within the past 60 days), below-the hook rigging, and all specialized below-the-hook lifting devices.

4. Diagrams of the lift that provides geometrical conditions of the load, rigging, and all crane positions during the lift. The drawing shall provide the following:

   A. Locations of all components to be lifted prior, during and after the lift is completed.

   B. Radius points.

   C. Swing patterns.

D. In the event that the lift must be aborted, positions where the load may be safely landed.

E. Areas where any personnel, public, and vehicles must be evacuated during the lift.

5. Potential ground loading for each point of contact by the crane in selected locations in which the crane will perform the critical lift.

6. Soil and subsurface data and information pertaining to the location on which the crane used for the critical lift will be positioned. This information shall be procured from an authoritative source such as a geotechnical engineer or a professional civil engineer registered in the state of California.

   Note: *This information may be available from the Authority for selected locations on some projects.*

7. An engineer shall use the data provided in #5 and #6 above to verify and confirm the following:

   A. That the soil and subsurface conditions are capable of supporting all loads imposed during the critical lift.

   B. That the designs of cribbing and other supports used under the crane load points are appropriate to safely transfer such loads.

8. Signature and stamp on the plan by a California registered professional engineer, evidencing review of the plan as meeting the requirements that all loads and load information and calculations contained in the plan are approved, acceptable and safe to perform.

9. Operator qualifications.

10. Method by which communication will be provided to the crane operator. (Designated signal person, two-way radio, hard wire phone system, etc.).

11. A critical lift hazard analysis which identifies the particular hazards (including weather, wind, obstructions, etc.) associated with the lift and the means and methods to reduce, mitigate, or eliminate the hazards.

12. Emergency action plan.

13. Documentation of lift and pre-job meeting shall be conducted by Contractor's Project Manager.

The written plan shall be submitted 7 days prior to any critical lift for review by the Authority Project Manager and the Authority HSEC department. No critical lifts shall be conducted prior to such review.

E. OVERHEAD CRANES

Before using the Authority overhead cranes, each Contractor shall designate a limited number of employees to attend a training session on the use and limitations of overhead cranes with designated Authority personnel.

2.14 DEMOLITION OPERATIONS (CCR Title 8, Section 1734)

Before starting demolition activities the required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours. Contractor shall provide all compliance documentation as required by CCR Title 8 Article 31.

A. The Contractor shall be responsible for visiting and examining the project site to assess and personally determine the extent of demolition, associated work, debris removal, disposal and general work to be done under this section.

B. The Contractor shall take possession of all demolished materials, except as noted otherwise in the Contract Documents, and be responsible for disposing of them in accordance with applicable laws and regulations. On-site burning or burial of demolition materials will not be permitted.

C. Provide continuous noise and dust abatement as required, preventing disturbances and nuisances to the public, workers, and the occupants of adjacent premises and the surrounding areas. Dampen areas affected by demolition operation as necessary to prevent dust nuisance.

D. Site demolition plan: Indicate methods, procedures, equipment, and structures to be employed. Specify safety measures in accordance with applicable codes including signs, barriers, and temporary walkways. Plans shall be prepared by a qualified person (CSP, CIH, CHST, CHMM, etc.), or as necessary by a professional engineer licensed to practice in the State of California, when so required by the provisions of the California Board for Professional Engineer and Surveyors.

E. Equipment, haul routes, and disposal sites to be used in the demolition and disposal work. Copy of manifests showing delivery of disposed materials in accordance with the plan and permit conditions. Certification that all demolished materials removed from the site have been disposed of in accordance with applicable laws and regulations.

2.15 EXCAVATION OPERATIONS (CCR Title 8, Section 1541)

Before starting excavation activities more than 5 feet deep into which people shall enter, the required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours. All compliance documentation shall comply with the following CCR Title 8, Section 1541 requirements:

A. A copy of the Contractor's Excavation Permit.

B. Attention is directed to the applicable sections of the Labor Code concerning trench excavation safety plans, "Trench Safety." Excavation for any trench 5 feet or more in depth shall not begin until the Contractor has received approval from the Engineer of the Contractor's detailed plan for worker protection from the hazards of caving ground during the excavation of that trench and any design calculations used in the preparation of the detailed plan. Excavations 20 feet or greater shall be engineered and plan stamped by a California registered professional engineer.

C. The detailed plan shall show the details of the design of shoring, bracing, sloping or other provisions to be made for worker protection during the excavation. No plan shall allow the use of shoring, sloping or a protective system less effective than that required by the Construction Safety Orders of the Division of Occupational Safety and Health. If the plan complies with the shoring system standards established by the Construction Safety Orders, the plan shall be submitted at least five (5) days before the Contractor intends to begin excavation for the trench.

D. Excavations and trenches shall be inspected by a "Competent Person" daily and after every rainfall to determine if they are safe. Daily inspections shall be recorded. Documentation is to be kept on site and available for review upon request.

E. Excavations are considered class 'C' soil unless documented testing in accordance with 29 CFR Subpart P, Section 1926.650 and CCR Title 8 Standards supports a class 'B' soil classification and is confirmed and stamped by a California registered professional engineer. In no case will excavations be classified as class 'A' soil.

2.16 FALL PROTECTION (CCR Title 8, Sections 1669-1671)

The following standards are required when performing work on Authority property. The required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. Fall protection is required for workers exposed to falls in excess of six (6) feet.

B. When conventional fall protections methods are impractical or create a greater hazard, a written plan in conformance with CCR Title 8, Article 24, shall be submitted to the Authority a minimum of seven (7) days in advance of the scheduled activity.

2.17 FORKLIFTS, BACKHOES AND OTHER INDUSTRIAL TRACTORS (CCR Title 8, Section 3664)

CCR Title 8 defines backhoes as "industrial tractors". All compliance documentation shall be provided as required by CCR Title 8, Section 3664. The following required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours:

A. A copy of each operator's certificate or a list of company-authorized industrial tractor operators that have been properly trained in the equipment's use and limitations. Please state which equipment, and model each operator has been authorized to operate (i.e. forklifts, backhoe, bulldozer, front-end loader, etc.).

2.18 ELECTRICAL OPERATIONS

HIGH VOLTAGE (CCR Title 8, Sections 2700-2974)

Any work on electrical equipment defined by OSHA as high-voltage, at or above 600 volts, requires specialized training certifications and personal protective equipment. Before any high-voltage work commences, the Authority Project Manger must be notified and must provide approval. The following required NFPA 70E certification and a certificate of training from a recognized organization of a two day high voltage safety training course shall be provided to the Authority's Project Manager, upon request, within 72 hours:

A. A list of the name(s) of the company-designated high voltage Qualified Electrical Worker(s)

LOW VOLTAGE (CCR Title 8, Sections 2299-2599)

Only qualified persons shall work on electrical equipment or systems.

A. Electrical Certification of Training; Contractor employees working on or around electrical panels, wiring, motors, electrical energy sources or similar electrical devices shall have attended a NFPA 70E, Electrical Safety Course and provide to the OCTA Project Manager a copy of employees' NFPA 70E qualification certificate of training for each employee assigned to electrical tasks on OCTA property or projects.

2.19 POWDER-ACTUATED TOOLS (CCR Title 8, Section 1685)

Before using tools such as "Hilti guns" or other powder-actuated tools, the following required documentation shall be provided to the Authority's Project Manager, upon request, within 72 hours.

A. A copy of each qualified person's valid operator card.

2.20 SCAFFOLDS (CCR Title 8, Sections 1635.1-1677)

Scaffold erection shall be in compliance with CCR Title 8 Standards. All compliance documentation shall be provided as required by CCR Title 8, Sections 1635.1-1677. In addition, the Contractor shall comply with the following additional requirements.

A. All scaffolds on Authority project shall be inspected by a competent person qualified for scaffolds in accordance with CCR Title 8 Standards.

B. Contractor shall arrange for a third party inspection, at least quarterly, by a credentialed professional (insurance carrier, scaffold manufacturer representative, or similar) in addition to the contractors daily self inspections.

C. A proper scaffold inspection and tagging system shall be maintained identifying compliance status (Example: Green/safe, Yellow/modified-fall protection required, Red/unsafe-do not use).

D. Contractor shall have a fall protection plan that meets CCR Title 8 Standards for scaffold erectors, an erection/dismantling plan shall be submitted to Authority Project Manager for review prior to start of activity.

E. Scaffold erection/dismantling shall install handrails beginning on the first level above ground erected, and erectors shall plan erection and dismantling in a manner to maximize handrail protection and minimize employees at unprotected areas.

2.21 WARNING SIGNS AND DEVICES

Signs, signals, and/or barricades shall be visible at all times when and where a hazard exists. Overhead tasks, roofing tasks, excavations, roadwork activity, demolition work, and other recognized hazards shall have guardrail protection, warning barricades, or similar protective measures acceptable to the Authority's Project Manager. Signs, signals, and/or barricades shall be removed when the hazard no longer exists.

2.22 STEEL ERECTION

Steel Erection scope activity shall comply with 29 CFR Subpart R, Section 1926.750, and CCR Title 8 Standards. In addition to OSHA Standards, Contractor shall comply with the following requirements.

A. Erection planning should incorporate installation methods using aerial devices (man-lifts) and elevated work platforms (scissor lift) to minimize fall hazards of climbing steel where possible. A detailed written job safety analysis (JSA) shall identify installation methods, equipment, and control methods to minimize potential fall hazards.

B. The Contractor shall not allow any employee to walk the steel unprotected from falls. Contractor employees must be tied-off and "coon" the beam until safety cables are provided to which employees shall use 100% tie-off protection. Two lanyards are required to ensure 100% tie-off protection.

C. A safe means of access to the level being worked shall be planned. Climbing and sliding down columns are not considered safe access and are forbidden on Authority projects.

D. A qualified rigger shall inspect the rigging prior to each shift and each lift.

E. Multiple lift rigging (Christmas Treeing) lifts are forbidden on Authority property and controlled projects.

2.23 AUDITS

A. The Authority may make periodic patrols of the project site as a part of its normal security and safety program. The Contractor shall not be relieved of its aforesaid responsibilities and the Authority shall not assume same, nor shall it be deemed to have assumed, any responsibility otherwise imposed upon the Contractor, as a result of safety patrols by the Authority.

B. The Authority may audit the Contractor's safety program for HSE compliance at various intervals of the project, at the sole discretion of the Authority. Elements may include, but are not limited to: OSHA injury & illness records and logs, Job Safety Analysis and safety plans, equipment operator licenses and training records, incident reports, meeting minutes, engineered plans, safety meeting records, crane and rigging plans, equipment inspection records, qualifications of and interviews with key Contractor management personnel, and other similar information. The Contractor shall support and cooperate with these audits at no additional compensation or schedule impacts with this contract.

2.24 RAILWAY SAFETY PRECAUTIONS

A. Work on operating railways shall be in compliance with 49 CFR, Part 214, CCR Title 8 Standards, and the Southern California Regional Rail Authority (SCRRA).

B. New construction rail projects require that all employers and contractors are responsible to assure employees are trained and understand on-track safety procedures, and follow roadway worker rules identified in 49 CFR, Part 214, CCR Title 8, SCRRA, the California Department of Transportation (CalTrans), and OCTA HSE Construction Management Requirements (i.e., item E references).

C. Minimum PPE for workers include hard hat, safety glasses, orange (i.e., rail company approved color) class 2 reflective vest, safety toe footwear that meets ANSI Z41 1991 (lace-up type over the ankle) and hearing protection (on person and worn as necessary).

2.25 FINES

The Contractor shall be responsible for the payment of all fines levied against the Authority for HSE violations arising from or related to activities over which Contractor has responsibility per the contract..

2.26 COMPLIANCE COSTS

Compliance with Health, Safety and Environmental Compliance identified in these aforementioned Authority Safety Specifications shall be at the expense of the Contractor, and included in Bid Documents to the Authority for the Contractor's scope. The Authority shall incur no additional cost or schedule impacts by Contractor, for compliance with California Construction Safety Orders, CCR Title 8 Standards, Federal OSHA Standards, and the Authority Safety Specifications for the protection of persons and property.

2.27 REFERENCES

A. CCR Title 8 Standards (Cal/OSHA)
B. CFR Including 1910 and 1926 Standards
C. NFPA, NEC, ANSI, NIOSH Standards
D. USACE Construction Quality Management Manuel (EM-385-1-1)
E. Construction Industry Institute (CII)
F. OCTA Construction Management Procedures Manual
G. OCTA Yard Safety Rules

END OF DOCUMENT

EXHIBIT G: PERFORMANCE BOND

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
hereinafter referred to as "Contractor", as principal, and _____
as surety, are held and firmly bound unto the Orange County Transportation Authority, State of California, in the sum _____
Dollars, ($_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS, said Contractor has been awarded and is about to enter into the annexed Agreement with the Orange County Transportation Authority for the **RFP 4-2683, "Design-Build of the Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base,"** as specified in said Agreement, which is incorporated herein to this bond by reference, and is required under the terms of said Agreement to give this bond in connection with the execution thereof;

NOW THEREFORE, if the said Contractor shall well and truly do and perform all of the covenants and obligations of said Agreement on his part to be done and performed at the times and in the manner specified herein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect; and in the event said Contractor fails to fully perform all requirements in accordance with the terms and conditions of said Agreement, then surety shall enforce performance by the Contractor or shall pay the Orange County Transportation Authority for the same in an amount not exceeding the amount specified in this bond; and, further, if in the event suit is brought upon this bond then said surety shall pay the Orange County Transportation Authority for reasonable attorneys' fees to be fixed by the court;

PROVIDED, that any changes in the work to be done, or the material to be furnished, whether or not made pursuant to the terms of said contract, shall not in any way release either the Contractor or the surety there under, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such changes or extensions of the contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 202_.

(SEAL)

_____
(Contractor)

By _____

_____
(Title)

Approved:

_____
(SEAL)

_____
(Surety)

By _____

EXHIBIT H: PAYMENT BOND

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
hereinafter referred to as "Contractor", as principal, and _____
as surety, are held and firmly bound unto the Orange County Transportation Authority, State of California, in the sum _____
Dollars, ($_____), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, jointly and severally, firmly by these presents.

The Condition of the foregoing obligation is such that,

WHEREAS, said Contractor has been awarded and is about to enter into the annexed Agreement with the ORANGE COUNTY TRANSPORTATION AUTHORITY for the **RFP 4-2683, "Design-Build of the Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base,"** as specified in said Agreement, which is incorporated herein to this bond by reference, and is required under the terms of said Agreement to give this bond in connection with the execution thereof;

NOW, THEREFORE, if said Contractor or a subcontractor fails to pay any of the persons named in Section 9100 of the Civil Code of the State of California, or amounts due under the Unemployment Insurance Code with respect to work or labor performed under the contract, or for any amounts required to be deducted, withheld and paid over to the Employment Development Department from the wages of employees of said Contractor and subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, then said surety will pay for the same, in an amount not exceeding the sum specified in this bond, and also, in case suit is brought upon this bond, a reasonable attorney's fee, to be fixed by the court. This bond shall inure to the benefit of all persons named in Section 9100 of the Civil Code of the State of California so as to give a right of action to such persons or their assigns in any suit brought upon this bond. This bond shall be subject to and include all of the provisions of Title 3 of Part 64 of Division 4 of the Civil Code of California relating to Payment Bond for Public Works, including but not confined to, Civil Code Sections 8150 – 8154, inclusive and Sections 9550 - 9566, inclusive.

PROVIDED, that any changes in the work to be done or the material to be furnished, whether or not made pursuant to the terms of said contract, shall not in any way release either the Contractor or the surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such alterations or extensions of the contract is hereby waived by the surety.

PAYMENT BOND, PAGE 2

WITNESS our hands this _____ day of _____, 202_.

(SEAL)

_____
(Contractor)

By _____

_____
(Title)

Approved:

_____
(Surety)

_____ By _____
(SEAL)

EXHIBIT I: GUARANTY

GUARANTY

The undersigned, as "Contractor," guarantees to the Orange County Transportation Authority that the materials furnished and the completed installation work, and the related work performed by the Contractor pursuant to Agreement No. **C-4-2683, "Design-Build of the Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base".**

A. For a period of one (1) year from the date of completion, as evidenced by the date of final acceptance of the work by the Authority, the Contractor warrants to the Authority that work performed and materials furnished under this Contract conforms to the Contract requirements and shall be free from any defect in design, material or workmanship performed by the Contractor or its subcontractors or suppliers. Notwithstanding the foregoing, Contractor shall not be liable for any defects of design, material or equipment provided by Authority.

B. Under this guaranty, the Contractor shall remedy at its own expense any such failure to conform or any such defect.

C. Nothing in the above intends or implies that this warranty shall apply to work, which has been abused or neglected by the Authority.

D. This guaranty shall be in addition to the other guarantees and warranties specified in the Agreement and shall be enforceable concurrently with, or in lieu of, said other guarantees.

Should any of the materials or equipment prove defective or should the work as a whole prove defective, due to faulty workmanship, material furnished or methods of installation, or should the work or any part thereof fail to operate properly as originally intended and in accordance with the plans and specifications, due to any of the above causes, all within twelve (12) months after the date on which the work is accepted by the Authority, the undersigned agrees to reimburse the Authority, upon demand, for its expenses incurred in restoring any such equipment or materials replaced and the cost of removing and replacing any other work without cost to the Authority so that said work will function correctly as originally contemplated.

The Authority shall have the unqualified option to make any needed replacements or repairs itself or to have such replacements or repairs done by the undersigned. In the event the Authority elects to have said work performed by the undersigned, the undersigned agrees that the repairs shall be made and such materials as are necessary shall be furnished and installed within a reasonable time after the receipt of demand from the Authority. If the undersigned shall fail or refuse to comply with its obligations under this guaranty, the Authority shall be entitled to all costs and expenses, including attorneys' fees, reasonably incurred by reasons of the said failure or refusal.

GUARANTY, PAGE 2

Subscribed and sworn to before me

this ___ day of _____, 202_

Seal of Notary

_____
Notary Public

_____
Name

_____
Title

_____
Signature

_____
Date

EXHIBIT J: CCO FORM

RFP 4-2683
EXHIBIT J

CONTRACT CHANGE ORDER

DATE:

PROJECT	OCTA NO	CONTRACT NO.	SUPPL NO.	CHANGE REQUESTED BY:
			N/A	☐ OWNER ☐ CONTRACTOR

TO: TITLE:	ACCOUNT CODE	OTHER ID

You are hereby directed to make the herein described changes from the plans and specifications or do the following work not included in the plans and specifications on this contract. NOTE: This change order is not effective until approved by the Orange County Transportation Authority's Manager of Contracts Administration and Materials Management or in the case of change orders in excess of $210,000.00 the Orange County Transportation Authority's Chief Executive Officer. Describe work to be performed, estimate of quantities, and prices to be paid. Segregate between additional work at contract price, agreed price, and force account. Unless otherwise stated, rates for rental equipment cover only such time as equipment is actually used and no allowance will be made for idle time.

Change Work Description:

MODIFICATIONS DUE TO THIS CHANGE ORDER:

TIME: 0 CALENDAR DAYS **PRICE: $0.00** ☐ INCREASE ☐ DECREASE

APPROVAL RECOMMENDED BY:	RESIDENT ENGINEER	DATE
APPROVAL RECOMMENDED BY:	PROJECT MANAGER	DATE
APPROVAL RECOMMENDED BY:	DIRECTOR OF RAIL PROGRAMS	DATE
APPROVAL RECOMMENDED BY:	EXECUTIVE DIRECTOR OF CAPITAL PROGRAMS	DATE
APPROVAL RECOMMENDED BY:	GENERAL COUNSEL	DATE
APPROVED BY:	CONTRACTS ADMINISTRATION AND MATERIALS MANAGEMENT	DATE
APPROVED BY:	CHIEF EXECUTIVE OFFICER	DATE

We, the Undersigned Contractor, have given careful consideration to the change and hereby agree that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will therefore accept as full payment the prices shown above. Additionally, we agreed that the compensation (time and cost) set forth in this Change Order comprises the total compensation due the Contractor, and all the Subcontractors and all Suppliers, for the work or change defined in this Change Order, including all impact on any unchanged work. By signing this Change Order, the Contractor acknowledges and agrees, on behalf of themselves, all Subcontractors and all Suppliers, that the stipulated compensation includes payment for all work contained in this Change Order, plus all payments for interruption of schedules, extended overhead costs, delay, and all impact, ripple effect or cumulative impact on all other work under the Contract. The signing of this Change Order shall indicate that the Change Order constitutes the total equitable adjustment owed to the Contractor, all Subcontractors and all Suppliers, and the Contractor agrees to waive all rights, without exception or reservation of any kind whatsoever, to file any further claim or request for equitable adjustment of any type, for any reasonably foreseeable cause that shall arise out of or as a result of this Change Order or the impact of this Change Order on the remainder of the work under this Contract.

ACCEPTED BY:

CONTRACTOR	DATE
NAME	TITLE

If the Contractor does not sign acceptance of this order, their attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

EXHIBIT K: FORMS

PROPOSAL DOCUMENT SUBMISSION CHECKLIST

RFP NO. 4-2683

Design-Build of the Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base

The Orange County Transportation Authority has prepared this checklist as a reminder of the documents required to be submitted with the proposal.

THE FOLLOWING DOCUMENTS MUST BE SUBMITTED WITH THE TECHNICAL PROPOSAL:

	Proposal Exceptions and/or Deviations (Form B) *Any exceptions and/or deviations to the technical or contractual requirements should be submitted. A new form should be used for each exception and/or deviation*
	Campaign Contributions Disclosure Form (Form E) *Form to be completed by all members of the design-build team regardless of whether a campaign contribution has been made or not*
	Status of Past and Present Contracts Form (Form F) *Signed, dated*
	Offeror's Certificate of Compliance Regarding Workers Compensation Insurance (Form H) *Signed and dated*
	Offeror's Certificate of Compliance Regarding State of California Business and Professions Code Section 7028.15 (Form I) *Signed, dated, notarized*
	Non-Collusion Declaration Form (Form J) *Signed, dated*
	Iran Contracting Certification (Form K) *Signed, dated*

THE FOLLOWING DOCUMENTS MUST BE SUBMITTED WITH THE PRICE PROPOSAL:

	Proposal Bond Form (Form C) - Proposal Bond or Check (circle one) *Correct RFP number, signed, dated, notarized (proposal bond)*
	List of Subcontractors (Form D) *License Number- address/ name should match that associated with License # on CSLB website, DIR Registration Number, Description of work (one subcontractor for each portion), Dollar amount and Bidders name at bottom of form*

RFP 4-2683
FORM A

THE FOLLOWING ARE REQUIRED AT THE TIME OF CONTRACT AWARD:

	Performance Bond *In the amount of one hundred percent of the full amount of the contract*
	Payment Bond *In the amount of one hundred percent of the full amount of the contract*
	Guaranty *Executed and notorized*
	Insurance Certificate *Must meet the requirements set forth in the proposed Agreement*

_____ _____

Authorized Signature Print Name and Title

_____ _____

Firm Name Date

RFP 4-2683
FORM B

PROPOSAL EXCEPTIONS AND/OR DEVIATIONS

The following form shall be completed for each technical and/or contractual exception or deviation that is submitted by Offeror for review and consideration by Authority. The exception and/or deviation must be clearly stated along with the rationale for requesting the exception and/or deviation. If no technical or contractual exceptions or deviations are submitted as part of the original proposal, Offerors are deemed to have accepted Authority's technical requirements and contractual terms and conditions set forth in the Scope of Work (Exhibit A) and Proposed Agreement (Exhibit B). Offerors will not be allowed to submit this form or any contractual exceptions and/or deviation after the proposal submittal date identified in the RFP. Exceptions and/or deviations submitted after the proposal submittal date will not be reviewed by Authority.

Offeror:_____

RFP No.:_____ RFP Title: _____

Deviation or Exception No. : _____

Check one:

- Scope of Work (Technical) _____
- Proposed Agreement (Contractual) _____

Reference Section/Exhibit: _____ Page/Article No._____

Complete Description of Deviation or Exception:

_____
_____
_____
_____
_____
_____
_____
_____

Rationale for Requesting Deviation or Exception:

_____
_____
_____
_____
_____
_____

Area Below Reserved for Authority Use Only:

_____
_____
_____

PROPOSAL SECURITY FORM
PROPOSAL BOND

KNOW ALL MEN BY THESE PRESENTS:

That, _____ as principal and Offeror and _____ as Surety, are held and firmly bound unto the Orange County Transportation Authority, of State of California, hereinafter referred to as "Authority," in the sum of _____ Dollars ($_____), to be paid to the Authority, its successors, and assigns; for which payment, well and truly to be made, bind themselves, their heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents, this amount being ten percent (10%) of the total amount of the Bid.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the certain bid of the above named bounden principal _____
_____
for_____ at the Orange County Transportation Authority's _____ as specifically set forth in documents entitled **RFP 4-2683, "Design-Build of Hydrogen Fueling Station and Facility Modifications at Garden Grove Bus Base"**, shall not be withdrawn within a period of 120 calendar days after the date set for the opening of bids, (unless otherwise required by law, and notwithstanding the award of the contract to another Offeror), and that if said proposal is accepted by the Authority through action of its legally constituted contracting authorities and if the above bounden_____ its heirs, executors, administrators, successors and assigns, shall execute a contract for such construction and deliver the required Performance and Payment Bonds, "Guaranty," and proof of insurance coverage within ten (10) calendar days after notification of contract award from the Authority, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we hereunto set our hands and seals this _____ day of _____, 202__.

PRINCIPAL

_____
(Principal Name) (Seal)

By: _____
(Signature)

_____
(Print Name and Title)

By: _____
(Signature)

_____
(Print Name and Title)

Principal Address and Telephone:

_____
_____
_____
_____

SURETY

_____
(Surety Name) (Seal)

By: _____
(Signature)

_____
(Print Name and Title)

By: _____
(Signature)

_____
(Print Name and Title)

Surety Address and Telephone:

_____
_____
_____
_____

Affix Corporate Seals
Attach Notary Acknowledgments for All Signatures
Attach Power-of-Attorney if Executed by Attorney-in-Fact

NOTE: The standard printed bond form of any bonding company acceptable to the Authority may be used in lieu of the foregoing approved sample bond form provided that the security company's printed standard form contains all of the security stipulations that protect the Authority in the above bond form.

LIST OF SUBCONTRACTORS (EXHIBIT D)

List only the subcontractors, which will perform work or labor or render services to the offeror in excess of one-half of one percent (1/2 of 1%) of the offeror's total bid amount. Do not list alternative subcontractors for the same work. (Use additional sheets if necessary.)

Name & Address Under Which Subcontractor is Licensed	License Number	DIR Registration No.	Specific Description of Work to be Rendered	Small Business Y/N	Type	Dollar Amount
						$
						$
						$
						$
						$
						$
TOTAL VALUE OF SUBCONTRACTED WORK						$

Offeror's Name_____

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Information Sheet

ORANGE COUNTY TRANSPORTATION AUTHORITY

The attached Campaign Contribution Disclosure Form must be completed by applicants for, or persons who are the subject of, any proceeding involving a license, permit, or other entitlement for use pending before the Board of Directors of the OCTA or any of its affiliated agencies. (Please see next page for definitions of these terms.)

IMPORTANT NOTICE

Basic Provisions of Government Code Section 84308

A. If you are an applicant for, or the subject of, any proceeding involving a license, permit, or other entitlement for use, you are prohibited from making a campaign contribution of more than $500 to any board member or his or her alternate. This prohibition begins on the date your application is filed or the proceeding is otherwise initiated, and the prohibition ends three months after a final decision is rendered by the Board of Directors. In addition, no board member or alternate may solicit or accept a campaign contribution of more than $500 from you during this period.

B. These prohibitions also apply to your agents, and, if you are a closely held corporation, to your majority shareholder as well. These prohibitions also apply to your subcontractor(s), joint venturer(s), and partner(s) in this proceeding. Also included are parent companies and subsidiary companies directed and controlled by you, and political action committees directed and controlled by you.

C. You must file the attached disclosure form and disclose whether you or your agent(s) have in the aggregate contributed more than $500 to any board member or his or her alternate during the 12-month period preceding the filing of the application or the initiation of the proceeding.

D. If you or your agent have in the aggregate contributed more than $500 to any individual board member or his/or her alternate during the 12 months preceding the decision on the application or proceeding, that board member or alternate must disqualify himself or herself from the decision. However, disqualification is not required if the board member or alternate returns the campaign contribution within 30 days from the time the director knows, or should have known, about both the contribution and the fact that you are a party in the proceeding. The Campaign Contribution Disclosure Form should be completed and filed with your proposal, or with the first written document you file or submit after the proceeding commences.

1. A proceeding involving "a license, permit, or other entitlement for use" includes all business, professional, trade and land use licenses and permits, and all other entitlements for use, including all entitlements for land use, all contracts (other than competitively bid, labor or personal employment contracts), and all franchises.

2. Your "agent" is someone who represents you in connection with a proceeding involving a license, permit or other entitlement for use. If an individual acting as an agent is also acting in his or her capacity as an employee or member of a law, architectural, engineering, consulting firm, or similar business entity, both the business entity and the individual are “agents.”

3. To determine whether a campaign contribution of more than $500 has been made by you, campaign contributions made by you within the preceding 12 months must be aggregated with those made by your agent within the preceding 12 months or the period of the agency, whichever is shorter. Contributions made by your majority shareholder (if a closely held corporation), your subcontractor(s), your joint venturer(s), and your partner(s) in this proceeding must also be included as part of the aggregation. Campaign contributions made to different directors or their alternates are not aggregated.

4. A list of the members and alternates of the Board of Directors is attached.

This notice summarizes the major requirements of Government Code Section 84308 of the Political Reform Act and California Code of Regulations, Title 2 Sections 18438-18438.8.

RFP 4-2683
FORM E

ORANGE COUNTY TRANSPORTATION AUTHORITY
CAMPAIGN CONTRIBUTION DISCLOSURE FORM

RFP Number: _____ RFP Title: _____

Was a campaign contribution made to any OCTA Board Member within the preceding 12 months, regardless of dollar amount of the contribution by either the proposing firm, proposed subconsultants and/or agent/lobbyist? Yes ____ No_____

If no, please sign and date below.

If yes, please provide the following information:

Prime Contractor Firm Name: _____

Contributor or Contributor Firm's Name: _____

Contributor or Contributor Firm's Address: _____

_____

Is Contributor:

- The Prime Contractor Yes___ No ___
- Subconsultant Yes___ No ___
- Agent/Lobbyist hired by Prime to represent the Prime in this RFP Yes___ No ___

Note: Under the State of California Government Code section 84308 and California Code of Regulations, Title 2, Section 18438, campaign contributions made by the Prime Contractor and the Prime Contractor's agent/lobbyist who is representing the Prime Contractor in this RFP must be aggregated together to determine the total campaign contribution made by the Prime Contractor.

_____

Identify the Board Member(s) to whom you, your subconsultants, and/or agent/lobbyist made campaign contributions, the name of the contributor, the dates of contribution(s) in the preceding 12 months and dollar amount of the contribution. Each date must include the exact month, day, and year of the contribution.

Name of Board Member: _____

Name of Contributor: _____

Date(s) of Contribution(s): _____

Amount(s): _____

Name of Board Member: _____

Name of Contributor: _____

Date(s) of Contribution(s): _____

Amount(s): _____

Date: _____ _____
Signature of Contributor

_____ _____
Print Firm Name Print Name of Contributor

ORANGE COUNTY TRANSPORTATION AUTHORITY AND AFFILIATED AGENCIES

Board of Directors

Tam Nguyen, Chair

Doug Chaffee, Vice Chair

Valerie Amezcua, Director

Jon Dumitru, Director

Jamey Federico, Director

Katrina Foley, Director

Patrick Harper, Director

Michael Hennessey, Director

Fred Jung, Director

Farrah Khan, Director

Stephanie Klopfenstein, Director

Vicente Sarmiento, Director

John Stephens, Director

Mark Tettemer, Director

Donald Wagner, Director

RFP 4-2683
FORM F

STATUS OF PAST AND PRESENT CONTRACTS FORM

On the form provided below, Offeror/Bidder shall list the status of past and present contracts where the firm has either provided services as a prime vendor or a subcontractor during the past five (5) years in which the contract has been the subject of or may be involved in litigation with the contracting authority. This includes, but is not limited to, claims, settlement agreements, arbitrations, administrative proceedings, and investigations arising out of the contract.

A separate form must be completed for each contract. Offeror/Bidder shall provide an accurate contact name and telephone number for each contract and indicate the term of the contract and the original contract value. Offeror/Bidder shall also provide a brief summary and the current status of the litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations. If the contract was terminated, list the reason for termination.

Offeror/Bidder shall have an ongoing obligation to update the Authority with any changes to the identified contracts and any new litigation, claims, settlement agreements, arbitrations, administrative proceedings, or investigations that arise subsequent to the submission of the bid. Each form must be signed by an officer of the Offeror/Bidder confirming that the information provided is true and accurate.

Project city/agency/other:
Contact Name: **Phone:**
Project Award Date: **Original Contract Value:**
Term of Contract:
(1) Litigation, claims, settlements, arbitrations, or investigations associated with contract:
(2) Summary and Status of contract:
(3) Summary and Status of action identified in (1):
(4) Reason for termination, if applicable:

By signing this Form entitled “Status of Past and Present Contracts,” I am affirming that all of the information provided is true and accurate.

Name _____ Signature _____

Title _____ Date _____

Revised. 03/16/2018

NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offerors' attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

   Timetable Goals for Minority Participation for Each Trade (11.9)

   Goals for Female Participation in Each Trade (6.9)

   These goals are applicable to all the Contractor's construction work (whether or not it is federal or federally assisted) performed in the covered area.

   The Contractor's compliance with the Executive Order and the regulations in 41 C.F.R. Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 C.F.R. 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from contractor to contractor or from project to project for the sole purpose of meeting the contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 C.F.R. Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten (10) working days of award of any construction subcontract in excess of $10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address and telephone number of the subcontractor; employer identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographical area in which the contract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" includes the County of Orange, California.

OFFEROR'S CERTIFICATE OF COMPLIANCE REGARDING WORKERS' COMPENSATION INSURANCE

In conformance with current statutory requirements of Section 1860, et. seq., of the Labor Code of the State of California, the undersigned confirms the following certification:

> "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that code and I will comply with such provisions before commencing the performance of the work of this Contract."

Name of Offeror/Contractor: _____

Signature: _____

Title: _____

Date: _____

RFP 4-2683
FORM I

OFFEROR'S CERTIFICATE OF COMPLIANCE REGARDING STATE OF CALIFORNIA BUSINESS AND PROFESSIONS CODE SECTION 7028.15

Contractor License Number: _____

Expiration Date of Contractor's License: _____

Each, every and all of the representations made by Offeror in the attached bid are true and correct.

Name of Offeror/Contractor: _____

Signed: _____

Title: _____

Subscribed to and sworn before me, a Notary Public in and for the State of California, on _____, 202__.

_____
Notary Public

My commission expires on:

_____, 202__.
(NOTARY SEAL)

Non-Collusion Declaration to be Executed by Offeror and Submitted with Proposal

To the Orange County Transportation Authority
The undersigned declares:

I am the _____ of _____, the party making the foregoing bid. In accordance with Title 23 United States Code Section 112 and Public Contract Code Section, 7106 the offeror declares that the bid is not made in the interest of, or on the behalf of, any undisclosed person, partnership, company, association, organization or corporation. The bid is genuine and not collusive or sham. The offeror has not directly or indirectly induced or solicited any other offeror to put in a false or sham bid, or that anyone shall refrain from bidding. The offeror has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the offeror or any other offeror, or to fix any overhead, profit, or cost element of the bid price, or of that of any offeror, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract. All statements contained in the bid are true. The offeror has not, directly, or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a offeror that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the offeror.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____ (date), at _____ (city), _____ (state).

Name of Offeror:_____

Signature:_____

Date:_____

IRAN CONTRACTING ACT CERTIFICATION

(California Public Contract Code Sections 2200, *et seq.*)

The Iran Contracting Act of 2010 (PCC Sections 2200-2208), prohibits offerors who are engaged in investment activities in the energy sector of Iran from bidding on, submitting proposals for, or entering into or renewing contracts with public entities for goods or services of one million dollars ($1,000,000) or more. At the time of submitting a bid, each offeror must certify that the offeror is not identified on the Department of General Services list of ineligible persons pursuant to PCC Section 2203(b). Each offeror is also required to certify that the offeror is not engaged in investment activities in violation of the Iran Contracting Act of 2010.

A offeror who is engaged in investment activities in the energy sector of Iran is defined as:

1. A person providing goods or services of twenty million dollars ($20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or
2. A person that is a financial institution that extends twenty million dollars ($20,000,000) or more in credit to another person, for 45 days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to PCC Section 2203(b).

A offeror is not required to certify that it is engaged in investment activities in the energy sector of Iran if the offeror is exempt from the certification under PCC Section 2203(c) or (d). If the offeror is exempt from the certification requirement, the offeror will be required to provide documentation demonstrating the exemption.

To comply with the Iran Contracting Act of 2010, the offeror shall complete **one** of the options below. Please note: under PCC Section 2205, false certification of this form may result in civil penalties of $250,000 or twice the amount of the contract for which false certification was made, termination of the contract, and/or ineligibility to bid on contracts for a period of three years.

Option No. 1: Certification

I, the official named below, certify I am duly authorized to execute this certification on behalf of the vendor/financial institution identified below, and the vendor/financial institution identified below, and any subcontractor who will perform work or labor or render services to the vendor identified below, is not on the current Department of General Services list identifying persons engaged in investment activities in the energy sector of Iran, and is not a financial institution extending twenty million dollars ($20,000,000) or more in credit to another person/vendor, for 45 days or more, if that other person/vendor will use the credit to provide goods or services in the energy sector in Iran and is identified on the current Department of General Services list identifying persons engaged in investment activities in the energy sector of Iran.

Vendor/Financial Institution: _____

Signature: _____

Name and Title: _____

Date: _____

Option No. 2: Exemption

Pursuant to PCC Section 2203(c) and (d), a public entity may permit a offeror or financial institution engaged in investment activities in Iran, on a case-by-case basis, to be eligible for, or to bid on, submit proposals for, or enter into or renew a contract with a public entity for goods or services of one million dollars ($1,000,000) or more. If the offeror, financial institution, or any subcontractor who will perform work or labor or render services to the offeror has obtained an exemption from the certification requirement, please complete and sign below and attach the documentation demonstrating the exemption approval.

Vendor/Financial Institution: _____

Signature: _____

Name and Title: _____

Date: _____

Option No. 3: Non-Applicability

Pursuant to PCC Section 2203(b), a offeror or financial institution engaged in investment activities in Iran may not be eligible for, or to bid on, submit proposals for, or enter into or renew a contract with a public entity for goods or services of one million dollars ($1,000,000) or more. If the contract is not for goods or services of one million dollars ($1,000,000) or more, please sign below indicating that the contract is not for goods or services of one million dollars ($1,000,000) or more and thus offeror is not required to certify and does not meet the exemption.

Vendor/Financial Institution: _____

Signature: _____

Name and Title: _____

Date: _____

January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: OC Streetcar Project Quarterly Update

Overview

The Orange County Transportation Authority is implementing the OC Streetcar project, and updates are provided to the Board of Directors on a quarterly basis. This report covers OC Streetcar project activities from October 2024 through December 2024.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA), in cooperation with the cities of Santa Ana and Garden Grove, is implementing a modern streetcar running between the Santa Ana Regional Transportation Center in the City of Santa Ana (City) and the intersection of Harbor Boulevard and Westminster Avenue in the City of Garden Grove. The OC Streetcar project (Project) will improve transit connectivity and accessibility, increase transit options, relieve congestion, and provide benefits to the community and traveling public. The Project is being implemented as part of Measure M2 Project S – Transit Extensions to Metrolink, approved by Orange County voters in November 2006.

Construction of the 4.15-mile alignment involves complex and specialized work, including the installation of embedded track in existing streets, an overhead contact system (OCS) and four traction power substations to supply power to the vehicles, new traffic signals and transit signal priority at intersections, stops with canopies, bridges, and a maintenance and storage facility (MSF). A map of the alignment is included in Attachment A.

The Project includes ten streetcar stops in each direction (four shared center platforms and six side platforms in each direction, for a total of 16 platforms). Each stop includes a canopy, benches, leaning rails, trash cans, lighting, variable message signs, video cameras, a public address system, and ticket vending machines. Platforms are 14 inches high to enable level boarding to streetcar vehicles.

The MSF can accommodate up to 15 modern streetcar vehicles, as well as all necessary administration, operations, vehicle maintenance, parts storage, and maintenance-of-way needs for the Project. The MSF also includes secured exterior vehicle storage, a wye track for turning vehicles end-for-end, a free-standing vehicle wash, employee parking, and fire department/delivery access.

On March 26, 2018, the OCTA Board of Directors (Board) awarded a contract to Siemens Industries, Inc. (Siemens) for the manufacturing and delivery of eight modern streetcar vehicles, spare parts, and special tools. On September 24, 2018, the Board awarded the construction contract for the Project to Walsh Construction Company II, LLC (Walsh). On November 30, 2018, the Federal Transit Administration (FTA) executed the Full Funding Grant Agreement (FFGA), securing $149 million in federal New Starts discretionary funding for the Project. In February 2019, the FFGA was funded through the FTA Transit Award Management System, which was the last step necessary to begin the drawdown of federal funding. As of November 2024, $146.1 million has been drawn from the FFGA. On May 22, 2020, the Board awarded a contract to Herzog Transit Services, Inc., to provide operations and maintenance services for the initial start-up and pre-revenue period, and a five-year revenue term.

Discussion

The following is the status of milestones completed, and ongoing project activities related to construction, vehicle manufacturing, operations, and public outreach.

Construction

- Construction is over 90 percent complete overall.
- The bridges over the Santa Ana River and Westminster Avenue are complete.
- Installation of all tracks and OCS poles are complete.
- Reinterment of cultural resources at the MSF is complete.
- Traction power substation (TPSS) 1, 2, and 3 are energized.
- TPSS 4 will be energized in the coming months.
- Canopies, lighting, and customer information center cabinets/hardware are installed at all station platforms.

The status of key construction activities that have been completed or are ongoing this quarter include:

Pacific Electric Right-of-Way

- Overhead wire installation on OCS poles is ongoing.
- Train warning and gate systems installation at the Fairview Street, Fifth Street, and Raitt Street at-grade crossings are complete.

MSF

- Installation of underground water lines, doors, sidewalk along Fifth Street, heating, ventilation, air conditioning, drywall, plumbing, and electrical work is ongoing.
- Asphalt concrete placed at the yard track area is complete.
- Continued coordination with the contractor to ensure significant completion of the MSF for vehicle acceptance is ongoing.
- Installation of the wheel truing machine used for maintenance of the streetcar vehicles is ongoing.

City Streets

- Reconstruction of sidewalks, driveways, curbs and gutters is over 95 percent complete throughout the Project.
- Landscaping is over 95 percent complete from Fairview Street through Santiago Street and along Westminster Boulevard.
- Pavers and landscaping done in Sasscer Park are complete.
- Installation of signals, signage, and electrical systems at multiple locations is ongoing.

Vehicles

The status of key vehicle activities that are complete or ongoing this quarter include:

- All eight vehicles are complete and in storage at the Siemens facility.
- Spare parts and special tools are in storage at the Siemens facility.
- Discussions are ongoing with Siemens regarding the timing of the vehicle delivery consistent with the availability of the MSF.
- Negotiations are ongoing with Siemens regarding long-term storage estimates for the vehicles, vehicle warranty extension, vehicle maintenance during storage, and computer-aided dispatch/automatic vehicle location equipment. Staff anticipates returning to the Board in

February 2025 for a potential contract amendment required for Siemens as a result of these discussions.

- A post-delivery Buy America audit was performed following the completion of the manufacturing and acceptance of all eight vehicles. Consistent with federal requirements, all certifications have been executed.

Operations

The status of key operations activities that are complete or ongoing this quarter include:

- During the reporting period, staff completed Ticket Vending Machine design verification and Safety/Security Certification. Staff also attended contractor training for installing, adjusting, and the maintenance of the OCS wire tensioning.
- On November 18, 2024, the California Public Utilities Commission (CPUC) completed its courtesy review of the Roadway Worker Protection Plan, a critical safety plan needed before the Project can operate under power. The CPUC confirmed the plan's compliance with the requirements.
- In preparation for system operations, the Rail Activation Committee and Systems Integration Testing (SIT) Committee meet monthly. The SIT manager has finalized the SIT plan and test schedule and is working with the operations and maintenance contractor to align test plans with project milestones and refine mainline and MSF SIT test procedures.
- Negotiations are ongoing with the City of Garden Grove for the operations and maintenance agreement.

Public Outreach

The status of key public outreach activities that are complete or ongoing this quarter include:

- Monthly construction activity email is ongoing.
- Distribution of bilingual notifications for targeted activities is ongoing:
    - Lane closures along Santa Ana Boulevard to accommodate overhead wire installation, electrical work, and other work.
    - Extension of the median at the 5th Street rail crossing requiring traffic detours.
    - The upcoming installation of corridor-wide wire along Santa Ana Boulevard between Pacific Street and Santiago Street will commence before the end of the year. This activity will temporarily affect traffic, parking, and driveway access.
- Approval of a safety education video is complete. The video includes specific safety messaging and reminders assisting pedestrians, drivers,

and cyclists with information and guidance supporting safe movements around and near the tracks and vehicles. The video has been posted to the project website with Spanish and Vietnamese subtitles available.

- OCTA staffed an information table at the City's holiday celebration at 4th Street and French Street. More than 100 visitors stopped by to learn about the Project's features and safety education materials.

Cost and Schedule

In April 2023, the Board approved a revised project budget of $579 million. As previously reported to the Board, OCTA continues to report to the FTA the risk-adjusted revenue service date of August 2025. Staff, in coordination with the FTA, are assessing the remaining schedule and cost risks, and staff anticipates updating the Board regarding this effort in the first quarter of 2025.

Next Steps

OCTA staff will continue to work closely with Walsh to complete the MSF which will allow for vehicle delivery and testing activities. Continued construction activities include the installation of hardware and overhead wires, station platforms infrastructure, continued paving work, and service connections for the remaining traction power substation and other electrical services. Negotiations will continue with Siemens regarding the long-term storage of the completed eight vehicles. The outreach team will continue to provide oversight of traffic control measures, new signal installation, and system electrification, as well as ongoing project education and safety messaging at community events.

Summary

An OC Streetcar project update covering October 2024 through December 2024 is provided for the Orange County Transportation Authority Board of Directors' review.

Attachment

A. Map of OC Streetcar Project Alignment

Prepared by:

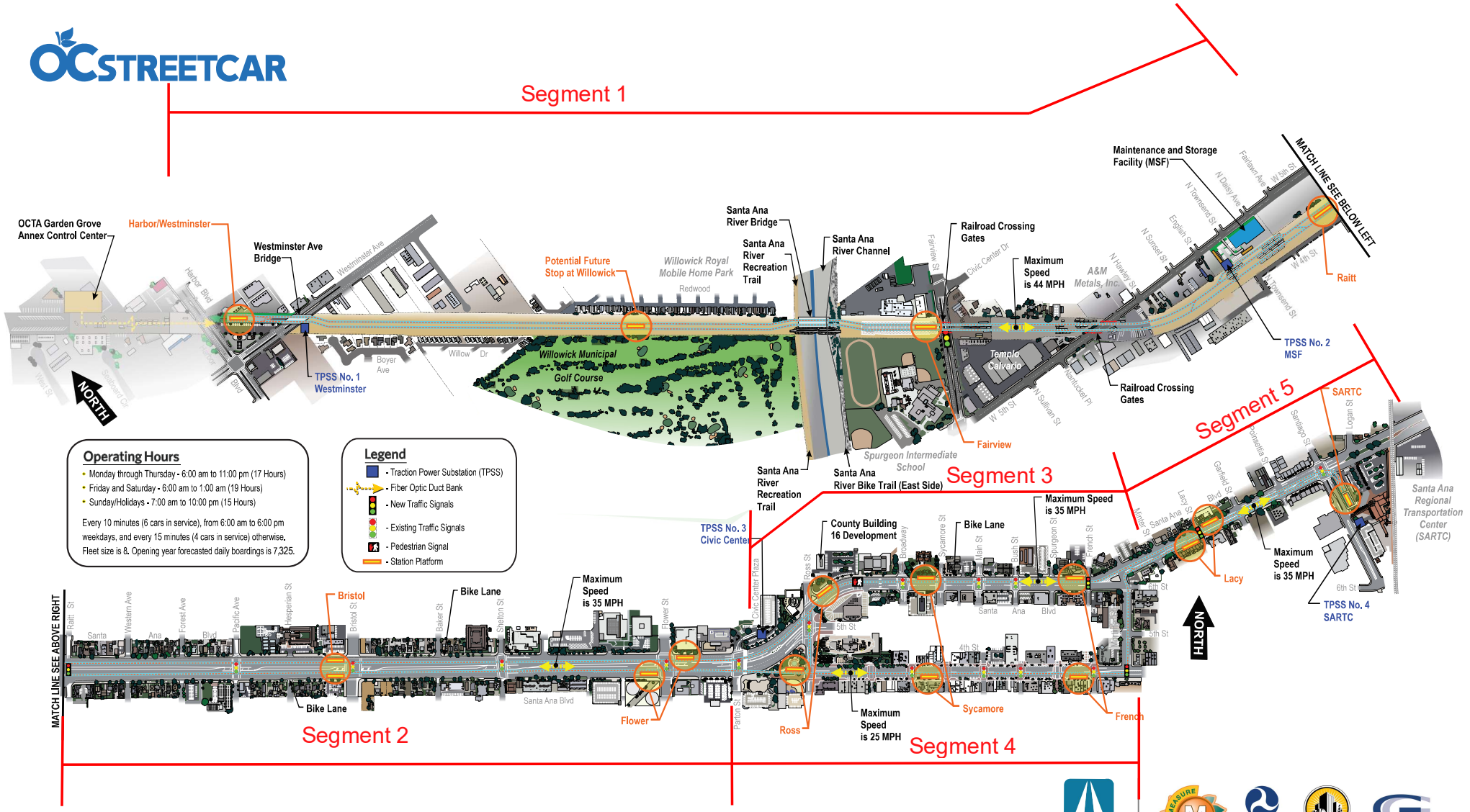
Jeff Mills, P.E.
Director, Capital Project Delivery
(714) 560-5925

Approved by:

James G. Beil, P.E.
Executive Director, Capital Programs
(714) 560-5646

ATTACHMENT A

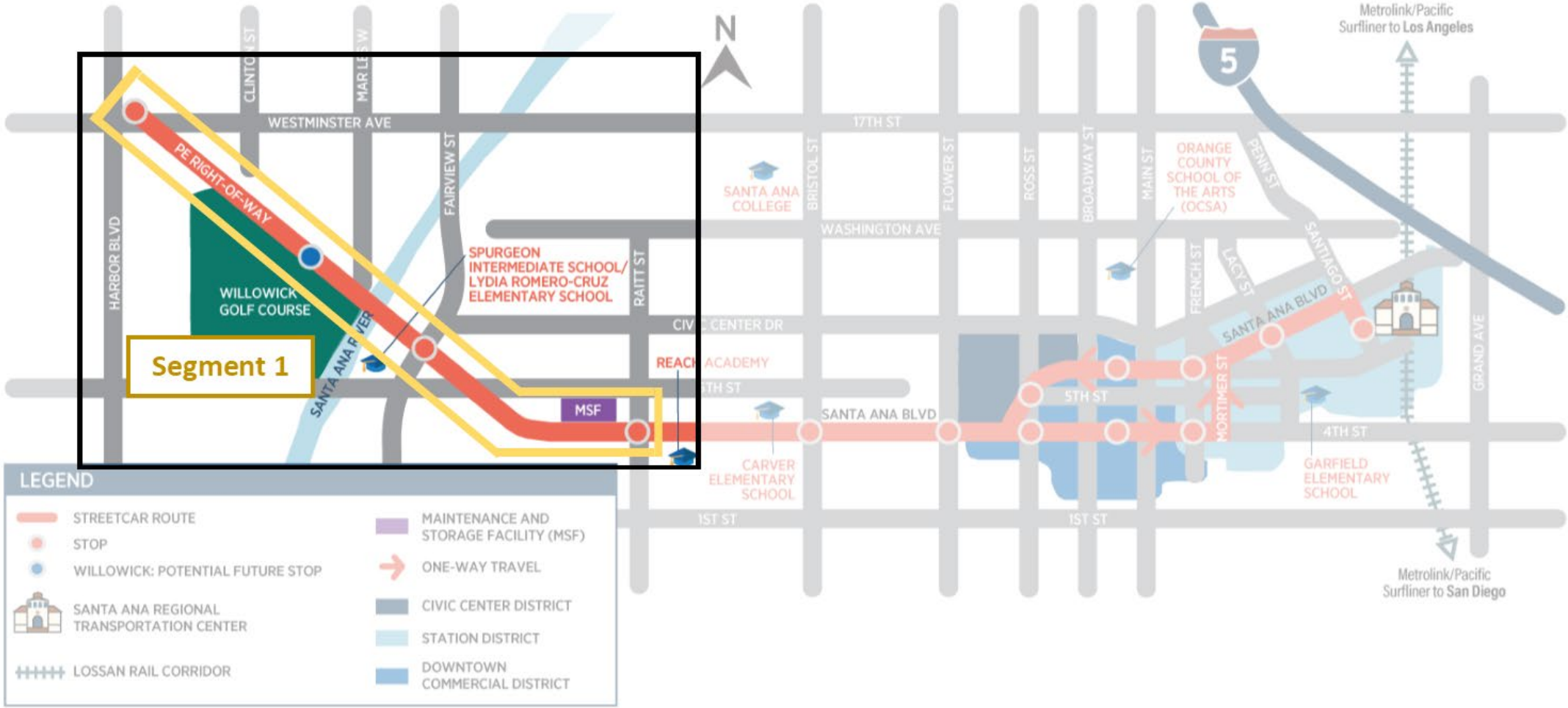
Project Alignment



05.10.2018
Prepared by HDR, Inc.

OC Streetcar Project Quarterly Update

Construction – Segment 1



Segment 1 Progress

Energized Harbor Platform

Variable Message Sign
at Fairview Platform

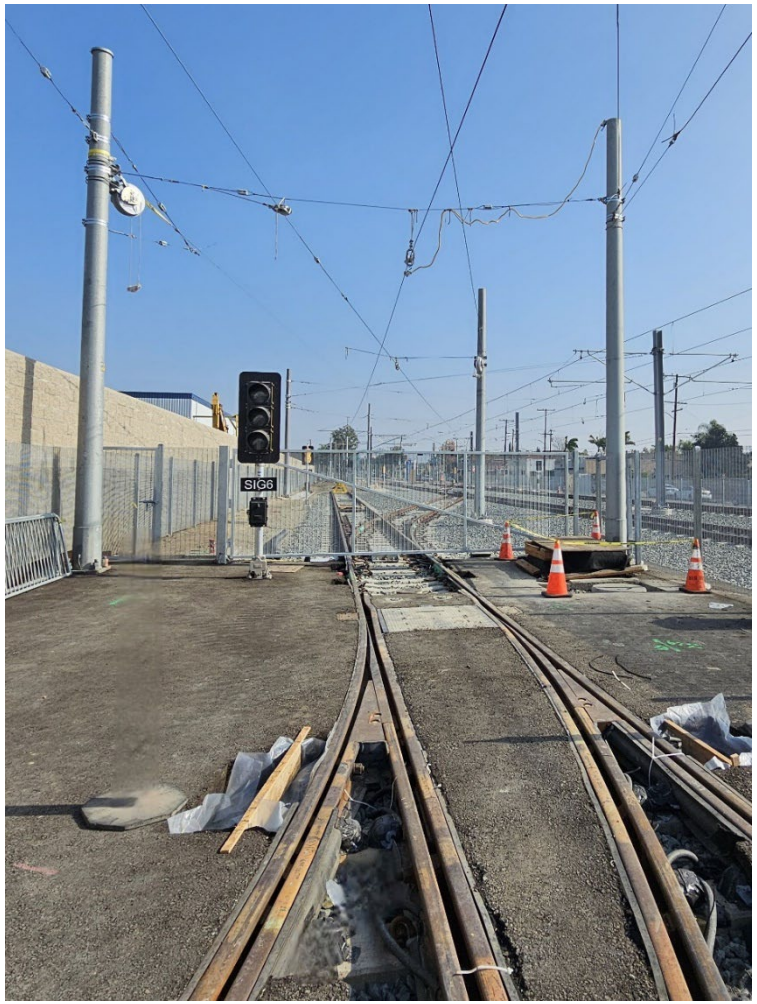
Maintenance and Storage Facility (MSF)

MSF Progress

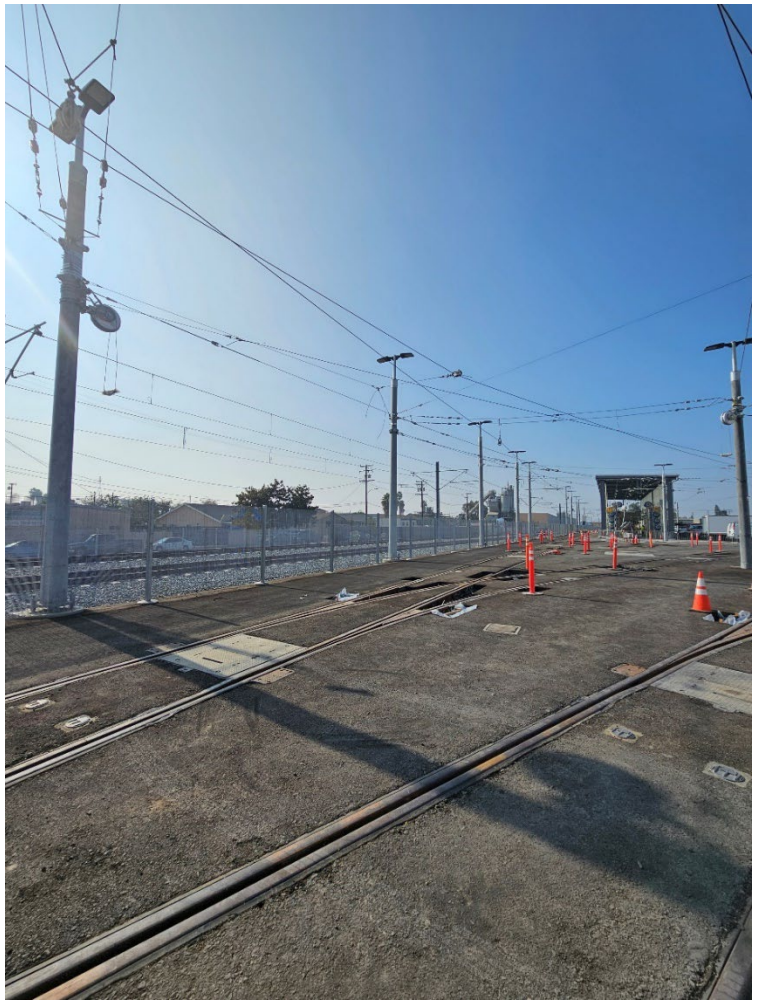
Installed Building Signage

Second Floor Conference Room

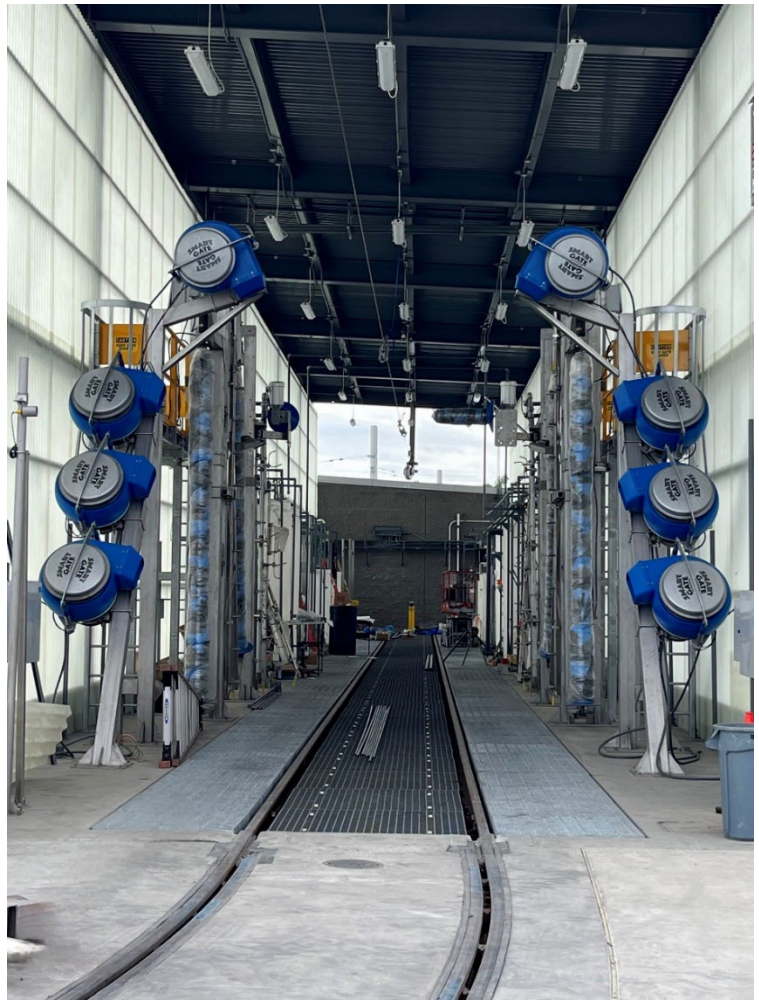
MSF Progress (Cont.)



Installed Gate and Overhead Contact System (OCS) Wire



Installed OCS Wire and Fence



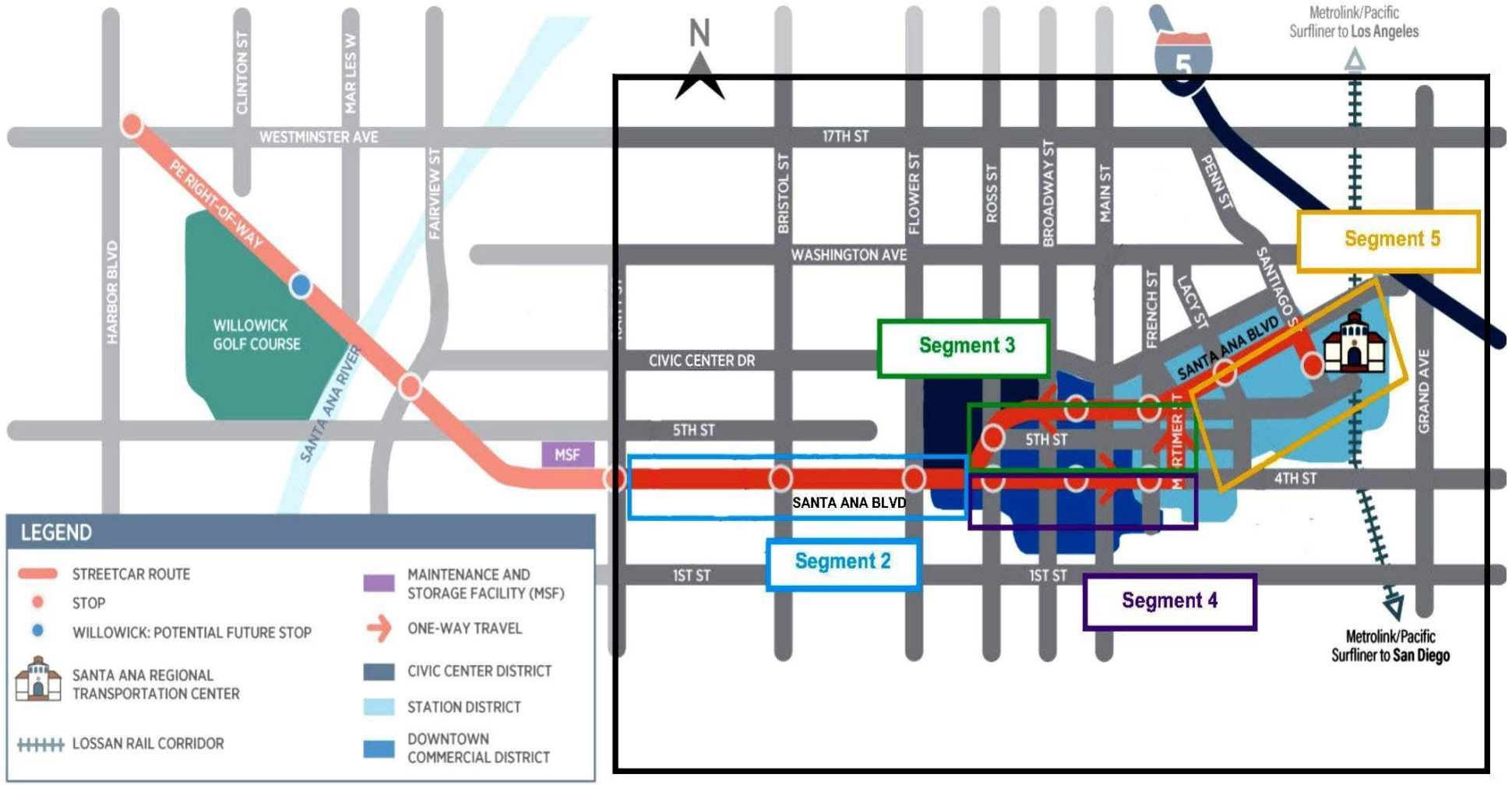
Carwash

MSF Progress (Cont.)

MSF Operator Check-in

Interior of MSF

Construction – Segments 2 through 5



Segments 2 through 5 Progress

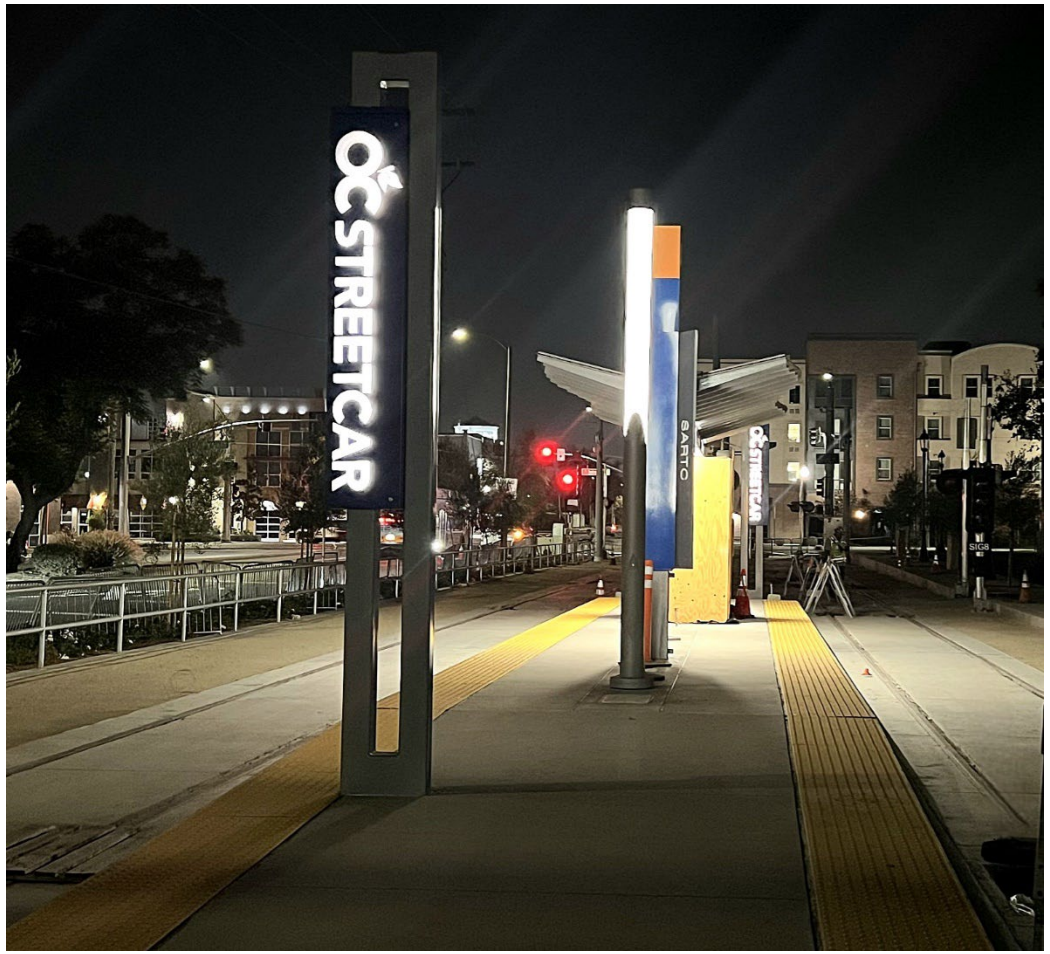
Sasscer Park and Ross Platform Landscaping

Segments 2 through 5 Progress (Cont.)

Completed Median Landscaping and OCS Wire along Santa Ana Boulevard

Segments 2 through 5 Progress (Cont.)

Traction Power Substation 4



Energized Santa Ana Regional Transportation Center Platform

Vehicles

- All eight vehicles complete and in storage at Siemens facility.
- Post-delivery Buy America audit performed, and Federal Transit Administration-required certifications executed.
- Negotiations with Siemens regarding long-term storage rates for the vehicles, vehicle warranty extension, vehicle maintenance during storage, and computer-aided dispatch/automatic vehicle location are underway.

Pre-Revenue Operations

- During the reporting period, staff completed Ticket Vending Machine design verification and Safety/Security Certification. Staff also attended contractor training for installing, adjusting, and the maintenance of the OCS wire tensioning.
- On November 18, 2024, the California Public Utilities Commission completed its courtesy review of the Roadway Worker Protection Plan, confirming compliance with General Order 175-A.

Public Outreach

- Monthly newsletters
- Bilingual door-to-door and social media construction notifications
- Field meetings
- 4th Street merchant meetings

- Information table at a Community Events
- Parking structure banners
- Safety messaging
- Tours

January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Proposed New Fare Media

Overview

The Orange County Transportation Authority Board of Directors approved the implementation of the rider validation system in October 2023 and complementary fare policy amendments in November 2024. In further support of these actions, a new fare media, commonly known as a smart card, is proposed to be implemented as part of the Rider Validation System. The Federal Transit Administration guidelines require transit agencies to evaluate new fare media implementations for potential impacts to people of minority and/or low-income populations. As part of this evaluation process, the Orange County Transportation Authority will implement a Public Involvement Plan that will gather community feedback about the upcoming changes to fare media.

Recommendations

A. Direct staff to implement a Public Involvement Plan and solicit feedback on the proposed new fare media.

B. Direct staff to return to the Board of Directors on March 24, 2025, to present the preliminary public outreach findings and to conduct a public hearing.

Background

The Orange County Transportation Authority (OCTA) has been actively working to modernize its fare collection methods. In 2018, OCTA took a major step by installing mobile ticketing validators across its fixed-route fleet, enabling mobile ticket validation and laying the groundwork for further advancements. This initial investment set the stage for the development of the Rider Validation System (RVS), which aims to significantly improve the fare payment experience, enhance rider validation, and offer greater flexibility in fare policy.

To achieve these objectives, the OCTA Board of Directors (Board) approved a contract with Innovations in Transportation (INIT) on October 23, 2023, to allow implementation of the RVS to modernize the existing fare collection methods with

a more equitable and adaptable system that includes features like fare capping, mobile payment options, and open payments with plans to implement it in July 2025. In addition, on November 25, 2024, the Board approved amendments to the existing fare policy to include implementation of fare capping and a free two-hour transfer period.

Discussion

The RVS will greatly improve the rider experience by allowing for the introduction of a new fare media commonly known as smart cards. These are typically plastic cards embedded with a small chip and are far more durable and offer several added benefits from the current paper magnetic strip paper passes. Smart cards will allow riders to store fare value in an online account linked to the card, enabling features like automatic fare loading, balance protection in the event the card is lost, fare capping, and account management through an online portal. Additionally, riders will have the option to use virtual smart cards through mobile wallets on their smartphones, making it even easier to pay for rides without needing a physical card.

In addition to the online portal, OCTA will offer both cash and credit card payment options for fare purchases and reloads through an expanded retail network. This retail network will offer OCTA-branded smart cards sold alongside popular gift cards like Amazon and Starbucks, making fare media more accessible to all riders, including those without bank accounts. In addition, OCTA-branded smart cards will be available at the OCTA store.

Public Involvement Plan (PIP)

Federal Transit Administration Title VI (Title VI) guidelines require OCTA to evaluate the implementation of any new fare media for potential impacts to people of minority and/or low-income populations. Staff has developed a public involvement plan consistent with the Board-approved “strategies and methods for promoting public involvement” that includes specific strategies with targeted outreach to fulfill Title VI requirements. This initial phase focuses on gathering meaningful feedback, ensuring the changes do not create undue barriers to access or use among minority and low-income populations.

To achieve this, OCTA staff has developed a PIP for achieving Title VI compliance that emphasizes reaching underserved populations through community engagement (Attachment A). Outreach activities include hosting community meetings in both virtual and in-person formats, conducting pop-up events at major transit hubs and within local communities, engaging directly with riders through onboard outreach, and through a survey. Information will be distributed through multiple channels including printed materials in multiple languages, notices on buses, social media platforms, targeted email campaigns, blog posts, and dedicated pages on the OCTA website. These materials will explain the benefits

and features of the new fare collection methods, while actively soliciting community input on potential concerns or barriers to adoption.

This first phase will lead to subsequent educational and promotional activities. This multi-phased approach will ensure compliance with Title VI, engage underserved populations, gather feedback in the first phase before transitioning to the next phases that include comprehensive awareness and education, as well as a launch campaign and promotion to prepare riders with information about the system changes, and drive adoption through promotional efforts.

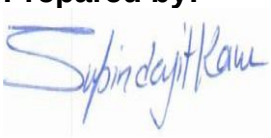
Summary

OCTA will be introducing a new fare media known as smart cards. With Board direction, staff will implement the public involvement plan to ensure public outreach, participation, and inform the community about the upcoming fare media changes.

Attachment

A. Public Involvement Plan for Fiscal Year 2024-25 New Fare Media

Prepared by:



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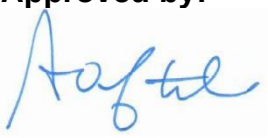
Approved by:



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ATTACHMENT A

Public Involvement Plan for Fiscal Year 2024-25 New Fare Media

BACKGROUND

On October 23, 2023, the Orange County Transportation Authority (OCTA) Board of Directors approved a contract with Innovations in Transportation, Inc. (INIT) to develop and implement a Rider Validation System (RVS) for OCTA's bus system. This system will enhance the fare payment experience by implementing new fare media and offer flexibility for new fare products.

Implementing the new fare media requires a Public Involvement Plan (PIP) as mandated by the Federal Transit Administration's Title VI (Title VI) requirements. To promote meaningful, equitable, and inclusive public participation, OCTA has created the PIP in alignment with the Board-approved "Strategies and Methods for Promoting Public Involvement," adopted on September 9, 2023. This plan is designed to encourage input from residents within the service area, with a particular focus on engaging low-income individuals, minority populations, and those with limited English proficiency.

The primary purpose of this PIP is to gather input and encourage public participation related to the upcoming new fare media. The ten-week campaign, starting on January 13, 2025, and concluding on March 24, 2025, with a public hearing, aims to fulfill the requirements of Title VI. This campaign is not intended to be the only comprehensive public and rider awareness/education communications effort that will follow the PIP. The subsequent campaign will provide broad education about the fare media's availability, use, and benefits before the system launches in summer 2025.

GOALS and OBJECTIVES

The PIP outlines a public engagement process to ensure the new fare media meets community needs. The plan emphasizes inclusivity, transparency, and equity through clear communication, active listening, flexibility, and technology. Key objectives include:

- Widespread Community Outreach: Use a wide range of traditional materials, channels, and technology to reach stakeholders across Orange County.
- Engaging Current Bus Riders: Focus on outreach to current and former bus riders most impacted by the new fare media.
- Gathering Diverse Feedback: Use a variety of methods, including partnerships and technology, to gather input from a broad range of community members.
- Providing Direct Feedback Opportunities: Offer in-person and virtual platforms for stakeholders to ask questions and share input.

Materials will be available in English, Spanish, and Vietnamese, with additional languages upon request. Meetings, both in-person and virtual, will include interpreters in these languages and others as needed. The process aims to ensure effective and equitable community participation.

TARGET MARKETS

- General public
- Existing and former riders
- Schools, colleges, and universities
- Employers
- Senior and disabled riders
- Social service agencies

TACTICS

- Bus advertisements

- Print collateral (brochures and survey)
    - Onboard
    - OCTA Store
    - Outreach events
    - Transportation centers

- Print advertisements
    - OC Register
    - El Clasificado
    - Người Việt
    - Việt Báo
    - Viet Dong

- Digital information
    - Dedicated website including an online survey
    - Email blasts
    - Public information and advertisements on social media
    - Digital toolkit
    - OC Bus and Transit App notifications
    - Digital alerts at stop signs

- In-person rider outreach
    - Bus ride-alongs on high-demand service area routes
    - Pop-up events at transportation centers
    - Customer roundtable focus group

- Community and ethnic events and organizations
    - Community and cultural events
    - Pop-up events in diverse communities
    - Ethnic chambers of commerce
    - Community organizations
    - Social service agencies

- In-person community meetings (English with Spanish and Vietnamese interpreters)
    - Costa Mesa Community Center - February 11, 2025
    - Laguna Hills Community Center - February 12, 2025
    - Fullerton Community Center - February 13, 2025

- Virtual community meetings
    - English - February 4, 2025
    - Spanish - February 5, 2025
    - Vietnamese - February 5, 2025

- School communications

- Local jurisdiction communications (digital communications toolkit)

- Local/traditional media - press release

- OCTA advisory committees
    - Citizens Advisory Committee
    - Accessible Transit Advisory Committee
    - Diversity Community Leaders Group
    - Teen Council

- Public hearing - March 24, 2025

CONCLUSION

This PIP outlines OCTA's strategy for engaging the Orange County community in the implementation of the new RVS. Through a ten-week campaign, OCTA will employ multiple outreach channels, including digital platforms, in-person events, and multilingual communications to gather public input. This approach not only fulfills Title VI requirements but also establishes a foundation for the subsequent public education and awareness campaign launching at its conclusion. By prioritizing accessibility, inclusivity, and diverse community engagement, OCTA aims to ensure the new fare media effectively serves all transit users while maintaining transparency throughout the implementation process.

Proposed New Fare Media

Background

- Current fare payment options
  - Cash/coin onboard
  - Magnetic stripe passes
  - Mobile tickets scanned on validators

- October 23, 2023 - Board of Directors (Board) approved the implementation of a new Rider Validation System (RVS)
- November 25, 2024 - Board approved Fare Policy amendments to implement fare capping and a free two-hour transfer period
- The new RVS is scheduled to be implemented in summer 2025

Key Features and Architecture of the RVS

- Contactless smart card compatible
- Stored value/account based
- Improved mobile ticketing
- Improved retail network
- Credit and debit card payments
- Accepts cash/coin

Contactless Smart Card Benefits

Initial Cost of smart card $2.00-$4.00

Fare Capping Functionality

- Pay-per-ride – Always get the best fare
- No upfront cost for monthly passes
- Daily and Monthly Fare Caps
  - After reaching the daily or monthly cap, passengers ride free for the rest of the day or month

Free two-hour transfer period

Add funds via the OCTA Website, mobile application (app), retail network, or OCTA Store

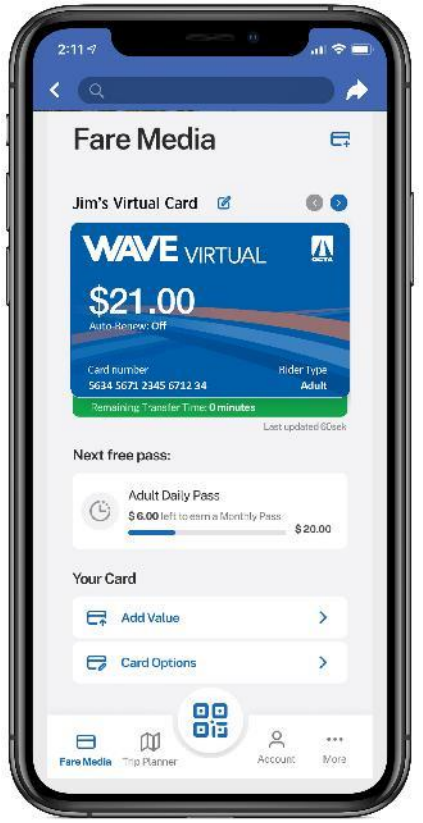
Balance Protection

OCTA – Orange County Transportation Authority

Mobile Application Upgrade

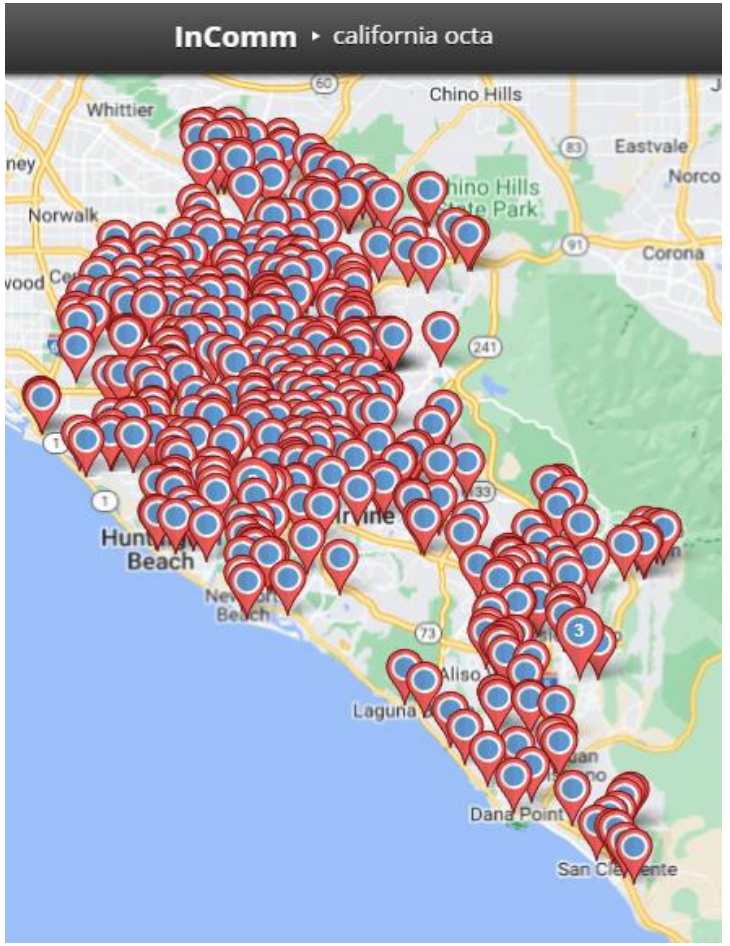
The new mobile app will also offer fare capping to any rider with a smartphone

- Download mobile app from iPhone Operating System/Android app stores
- Create an account and add a “virtual card” for free
- Load funds with debit/credit card
- Can load with cash at retail locations
- Good option for unbanked or underbanked riders



Retail Network Expansion

- The new network includes 400+ retail locations (compared with 100+ currently)
- Increased access to purchase/reload accounts using a familiar “gift card” model
- Can reload mobile app with cash



Credit and Debit Card Payments

- Supports any contactless credit/debit card
- Supports Apple/Google/Samsung mobile wallets
- No pre-loading of fares or media required
- Tap-to-pay on each trip
- Pay-as-you-go with fare capping

Open Payments provide daily fare capping to customers using the same payment method

CONTACTLESS CARD
Pay with credit/debit cards

MOBILE DEVICE
Pay with your digital wallet

Phased Approach: Timeline for Outreach and Rider Engagement

	Title VI Outreach & Public Involvement	Comprehensive Awareness & Education	Launch Campaign & Promotion
Purpose	• Ensure compliance with Title VI • Engage underserved populations • Gather public feedback	• Prepare riders with clear information about system changes to ensure a smooth transition • Build excitement	• Drive adoption through incentives and promotional efforts to establish the system • Customer support
Focus Excludes	• Marketing or system promotion	• Advocacy or promotional efforts	• Addressing equity or compliance
	JANUARY 13 - MARCH 24	**APRIL - JULY**	**STARTING IN JULY**

Phase 1: Title VI Outreach & Public Involvement Plan

Purpose of the PIP

- Required by FTA's Title VI for implementing new fare media
- Aligns with Board-approved "Strategies and Methods for Promoting PIP" (adopted September 9, 2023)
- Encourages input from the community, focusing on low-income individuals, minority populations, and those with limited English proficiency

Campaign Details

- **Duration:** Ten-week campaign from January 13, 2025 to March 24, 2025
- **Conclusion:** Public Hearing on March 24, 2025
- **Objective:** Gather public input to fulfill Title VI requirements
- **Note:** Separate from the subsequent comprehensive awareness and education communications before the system launch in July 2025

PIP - Public Involvement Plan
FTA – Federal Transit Administration

Public Involvement Plan: Background

Guiding Principles

- Broad community outreach
- Prioritize engagement with current/former bus riders
- Implement multiple feedback collection methods
- Provide both in-person and virtual opportunities for direct feedback

Key Audiences

- General public
- Existing, former, and non-riders
- Schools, colleges and universities
- Employers
- Senior and disabled riders
- Social service agencies

The PIP aims to ensure the new fare media meets community needs through inclusivity, transparency, and equity.

PIP: Communication Channels and Materials

Communication Channels

- **Bus Advertisements**
- **Print Collateral** (brochure/survey)
  - Onboard buses
  - OCTA Store
  - Outreach events
  - Transportation centers
- **Print Ads** in local newspapers (*OC Register*, *El Clasificado*, *Người Việt*, *Việt Báo*, *Viet Dong*)

Digital Platforms

- Website with online survey
- Email blasts
- Social media ads
- Digital toolkit
- In-App notifications
- Digital alerts at stops

Multilingual Materials

- Available in **English**, **Spanish**, **Vietnamese**; others upon request

PIP: Community Outreach Activities

In-Person Rider Outreach
- Bus ride-alongs on high-demand routes
- Pop-up events at transportation centers
- Customer roundtable focus group
- Community engagement

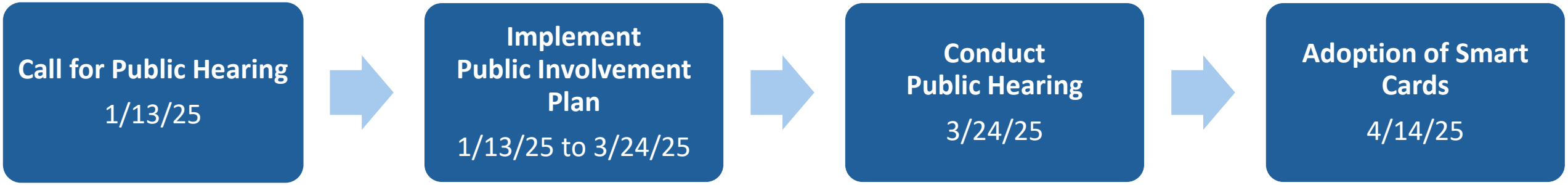
Attend Cultural Events
- Pop-up events in diverse areas
- Partner with ethnic chambers, organizations, and social service agencies

Community Meetings
- In-Person (with interpreters)
  - Costa Mesa – February 11, 2025
  - Laguna Hills – February 12, 2025
  - Fullerton – February 13, 2025
- Virtual (English, Spanish, Vietnamese)
  - February 4-5, 2025

Additional Outreach
- Schools, local jurisdictions, media
- Engage OCTA advisory committees

Public Hearing: Scheduled for March 24, 2025

Next Steps



Phase 2: Comprehensive Awareness & Education - April to July 2025

Phase 3: Launch Campaign & Promotion - Starting in July 2025

Thank You

January 9, 2025

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Agreement for the Paratransit and Microtransit Software

Overview

On July 8, 2024, the Board of Directors approved the release of a request for proposals to select a firm to provide the paratransit and microtransit software. Proposals were received in accordance with the Orange County Transportation Authority's procurement procedures for professional and technical services. Board of Directors' approval is requested to execute an agreement for this system.

Recommendations

A. Approve the selection of Spare Labs Inc. as the firm to provide the paratransit and microtransit software.

B. Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2258 between the Orange County Transportation Authority and Spare Labs Inc., in the amount of $1,166,555, for a two-year initial term with one, five-year option term to provide the paratransit and microtransit software.

Discussion

The Americans with Disabilities Act of 1990 (ADA) requires agencies that operate fixed-route operations to provide complementary paratransit service for individuals who are unable to use the fixed-route service. To comply with the ADA, the Orange County Transportation Authority (OCTA) implemented the OC ACCESS service in 1993. OC ACCESS service is different from traditional fixed-route service, as it offers door-to-door transportation and requires trip reservations to be made at least one day in advance. Additionally, passengers must complete an in-person, functional assessment for eligibility prior to riding OC ACCESS.

OCTA has been using software provided by Trapeze Group (Trapeze) for OC ACCESS trip scheduling, route optimization, and dispatching since 1999. Since that time, different products with more robust and integrated capabilities that would better meet the mobility needs of OC ACCESS riders have become available. The current legacy software products consist of several modules, installed across 25 application servers that are maintained by OCTA staff and require multiple software licenses per server and user, which require annual renewal. The Trapeze software allows for reservations to be made and attempts to batch trips together for the best productivity; however, much of the scheduling and optimization of service is performed manually.

OCTA also uses two other software products to track and manage the status of OC ACCESS eligibility and support trip reservation and delivery for OC FLEX. OC ACCESS eligibility is performed by MTM Transit, LLC (MTM), OCTA's eligibility determination contractor, who provides the system that tracks the process of applications for OC ACCESS eligibility and monitors the eligibility status for input into the Trapeze system. The current agreement with MTM will expire in June 2025, requiring a new contractor and software. The OC Flex service is offered and operated through a Software-as-a-Service (SaaS) that is provided directly by the contractor for OC ACCESS and OC FLEX.

OCTA desires to procure a SaaS to replace these three products with a single integrated product that will provide heavily automated scheduling and dispatching capabilities to replace current manual processes, an integrated eligibility management platform, and the ability for customers to see all services that are available to them based on their eligibility determination.

The proposed SaaS solution will provide faster deployment time and lower upfront costs than onsite software solutions. In addition, SaaS offers automatic updates, scalability, and accessibility from various devices via a web browser including lower costs of maintenance over onsite software. Additionally, it is anticipated that the annual cost of the proposed SaaS system will be lower than the combined current cost of Trapeze software licenses, additional software licenses needed to enable Trapeze access by multiple users, and the other two software applications currently in use for eligibility tracking and OC Flex. The proposed SaaS system will also offer a reduction in the number of onsite servers needed.

The primary objects of the integrated approach are:

- Provide a SaaS solution that will bring all services available to OC ACCESS eligible riders under one application while integrating with the existing OC Bus app and vendor Transit App.
- Provide flexibility for other service types, such as Same-Day Taxi and the Senior Mobility Programs, to use the software at an individual service scheduling level.

- Allow riders the ability to book a trip using a website, app, or by calling the OC ACCESS reservation number, and the ability to see all services available to them (OC ACCESS, Same-Day Taxi, Senior Mobility Program, etc.) based on their unique eligibility profile.
- Automate the scheduling and dispatching process to improve accuracy while continuously optimizing demand-response services.

Procurement Approach

This procurement was handled in accordance with OCTA's Board of Directors (Board)-approved procedures for professional and technical services. Various factors are considered in the award for professional and technical services. Award is recommended to the firm offering the most comprehensive overall proposal considering such factors as prior experience with similar projects, staffing and project organization, work plan, as well as cost and price.

On July 8, 2024, the Board authorized the release of Request for Proposals (RFP) 4-2258 and the proposed evaluation criteria and weightings, which was issued electronically on CAMM NET. The RFP was advertised in a newspaper of general circulation on July 9 and July 15, 2024. A pre-proposal conference was held on July 16, 2024, with six attendees representing six firms. One addendum was issued to make available the pre-proposal conference presentation and registration sheets, provide responses to questions received, and handle administrative issues related to the RFP.

On August 8, 2024, seven proposals were received. An evaluation committee consisting of members from OCTA's Contracts Administration and Materials Management, Information Systems, Specialized Transit Services, and Scheduling and Bus Operations Support departments met to review all submitted proposals. The proposals were evaluated based on the following Board-approved evaluation criteria and weightings:

- Qualifications of the Firm 25 percent
- Staffing and Project Organization 20 percent
- Work Plan 30 percent
- Cost and Price 25 percent

Several factors were considered in developing the criteria weightings. Qualifications of the firm was weighted at 25 percent to emphasize the importance of the proposing firms having relevant experience in developing, implementing, maintaining, and supporting paratransit and microtransit scheduling software. Staffing and project organization was weighted at 20 percent to ensure that the proposed staff possess the necessary expertise for completing a project of similar size. Work plan was weighted at 30 percent to allow firms to demonstrate their understanding and approach in the proposed software, ensuring it meets OCTA's requirements and successfully

accomplishes the tasks specified in the scope of work. Cost and price was weighted at 25 percent to ensure that OCTA receives value for the services provided.

The evaluation committee reviewed all proposals based on the Board-approved evaluation criteria and shortlisted the three most qualified firms listed below in alphabetical order:

Firm and Location

Ecolane USA, Inc. (Ecolane)
Headquarters: Wayne, Pennsylvania
Project Office: Wayne, Pennsylvania

RideCo US Inc. (RideCo)
Headquarters: Los Angeles, California
Project Office: Los Angeles, California

Spare Labs Inc. (Spare Labs)
Headquarters: Vancouver, BC, Canada
Project Office: Vancouver, BC, Canada

On August 27, 2024, the evaluation committee interviewed the short-listed firms. During the interview, each firm had the opportunity to present its approach for delivering the required system, project team qualifications, and respond to evaluation committee questions. Questions were focused on the functionalities of the proposed software, such as managing on-time performance for pick-ups and drop-offs, addressing no-shows, and ensuring that trips comply with required regulations and OCTA's contract performance standards. All three firms were asked specific clarification questions related to OCTA's requirements outlined in the scope of work and were asked to conduct a demonstration of their proposed software during the interviews.

At the conclusion of the interviews, the firms were asked to submit a Best and Final Offer (BAFO), which required them to provide a firm-fixed price for project implementation, as well as a total cost based on a per-trip rate for three projected trip volume ranges.

After considering the responses to the questions asked during the interviews and the information provided in the BAFOs, the evaluation committee reviewed the preliminary ranking and adjusted individual scores. However, the overall ranking remained unchanged. Spare Labs remained the top-ranked firm with the highest score.

Based on the evaluation of the written proposals, responses from the interviews, and BAFO information, the evaluation committee recommends Spare Labs for consideration of the award. The following is a brief summary of the proposal evaluation results.

Qualifications of the Firm

Spare Labs was founded in 2015 and has its headquarters and project office in Vancouver, British Columbia. It has 112 employees and has implemented over 400 transit services across microtransit, paratransit, and on-demand transit platforms. This includes facilitating transitions from the Trapeze system for agencies like the Capital Metropolitan Transportation Authority (CapMetro), which, like OCTA, currently operates on this platform. Spare Labs' customers include CapMetro, Pinellas Suncoast Transit Authority, and Dallas Area Rapid. Its proven track record, as detailed in its proposal, includes emerging firms and well-established transit agencies. This range of experience demonstrates its adaptability and capability to meet a broad spectrum of service demands, ensuring the successful delivery of the required solution. Positive references were received for the firm.

RideCo was founded in 2013 with its headquarters and project office in Los Angeles, California. It launched its first app-based on-demand public transit service in 2015. It has since implemented over 85 on-demand paratransit and microtransit services in more than 65 cities across North America and has 124 employees. The firm has experience working with large service providers and developing features for transit agencies in on-demand transit services. RideCo did not demonstrate experience with transitioning from the Trapeze platform. RideCo's customers include the Southeastern Pennsylvania Transportation Authority and the Los Angeles County Metropolitan Transportation Authority. Positive references were received for the firm.

Ecolane has its headquarters and project office in Wayne, Pennsylvania. It has been in the business of delivering paratransit software solutions since 2008 and has 55 employees. It operates on a global scale and possesses relevant experience in managing on-demand transit services. Ecolane did not demonstrate experience with transitioning from the Trapeze platform. Its customers include Link Transit, Shoreline Metro, and Detroit Department of Transportation. Positive references were received for the firm.

Staffing and Project Organization

Spare Labs proposed a highly experienced team with a strong background in both microtransit and paratransit systems. The project team's involvement in the CapMetro implementation, a project comparable in size to that of OCTA, illustrates their capability to manage projects of this scope and scale. The proposed project manager has over ten years of related project experience. During the interview, the team demonstrated its experience in project transition and integration, highlighting its ability to facilitate a smooth transition and ensure the successful delivery of the project for OCTA.

RideCo presented a comprehensive staffing plan in its proposal. The proposed project team has experience in delivering on-demand microtransit and paratransit services to transit agencies. The proposed project manager has four years of relevant experience. Its staffing plan includes a breakdown of the minimum hours allocated to each task, enabling improved accountability and progress measurements against the proposed timeline. Additionally, the project team provided thorough responses to the interview questions.

Ecolane proposed an experienced and knowledgeable project team. The proposed project manager has over eight years of related project experience. Ecolane conducts monthly training webinars and maintains an online platform for staff development. However, the proposal lacked details on key personnel availability and commitment, and the team did not clearly demonstrate relevant experience meeting the eligibility requirements during the interview.

Work Plan

Spare Labs' proposed platform is a cloud-based solution designed for paratransit, microtransit, and shared-ride demand-response services. It offers a cohesive system with a single, unified interface where users log in once to access all functionalities. Spare Labs presented a comprehensive work plan that fulfills OCTA's requirements while also anticipating future enhancement on business requirements specified in the scope of work. Its integrated platform includes advanced capabilities, such as artificial intelligence-driven real-time fleet management, third-party provider integration, and predictive tools that enhance operational efficiency. Spare Labs demonstrated its system's ability to effectively manage challenges, including vehicle breakdowns and eligibility management, through innovative tools such as the "Breakdown Wizard" and "Duty Time Travel" features. The clarity and precision of the proposed timeline, along with the support for change management, provide assurance to OCTA regarding the successful and timely transition and execution of the project.

During the interview, Spare Labs provided a real-time demonstration of the proposed system across all services, including OC ACCESS, same-day service, the Senior Mobility Program, and OC Flex. This integration allows for operations and eligibility assessment to be managed on a single platform and enables multiple booking methods for riders.

RideCo's proposed platform is a comprehensive web-based cloud solution that includes core dispatching software, profile management, reservation portal, operations center dashboards, a data repository, data visualization tools, customer support ticketing, and data export capabilities. While the work plan meets several of OCTA's requirements, 11 features are identified in its proposal as future enhancements based on OCTA's business requirements, which may potentially affect immediate operational effectiveness. The work plan addresses the majority of OCTA's requirements; however, the short implementation timeline raised concerns among the evaluation committee, even after requests for

clarification were asked during the interview. Additionally, RideCo did not fully address the integration with other service types, such as the Senior Mobility Program.

Ecolane's proposed platform is web-based reservation, scheduling, and dispatch software. Its work plan includes functionalities that are still in development, such as eligibility determination and rider-driver communications, which poses a potential risk to on-time project delivery. Additionally, the implementation timeline of 77 days is relatively short, and there may be extra costs associated with features that extend beyond the initial proposal. Overall, the current level of readiness related to eligibility requirements may present challenges for OCTA. During the interview and system demonstration, the evaluation committee's concerns were confirmed regarding Ecolane's project readiness with several functionalities remaining under development, which may affect the firm's capacity to meet OCTA's immediate operational needs.

Cost and Price

Firms were required to submit a firm-fixed price for project implementation, along with a total cost based on a per-trip rate for three projected trip volume ranges. As per the BAFO, the cost evaluation is based on the assumption that completed trips will range between one million and 1.5 million during fiscal year 2023-24, based on actual completed trips. Therefore, this range was used for calculating the price and cost score.

Pricing scores were based on a formula, which assigned the highest score to the firm with the lowest total pricing and scored the other proposals' total pricing based on the relation to the lowest total pricing. Although Spare Labs did not propose the lowest total price, it is lower than the OCTA project manager's independent cost estimate of $1,575,990 and is therefore considered fair and reasonable.

Procurement Summary

Based on the evaluation of the written proposals, the firms' qualifications, work plan approach, the information obtained from the interviews, as well as BAFO, the evaluation committee recommends the selection of Spare Labs as the top-ranked firm to provide paratransit and microtransit scheduling system. The firm demonstrated a thorough understanding of OCTA's requirements for the requested system and submitted a comprehensive proposal that is responsive to all requirements of the RFP.

Fiscal Impact

The costs associated with this project were included in OCTA's Fiscal Year 2024-25 Budget, Finance and Administration Division, Account No. 1286-7669-IT109-N5N.

Summary

Staff is recommending the Board of Directors authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2258 between the Orange County Transportation Authority and Spare Labs Inc., in the amount of $1,166,555, for a two-year initial term with one, five-year option term to provide the paratransit and microtransit scheduling system.

Attachments

A. Review of Proposals, RFP 4-2258, Paratransit and Microtransit Software
B. Proposal Evaluation Matrix (Short-Listed Firms), RFP 4-2258, Paratransit and Microtransit Software
C. Contract History for the Past Two Years, RFP 4-2258, Paratransit and Microtransit Software

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Approved by:

Johnny Dunning, Jr.
Chief Operating Officer
714-560-5710

Review of Proposals
RFP 4-2258 Paratransit and Microtransit Software
Presented to Transit Committee - January 9, 2025
7 firms proposed, 3 firms were interviewed, 1 firm is being recommended

ATTACHMENT A

Overall Ranking	Proposal Score	Firm & Location	Sub-Contractors	Evaluation Committee Comments	Total Price for Initial Two-Year Term	
1	80	**Spare Labs Inc.** Vancouver, BC, Canada	None	Demonstrated extensive experience in implementing transit services across microtransit, paratransit, and on-demand transit platforms, including transitions from the Trapeze system for agencies. Proposed a highly experienced team with a strong background in both microtransit and paratransit systems. The proposed project team has direct experience in project transition and integration. Presented a comprehensive work plan that meets OCTA's requirements and anticipates future enhancement on business requirements specified in the scope of work. Proposed a cohesive system that has access to all functionalities across all services, including OC ACCESS, same-day service, the senior mobility program, and OC Flex. Proposed competitive price.	Project Implementation: Trip Cost based on 1 million to 1.5 million trips: Total:	$701,555 $465,000 $1,166,555
2	65	**RideCo US Inc.** Los Angeles, California	None	Implemented on-demand paratransit and microtransit services across North America. Experienced in working with large service providers. Proposed a knowledgeable and experienced project team. Identified 11 features in its proposal as future enhancements based on OCTA's business requirements. Does not fully address the integration with other service types, such as the Senior Mobility Program in its proposal. Proposed highest price.	Project Implementation: Trip Cost based on 1 million to 1.5 million trips: Total:	$497,472 $1,000,396 $1,497,868
3	64	**Ecolane USA, Inc.** Wayne, Pennsylvania	None	Demonstrated relevant experience in managing on-demand transit services and delivering paratransit software solutions. Proposed an experienced and knowledgeable project team. Proposal does not adequately address the availability and commitment of key personnel. Work plan includes functionalities that are still in development, such as eligibility determination and rider-driver communications. Proposed lowest price.	Project Implementation: Trip Cost based on 1 million to 1.5 million trips: Total:	$707,510 $221,310 $928,820

Evaluation Panel:

Contracts Administration and Materials Management (1)
Information Systems (2)
Scheduling and Bus Operations Support (1)
Specialized Transit Services (1)

Proposal Criteria	Weight Factors
Qualifications of the Firm	25%
Staffing and Project Organization	20%
Work Plan	30%
Cost and Price	25%

ATTACHMENT B

PROPOSAL EVALUATION CRITERIA MATRIX (Short-Listed)

RFP 4-2258 Paratransit and Microtransit Software

FIRM: Spare Labs, Inc.						Weights	Overall Score
Evaluator Number	1	2	3	4	5		
Qualifications of Firm	4.5	4.5	4.5	4.5	4.5	5	22.5
Staffing/Project Organization	4.0	4.0	4.5	4.0	4.0	4	16.4
Work Plan	4.5	4.5	4.5	4.5	4.5	6	27.0
Cost and Price	2.7	2.7	2.7	2.7	2.7	5	13.7
Overall Score	79.2	79.2	81.2	79.2	79.2		80

FIRM: RideCo US Inc.						Weights	Overall Score
Evaluator Number	1	2	3	4	5		
Qualifications of Firm	4.0	4.0	4.0	4.0	3.5	5	19.5
Staffing/Project Organization	4.0	4.0	4.0	4.0	4.0	4	16.0
Work Plan	3.5	3.5	3.5	3.5	3.5	6	21.0
Cost and Price	1.7	1.7	1.7	1.7	1.7	5	8.3
Overall Score	65.3	65.3	65.3	65.3	62.8		65

FIRM: EcoLane USA, Inc.						Weights	Overall Score
Evaluator Number	1	2	3	4	5		
Qualifications of Firm	4.0	4.0	4.0	3.5	3.5	5	19.0
Staffing/Project Organization	3.0	3.0	3.0	2.5	2.5	4	11.2
Work Plan	1.5	1.5	1.5	1.5	1.5	6	9.0
Cost and Price	5.0	5.0	5.0	5.0	5.0	5	25.0
Overall Score	66.0	66.0	66.0	61.5	61.5		64

The range of scores for the non-short-listed firms was 31-53.

ATTACHMENT C

CONTRACT HISTORY FOR THE PAST TWO YEARS

RFP 4-2258 Paratransit and Microtransit Software

Prime and Subconsultants	Contract No.	Description	Contract Start Date	Contract End Date	Subconsultant Amount	Total Contract Amount
Spare Labs Inc.						
Contract Type: N/A	None	N/A	N/A	N/A	N/A	$ -
Subconsultants: N/A						
					Sub Total	**$ -**
RideCo US Inc.						
Contract Type: N/A	None	N/A	N/A	N/A	N/A	$ -
Subconsultants: N/A						
					Sub Total	**$ -**
Ecolane USA, Inc.						
Contract Type: N/A	None	N/A	N/A	N/A	N/A	$ -
Subconsultants: N/A						
					Sub Total	**$ -**

Agreement for the Paratransit and Microtransit Software

OCTA

OVERVIEW – CURRENT ENVIRONMENT

- Trapeze Group (Trapeze) software is used for OC ACCESS scheduling, route optimization, dispatching, and customer data repository.
  - **Use of Trapeze software includes several modules, installed across 25 application servers maintained by Orange County Transportation Authority (OCTA) staff and requires multiple software licenses per server and user, which are renewed annually.**

- The OC ACCESS eligibility software, provided by MTM Transit, LLC (OCTA's current eligibility determinations contractor, [contract expires June 2025]), is used for processing, tracking, and monitoring customer applications.
  - **Requires manual data entry into Trapeze software by OCTA staff**.

- OC Flex software is offered and operated through a Software-as-a-Service (SaaS) solution provided by First Transit, Inc., the OC ACCESS and OC Flex operating contractor.

NEW SOFTWARE – OPERATIONAL BENEFITS

- Replaces three products with a single integrated SaaS solution that provides automated scheduling, dispatching, and eligibility management.
- Offers faster deployment, lower upfront costs, and automatic updates, with reduced maintenance costs compared to onsite software.
- Expected to reduce staff time for server maintenance and software patches, while eliminating the need of OCTA's current servers.

NEW SOFTWARE – CUSTOMER BENEFITS

- Consolidates all OC ACCESS services into one application, with the ability to integrate with the OC Bus app.
- Offers flexibility for other services like Same-Day Taxi and Senior Mobility Programs to use the software at an individual service scheduling and dispatching level.
- Allows riders to schedule trips via website, app, or by phone, with visibility of all transportation service options available based on their unique eligibility profile and travel pattern.

PROCUREMENT PROCESS

- The Board of Directors (Board) approved release of the Request for Proposals C-4-2258 and evaluation criteria on July 8, 2024
- A pre-proposal conference was held on July 16, 2024
- Seven proposals were received
- Evaluation committee consisted of four members
- Evaluate proposals, interview firms, and requested Best and Final Offers from all firms

SHORT-LISTED FIRMS

- Ecolane USA, Inc. (Ecolane) – Wayne, Pennsylvania
- RideCo US Inc. (RideCo) – Los Angeles, California
- Spare Labs Inc. (Spare Labs) – Vancouver, BC, Canada

EVALUATION CRITERIA HIGHLIGHTS

Qualifications of the Firm

- All firms demonstrated positive references and experience working with large transit agencies.

Staffing/Project Management

- All firms proposed experienced project managers with substantial relevant experience.
- Spare Labs demonstrated a higher level of preparedness with a project team experienced in transitioning from the Trapeze system with transit agencies similar in size to OCTA.

Work Plan

- All firms proposed a cloud-based solution to meet OCTA's paratransit and microtransit service scheduling and dispatching needs, with web-based platforms for accessibility.
- Spare Labs offered a fully integrated system with advanced AI-driven tools that enhance operational efficiency.

Cost and Price

- All firms submitted firm-fixed prices for project implementation, based on per-trip rate.

COMMITTEE RECOMMENDATION: SPARE LABS INC.

- Met all requirements and proposed future enhancements, ensuring a robust and adaptable platform for operational effectiveness.
- Has successfully implemented over 400 transit services, including paratransit, microtransit, and on-demand platforms.
- Proposed a highly experienced project team, including a project manager with over ten years of relevant experience.
- Proposed a clear, well-defined timeline supported by strong change management strategies to ensure a successful and timely transition.
- Solution consolidates several services onto a single unified platform.
- Live demonstration showcased a seamless integration across all services, including an efficient eligibility management tool.

STAFF RECOMMENDATIONS

- Approve the selection of Spare Labs Inc. as the firm to provide the paratransit and microtransit software.

- Authorize the Chief Executive Officer to negotiate and execute Agreement No. C-4-2258 between the Orange County Transportation Authority and Spare Labs Inc., in the amount of $1,166,555, for a two-year initial term with one, five-year option term to provide the paratransit and microtransit software.

Bimonthly Transit Performance Report

January 2025

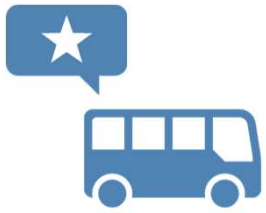
OCTA

What do we measure?

Service Demand
Measures boarding activity on OC Bus, OC Access, and OC Flex.

Reliability
Measures the reliability of the service in terms of schedule adherence on-time performance (OTP) and miles between road calls (MBRC).

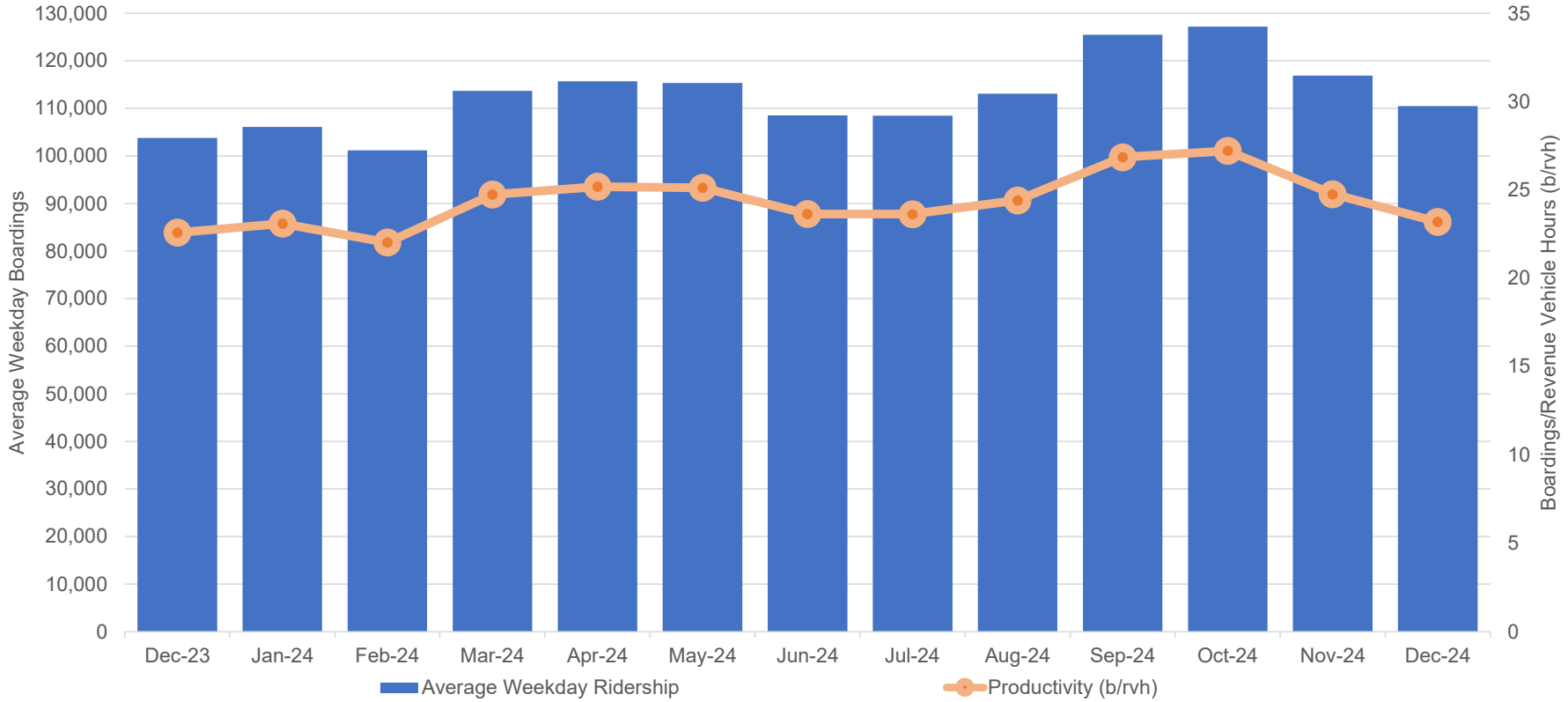
Safety
Measures the safety of the service in terms of preventable collisions normalized by miles traveled.



Courtesy
Measures customer feedback and is typically normalized by boardings.

OC Bus

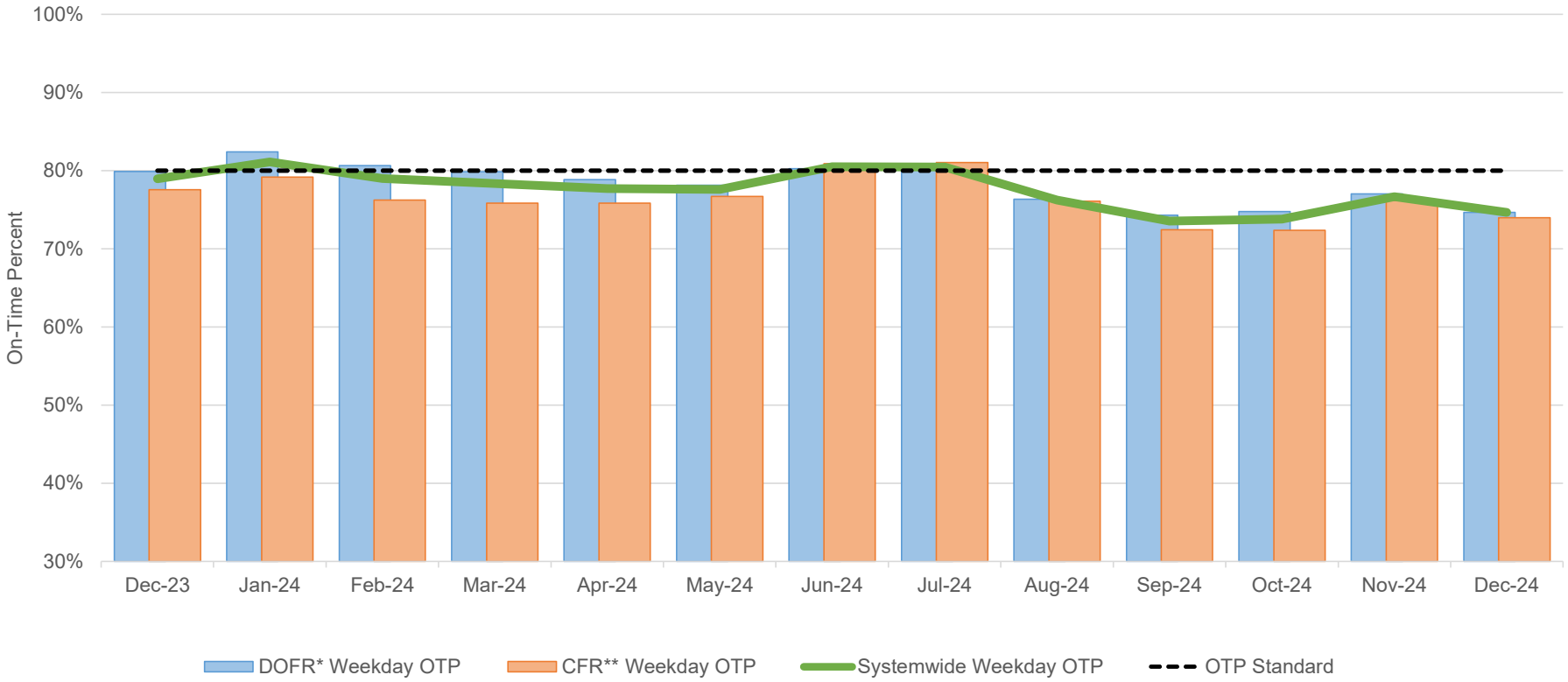
Service Demand - Ridership Snapshot



Service Demand: Ridership (or boardings) is the number of rides passengers take using public transit. The average weekday boarding activity is used to measure OC Bus service demand. Productivity is an industry measure that counts the average number of boardings for each revenue vehicle hour (RVH) that is operated.

OC Bus Performance

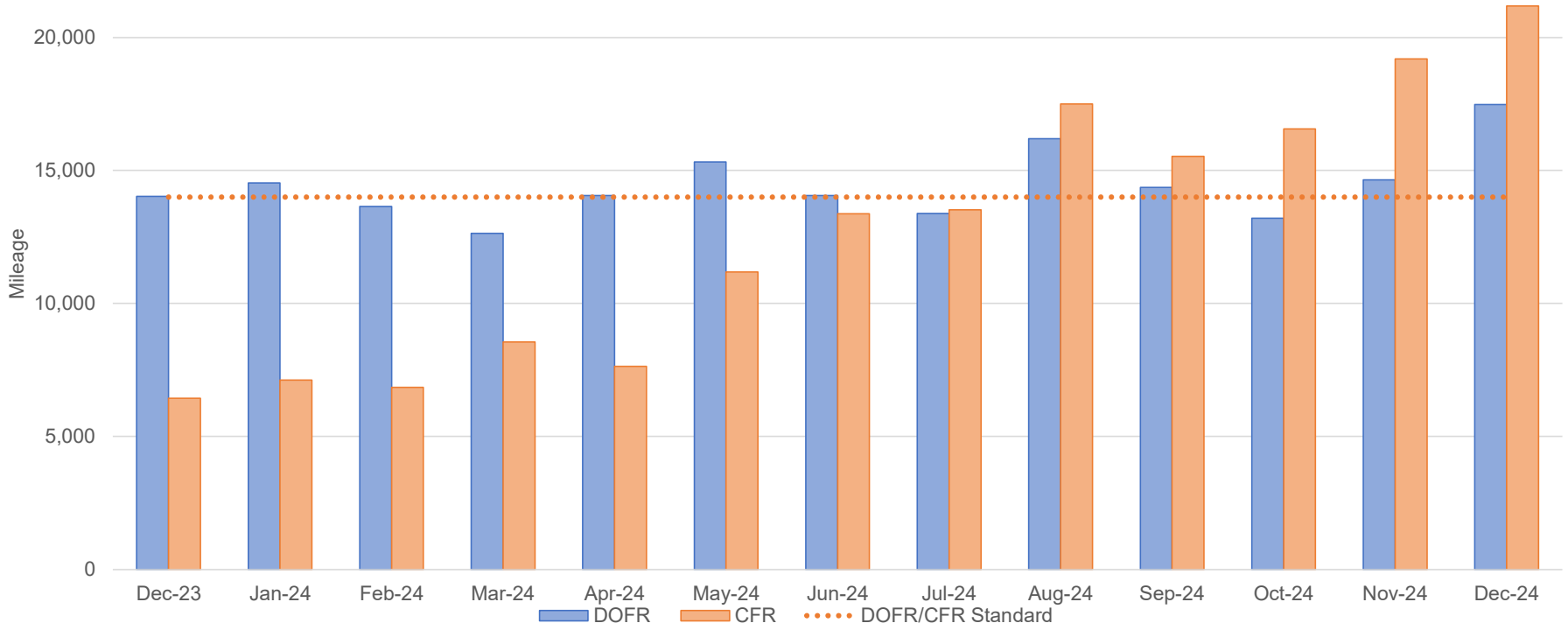
Service Reliability – On-Time Performance (OTP)



On-time Performance (OTP): Measures how well OCTA vehicles adhere to the schedule, and it is calculated by dividing the count of vehicle timepoint departures that are on time (within five minutes late or zero minutes early of the scheduled arrival time) by the number of total departures, reported system-wide. The systemwide OTP standard is 80%.

OC Bus

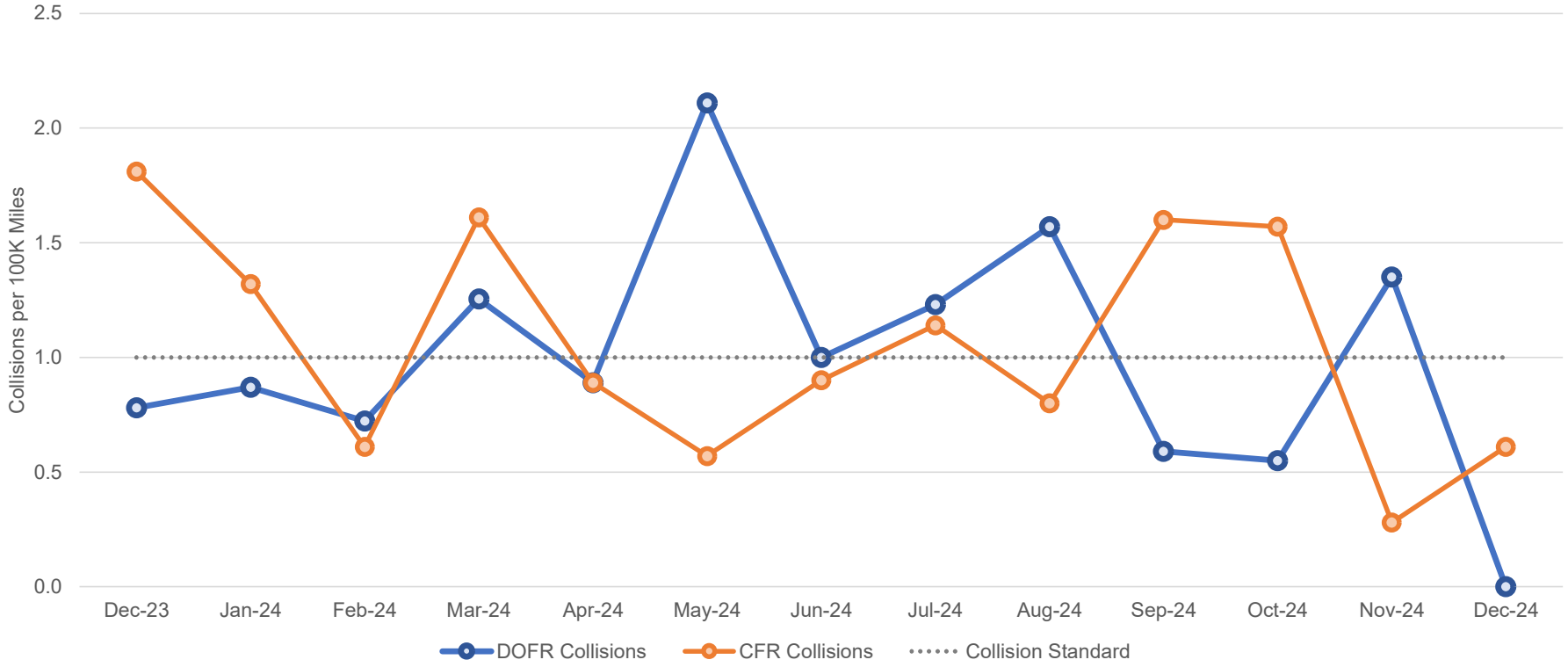
Service Reliability – Vehicle Performance



Miles Between Road Calls (MBRC): MBRC is determined by the total vehicle mileage divided by the total road calls or disruptions due to mechanical failures in revenue service. The MBRC standard for DOFR and CFR is 14,000 miles.

OC Bus

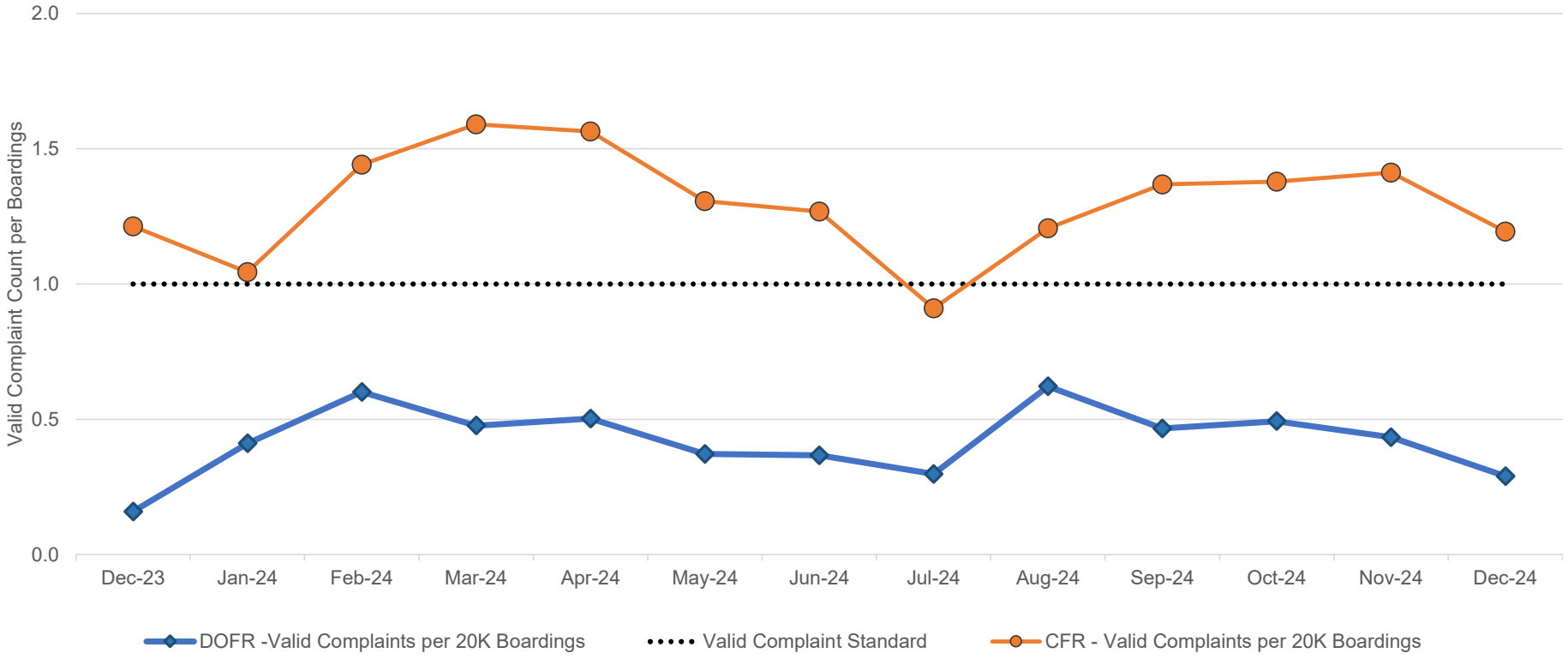
Safety – Preventable Collisions



Preventable Collisions: Preventable vehicle accidents are defined as incidents when physical contact occurs between vehicles used for public transit and other vehicles, objects, or pedestrians and where a coach operator failed reasonably to prevent the accident. The performance standard is no more than one vehicle accident per 100,000 miles.

OC Bus

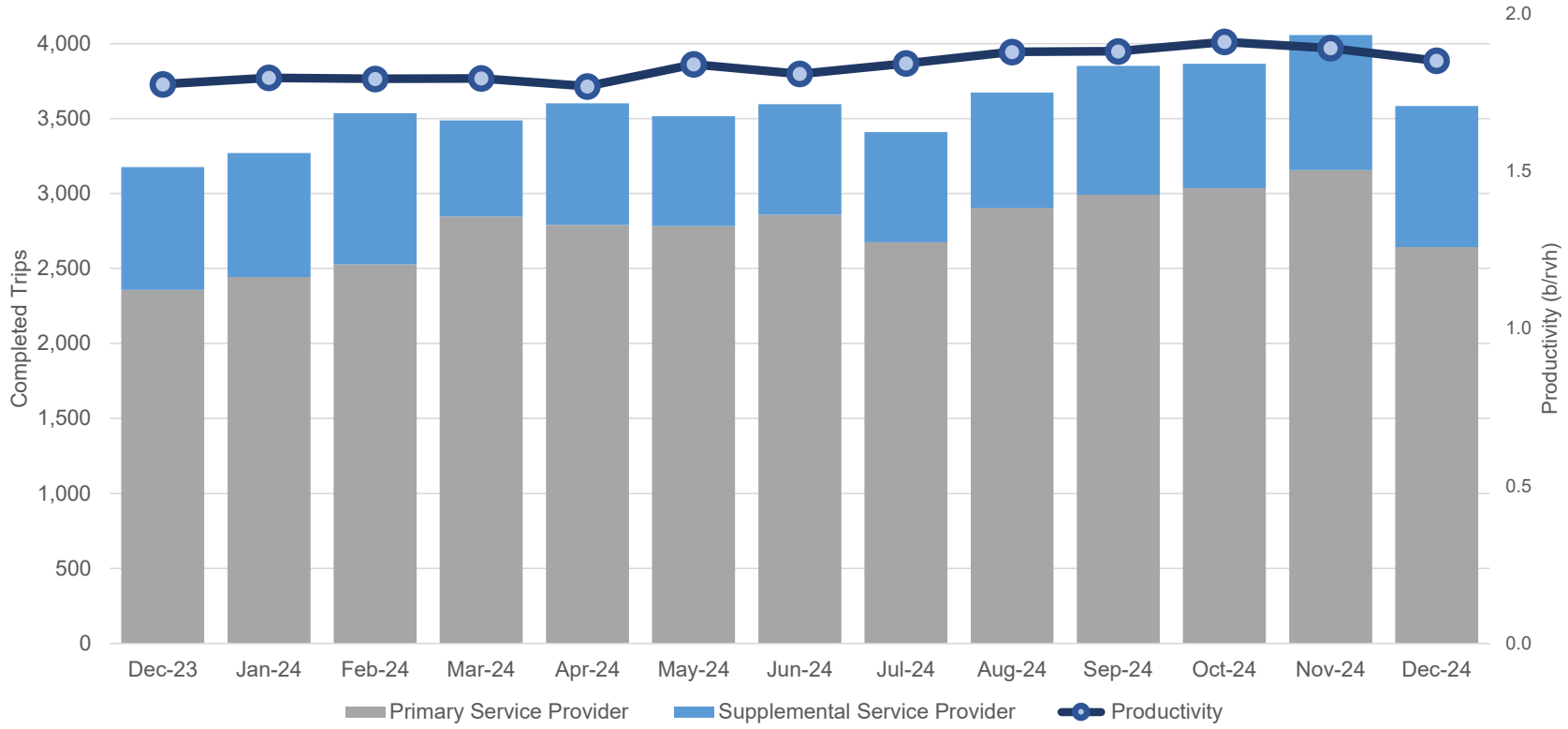
Service Quality – Customer Complaints



Customer Satisfaction: The performance standard for customer satisfaction is courtesy, measured by the number of valid complaints received. Customer complaints are the count of incidents when a rider reports dissatisfaction with service. The standard adopted by OCTA for OC Bus is no more than one valid customer complaint per 20,000 boardings.

OC ACCESS

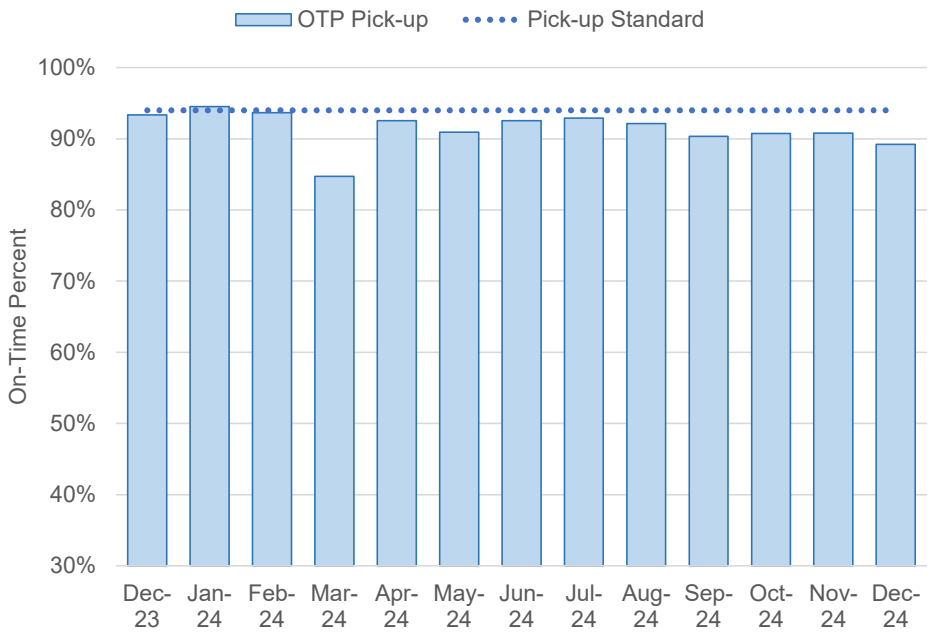
Service Demand – Ridership Snapshot



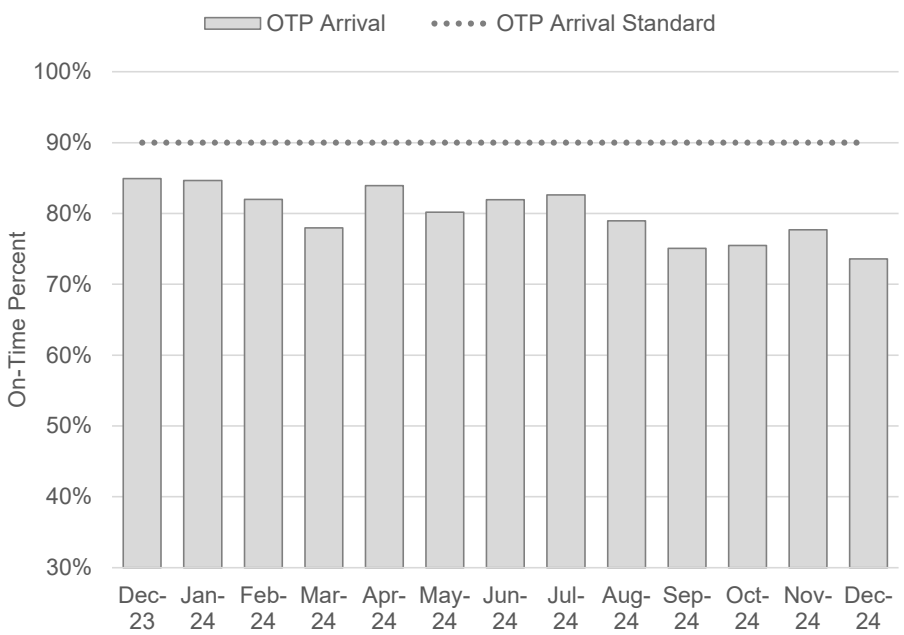
Service Provider Demand: OCTA has a primary service provider, First Transit, Inc., and supplemental providers which are contracted to meet demand on the network.

OC ACCESS

Service Reliability – On-Time Performance (OTP)



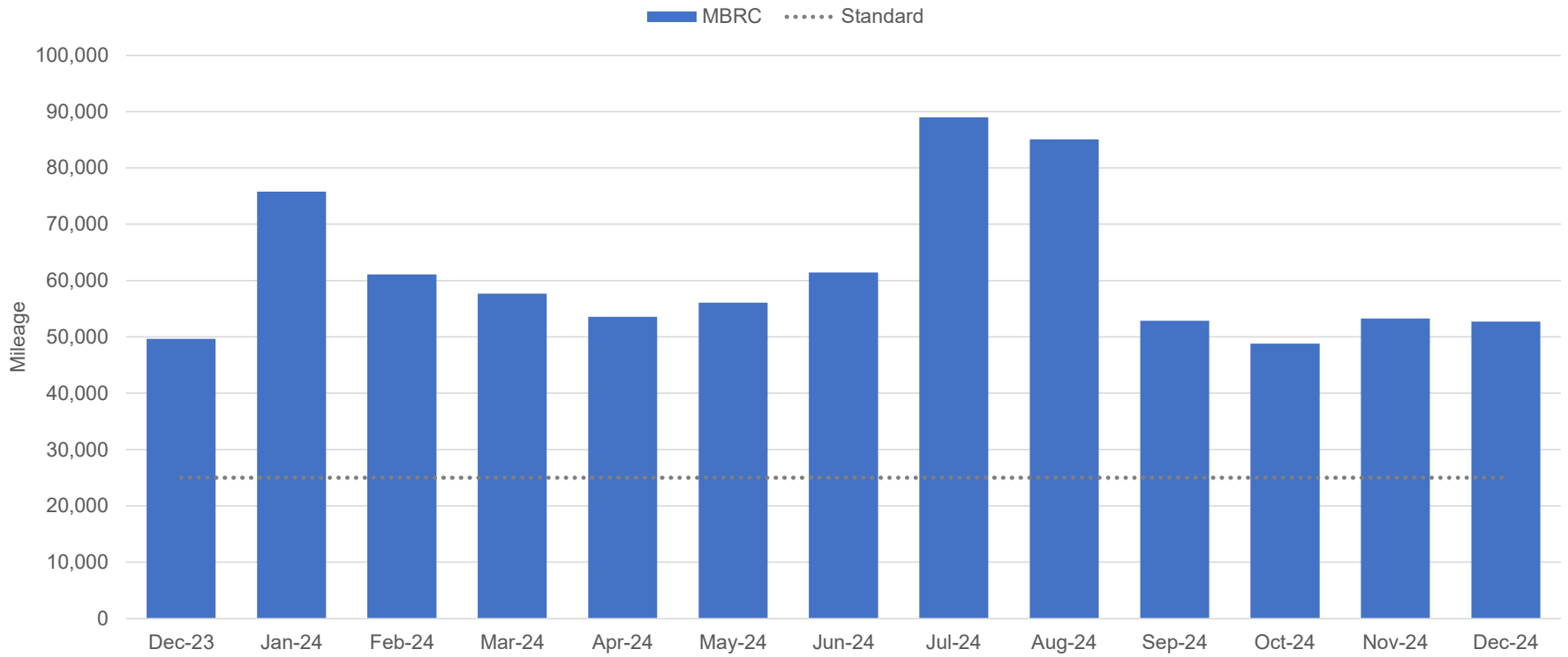
Pick-up OTP: The percentage of trips when the driver arrives within the 30-minute on-time window for scheduled pick-up trips.



Arrival OTP: The percentage of trips when the passenger arrived at their destination by or before the scheduled arrival time.

OC ACCESS

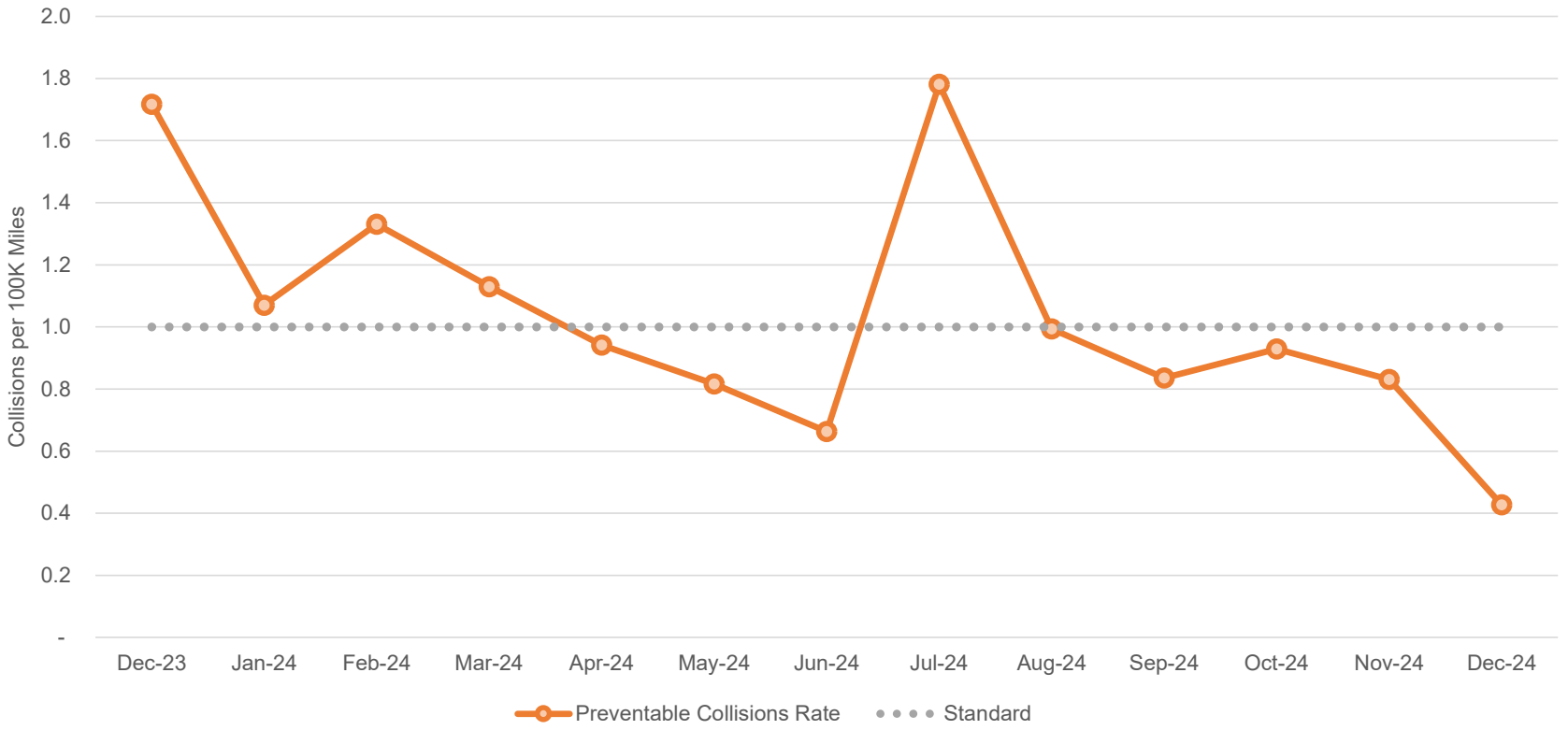
Service Reliability – Miles Between Road Calls (MBRC)



MBRC: MBRC is calculated by dividing the total miles traveled by all OC Access vehicles over the calendar month by the total number of road calls or disruptions due to mechanical failures in revenue service during the same period. The MBRC standard for OC ACCESS is 25,000 miles.

OC ACCESS

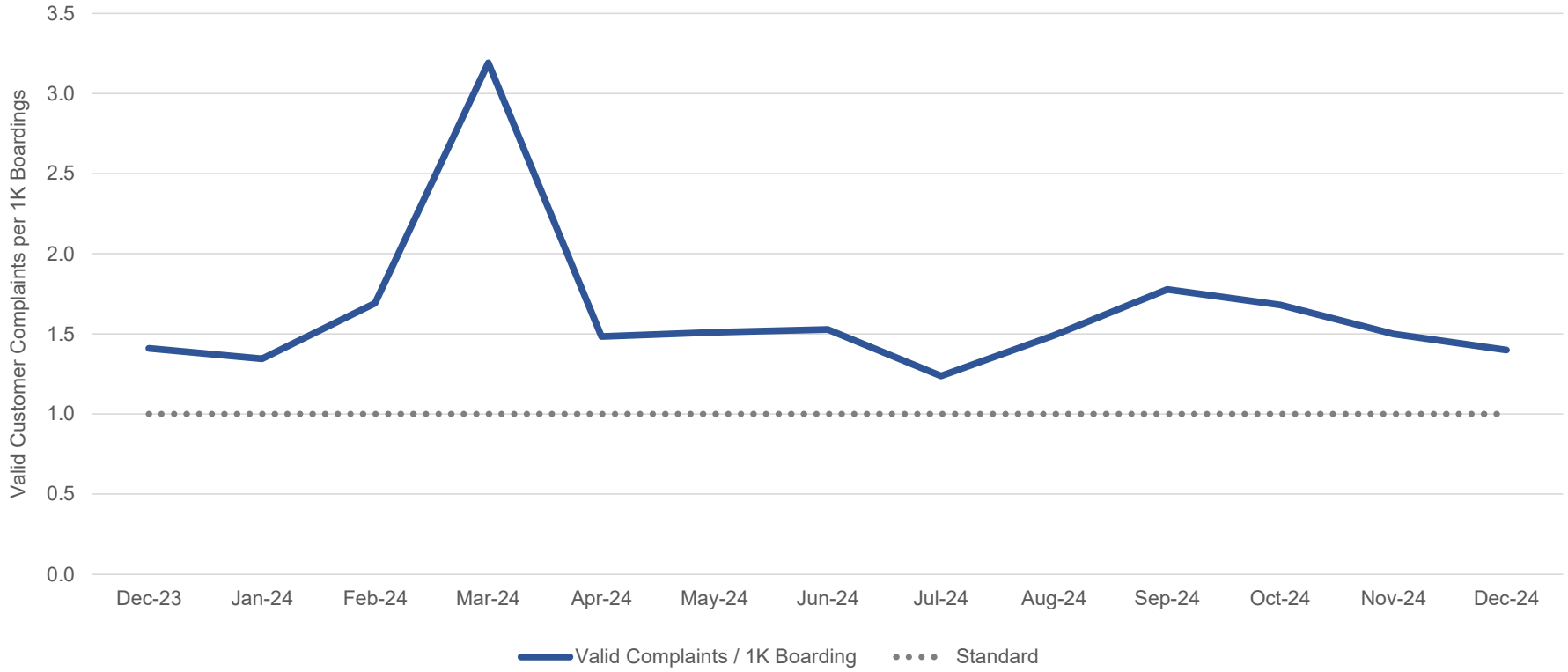
Safety – Preventable Collisions



Preventable Collisions: A preventable collision is defined as an event where a driver providing revenue service could have been reasonably avoided by the driver. The performance standard is no more than one vehicle accident per 100,000 miles.

OC ACCESS

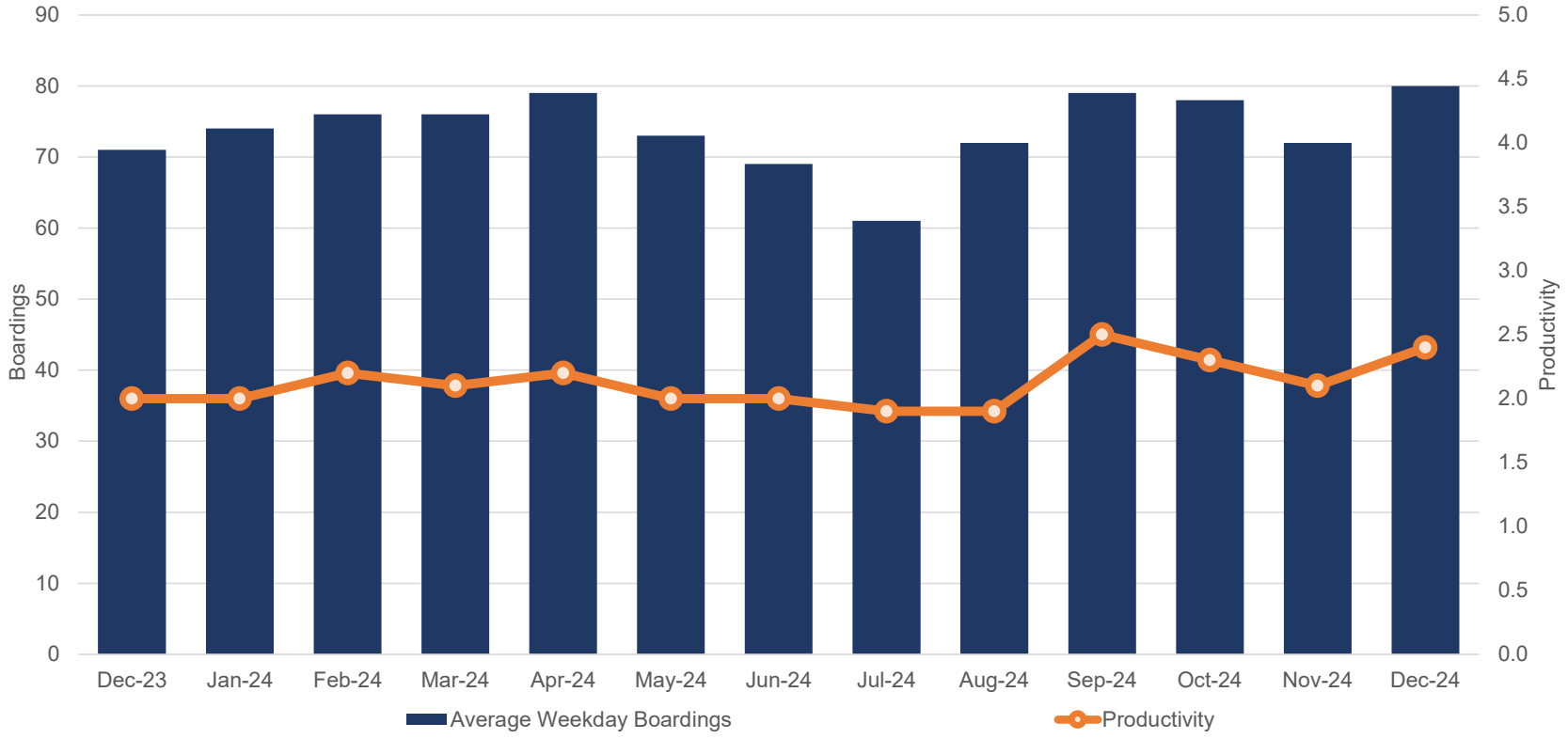
Service Quality – Customer Complaints



Customer Satisfaction: The performance standard for customer satisfaction is courtesy, measured by the number of valid complaints received. The contractual standard for OC ACCESS is no more than one valid complaint per 1,000 boardings.

OC Flex

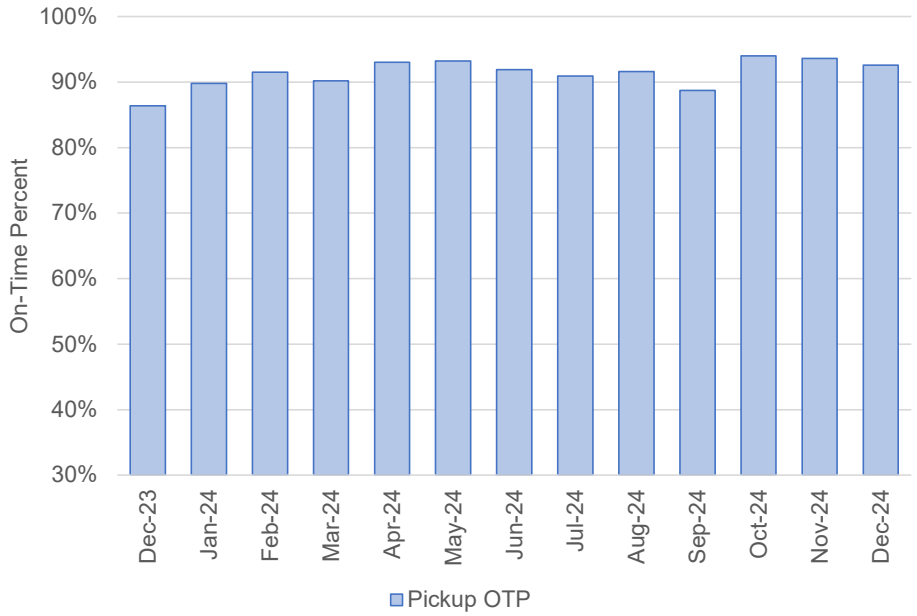
Service Demand – Ridership Snapshot



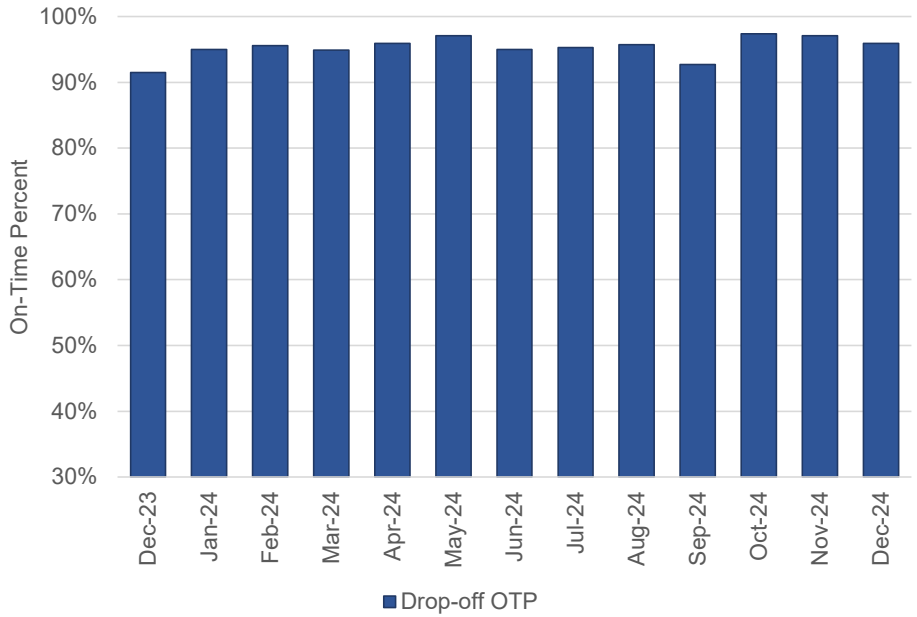
Service Demand: The sum of completed passenger boardings on average per weekday within the existing service area.

OC Flex

Service Reliability – On-Time Performance (OTP)



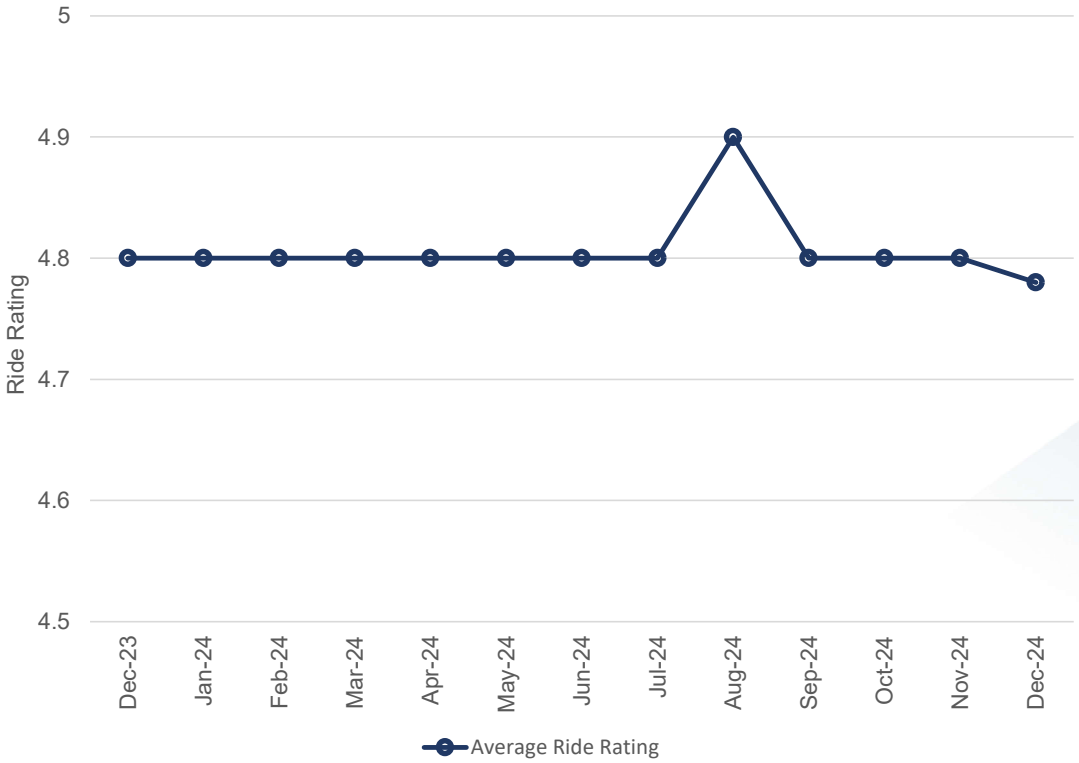
Pick-up OTP: The percentage of completed rides in which the rider was picked up within the ten-minute pick-up window that was provided at booking.



Drop-off OTP: The percentage of completed rides in which the rider was dropped off within the ten-minute drop-off window that was provided at booking.

OC Flex

Service Quality – Average Ride Rating



Average Ride Rating: Passengers can rate their overall experience after each ride. The average ride rating is measured in terms of stars; one star indicates a low-quality ride, while five is a high-quality ride.

Upcoming Activities

Service Change

- OC Bus Service Change Implementation – February 9, 2025

Future Board Items

- Release RFP for OC ACCESS Eligibility – January 13, 2025 Board Meeting
- Bimonthly Performance Report – March 13, 2025 Transit Committee
- OC Flex Microtransit Program Update – March 13, 2025 Transit Committee, March 24, 2025 Board Meeting

Board – Board of Directors RFP – Request for Proposals