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July 28, 2011

VIA HAND DELIVERY

Cynthia T. Brown
Chief, Section of Administration
Surface Transportation Board
395 E Street, SW
Washington, DC 20423

FD 35544

Re: DesertXpress Enterprises, LLC and DesertXpress HSR Corporation – Authority to Construct and Operate – Petition for an Exemption from 49 U.S.C. § 10901 – Dedicated High Speed Passenger Line from Victorville, CA to Las Vegas, NV

230722

Dear Ms. Brown,

Enclosed for filing in the above-captioned proceeding are the original and ten (10) copies of a Petition for Exemption filed by DesertXpress Enterprises, LLC and DesertXpress HSR Corporation. Also enclosed is a check for the Petition for Exemption filing fee in the amount of $74,500.

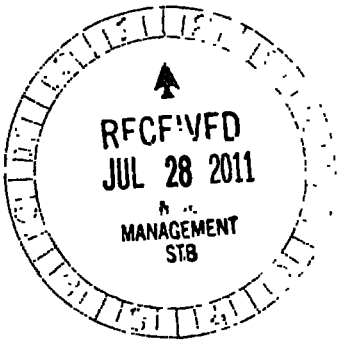
I would appreciate if you would date-stamp the enclosed extra copy and return it to the messenger for our files. Please let me know if you have any questions. Thank you very much in advance for your assistance.

Sincerely,

Linda J. Morgan

Linda J. Morgan

Enclosures



BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. ~~34914~~ 35544

DesertXpress Enterprises, LLC and DesertXpress HSR Corporation – Authority to Construct and Operate – Petition for an Exemption from 49 U.S.C. § 10901 – Dedicated High-Speed Passenger Line from Victorville, CA to Las Vegas, NV

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Dated: July 28, 2011

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 35544 ~~34914~~

DesertXpress Enterprises, LLC and DesertXpress HSR Corporation – Authority to Construct and Operate – Petition for an Exemption from 49 U.S.C. § 10901 – Dedicated High-Speed Passenger Line from Victorville, CA to Las Vegas, NV

Pursuant to 49 U.S.C. § 10502, DesertXpress Enterprises, LLC and its wholly owned subsidiary DesertXpress HSR Corporation (collectively, "DXE") hereby petition the Surface Transportation Board ("Board") for an exemption from the prior approval requirements of 49 U.S.C. § 10901 for the construction and operation by DXE of approximately 190 miles of dedicated double-track rail line between Victorville, CA and Las Vegas, NV ("the Project" or "DesertXpress"). The purpose of the proposed construction is to establish dedicated high-speed passenger rail service between Southern California and Las Vegas, and thereby provide a safe, reliable, convenient, and environmentally sound alternative to automobile travel between the two destinations on the Interstate-15 freeway ("I-15") – and to air travel between Southern California and Las Vegas – which will ultimately result in significantly increased transportation capacity along the I-15 corridor.

This exemption is subject to the Board's review of the Federal Railroad Administration's ("FRA") Record of Decision (prepared by the FRA in connection with its environmental review

of the Project), and is requested in furtherance of the Memorandum of Understanding executed by the Board, the FRA, and DXE on February 2, 2006.[1]

INTRODUCTION

As established below, the goals of the nation's rail transportation policy will be furthered by exempting the proposed line from regulation under § 10901. Furthermore, regulation under § 10901 is not needed to protect shippers from the abuse of market power. As the Board and its predecessor – the Interstate Commerce Commission ("ICC") – have often recognized, the construction of new rail lines only serves to enhance competitive options. Moreover, as the line will provide dedicated high-speed passenger rail service, there are and will be no shippers in need of protection against potential market power abuses. Accordingly, under the standards for exemption set forth in § 10502, this Petition should be granted.

BACKGROUND

A. Petitioner

DXE is a railroad entity that does not currently own or operate any rail lines. It is organized under the laws of the State of Nevada, and was created for the express purpose of developing, constructing, and operating a passenger high-speed rail project between Southern California and Las Vegas, Nevada. DXE is owned by the following three private companies: DX, LLC; Transmax, LLC; and TXE, LLC.[2] All three companies are Las Vegas-based limited liability companies organized pursuant to Nevada law. DXE's majority shareholder is an experienced design/builder, architect, real estate developer, and investor with large-scale project

[1] *See* Memorandum of Understanding (attached hereto as Exhibit A).

[2] Corporate information for these entities and the two DXE entities are attached hereto as Exhibit B.

development, construction, and finance experience.[3] None of DXE's owners currently owns or operates any rail carriers or rail lines.

DXE anticipates its annual operating revenues will qualify it as a Class I railroad pursuant to 49 C.F.R. § 1201.1-1, and plans to operate as a common carrier providing passenger rail service on the rail line to be constructed. DXE anticipates the Project will be implemented under a design/build/operate/maintain procurement approach wherein the design-build contractor team will procure, design, construct, and supply all structures, stations, maintenance facilities, track, and related signaling and communications systems. DXE also anticipates it will contract with an operator responsible for supplying the Project's rolling stock, managing and operating the system, complying with all applicable safety requirements, and providing system-wide maintenance.[4]

B. Description and Purpose of the Proposed Line and Planned Operations

DXE proposes to construct, operate, and maintain a high-speed passenger train system along the approximately 200-mile I-15 corridor between Victorville, California, and Las Vegas, Nevada.[5] The need for high-speed passenger rail service stems from increasing travel demand and capacity constraints along the I-15 corridor as well as current and future capacity constraints with regard to air travel.[6] DesertXpress will provide a safe, reliable, convenient, and environmentally sound alternative to automobile and air travel.

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[3] *See* The Marnell Companies' Profile (attached hereto as Exhibit C).

[4] DXE understands that an additional filing will need to be made with the Board when the operator is selected.

[5] *See* July 8, 2011 FRA Record of Decision at 2 (attached hereto as Exhibit D).

[6] *See id.* at 11.

The Project will use proven high-speed steel wheel on steel rail electric multiple unit ("EMU") trains[7] similar to those currently operating in Europe and Asia. The EMU train sets will have a maximum speed of 150 mph.[8] DXE proposes to construct the vast majority of the fully dedicated double track within the I-15 corridor with no at-grade vehicle or pedestrian crossings.[9] Two passenger stations (one in Victorville and one in Las Vegas) will be built in areas immediately adjacent to the I-15 corridor.[10] The Project also will include ancillary operations and maintenance facilities, as well as utility corridors to link proposed electrical substations to external sources of power to accommodate the EMU technology.[11]

The entire mainline section between Victorville and Las Vegas will incorporate dual tracks, one northbound and one southbound, to support the high ridership and frequency of train operation.[12] The nominal direction of travel will follow the North American practice of right-hand running, though all track will be signaled for bi-directional operation should operating in reverse become necessary.[13] State-of-the-art signaling and control systems will be in compliance with the FRA's Positive Train Control ("PTC") requirements to ensure integrated command, control, communications, and information systems for controlling train movements. By avoiding the use of multiple operators, eliminating the presence of slower passenger and freight rail traffic, enabling largely directional traffic on each track, and including no at-grade road crossings

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[7] *See* March 25, 2011 letter from Jo Strang to Linda Morgan (Docket Number FRA-2010-0098) (attached hereto as Exhibit E).

[8] *See* Exhibit D at 2.

[9] *See id.*

[10] *See id.*

[11] *See id.*

[12] *See id.*

[13] *See id.*

the core DesertXpress system will fundamentally reduce some of the greatest safety risks presently faced by most passenger rail systems in the United States.

The preliminary operations plan assumes that trains will operate between approximately the hours of 6 AM and 10 PM every day of the year.[14] The hours of service could be extended if passenger demand warrants additional operations.[15]

The Project will generate major economic benefits – regionally and across the United States – during both the construction and operation phases. Construction of DesertXpress will not only create jobs directly,[16] but will also provide a substantial indirect economic benefit through the placement of material and component orders with U.S. companies and the "economic multiplier" effect associated with large-scale infrastructure construction projects. The Project is expected to create 88,984 primary and secondary jobs in California and Nevada,[17] and is expected to have an impact on Clark County's economy of approximately $3 billion and on San Bernardino's economy of approximately $5.6 billion.[18]

The Project's total cost is currently estimated at $6.5 billion.[19] It will be financed through private capital and a federal loan administered by the FRA's Railroad Rehabilitation and Improvement Financing ("RRIF") Program.[20] On December 17, 2010, DXE delivered its initial

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[14] *See id.*

[15] *See id.*

[16] DXE is currently engaged in discussions with a number of local and national labor organizations that are ready to provide resources to the Project. The Project's construction and operations budgets are being developed in contemplation of the execution of a Project Labor Agreement, which would include a commitment to pay prevailing wage rates.

[17] *See* DesertXpress: Predicted Employment and Economic Impact Analysis at 2 (attached hereto as Exhibit F).

[18] *See* Addendum to DesertXpress: Predicted Employment and Economic Impact Analysis at 1 (attached hereto as Exhibit G).

[19] *See* Affidavit of Anthony A. Marnell, II (attached hereto as Exhibit H).

[20] DXE has neither sought nor accepted any public grants to support the Project.

loan application to the FRA. On July 1, 2011, the FRA published its formal solicitation for proposals from qualified independent financial advisors to evaluate DXE's loan application.[21] In parallel with the FRA's financing evaluation, DXE will continue the implementation process. DXE currently anticipates that final design will be completed by the end of 2011, and hopes to begin construction shortly thereafter.

DXE's financial plan is supported by Steer Davies Gleave's April 2011 investment grade ridership study.[22] This study forecasts an average annual ridership of over 6.49 million round trips in the initial years and 8.93 million round trips in year 35 of the Project's operation.[23] Final ridership forecasts demonstrate that fare revenues will cover project and financing costs with a going concern valuation that exceeds the collateral requirements of the anticipated RRIF loan.[24]

C. Environmental Review

DXE has worked diligently since 2006 to support the FRA's extensive preparation of an Environmental Impact Statement ("EIS") to satisfy the requirements of the National Environmental Policy Act ("NEPA"), 42 U.S.C. § 4321 *et seq.*, and the Council on Environmental Quality NEPA regulations, 40 C.F.R. §§ 1500-1508. The FRA has served as the lead agency for this environmental review process, while the Board, the Bureau of Land Management ("BLM"), the Federal Highway Administration ("FHWA"), and the National Park Service have served as cooperating agencies. The California and Nevada Departments of Transportation have also been extensively involved throughout the process, and numerous other federal, state, regional, and local agencies/entities have been consulted at various stages,

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[21] *See* FRA Solicitation, Offer and Award (attached hereto as Exhibit I).

[22] *See* Exhibit H.

[23] *See id.*

[24] *See id.*

including (among others) the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the Advisory Council on Historic Preservation, the Native American Heritage Commission, and the California and Nevada Offices of Historic Preservation.

The FRA initiated the formal scoping process by publishing a Notice of Intent to prepare an EIS in the Federal Register in July 2006, and public meetings were held in Las Vegas, Barstow, and Victorville later that month as part of the public scoping process. The FRA issued its Draft EIS in March 2009, and additional public meetings were held in Las Vegas, Barstow, and Victorville in late April 2009. The FRA issued a Supplemental Draft EIS in August 2010, and public meetings were again held in Barstow and Las Vegas in October 2010. The FRA issued its Final EIS in March 2011, followed by its Record of Decision ("ROD") on July 8, 2011. DXE expects that additional environmental permits and approvals will be obtained from the cooperating agencies, including the BLM and the FHWA, in the near future.

As articulated in the ROD, the purpose of this privately-developed Project is to provide reliable and safe passenger rail transportation between Southern California and Las Vegas utilizing proven high-speed rail technology that adds transportation capacity to the I-15 corridor by providing a convenient alternative to automobile travel on I-15 (and to air travel to and from Las Vegas).[25]

The need for the high-speed rail service to be provided by DesertXpress stems from several factors: high existing and anticipated increases in travel demand amidst lagging capacity along the I-15 corridor, constraints to the expansion of air travel in Southern California, and the high frequency of accidents along I-15.[26] It is estimated that the Project will divert approximately 3 million automobile trips from I-15 each year, a transportation shift that will

[25] *See* Exhibit D at 10.

[26] *See id.* at 11.

reduce air pollutant emissions from automobiles, reduce overall fuel consumption, limit the need to expand I-15, and improve highway safety.[27] By providing an alternative to automobile transportation between Southern California and Las Vegas, the Project will reduce traffic volumes on I-15, particularly during peak weekend travel periods.[28] The Project will reduce by approximately 500 the number of vehicles per peak hour in the peak direction in the opening year, increasing to 1,400 in the horizon year, thereby relieving congestion throughout the length of the I-15 corridor between Victorville and Las Vegas.[29] The reduction in traffic volumes on freeway mainlines could potentially improve safety in a corridor known to have a higher-than-average accident rate, attributable in large part to excessive levels of congestion.[30] Such traffic reduction also will contribute to improved air quality, as fewer vehicles on the road will result in a corresponding reduction in emission of air pollutants.[31] Furthermore, by reducing automobile traffic along the I-15 corridor and allowing for inter-regional mobility via electric-powered trains, the Project will result in a net decrease in energy consumption, equivalent to roughly 440,000 barrels of oil each year.[32]

DISCUSSION

A. The Proposed Construction and Operation of DesertXpress are Presumptively in the Public Interest

As a result of the relaxation of the "public convenience and necessity" standard brought about by the ICC Termination Act of 1995, the Board has adopted a general presumption that rail

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[27] *See id.* at 10.

[28] *See id.* at 45.

[29] *See id.*

[30] *See id.*

[31] *See id.*

[32] *See id.* at 55.

construction projects should be approved. *See Class Exemption for the Construction of Connecting Track Under 49 U.S.C. 10901*, 1 S.T.B. 75, 79 (1996); *accord Dakota, Minnesota & Eastern R.R. Corp. Construction into the Powder River Basin*, STB Finance Docket No. 33407 (STB served Dec. 10, 1998) at 17.

As the Board has explained,

> [I]n enacting the ICC Termination Act of 1995, Pub. L. No. 104-88, 109 Stat. 803, Congress intended to facilitate rail construction by changing the statutory standard from requiring approval if the agency finds that a project is consistent with the public convenience and necessity (PC&N) to requiring approval *unless* the agency finds the project is inconsistent with the PC&N. Under this new standard, proposed rail construction projects are to be given the benefit of the doubt.

The Burlington Northern & Santa Fe Ry. Co. – Construction and Operation Exemption – Seadrift and Kamey, TX, STB Finance Docket No. 34003 (STB served June 19, 2001) at 4 (citation omitted). *See also Alaska Railroad Corp. – Construction and Operation Exemption – Rail Line between North Pole and Delta Junction, AK*, STB Finance Docket No. 34658 (STB served Jan. 6, 2010) at 5. The Board has further explained that neither "under the exemption criteria of § 10502 nor under the prior approval requirements of § 10901 is there a requirement of a showing of public need for the facilities proposed to be constructed." *Illinois Central R.R. Co. – Construction and Operation Exemption – In East Baton Rouge Parish, LA*, STB Finance Docket No. 33877 (STB served May 25, 2001) at 2.

B. The Proposed Construction and Operation Meet the § 10502 Exemption Criteria for Line Construction and Operation Under § 10901

Construction and operation of a new rail line require prior Board approval pursuant to 49 U.S.C. § 10901. Under 49 U.S.C. § 10502(a), however, the Board shall exempt a proposed rail line construction from the detailed application procedures of § 10901 if it finds that (1) those procedures are not necessary to carry out the rail transportation policy of 49 U.S.C. § 10101; and

(2) either (a) the transaction or service is of limited scope, or (b) regulation is not necessary to protect shippers from the abuse of market power. *See, e.g., Alaska Railroad Corp.* at 5-6.

The legislative history of the exemption provisions, as well as ICC, Board, and judicial precedent, demonstrates that the Board is to apply these provisions broadly. *See, e.g., American Trucking Associations v. ICC*, 656 F.2d 1115, 1119 (5th Cir. 1981) (explaining that the ICC was charged with the responsibility of actively pursuing exemptions for transportation and service that comply with the section's standards); H.R. Rep. No. 96-1430, at 105 (1980) (explaining that the ICC was charged with removing "as many as possible of the Commission's restrictions").

As explained in detail below, the proposed rail line construction and operation complies with the § 10502 exemption criteria and therefore should be exempted from § 10901's detailed application procedures.

1. An Exemption Will Promote Rail Transportation Policy

With regard to DesertXpress, the detailed application procedures are not necessary to carry out the national rail transportation policy expressed in § 10101. Rather, granting an exemption – as opposed to subjecting the proposed project to unnecessary and burdensome administrative regulation – will promote the goals of § 10101's rail transportation policy and will not run counter to any of that section's provisions.[33]

First, the granting of an exemption for the construction of the proposed line is consistent with (a) the mandate of § 10101(4) that the Board ensure the development and continuation of a sound rail transportation system to the meet the needs of the general public; (b) the requirement

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[33] Furthermore, the Passenger Rail Investment and Improvement Act of 2008 established high-speed rail corridor development as an important component of the nation's transportation policy, and in July 2009 it was announced that the Department of Transportation ("DOT") had officially extended the California High-Speed Rail Corridor to include Las Vegas. *See* Exhibit D at 63. Implementation of the Project thus is consistent with the DOT's vision of the important role to be played by high-speed intercity passenger rail service. *See id.*

of § 10101(5) that the Board foster sound economic conditions in transportation and ensure competition and coordination between rail carriers and other modes of transportation; and (c) § 10101(14)'s directive to encourage and promote energy conservation. The creation of a dedicated high-speed passenger rail line along the I-15 corridor will contribute to the development of a sound rail transportation system – while also ensuring competition and coordination between rail carriers and other modes of transportation – by providing an additional transportation option to passengers traveling between Southern California and Las Vegas.[34] Moreover, the proposed Project will promote energy conservation by (1) using state-of-the-art high speed train technology; and (2) providing a transportation alternative that will result in the diversion of approximately 3 million automobile trips annually from I-15,[35] thereby reducing auto emissions and saving fuel while also enhancing highway safety.

Second, consistent with §§ 10101(2) and 10101(7), an exemption would both minimize the need for federal regulatory control over the rail transportation system and reduce regulatory barriers to entry. *See, e.g., Alaska Railroad Corp.* at 6. Specifically, an exemption would promote these policies by minimizing the time and administrative expense associated with the construction and commencement of operations. Regulatory barriers to new capacity and infrastructure improvements in particular should be minimized when possible in order to promote and maintain stable economic growth in this sector of the economy.

The Board and the ICC have repeatedly found that rail construction and operation projects promote the national rail transportation policy as set forth in § 10101 by providing

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[34] Since July 2009, Las Vegas has been included as a part of the California High-Speed Rail Corridor. DesertXpress will add service and capacity to enhance the national rail system by providing state-of-the-art high-speed rail service between two major population centers and tourist destinations where no service presently exists. As the first leg of what will ultimately become the western high-speed rail network, DesertXpress hopes to play a major role in introducing high-speed rail transportation to the region and the country.

[35] *See* Exhibit D at 10.

transportation service options, allowing for competition with other modes, and encouraging the provision of more efficient transportation service. *See, e.g., id.; Arizona Eastern Ry., Inc. – Construction Exemption – In Graham County, AZ,* STB Finance Docket No. 34836 (STB served June 15, 2009) at 3; *Itasca County Regional Rail Authority – Petition for Exemption – Construction of a Line of Railroad in Itasca County, MN*, STB Finance Docket No. 34992 (STB served Sept. 8, 2008) at 3; *Ameren Energy Generating Co. – Construction and Operation Exemption – In Coffeen and Walshville, IL*, STB Finance Docket No. 34435 (STB served Feb 17, 2006) at 4; *Southwest Gulf R.R. Co. – Construction and Operation Exemption – Medina County, TX*, STB Finance Docket No. 34284 (STB served May 19, 2003) at 2; *Missouri Pacific R.R. Co. – Construction and Operation Exemption – Harris and Chambers Counties, TX*, 1995 WL 385792 at *4 (ICC issued June 30, 1995); *Gateway Western Ry. Co. – Construction Exemption – St. Clair County, IL & Gateway Western Ry. Co. – Petition Under 49 U.S.C. 10901(d)*, 1993 WL 158814 at *3 (ICC served May 11, 1993) (noting agency "findings in a series of construction [exemption] cases that the rail transportation policy favors the construction of new rail lines").

Moreover, in the modern competitive environment, the market adequately determines the value of a potential rail construction project. As a result, there is no need for extensive regulatory oversight to determine whether the proposed project is economically sound or meets a specific transportation need. *See Illinois Central R.R. Co.* at 2 (noting that "[n]either under the exemption criteria of section 10502 nor under the prior approval requirements of section 10901 is there a requirement of a showing of public need for the facilities proposed to be constructed"); *Missouri Pacific R.R. Co.* at *4-5 (rejecting arguments that an exemption petition for the construction and operation of a new rail line should be dismissed because the line would only provide "duplicative" rail transportation service).

DesertXpress is a straightforward transportation project. It involves approximately 190 miles of new, freestanding track. Construction and operation of the line raise no concerns which might justify Board scrutiny under § 10901. As with most construction and operation projects, an exemption from the detailed application procedures of § 10901 will advance a number of national rail transportation policy goals, including minimizing the need for federal regulatory control, ensuring the development and continuation of a sound rail transportation system, fostering sound economic conditions and effective competition and coordination between rail carriers and other modes, and encouraging energy conservation. Again, none of the national rail transportation policy goals established in § 10101 will be undermined by the granting of this Petition.

This conclusion is bolstered further by the Board's recent grant of a petition for exemption filed by the Alaska Railroad Corporation ("ARRC"). *See Alaska Railroad Corp.* at 14. There, the ARRC filed a petition to exempt the construction and operation of a new 80-mile rail line between North Pole and Delta Junction, AK from the prior approval requirements of 49 U.S.C. § 10901. DesertXpress is similar in certain important respects to the ARRC project: both seek to provide a rail transportation alternative to currently available transportation options, which are limited to highway and air travel; both involve the construction of significant lengths of new track; and both involve the provision of passenger rail service along their proposed corridors, at least in part in an effort to promote tourism.[36]

Just as the Board found with respect to the ARRC project, *see id.* at 6, formal and potentially protracted Board approval of the DesertXpress pursuant to § 10901 is not necessary to carry out the national rail transportation policy goals reflected in § 10101. Indeed, the very act

[36] Unlike the DesertXpress project, however, the ARRC project is not limited to the provision of passenger rail service.

of requiring such approval by means other than an exemption – with the potential expense and risk of unjustified delay associated with such a process – would itself undermine the policy goals of § 10101.

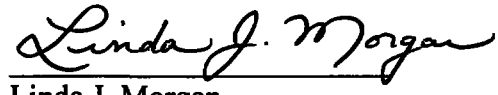
2. Regulation is Not Needed to Protect Shippers from the Abuse of Market Power

The second component of the test for exemption is stated in the alternative – either the proposed construction project must be of limited scope or the Board must find that regulation of the transaction is not needed to protect shippers from the abuse of market power. The Project clearly satisfies the latter test, in that it has been specifically designed to provide dedicated high speed passenger rail service. Because the line will not be providing transportation service to shippers, regulation of the rail line's construction and operation as a safeguard against the potential for market power abuse is unwarranted. If anything, the proposed Project will enhance competitive transportation options for passenger traffic along the I-15 corridor. *Cf. id.* (concluding that the proposed construction would "provide the affected area with additional transportation options and enhanced competition"); *Southwest Gulf R.R. Co.* at 3 (concluding that "the proposed transaction will enhance competition by providing...a rail transportation option to go along with existing motor carrier options"). Because regulation is not needed to protect shippers from the abuse of market power, the Board need not determine whether the transaction is limited in scope. *See, e.g., id.* ("Given our finding regarding the probable affect of the transaction on market power, we need not determine whether the transaction is limited in scope."); *Missouri Pacific R.R. Co.* at *4 ("The transaction appears to be of limited scope...but we need not make that finding here because regulation is not necessary to protect shippers from market power abuse.").

CONCLUSION

For the foregoing reasons, DXE respectfully requests that the Board grant this Petition for Exemption to authorize DXE to construct and operate the approximately 190 miles of rail line without requiring a full application pursuant to 49 U.S.C. § 10901.

Respectfully submitted,



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Counsel for DesertXpress Enterprises, LLC and DesertXpress HSR Corporation

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing has been served on the following by first-class mail this 28 day of July, 2011:

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Linda J. Morgan

EXHIBIT A

MEMORANDUM OF UNDERSTANDING

AMONG FEDERAL RAILROAD ADMINISTRATION, SURFACE TRANSPORTATION BOARD, DESERTXPRESS ENTERPRISES, LLC, AND CIRCLEPOINT, INC.

RE: Environmental Analysis and Preparation of Appropriate Environmental Documents Relating to the Construction and Operation of a Proposed Rail Line by DesertXpress Enterprises, LLC, 10816 Iris Canyon Road, Las Vegas, NV 89135.

I. Introduction and Purpose

A. DesertXpress Enterprises, LLC (Applicant) intends to seek authority from the Federal Railroad Administration ("FRA") and from the Surface Transportation Board ("Board") to construct and operate a rail line between Victorville, California and Las Vegas, Nevada.

B. In considering the request for authority ("Application"), the FRA and the Board will consider the potential environmental impacts resulting from construction and operation of the proposed rail line and related alternatives pursuant to the National Environmental Policy Act of 1969 (NEPA). The FRA will be the lead agency and the Board's Section of Environmental Analysis (SEA) will participate as a cooperating agency. The FRA has adopted aspects of the Board's environmental procedures for this review and pursuant to 40 CFR 1506.5(c), 49 CFR 1105.4(j), and 1105.10(d), FRA has selected and Applicant has agreed to engage, at Applicant's expense, Circlepoint, Inc. ("Contractor") as the Independent Third Party Contractor (Contractor) for this proposal. Contractor shall assist the FRA as the lead Federal agency in conducting the environmental review and preparing the

environmental documentation[1] related to the Applicant's proposal. As a cooperating agency, SEA shall work with FRA to ensure that the Board's NEPA responsibilities are met. Contractor's scope of work, approach, and activities shall be under the sole supervision, direction, and control of the FRA.

C. This Memorandum of Understanding (Memorandum) summarizes the relationship among Contractor, Applicant, FRA, and SEA, as set forth in applicable procedures, regulations and policy, regarding the conditions and procedures each party must follow in preparing all environmental documentation. This Memorandum does not supersede or amend, and is made expressly subject to, the requirements of NEPA, and, to the extent applicable, related environmental laws, and 49 CFR Part 1105 and 40 CFR Part 1500 and FRA's Procedures for Considering Environmental Impacts.

D. The Applicant, Contractor, FRA, and SEA agree to work within the framework of this Memorandum to develop an efficient method to complete the environmental review for the proposed Application. FRA shall maintain overall responsibility for the documentation, analysis, methodology, consultation, and mitigation related to the environmental review process. FRA shall direct, evaluate, oversee, and approve the environmental review process.

II. Agreement between Applicant and Contractor

A. Any contract between Applicant and Contractor, and any subcontracts, shall be consistent with the provisions of this Memorandum.

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[1] The terms "environmental documentation" and "environmental document(s)" embrace draft, supplemental, and final EAs, EISs, and any other reports, studies, surveys, or related documents.

B. The terms of this Memorandum shall override any contradictory or conflicting terms regarding the scope and performance of any work to be conducted under any contract entered into between Applicant and Contractor; provided, however, that the foregoing shall not limit the rights of Applicant and Contractor to contract on terms which require that the work be performed cost-effectively.

C. The contract between Contractor and Applicant shall specifically provide, and Contractor shall represent, that (1) Contractor and any subcontractors do not and shall not have any financial or economic interest in Applicant or the Application, except for payment for services rendered in connection with the preparation of all required environmental documentation, and except for services rendered pursuant to other agreements not prohibited by this Memorandum (provided the agreements are disclosed to FRA and SEA), and (2) there is no agreement between Applicant or any other party and Contractor regarding future employment that is contingent upon Contractor's performance under this contract. A complete copy of the final executed contract shall be provided to the FRA. Contractor shall concurrently execute a disclosure statement as mandated by the regulations of the Council on Environmental Quality (CEQ (40 CFR 1506.5(c)) and submit it to FRA, SEA, and Applicant, before beginning any work under FRA's direction. It is understood that Contractor and any subcontractors have not done any environmental analysis related to the Application for Applicant or any other party and, therefore, can be retained as independent third party contractor(s).

D. Restrictions on other work.

(1) No employee of Contractor or employee of any subcontractor, who is a part of Contractor's core team committed to the environmental review process for the Application shall engage in (a) other work for Applicant, or (b) any work, relating to the Application, for any other party to this proceeding during the course of this proceeding.

(2) No other employee of Contractor or other employee of any subcontractor shall, unless FRA is provided prior written notice of and approves in writing such work, engage in (a) other work for Applicant, or (b) any work, relating to: the Application before the FRA and Board, or any cooperating agencies that may elect to participate in this process, or any other party to this proceeding during the course of this proceeding.

E. Applicant shall bear the costs incurred by Contractor, and by any subcontractor approved by FRA in accordance with Section III.A, in preparing the required environmental documentation to implement NEPA and related environmental laws under the direction of FRA. Applicant agrees to hold harmless and indemnify the United States of America, the FRA, and the Board with respect to any and all claims, demands, causes of action, and the like which may arise in performing the work under the contract between Contractor and Applicant.

F. Any contract between Contractor and Applicant shall specifically limit any remedies available to Contractor or subcontractors upon termination of the contract to affirmatively relieve the United States of America, the FRA, the Board, and any officer, agent, or employee, from any liability from terminating the contract.

III. Contractor Responsibilities

A. Contractor may engage subcontractors to perform work related to environmental review of the Application, subject to the provisions of Sections II.C and II.D. All work performed by Contractor or any subcontractors shall be under the sole direction, control, supervision, and final approval of FRA. Contractor and subcontractors, if any, will act as the agent(s) of the FRA, not Applicant, in performing its/their duties.

B. Contractor shall provide:

(1) Appropriate expertise in the areas of environmental concern (including, but not limited to air quality, biological resources, geotechnical resources, hydrology, land use, safety, noise, social and economic, and cultural/historic resources).

(2) A good working knowledge of environmental laws, applicable laws and regulations (including environmental regulations) administered or promulgated by the Board, FRA environmental procedures, CEQ regulations and guidelines, other applicable federal regulations, state laws and regulations, and applicable local ordinances and regulations.

(3) The capability to perform environmental impact analysis and prepare appropriate environmental documentation.

(4) Thorough, readable, technically sound, and informative environmental documents, as well as related charts, maps, diagrams, etc.

(5) Representatives to attend and/or facilitate meetings with Federal, state, regional, and local agencies, other interested parties and Applicant for the purpose of exchanging and obtaining information, explaining the Application and related environmental concerns and impacts, and receiving comments in preparing the required environmental documentation.

(6) Expertise in data management.

(7) Assistance to FRA in ensuring that the data collection, analyses, and methodologies for the environmental documents are complete, accurate, and relevant to FRA's needs for the environmental review of the Application under NEPA.

C. Contractor shall maintain and provide FRA upon request:

(1) Adequate record-keeping and reporting systems to assure preservation of all data gathered, including surveys, studies, etc.

(2) Logs summarizing all telephone calls, meetings, document reviews, and other substantive communications with FRA, SEA, Applicant, local governments, governmental agencies, citizens' groups, and any other interested parties.

(3) Lists of all agencies, other railroads, citizens' groups, organizations, and individuals (including their respective addresses and telephone numbers) contacted in preparing the environmental documentation.

D. Contractor shall perform the work in a timely, responsive, satisfactory, and cost-effective manner, pursuant to a work schedule developed with FRA in coordination with Applicant and SEA and approved by FRA.

E. Contractor shall assist FRA in coordinating the exchange of all relevant environmental information and technical data/studies related to the Application in preparing all required environmental documentation for use by FRA staff, SEA, Applicant's staff and representatives, Contractor, and any subcontractors.

F. Contractor will submit directly to FRA any and all work Contractor performs in preparing all required environmental documentation, studies, surveys, etc. Contractor, and any subcontractors, shall not disclose the results of their work nor release any of the underlying work papers, drafts, or other materials prepared under the contract to anyone, including Applicant, without FRA's express authorization. In no case shall Applicant be provided the opportunity to modify or edit Contractor's work prior to submission to FRA, without FRA's express written authorization.

G. Contractor shall follow the directions and instructions of FRA, and incorporate them into the environmental document(s) in a timely and responsive manner. Contractor shall submit preliminary and final drafts of any documents to FRA for final review and approval.

H. Contractor shall provide FRA access to and the right to review all procedures and underlying data used in Contractor's development and preparation of any and all environmental documents. This includes, but is not limited to, field reports/surveys,

technical studies and analyses, subcontractor reports, and interviews with concerned private and public parties, whether or not such information may be reflected in draft, supplemental, or final environmental documents submitted to FRA.

I. Contractor, and any approved subcontractors, shall cooperate fully with FRA in organizing, participating in, and conducting any scoping meetings, public workshops, informational meetings, and other meetings, as FRA determines are necessary, to foster public understanding of and/or participation in the environmental review process, and to assess potential environmental impacts and develop mitigation measures related to the Application.

J. Contractor will assist FRA in reviewing comments received during the environmental review process, will draft a summary of comments, and will coordinate analysis of these comments with FRA.

K. Contractor shall assist FRA in preparing the required environmental documentation, environmental recommendations, selection of alternatives, and development of mitigation measures.

L. The Contractor's Project Director, Project Manager, and other technical experts, as appropriate, shall be available to attend all meetings, briefings, consultations, and site visits as FRA deems necessary. The Project Director and the Project Manager shall devote as much time to environmental review of the Application as is necessary to assure Contractor's performance of its responsibilities under this Memorandum. This work commitment will extend for the entire time necessary to complete the environmental review for the Application.

M. Except as specifically authorized by FRA, Contractor and any of its subcontractors shall refer all media/press inquiries directly to FRA.

N. As needed, Contractor will provide technical expertise and administrative support to FRA during preparation of the FRA's and the Board's decisions and in addressing any environmental issues arising in the FRA's or Board's consideration of this proceeding. In the event of any appeal from either an FRA or Board decision in this proceeding or other legal challenge, the parties hereto shall at that time determine the need for and terms of Contractor's services in connection with judicial review of the decisions.

IV. Applicant Responsibilities.

A. Applicant shall retain the Contractor to assist in preparing all required environmental documentation and services, as that assistance and its costs are defined by a contract to be negotiated and executed by Applicant and Contractor, and in the Work Plan described in Section VII.

B. Applicant, including its staff and representatives, shall provide to FRA, SEA, and Contractor any requested supportive expertise, resources, data, and technical capabilities necessary to undertake the environmental analysis, subject to the right of Applicant to advise the FRA or SEA of any request received from the FRA, SEA or Contractor that the Applicant believes either is not germane to matters appropriately reviewed in the environmental review process, is contrary to applicable statutes and regulations, would impose an extraordinary burden on Applicant, or is subject to the right of Applicant to maintain confidentiality as to

proprietary, privileged, or other information which is not otherwise subject to disclosure. In the event that Applicant so advises the FRA and SEA, FRA, in consultation with SEA, shall determine whether the request is appropriate and shall so advise Applicant and Contractor of its determination. The FRA and SEA, shall, to the extent possible and consistent with applicable law (including the Freedom of Information Act), maintain the confidentiality of any information if so requested by Applicant.

C. Applicant shall cooperate fully with FRA in organizing and participating in any public workshops, hearings, and meetings, as FRA determines are necessary (1) to foster public understanding and/or participation in the environmental review process, and (2) to assess potential environmental impacts and mitigation measures related to the Application.

D. With respect to all reports, analyses, and documents, including drafts, supplements, and final copies of the environmental documents, Applicant shall be responsible for Contractor's administrative and clerical costs, as well as the costs of graphics, maps, layout, mailing, and printing, as those costs are defined by a contract to be negotiated and executed by Applicant and Contractor. Applicant shall be solely responsible for the cost of preparing and printing the appropriate number of copies of all required environmental documentation.

E. Applicant shall provide complete, accurate, relevant, and timely responses to all reasonable requests for information pertaining to the Application.

V. FRA Responsibilities

A. The FRA is responsible for ensuring compliance with the requirements of NEPA and other applicable environmental statutes and regulations by preparing appropriate environmental documentation.

B. FRA shall:

(1) Direct, review, and approve all phases of preparing all required environmental documentation, including the work of Contractor, using FRA's best efforts to ensure that the work is reasonably necessary to conduct the environmental review process regarding the Application and the work is within the scope of NEPA requirements. For example, FRA shall ensure that Contractor considers existing data and environmental analyses available from the Applicant, FRA, SEA, and other sources, and that Contractor does not duplicate work already done, unless the FRA determines that the existing data is not adequate for use in preparing the environmental documentation.

(2) Designate appropriate staff to review and approve all work as it is developed and completed.

(3) Ensure that its representatives attend meetings, as needed, with Federal, state, regional, and local agencies, and other interested parties, as well as any public hearings or meetings, to exchange information, explain the Application and related environmental concerns and impacts, obtain

technical input, and receive comments in preparing all required environmental documentation.

(4) Coordinate, with Contractor's assistance, the exchange of information among any planning, design, or construction engineers or technical staff employed by Applicant and Contractor.

C. FRA will periodically review the work of Contractor to ensure that FRA's and the Board's responsibilities under NEPA and related environmental laws and regulations are being satisfied. As each portion of any draft or final document is completed, FRA staff shall review and approve that portion and those tasks completed, and/or direct further work with regard to that portion or task.

D. FRA will monitor Contractor to ensure that Contractor is making adequate progress toward meeting specific time frames established in the Work Plan described in Section VII. If FRA determines these commitments are not being met, it will notify Applicant of its findings. It will be the responsibility of the FRA to recommend any necessary corrective action to be taken under this Memorandum.

E. In all instances involving questions concerning the content or relevance of any material (including all data, analyses, charts, and conclusions) prepared by Contractor, FRA shall make the final determination on including, deleting, or revising any such material in the environmental documents.

F. To coordinate the preparation of all required environmental documentation, and to verify Application-related data, FRA may hold joint meetings with Applicant and

Contractor. As necessary, FRA may exclude Applicant from participation. FRA may also consult directly with appropriate Federal, state, and local officials, and other interested parties.

G. FRA, with the assistance of Contractor, will be responsible for organizing and conducting any public workshops or meetings that may be necessary in preparing environmental documents during the environmental review process.

H. FRA, with the assistance of Contractor, will receive all relevant comments submitted during the environmental review process and comment period. At the close of any public review and comment period, FRA, in consultation with Contractor, shall identify the issues and comments that will require FRA response. FRA may direct certain comments to Applicant and to Contractor, as appropriate, to be responded to and included in the final environmental document. FRA may modify these responses as appropriate.

I. FRA shall retain responsibility for deciding the environmentally preferable alternative, and any mitigation measures to be included in the final environmental document.

J. FRA will coordinate an consult with SEA throughout the environmental documentation preparation process. FRA will provide SEA sufficient opportunity to ensure that the Board's NEPA responsibilities area met.

VI. Board/SEA Responsibilities

A. The SEA is responsible for ensuring that the environmental documentation satisfies the Board's requirements under NEPA and other applicable environmental statutes and regulations.

B. SEA will:

(1) Review and comment, as appropriate, on all phases of preparing the environmental documentation, including data and environmental analyses and portions of any draft or final document as they are completed.

(2) Designate appropriate staff to review and comment.

(3) Attend meetings, as needed, with Federal, state, regional, and local agencies, and other interested parties, as well as public hearings or meetings, to exchange information, answer questions regarding the Board, the Board' role, and the Board's environmental review responsibilities, and explain the Application and related environmental concerns and project related impacts, obtain technical input, and receive comments in preparing all required environmental documentation.

(4) Advise the FRA of all questions or concerns about the content or relevance of any material (including all data, analyses, charts, and conclusions) prepared by Contractor.

(5) Review relevant comments submitted during the environmental review process and comment period and identify the issues and comments that

require the participation of SEA and provide the FRA with appropriate assistance.

VII. Work Plan

A. The Contractor, in consultation with FRA and Applicant, shall submit a draft Work Plan to FRA for preparing the required environmental documentation within forty-five (45) days after all parties have signed this Memorandum. The draft Work Plan shall contain at least the following elements:

(1) A description of all work to be performed (including preparing and sending consultation letters; participating in public and agency meetings; outlining and drafting environmental documents; reviewing, analyzing, and summarizing public comments; conducting analyses, etc.).

(2) The projected schedule for completing the various tasks described.

(3) Identification of Contractor's staff members who will be responsible for preparing, analyzing, and reviewing the work.

(4) An outline of the environmental analysis.

B. Following receipt of the draft Work Plan, FRA, in consultation with SEA, the Contractor and Applicant, shall finalize the Work Plan in a timely manner.

C. Subsequent to consultation with the Contractor and Applicant, FRA may amend the Work Plan from time to time as the environmental review of the Application may necessitate. The parties hereto shall consult at least monthly to confirm that the Work is being performed in the most efficient and cost-effective manner and to

consider possible measures to improve the efficiency and cost effectiveness of performance of the Work.

VIII. Nonperformance and Termination

A. The Applicant or Contractor shall notify FRA of any concerns either party might have with respect to the other party's performance under the contract between Applicant and Contractor or this Memorandum. All parties will attempt to resolve, in good faith, any disputes or disagreements.

B. If FRA determines that either the Contractor or Applicant is not adequately performing its responsibilities and duties in accordance with this Memorandum, FRA will discuss its concerns with SEA, Contractor and Applicant. If FRA's concerns cannot be satisfactorily resolved, FRA will notify Applicant that FRA is removing Contractor for cause, or direct Applicant to comply with the Memorandum. Upon removal of the Contractor, FRA shall cooperate with the Applicant to replace the Contractor with another qualified Contractor as soon as practicable.

C. Both Applicant and Contractor shall immediately notify FRA of any attempt by either party to modify or terminate the contract between Applicant and Contractor. Termination of the Contract shall be subject to FRA'S prior approval, after consultation with SEA, Applicant and Contractor. Upon approving termination of the contract, FRA shall cooperate with the Applicant to replace the Contractor with another qualified Contractor as soon as practicable. Notwithstanding the

foregoing, Applicant may terminate the contract without FRA'S approval in the event that it withdraws its notice of intent or Application.

IX. Modification

This Memorandum of Understanding may be modified only by written amendment executed by FRA, SEA, Applicant, and Contractor.

APPLICANT	FEDERAL RAILROAD ADMINISTRATION
By: Thomas J. Stone	By: Associate Administrator for Railroad Development
Title: PRESIDENT	Title:
Date: 26 JAN 06	Date: 2/13/06
THIRD PARTY CONTRACTOR	**SURFACE TRANSPORTATION BOARD**
By:	By: Victoria Rutson
Title: VICE PRESIDENT	Title: Chief, SEA
Date: 1/27/06	Date: 2-2-06

EXHIBIT B

DX, LLC

Business Entity Information

Status:	Active	File Date:	7/22/2005
Type:	Domestic Limited-Liability Company	Entity Number:	E0477182005-4
Qualifying State:	NV	List of Officers Due:	7/31/2011
Managed By:	Managers	Expiration Date:	
NV Business ID:	NV20051419629	Business License Exp:	7/31/2011

Additional Information

Central Index Key:	

Registered Agent Information

Name:	MEREDITH C ELLIS	Address 1:	222 VIA MARNELL WAY
Address 2:		City:	LAS VEGAS
State:	NV	Zip Code:	89119
Phone:		Fax:	
Mailing Address 1:		Mailing Address 2:	
Mailing City:		Mailing State:	NV
Mailing Zip Code:			
Agent Type:	Noncommercial Registered Agent		

Financial Information

No Par Share Count:	0	Capital Amount:	$ 0

No stock records found for this company

Officers

☐ Include Inactive Officers

Manager - ANTHONY A MARNELL II			
Address 1:	222 VIA MARNELL WAY	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	
Manager - ANTHONY A MARNELL III			
Address 1:	222 VIA MARNELL WAY	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	

Actions\Amendments

Action Type:	Articles of Organization		
Document Number:	20050285558-70	# of Pages:	2
File Date:	7/22/2005	Effective Date:	
(No notes for this action)			
Action Type:	Initial List		
Document Number:	20050347108-50	# of Pages:	1

File Date:	8/25/2005	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20060443683-76	# of Pages:	1
File Date:	7/12/2006	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20070466910-35	# of Pages:	1
File Date:	7/05/2007	Effective Date:	
07-08			
Action Type:	Annual List		
Document Number:	20080452632-92	# of Pages:	1
File Date:	7/02/2008	Effective Date:	
08-09			
Action Type:	Annual List		
Document Number:	20090527727-41	# of Pages:	1
File Date:	7/06/2009	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20100488812-74	# of Pages:	1
File Date:	7/02/2010	Effective Date:	
(No notes for this action)			
Action Type:	Amended List		
Document Number:	20110049584-24	# of Pages:	1
File Date:	1/21/2011	Effective Date:	
(No notes for this action)			
Action Type:	Registered Agent Change		
Document Number:	20110053867-33	# of Pages:	1
File Date:	1/24/2011	Effective Date:	
(No notes for this action)			

TRANSMAX, LLC

Business Entity Information

Status:	Active	File Date:	10/31/2001
Type:	Domestic Limited-Liability Company	Entity Number:	LLC11800-2001
Qualifying State:	NV	List of Officers Due:	10/31/2011
Managed By:	Managing Members	Expiration Date:	10/31/2501
NV Business ID:	NV20011119243	Business License Exp:	10/31/2011

Registered Agent Information

Name:	SCOTT LANGSNER	Address 1:	10816 IRIS CANYON LN
Address 2:		City:	LAS VEGAS
State:	NV	Zip Code:	89135
Phone:		Fax:	
Mailing Address 1:		Mailing Address 2:	
Mailing City:		Mailing State:	
Mailing Zip Code:			
Agent Type:	Noncommercial Registered Agent		

Financial Information

No Par Share Count:	0	Capital Amount:	$ 0

No stock records found for this company

Officers

☑ Include Inactive Officers

Managing Member - FRANCOIS BADEAU			
Address 1:	10816 IRIS CANYON LANE	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89135	Country:	
Status:	Active	Email:	
Manager - JEFFERY B KIMMEL			
Address 1:	10816 IRIS CANYON LANE	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89135	Country:	
Status:	Active	Email:	

Actions\Amendments

Action Type:	Articles of Organization		
Document Number:	LLC11800-2001-001	# of Pages:	1
File Date:	10/31/2001	Effective Date:	
(No notes for this action)			
Action Type:	Registered Agent Change		
Document Number:	LLC11800-2001-003	# of Pages:	1
File Date:	2/13/2002	Effective Date:	
CORPORATION TRUST COMPANY OF NEVADA			
6100 NEIL ROAD #500 RENO NV 89511 LMB			

Action Type:	Annual List		
Document Number:	LLC11800-2001-005	# of Pages:	1
File Date:	4/05/2002	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	LLC11800-2001-006	# of Pages:	1
File Date:	9/06/2002	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	LLC11800-2001-004	# of Pages:	1
File Date:	9/10/2003	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	LLC11800-2001-002	# of Pages:	1
File Date:	9/14/2004	Effective Date:	
List of Officers for 2004 to 2005			
Action Type:	Annual List		
Document Number:	20050407572-52	# of Pages:	1
File Date:	9/01/2005	Effective Date:	
2005-2006			
Action Type:	Annual List		
Document Number:	20060511655-81	# of Pages:	1
File Date:	8/09/2006	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20070554961-19	# of Pages:	1
File Date:	8/10/2007	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20080538587-56	# of Pages:	1
File Date:	8/12/2008	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20100077978-51	# of Pages:	1
File Date:	2/08/2010	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20100610333-89	# of Pages:	1
File Date:	8/13/2010	Effective Date:	
(No notes for this action)			

TXE, LLC

Business Entity Information

Status:	Active	File Date:	9/11/2007
Type:	Domestic Limited-Liability Company	Entity Number:	E0636002007-9
Qualifying State:	NV	List of Officers Due:	9/30/2012
Managed By:	Managers	Expiration Date:	
NV Business ID:	NV20071526091	Business License Exp:	9/30/2012

Additional Information

Central Index Key:	

Registered Agent Information

Name:	DIVERSIFIED REAL ESTATE GROUP, LLC	Address 1:	4255 DEAN MARTIN DRIVE STE J
Address 2:		City:	LAS VEGAS
State:	NV	Zip Code:	89103
Phone:		Fax:	
Mailing Address 1:		Mailing Address 2:	
Mailing City:		Mailing State:	NV
Mailing Zip Code:			
Agent Type:	Noncommercial Registered Agent		

Financial Information

No Par Share Count:	0	Capital Amount:	$ 0
No stock records found for this company			

Officers

☑ Include Inactive Officers

Manager - FIRST UNIVERSAL CONSULTING, LLC			
Address 1:	4255 DEAN MARTIN DRIVE STE J	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89103	Country:	USA
Status:	Active	Email:	

Actions\Amendments

Action Type:	Articles of Organization		
Document Number:	20070622028-69	# of Pages:	1
File Date:	9/11/2007	Effective Date:	
(No notes for this action)			
Action Type:	Amendment		
Document Number:	20070689912-74	# of Pages:	1
File Date:	10/09/2007	Effective Date:	
(No notes for this action)			
Action Type:	Registered Agent Change		
Document Number:	20070689913-85	# of Pages:	1

File Date:	10/09/2007	Effective Date:	
(No notes for this action)			
Action Type:	Initial List		
Document Number:	20070691193-18	# of Pages:	1
File Date:	10/10/2007	Effective Date:	
(No notes for this action)			
Action Type:	Amended List		
Document Number:	20070707822-85	# of Pages:	1
File Date:	10/17/2007	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20080521849-79	# of Pages:	1
File Date:	8/05/2008	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20090651237-45	# of Pages:	1
File Date:	8/31/2009	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20110086967-30	# of Pages:	1
File Date:	2/02/2011	Effective Date:	
(No notes for this action)			
Action Type:	Registered Agent Change		
Document Number:	20110515504-54	# of Pages:	1
File Date:	7/13/2011	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20110515340-72	# of Pages:	1
File Date:	7/13/2011	Effective Date:	
(No notes for this action)			

DESERTXPRESS ENTERPRISES, LLC

Business Entity Information

Status:	Active	File Date:	2/01/2005
Type:	Domestic Limited-Liability Company	Entity Number:	E0009382005-2
Qualifying State:	NV	List of Officers Due:	2/29/2012
Managed By:	Managers	Expiration Date:	2/01/2505
NV Business ID:	NV20051199598	Business License Exp:	2/29/2012

Additional Information

Central Index Key:	

Registered Agent Information

Name:	NATIONAL REGISTERED AGENTS, INC. OF NV	Address 1:	1000 EAST WILLIAM STREET SUITE 204
Address 2:		City:	CARSON CITY
State:	NV	Zip Code:	89701
Phone:		Fax:	
Mailing Address 1:		Mailing Address 2:	
Mailing City:		Mailing State:	NV
Mailing Zip Code:			
Agent Type:	Commercial Registered Agent - Corporation		
Jurisdiction:	NEVADA	Status:	Active

Financial Information

No Par Share Count:	0	Capital Amount:	$ 0

No stock records found for this company

Officers

☑ Include Inactive Officers

Manager - DX, LLC			
Address 1:	222 VIA MARNELL WAY	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	USA
Status:	Active	Email:	

Actions\Amendments

Action Type:	Articles of Organization		
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File Date:	2/01/2005	Effective Date:	
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Action Type:	Initial List		
Document Number:	20050049486-08	# of Pages:	1
File Date:	2/16/2005	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		

Document Number:	20050615571-52	# of Pages:	1
File Date:	12/14/2005	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20060798856-71	# of Pages:	1
File Date:	12/11/2006	Effective Date:	
(No notes for this action)			
Action Type:	Annual List		
Document Number:	20070857335-50	# of Pages:	1
File Date:	12/14/2007	Effective Date:	
08-09			
Action Type:	Annual List		
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File Date:	12/08/2008	Effective Date:	
09-10			
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Action Type:	Annual List		
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(No notes for this action)			
Action Type:	Registered Agent Change		
Document Number:	20110252239-57	# of Pages:	1
File Date:	4/01/2011	Effective Date:	
(No notes for this action)			

DESERTXPRESS HSR CORPORATION

Business Entity Information

Status:	Active	File Date:	6/17/2011
Type:	Domestic Corporation	Entity Number:	E0349302011-3
Qualifying State:	NV	List of Officers Due:	6/30/2012
Managed By:		Expiration Date:	
NV Business ID:	NV20111409678	Business License Exp:	6/30/2012

Additional Information

Central Index Key:	

Registered Agent Information

Name:	NATIONAL REGISTERED AGENTS, INC. OF NV	Address 1:	1000 EAST WILLIAM STREET SUITE 204
Address 2:		City:	CARSON CITY
State:	NV	Zip Code:	89701
Phone:		Fax:	
Mailing Address 1:		Mailing Address 2:	
Mailing City:		Mailing State:	NV
Mailing Zip Code:			
Agent Type:	Commercial Registered Agent - Corporation		
Jurisdiction:	NEVADA	Status:	Active

Financial Information

No Par Share Count:	25,000.00	Capital Amount:	$ 0

No stock records found for this company

Officers

☐ Include Inactive Officers

President - ANTHONY A MARNELL II			
Address 1:	6720 VIA AUSTI PARKWAY, SUITE 200	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	
Director - ANTHONY A MARNELL II			
Address 1:	6720 VIA AUSTI PARKWAY, SUITE 200	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	
Secretary - ANTHONY A MARNELL III			
Address 1:	6720 VIA AUSTI PARKWAY, SUITE 200	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	

Director - ANTHONY A MARNELL III			
Address 1:	6720 VIA AUSTI PARKWAY, SUITE 200	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	

Treasurer - MATTHEW E WOODHEAD			
Address 1:	6720 VIA AUSTI PARKWAY, SUITE 200	Address 2:	
City:	LAS VEGAS	State:	NV
Zip Code:	89119	Country:	
Status:	Active	Email:	

Actions\Amendments

Action Type:	Articles of Incorporation		
Document Number:	20110451432-23	# of Pages:	2
File Date:	6/17/2011	Effective Date:	
Initial Stock Value: No Par Value Shares: 25,000 ---------- Total Authorized Capital: $ 0.00			
Action Type:	Initial List		
Document Number:	20110550423-13	# of Pages:	2
File Date:	7/26/2011	Effective Date:	
(No notes for this action)			

EXHIBIT C

DesertXpress

The Mamell Companies' Profile

July 2011

MARNELL COMPANIES

The Marnell Companies

OUR BACKGROUND

For over 30 years, The Marnell Companies have been dedicated to project planning, project management, design and build, real estate and investment. The Marnell Companies have designed and built many of the highest-value, first-of-kind, most complex, and largest multi-functional facilities in the world.

OUR PROJECTS

The Marnell Companies' project portfolio includes many unique and well-known facilities such as The Bellagio, The Wynn, The Mirage, Treasure Island, The Rio, The Excalibur and The M Resort in Las Vegas, Nevada; the Borgata in Atlantic City; and Harrah's in New Orleans. These projects require an extremely high level of engineering, design and construction complexity, extensive coordination and integration across numerous stakeholders and integrated first-of-kind design concepts and features. These projects were delivered in high pressure, high expectation environments, with significant, time, cost and performance constraints.

OUR REPUTATION

The Marnell Companies' track record is unparalleled in the design, construction, real estate development and investment sectors: consistent on-time and on-budget performance for all of our projects. Perhaps more importantly, The Marnell Companies is also known by owners, operators, regulatory agencies, vendors, contractors and public officials as a business group that is driven by core principles:

- Highest Standards
- Bold Actions
- Open Communication
- Teamwork
- Professional Management
- Integrity
- Customer Success
- Ownership

OUR STRUCTURE

The Marnell Companies tradition of value and success is rooted in a unique combination of broad-ranging talent and multi-disciplinary skill sets. We are planners, designers, architects, builders, developers and operators. The Marnell Companies is organized to deliver all project life-cycle phases from initial planning through operation. The Marnell Company key Business Units are:

- Marnell Consulting: Concept Development, Programming, Master Planning, Business Planning, Financial Modeling / Feasibility; Project Finance
- Marnell Architecture: Design & Engineering, from Conceptual Design through Construction Documents
- Marnell, LLC: General Contractor, Program / Construction Management, Procurement
- Marnell Properties: Property Development, Land Acquisition, Zoning, Property Management; Marketing & Leasing
- Marnell Transportation: Project Planning, Project Management, Project Team Development; Environmental Planning; Regulatory Approvals
- Steering Committee: Leadership; Company Governance

OUR APPROACH

Marnell Companies' projects are typically planned, designed and delivered through a management-intensive, process-driven, design-build project delivery approach.

Marnell Companies design-build approach is unique, for several key reasons:

- Marnell Companies projects always begin by defining the challenges.
- After the challenges, constraints, and requirements are identified by all project stakeholders, the Core Team is developed.
- The Core Team is assembled from Marnell Companies Business Units talent pool, drawing upon expertise across all project phases and disciplines who are dedicated to the project throughout the entire design-build process.
- Marnell Companies supplements the Core Team with the best technical and specialty consultants in the world.
- Marnell Companies objective is to deliver the most creative, efficient and effective solutions, while simultaneously meeting or exceeding business, technical time and performance objectives.

The DesertXpress Project

For the past seven years, the DesertXpress project has progressed with work tasks primarily related to the environmental and related regulatory processes, including the EIS, Supplemental EIS, Final EIS, Record of Decision, Biological Opinion, Programmatic Agreement, Corps of Engineers Section 404 Clean Water Act Permits, and other approvals. Additional significant efforts have included preliminary engineering, obtaining approvals from FRA's Cooperating Agencies and related Federal / State Agencies, initiating the project finance process, and starting the Implementation Team qualification / selection process. The Marnell Companies has supported the Project during this time by providing services such as scheduling, budgeting, cost estimating, preliminary construction planning, contract administration, management and coordination of specialty consultants, preliminary architectural design, and logistics.

As the DesertXpress project moves forward to formalized project finance and Implementation Team Selection phases, The Marnell Companies will provide comprehensive and formalized Program Management services through a Project Management Company, "PMCO".

The Marnell Companies Business Units will provide management, review and oversight of the Design-Build Stakeholder's and Rolling Stock Supplier's operations, policies, procedures, designs and installations on behalf of DesertXpress. Specifically, The Marnell Companies will provide the following:

- RRIF Loan Administration, including oversight and review of RRIF loan draws by the FRA and Design-Build Stakeholder.
- Design Management, including establishing technical design criteria and architectural concepts and station planning guidelines for the Design-Build Stakeholder.
- Program Management, including schedule / cost control, change management construction monitoring / review, quality control, contract administration.
- Procurement Management, including inspection and audits.
- Process Plan Management, including review and oversight of formalized design, test, and verification plans created and implemented by Design-Build Stakeholder.

PROGRAM MANAGEMENT APPROACH:

DESIGN & CONSTRUCTION OVERSIGHT

All of The Marnell Companies Business Units will be fully engaged during design and construction processes.

The Marnell Companies will be responsible for creating and delivering updated technical design criteria to the Design-Build Stakeholder and monitoring its inclusion into the project design and complete construction documents including specifications. Marnell Architecture's regular reviews of progress design work completed by the Design-Build Stakeholder will include assurance that technical deliverables are correctly developed within each design package. During construction, Marnell Architecture will provide Construction Administration oversight.

The Marnell Companies will perform oversight, review and inspection services to monitor, validate confirm and report on design and construction progress.

COORDINATION

Program Management begins with coordination and oversight of internal staff, outside subcontractors/ consultants/vendors/suppliers, DesertXpress, the Federal Railroad Administration (FRA) the Operator and the Design-Build Stakeholder. Coordination in and among these parties is critical to executing approval, planning, design and construction deliverables to all project stakeholders involved.

- Coordination & Integration between PMCO and FRA
  The FRA is the primary governing Agency responsible for loan administration, monitoring, auditing, reviewing and verifying compliance with FRA regulations, the contract documents and other technical project parameters. The FRA's primary relationship is with DesertXpress in overseeing the Railroad Rehabilitation & Improvement Financing (RRIF) loan as well as safety compliance to FRA regulatory standards.

  PMCO is responsible for regular reporting, controls and general oversight for design, construction and technical/safety compliance. PMCO's deliverables will be distributed to both DesertXpress and FRA on a regular basis to ensure to provide FRA transparency into the program management process.

  PMCO will include the FRA on all project documentation, updated schedules, updated budgets, inspection reports, quality assurance findings, engineering verifications and overall progress as required.

- Coordination & Integration between PMCO and Design-Build Stakeholder
  The Design-Build Stakeholder will implement design and construction, and is responsible for the following management services with respect to its design and construction deliverables:

  - Project Management
  - Quality Management
  - Safety Management
  - Contract Administration
  - Project Integration
  - Project Coordination
  - Compliance with Federal Requirements and Regulations

The Design-Build Stakeholder scope of work includes civil improvements, power supply, systems, stations and operations/maintenance facilities. PMCO, while not contracted directly with the Design-Build Stakeholder, is responsible for managing the design, program, procurement and overall review/oversight for these project elements that are under the Design-Build Stakeholder's direct control.

Marnell Consulting will review designs and processes, and provide oversight of the Design-Build Stakeholder's scope. Marnell Consulting will provide a summary of findings and suggested corrections on an ongoing basis throughout design and construction to DXE, FRA and the Design-Build Stakeholder.

Marnell Architecture will establish and manage the following design concepts and criteria, for the Design-Build Stakeholder to implement within final designs:

- Station Design Concepts
- Station Programming
- Technical Design Criteria
- Green Building Criteria
- Executive Design of Stations and Buildings
    - Master Planning
    - Concept Design
    - Schematic Design

Marnell, LLC and Marnell Transportation will provide review and oversight of schedule, cost, changes, quality and construction processes.

PROJECT CONTROL PROCESS

The Marnell Companies define project controls as the management of cost and schedule.

- Cost Control

  Controlling project costs requires continuous oversight of the project design, specifications, requirements, design, procurement and physical construction. At every point in time during the implementation process, project costs may be affected.

  Early in the implementation process, the Design-Build Stakeholder will be provided technical design and performance criteria from the FRA, DesertXpress, the Operator and the Rolling Stock Supplier, and likely other stakeholders. Marnell Architecture will provide architectural, concept and programming criteria. Based upon this information, the Design-Build Stakeholder will create budgets, and be expected to manage to their budgets.

  The Marnell Companies will monitor project budgets, for the entire Implementation Team, including DesertXpress, PMCO, the Design-Build Stakeholder. Budgets, costs, potential coat changes and forecasts will be reviewed monthly, and reported to DesertXpress, PMCO, the Design-Build Stakeholder.

General steps for establishing a cost control system are as follows:

- Establish cost documentation routing and process flow procedures for creating budgets, modifying budgets, pay applications, and notifications
- Establish authorization levels & limits for team members to view, approve and handle financial documents
- Establish chart of accounts
- Establish reporting requirements

- Schedule Control
  Within 60 days of formal project start, Marnell Transportation, Marnell, LLC, the Design-Build Stakeholder, the Operator and the Rolling Stock Supplier will develop an integrated master project baseline schedule. The purpose of the master baseline schedule is to identify critical work sequences, non-critical work sequences, logical dependencies between work tasks, key milestones and key decision points over the life of the implementation process. The master schedule will be used as a management tool to measure progress against a defined plan, and quantify impacts to longer-term completion milestones due to near-term delays or changed conditions – in real time each month.

  General steps for establishing a schedule control system are as follows:

  - Establish a baseline schedule within the first 60 days
  - Ensure the baseline schedule includes the full scope of the project, including tasks for design, engineering, procurement, construction, testing, approvals and appropriate business matters
  - Ensure the schedule is accurately updated each month, based upon input from all stakeholders
  - Ensure all changed conditions or added scope is included within each update

PROJECT CONTROL TOOLS

The Marnell Companies uses several state of the art computing tools for across all project phases. In general, The Marnell Companies uses the following tools:

- Project Documentation and Document Control Tools
  The Marnell Companies use project management software such as Primavera Contract Manager and Prolog capable of electronically registering, tracking, logging and distributing many types of design and construction information. These software platforms are available via the internet, and allow project team members located around the world to quickly access the same information in real time.

  The Marnell Companies use File Transfer (FTP) software such as NewForma, capable of quickly and securely transmitting large volumes of data. File transfer software tracks and logs information transmittals, downloads, uploads and access times.

- Estimating and Cost Tracking Tools
  The Marnell Companies use estimating and cost control tools and software such as GTCO digitizers, QuikRuler, CAD Estimator, and ViewPoint for monitoring and assessing impacts to the quantity estimates, cost estimates, budgets, committed costs, actual cost and forecast costs.

- Scheduling Tools
  The Marnell Companies use Primavera Enterprise to develop critical path method (CPM) project schedules. This tool allows users to manage expected vs. actual work sequence plans the following project elements:

  - Design Deliverables
  - Permitting
  - Approvals
  - Procurement
  - Construction Sequencing
  - Testing / Startup
  - Closeout

INFORMATION & DOCUMENT CONTROL PROCESS

The volume of information required and documentation generated will be significant. The Marnell Companies have extensive experience managing the flow of information and documents by and between project team members and stakeholders for complex projects.

Project information will be stored and accessed via a centralized secure file transfer and document management site. General steps for establishing a document management and information control system are as follows:

- Establish information, document routing and process flow procedures
- Establish security / access rights for all users
- Establish file structures & FTP sites
- Establish logging and recording systems
- Establish requirements for reporting logs and summaries

REPORTING PROCESS

The Marnell Companies will implement reporting requirements between not only our internal business units but also with the Design-Build Stakeholder and its designers, engineers, consultants, contractors and subcontractors. Reporting criteria will be dictated primarily by FRA and other Federal Agency requirements, State Agency requirements, and The Marnell Companies best practices. The Marnell Companies uses numerous software and hardware solutions for producing reports, including presentation-quality bound books, large scale plots, written documents in any printed or electronic format, videos, and websites.

The Marnell Companies Steering Committee

SUMMARY

The Marnell Companies is an integrated planning /design / construction management firm capable of delivering complex projects, involving teams of stakeholders, against a backdrop of significant cost, schedule, quality and performance objectives. The Marnell Companies key to success is its Steering Committee. Through the Steering Committee, The Marnell Companies are able to refine project processes, maximize resource efficiency and create solutions that drive success.

Steering Committee Members include the following executive leaders and company officers:

- Anthony A. Marnell II, Founder, CEO & Chairman of the Board
- Matthew R. Bunin, Chief Financial Officer
- Cary A. Rehm, Chief Operations Officer
- Ary A. Benoualid, President of the Construction Business Unit
- David G. Howryla, President of the Architecture & Consulting Business Units
- David J. Simard, President of Marnell Properties
- Gregory K. Wells, President of Marnell Investments
- Chuck Hersh, Director of Risk Management
- Matt Woodhead, Special Counsel

MEMBER RESUMES

Anthony A. Marnell II

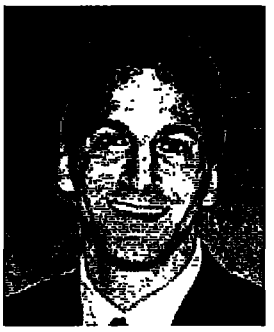
Tony is the founder, CEO, and Chairman of the Board of The Marnell Companies.
Through his efforts, he has propelled The Marnell Companies to be acknowledged as a leader in the management and delivery of large-scale developments around the United States and the World.

Through decades of education, experience, and working knowledge, Mr. Marnell has propelled The Marnell Companies and its associates to become internationally acclaimed for the planning, design, construction and overall management of some of the world's most recognizable and renowned projects.

Prior to forming Marnell Corrao Associates in 1982, Mr. Marnell was employed by Corrao Construction Company, Inc., Zuni Construction Company, Moffitt & McDaniel Architects, and architect Alfred Caldwell. In 1986 when the Rio Hotel & Casino, Inc. was formed, Mr. Marnell held the position of Chairman of the Board and served as Chief Executive Officer of the company and its wholly owned subsidiary Rio Suite Hotel & Casino until its acquisition by Harrah's Entertainment, Inc. on January 1, 1999.

Accreditation/Education:
Tony is a registered Architect in the states of Alabama, Arizona, California, Colorado, Florida, Idaho, Illinois, Indiana, Louisiana, Maine, Michigan, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Texas, Texas (Interior Design), Utah, Washington State, Wisconsin, and the District of Columbia. He is certified by the National Council of Architectural Registration Boards, an honorary member of AIA (American Institute of Architects), Trustee Emeritus of the University of Nevada Las Vegas Foundation Board, a member of the USC Board of Councilors, a member of Duck's Unlimited and the National Italian American Foundation.

Tony earned a Bachelor of Arts Degree in Architecture from the University of Southern California and received an Honorary Masters Degree in Modular Building from his Alma Mater as well.



Matthew R. Bunin

As Chief Financial Officer for The Marnell Companies, Mr. Bunin is responsible for leading the financial and accounting operations within the various business units. Matthew is also a Steering Committee member, which provides direction and supervision to all business units of The Marnell Companies. Mr. Bunin practiced public accounting from 1994 to 1996, specializing in taxation and practice management. He brings 18 years of financial management and reporting experience to The Marnell Companies, specializing in reducing operating costs, improving operational and organizational efficiencies, and increasing shareholder/partner returns.

Accreditation/Education:
Mr. Bunin is a licensed Certified Public Accountant and earned a Bachelor of Science degree in Accounting from the University of Akron. He is a member of the American Institute of Certified Professional Accountants and a past member of the Institute of Management Accountants.

Cary A. Rehm

As Chief Operations Officer for The Marnell Companies, Mr. Rehm is responsible for all administrative management of the firm and its affiliates. Cary is a member of The Marnell Companies' Steering Committee which provides direction and operational oversight to the various business units. From 1989 to 2001, Mr. Rehm served in increasingly responsible roles at the Rio Suite Hotel and Casino, culminating in the position of Vice President/General Manager. Prior to joining the Rio, Mr. Rehm was with Summa Corporation from 1980 until 1989 where he was responsible for Slot Operations at the Castaways and Silver Slipper.

Accreditation/Education:
Cary earned Technician Certification in 1980 at the Nevada Gaming School, Las Vegas.

Ary A. Benoualid

Ary A. Benoualid is President of Construction for The Marnell Companies and oversees the day-to-day administration of the Construction business unit. He is the point of contact for major clients and provides project oversight in addition to his involvement with the company's organization and staff development. Mr. Benoualid is a member of The Marnell Companies' Steering and Operations Committees, which provide directional and operational guidance to the various business units under The Marnell Companies' umbrella.

Accreditation/Education:
Ary is a licensed Contractor in the State of Nevada and attended the University of Arizona, graduating with a Bachelor of Science degree in Industrial Engineering.

David G. Howryla

Mr. Howryla is President of both Marnell Architecture and Marnell Consulting and is responsible for the operations of each business unit. He is also a member of the Marnell Companies Steering Committee which provides direction and operational oversight to all business units within the Marnell Family of Companies. David is involved in the master planning process and oversees large scale commercial developments. Mr. Howryla's tenure with The Marnell Companies began in 1994 where he held the position of Project Architect and Vice President of Marnell Architecture. Prior to joining The Marnell Companies, David was employed with Ferrari–Sweeney Architects and Giffels-Hoyem Basso, Inc.

Accreditation/Education:
Mr. Howryla is a registered Architect in the State of Nevada and is certified by the National Council of Architectural Registration Boards. David is also a LEED Green Associate with the Green Building Certification Institute and the United States Green Building Council. He currently is a member of the American Institute of Architects, the International Code Council, the Construction Specifications Institute, the United States Green Building Council, the Honor Society of Phi Kappa Phi and the University of Nevada, Las Vegas Council of Excellence.

David earned a Master of Architecture degree and Bachelor of Science in Architecture from the University of Nevada, Las Vegas. He also holds an Associate Degree in Specialized Technology from the Pittsburgh Technical Institute, Pittsburgh, Pennsylvania.

David J. Simard

As President of Marnell Properties, Mr. Simard leads the real estate development, acquisition and sales, entitlement and management of the corporate real estate portfolio.

Mr. Simard directs the development of approximately 1.3 million square feet of commercial development including the Marnell Air Cargo Center at McCarran International Airport, along with a 40-acre Class "A" professional business park, Marnell Corporate Center. In addition, Mr. Simard leads the design and development team for McCarran Marketplace, a 75-acre community retail development.

Mr. Simard brings 18 years of experience to Marnell Properties specializing in real estate acquisition and development. As previous President of a private diversified holding company, Mr. Simard was integral in constructing quality projects throughout Southern California and led his team through the sale of more than 550,000 square feet of industrial real estate property for more than $545 million.

Accreditation/Education:
Mr. Simard received a Juris Doctorate from Michigan State University College of Law and holds two Bachelor of Arts degrees from the University of Windsor. He holds a Nevada real estate license and is certified in construction and property management.

Gregory K. Wells

Gregory K. Wells is President of Investments and Real Estate, the strategic investment and financing arm of the Marnell Family of Companies, and is responsible for all of the day-to-day management activities of Austi, LLC. As President, Mr. Wells has led the financing of all the Marnell Family of Companies' real estate and gaming activities, including the acquisitions of the Laughlin properties, Saddle West, M Holdings and most recently the construction financing of The M Resort. Mr. Wells is a member of the Marnell Companies Steering Committee, which provides directional and operational oversight to the various business units of the Marnell Family of Companies.

From 1999 to 2005, Mr. Wells served as Vice President of Investments for Austi, LLC, where his primary responsibility was directing the investments portfolio consisting of private and public equity and debt. Prior to his time with The Marnell Companies, Mr. Wells was the manager of a national brokerage firm office in Phoenix, Arizona, where he oversaw all investment activities and operations.

Accreditation/Education:
Mr. Wells attended the University of Arizona on an athletic scholarship and graduated with a degree in Economics.

Chuck Hersh

As Director of Risk Management for The Marnell Companies, Mr. Hersh has overall responsibility for Insurance and Risk Management for the business units. Within his duties over the past 10 years he has developed a sophisticated combination of insurance, self-insured, self-funded programs and cost allocations for The Marnell Companies' business units.

Mr. Hersh is also President of Forte Consulting, LLC, where he deals directly with the insurance requirements for some 200 organizations and entities. Forte Consulting is a specialist in highly technical insurance solutions for corporate clients. Overall, Mr. Hersh represents over 35 years of experience in the Risk Management and Insurance industry.

Accreditation/Education:
Mr. Hersh is a Professional Engineer (P.E.) and maintains the following designations:

- Chartered Property & Casualty Underwriter (CPCU)
- Construction Risk & Insurance Specialist (CRIS)

Chuck attended Oregon State University and the University of Washington. He holds a Bachelor of Science Degree in Chemical Engineering.

PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	Harrah's Entertainment - Las Vegas Strategic Master Plan Las Vegas, Nevada
Scope of Work: Goals & Objectives Assessment • Defining the "Problem" • Defining Goals & Objectives • Analyzing Baseline Documents Strategic Business Planning • Analyzing Market, Customer and Competition Business Fundamentals • Analyzing Desired Targeted Customer, Branding & Market Positioning • Analyzing Local / Regional Design & Construction Markets • Developing Project Delivery Strategy • Developing Pro Formats Conceptual Design & Project Management • Creating Conceptual Design Documents • Creating Master Plan Documents • Creating Models & Renderings of all Options & Scenarios • Creating Construction Phasing Plans • Creating Rough Order of Magnitude Estimates • Creating Summary Level Schedules and Sequence Analysis Transition to Construction Documents • Creating/updating Briefing Documents • Coordination with Design Team Stakeholders • Design Oversight & Reporting • Design Management • Coordination with Project Stakeholders • Coordination with PreConstruction Team • Design Coordination with Estimate • Design Coordination with Schedule Transition to Physical Construction • Creating/updating Briefing Documents • Coordination with Construction Team Stakeholders • Construction Oversight & Reporting • Construction Management • Coordination with Project Stakeholders • Field Coordination with Estimate • Field Coordination with Schedule	**Summary of Scope of Project:** Developed master plans for short & long range strategic development opportunities for Harrah's Entertainment properties in Las Vegas, including the existing portfolio of hotel/casino offerings, vacant land holdings and potential land acquisitions. Required extensive coordination and integration with numerous Harrah's functional groups, including corporate management, development, design & construction, branding, legal, risk management, financial planning, etc and property operations. Required detailed presentations, models, renderings, descriptions, summaries and related materials for all board presentations, senior management team meetings and internal Harrah's Entertainment review sessions. **Key Design Accomplishments:** • Large-scale integration of multiple property offerings in Las Vegas. • Significant considerations included: parking, utility capacities, public agency constraints, pedestrian/vehicular circulation, disruption to ongoing operations, target customer requirements and projected market growth; incorporation of third party investment/partnerships; direction of competitor's future offering characteristics including architecture, offerings-mix, and sizing. • Comprehensive phasing/constructability planning based upon regional/ market constraints for design and construction capacity. • Development of project delivery approach and integrated project team organization. • Provided recommendations for Harrah's Entertainment's team organization, polices & procedures and project management approach for large-scale development projects. • Release of phase I projects for design and construction.

PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	Viejas Band of the Kumeyaay Indians – Viejas Resort Strategic Plan Alpine, California

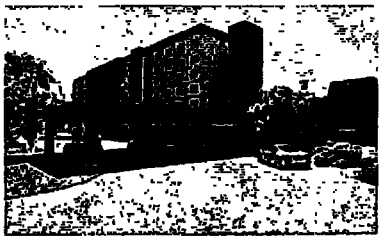
Scope of Work:

Goals & Objectives Assessment
- Defining the "Problem"
- Defining Goals & Objectives
- Analyzing Baseline Documents

Strategic Business Planning
- Analyzing Market, Customer and Competition Business Fundamentals
- Analyzing Desired Targeted Customer, Branding & Market Positioning
- Analyzing Local / Regional Design & Construction Markets
- Developing Project Delivery Strategy
- Developing Rough Order Magnitude Cost Estimates
- Proof Pro Formats

Conceptual Design & Vision Planning
- Creating Conceptual Design Documents
- Providing Site Selection Options
- Creating Master Plan Documents
- Creating Models & Renderings of all Options & Scenarios
- Creating Construction Phasing Plans
- Creating Rough Order of Magnitude Estimates
- Creating Summary Level Project Schedules

Transition to Schematic Design
- Creating/updating Briefing Documents
- Coordination with Executive Architect

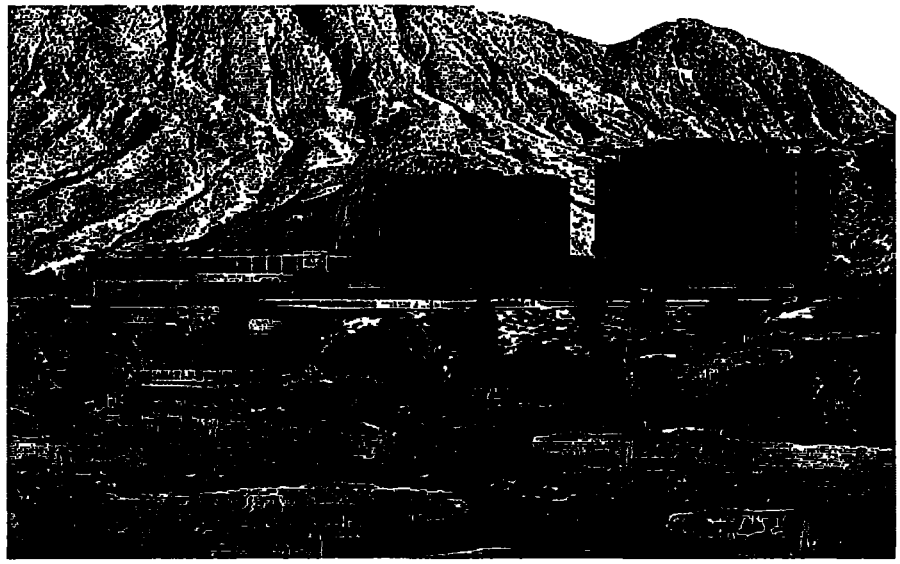


Summary of Scope of Project:

Developed Master Plan for expansion of existing Casino, and creation of a new Hotel / Casino Resort at the Viejas Indian Reservation in Alpine, California. Required coordination and integration with Viejas Design Review Committee, Tribal Council, and numerous Viejas functional groups, including Enterprise Management, Marketing / Branding, Legal, Financial Planning, and property operations. Required detailed presentations, models, renderings, descriptions, summaries and related materials for all Tribal Presentations, Senior Management Team meetings and internal Viejas review sessions.

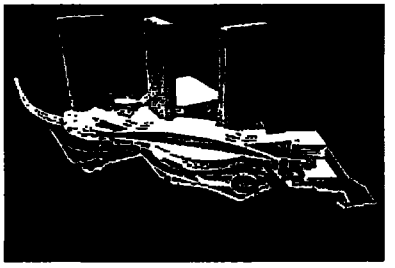
Key Design Accomplishments:

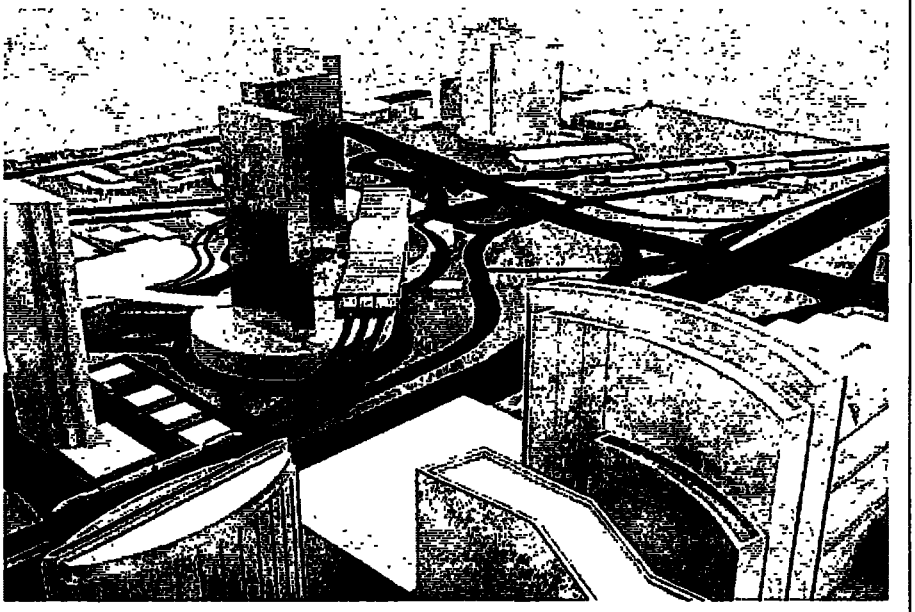
- Separation of new Resort concept from expansion of existing facility; customer attraction strategy will simultaneously drive new customer groups to the Resort while expanding existing customer groups to the existing facility.
- Significant considerations included: parking, utility capacities, public agency constraints, pedestrian/vehicular circulation, disruption to ongoing operations, desire for "Green Build"; target customer requirements and projected market growth; incorporation of third party investment/partnerships; direction of competitor's future offering characteristics including architecture, offerings-mix, and sizing; Indian Compact and other Regulatory matters.
- Close attention to Phaseability and Expandability.
- Development of project delivery approach and integrated Project Team Organization.



PROJECT PROFILE

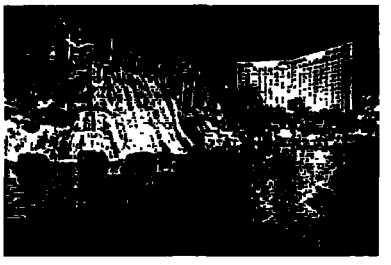
THE MARNELL COMPANIES	Name/Location of Project:
	CityView Master Plan Las Vegas, Nevada
Construction Amount: US$4 Billion **Scope of Work:** Land Development/Entitlements HIP Application Management Regulatory Approval Management Master Planning Facility Programming Executive Design Architect Pre-Construction Services	**Summary of Scope of Project:** The CityView Development is a master planned project involving the construction of new hotel/casino/resort offerings including gaming venues, hotels, retail/commercial spaces, restaurants, bars, lounges, theaters, spas, indoor and outdoor recreational areas, convention space and supporting back-of-house components. Above and below grade parking structures are planned as well. Podium roofs have been extensively landscaped with pools, patios, cabanas, and other recreational areas. The exterior of the buildings are primarily curtain wall systems with structural glass finishes. The architecture is designed with a mix of lineal and curvilinear lines with variations in roof heights and wall projections. Overall, the CityView Master Plan is designed to accommodate a multitude of entertainment components situated at the center of the gaming corridor in the Las Vegas Valley adjacent to The Strip. Construction costs for the project are estimated at $4 billion with a start to occupancy duration of three (3) years for the entire development. **Project Programmatic Elements:** • Casino & Lowrise Entertainment Component – 1,000,000 sf. • Hotel Component – 2,500 keys / 2,000,000 sf. • Convention Component – 400,000 sf. • Condo Hotel with Lowrise Amenities – 1,000 keys / 1,250,000 sf. • Retail and Ancillary Entertainment Component – 500,000 sf. • Parking – 6,500 spaces.

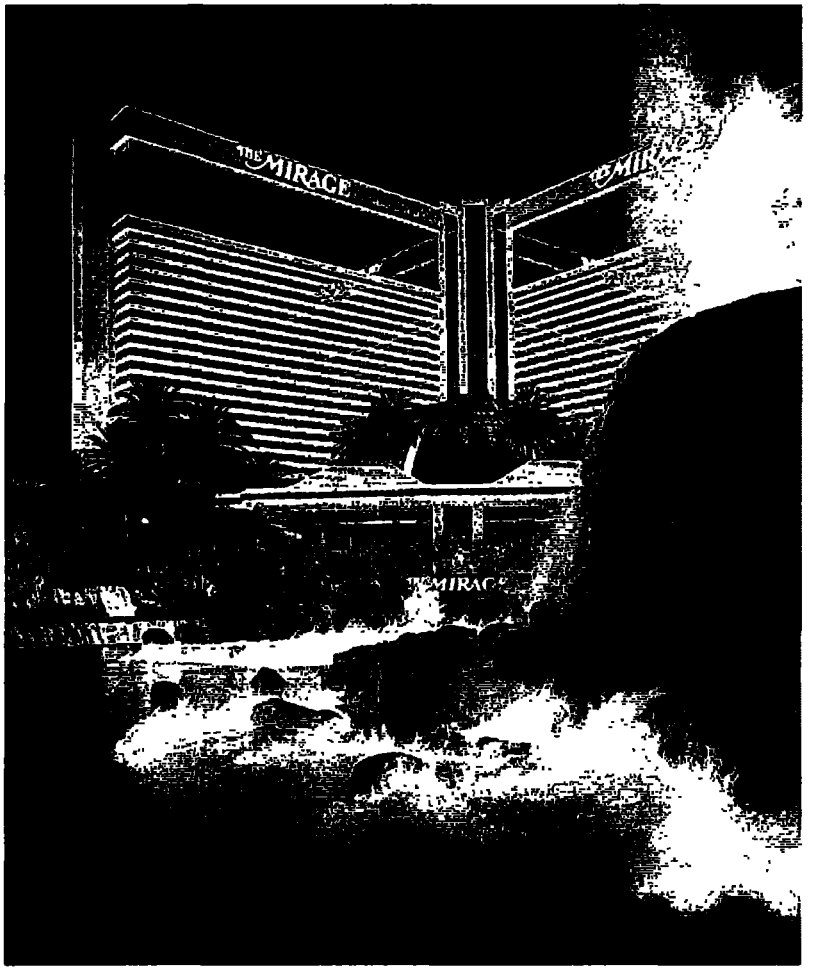




PROJECT PROFILE

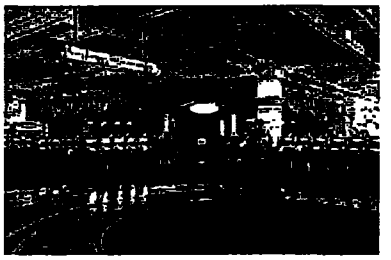
THE MARNELL COMPANIES	Name/Location of Project:
	The Mirage Hotel & Casino Las Vegas, Nevada
Contract Value: US$600 Million **Time Frame:** 24 Months Completed in 1989 **Scope of Work:** Architect of Record General Contractor Construction Management	**Summary of Scope of Project:** The Mirage Hotel and Casino was designed to cater to every whim of the most highly sophisticated international traveler. The Marnell Companies provided design and construction services and acted as General Contractor for all low-rise facilities and site work. The Mirage features 2,049 guest rooms, 100,000 square foot casino, 8 restaurants, 350,000 square foot Event Center, Danny Gans Theatre, Atrium Rain Forest, Mirage Volcano and Water Show, Dolphin Exhibit and the Siegfried and Roy Secret Garden. **Key Design Accomplishments:** • The Mirage set the standard for what luxury and elegance are all about – not only for Las Vegas, but in the international resort industry as well.

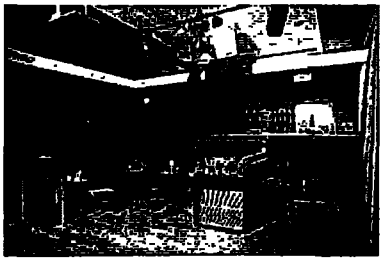




PROJECT PROFILE

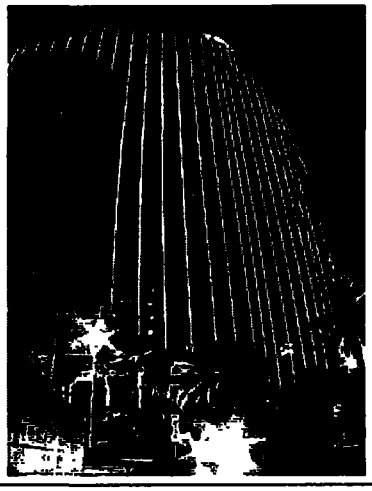
THE MARNELL COMPANIES	Name/Location of Project:
	Treasure Island Las Vegas, Nevada
Construction Amount: US$303 Million **Time Frame:** Oct. 1992 – Feb. 2004 **Scope of Work:** Architect of Record Construction Management	**Summary of Scope of Project:** When Mirage Resorts came to The Marnell Companies to design and construct the Treasure Island Hotel and Casino, schedule was a significant factor. The Marnell Companies broke ground in March, 1992 to support the owner's request to be open for the 4th anniversary of sister property, the Mirage Hotel and Casino. Treasure Island Hotel Casino consists of a 75,000 square foot gaming area, 9 restaurants, 2,900 guest rooms, 18,000 square foot convention center, 1,200 seat showroom, and 1,500 square foot arcade. **Key Design Accomplishment:** • Buccaneer Bay was designed as the key attraction at the entry of Treasure Island to bring customers to the front door of the casino. It has become one of the icons of the Las Vegas strip. The project includes scaled pirate village, exploding building and two full size galleons, one of which sinks every hour. Combined theatrical special effects, actors, pyrotechnics and stage settings with public space create an immersive, interactive experience for the customers.

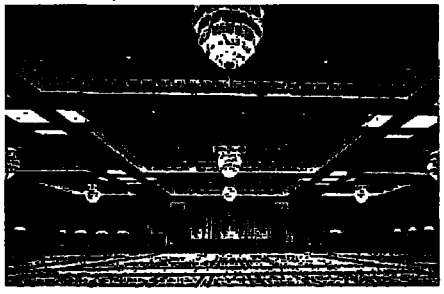


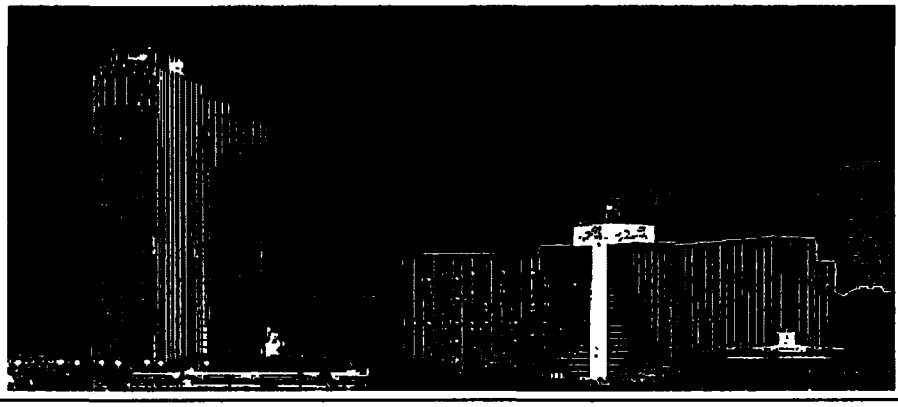


PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	Rio Hotel & Casino Las Vegas, Nevada
Contruction Amount: US$700 Million **Time Frame:** Oct. 1986 – Dec. 1998 Actual Completion Dates: Phase VI – Mar 1999 Twain Connector: Mar 2000 **Scope of Work:** Facility Programming Master Planning Executive Architect Architectural Design Interior Design Project Management FF&E Purchasing Construction Management General Contractor	**Summary of Scope of Project:** The Rio is a tribute to vision and dedication, which is the core of The Marnell Companies. One of the most successful properties in Las Vegas, the Rio utilized every facet of MCA expertise and embodies the very essence of the master plan concept. The Rio features numerous restaurants, bars and retail spaces, 2,550 all-suite hotel rooms, expansive pool area with a sandy beach, a full service health spa, the Masquerade Village Show in the Sky feature, parking structures and one valet parking structure. **Key Design Accomplishments:** • Six major phased expansions were made to the Rio Property with very little disruption and minimal loss of business due to careful master planning. • First all-suite hotel/casino in Las Vegas. • Rio Pavilion Convention Center features ceilings that raise and lower. Masquerade Village Show in the Sky features Mardi Gras floats suspended from the ceiling. • External elevator cabs on the phase V – 51 story tower. • All FF&E purchased and installed by MCA. • Twain west connector won "Outstanding Engineering Project Award" in 1999, presented by Institute of Transportation Engineers. • This project required extensive coordination with Clark County Public Works, Union Pacific Railroad, NDOT and all public utilities.







PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	Bellagio Las Vegas, Nevada

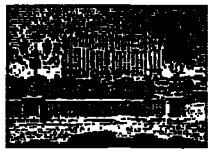
Contract Value:
US$1.2 Billion

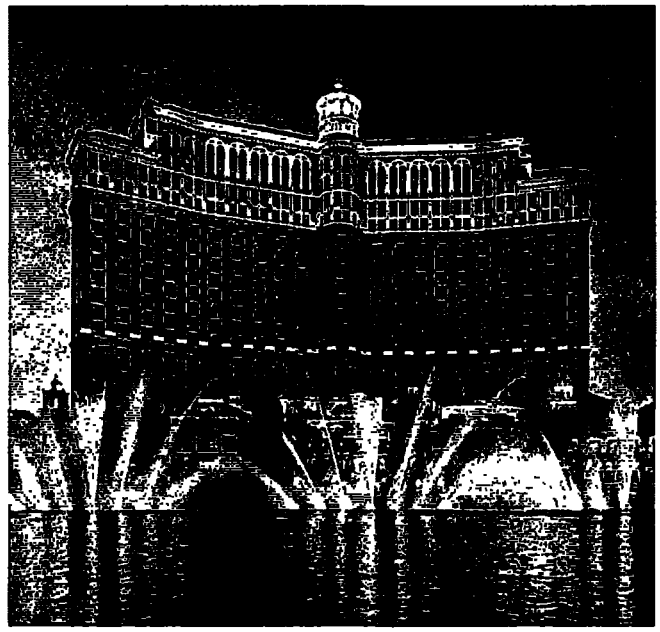
Design Timeline:
Schematic Design
4 Months
Design Development
6 Months
Construction Documents
18 Months
Construction
32 Months
Project Completion
October, 1998

Scope of Work:
Program Management
Design Management
Interior Design Management
Project Management
Architect of Record
General Contractor
Construction Management

Summary of Scope of Project:
Continuing their remarkable track record of producing world-class resorts with Mirage Resorts Inc., The Marnell Companies met the challenge of constructing the largest and most extravagant Mirage property to date – The Bellagio. Bellagio has set the standard for beauty and elegance. From the impeccably appointed guest rooms, to the distinguished designer boutiques, grandeur and splendor is evident throughout this first class property. The Marnell Companies leveraged in-house resources and a strong client relationship to complete this masterpiece on time and within budget. The amount of detail and sheer size of the project is a tribute to the immaculate organization and professionalism of The Marnell Companies' professionals.

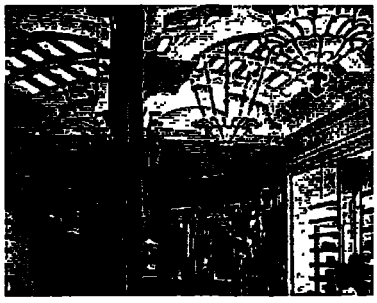
Key Design & Construction Accomplishments:
- Very large, complicated project of some 5.5 million square feet including a hotel tower, parking structure, low-rise with central plant and on-site roadway system with tram station.
- Master planned for future expansion with minimal impact to ongoing operations.
- Complex project requiring the coordination of a design and construction team comprised of over 95 design, engineering, consulting and construction firms.
- Required intense interaction and coordination with public agencies and utility companies.

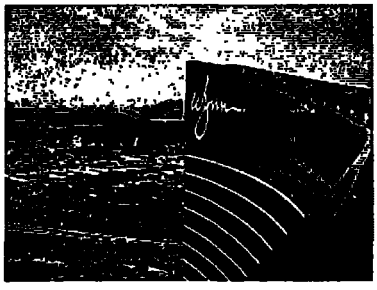


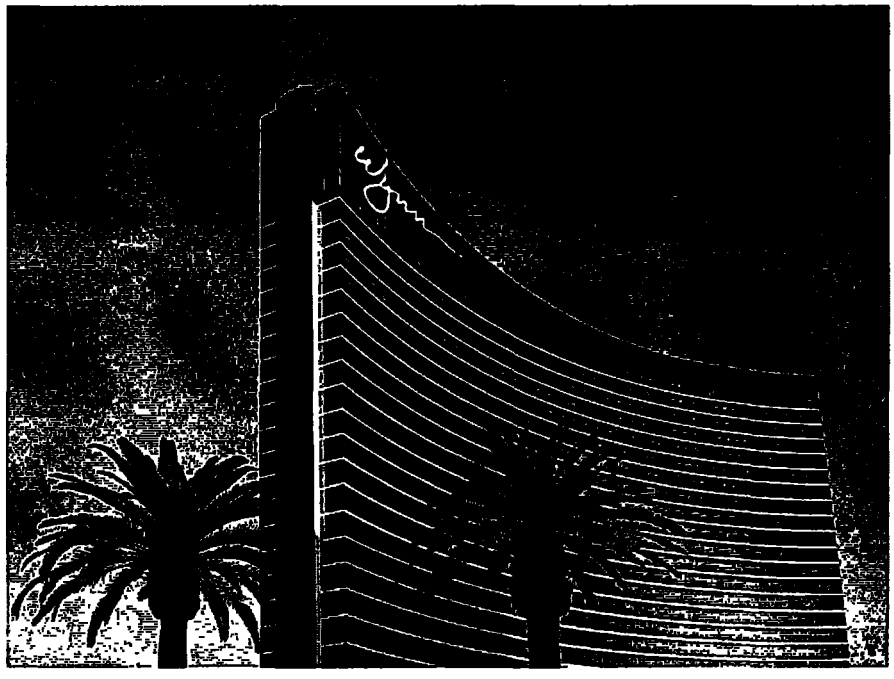


PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	Wynn Las Vegas Las Vegas, Nevada
Construction Amount: US$1.1 Billion **Time Frame:** Oct. 2002 – Apr. 2005 **Scope of Work:** General Contractor Construction Management Architect of Record (Show Venues)	**Summary of Scope of Project:** World class luxury resort and casino project consisting of a 2.5 million square foot hotel tower, over 200,000 square feet luxury low-rise villas, over 2.0 million square feet of lowrise building areas including gaming, restaurants, retail, convention and meeting space, two showrooms and all support areas. Site improvements and exterior features include a world-class pool area, lake features and a unique mountain feature over 200,000 cy in volume with extensive landscaping, water, lighting, and show elements. **Key Contractor/CM Accomplishments:** • Very large and complex project utilizing the entire project site. • Fast-tracked design and construction process required extensive interaction with the design team for constructability while maintaining the aggressive project schedule and budget. • Established coordinated design and construction schedule to allow for phased construction of all building areas. • Integrated additional project elements into the project scope without impacting the original project completion date. • Worked with Owner in development of the Master Plan to provide for future expansion with minimal impact to ongoing operations.

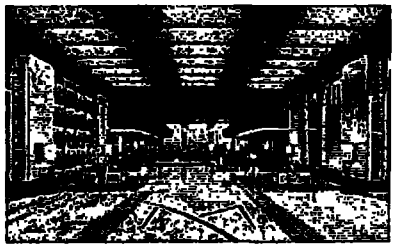


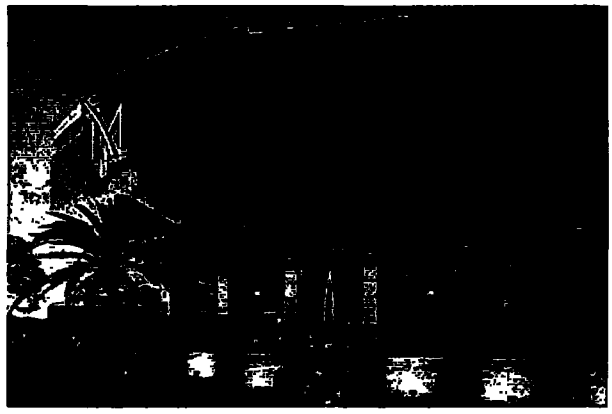




PROJECT PROFILE

THE MARNELL COMPANIES	Name/Location of Project:
	M Resort Henderson, Nevada
Concept to Creation: June 2005 - March 2009 **Construction Amount:** US$750 Million **Scope of Work:** Land Development/Entitlements Master Planning Facility Programming Executive Design Architect Architect of Record Design Management Interior Design Project Management FF&E Purchasing Construction Management General Contractor	**Summary of Scope of Project:** The M Resort Spa Casino features the next generation of architectural design, state-of-the-art amenities and resort philosophy. Infused with originality, quality and value in every amenity, the Resort is designed to provide the total guest experience. The M Resort is a fully integrated Hotel / Casino Resort, located within a 90 acre masterplanned site, at the South End of Las Vegas Boulevard overlooking the world famous Las Vegas Strip. Situated 400 feet higher in elevation than the resort-casinos on Las Vegas Boulevard, the M Resort provides optimal views of the Las Vegas skyline from every room, suite, restaurant and lobby within the resort. The project is comprised of some 1.7 million square feet, including 390 guestrooms and suites, 92,000 square foot casino; 8 dining outlets; 6 bars and lounges, 23,000 square foot spa, 60,000 square foot Conference & Meeting Center; and a picturesque outdoor pool and special event venue. ***Key Design & Construction Accomplishments:*** • The M Resort sits 400 ft higher in elevation then other resort-casinos on the Las Vegas Strip, providing optimal views of the world famous skyline from it guest rooms, suites, conference center and restaurants. • Uniquely designed, the M Resort does not feature reflective glass and includes skylights in the casino floor allowing natural light in - a rare feature in the casino industry. • The resort features a progressive architectural style incorporating horizontal lines, natural lighting and a rich color palette of natural materials. • The majority of the restaurants feature outdoor dining on terraces that overlook the 100,00 square foot pool and special events piazza and the Las Vegas Strip. • The 90 acre site was previously undeveloped and required the design and construction of the project infrastructure.





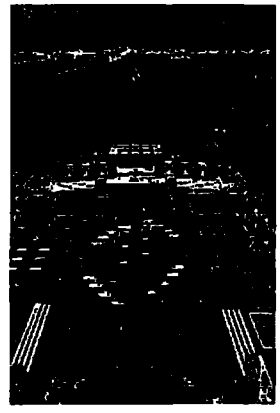


EXHIBIT D

U.S. Department of Transportation
Federal Railroad Administration

Record of Decision

DesertXpress High-Speed Passenger Train

Summary

This is the Record of Decision (ROD) of the Federal Railroad Administration (FRA), an operating administration of the U.S. Department of Transportation, with regard to the DesertXpress High-Speed Passenger Train Project (Project) proposed by DesertXpress Enterprises, LLC (Applicant), a private entity not part of any federal, state, or local government agency. The Applicant has proposed to construct and operate the Project subject to the approval of appropriate authorities, which include FRA, the federal Lead Agency for the Project; the federal Cooperating Agencies for the Project (Federal Highway Administration (FHWA), Surface Transportation Board (STB), and the Bureau of Land Management (BLM)); and other federal agencies with specific review, consultation, and/or permitting roles, including but not limited to the Federal Aviation Administration (FAA), the U.S. Fish and Wildlife Service (USFWS), and the U.S. Army Corps of Engineers (USACE).

In making this decision, FRA considered the information and analysis contained in the 2009 Draft Environmental Impact Statement (EIS), 2010 Supplemental Draft EIS, and 2011 Final EIS for the Project (collectively "EIS Documents"). FRA also considered public and agency comments received during the public comment periods for all of the above documents.

The ROD has been prepared in accordance with the Council on Environmental Quality's (CEQ) regulations implementing the National Environmental Policy Act (NEPA), (40 CFR Section 1505) and FRA's Procedures for Considering Environmental Impacts (64 Fed. Reg. 28545, May 26, 1999). Specifically, this ROD:

- Provides background of the NEPA process leading to the March 2011 publication of the Final EIS, including a summary of public involvement and agency coordination.
- States and reaffirms the Project's Purpose and Need.
- Identifies the alternatives considered by FRA in the EIS Documents.
- Summarizes the alternatives considered but dismissed in the Draft EIS.
- Identifies the Selected Alternative.
- Identifies the environmentally preferable alternative.
- Summarizes environmental benefits and adverse effects.

- Summarizes the comments received on the Final EIS.
- Discusses the measures to avoid and minimize environmental harm and requires a monitoring and enforcement program for all mitigation measures.
- Presents the FRA Decision, determinations and findings on the proposed Project and identifies and discusses the factors that were balanced by FRA in making its decision.

1.0 Project Introduction

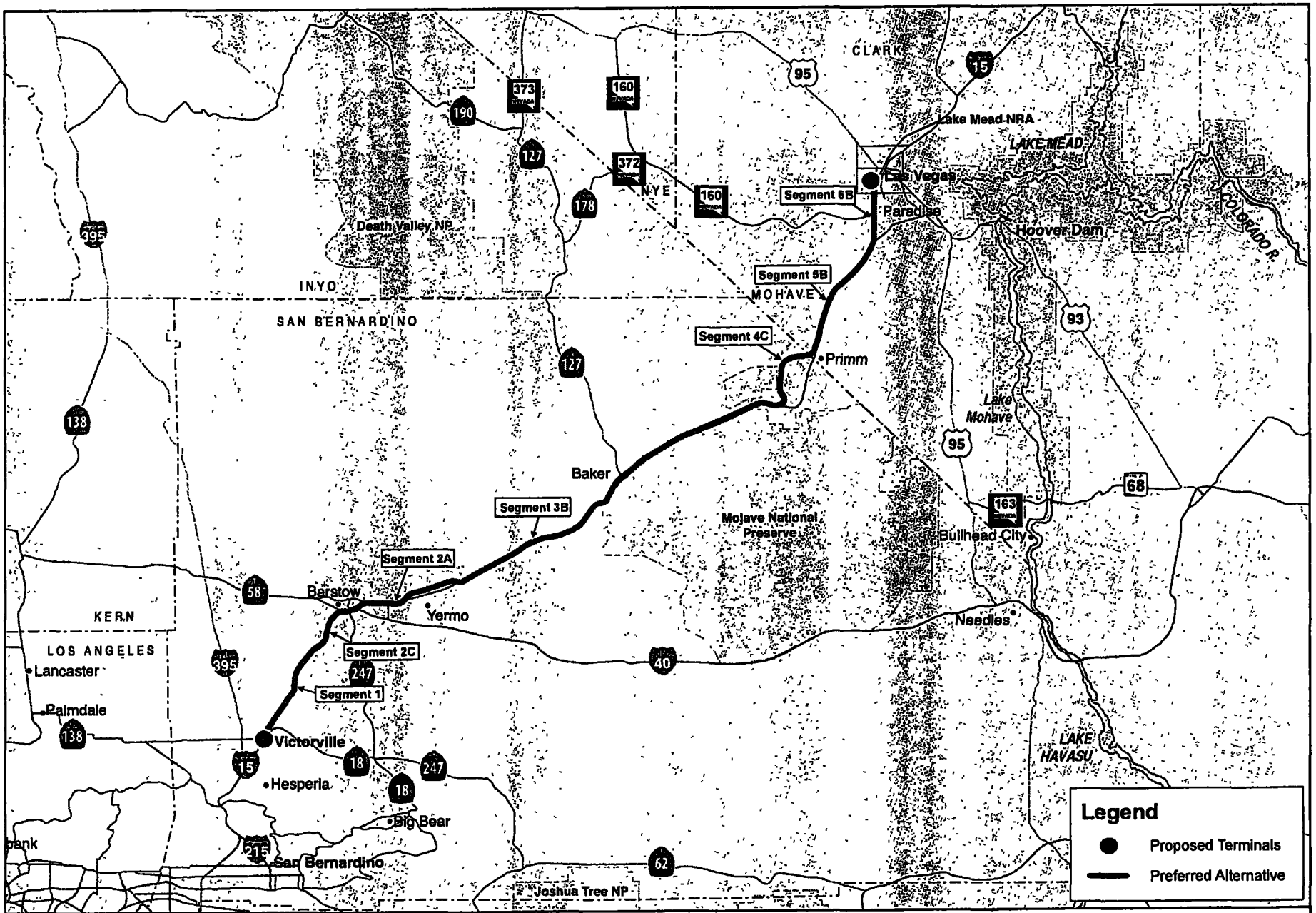
The Applicant has proposed to construct, operate, and maintain a high-speed passenger train system along the approximately 200-mile corridor between Victorville, California, and Las Vegas, Nevada. The Applicant proposes to construct the vast majority of the fully grade-separated, dedicated double track, passenger-only railroad within the Interstate 15 (I-15) highway corridor. Two passenger stations would be built, one in Victorville, the other in Las Vegas; each would be located immediately adjacent to the I-15 corridor. The Project also includes ancillary operations and maintenance facilities as well as utility corridors to link proposed electrical substations to external sources of power to accommodate the preferred electrically-powered technology option as described in more detail below.

Figure 1 shows the routing of the Selected Alternative rail alignment.

The entire mainline section between Victorville and Las Vegas would incorporate dual tracks, one northbound and one southbound, to support the high ridership and frequency of train operation. The nominal direction of travel would follow the North-American practice of right-hand running. All tracks would be signaled for bi-directional operation should operating in reverse on a track be necessary.

The preliminary Operations Plan assumes that trains would operate between approximately 0600 hours and 2200 hours (6 AM to 10 PM), 365 days per year. The hours of service could be extended if passenger demand warrants additional operation.

The Applicant has proposed using existing, proven intercity high-speed train technology, customized for the unique setting of the corridor. Both diesel-electric multiple unit train, (DEMU) train and electric multiple unit (EMU) train were considered as high-speed train technology options. The DEMU train set is projected to operate at a maximum speed of 125 mph. The EMU train set could have a maximum speed of 150 mph. The EMU option would require the addition of 17 autotransformers and three electrical substations along the route. The autotransformers would be located at approximately 10-mile intervals along the rail alignment.



U. S. Department of Transportation
Federal Railroad Administration

DesertXpress
Record of Decision

Project Location

FIG 1

Source: CirclePoint, 2011.

The initial train composition would be a ten vehicle train. Passenger capacities for DEMU trains would be about 478; for EMU trains, which have slightly longer and wider cars, capacity would be about 675 passengers. On either train, one of the ten cars would be configured as an entertainment car.

FRA, as Lead Agency for NEPA compliance, commenced the environmental review process in 2006. Based on anticipated permits and licenses needed for construction and operation of the Project (identified in **Table 1** below), FRA requested and received the participation of the following Cooperating Agencies: STB, FHWA, BLM, and NPS[1]. Specific roles and responsibilities of each federal agency, including permitting agencies, are further described below.

Table 1: Federal Permits or Approvals Anticipated for Action Alternatives

Agency	Permit/Approval
Federal Railroad Administration	Regulations related to high-speed train operation and safety
Bureau of Land Management	Right-of-Way
Surface Transportation Board	Authority to Construct and Operate Railroad
Federal Highway Administration	Concurrence for Highway Right-of-Way (ROW) Occupancy and/or Disposal Access Justification Report or Access Modification Report[2] Concurrence on Project Design Elements Related to Highway Operations
U.S. Army Corps of Engineers	Sec. 404 Permit (waters of the United States) Sec. 401 Certification
U.S. Fish and Wildlife Service	Section 7 Biological Opinion
Federal Aviation Administration	Determination under 14 CFR Part 77 that the Project does not pose an obstruction to aerospace navigation

Source: Circlepoint, 2009-2011.

[1] The NPS was invited to be a Cooperating Agency because a 1.55-mile long portion of one of the proposed rail segments (Segment 4A) would have traversed lands within the boundaries of the Mojave National Preserve. No other rail alignment or facility was proposed to be located within the Mojave National Preserve or on any other land under NPS control.

[2] The current project design does not include creating new access points to the interstate freeway (I-15), nor is direct access to the I-15 freeway envisioned during construction or rail operations maintenance. However if project designs or plans change to require permanent access modifications to I-15 or temporary direct access for construction, approval of an Access Modification Report would be required.

Federal Railroad Administration

Under 49 U.S.C. 20101 et seq., FRA has authority over the safety of railroads. The Project would use trains and other features that do not comply with current FRA safety regulations, including track and locomotive safety regulations.

FRA will exercise jurisdiction over this issue and all other railroad safety issues during design and operation of the Project. As part of the FRA's oversight and regulation of railroad safety issues, FRA expects that the Applicant comply with, at a minimum, the technical criteria and procedures of FRA's Tier 1 or Tier III Guidelines as developed by FRA's Engineering Task Force of the Passenger Safety Working Group of the Railroad Safety Advisory Committee, FRA's pre-revenue service acceptance testing requirements as outlined in 49 CFR section 238.111, and all other applicable railroad safety regulatory and statutory requirements.

In addition, DesertXpress may become eligible for federal funds through the Railroad Rehabilitation and Improvement Financing Program (RRIF), which is administered by FRA. The RRIF program was established by the Transportation Equity Act for the 21st Century (TEA-21) and amended by the Safe, Accountable, Flexible and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) and the Rail Safety Improvement Act of 2008. Under this program, the FRA Administrator is authorized to provide, in the aggregate, direct loans and loan guarantees up to $35 billion. In general, RRIF funds may be used to (1) acquire, improve or rehabilitate intermodal or rail equipment or facilities including track, bridges, yards, building and shops, (2) refinance eligible debt, and (3) develop new intermodal or railroad facilities.

When an eligible applicant applies for a RRIF loan, numerous preconditions to the issuance of the loan must be met. These include completion of the NEPA process and a determination that the applicant is eligible for financial assistance. Should DesertXpress receive financial assistance through a RRIF loan, it would be required to comply with various Federal laws including compliance with the requirements of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act) (42 U.S.C. 4601 et seq.) and its implementing regulations.

Bureau of Land Management

The BLM has approval authority over the use of public lands under their control under 43 U.S.C. 1761, the Federal Land Policy and Management Act (FLPMA). This authority encompasses the granting of transportation rights-of-way, including for rail transportation purposes, as outlined under the ROW regulations at 43 CFR Part 28001

The FLPMA governs the way in which the public lands administered by the BLM are managed. The FLPMA recognizes the value of the public lands, declaring that these lands would remain in public ownership. As stated in Title V, Section 501 of the FLPMA, "[t]he

Secretary, with respect to public lands...[is] authorized to grant, issue, or renew rights-of-way over, upon, under, or though such lands for...roads, trails, highways, railroads...or other means of transportation, except where such facilities are constructed and maintained in connection with commercial recreation facilities on lands in the National Forest System, or such other necessary transportation or other systems or facilities which are in the public interest and which require rights-of-way over, upon, under, or through such lands." 43 U.S.C. 1761(6)–(7).

Surface Transportation Board

Under 49 U.S.C. 10901, the STB has exclusive jurisdiction over the construction and operation of new rail lines. Associated with this jurisdiction, the STB has authority to preempt state and local environmental review, land use requirements, and other associated permitting requirements.

In response to a request for a declaratory order filed by DesertXpress, the STB issued a decision in DesertXpress Enterprises, LLC-Petition for Declaratory Order, STB Finance Docket No. 34914 (STB served June 27, 2007) (June 2007 Dec. Order) stating that the Project would not be subject to state and local environmental review, land use, or to other permitting requirements. The STB determined that DesertXpress would first be required to file an application under 49 U.S.C. 10901 for STB authority to build and operate the new line.

In its June 2007 Dec. Order, the STB concluded that construction and operation of DesertXpress' planned interstate passenger rail line would be within the agency's jurisdiction under Section 10501 because DesertXpress would be a rail carrier providing interstate common carrier rail transportation. Accordingly, the STB found that the broad preemption at 49 U.S.C. 10501 (b) would attach, and environmental review would be under NEPA and related federal environmental laws and that the individual laws and regulations of California and Nevada, such as the California Environmental Quality Act (CEQA) would not apply.[3]

Subsequent to the March 2009 publication of the Draft EIS, the California-Nevada Super Speed Train Commission and the American Magline Group asked the STB to reopen and reverse the June 2007 Dec. Order. The STB held an oral hearing on the matter in October 2009. In a decision issued on May 6, 2010, the STB reaffirmed its 2007 decision that the

[3] Although the DesertXpress project does not require a CEQA review, the EIS includes the type of analysis that would have been conducted under the regulations and guidance of CEQA. See City of Auburn v. United States, 154 F.3d 1027, 1031 31 (9th Cir. 1998) (City of Auburn). Moreover, state and local agencies and concerned citizens have had ample opportunity to participate in the ongoing EIS process. A number of state agencies have participated in the ongoing EIS process, including Caltrans and NDOT.

DesertXpress Project falls within the STB's jurisdiction and would require Board authority under 49 U.S.C. 10901.

Aside from these orders and decisions issued from the STB (meaning the Board comprised of three members appointed by the President and confirmed by the Senate), the STB has delegated Cooperating Agency activities for the Project to its Office of Environmental Analysis (OEA).

Federal Highway Administration

Under 23 U.S.C. 111 and 142(f), for the portions of the proposed Project that would be within the existing highway ROW under the jurisdiction of the FHWA, the implementing regulations in 23 CFR 1.23 provide the FHWA authority over approval of temporary or permanent occupancy or use within the boundaries of federal-aid highways. Most critically, the FHWA must conclude that the Project does not pose a hindrance to the ongoing use of the I-15 corridor as an interstate highway. The BLM decision to grant right-of-way for the Project requires this determination by the FHWA.

Throughout the environmental review process, FHWA divisions in California and Nevada coordinated closely with the State Departments of Transportation (Caltrans and the Nevada Department of Transportation) in their respective states. Ultimately, the State Departments of Transportation will need to issue encroachment permits to allow construction of the proposed rail lines within designated freeway right-of-way areas.

U.S. Army Corps of Engineers

Concurrently with the NEPA process, the Applicant initiated the Clean Water Act (CWA) Section 404 permitting process with the USACE in May 2010. The CWA Section 404 sets forth a program to regulate the discharge of dredged or fill material into waters of the United States, including wetlands. As part of this CWA Section 404 permitting process, the Applicant prepared formal jurisdictional delineation reports for the Ivanpah Valley area and the Las Vegas watersheds. Jurisdictional determinations and issuance of a permit for the discharge of fill material into waters of the United States associated with construction of the DesertXpress Project will be part of the CWA Section 404 permit process administered by the USACE.

In addition to the CWA Section 404 permit, the Applicant will apply for certification under Section 401 of the CWA.[4] Section 401 Certification is administered in California through the Regional Water Quality Control Boards (in the case of the DesertXpress Project, the

[4] Under the CWA Section 401, every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain State Water Quality Certification (Certification) that the proposed activity will comply with state water quality standards. Most Certifications are issued in connection with USACE CWA Section 404 permits for dredge and fill discharge.

Lahontan Regional Water Quality Control Board) and in Nevada by the Nevada Division of Environmental Protection.

Given the relatively minor agency permitting issues for the Project, the USACE was not invited to participate as a Cooperating Agency for the DesertXpress Project.

U.S. Fish and Wildlife Service

Concurrently with the NEPA process, FRA initiated the Endangered Species Act Section 7 consultation process, pursuant to 50 CFR Part 402. Section 7 of the Endangered Species Act requires all federal agencies to consult with the USFWS for any action that may affect listed species or their designated habitat. 16 U.S.C. 1536. FRA's informal and formal consultation with the USFWS has been ongoing and was instrumental in scoping the biological resource analysis for the EIS Documents as well as for the Biological Assessment (BA) submitted consistent with Section 7 requirements.

FRA developed and submitted a draft BA to the USFWS in August 2010. The BA evaluated direct, indirect, and cumulative effects of the Project on federally listed, threatened, endangered, or proposed listed species and their designated habitat. The USFWS provided specific comments on the August 2010 BA. FRA developed a revised BA in response to those comments and as a result of additional coordination between the USFWS and FRA. FRA submitted the revised BA on the Agency Preferred Alternative to the USFWS in December 2010.

Following USFWS review and additional consultation and coordination, the USFWS issued a Biological Opinion (BO) for the Project on April 26, 2011. The USFWS concluded in the BO that the Project would not jeopardize the continued existence of identified species nor would the Project adversely modify designated critical habitat areas. Consistent with Section 7 requirements, the BO stipulates several reasonable and prudent conservation measures to avoid or reduce potential impacts. These have been incorporated as mitigation commitments; please see **Appendix A** of this ROD. The BO also includes an incidental take statement authorizing activity associated with construction and operation of the Project.

Federal Aviation Administration

The FAA is responsible for the safety of civil aviation. FAA regulations are codified at 14 CFR Parts 1 through 1399 and include FAA's responsibility to ensure the safe, efficient use and preservation of the United States' navigable airspace. FAA describes its Airport Design Standards in FAA Advisory Circular 150/5300-13, Airport Design. Compliance with this Advisory Circular is mandatory for federally obligated airport sponsors and for land uses within designated Runway Protection Zones.

Rail alignments associated with the Project would be located near existing and proposed aviation facilities, including McCarran Las Vegas International Airport (LAS), the planned Southern Nevada Supplemental Airport (SNSA) near Primm, and a private sport aviation facility near Jean. Under the authority of 14 CFR Part 77, the FAA determines whether proposed new objects/structures would be an obstruction to air navigation near these existing and proposed facilities.

2.0 NEPA Process Background

FRA, as Lead Agency for NEPA compliance, commenced the environmental review process in 2006. Based on anticipated permits and licenses needed for construction and operation of the Project, FRA requested and received the participation of the following Cooperating Agencies: STB, FHWA, BLM, and NPS.

Table 2 below summarizes major NEPA milestones of the Project.

Table 2: Summary of Major NEPA Milestones

Milestone	Date
Notice of Intent & Public Scoping Meetings	July 2006
Notice of Availability Published/Circulation of Draft EIS/Draft Section 4(f) Evaluation	March 2009
Public Hearings: Victorville, Barstow, Las Vegas	April 2009
Notice of Availability Published/Circulation of Supplemental Draft EIS, Supplemental Section 4(f) Evaluation	August 2010
Public Hearings: Barstow, Las Vegas	October 2010
Notice of Availability and Publication of Final EIS and Final Section 4(f) Evaluation	March 2011

Source: FRA, 2006-2011.

The environmental process for the DesertXpress Project began formally in July 2006. Scoping Meetings for the DesertXpress Project were held in August 2006 and a Draft EIS was published on March 27, 2009.

The Draft EIS presented the purpose and need for the Project, the reasonable range of alternatives for rail alignment, station site, maintenance facility, and train technology options, the existing environmental setting, potential effects from construction, and operation, and identified mitigation measures to reduce or eliminate potential adverse environmental effects.

The Draft EIS informed decision makers, interested parties, and the public about the differences and tradeoffs among various alternatives and options. The alternatives were organized to allow the Lead and Cooperating agencies to "mix and match" by choosing various segments and site options in composing a Preferred Alternative. The Draft EIS was circulated for 56 days for public review and comment. Public hearings were held in Las Vegas, Barstow, and Victorville to provide additional opportunity for the public to comment on the Draft EIS.

Subsequent to the publication of the Draft EIS, the Applicant proposed several modifications and additions to address comments received on the Draft EIS and to reduce or avoid significant environmental effects. FRA prepared a Supplemental Draft EIS to evaluate these modifications and additions, which included an additional station site option in Victorville, two new rail alignment options, modifications to the Victorville and Las Vegas maintenance facilities, and rail alignment adjustments.

FRA published the Supplemental Draft EIS on September 3, 2010 and circulated it for a 46 day public review and comment period. FRA held public hearings on the Supplemental Draft EIS in Las Vegas and Barstow to provide additional opportunity for the public to comment.

The information presented in and the comments received on the Draft EIS and Supplemental Draft EIS were considered when preparing the Final EIS. The Final EIS, published April 1, 2011, addressed changes to the DesertXpress Project as a result of public and agency comments on the Draft EIS and Supplemental Draft EIS and an evaluation of the potential environmental effects of the Preferred Alternative. The Preferred Alternative was selected by the Lead and Cooperating Agencies from the range of alternatives presented in the Draft EIS and Supplemental Draft EIS. Mitigation measures for the Preferred Alternative were included in the Final EIS to reduce or eliminate adverse environmental effects of the Preferred Alternative.

3.0 Purpose and Need

As articulated in the Draft EIS and reconfirmed in the Final EIS, the purpose of the privately proposed Project is to provide reliable and safe passenger rail transportation using proven high-speed rail technology between southern California and Las Vegas that is a convenient alternative to automobile travel on the I-15 freeway, or air travel to and from Las Vegas, and that adds transportation capacity in the I-15 corridor.

It is estimated that the Project would divert approximately 3 million annual automobile trips from Interstate 15 (I-15) each year. This transportation shift would reduce air pollutant emissions from automobiles, reduce fuel consumption for automobile use on the I-15 corridor, limit the need to expand the I-15 highway, and improve highway safety.

Future increases in ridership demand for the high-speed train would be handled by adding more trains to the service as needed.

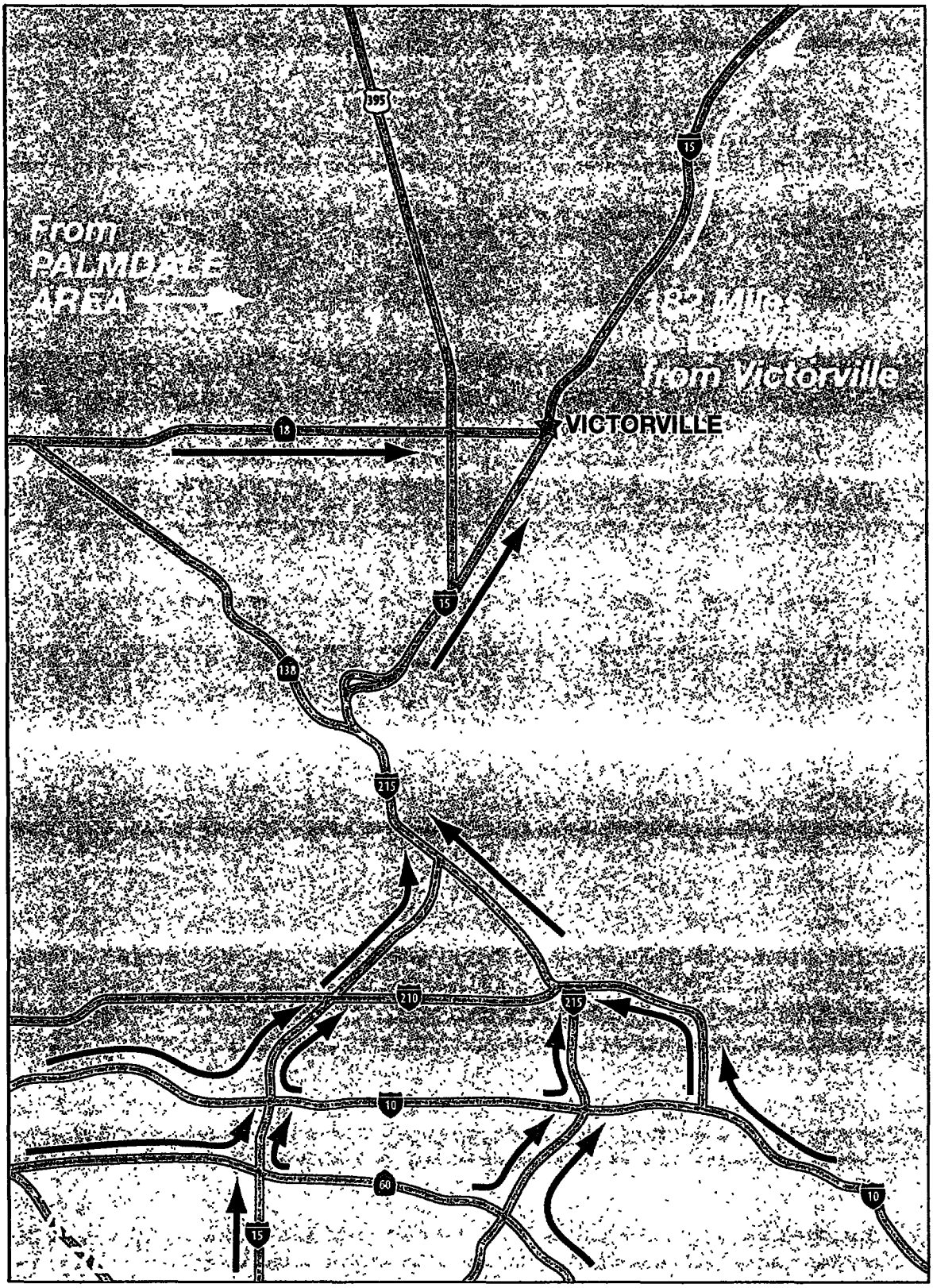
The need for a high-speed rail service stems from several factors: high existing and anticipated increases in travel demand amidst lagging capacity on the I-15 corridor, constraints to the expansion of air travel in Southern California, and frequent accidents in the I-15 corridor. In part, the need this Project will address is the increase in travel demand between southern California and Las Vegas that has placed increasing pressures on the highways and airports serving the region. For motorists traveling to Las Vegas from southern California, the major highway systems, including Interstate 215 (I-215), Interstate 10 (I-10), U.S. Route 395 (U.S. 395), Interstate 210 (I-210)/California State Route 210 (SR 210), and California State Route 138 (SR 138), converge with the I-15 freeway near Victorville. **Figure 2** illustrates this transportation connection. The convergence of major transportation corridors funnels automobiles onto the I-15 freeway corridor, which results in traffic congestion on the I-15 freeway near Victorville and along the I-15 freeway corridor between Victorville and Las Vegas. The number of automobiles traveling on the I-15 corridor between these two locations has been steadily increasing and the projected growth will add more automobiles to the existing roadway system. It is estimated that approximately 75,000 automobiles will use this portion of the I-15 freeway every day in 2015 and up to 100,000 automobiles per day in 2025.[5] Given these vehicle volumes, projections for DesertXpress assuming a Victorville passenger station show an anticipated ridership of over 2.4 million riders during the opening years of operation, increasing to over 6.5 million riders by 2030. Please see Final EIS Sections 1.3.1 and 2.2.2 for further discussion of travel demand and ridership projections.

4.0 Alternatives

4.1 ALTERNATIVES CONSIDERED AND DISMISSED IN THE DRAFT EIS AND SUPPLEMENTAL DRAFT EIS

In the EIS Documents, FRA and the Cooperating Agencies considered alternative rail routing alignments, facilities, and technologies. These alternatives were evaluated against a series of environmental, technical, operational, and financial criteria developed cooperatively between FRA, the Cooperating Agencies, and the Applicant and identified in the EIS Documents. Based on a thorough evaluation against these criteria,

[5] Initial Study/Environmental Assessment, Victorville to Barstow-Add Southbound Mixed-Flow Lane, Caltrans, FHWA, County of San Bernardino, May 2001.



U. S. Department of Transportation
Federal Railroad Administration

DesertXpress Record of Decision

Converging Transportation Corridors Near Victorville

FIG 2

Source. Geografika Consulting, 2011.

FRA and the Cooperating Agencies dismissed from further consideration several alternatives, summarized below.

4.1.1 ALIGNMENT

Several rail alignment segments were considered in the Draft EIS but dismissed from further consideration based on a thorough evaluation of environmental, technical, operational, and financial criteria. These are summarized below.

Between **Victorville and Barstow**, routing options along the existing Burlington Northern Santa Fe (BNSF) railroad were considered but dismissed due to numerous environmental constraints, including potential impacts to environmental justice communities, sensitive biological resources, and historic architectural resources along Historic Route 66.

From **Barstow to Primm**, a routing option following the existing Union Pacific Railroad (UPRR) corridor on new tracks through the Mojave National Preserve was considered but dismissed based on potential effects to sensitive biological resources in the Preserve, the Preserve's status as a Section 4(f) resource and the longer travel time of this route. In addition, the possibility of sharing these tracks was not considered further due to the heavy freight railroad traffic on these tracks, resulting in a substantial impairment to reliable high-speed rail service as well as existing and future freight service.

Between **Mountain Pass and Primm**, a routing option remaining within the I-15 corridor was dismissed due to the existing steep grade of this area and the related adverse effects on rail operations. To create the grade of 4.5% or less in this area, which is required as a technical criteria for the high-speed operations of the Project, extensive grading and/or tunneling would be required, which could disrupt freeway operations during construction and impair an existing hydrological resource, with potential downstream effects.

Within the **urbanized Las Vegas** area, routings outside existing transportation corridors (namely, the I-15 freeway and the UPRR corridor) were considered but dismissed based on extensive areas of existing or planned residential development, which would have required substantial displacements.

4.1.2 FACILITIES

During public review of the Draft EIS, the Clark County Department of Aviation (CCDOA) advised that the Sloan Road Maintenance and Storage Facility (MSF) would result in a conflict with the location of a proposed "super arterial" roadway that would provide future vehicle access to the planned Southern Nevada Supplemental Airport (SNSA) to be located

north of Primm. As described in **Section 2.2.5** of the Supplemental Draft EIS, the Applicant proposed a modified location for the Sloan Road MSF in response to comments on the Draft EIS. The Supplemental Draft EIS evaluated the "Relocated Sloan MSF," replacing the Sloan Road MSF considered in the Draft EIS located approximately two miles further south.

4.1.3 TECHNOLOGY

The Applicant considered various proven train technologies for the DesertXpress Project, and sought particularly to identify a system with proven reliability that could be readily adapted to a desert environment and deliver reliable and rapid performance on the long and relatively steep grades along portions of the route. The Applicant found steel-wheel train systems with distributed propulsion (meaning that most of the passenger cars on the train are powered) to be the only viable technology.

A conventional locomotive-hauled train with non-motorized passenger cars was initially studied by the Applicant, but this technology was eliminated after train simulation models projected unsatisfactory results in performance and reliability on the route's long, steep grades.

The magnetic levitation (maglev) technology option was also considered but rejected because it does not meet the Project's purpose and need and was therefore not a reasonable technology alternative. In part, the Project's purpose and need is to provide a "reliable and safe passenger rail transportation using proven high-speed rail technology." Currently there is no existing high-speed rail train system employing magnetic levitation of the type of intercity service and over a similar distance proposed by the Applicant anywhere in the world, let alone the United States. In addition, designing and constructing such a system would require a substantially different safety regulatory and oversight regime than for existing rail technology as well as the associated change in projected development time. The absence of a high-speed train system demonstrating the technical feasibility of maglev technology and the difference in the safety regulatory approach and Project development creates conflicts with the Project's purpose and need to select a "proven rail" technology. Magnetic levitation technology would also limit the potential for future system expansion and interoperability with other planned rail systems.

In addition, the Applicant determined magnetic levitation technology is too costly for a private company to implement in terms of design, construction, and operations. While there is a possibility that Applicant may pursue a federal loan, the Project remains privately proposed and the range of reasonable action alternatives were informed by those which that the Applicant is willing to construct and operate, taking into account its legitimate business interests.

4.2 ALTERNATIVES CONSIDERED IN THE DRAFT EIS, SUPPLEMENTAL DRAFT EIS, AND FINAL EIS

4.2.1 No Action Alternative

In each of the EIS Documents, FRA and the Cooperating Agencies considered a no-build alternative, which would not provide high-speed passenger rail service between southern California and Las Vegas. Travel demand between the two points would continue to be met by existing modes, including automobile, air, and bus travel. Accordingly, the No Action Alternative is comprised of existing physical characteristics plus planned and programmed (funded) improvements to the freeways and air facility systems serving people traveling between Southern California and Las Vegas. The No Action Alternative assumes the construction and use of several planned and programmed improvements that would increase freeway capacity or otherwise improve freeway operations. Such planned and programmed improvements include I-15 freeway interchange improvements in Victorville and Barstow and several in the Las Vegas areas; widening of the I-15 freeway near Barstow and in Clark County, Nevada. The vast majority of these planned and programmed improvements would occur within or immediately adjacent to the I-15 freeway right-of-way, largely the same physical area in which much of the proposed rail alignment would be constructed and operated. The construction of new freeway lanes would lead to many of the same temporary environmental effects associated with construction of proposed rail alignments, including but not limited to impacts to biological, cultural, and hydrological resources; temporary emissions of localized air pollutants; and other short-term impacts. Operations of such new facilities would result in permanently increased automobile traffic and associated increased levels of noise and air pollutants, permanent impacts to biological, cultural, and hydrological resources, and other effects as described more specifically in **Sections 4.3** and **5.0** below.

4.2.2 Action Alternatives: Rail Alignment Options

For evaluation purposes, the distance between Victorville and Las Vegas was divided into seven segments. For each segment, one or more action alternative alignment routing was considered in addition to the No Action Alternative. The various segments were then grouped into the following general categories:

- **Action Alternative A**: primarily in the I-15 median
- **Action Alternative B**: primarily along the north/west side of the I-15 freeway, within the freeway right-of-way, typically a fenced area.
- **Option C**: other action alternative alignment options

Table 3 summarizes the alignment options considered.

Table 3: Summary of Alignment Routings Considered

Segment	Action Alternative A	Action Alternative B	Option C
1: Victorville to Lenwood	Starting from the Victorville Station, **Segment 1** would run along the west side of the I-15 corridor		NA
2: Lenwood to Yermo	**Segment 2 A/B**, would cross the Mojave River and run through northern Barstow, then **Segment 2A** would continue about 1 mile north of I-15 to Yermo	**Segment 2 A/B**, would cross the Mojave River and run through northern Barstow, then **Segment 2B** would continue about 0.5 mile north of I-15 to Yermo	**Segment 2C**, within the I-15 corridor through Barstow; **side running** and **median** options considered; then same as **Segment 2A** from Old Hwy 58 to Yermo.
3: Yermo to Mountain Pass	**Segment 3A:** Within I-15 median	**Segment 3B:** West of I-15, running alongside freeway, except where modified near Halloran Springs Road	NA
4: Mountain Pass to Primm	**Segment 4A:** 1.55 miles of alignment would divert from I-15 corridor via the Mojave National Preserve, rejoining I-15 corridor near Primm	**Segment 4B:** Through new tunnels northwest of I-15, then overland until rejoining I-15 corridor at Primm	**Segment 4C:** similar to Segment 4B, but avoids planned solar energy projects north and west of Primm
5: Primm to Sloan Road	**Segment 5A:** Within I-15 median	**Segment 5B:** Along east side of I-15	NA
6: Sloan Road to Las Vegas[6]	**Segment 6A:** Within I-15 median	**Segment 6B:** Varying from east to west side of I-15, except for 1.5 miles in an adjacent county transportation corridor	**Segment 6C:** Along UPRR Corridor, on new tracks, separate from existing railroad
7: To Downtown Las Vegas Station	**Segment 7A:** Within I-15 median	**Segment 7B:** West side of I-15	**Segment 7C:** UPRR Corridor, on new tracks, separate from existing railroad

Source: CirclePoint, 2009-2011.

4.2.3 Action Alternatives: Facilities

Built facilities evaluated included passenger stations and operations and maintenance-related facilities. The following action alternatives were considered, along with the No Action Alternative.

- **Victorville passenger station:** Three site options on the west side of the I-15 freeway corridor between Stoddard Wells Road and Dale Evans Parkway.

[6] Option C cannot terminate at the Southern Station but could connect to the other three station site options.

Victorville Station Sites 1, 2, and 3 (VV1, VV2, and VV3). For VV3, two site layouts were evaluated (**VV3A** and **VV3B**), differing mainly in the location of surface parking lots.

- **Victorville Operations, Maintenance, and Storage Facility (OMSF):** Two site options (**OMSF 1** and **OMSF 2**), in close proximity to the Victorville station site options on the west side of the I-15 freeway.
- **Baker Maintenance of Way (MOW) facility:** One site option adjacent to the I-15 freeway near the community of Baker.
- **Las Vegas area Maintenance and Storage Facility (MSF):** Four site options: Sloan Road MSF, Relocated Sloan Road MSF, Wigwam Avenue MSF, and Robindale Avenue MSF.
- **Frias Substation:** To provide electrical power in the Las Vegas area for train operations.
- **Las Vegas area passenger station:** Four site options in Clark County/City of Las Vegas (Southern Station, Central Station A, Central Station B, and Downtown Station).

In addition to these permanent facilities, 29 sites for Temporary Construction Areas (TCAs) were considered. Several of these sites would be located within permanent facility areas, such as OMSF and station sites. TCA sites range in size from less than 1 acre to about 15 acres, excepting the larger TCA sites that would be located at permanent facility locations. Every OMSF and Station site evaluated was secondarily considered a TCA with the caveat that only the OMSF and Station sites included in the Selected Alternative would ultimately be used for temporary construction purposes. Other sites would be outside permanent facilities but would be occupied only for the duration of rail construction, estimated to be approximately 3 years. Several of the TCA sites could serve any of the proposed rail alignments for a given area; several, however, were unique to specific alignments. For example, Segment 4C diverges substantially from the other Segment 4 rail alignments; accordingly, TCAs unique to Segment 4C were proposed. Accordingly, the Selected Alternative incorporates 16 of the 29 TCAs considered.

4.2.4 Action Alternatives: Technology Options

Two locomotive technologies were evaluated to serve the action alternative alignment and facilities options: DEMU and EMU. The two technologies have similar ROW width requirements and largely the same construction footprint. However, the EMU option has the following added features, all of which have been considered.

- Overhead catenary wires and supports located along the length of the rail alignment.
- Three electrical substations, co-located on maintenance facility sites except for the proposed Frias Substation near Las Vegas.
- Three electrical utility connection corridors between existing power sources and the proposed three electrical substations.
- About 17 transformers located along the rail corridor at about 10 mile intervals.

4.3 SELECTED ALTERNATIVE

The Selected Alternative is the alternative which the FRA finds would most closely align with FRA's statutory mission and responsibilities, giving consideration to economic, environmental, technical and other factors. The Selected Alternative is the same as the Preferred Alternative as identified in the Final EIS.

FRA as Lead Agency consulted with the Cooperating Agencies (FHWA, BLM, NPS, and OEA) and considered the Draft EIS, including the analysis of the No Action Alternative, all action alternatives, and all Project modifications and additions presented in the Supplemental Draft EIS, as well as all public and agency comments received during the review periods for the EIS Documents in identifying the Selected Alternative. The cooperating agencies will issue their own decision documents, as appropriate, consistent with their statutory and regulatory responsibilities.

As further articulated in detail below, the FRA did not identify the No Action Alternative as the Selected Alternative because it would not meet the purpose and need and it would not produce the benefits that would only occur as a result of constructing and operating an action alternative and the associated reduction in automobile traffic from I-15, including reduced traffic congestion, improved air quality, and reduced energy consumption. The No Action Alternative is discussed in each part of the discussion below. FRA concluded that the beneficial effects of any of the Action Alternatives (including reduced traffic, improved air quality, and more efficient use of energy, among others) outweighed the adverse effects associated with constructing the rail line and the passenger stations and maintenance facilities in Victorville and Las Vegas.

The Selected Alternative is composed of certain rail alignments, facilities, and a propulsion technology option, all of which are listed below. Following is a discussion of the reasoning for selections by Project element.

- **Alignments**
  - Segment 1
  - Segment 2C Side Running
  - Segment 3B (Modified)

- Segment 4A, if legislative action allows; otherwise Segment 4C
- Segment 5B
- Segment 6B

- **Facilities**
  - **Victorville Station:** VV3B
  - **Las Vegas Station:** Las Vegas Central Station B or Las Vegas Southern Station
  - **Victorville OMSF:** OMSF 2
  - **Las Vegas MSF:** Wigwam Avenue MSF
  - **Las Vegas Substation:** Frias Substation
- **Technology**
  - **EMU:** Electric Multiple Unit

Segment 1

The alternatives evaluated for this segment were the Action Alternative (Segment 1 rail alignment) and the No Action Alternative. As discussed in **Section 4.1.1** above, other alignments from Victorville to Barstow were considered and ultimately rejected from further analysis based on feasibility constraints and possible substantially adverse environmental impacts.

The No Action Alternative is comprised of intersection improvements in the Victorville area that are proposed to improve operations of the I-15 freeway at the local level and the introduction of the High Desert Corridor roadway project, which would ultimately link the Victorville and Palmdale areas, providing enhanced regional mobility. The construction and operation of these facilities would likely result in temporary and permanent physical environmental effects associated with new or expanded freeway facilities. These effects include but are not limited to increased levels of air pollutants and ground disturbance that would likely result in adverse impacts to adjacent biological, cultural, and/or hydrological resources. For Segment 1, the No Action Alternative would result in worsened traffic, air quality, and energy impacts relative to the Preferred/Selected Alternative.

Taking all of the above into consideration, FRA chose the Segment 1 rail alignment action alternative as the Selected Alternative, owing to superior environmental effects in terms of air quality, energy, and traffic.

Segment 2: 2C Side Running

The Alternatives evaluated for Segment 2 were Segment 2A/2B, Segment 2C Median, Segment 2C Side Running, and the No Action Alternative.

The No Action Alternative consists of widening a 1-mile portion of I-15 to 6 lanes and reconstructing an I-15 interchange in Barstow. Although not immediately in Segment 2, the High Desert Corridor project (linking Victorville to Palmdale) would likely contribute to increased levels of traffic on the I-15 corridor beyond Victorville, and by extension, between Victorville and Las Vegas.

The City of Barstow has stated to FRA that it is heavily reliant upon visitor-serving commerce (retail outlets, eating and drinking places, and gas stations) for tax revenues. The No Action Alternative is assumed to result in no immediate or direct downward effect on automobile travel between Southern California and Las Vegas; accordingly, the No Action Alternative is projected to have less of a downward economic growth effect on the City of Barstow than any of the Action Alternatives.

Segment 2C, including both the Side Running and Median options, were proposed in direct response to comments/concerns from officials from the City of Barstow with regard to Segment 2A/2B. In April 2009, the City of Barstow submitted numerous comments on the Draft EIS; one specific comment requested that Segment 2 be moved to the I-15 freeway corridor so as to avoid potential impacts to a proposed industrial park in the Lenwood area. The Segment 2C Side Running rail alignment would run within the I-15 freeway corridor and accordingly would avoid any potential for the cited land use conflicts in Lenwood. In its comment on the Draft EIS and in subsequent correspondence, the City of Barstow stated that this land use conflict would discourage development of the proposed industrial park, thereby adversely affecting the tax revenue stream the City anticipates from the possible future development of this area.

Relative to Segment 2A/2B, the Segment 2C Side Running alignment would have fewer adverse land use effects, would avoid impacts to farmland and grazing lands, would affect fewer sensitive cultural resources, would affect fewer linear feet of surface water resources, would have lesser visual quality impacts, and would result in less adverse impacts to sensitive biological resources, including plant and wildlife species/habitat areas. In addition, Segment 2C (Side Running or Median) would allow for a more direct route of travel relative to Segment 2A and Segment 2B, remaining within the I-15 freeway right-of-way, whereas Segments 2A and 2B would have utilized lands not in a current transportation use. In terms of noise, Segment 2C Side Running would have similar or lesser noise effects than Segment 2A/2B, but would result in more severe noise impacts than Segment 2C Median, owing to the side-running alignment's closer proximity to sensitive receptors.

Taking all of the above into consideration, FRA chose Segment 2C Side Running as part of the Selected Alternative. Segment 2C Side Running (similar to all other action alternatives) would lead to the beneficial environmental effects associated with lower levels of traffic, including reduced air pollutant emissions and more efficient use of energy

resources. In addition, Segment 2C Side Running would also have the advantage of fostering beneficial economic growth. Direct and indirect benefits from construction of the rail line would likely accrue to the City of Barstow and the region during the years of anticipated construction. The No Action Alternative has lesser adverse economic growth impacts to the City of Barstow, but FRA believes that the beneficial effects of the Project as a whole would also benefit residents of Barstow. Segment 2C Side Running was also found to be preferable to Segment 2C Median, as constructing the train in the median would be more costly, more difficult to construct and maintain, and would pose more highway and rail operational and safety concerns than the side-running option. The Segment 2C Side Running option would also ultimately be more harmonious with proposed widening of I-15 travel lanes in Barstow.

Segment 3: 3B (Modified)

The Alternatives evaluated for Segment 3 were Segment 3A, Segment 3B, Segment 3B (Modified), and the No Action Alternative.

An approximately 10 mile portion of Segment 3B as examined in the Supplemental Draft EIS was further modified in the Halloran Springs area to reduce impacts to sensitive resources in the area and incorporated into the Preferred Alternative identified in the Final EIS. This modification, Segment 3B (Modified) involves rerouting the rail line from the north side of the freeway right-of-way to the south side of the freeway right-of-way and was evaluated in detail in the Final EIS.

The No Action Alternative does not include any proximate programmed transportation system improvements. In much of the I-15 corridor for the extent of the Segment 3 area, the freeway offers just two travel lanes in each direction, although work has been completed on the addition of programmed truck climbing lanes on steep grades, in particular on eastbound I-15 east of Baker towards Halloran Summit. There are no planned but unfunded improvements for this corridor identified in long-range planning documents. While there are no planned or programmed capacity improvements specific to this Segment, the I-15 freeway through this area is part of a larger system influenced by changes made in offsite locations. The No Action Alternative would result in increased traffic over either of the Action Alternatives, as traffic levels are expected to continue to increase without the introduction of passenger rail service. Along these lines, the No Action Alternative would also result in worsened air quality and a less efficient use of energy resources.

In regard to the Action Alternative rail alignments, Segments 3B (Modified) and 3A would result in essentially similar potential environmental effects in the areas of land use, growth, farmlands and grazing lands, utilities and emergency services, traffic, visual resources, geology and soils, hazardous materials, air quality, and energy resources.

For the following environmental topic areas, Segments 3B (Modified) and 3A differ in potential effects relative to cultural resources, hydrology and water resources, and biological resources, as described below.

Compared to Segment 3A, Segment 3B (Modified) has somewhat greater potential to affect archaeological resources eligible or assumed eligible for listing in the National Register. This is due largely to the disturbed nature of the freeway median in which Segment 3A would have been constructed. Freeway construction either removed or severely damaged archaeological resources in what is now the freeway median. The vast majority of Segment 3 traverses non-urbanized areas; consequently, lands adjacent to the freeway, such as in the area proposed for Segment 3B (Modified), are somewhat more likely to yield intact resources than freeway median areas. However, Segment 3B has been designed to avoid both direct and indirect effects on sensitive cultural resources identified in Segment 3, which meet criteria for Section 4(f) protection.

Segment 3B (Modified) would affect more linear feet of water resources than Segment 3A. This is due in part to the location of Segment 3B at lesser distances from such resources. While Segment 3A would be bounded on both sides by freeway lanes, Segment 3B (Modified) would have freeway lanes only to one side, allowing for greater proximity to existing water resources. In addition, Segment 3B (Modified) would impact 2.7 acres of the 100-year floodplain, relative to zero acres for Segment 3A.

While some effects are similar between Segments 3B (Modified) and 3A (including the extent to which the Project imposes a barrier to wildlife movement), Segment 3B (Modified) would result in a greater extent/degree of biological resource impacts for many types of resources. This is the result of Segment 3B's closer proximity to substantial resource areas outside freeway right-of-way as well as the degraded/limited nature of resources within freeway right-of-way.

Constructing Segment 3A in the median would be more costly, more difficult to construct and maintain, and would pose more highway and rail operational, safety, and maintenance concerns than Segment 3B (Modified). In addition, Segment 3B (Modified) was selected because it would be located immediately adjacent to the I-15 freeway, would better allow for possible future widening and improvement activities on I-15 relative to Segment 3A, and reduces impacts to known sensitive resources.

Taking all of the above into account, FRA chose Segment 3B (Modified) as part of the Selected Alternative, acknowledging that the benefits of Segment 3B(Modified) outweigh the impacts relative to Segment 3A in terms of biological, cultural, and hydrological resources. FRA has also identified mitigation measures to address and minimize the potential adverse impacts of Segment 3A.

Segment 4: 4A, if legislative action allows; otherwise 4C

The Alternatives evaluated for Segment 4 were Segment 4A, Segment 4B, Segment 4C, and the No Action Alternative.

The No Action Alternative does not include any proximate programmed capacity expansion improvements. A new I-15 Joint Point of Entry is to be constructed between Nipton Road and Yates Well Road, replacing the existing agricultural inspection facility near Yermo. Otherwise, there are no planned or programmed improvement or expansion projects contemplated for the I-15 corridor between Mountain Pass and the California/ Nevada state line.[7] Accordingly, effects associated with the construction/expansion of freeway facilities would not be expected to occur in this vicinity.

In much of the I-15 corridor for the extent of the Segment 4 area, the freeway offers just two travel lanes in each direction. There are no programmed or planned capacity-enhancement improvements for this corridor in any long-range planning document. The I-15 freeway through this area is nonetheless part of a larger system influenced by changes made in offsite locations. Proposed freeway expansions on I-15 in Nevada (see the discussion of Segment 5 below) could have effects on portions of Segment 4. With no planned or programmed capacity improvements for this area, the No Action Alternative would result in increased traffic over any of the Action Alternatives, as traffic levels are expected to continue to increase without the introduction of passenger rail service. The No Action Alternative would also result in worsened air quality and the less efficient use of energy resources.

For several environmental topic areas, the three Action Alternatives would result in similar potential environmental effects. These topic areas include growth, utilities and service systems, transportation, geology, hazardous materials, air quality, noise and vibration, and energy.

The three Segment 4 Action Alternatives differ in terms of the potential effects relative to land use and community impacts, farmlands and grazing lands, visual resources, cultural resources, hydrology and water resources, and biological resources, as described below.

Segment 4C was developed specifically to avoid the Preserve, the Ivanpah Desert Wildlife Management Area (DWMA), and the planned solar power energy project. A 1.55 mile portion of Segment 4A would traverse the Mojave National Preserve near Nipton Road as well as a portion of the nearby Ivanpah DWMA. Segment 4B would avoid the Preserve

[7] Segment 4C extends into the State Nevada for about 2 miles, the remainder of the 14 to 20 mile length of the Segment 4 action alternatives would be in the State of California. For this reason, roadway improvements to the I-15 corridor in Nevada are considered as part of the No Action Alternative for Segment 5.

and the DWMA, but would create adirect conflict with a planned solar power project located to the west of Ivanpah Dry Lake that could not be mitigated.

The Segment 4C rail alignment is the longest route of the Segment 4 rail alignment options. At 20 miles, Segment 4C is about 6 miles longer than Segment 4A. Segment 4C diverges substantially from the existing I-15 freeway right-of-way and is less compatible with the undisturbed, natural land uses. In a contrast, except the portion that would encroach into the Mojave National Preserve, Segment 4A would be primarily located within the existing I-15 freeway right-of-way, which is disturbed by the existing transportation corridor and has more compatible land uses.

Both Segment 4B and 4C pass through a large grazing allotment located to the north of I-15. This allotment includes lands managed by the BLM as well as portions of the Clark Mountain Unit of the Mojave National Preserve. The NPS advised FRA that water sources within this grazing allotment as a whole are largely concentrated within lands of the Clark Mountain Unit. The introduction of a rail line into this allotment would result in potential severance effects; given the known location of water sources, the NPS indicated that the rail line would also have the effect of intensifying cattle usage/grazing activities within the Clark Mountain Unit. Segment 4A avoids this area and therefore has substantially fewer potential impacts to Farmlands and Grazing.

Segment 4C and Segment 4B each traverse currently undeveloped areas, resulting in a more substantial overall visual change. Except for the 1.55 mile portion of Segment 4A that would traverse the Preserve, Segment 4A otherwise most closely adheres to the visually disturbed I-15 corridor area.

Compared to Segments 4A and 4B, Segment 4C has somewhat greater potential to affect archaeological resources eligible or assumed eligible for listing in the National Register. This is due in part to the fact that Segment 4C would diverge the furthest from the freeway of all alignment options considered. Segments 4A and 4B are closer to the freeway corridor and freeway adjacent areas that have seen a somewhat greater level of disturbance than the lands identified for Segment 4C. Because Segment 4C is longer than the other segments and traverses lands less likely to have been disturbed, Segment 4C is more likely to involve intact cultural resources than the other segments.

Segment 4C involves substantially greater impact to water resources, as measured in linear feet, relative to the other routing options. This is a function of the location of Segment 4C closer to water resources as well as its longer length. Segment 4C involves a higher number of stream crossings than either Segment 4A or 4B. Similarly, Segment 4C may impact more sensitive plant and desert tortoise habitat than either of the other routing options.

While Segment 4C would avoid the Ivanpah DWMA, Segment 4C would nonetheless result in adverse effects to desert tortoise habitat north of the I-15 freeway. However, legislative action is required to grant a ROW through the Mojave National Preserve to implement Segment 4A. As of June 2011, no legislation is pending that would facilitate any such grant.

Stakeholder agencies in the area have recommended selection of Segment 4A over Segment 4C. In a February 2011 letter to FRA, the NPS acknowledged the lack of legislative authority at present to grant such a ROW, but indicated the NPS's preference for Segment 4A because the vicinity of Segment 4A would adhere more closely to the I-15 corridor than Segment 4C and would traverse lands that have been largely disturbed, unlike portions of Segment 4C. In addition, in its April 2011 BO, the USFWS recommended that FRA select Segment 4A over Segment 4C, citing that Segment 4A would result in far fewer impacts to desert tortoise and would result in less fragmentation/disturbance of desert tortoise habitat relative to Segment 4C. Segment 4B was not chosen as part of the Selected Alternative because of the insurmountable conflict of this alternative with a solar energy project.

Segment 4A has several environmental advantages over Segment 4C, and as such, Segment 4A is selected by the FRA as the superior alignment alternative in consideration of the economic, environmental, and technical factors used to identify the Selected Alternative. However, since Segment 4A cannot be implemented at present due to a lack legislative authorization, FRA also included the Segment 4C rail alignment as part of the Selected Alternative, as a contingency. In making this selection, FRA considered the adverse effects of Segment 4C (including biological, cultural, and hydrological resources impacts) and adopted mitigation to address these impacts.

Segment 5: 5B

The Alternatives evaluated for Segment 5 were Segment 5A, Segment 5B, and the No Action Alternative.

In terms of the No Action Alternative, several transportation system improvements are programmed or planned for the area between Primm and Sloan. Programmed improvements include a new interchange at mile 3 of I-15, intended to serve the SNSA, even though planning efforts for the SNSA were halted in 2010. A planned but unfunded improvement would widen I-15 from six lanes to eight lanes between the California State line and Sloan Road.

The construction and operation of these roadway system improvements would likely result in temporary and permanent physical environmental effects associated with new or expanded freeway facilities. Ground disturbance within the I-15 corridor associated with the expansion of freeway lanes would have many similar effects to biological, cultural, and

hydrological resources as those associated with constructing a rail alignment in the same general location.

For several environmental topic areas, Segment 5B and 5A would result in generally similar potential environmental effects. These topic areas include land use, growth, farmlands/grazing lands, utilities and service systems, transportation, visual resources, geology, hazardous materials, air quality, noise and vibration, and energy.

The Segment 5 alignment routing options differ in terms of potential effects relative to cultural resources, hydrology, and biological resources, as described below. Compared to Segment 5A, Segment 5B has somewhat greater potential to affect archaeological resources eligible or assumed eligible for listing in the National Register. This is due largely to the disturbed nature of the freeway median in which Segment 5A would be constructed. Freeway construction has been found to have either removed or damaged archaeological resources in what is now the freeway median. The vast majority of Segment 5 traverses non-urbanized areas; consequently, lands adjacent to the freeway, such as in the area proposed for Segment 5B, are somewhat more likely to yield intact resources than freeway median areas.

In terms of hydrology, the two alignment routings are generally similar, but Segment 5B would impact about 1 acre of the 100-year flood plain, whereas Segment 5A would involve no use of the 100-year flood plain.

Owing to its distance from the freeway and thus closer proximity to relatively undisturbed lands, Segment 5B would result in more substantial impacts to biological resources (in particular, desert tortoise habitat) than Segment 5A. Other notable biological resource effects are similar, including the extent to which the Project would impose a barrier to wildlife movement.

Constructing Segment 5A in the median would be more costly, more difficult to construct and maintain, and was determined by the FHWA and the Nevada Department of Transportation (NDOT) to pose more highway and rail operational concerns than Segment 5B. The Segment 5B rail alignment would be on the outside edge of the I-15 freeway right-of-way, more readily accommodating of the anticipated future widening of the I-15 freeway.

Taking all of the above considerations into account, FRA chose Segment 5B for the Selected Alternative, acknowledging that the potential adverse effects associated with Segment 5B are outweighed by the substantial feasibility, operations, maintenance, and safety concerns of Segment 5A. FRA has also identified mitigation measures to address and minimize the potential adverse impacts of Segment 5B.

Segment 6: 6B

The Alternatives evaluated for Segment 6 were Segment 6A, Segment 6B, Segment 6C, and the No Action Alternative.

In terms of the No Action Alternative, NDOT has programmed or planned numerous capacity expansion/system enhancement projects for the I-15 corridor between Sloan and metropolitan Las Vegas. These improvements include widening the I-15 corridor from 6 to 10 lanes between Sloan Road and Blue Diamond Road, several new or reconstructed interchanges, and improvements to adjacent roadways. Between I-215 and I-515 to the north (near downtown Las Vegas), NDOT has programmed widening the I-15 freeway from 10 to 14 lanes. These improvements, albeit considerable, would primarily serve existing and anticipated future traffic needs in the metropolitan Las Vegas area. These improvements would not expand freeway capacity outside the metropolitan area and thus would have marginal benefit to traffic on the larger I-15 corridor towards southern California.

The construction and operation of these roadway system improvements would likely result in temporary and permanent physical environmental effects associated with new or expanded freeway facilities. These effects include but are not limited to increased levels of air pollutants and adverse impacts to any adjacent or proximate biological, cultural, and/or hydrological resources. When in operation, these improvements are expected to lead to additional automobile traffic, which would result in related increased air pollutant emissions and continued inefficient use of energy resources.

For several environmental topic areas, the three Segment 6 Action Alternative routing options would result in generally similar potential environmental effects. These topic areas include growth, farmlands/grazing lands, utilities and service systems, transportation, visual resources, geology, hazardous materials, air quality, and energy.

The Segment 6 routing options differ in terms of potential effects relative to land use, cultural resources, hydrology and water resources, noise and vibration, and biological resources, as described below.

Near McCarran International Airport, the alignment options differ in terms of potential effect relative to preserving adequate clearance under "one engine inoperative" (OEI) conditions associated with aircraft on takeoff. Segment 6A would be the closest of the three rail alignments to the runway and would result in the most substantial impact relative to OEI. Segment 6B is further west of the airport than Segment 6A, resulting in less intrusion into the OEI area compared to Segment 6A. Given its substantial distance from the airport, Segment 6C was found to be outside the OEI area of concern; however, the Union Pacific Railroad, which owns the corridor in which Segment 6C is proposed,

advised FRA that it would not allow the construction of additional tracks for DesertXpress in its corridor. This represents a substantial land use conflict for Segment 6C.

Much of Segment 6 is in the developed metropolitan Las Vegas area. Segments 6A and 6B traverse the core of metropolitan Las Vegas; extensive development throughout this area has resulted in substantial disturbance and consequentially, FRA found relatively few intact cultural resources eligible or assumed eligible for listing in the National Register. Freeway construction and freeway adjacent development has been found to have either removed or damaged archaeological resources. On the other hand, Segment 6C would follow the Union Pacific Railroad corridor from Sloan toward central Las Vegas, following a somewhat less developed route. Accordingly, Segment 6C has the greatest potential to result in effects to cultural resources owing to the relatively less disturbed nature of the Union Pacific Railroad corridor, particularly near Sloan.

Segment 6B would affect more linear feet of water resources (about 3,900 feet) than Segment 6A (zero feet) or Segment 6C (77 feet). Segment 6B would have freeway lanes only to one side, allowing for greater proximity to existing water resources than Segment 6A, which would be bounded on both sides by freeway lanes. In addition, Segment 6B would utilize more acreage of the 100-year floodplain than either Segment 6A or 6C.

Segment 6B would have fewer impacts and severe noise and vibration impacts on sensitive receptors compared to Segment 6A. While Segment 6B would have impacts to sensitive receptors to the west of the I-15 corridor, Segment 6A (median) would have impacts to sensitive receptors on both the west and east sides of the I-15 corridor. Segment 6C would result in no noise or vibration impacts; it would traverse an existing rail corridor that does not include a substantial number of nearby sensitive receptors.

Owing to greater distance from the freeway and thus closer proximity to relatively undisturbed lands, Segments 6B and 6C would result in more substantial impacts to biological resources (in particular, desert tortoise habitat) than Segment 6A. Other biological resource effects are generally similar, including the extent to which the Project would impose a barrier to wildlife movement.

Taking all of the above into account, FRA chose Segment 6B for the Selected Alternative. FRA acknowledges that the adverse effects identified for Segment 6B are outweighed by other factors, including the infeasibility of constructing Segment 6C in the Union Pacific right-of-way, the substantial feasibility and safety concerns of constructing and operating

Segment 6A in the median.[8] FRA has also identified mitigation measures to address and minimize the potential adverse impacts of Segment 6B.

4.3.1 FACILITIES

As part of composing a complete Selected Alternative, FRA identified facilities needed for rail construction and operation.

Victorville Station and Maintenance Facility Site Options - Victorville Station Site 3B and OMSF2

FRA and the Cooperating Agencies evaluated a total of 4 Victorville Station site options (VV1, VV2, VV3A, and VV3B) and two Victorville maintenance facilities (OMSF 1 and OMSF 2).

FRA and the Cooperating Agencies also considered the No Action Alternative, which would not construct a new high-speed rail passenger station and a new ancillary maintenance facility in Victorville. Freeway system improvements would be constructed as discussed above with regard to Segment 1. The No Action Alternative would result in ongoing expanded use of the I-15 freeway corridor with no reduction in traffic associated with the introduction of high-speed passenger rail service. The No Action Alternative would entail few if any of the physical environmental impacts associated with any of the action alternatives, as transportation demand in the I-15 corridor would continue to be served by existing modes (auto, bus, airplane) with no foreseeable need to construct transportation-related facilities in the Victorville area. However, the No Action Alternative would result in increased traffic over either of the Action Alternatives, as traffic levels are expected to continue to increase without the introduction of passenger rail service. Along these lines, the No Action Alternative would also result in worsened air quality and a less efficient use of energy resources.

Given the proximity of the Victorville station and maintenance facility site options, the action alternatives would result in generally similar environmental effects for most topics considered. Areas in which the action alternatives would result in substantially different effects are summarized below.

Passenger traffic associated with VV3 (both A and B) and VV2 would result in local intersection impacts that can be adequately mitigated. Expected passenger traffic associated with VV1 would result in local intersection impacts that cannot be adequately avoided or lessened with mitigation measures.

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[8] As further articulated below, the Southern and Central B Stations were included in the Selected Alternative. Consequently, the rail alignment would terminate with Segment 6. Therefore, the Selected Alternative does not include any Segment 7 rail alignment.

Relative to other action alternatives, VV3 (both A and B) and OMSF2 would result in substantially greater impacts in terms of linear feet of affected water resources and alteration of existing drainage patterns. This is because these sites are located over an existing natural wash.

Relative to the other site options considered, VV3 (A or B) and OMSF 2 would impact a greater total acreage of desert tortoise habitat, related in part to the larger size of VV3 (A or B) and the presence of the aforementioned wash within the facility footprints.

FRA thus ultimately chose VV3B for the Selected Alternative due to the reduced traffic impacts at local intersections and cumulative effects compared to VV1 and VV2. Furthermore, VV3B was selected because it avoids locating the parking areas and structures beneath the LADWP electric utility corridor, as associated with VV3A.

In selecting VV3B for the Victorville Station, FRA also opted for its paired, immediately adjacent maintenance facility site option, OMSF2. OMSF 1 was rejected due to its 6-mile distance from VV3B to allow for a greater efficiency of land use and more efficient rail operations. An additional benefit of the selection of VV3B is that it is the closest of the three station options to the City of Barstow, and accordingly, residents of both the City of Victorville and the City of Barstow would be realistic candidates for operational period jobs at the station and/or the maintenance facility.

Las Vegas Station and Maintenance Facilities – Southern Station or Central Station B; Wigwam Avenue MSF, and Frias Substation

FRA and the Cooperating Agencies evaluated a total of four Las Vegas area station site options (Southern, Central A, Central B, and Downtown); four maintenance facility sites (Sloan Road, Relocated Sloan Road, Wigwam Avenue, and Robindale Avenue); and a substation site (Frias Substation). Two of the maintenance facility sites (Sloan Road and Relocated Sloan Road) included substations and associated electrical utility corridors needed to deliver electrical power to the Project from the existing energy network in the event the EMU technology option was selected. The Wigwam Avenue and Robindale Avenue facility sites did not include substations or electrical utility corridors. Accordingly, a stand-alone substation site (Frias Substation) was also evaluated so that either the Wigwam Avenue or Robindale Avenue sites could be selected in the event the EMU technology was also selected.

Following publication of the Draft EIS, the Sloan Road site was found to be incompatible with proposed roadway improvements associated with the planned Southern Nevada Supplemental Airport (SNSA). Owing to this conflict, FHWA and NDOT requested that the facility site be relocated. To this end, the Applicant identified a new site for the facility (Relocated Sloan Road MSF); the new site was evaluated in the Supplemental Draft EIS.

Because of the conflict with the planned roadway improvements associated with the SNSA, FRA rejected the Sloan Road site from consideration as part of the Selected Alternative.

For these and all built facilities, FRA and the Cooperating Agencies also considered the No Action Alternative, which would not construct a new high-speed rail passenger station and new ancillary maintenance facilities in Las Vegas. In the area proposed for these built facilities, freeway system improvements would be constructed as discussed above with regard to Segment 6. The No Action Alternative would result in ongoing expanded use of the I-15 freeway corridor with no reduction in traffic associated with the introduction of high-speed passenger rail service. The No Action Alternative would entail few if any of the physical environmental impacts associated with any of the action alternatives, as transportation demand in the I-15 corridor would continue to be served by existing modes (auto, bus, airplane), taking into consideration planned expansions and improvements. However, the No Action Alternative would result in increased traffic over either of the Action Alternatives, as traffic levels are expected to continue to increase without the introduction of passenger rail service. Along these lines, the No Action Alternative would also result in worsened air quality and a less efficient use of energy resources.

As noted in the Final EIS, the environmental effects associated with the station sites are generally similar with a few notable differences, further discussed below.

The Southern Station is in close proximity to the southern end of the Las Vegas Strip as well as McCarran International Airport. The Southern Station site is undeveloped and would not require displacement or demolition of any existing development. There is also no residential development in proximity to the Southern Station. The Southern Station would also result in an overall shorter alignment length of about 2 to 6 miles when compared to the Central A/B or Downtown station sites. As most of Segment 6B through metropolitan Las Vegas would be placed on elevated structures within or immediately adjacent to the I-15 corridor, the Southern Station would avoid the need to construct a substantial amount of elevated trackway that would be needed to access the Central or Downtown station sites.

The Central A and B stations are also proximate to the visitor-serving attractions of the Las Vegas Strip. The Central B station would require the displacement of existing industrial businesses and is near residential development; an apartment complex lies immediately across the Union Pacific Railroad tracks adjacent to the Central B site. Central A and B require a smaller facility footprint than the Southern Station and would produce less stormwater runoff.

The Downtown Station would require the longest track length of all the station sites considered and would terminate the train the furthest from the visitor-serving attractions of the Las Vegas Strip.

FRA included the Las Vegas Southern Station as well as the Central Station B site as part of the Selected Alternative. While the environmental effects of both station sites were fully analyzed, FRA opted to allow for flexibility in the design-build process while simultaneously addressing the assumed lower cost to construct at the Southern Station site (due to lower overall track mileage).

FRA then selected the Wigwam Avenue MSF as the Las Vegas area maintenance facility site. The Wigwam Avenue MSF site option was selected because it would result in fewer impacts to sensitive biological resources compared to the Relocated Sloan Road MSF and Robindale Avenue MSF site options.

As the Wigwam Avenue MSF would not include a substation or utility corridor on site, the Frias Substation would be required in addition to this MSF to provide electricity to the rail alignment. The Frias Substation would be located west of the I-15 freeway at the intersection of West Frias Avenue and South Dean Martin Drive. The Frias Substation is located immediately adjacent to an existing electrical transmission line.

Because FRA selected action alternatives for the rail alignment and the built facilities, the Selected Alternative also incorporates associated Temporary Construction Areas (TCAs). TCA sites were identified specific to various rail segments and/or facilities. In identifying specific rail segments and facilities, FRA included associated TCAs as part of the Selected Alternative. The rail segments and facilities associated with the Selected Alternative entail the need for a total of 16 TCAs, a subset of the 29 evaluated. Several TCA sites are co-located on the sites of permanent facilities.

4.3.2 TECHNOLOGY

FRA and the Cooperating Agencies considered the EMU and DEMU technology options as the two proven train technologies, having rejected other technologies as cost-prohibitive for a private project or unsuitable to provide reliable high-speed service given the terrain. The No Action Alternative was also considered, consisting of all planned and programmed transportation system improvements as identified in Final EIS **Section 2.3.1.1**.

Both the DEMU and EMU options would result in beneficial effects relative to the No Action Alternative. The use of either technology option would reduce the number of automobiles on I-15, improving traffic conditions, reducing auto-related air pollution, and resulting in a more efficient use of energy resources. The No Action Alternative would perpetuate the existing transportation system and not provide any new alternative that could reduce auto travel between Southern California and Las Vegas.

Relative to the DEMU technology, the EMU technology would result in faster top and average train speeds, which would reduce overall travel time and would thus be expected to have a positive effect on projected ridership. The EMU trainsets also serve larger passenger capacities than the DEMU trains, further enhancing ridership and contributing

to a further reduction in freeway vehicle miles traveled. The EMU's greater reduction in freeway vehicle miles traveled relative to the DEMU allows for related improvements in terms of energy consumption and air pollutant emissions. However, the EMU option requires additional facilities not necessary with the DEMU option. These include utility corridors linking Project facilities to external sources of electricity, the catenary system needed to provide continuous electric power to the trains along the entire route, a total of 17 autotransformers located at intervals immediately adjacent to the alignment, and a free-standing electrical substation in the Las Vegas area (at Frias Avenue). The additional facilities and catenary system would result in the EMU option having greater visual effects than the EMU option.

Considering the EMU would result in greater ridership, an estimated 1.4 million more riders than the DEMU option by 2030, and have the greatest potential benefit in terms of air quality and energy, which would outweigh the greater visual effects of the EMU, FRA chose the EMU over the DEMU for the Selected Alternative.

4.4 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Council on Environmental Quality (CEQ) regulations implementing NEPA require that a ROD specify the alternative or alternatives considered to be environmentally preferable.[9] "Environmentally preferable" is defined as "the alternative that will promote the national environmental policy as expressed in the NEPA, Section 101."[10] Ordinarily this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.

FRA, FHWA, BLM, NPS and OEA identified an environmentally preferable alternative in Chapter 2.5 of the FEIS.

In determining an environmentally preferable alternative, FRA and the Cooperating Agencies considered all action alternatives as well as the No Action Alternative. FRA and the Cooperating Agencies weighed and balanced the physical environmental effects associated with the action alternatives as well as those associated with the No Action Alternative. FRA determined that the adverse environmental effects associated with the Selected Action Alternative were less substantial than the consequences associated with the No Action Alternative in terms of air quality, energy, and traffic, and thus identified an action alternative as environmentally preferable.

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[9] 40 CFR 1505.2

[10] Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 FR 18026 (March 23, 1981).,

In addition, numerous economic, environmental, technical and other factors led the FRA to deviate from the environmentally preferable alternative in favor of the Selected Alternative identified above. The environmentally preferable alternative identified by FRA and the Cooperating Agencies is discussed in detail below:

4.4.1 Alignment: Environmentally Preferable Alternative

Segment 1: Segment 1, the only action alternative in this location, is environmentally preferable.

Segment 2: 2C, Median. The "median option" for Segment 2C reduces the degree of noise, vibration, and visual effects from the perspective of the northern side of the I-15 corridor through Barstow. Similarly, lands in the freeway median area are more highly disturbed (as a result of freeway construction) relative to areas alongside the freeway or outside the I-15 corridor entirely. To this end, the Segment 2C Median alignment would result in the lowest level of impacts to biological, cultural, and hydrological resources, owing to substantial existing ground disturbance in the I-15 freeway median. However, Segment 2C Median would result in noise and vibration impacts occurring on both sides of the I-15 corridor, not solely on the north side, because it would be close to additional sensitive receptors. In addition, constructing the train in the median is more costly, is more difficult to construct and maintain, and poses more highway and rail operational and safety concerns than the side-running options in general.

Segment 3: 3A (Median). Outside the urbanized areas, Segment 3A typically results in fewer impacts to biological and cultural resources, insofar as the median of the freeway is usually a highly disturbed area with relatively few resources. However, in the Halloran Springs area, the median option would result in a greater degree of effects to sensitive resources relative to Segment 3B (Modified). Moreover, Segment 3A's location in the median would be more costly and difficult to construct and maintain and poses more highway and rail operational and safety concerns than side-running options.

Segment 4: 4A, via Nipton Road. Segment 4A is the shortest of the three options for Segment 4, and adheres most closely to the I-15 corridor, but a 1.55 mile portion of Segment 4A would traverse the Mojave National Preserve near Nipton Road. Segment 4A would avoid and/or minimize many of the impacts associated with Segment 4C, including fragmentation of wildlife/habitat areas, severance of grazing lands, and impacts to hydrological features. Segment 4C was designed to avoid the approved Ivanpah Solar Electric Generating System (ISEGS) utility project.

As described above, FRA has included Segment 4A as the Selected Alternative and Segment 4C as a contingent Selected Alternative in the absence of legislation permitting the implementation of Segment 4A. At present there is no legal mechanism for the NPS to grant a transportation right-of-way use through the Mojave National Preserve.

Nevertheless, both the NPS and the USFWS in its BO stated a preference for Segment 4A over Segment 4C. As of May 2011, however, no legislation is pending before Congress that could, if enacted, allow the use of the Preserve as a transportation right-of-way.

Segment 5: 5A (Median). Outside the urbanized areas, constructing and operating the train in the freeway median (where Segment 5A would be located) typically results in fewer impacts to biological, cultural, and hydrological resources, because the developed/disturbed nature of the median has eliminated or compromised the integrity of such resources. However, Segment 5A would be more costly and difficult to construct and maintain and would pose more highway and rail operational and safety concerns than Segment 5B, running along the freeway corridor.

Segment 6: 6A (Median). Segment 6 comprises an area that transitions from relatively undeveloped desert in the south to the core of metropolitan Las Vegas in the north. Outside the urbanized areas, constructing, and operating the train in the freeway median, as proposed in Segment 6A, would typically result in fewer impacts to biological, cultural, and hydrological resources, because the developed/disturbed nature of the median has eliminated or compromised the integrity of such resources. However, Segment 6A would be more costly and difficult to construct and maintain and poses more highway and rail operational and safety concerns than either of the side-running options considered (Segments 6B and 6C).

4.4.2 FACILITIES

Victorville Station Site Option: VV2. This site has a smaller footprint than both VV3A and VV3B; both VV2 and VV3B (the latter included in the Selected Alternative) and avoids potential land use conflicts with lands beneath Los Angeles Department of Water and Power overhead electrical utility lines. The selection of VV2 would result in significant traffic impacts to the Stoddard Wells Road interchange, but these impacts could be mitigated successfully. VV3B was identified as preferable because Caltrans expressed concern about VV2 having potential conflicts with planned freeway improvements in the area.

Victorville OMSF Site Option: OMSF 2 (same as Selected Alternative). In identifying VV2 as the environmentally preferable station site option, the proximity of OMSF 2 to VV2 makes it the environmental preferable Victorville OMSF option.

Las Vegas Station: Generally, the four Las Vegas Station Site options do not substantially differ in terms of potential environmental impacts. All Las Vegas Station options would be located within the existing urban context of the metropolitan Las Vegas area. However, the Central Station B and Downtown Station sites would result in the displacement of industrial uses, whereas the Central Station A and Southern Station sites are currently used for surface parking or are undeveloped, with no business

displacements. The Southern Station would allow for the shortest overall rail length while achieving reasonable proximity to the visitor-serving attractions of the Las Vegas Strip and also proximity to McCarran International Airport.

Las Vegas Maintenance and Storage Facilities: Wigwam MSF and Frias Substation (same as Selected Alternative). Although the Wigwam MSF option requires the relocation of existing businesses, the Robindale MSF site is closer to residential development, posing a potential land use conflict. Moreover, the Relocated Sloan Road MSF site is outside the boundary of urban infrastructure districts, such as water and wastewater, thus requiring either connections to urban infrastructure or costly transport of water/sewage to and from the site.

4.4.3 Technology

The EMU technology option is both the Selected Alternative and the environmentally preferable alternative because the EMU option would result in greater ridership and have the greatest potential benefit in terms of air quality and energy.

5.0 Summary of Potential Effects and Measures to Avoid and Minimize Harm

FRA and the Cooperating Agencies conducted a comprehensive review and analysis of the potential impacts of the Preferred Alternative in the Final EIS, building upon the impact analysis of the Draft and Supplemental Draft EIS documents. This included impacts to both natural and human resources. Consistent with NEPA, FRA and the Cooperating Agencies identified and compared both adverse and beneficial effects associated with the Preferred Alternative, all other action alternatives and the No Action Alternative. The effects of the Selected Alternative (which is the same as the Preferred Alternative from the Final EIS), which is approved as the "Project" in this ROD, are summarized below.

Beneficial Environmental Effects

- Reduce traffic along the I-15 freeway
- Economic growth near station areas
- Reduced air pollutant emissions, resulting in improved operational period air quality
- Reduced operational period energy consumption

Adverse Environmental Impacts:

- Sensitive biological resources, including protected species and habitat areas
- Cultural resources, including archaeological resources
- Hydrologic resources

- Increased traffic near stations
- Land use and community impacts, including business displacement
- Water supply and service
- Noise level increase
- Emissions of air pollutants during construction
- Disruption/severance of grazing land allotments

Consistent with 40 CFR 1505.2(c), all practicable means to avoid or minimize environmental harm from the Project have been identified and included as mitigation measures in **Appendix A**, which are formal commitments associated with Project approval.

In designing, constructing, and operating the proposed railroad, the Applicant is required to adhere to all mitigation measures described **Appendix A**. FRA and the Cooperating Agencies will incorporate this requirement in Project approvals.

Consistent with 40 CFR 1505.3, FRA as Lead agency and certain Cooperating Agencies will monitor construction and operation of the Project to ensure that all Agency decisions are carried out. This will include but is not limited to a comprehensive mitigation and monitoring plan that FRA and certain Cooperating Agencies will require and oversee as a means to ensure that all commitments identified in **Appendix A** are upheld during construction and operation of the Project. It is anticipated that the mitigation and monitoring plan, comprised of the mitigation measures in **Appendix A**, will be developed by the Applicant in close coordination with FRA and the Cooperating Agencies. The Applicant will submit the completed plan for FRA review and approval prior to implementation. In approving the comprehensive mitigation monitoring plan, FRA will coordinate with relevant agencies on mitigation issues within their specific area of expertise. This will include FAA's Regional Administrator's Office, Airports Division, and Flight Standards Division for construction activities near McCarran International Airport in Las Vegas and the proposed Southern Nevada Supplemental Airport between Primm and Jean, Nevada.

5.1 LAND USE AND COMMUNITY IMPACTS

Land use and community impacts could occur if the Project resulted in incompatibility with adjacent land uses, incompatibility with land use plans, a substantial number of housing units displaced, extensive community disruption/severance, or a substantial number of environmental justice communities crossed or within one mile of facilities.

Where the Project is within or close to the existing I-15 corridor, the Project is most typically compatible with adjacent land uses. The Project is generally compatible with several land uses typical along the I-15 corridor, including industrial lands, most public facilities, and certain commercial uses. Lower compatibility is associated with both

Segment 4A and Segment 4C. Segment 4A would traverse through a portion of the Mojave National Preserve; both Segment 4A and Segment 4C would result in low compatibility with BLM Multiple Use Class M and L lands. At several locations along the Project corridor, residential development is located in close proximity to the I-15 freeway, in some locations without any protective sound barriers or other separation. Such existing residential uses are considered incompatible with the existing freeway use. The Project's addition of a secondary transportation use in the freeway corridor would increase the degree of existing incompatibility. Where the Project would have a noise impact, the installation of soundwalls that fully mitigate identified impacts is a commitment associate with project approval. Mitigation is also provided to fully address other compatibility impacts, including locations where the DesertXpress rail alignment would conflict with an existing or proposed aviation use; see additional discussion below. **Appendix A** of this ROD details the mitigation measures detailed in the Final EIS and incorporates these mitigation measures as formal commitments associated with Project approval.

Similarly, effects related to compatibility with land use plans are highly location-specific. For much of the Project corridor, existing land uses are consistent with what governing land use plans permit. As noted above, the additional transportation use is generally compatible with several existing land uses; by extension, the Project is also compatible with planned land uses. One exception to this relates to the extensive amount of land identified for residential uses outside of established communities. In particular, substantial areas of land along the I-15 corridor near Segment 3B are designated for residential use in governing land use plans. Both Segment 4A and Segment 4C would have low compatibility with residential land use designations near Mountain Pass along the I-15 freeway corridor. However, very little residential development exists in these areas. The lack of necessary infrastructure in these areas, particularly related to water delivery, strongly suggests that any additional residential development in these isolated areas would be at a very small scale, thus leading to minimal future compatibility concerns.

Potential incompatibility with existing and proposed aviation facilities were the only significant adverse land use effects identified in the analysis requiring mitigation. A mitigation measure was modified to address a potential identified conflict between the DesertXpress rail alignment and the "one engine inoperative" zone associated with Runway 25R at McCarran Las Vegas International Airport. The modified mitigation measure would ensure that the rail alignment does not penetrate the one-engine inoperative zone. In addition, this ROD includes a modified mitigation measure to address identified conflicts between the DesertXpress rail alignment in a designated Runway Protection Zone (RPZ) for the planned Southern Nevada Supplemental Airport (SNSA) near Primm. The modified mitigation measure would involve further

coordination with FAA during the Project's detail design phase to ensure the Applicant complies with FAA Airport Design Standards.

FRA also notes that planning for the SNSA was indefinitely suspended in June 2010 with no clear indication as of June 2011 as to when work may resume. In the event that the SNSA project is more formally canceled or modified, this mitigation measure may be changed. **Appendix A** of this ROD incorporates these mitigation measures as formal commitments associated with Project approval.

The Project would not require the removal or displacement of any housing units. There are no existing housing units within the path of the rail alignment, nor in areas where permanent facilities or temporary construction areas are proposed. The extent of displacement is limited to business displacement in metropolitan Clark County in the locations of the Wigwam Avenue MSF and Las Vegas Central Station B. The Applicant would be responsible for complying with all applicable federal, state, and local laws pertaining to the displacement of these businesses.

A severance or community disruption impact would occur if any element of the Project resulted in the physical division of an existing community. With the exception of a portion of Segment 2C east of Barstow and most of Segment 4C, the entire rail alignment would be located within the existing I-15 corridor. All of the rail alignment would be fully grade-separated and would otherwise not pose any new barrier or physical division in a community. Where the alignment deviates from the I-15 corridor, such as the eastern reaches of Segment 2C or all of Segment 4C, grade-separations would still be required to maintain local access, limiting the potential for any severance effect to occur. Further, no Project facility would cause or result in community disruption or severance.

An effect related to environmental justice would occur if the adverse environmental effects of the Project were disproportionately borne by one or more defined "environmental justice" communities. These are defined as U.S. Census block groups with majority populations of lower-income people or ethnic minorities. The analysis identified numerous environmental justice communities in the immediate Project area between Victorville and Las Vegas. In several locations, portions of the rail alignment and certain permanent facilities (such as VV3B) would be located within or immediately adjacent to an environmental justice community which could result in adverse environmental effects in terms of air quality, noise, and traffic impacts. However, required mitigation, as detailed in **Appendix A**, will avoid or minimize any residual environmental effects so there is no potential for disproportionate air quality, noise, and traffic impact to environmental justice communities in the vicinity of the Project. The Project would in fact result in several beneficial impacts to regional air quality and traffic that would be of a general benefit, including to environmental justice communities.

Appendix A of this ROD details the land use and community impact mitigation measures, which are formal commitments associated with Project approval. No residual impacts from the Project are anticipated after implementation of mitigation.

5.2 GROWTH

Growth impacts could occur as a result of the Project in association with changes to permanent employment, removal of growth obstacles, fostering transit-oriented development, or effects to economic vitality.

The Project's stations and maintenance facilities would provide several hundred new permanent job opportunities in and near their respective communities. The Victorville Station and maintenance facilities would create approximately 361 to 463 permanent jobs in the area. In the Las Vegas area, the Las Vegas Station and maintenance facilities would create approximately 154 to 251 permanent jobs. These permanent jobs could cause an increase in spending in each area, resulting in a secondary regional economic benefit.

Lack of utilities and urban facilities are the most common impediments to growth of undeveloped areas. The Project would traverse significant areas of undeveloped lands that have little to no utilities or urban services, it would not extend utilities to these areas in a way that would remove an impediment to growth. The Project would construct additional transportation, electrical and communications infrastructure; however, this infrastructure would not remove an impediment to growth because it would not be readily available to adjacent land uses, with the exception of areas in close proximity to stations and maintenance facilities. Such facilities would all be located within already urbanized areas or areas planned for urbanization.

The Project could foster limited transit-oriented development (TOD) within the vicinity of the station facilities, but the amount is anticipated to be small. Unlike other rail lines, the Project would primarily serve non-work trips between the two stations; use of the rail line for frequent commute trips is expected to be minimal. Notwithstanding, the Project could potentially attract people to live in the near vicinity of one of the stations in order to take advantage of high-speed rail service between the two ends. Although anticipated to be small, there is potential for the Project to result in beneficial TOD effects within the vicinity of the stations.

The addition of new permanent jobs through operation of the Project may indirectly affect the economic vitality of the local economy in the greater Victorville and metropolitan Las Vegas areas. With new employment opportunities, spending in the areas could increase, thus contributing to local economic growth, potentially of benefit to surrounding areas.

The Project's economic effects in the City of Barstow elicited substantial commentary. With its comments on the Supplemental Draft EIS, the City of Barstow submitted a report

assessing the economic impact of DesertXpress to the City of Barstow ("Barbieri Report"). After careful consideration and analysis of the Barbieri Report, FRA identified concerns over the methodology of conclusions of this report in its own economic study prepared by regional economist John Husing, Ph.D. ("Husing Study"; Final EIS Appendix F-E), which was prepared for FRA to provide further insight into the potential economic impacts of the Project on the City of Barstow. The Husing Study acknowledged that over the long term, rail operations are projected to result in a modest negative influence on the Barstow economy. The Husing Study notes that the Barstow economy is heavily dependent upon revenues generated from taxable retail sales attributed to people driving through Barstow via the I-15 freeway to and from Las Vegas, the Colorado River, and other regional destinations. Taxes collected from fuel sales and retail stores catering to passing travelers contribute substantially to the City's revenues. With the anticipated shift of freeway-related traffic to the high-speed passenger train, the Husing Study projected fewer automobile passengers would travel through Barstow, which would in turn reduce the City's capture of tax revenues associated with certain visitor-serving uses. However, the Husing Study also demonstrated that the Project would not be expected to substantially alter the volume of tractor-trailer traffic through Barstow since DesertXpress trains would carry only passengers, not freight. Therefore, there would be no foreseeable downward influence on the substantial complement of Barstow's tax revenue attributable to high-volume sales of diesel fuels and services to commercial operators. While some adverse economic growth effects would be experienced in Barstow, the projected effect is well below a level that would result in secondary physical environmental effects, such as urban decay. Notwithstanding, the Applicant has proposed a voluntary mitigation measure entailing the close coordination with the City of Barstow and San Bernardino County economic development authorities in an effort to match available construction period and permanent jobs with appropriately qualified local residents.

With a subsequent comment letter on the Final EIS, the City of Barstow included a second report from its economist ("Barbieri Commentary") that sought to rebut several conclusions of the Husing Study. To this end, FRA commissioned a subsequent review to address issue raised within the Barbieri Commentary ("Husing Review"); the results of this review are included as **Appendix B** to this ROD. The Husing Review directly addresses each substantive point of the Barbieri Commentary and provides additional detail and evidence to support FRA's previous conclusions regarding the economic impact of DesertXpress upon the City of Barstow.

5.3 FARMLANDS AND GRAZING LAND

Impacts to farmlands and grazing lands could occur if the Project directly uses farmlands, is in such proximity to farmland to have an indirect effect, or severs or otherwise impairs the use of grazing lands.

The Project would not directly impact any farmlands. Approximately 0.008 acres of farmland would be indirectly impacted by the Project due to the alignment's proximity to an orchard in the Newberry Springs area. Construction activities would result in a temporary increase in dust that could affect those portions of the orchard closest to the rail alignment. Measures requiring the Applicant to acquire conservation easements over agricultural lands of equal quality procured at a 1:1 ratio would mitigate these impacts.

The rail alignment would cross through several designated grazing land allotments, all within California. Approximately 442 acres of grazing lands would be directly and permanently converted to transportation uses, assuming the construction of Segment 4C. Most of this acreage consists of the VV3B site (205 acres) and the Segment 4C rail alignment north of I-15 in the Mountain Pass area (176 acres). Segment 4A would greatly reduce the direct effect on grazing lands because it would avoid impacts to grazing lands in the Mountain Pass area by following the existing I-15 freeway ROW rather than traversing a grazing allotment.

Indirect impacts to grazing lands may result when the Project has secondary effects, such as severance of a larger grazing allotment that could limit movement on either side of the rail alignment. The Project may cut off or impede livestock access to water sources or result in the removal of livestock fencing, which would allow livestock to trespass or become lost. Specifically, Segment 4C may create a barrier within the Clark Mountains Allotment, which includes lands within the Mojave National Preserve, in addition to BLM-managed lands. Segment 4C could have the effect of concentrating livestock closer to the water sources of the allotment, which are disproportionately located on NPS lands in the Mojave National Preserve. This could in turn result in overuse of the Preserve via grazing activities. Segment 4A would avoid these indirect effects on grazing lands in the Mountain Pass area. Mitigation is provided to address these indirect effects; the BLM and NPS indicated to FRA that an acceptable mitigation would be for the Applicant to purchase the Clark Mountain Allotment, effectively ceasing grazing activity in this area. Alternate mitigation, in lieu of purchasing the allotment, would require modifications to the rail alignment to permit adequate opportunities for cattle undercrossing of the rail alignment such that no concentration of use in the Mojave National Preserve would be foreseeable.

Appendix A of this ROD details the farmlands and grazing land mitigation measures, which are formal commitments associated with Project approval. Implementation of the mitigation measures outlined in the Final EIS would minimize effects to farmlands and grazing lands, including the indirect effects to grazing lands and activities. However, even with mitigation, the Project would result in residual impacts from the direct conversion of 442 acres of grazing lands to transportation uses.

5.4 UTILITIES/EMERGENCY SERVICE

Impacts to utilities/emergency services could occur if the Project resulted in an exceedance of the capacity of utility or service systems or if it conflicted with existing utility distribution systems, such as pipelines or electrical transmission lines.

Permanent facilities (passenger station sites and maintenance facilities) would require extended infrastructure, such as electricity and gas, water, sewer/wastewater, stormwater, and solid waste disposal as well as public services like police, fire, and emergency response. Electrical energy would also be needed as a power source for the EMU trains. The Project includes two electrical utility corridors near Victorville and Baker that would be used to deliver electrical power from existing transmission lines to Project facilities. (In the Las Vegas area, the Frias Substation is immediately adjacent to and would be directly connected to the existing Arden-Tolson electrical transmission line; no separate utility corridor would be needed). Both Southern California Edison (SCE) and Nevada Power have indicated the ability to provide electrical service. Southwest Gas Corporation (SGC) anticipates that current operating conditions are sufficient to provide gas service to the stations and maintenance facilities.

Water services to the Victorville Station and maintenance facility (OMSF 2) would be provided by Victorville Water District (VWD). Due to the distance of the Victorville Station and maintenance facility from existing VWD water mains, construction and/or expansion of new water facilities (including storage facilities, wells, and/or transmission and distributions pipes) would be required for service. Mitigation would require the Applicant to pay for connection and/or user/service fees established by the utility provider.

Las Vegas Valley Water District (LVVWD) would provide water services to the Las Vegas Station and maintenance facility. The location of Project facilities and the amount of water demanded by these facilities would not require the construction of any new infrastructure. Mitigation requiring the Applicant to obtain a "water commitment" from the LVVWD would ensure these facilities would have enough water for operational use. Further mitigation would require the Project facilities to minimize water usage through the incorporation of water saving devices wherever required or feasible and to use drought-tolerant landscaping at all facilities.

Wastewater services at the Victorville Station and maintenance facility sites would be provided by the Victor Valley Wastewater Reclamation Authority (VVWRA). The VVWRA anticipates that the additional demand created by the Project facilities would not require additional wastewater equipment, facilities, or personnel, but a service area expansion would be required to serve these facilities. Mitigation would require the Applicant to bear the cost of connection and/or user/service fees established by the utility provider.

The Clark County Water Reclamation District (CCWRD) would provide wastewater services to the Las Vegas passenger station and maintenance facilities. CCWRD indicated that it has adequate capacity to serve the Project's Las Vegas facilities without the need of additional equipment, facilities, or personnel.

The Project would have the potential to generate stormwater at stations, maintenance facilities, and along rail segments. Mitigation would require rail segments within the I-15 freeway right-of-way to tie into the existing freeway stormwater conveyance devices, upsizing such conveyances as warranted by the amount of the incremental increase. Where it is not possible to connect to existing freeway stormwater conveyance devices, mitigation requires the Applicant to coordinate with local agencies to develop appropriate stormwater conveyance structures/systems to serve such areas.

Construction and operation of the station and maintenance facilities could convert unimproved lands to paved and/or built facilities, decreasing permeability and potentially creating stormwater runoff. Mitigation is included to develop appropriate conveyance systems.

Landfills in the vicinity of the Project were found to have sufficient capacity to accommodate the predicted solid waste generated by both the construction and the operation of the Project. Construction waste would include a mix of hardscape, plant material, and metal. The Applicant has indicated some hardscape, such as tunneling spoils, will be repurposed for sub-grade or as ballast in track construction. For any construction waste not recycled or reused, area landfills indicate that the one-time generation of Project-related construction waste could be accommodated given the landfill's substantial remaining capacity.

The Project would be served by police and fire agencies in several involved jurisdictions. Several of these agencies advised FRA that the Project could lead to an increased need for services and expressed concern about protocols during emergency events. Mitigation is included to require Applicant payment of fees for the incremental demand associated with the Project and to develop a comprehensive emergency operations plan, including a training of local first responders.

The Project rail alignments and other facilities could overlap/intersect with numerous utility conveyance systems, such as gas pipelines, electric transmission lines, and water/wastewater infrastructure. Some overlaps could result in safety concerns, such as where a Project rail segment intersected with a high-pressure gas pipeline. Mitigation is included to avoid or minimize such conflicts, including protecting infrastructure in place or including minor relocations of facilities.

Incorporation of the mitigation measures mentioned above would minimize permanent effects related to the adequate provision of utilities and public services as well as conflicts

with utility crossings. **Appendix A** of this ROD details the utility/emergency service mitigation measures, which are formal commitments associated with Project approval. There would be no permanent or residual impacts to utility/emergency services following implementation of the mitigation measures.

5.5 TRAFFIC AND TRANSPORTATION

The Project passenger stations and maintenance facilities would be the only points of access for people to interface with the DesertXpress system. Project railways would be fully grade separated from all existing roadways. Moreover, the Project would require no modifications to existing roadways affecting capacity. Therefore, the Project could only result in impacts to traffic and transportation if Project-related traffic resulted in a substantial traffic increase to (1) freeway mainlines or (2) at intersections near station areas.

By providing an alternative to automobile transportation between southern California and Las Vegas, operation of the Project would reduce traffic volumes on the I-15 freeway, particularly during peak weekend travel periods. The Project would reduce approximately 500 vehicles per peak hour in the peak direction in the opening year, increasing to 1,400 vehicles in the horizon year. This would relieve congestion along the I-15 freeway between Victorville and Las Vegas, resulting in a beneficial effect. The reduction in traffic volumes on freeway mainlines could potentially improve safety in a freeway corridor known to have a higher-than-average accident rate, attributable in large part to excessive levels of congestion. Traffic reduction also contributes to improved air quality, as fewer vehicles on the road would result in a corresponding reduction emission of air pollutants.

In addition to these beneficial effects, rail operations would also have certain adverse traffic effects. Project trackways, trains, and associated facilities could constitute potential new visual obstructions for motorists, thus impairing roadway safety. Mitigation is included to ensure that final design-build plans take into account such potential obstructions and include design solutions to avoid or minimize all such effects.

Near Project stations, increased traffic on roadways associated with passenger activity could degrade the level of service at selected intersections. The increased traffic associated with passenger stations would worsen delays, potentially resulting in a degraded level of service. Mitigation was developed in close coordination with the FHWA and both State DOTs that would successfully address all identified effects. Mitigation measures would reduce the delay at affected intersections so that all intersections would operate at an acceptable level of service. **Appendix A** of this ROD details the traffic/transportation mitigation measures, which are formal commitments associated with Project approval. No permanent or residual traffic and transportation adverse impacts are anticipated from the Project after implementation of mitigation measures.

5.6 VISUAL RESOURCES

The Project would create a new rail alignment and associated facilities through a variety of existing landscapes, primarily within or immediately adjacent to an existing freeway corridor. The degree of effects to visual resources in the Project area was evaluated in terms of the established visual impact criteria of two of the Cooperating Agencies, the BLM and the FHWA.

Visual effects were found to vary widely, depending on two key factors based on the Federal agency criteria: the existing visual quality of particular locations and the proposed design at such locations.

In urbanized areas including Barstow, Baker, Primm, Jean, and metropolitan Las Vegas, motorists and pedestrians on nearby and adjacent local roadways and motorists traveling on the I-15 freeway would represent the primary viewer groups of the Project. In these areas, the Project would introduce railway elements such as elevated trackways and passing trains into motorists' views from the I-15 freeway and would not substantially degrade the relatively low visual quality of the I-15 freeway area.

The majority of lands within the urbanized areas are designated as BLM Class III or IV, which allow for partial to major modifications to the existing character of the landscape. With few exceptions, visual effects of the Project would be mostly consistent with BLM criteria. In addition, the Project is mostly consistent with the FHWA's visual quality/sensitivity guidelines in urban areas.

The second type of landscape within the Project area is found outside existing urban areas, where motorists traveling on the I-15 freeway would be primary viewers of the Project. In areas where the rail alignment would be adjacent to the existing I-15 freeway, the concrete barriers, trackways, bridges, overpasses, underpasses, and passing trains would detract from the vividness, intactness, and unity of views from the I-15 freeway towards the non-urbanized lands with low lying shrubs, desert soils, and rolling hills. The overhead catenary features and fencing structures would hinder views of the existing landscape features. Since the majority of these views would remain relatively unobstructed when a train is not present, the overall visual quality rating for the undeveloped portions of the Project rail alignment would remain moderate.

The third type of landscape within the Project area is non-urbanized lands outside the I-15 freeway corridor, particularly the area near Segment 4A and Segment 4C. Segment 4A would adversely affect the visual quality within the boundaries of the Preserve. However, both FRA and the NPS have noted that the area proposed for the Segment 4A rail alignment, including areas within the Preserve, has already been disturbed and used for a local mine and as a ROW for several underground utilities. Segment 4A would also remain in relatively close proximity to the I-15 freeway corridor as it passes through the

Preserve. Segment 4C would diverge several miles from the I-15 freeway corridor and traverse undeveloped lands. However views of the Segment 4C rail alignment would be relatively distant appearing as a distinctly subordinate visual feature in the overall landscape. The intactness, unity, and vividness of the existing environment would be slightly diminished due to the placement of the Segment 4C rail alignment in an undeveloped area, thereby reducing the existing high quality visual environment to a moderate visual environment, representing an adverse effect.

Overall, the Project would reduce the existing visual quality outside some urban areas and would be somewhat inconsistent with the FHWA's visual quality/sensitivity guidelines. Mitigation measures would require that design-build plans include treatments to ensure that rail, station, and maintenance facility features would be minimally disruptive to the surrounding environment. Further mitigation would require contour grading to reduce the visual appearance of cut and fill slopes associated with the Project and light/glare reduction strategies to reduce adverse impacts to visual resources.

Appendix A of this ROD details the visual resources mitigation measures, which are formal commitments associated with Project approval. Implementation of the mitigation measures outlined in the Final EIS would minimize effects to visual resources. However, the Project would result in the permanent introduction of new elements to the Project area, ultimately resulting in a permanent visual change within the viewshed, despite the incorporation of the aforementioned mitigation measures. The primary residual impacts would be expected to occur in areas with the greatest visual quality and sensitivity, such as areas designated as having high visual quality or areas designated as BLM Class I and II lands. While the majority of the Project rail alignment would be within the I-15 freeway, residual visual impacts to the sensitive visual environments north of Yermo and north of the Clark Mountains would experience the greatest residual visual effects following mitigation.

5.7 CULTURAL AND PALEONTOLOGICAL RESOURCES

Impacts to cultural and paleontological resources would occur if the Project would directly or indirectly affect cultural resources eligible or assumed eligible for listing on the National Register of Historic Places (National Register), or adversely affect paleontological resources.

FRA conducted a literature review, pedestrian surveys, and extensive consultation with BLM archeologists and tribal representatives to catalogue existing cultural resources potentially affected by the Project as well as all other action alternatives. All of these resources are archaeological sites. No historic architectural resources (buildings or other structures) were found in the APE for the Project and thus no such resources would be affected. FRA evaluated paleontological resources following the guideline of the Society of

Vertebrate Paleontology using published geologic and paleontological literature and museum databases.

Construction of the Project would involve extensive ground disturbance, primarily but not exclusively within the I-15 freeway corridor. Construction and operation of the freeway have, in many cases, compromised the intactness and/or integrity of many archaeological resources closest to the freeway. Generally, the degree of intactness of such resources increases with distance from the previously disturbed freeway corridor.

In fulfillment of obligations under Section 106 of the National Historic Preservation Act (16 USC 470 et seq., as amended), a Programmatic Agreement (PA) was developed for the Project. The PA identifies the process for the formal determination of eligibility of cultural resources. Following an approach consistent with 36 CFR 800.4(b)(2), the PA stipulates that formal eligibility determinations will be made after the Selected Alternative is identified and ratified by the Lead and Cooperating Agencies via Records of Decision or other appropriate decision documents on the proposed action. The PA also sets forth numerous other requirements, including the potential for Tribal monitoring of ground-disturbing activities, cultural resource training for all construction personnel, and periodic reporting of findings during construction. The PA also includes an outline of the Historic Properties Treatment Plan, a requirement under Section 106, which will provide specific avoidance or minimization and, as appropriate, curation/disposition measures for every identified and potentially affected resource. The PA further includes the outline for the required "Plan of Action" under the Native American Graves Protection and Repatriation Act (25 USC 3001 et seq., "NAGPRA"). The Plan of Action will establish protocols to address the potential discovery of human remains during the ground disturbance associated with construction.

The Final EIS includes a fully-executed copy of the PA, signed by the Lead and Cooperating Agencies, the State Historic Preservation Officers (SHPOs) for California and Nevada, and the Project Applicant. In addition, one Native American Tribe, the Las Vegas Paiute, signed as a concurring party. The Area of Potential Effect (APE) for the Project assuming construction of Segment 4A includes a total of 225 cultural resources comprised of 37 resources previously determined eligible; 90 resources assumed to be eligible; and 98 that were either previously found ineligible or are otherwise assumed ineligible The total number of cultural resource in the APE for the Project assuming construction of Segment 4C includes a total of 239 [11,12] comprised of 38 resources previously determined

[11] The Final EIS incorrectly identifies 254 sites within the APE for the Project (with Segment 4C). The correct number of cultural resources sites in the APE for the Project with Segment 4C is 239 sites.

[12] The Final EIS incorrectly identifies 8 sites within the APE for Segment 4A. The correct number of cultural resources sites in the APE for Segment 4A is 11 sites as identified in Table 3.7-9 of the Draft EIS.

eligible; 92 resources assumed to be eligible; and 109 that were either previously found ineligible or are otherwise assumed ineligible.[13]

Final determinations of the eligibility of archaeological resources are phased under the PA. All of these resources could be directly or indirectly affected by train construction. The aforementioned stipulations of the PA set forth a program of extensive mitigation designed to avoid and/or minimize adverse effects to these resources. All effects to cultural resources associated with the Project can be mitigated through avoidance, evaluation and data recovery, or other mitigation through investigation and monitoring during construction as described above.

Construction of the Project would likely result in adverse effects on paleontological resources in situations where (1) the Project rail alignment or facility would cross paleontologically sensitive geologic units exposed at the surface or (2) where the Project rail alignment or facility would be situated on relatively recent fill materials that overlie highly sensitive materials, and ground disturbance would be deep enough to affect underlying sensitive strata. Mitigation is included to avoid or minimize such effects.

Appendix A of this ROD details the cultural and paleontological resources mitigation measures, which are formal commitments associated with Project approval. The Applicant is also bound to all provisions within the fully executed PA, which encompasses more specific measures to avoid or minimize effects to cultural resources. Collectively, these measures include training of construction workers, ongoing monitoring during construction, and appropriate pre-construction evaluation of specific sites. In the event resources are encountered, further mitigation requires a stop to construction to allow for resource evaluation, and measures to ensure appropriate recovery and curation.

5.8 HYDROLOGY AND WATER QUALITY

Hydrology and water quality impacts could occur if the Project results in a violation of water quality standards or otherwise substantially degrades water quality, places structures within a 100-year floodplain or otherwise impedes or redirects flood flows, results in substantial new sources of stormwater discharge, or uses water resources in an inefficient manner.

The rail alignment and other facilities would cross the Mojave River, Bell Mountain Wash, and numerous other named and unnamed ephemeral washes, some of which meet criteria under the CWA to be considered "waters of the US" (also known as jurisdictional waters),

[13] The Final EIS incorrectly identifies the Project (with Segment 4C) as impacting 36 resources as previously determined eligible; 99 resources are assumed to be eligible; and 119 were either previously found ineligible or are otherwise assumed ineligible.

potentially affecting water quality. The Project would have direct permanent effects on approximately 20,100 linear feet of hydrological resources assuming Segment 4A is constructed; the number increases to approximately 20,851 linear feet if Segment 4C is constructed instead of Segment 4A. As its own component, Segment 4A would impact 734 linear feet of hydrological resources and Segment 4C would impact 1,485 linear feet of hydrological resources. Segment 4A would cross 29 streams, whereas Segment 4C would cross 48 streams. No wetlands are located in the vicinity of the rail alignment and other facilities, so there would be no effect to wetlands. Construction of the Project would permanently affect an estimated 5.96 acres of waters of the US.

Drainage patterns will not be significantly altered as a result of the Project. Within the I-15 freeway area, the rail alignment will at minimum match all existing culverts. Segment 4A would follow the existing I-15 freeway and would have the potential to connect with existing I-15 drainage facilities. Where the rail alignment diverts from the freeway, particularly in Segment 4C, mitigation developed in the CWA Section 404 permitting process and Section 7 consultation process (and included as a requirement within **Appendix A** of this ROD) requires the rail alignment to span all existing natural drainages 4 feet in width or greater, thus avoiding substantial interference with natural drainage functions. However, the Victorville Station and OMSF would impact portions of Bell Mountain Wash and related drainages, potentially altering existing drainage patterns.

Mitigation is included to address these potential water quality effects, including adherence to best management practices during construction, the development of site-specific water quality treatment devices, and compliance with requirements under the National Pollutant Discharge Elimination System Construction General Permit. Further mitigation requires preparation of a spill prevention control, and countermeasure plan and proper design of drainage systems. Further, the Applicant will be required to comply with all conditions and mitigation requirements that result from the pending permit from the USACE under Section 404 of the Clean Water Act (33 USC 1251 et seq.).

Portions of the Project would cross or be located adjacent to 100-year floodplain areas associated with the Mojave River or certain washes. The Project would encroach upon 51.68 to 57.48 acres of 100-year floodplain, depending on which Las Vegas passenger station is constructed; the longer alignment to Central Station B involves approximately six additional acres of floodplain area. Mitigation is included to reduce encroachment into 100-year floodplain areas, by means of elevating facilities or relocating certain facilities within the identified footprint/area of potential effects. Mitigation also prohibits the storage of construction equipment or material within the floodplain.

At-grade portions of the rail alignment would not produce considerable amounts of stormwater runoff given the relatively permeable nature of track on ballast (crushed rock) construction. On elevated rail alignments, the Project would include drainage elements

along the trackway that would capture and direct runoff to existing designated drainage features. Passenger stations and maintenance facilities would create additional runoff. Many of the mitigation measures related to water quality effects would also address the quantity and quality of stormwater associated with the Project. Additional mitigation is included to minimize the impact of specific facilities on existing natural drainages.

Appendix A of this ROD details the hydrology and water quality mitigation measures, which are formal commitments associated with Project approval. In addition to the mitigation measures outlined in the Final EIS, the Project will also be required to comply with all conditions and mitigation requirements resulting from the SWA Section 404 permit and Section 401 Certification. While required mitigation would reduce both construction and operational effects to water resources, the Project would nonetheless result in permanent impacts to existing channels, streams, drainages, and ephemeral washes; the Project would also result in an increase in impervious area, increasing the amount of stormwater runoff.

5.9 GEOLOGY AND SOILS

An adverse impact could occur if the Project were located in an area of high risk for one or more geologic and soils concerns. These concerns include surface fault rupture, ground shaking, liquefaction, dam inundation, differential settlement, corrosive and/or expansive soils, or landslides. Construction-related impacts would include the potential for hard-rock excavation (including tunneling), shallow groundwater, and/or ground fissures.

Generally, the California portions of the Project would be located in a seismically active region near active faults. These active faults may result in tectonic activities (i.e., earthquakes) in the region. The Nevada portion of the Project also includes some active and potentially active faults but these faults are attributed to land subsidence rather than tectonic activity (i.e. earthquakes). With few exceptions, all components of the Project face at least some risk of several of the identified geologic and seismic hazards during both operations and construction. Mitigation to address potential geologic and soil related impacts includes conducting pre-construction surface reconnaissance and subsurface assessment for surface fault ruptures and landslides and a site-specific evaluation for ground shaking hazards. Additional construction period mitigation would address concerns associated with hard rock excavation, introduce protections to ensure safe tunneling, and measures to address shallow groundwater or fissures, if encountered.

All potential geologic and seismic hazards can be controlled successfully through the application of standard engineering methods and practices identified in the mitigation measures above. **Appendix A** of this ROD details the geology and soil mitigation measures, which are formal commitments associated with Project approval. Following

implementation of these mitigation measures, the Project would not result in any residual impacts to geology and soils.

5.10 HAZARDOUS MATERIALS

An adverse hazardous materials impact could occur if the Project were near a property identified as having potential contamination (also known as a property of environmental concern) and thus may require disturbance of contaminated soils or groundwater. Impacts could also occur if the Project required the demolition of structures potentially containing hazardous materials (such as lead paint or asbestos) or entailed the use, storage, or transport of hazardous materials.

Construction activities associated with the facilities and rail alignments may encounter contaminated soils and/or groundwater or other previously identified hazardous materials that must be removed, disposed of, and/or remediated. Investigations, including environmental database and aerial photography reviews and field reconnaissance, identified several sites where the presence of such contaminated materials is known or suspected. Any ground disturbance activity comes with the risk of encountering unanticipated areas of contamination. To protect against such risks, mitigation sets forth appropriate protocols consistent with accepted professional standards to ensure the safe excavation, treatment, and/or encapsulation/disposal of contaminated materials. Construction of the Project may also entail the demolition of structures suspected to contain asbestos and/or lead paint. Mitigation is included to ensure that demolition avoids or minimizes the release of any such hazardous material.

To ensure the safe use and transport of hazardous materials needed for operations (such as solvents, paints, compressed gases, and waste products), mitigation requires the preparation of a Hazardous Materials Management Plan and the securing of any required Federal, state, or local permits for the installation and operation of any chemical or fuel storage tanks.

All potential effects related to hazardous materials can be controlled successfully through the application of standard safety planning methods and practices identified in the mitigation measures. **Appendix A** of this ROD details the hazardous materials mitigation measures, which are formal commitments associated with Project approval. No residual effects from hazardous materials would remain.

5.11 AIR QUALITY AND GLOBAL CLIMATE CHANGE

Adverse air quality impacts could result if operation of the Project exceeded a state or federal air quality standard or resulted in a localized concentration of emissions (a carbon monoxide (CO) "hotspot.") Adverse construction period effects would occur if the Project

resulted in the release of air pollutants in excess of de minimis thresholds under the General Conformity Rule (40 CFR Part 93).

Operation of the high-speed passenger rail system is expected to reduce the number of automobiles traveling on I-15 between Victorville and Las Vegas. This expected reduction in vehicle trips would reduce the emissions of several air pollutants and greenhouse gases relative to existing conditions and a resulting beneficial effect to regional air quality as a result, no Federal or State air quality standard would be exceeded.

At the local level, automobile and bus activity at the Project stations would have the potential to result in concentrations of air pollutants associated with vehicle exhaust. Within the urban settings where such facilities would be located, the increase in vehicles associated with new Project-related traffic at already congested intersections could result in concentrations of carbon monoxide (CO hotspot).[14] Analysis in the Final EIS documented that the increase in Project-related traffic would slightly increase the concentration of CO at certain intersections near the Victorville and Las Vegas facilities, but the resultant level of CO concentration would remain below the threshold of significance set forth in the National Ambient Air Quality Standards (NAAQS).

Construction of the Project would temporarily generate emissions of fugitive dust (particulate matter -PM_{10} and $PM_{2.5}$), construction equipment tailpipe emissions (reactive organic compounds, nitrous oxide, and carbon monoxide), and volatile organic compounds associated with paving and painting. Modeling of all construction-related activities, including the transport of materials to and from construction sites was conducted for the Final EIS, with results calculated for both of the air basins spanned by the Project area (the Mojave Desert Air Basin and the Clark County Air Basin). Prior to mitigation, these results exceeded de minimis standards for CO under the General Conformity Rule. After identifying appropriate mitigation which will be implemented during Project construction, all construction-related emissions fell below the de minimis standards. These mitigation requirements include the use of off-road equipment meeting the most newest and most stringent air quality standards, the use of low-VOC paints, and the use of composite fuels.

All potential effects to air quality resulting from construction-related activities can be controlled successfully through the application the mitigation measures mentioned above. **Appendix A** of this ROD details the air quality mitigation measures, which are formal

[14] The Project is not subject to the Transportation Conformity Rule (codified at 42 U.S.C. 7506(c), Section 176(c)) as it is not a highway or transit project of the FHWA or the Federal Transit Administration. Transportation Conformity Rule requirements apply exclusively to the project sponsored by those agencies. Among the requirements under the Transportation Conformity Rule are analysis of concentrations of particulate matter (PM); there are no similar requirements for projects subject to the General Conformity Rule (58 FR 63214).

commitments associated with Project approval. Overall, the Project would result in a beneficial operational effect with regard to regional emissions, no substantial localized concentration of carbon monoxide, and construction period emissions below the de minimis standards of the General Conformity Rule. No residual air quality effects would remain.

5.12 NOISE AND VIBRATION

Adverse impacts to noise and vibration could occur if the Project resulted in a substantial operation or construction period noise or vibration effect on identified sensitive recievers.

Operation of the Project would result in increased noise levels associated with passing trains on the rail alignment and increased activity and traffic near the station and maintenance facilities. Under FRA's established criteria, noise and vibration effects require the nearby presence of a sensitive receptor.

Noise associated with passing trains would increase noise levels for sensitive receptors, such as residential, commercial, and hotel uses, in the Barstow, Yermo, and the metropolitan Las Vegas areas, potentially resulting in adverse effects under FRA's noise criteria. As the Project rail alignment would be located primarily within the existing I-15 freeway corridor, the high-speed train passbys would incrementally add additional noise along the I-15 corridor expanding the areas affected by transportation noise. The amount the Project would expand the areas affected by transportation noise varies depending on location. In Barstow, the Project would extend the 65 dBA contour an additional 200-250 feet from the centerline of the I-15 in both directions. In metropolitan Las Vegas, where existing noise levels are generally much higher than in Barstow, the existing 65 dBA contour would be extended an additional 20 feet in both directions from the centerline of the I-15 freeway. This expansion of the existing noise contour may impact nearby sensitive receptors, such as residential uses, particularly in Barstow. Noise impacts were then re-analyzed with the incorporation of mitigation in the form of specialized noise reducing equipment and appropriate physical noise barriers along the rail alignment. The effectiveness of these types of mitigation has been verified through previous uses on surface transportation project (freeways and railroads) around the country. The noise modeling conducted for the Project showed that all construction and operation period adverse noise effects (all "impacts" and "severe impacts" as defined by FRA's criteria) will be fully mitigated. For those areas where noise barriers or specialized equipment would not be feasible to implement, alternative mitigation methods will be implemented, including the installation of appropriate sound insulation within buildings along the rail alignment and/or the acquisition of properties if ultimately necessary.

Analysis indicated that rail operations would not result in any vibration impacts. Where the rail alignment travels through urbanized areas like Barstow and metropolitan Las

Vegas, tracks are located on elevated structures, which minimize the potential for train-related vibration as experienced by people in nearby buildings.

Project construction could result in localized noise and vibration effects, including effects associated with pile driving, motorized construction equipment, or construction activities occurring during noise-sensitive time periods (i.e. nighttime in residential areas). Mitigation is included that requires construction to conform to the few applicable local noise regulations, perform ongoing monitoring, and limit the timing and location of certain activities to avoid the disturbance of sensitive receptors.

Implementation of the noise and vibration mitigation measures would fully mitigate noise and vibrations impacts, including severe noise impacts, associated with operation of the Project. **Appendix A** of this ROD details the noise mitigation measures, which are formal commitments associated with Project approval. No residual noise or vibration effects would remain.

5.13 ENERGY

An adverse impact relative to energy would occur if the Project resulted in a significant change in energy consumption either through construction and/or operations.

Implementation of the Project would lower operation energy consumption relative to projected future conditions under the No Action Alternative without the addition of rail service. This change is associated with an expected shift from automobile usage to train usage. By reducing automobile traffic on the I-15 corridor and allowing for inter-regional mobility via electric-powered trains, the Project would result in a net decrease in energy consumption, equivalent to about 440,000 barrels of oil each year. This is a beneficial effect.

Construction of the Project would require the temporary commitment of energy resources. The Final EIS analyzed whether this commitment could be recovered through the energy savings associated with ongoing operations. The analysis indicated that the energy savings after about two years of train operations would account for all of the energy spent on construction. This is also a beneficial effect.

Overall, implementation of the Project would result in a beneficial overall reduction in total energy consumption (electric power demand and petroleum-based consumption). The Project would continue to result in a reduction in automobile energy use that would be greater than the new energy required by the railway.

5.14 BIOLOGICAL RESOURCES

Construction of the Project has the potential to result in effects to various biological resources, including sensitive animal and plant species (and habitats associated with such

species), native vegetation, special management lands, or wetlands or waters of the United States. Operation of the Project has the additional potential to result in a new barrier to wildlife movement.

Project biologists initiated their investigation with a review of available literature sources and databases documenting the presence of biological resources in the potentially affected area. The scope of the biological resources analysis for the Project was developed in close consultation with several resource management agencies with responsibilities and/or special knowledge of the area, including the BLM, the US Fish and Wildlife Service (USFWS), the California Department of Fish and Game, the Nevada Department of Wildlife, and others. This scoping helped identify areas of potential effect for different species and habitats and thus served to focus subsequent fieldwork and analysis for each resource type considered.

Following identification of the Preferred Alternative, FRA formally initiated consultation under Section 7 of the Endangered Species Act with the USFWS through the submittal of a BA for the Project, focused on federally listed species, which in this area concerns the desert tortoise, whose status is identified as threatened under the Endangered Species Act. In April 2011, the USFWS issued its BO for the Project, included as **Appendix D** of this ROD, which included several additional protective measures that have been incorporated as mitigation commitments in this ROD. With regard to other agency review and comment, the Nevada Department of Wildlife (NDOW) issued a comment on the Final EIS noting its support of the Project (See Final EIS Comment F-41 within **Appendix C** of this ROD).

The Final EIS set forth mitigation intended to avoid or minimize impacts to biological resources generally. These required measures include a mandatory training program for all construction workers, appropriate pre-construction surveys particular to certain species and habitat areas, the use of appropriate construction fencing around sensitive resources to avoid damage, construction period monitoring and controls, the confining of construction equipment to designated work zones, adherence to best practices to avoid the unintentional dispersal of invasive weeds and excessive erosion, requirements to restore topsoil and natural site topography upon completion of construction, requirements to obtain tree/plant removal permits where necessary from appropriate agencies, and to compensate for the loss of sensitive vegetation communities, special-status plant populations (if unavoidable), and species habitat. These measures would mitigate potential effects to several identified sensitive species, including banded gila monsters, Mojave fringe-toed lizards, big horned sheep, American badger, plus several protected bat and bird species. Please see below for potential effects related to the desert tortoise.

The Project would have effects on several specific types of biological resources. Among these are sensitive vegetation communities and special-status plant populations. To avoid

or minimize such effects, required mitigation includes the requirement for preconstruction surveys to pinpoint sensitive areas, incorporation of avoidance measures into final design-build plans to avoid special status plan populations, and, in the event avoidance cannot be achieved, compensation for any loss of sensitive vegetation communities at a ratio to be determined by a governing resource agency.

The Final EIS and the BO focused extensively on potential effects to the desert tortoise, a species considered "threatened" under the Endangered Species Act. Construction and operation of the Project have the potential to harm or kill individual tortoises and to have permanent or temporary impacts to tortoise habitat. The effects to desert tortoise habitat differ substantially for the two Segment 4 alignments included in the Selected Alternative. Segment 4C would impact desert tortoise relocation areas for the ISEGS project, further degrading the tortoise habitat in this area. Segment 4A would impact the Ivanpah DWMA and Mojave National Preserve. In total, Segment 4A, if constructed, would permanently impact 42.2 acres and temporarily impact 371.7 acres of desert tortoise habitat. In comparison, Segment 4C would permanently impact 167.7 acres and temporarily impact 722.23 acres of desert tortoise habitat. Substantial mitigation requirements are incorporated in this ROD to address potential impacts to this species. Preemptive requirements include the preparation of a tortoise relocation plan to avoid harm to tortoises from construction activities, the installation of exclusion fencing to ensure tortoises do not enter active construction areas, and the integration of appropriate culverts into final design-build plans to allow continued passage of tortoises following construction. Additional mitigation requirements are included to address the potentiality of direct harm to tortoises, including requirements for monitoring construction areas and protocols for the treatment/disposition of injured or killed tortoises. Other mitigation requirements include compensation for the disturbance of tortoise habitat by providing for suitable habitat elsewhere,[15] measures to limit the roosting of common ravens (a predator of tortoise eggs and juvenile tortoises), and measures to monitor and report on the effectiveness of mitigation measures.

Appendix A of this ROD details the biological resources mitigation measures, which are formal commitments associated with Project approval. Collectively, these measures would mitigate many impacts to biological resources, but residual effects would remain. Even with adherence to these mitigation requirements, the Project would result in the permanent loss of native vegetation communities, sensitive plant communities, special status plant populations, BLM special management lands, and sensitive habitat areas for

[15] Current requirements for the loss of desert tortoise habitat are based on a formula of 5:1 inside DWMAs and 1:1 outside DWMAs. For the purposes of the Project change to the compensation formula must be reviewed by the USFWS, NPA, and CDFG.

several species (desert tortoise, banded gila monster, reptile species protected under the Clark County MSHCP, burrowing owl, American badger, and bighorn sheep).

5.15 SECTION 4(F) EVALUATION

The Final EIS included an evaluation required by Section 4(f) of the Department of Transportation Act of 1966 (23 USC 138 and 49 USC 303(c)). Adverse impacts to Section 4(f) resources could occur if the Project results in a direct or constructive use of an identified Section 4(f) resource. Section 4(f) resources include parks and recreational lands, Clean Air Act Class I Areas, wildlife and waterfowl refuges, and historic architectural or archeological sites. A direct use occurs when a property protected by Section 4(f) is permanently incorporated into a transportation facility or is temporarily occupied. A constructive use can occur when there is no direct use, but the proximity impacts (factoring in mitigation measures) of the project on the property or resource protected by Section 4(f) are so severe that the activities, features, or attributes that qualify the property or resource for protection are substantially impaired.

Two types of Section 4(f) resource classes were screened out, due to lack of existence within proximity to the project. There are no wildlife or waterfowl refuges within twenty miles of the Project; accordingly, FRA concluded that no uses of any such resource would occur. Additionally, there are no historic architectural resources within the APE of the Project. Accordingly, the Project would not result in any uses of any such resource.

There are approximately 19 parks and recreational lands, including the Mojave National Preserve, within one mile of Project facilities and rail alignments. None of these parks would be directly used, as Project facilities would be located outside the boundaries of such lands. Therefore, the evaluation focused on the potential for constructive use. FRA's investigation examined the potential for the Project to result in noise, vibration, visual, access, or ecological intrusion impacts on park lands, ultimately concluding that none of these impacts would occur, primarily owing to substantial distance between Project facilities and existing park and recreation lands.

With respect to Segment 4, at present construction of Segment 4A is not possible absent legislative authority because it requires an approximately 1.55 mile encroachment in the Mojave National Preserve which is a 4(f) resource. FRA believes, any legislative authority is likely to include a land swap that would remove such property from the Preserve boundaries which would avoid a direct 4f use. Ideally, such a land swap would include enough property to allow the Project to be designed to avoid any potential proximity effects to the Park.

The closest Class I area to any portion of the Project is the Cucamonga Wilderness, more than 30 miles south of Victorville. The distance of the Project to these resources would not substantially impair any protected activities, features or attributes which qualify them

for protection under Section 4(f). Nor would the Project result in severe proximity impacts to aesthetics, noise, vibration, access, or ecological resources at these properties. There would be no direct or constructive uses of these resources.

FRA thoroughly examined the potential for the Section 4(f) use of archaeological resources. In order for a cultural resource to be protected under Section 4(f), it must be eligible for the National Register under specific criteria. Archaeological resource sites whose importance as a resource can be fully documented through a data recovery process alone are not protected under Section 4(f). Although the preparation of site records as well as formal eligibility determinations were phased per the terms of the Programmatic Agreement (PA) for the Project, FRA nonetheless consulted with the BLM and interested Tribes and ultimately opted to prepare more than 50 site records for resources with the potential for protection under Section 4(f). Following a rigorous and collaborative preliminary evaluation process, FRA concluded that one archaeological resource site met the criteria for protection under Section 4(f). After modifications to Segment 3B, as detailed in Segment 3B (Modified), this resource would not be impacted by the Project or cause a Section 4(f) use.

6.0 Summary of Comments on the Final EIS

During the 30 day waiting period following publication of the Final EIS, FRA received substantive comments. FRA received comments from 17 commenters regarding the following topics: purpose and need, alternatives, air quality, biological resources, cultural resources, cumulative impacts, environmental justice, growth, hazardous materials, hydrology, land use, noise, Section 4(f), traffic and transportation, utilities, and visual resources. The range and types of comments received are summarized below.

All substantive comments have been addressed in detail in Appendix C of this ROD. In many cases, FRA's response identifies where in the EIS Documents (DEIS, SDEIS, FEIS) the particular issue raised in the comment had been previously addressed. Other responses provide minor clarification about Project details or design issues, or mitigation measures. Certain comments warranted further review or consultation and in some cases, revision/expansion of mitigation measures. The range and types of comments received on the Final EIS are summarized below.

Regarding the Project Purpose and Need and Alternatives considered, commenters raised questions regarding the viability of the Project with a terminus in Victorville, asked whether other technology or routing alternatives should have been considered, and inquired about the implications of a possible federal loan for construction.

Commenters asked about potential air quality impacts during Project operations, particularly in areas near stations, where air quality could be affected by roadway traffic accessing the station.

Comments regarding biological resources asked for clarification on the scope of the biological resources assessment and potential effects to certain species.

Comments regarding cultural resources included clarification regarding the proposed phased approach to archaeological resource evaluation through a Programmatic Agreement, and raised questions regarding the extent of consultation with Native American Tribes. In response to these comments and concerns, the number of mitigation measures was expanded from what was included in the Final EIS to more completely encompass binding provisions of the Programmatic Agreement.

Commenters questioned the adequacy of the cumulative impact analysis, noting that impacts to certain biological resources (desert tortoise, desert bighorn sheep) should also be considered as cultural resource impacts given the significance of these species to particular Native American Tribes.

A commenter inquired whether additional attention was warranted regarding potential mobile source air quality impacts near the Las Vegas Central Station B.

Comments regarding growth issues centered on the anticipated intensity of adverse economic impacts on the City of Barstow and the potential for Project stations to induce growth in the Victorville area. In response to the comments regarding impacts to the City of Barstow, FRA commissioned a supplemental economic impact study to more specifically examine the comments of the City of Barstow in a separate economic impact study it submitted with its Final EIS comments. This supplemental study (the "Husing Review") is included as Appendix C to this ROD. The supplemental study addressed the issues raised by the City of Barstow in its Final EIS comments and further explained the reasoning behind FRA's previous conclusions regarding the extent of adverse economic impacts to the City of Barstow.

Comments regarding hazardous materials issues requested clarification on the scope of the evaluations conducted as part of the analysis for the Draft EIS and Supplemental Draft EIS.

Comments regarding hydrology included clarification on the extent of mitigation measures that would be included in the ROD, particularly with regard to Segment 4C and the Victorville Station.

Comments regarding land use issues indicated concern regarding compatibility with aviation facilities and existing residential land uses in the southwestern metropolitan Las Vegas area; and clarification on previously identified impacts in the City of Barstow. In

post-Final EIS consultation with the Federal Aviation Administration, FRA revised and expanded land use mitigation measures to avoid and minimize impacts to McCarran International Airport in Las Vegas and the proposed Southern Nevada Supplemental Airport near Primm.

Comments regarding noise issues sought clarification on the efficacy of noise mitigation measures proposed for the Project, particularly near residential areas in metropolitan Las Vegas.

Commenters questioned the methodology of the Section 4(f) evaluation, suggesting that certain cultural resources were improperly excluded from consideration as properties protected under Section 4(f).

Comments regarding traffic included questions of the effectiveness of mitigation identified in the Final EIS and questions related to safety of people and vehicles in and near the I-15 corridor, particularly with regard to existing windy conditions in many places along the Project corridor.

Comments regarding utilities questioned the scope of the STB's preemption authority in terms of possible utility system modifications needed to ultimately serve the Project and the efficacy of mitigation identified to address impacts to fire and emergency service providers.

Comments regarding visual effects included the potential for light pollution in the metropolitan Las Vegas area and possible obstruction of advertising signage along the I-15 corridor.

Please see Appendix C of this ROD for FRA's responses to these comments. In issuing this ROD, FRA has considered all comments received on the Final EIS, as well as the previous comments received on the Draft and Supplemental Draft EIS.

7.0 Corrections to the Final EIS

The following lists minor corrections to the Final EIS. In all of the cases below, typographical or editing errors resulted in the misstatement of certain environmental effects. None of these errors materially affected the decision-making of FRA or the Cooperating Agencies.

Final EIS p. 3.3-6, Table F-3.3-2 – Farmlands. Table overstated the amount of indirectly affected farmland for Segment 3A: the correct amount is 0.0 acres (no effect). The table incorrectly stated that 0.31 acres of farmland would be affected by Segment 3A.

Final EIS p. 3.7-16 and 3.15-24, regarding archaeological resource CA SBR (00)885: Table F-3.7-1 on p. 3.7-16 erroneously indicates that this resource is in the APE; Table F-3.15-2 on p. 3.15-24 correctly states that this resource is outside the APE.

Final EIS p. 3.7-10, Section 3.7.2.3: The text overstates the total number of cultural resources potentially affected by the Project.

1. "Preferred Alternative": The count of cultural resources affected by the Preferred Alternative assumed the construction of Segment 4C. The accurate numbers of cultural resources associated with this alternative are noted below:
    - 92 resources assumed eligible
    - 38 resources previously identified as eligible
    - 109 resources previously identified as not eligible

    Total: 239 resources (not 254 as noted on Final EIS p. 3.7-10)
2. Segment 4A: The Selected Alternative identified in the ROD includes Segment 4A and notes Segment 4C as a contingent alternative if legislative action to permit the implementation of Segment 4A is not adopted. For clarification purposes, the number of cultural resources associated with the Selected Alternative incorporating Segment 4A instead of Segment 4C is as follows:
    - 90 resources assumed eligible
    - 37 resources previously identified as eligible
    - 98 resources previously identified as not eligible

    Total: 225 resources

The Final EIS p. 3.9-7, Table F-3.9-2 – Geology and Soils included two misstatements of comparative geologic impacts:

1. Surface Fault rupture risk: The table overstated the likelihood of surface fault rupture for Segments 4A and 4B. These should have been noted as having "low" risk of surface fault rupture.
2. Ground shaking risk: The risk for Segment 6B have been the same as noted for Segments 6A and 6C: low to moderate.

Final EIS p. 3.14-39, Table F-3.14-1, Table 1 of 3. The table overstated the amount of desert tortoise impacts related to Segment 6A: the correct amounts are 0.0 for both permanent and temporary effects. The table incorrectly stated 40.2 acres of permanent impact and 116.6 acres of temporary impact.

Final EIS p. 3.14-42,Table F-3.14-1, Table 2 of 3. The table overstated the acreage of Mohave ground squirrel (MGS) temporarily affected by Segments 3A and 3B. The correct

amounts for both Segment 3A and 3B is zero. This same error was made in the Draft EIS within Table 3.14-13 on Draft EIS page 3.14-60.

8.0 Decision

8.1 BASIS FOR DECISION

DesertXpress Enterprises proposes to implement high-speed passenger rail service between Victorville, California and metropolitan Clark County (Las Vegas), Nevada. The purpose of the DesertXpress Project is to offer a safe, reliable alternative to automobile and air travel between southern California and Las Vegas using proven rail technology. Currently, the overwhelming majority of travelers between southern California and Las Vegas travel in automobiles on Interstate 15, contributing to substantial safety and congestion concerns on that roadway and in adjacent communities. Projected travel demand on I-15 is expected to continue to increase commensurate with projected population growth in southern California. Implementation of the DesertXpress Project will help address these needs.

In addition, the Passenger Rail Investment and Improvement Act of 2008 established high-speed rail corridor development as an important component of the Nation's transportation policy. Moreover, on July 2, 2009, U.S. Transportation Secretary Ray LaHood announced that the Department of Transportation had officially extended the designation of the California High-Speed Rail Corridor to Las Vegas, Nevada.

Implementation of the DesertXpress Project is thus consistent with the Department of Transportation and FRA's vision of the important role high-speed intercity passenger rail can play in certain travel markets (see *Vision for High-Speed Rail in America*, April 2009 http://www.fra.dot.gov/downloads/rrdev/hsrstrategicplan.pdf).

The Selected Alternative identified in this ROD as the Project is composed of rail alignments, facilities, and a locomotive technology. Section 4.3 of this ROD articulates in detail the considerations and factors balanced by FRA in arriving at this decision. These considerations extended to the evaluation of numerous Action Alternatives and a No Action Alternative. The components of the Project are as follows:

- **Alignments**
  - Segment 1
  - Segment 2C Side Running
  - Segment 3B (Modified)
  - Segment 4A, if legislative action allows; otherwise Segment 4C
  - Segment 5B

  - Segment 6B
- **Facilities**
  - **Victorville Station:** VV3B
  - **Las Vegas Station:** Las Vegas Central Station B or Las Vegas Southern Station
  - **Victorville OMSF:** OMSF 2
  - **Las Vegas MSF:** Wigwam Avenue MSF
  - **Las Vegas Substation:** Frias Substation
- **Technology**
  - **EMU:** Electric Multiple Unit

The Project also incorporates a total of 16 Temporary Construction Areas (TCAs) necessary to construct the selected alignments and facilities.

FRA, in accordance with the Council on Environmental Quality NEPA implementing regulations (40 CFR Parts 1500-1508) and FRA's Procedures for Considering Environmental Impacts (64 FR 28545, May 26, 1999), finds that the requirements of NEPA have been satisfied for the DesertXpress Project.

The environmental record for DesertXpress Project includes the Draft EIS (March 2009), the Supplemental Draft EIS (August 2010), the Final EIS (March 2011), and this ROD, which includes comments from the circulation of the Final EIS. These documents represent the detailed analysis and findings required by NEPA on:

- The environmental impacts of the proposed Project
- Alternatives to the proposed Project
- Irreversible and irretrievable impacts on the environment which may be involved in the proposed Project should it be implemented.

On the basis of the evaluation of social, economic, and environmental impacts contained in the Draft EIS, Supplemental Draft EIS, and Final EIS, as well as the written and oral comments offered by the public and by other agencies, FRA determines that:

- Adequate opportunity was afforded for the presentation of views by all parties with a significant economic, social, or environmental interest, and fair consideration was given to the preservation and enhancement of the environment and to the interest of the communities in which the proposed Project is located and
- All reasonable steps were taken to minimize adverse environmental effects of the proposed Project, and where adverse environmental effects remain, they have been fully reported in Draft EIS, Supplemental Draft EIS, and Final EIS.

The extensive opportunities provided for public and other stakeholder involvement in planning and decision-making are described in Chapter 4 of the Final EIS. The reasonable steps to minimize adverse environmental effects are described in Chapter 3 of the Final EIS and are detailed as Project commitments in **Appendix A** of this ROD.

8.2 SECTION 106

Section 106 of the NHPA of 1966 requires that any federal agency having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking take into account the effect of the undertaking on any district, site, building, structure, or other object that is listed or eligible for listing on the National Register of Historic Places. Under this provision, in an effort to avoid or minimize adverse effects to cultural resources, a Programmatic Agreement (PA) was developed and executed by FRA, all federal Cooperating Agencies (BLM, NPS, STB, FHWA), the Nevada and California State Historic Preservation Officers (SHPOs), and the Applicant (see Final EIS Appendix F-H). In addition, one Native American Tribe, the Las Vegas Paiute, signed as a concurring party. Following publication of Records of Decision or other decision documents by the federal Cooperating Agencies for the Project, the terms of the PA will be implemented. The PA sets forth numerous requirements intended to ensure appropriate treatment of historic resources is employed during the ground-disturbing activities associated with Project construction.

The PA also stipulates protocols for how and when formal eligibility determinations would be made. Specifically, while extensive efforts have occurred to identify potential historic resources, the PA describes a phased implementation approach consistent with 36 C.F.R. 800.4(b)(2) permitting formal eligibility determinations to be made after the Preferred Alternative is identified and ratified by the Lead and Cooperating Agencies via decisions on the proposed action. Eligibility determinations will be made by the appropriate agency (in this region, either BLM or FRA) based on information presented in completed state-appropriate site records forms. Moreover, the PA sets forth requirements for Tribal monitoring of construction activities to help ensure protection of cultural resources that may be encountered.

Adherence to the terms of the PA will fulfill all obligations under Section 106 of the National Historic Preservation Act (16 USC 470f).

As articulated in Chapter 4 of the Final EIS, FRA conducted extensive consultation with Native American Tribes and tribal organizations with known or assumed ancestral presence in the area of the proposed action. Several formal government-to-government consultations occurred over the course of the environmental review as well as numerous informational sessions. FRA invited these 13 organizations to comment on draft versions of the PA and subsequently invited them to sign to sign the PA as concurring parties.

Notably, the PA stipulates that a signature as a concurring party is not a condition of future participation in the implementation of the PA.

Based upon these findings and implementation of the PA, FRA determines that the Project is in accordance with requirements of Section 106.

8.3 SECTION 4(F)

Section 4(f) of the Department of Transportation Act of 1966, codified in federal law at 23 U.S.C 138 and 49 U.S.C. 303, declares that "it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation land, wildlife and waterfowl refuges, and historic sites." Section 4(f) states that the Secretary of Transportation "may approve a transportation program or project . . . requiring the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance (as determined by the federal, state, or local officials having jurisdiction over the park, area, refuge, or site) only if:

1. there is no prudent and feasible avoidance alternative to the use of the land from the Section 4(f) property; and

2. the program or project includes all possible planning to minimize harm to the Section 4(f) property resulting from the use.

In the Final EIS, FRA prepared a Final evaluation under Section 4(f) in compliance with all requirements of the law as well as FRA's Procedures for Considering Environmental Impacts.

FRA selected a Project alternative that avoids any use of Section 4(f) properties. Based upon this evaluation, FRA concludes that the Project is consistent with the requirements of with Section 4(f).

8.4 SECTION 6(F)

Section 6(f) of the Land and Water Conservation Fund Act (LWCFA) concerns transportation projects that propose impacts, or the permanent conversion, of outdoor recreation property that was acquired or developed with LWCFA grant assistance.

Passed in Congress in 1965, the LWCFA provides grants which pay half the acquisition and development cost of outdoor recreation sites and facilities. Section 6(f) of the act states that property acquired through this grant money cannot be taken out of recreational use without approval of the Department of Interior's National Park Service (NPS). Section

6(f) also holds the NPS "to assure that replacement lands of equal value, location and usefulness are provided as conditions of approval of land conversions."

The Project would not result in the conversion of any property acquired with funds from the LWCFA. The closest qualifying property to the Selected Alternative is the Camp Cady Wildlife Area in San Bernardino County, California. Funds from the LWCFA were authorized to acquire land for this resource area (a wildlife refuge) in 1979 and 1984. This site is approximately 3 miles from the rail alignment; on the basis of this distance, FRA also concluded that the site would not be subject to any use under Section 4(f) of the Department of Transportation Act of 1966.

Therefore, FRA concludes that the Project would not result in any impact or conversion of property acquired or developed with LWCFA grant assistance. Based upon these findings, FRA determines that the Project is in accordance with requirements of Section 6(f).

8.5 SECTION 7 ENDANGERD SPECIES FINDING

FRA requested formal consultation with the USFWS under Section 7 of the Endangered Species Act. A BA was prepared for the proposed action addressing potential impacts to the federally-listed threatened species affected by the Project, the desert tortoise (*gopherus agassizii*). In response, the USFWS issued a BO on April 26, 2011 stating that the proposed action would not jeopardize the continued existence of the desert tortoise, nor would the proposed action result in an adverse modification of critical habitat. Based upon these findings, FRA determines that the Project is in accordance with requirements of Section 7.

8.6 WETLANDS FINDING

Presidential Executive Order 11990, "Protection of wetlands," directs federal agencies to avoid to the extent possible the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Construction of the Project would not traverse, modify, or destroy any wetlands. Based upon these findings, FRA determines that the Project is in accordance with requirements of Executive Order 11990.

8.7 FLOODPLAINS AND FLOODWAYS FINDING

DOT Order 5620.2 implements Executive Order 11988, Floodplain Management and Protection. These orders state that FRA may not approve an alternative involving a significant encroachment unless FRA can make a finding that the proposed encroachment is the only practicable alternative. The major purposes of Executive Order 11988 are to

avoid Federal support for floodplain development; to prevent uneconomic, hazardous, or incompatible use of floodplains; to restore and preserve the natural and beneficial floodplain values; and to be consistent with the standards and criteria of the National Floodplain Insurance Program.

FRA concludes that the Project will not result in any substantial adverse impact on natural and beneficial values of the floodplains, will not result in a substantial change in flood risks or damage, and will not have a substantial potential for interruption or termination of emergency service and evacuation routes. Based upon these findings, FRA determines that the Project is consistent with requirements of Executive Order 11988.

8.8 ENVIRONMENTAL JUSTICE FINDING

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires that each Federal Agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Department of Transportation (DOT) Order to Address Environmental Justice in Minority Populations (DOT order 5610.2 (April 15, 1997)) imposes similar obligations on DOT operating administrations to promote the principles of Executive Order 12898 and incorporate such principles in all programs, policies, and activities including the NEPA process.

The majority of the Project would be within or adjacent to an existing transportation corridor and would not bisect minority or low-income neighborhoods nor require the displacement of residences in those neighborhoods. The anticipated human and environmental effects of the Project would not be disproportionately borne by the minority or low-income populations within the study area. Based upon these findings, FRA determines that the Project is consistent with requirements of Executive Order 12898.

9.0 Conclusion

FRA has reached a decision based on the information contained in the Draft EIS, Supplemental Draft EIS, and Final EIS. FRA approves the Project identified as the Selected Alternative in this ROD. FRA has selected this alternative because the alternative 1) best satisfies the Purpose and Need for the proposed action; 2) minimizes impacts to the natural and human environment by utilizing an existing transportation corridor where practicable and incorporating other mitigation measures. Accordingly, this alternative has been selected based on processes in compliance with NEPA and other applicable requirements, and may be advanced.

Joseph C. Szabo
Administrator
Federal Railroad Administration

Date 7/8/11

Attachments:

Appendix A: Mitigation and Commitments
Appendix B: Husing Review
Appendix C: Final EIS Comments and Responses
Appendix D: Biological Opinion

Appendix A: Mitigation and Commitments

Resource	Mitigation and Commitments
Land Use and Community Impacts	
	Mitigation Measure LU-1: Rail Alignment Design in One-Engine Inoperative Zones near McCarran Las Vegas International Airport During the design-build process of Project plans in the vicinity of McCarran International Airport (LAS), the Applicant shall coordinate with the Federal Aviation Administration (FAA), the Clark County Department of Aviation (CCDOA), and airlines operating at the airport to avoid impacts to the one-engine inoperative zones and departure conditions under FAA standards. Consistent with *Paragraph 6-3-1.b of FAA Order 7400.2G*, the Project shall not penetrate the 62.5:1 Obstruction Identification Surface (OIS) at LAS. The Applicant shall provide FRA with written verification of the agreement with the Manager of the FAA's Flight Standards Division, Western-Pacific Region and the CCDOA prior to completion of Project designs for the affected portion of Segment 6B.
	Mitigation Measure LU-2: Rail Alignment Design in Existing and Planned Runway Protection Zones During the design-build process of Segment 5B in the vicinity of the proposed Southern Nevada Supplemental Airport, the Applicant shall comply with Federal Aviation Administration (FAA) Airport Design Standards, as specified in FAA Advisory Circular 150/5300-13, *Airport Design*, concerning land uses within designated Runway Protection Zones, and consult with the Manager of the FAA's Airports Division, Western-Pacific Region to ensure compliance prior to construction. The Applicant is further advised to consult with FAA at the earliest opportunity in the design process.

Resource	Mitigation and Commitments
Growth	
	Voluntary Mitigation Measure GRO-1: Voluntary Applicant Coordination with City of Barstow and San Bernardino County for Employment The Selected Alternative includes Victorville OMSF 2, which would be located less than 20 miles south of the City of Barstow. The Victorville OMSF will require hundreds of skilled railroad workers. The Applicant will coordinate with the appropriate City of Barstow and San Bernardino County economic development departments to ensure job opportunities at the maintenance facility are made available to Barstow residents. In addition to permanent jobs during operations, preliminary planning has identified Barstow as a key location for staging and construction support services during the construction, testing, and commissions phases of the Project. The Applicant will work with the City of Barstow to ensure its residents are informed of job opportunities both during construction and operation of the Project. The Applicant will also work closely with the City of Barstow to identify appropriate and beneficial construction and staging activities to be located within the City. Additionally, the Applicant will work with the City to identify and jointly develop programs for job training and technical skills training to support the Project in all phases of design, construction, testing, and commissioning, and operations.
	Voluntary Mitigation Measure GRO-2: Voluntary Applicant Coordination for Land Use Planning The Applicant voluntarily commits to work with local land use planning authorities to encourage implementation of transit oriented and master planned development at the selected station site and surrounding areas; and will work with local transit providers to facilitate intermodal connections where practicable.
Farmlands and Grazing Lands	
	Mitigation Measure FAR-1: Direct and Indirect Conversion of Protected Farmland Prior to beginning ground disturbance and construction that could indirectly affect farmlands in the vicinity of Newberry Springs the Applicant shall provide documentation of the acquisition of conservation easement(s) over agricultural lands of equal quality to mitigate for direct and indirect impacts related to the permanent conversion of protected agricultural lands (Prime Farmlands, Unique Farmlands, and Farmlands of Statewide and/or Local Importance). This conservation easement(s) shall provide for the conservation of agricultural uses in perpetuity, and be held in trust by a public agency or other appropriate entity. These easements shall be located within the limits of San Bernardino County. Lands to be placed under conservation easement shall be procured on a ratio of 1 acre for each 1 acre of protected farmland

Resource	Mitigation and Commitments
	converted directly or indirectly to non-agricultural use.
Farmlands and Grazing Lands, continued.	
	Mitigation Measure FAR-2: Livestock Access to Water Prior to ground disturbance and construction of the Victorville Station and OMSF and Segment 4C the Applicant shall consult with the BLM's range resource managers to determine if the Project will affect livestock access to water on grazing lands. If the BLM's range resource managers determine that construction would block livestock access to critical water sources, the Applicant shall provide alternative water sources as approved by the BLM. Alternatively, the Applicant shall implement Mitigation Measure FAR-6.
	Mitigation Measure FAR-3: Fencing and Gate Modifications Prior to ground disturbance and construction of the Victorville Station Site and OMSF and Segment 4C, the Applicant shall coordinate with the BLM's range resource managers and permittees to locate range improvements that might require special attention when fencing or gates are modified. Gates that do not require removal shall be closed directly after construction traffic has passed though them. The Applicant shall replace all range improvements damaged or removed during construction activities as determined necessary by the BLM.
	Mitigation Measure FAR-4: Provide Adequate Cattle Access in Areas of the Joint NPS/BLM Grazing Allotment Prior to ground disturbance and construction associated with Segment 4C, the Applicant shall incorporate into design-build plans for this Segment adequate cattle undercrossings to allow movement of cattle within the joint BLM/NPS grazing allotment. The location, number and design of the crossings shall be reviewed and approved by the General Manager of the Mojave National Preserve. Alternatively, the Applicant shall implement Mitigation Measure FAR-6.
	Mitigation Measure FAR-5: Purchase Grazing Allotment Prior to construction, the Applicant shall purchase the rights to the grazing allotment(s) directly affected by VV3, OMSF2, and Segment 4C and discontinue grazing activities if determined necessary, based on implementation of Mitigation Measure FAR-3 and Mitigation Measure FAR-5. The purchase of the rights and discontinuing of grazing activities shall be reviewed and approved by the BLM and the General Manager of the Mojave National Preserve, as appropriate.

Resource	Mitigation and Commitments
Utilities/Emergency Services	
	Mitigation Measure UTIL-1: Payment of connection and or user/service/tipping fees The Applicant shall bear the costs of any needed connections to utilities and service systems, as well as any usage fees, according to fee schedules as may be established by each utility/service system. Where such fees have not been established, the Applicant shall enter in development agreements with the controlling utility/service system. This shall also include fees associated with any required annexations to utilities or service districts.
	Mitigation Measure UTIL-2: Minimize water usage through the incorporation of water saving devices wherever required or feasible; require drought-tolerant landscaping at all facilities Regarding anticipated water usage in California, the Applicant, in coordination with the Victorville Water Department, shall prepare a Water Supply Assessment. Wherever feasible, the Applicant shall ensure that design-build plans incorporate low water usage practices, including in restrooms and landscaping. Low water usage practices for landscaping shall feature drought-tolerant and/or xeriscape plantings that will minimize and/or avoid the need for any landscape watering.
	Mitigation Measure UTIL-3: Obtain a water commitment from the Las Vegas Valley Water District during the design phase Regarding anticipated water usage in Nevada, prior to construction of any facilities in Nevada, the Applicant shall obtain a water commitment from the Las Vegas Valley Water District (LVVWD). The LVVWD has indicated that anticipated water demand associated with the proposed action would not exceed regional projections. However, LVVWD will not provide any Applicant with an assurance of water availability until the Applicant obtains a "water commitment" from LVVWD to ensure that the proposed action would be served by enough water for usage and to meet fireflow requirements.
	Mitigation Measure UTIL-4: Rail segments within freeway rights-of-way shall tie into existing freeway stormwater conveyance devices In developing and refining design-build plans for the Project, the Applicant shall coordinate with the state transportation agencies in California and Nevada to ensure that Project rail alignments connect to existing stormwater discharge facilities. Along the I-15 corridor, stormwater is discharged from roadways and median areas primarily through culverts or natural and/or manmade channels. New rail segments within the freeway corridor will have the potential to generate additional stormwater requiring discharge. Wherever the addition of Project-generated stormwater would exceed the capacity of

Resource	Mitigation and Commitments
Utilities/Emergency Services, continued.	
Mitigation Measure UTIL-4, continued.	existing discharge facilities, the Applicant shall either fund the upsizing of existing facilities or create new facilities that comply with local stormwater regulations. The Applicant shall incorporate all such changes into design-build plans for the Project.
	Mitigation Measure UTIL-5: Develop appropriate stormwater conveyance structures/systems at station and maintenance facility sites, as well as points along railroad segments, where it is not possible to connect to existing systems Where it is not possible to connect to existing systems, the Applicant shall coordinate with the local agencies to develop appropriate stormwater conveyance structures/systems in the areas of the proposed improvements. All of the components that comprise the Project have the potential to generate additional stormwater requiring discharge. The Applicant shall fund the development of facilities for the Project that comply with local stormwater regulations.
	Mitigation Measure UTIL-6: Payment of impact fees for police, fire, and emergency services The Applicant shall pay any appropriate development impact fees established by the affected agencies at the time the Applicant seeks a permit to construct to support the incremental demand for additional police, fire, and emergency services at proposed stations and maintenance facilities, as well as along rail alignments in times of emergencies, created by the Project. Where such fees have not been established, the Applicant shall enter in development agreements with the appropriate entities.
	Mitigation Measure UTIL-7: Develop a comprehensive emergency operations plan The Applicant shall develop and implement an emergency preparedness plan that complies with the provisions set forth in FRA's most current *Guide to Developing a Passenger Train Emergency Preparedness Plan.* This plan shall set forth protocols in the event of train derailments and other catastrophic events. The Applicant shall be responsible for conducting briefings and/or trainings on the plan with all appropriate employees, as well as with representatives of local first responders and transportation agencies. This may include a training of local first responders regarding proposed rail facilities, including train sets, any catenary structures, and other unique features. The plan shall set forth appropriate lines of communication in the event of emergency events. The plan shall specifically identify protocols in the event an emergency involving a train derailment and blockage of any freeway lanes, an emergency in the proposed tunnels within Segment 4C, and emergencies involving loss of locomotive power.

Resource	Mitigation and Commitments
Utilities/Emergency Services, continued.	
Mitigation Measure UTIL-7, continued.	The Applicant shall file one copy of the proposed emergency preparedness plan with the FRA's Associate Administrator for Railroad Safety/Chief Safety Officer not less than 45 days prior to commencing the passenger train service. The FRA will conduct a review of the proposed plan to determine whether the elements prescribed in 49 CFR 239 are sufficiently addressed and discussed in the proposed plan. The FRA must issue a final approval letter to the Applicant prior to opening services to the public.
	Mitigation Measure UTIL-8: Avoid or minimize conflicts with existing utility infrastructure The Applicant shall implement the measures listed below to avoid or minimize potential adverse effects to water, wastewater, communications, local gas pipelines, and other physical facilities that the proposed rail alignments and/or stations would cross. **Water utilities**: Protect pipelines/canals in place, span any crossings of open canals. **Local natural gas distribution systems**: Protect/encase pipelines in place; utilize alternating current since the EMU locomotive option was selected. **Fiber optic/communications lines**: Protect line, as appropriate If the adjustment or relocation of any existing utility or pipeline or any permitted encroachment is unavoidable, the Applicant shall be responsible for all costs to the utility facility. Additional mitigation for electrical transmission lines and major petroleum pipelines is provided below. *Electrical transmission lines*: Throughout the design-build process, the Applicant shall continue to coordinate closely with all electric utilities to ensure that design-build Project plans incorporate requirements that may be set forth for development beneath electrical transmission lines. When grading activity affects access roads associated with the Los Angeles Department of Water and Power (LADWP) transmission line, the Applicant shall replace the affected access roads using the LADWP's Access Road Design Criteria. *Petroleum pipelines*. Throughout the design-build process, the Applicant shall continue to coordinate with pipeline companies to ensure that design-build Project plans incorporate measures to encase/protect all pipelines as needed to minimize any possible conflict, including any possible concerns about stray electrical current.

Resource	Mitigation and Commitments
Traffic and Transportation	
	Mitigation TRAF-1: Victorville Station Site Option 3 The Applicant shall be responsible to contribute to these mitigations equal to their fair share of the adverse effect as determined by the appropriate jurisdictional authority (the California Department of Transportation, District 8; and/or the City of Victorville, and/or San Bernardino County): ▪ Intersection 1: I-15 Northbound Ramps/Dale Evans Parkway • Opening Year: Add two northbound left turn lanes • 2030: Add northbound left turn lane ▪ Intersection 2: I-15 Southbound Ramps/Dale Evans Parkway • Opening Year: Add eastbound right turn lane Add second westbound through lane Add westbound left turn lane • 2030: Add second eastbound right turn lane ▪ Intersection 3: Station Access #1/Dale Evans Parkway • Opening Year: Signalize Add second westbound left turn lane • 2030: N/A ▪ Intersection 5: Future Street/Dale Evans Parkway • Opening Year: Signalize Add second westbound left turn lane • 2030: Add third westbound left turn lane ▪ Intersection 7: Future Street/Station Access #4 • Opening Year: Signalize • 2030: N/A
	Mitigation TRAF-2: Las Vegas Southern Station If the Las Vegas Southern Station is constructed, the Applicant shall be responsible to contribute to these mitigations equal to their fair-share of the adverse effect as determined by the appropriate jurisdictional authority (the Nevada Department of Transportation and/or Clark County):

Resource	Mitigation and Commitments
Traffic and Transportation, continued.	
Mitigation TRAF-2, continued.	▪ Intersection 1: Tropicana/ Valley View • Opening Year. Add exclusive southbound free right turn lane. • 2030: Add exclusive westbound right turn lane. Add second southbound left turn lane. ▪ Intersection 2: Tropicana/Dean Martin Drive-Industrial • Opening Year: Optimize signal offset along Tropicana • 2030: Add fourth eastbound through lane. Add fourth westbound through lane. ▪ Intersection 3: Tropicana/I-15 NB Ramps • Opening Year: N/A • 2030: Add second northbound right turn lane. ▪ Intersection 6: Hacienda/Polaris • Opening Year: Signalize this intersection. • 2030: N/A ▪ Intersection 7: Hacienda/Valley View • Opening Year: N/A • 2030: Add second eastbound left turn lane. Add exclusive eastbound right turn lane. Add third eastbound through lane. Add exclusive westbound right turn lane. Add third westbound through lane. Add second northbound left turn lane. Add third northbound through lane.

Resource	Mitigation and Commitments
Traffic and Transportation, continued.	
Mitigation TRAF-2, continued.	▪ Intersection 8: Russell/Polaris • Opening Year: Add exclusive westbound right turn lane. Add exclusive northbound right turn lane. Add southbound dual left turn lanes. Add exclusive southbound right turn lane. • 2030: Add third southbound left turn lane. ▪ Intersection 9: Russell/I-15 SB ramps • Opening Year: Optimize signal offset along Russell Road • 2030: N/A ▪ Intersection 10: Russell/I-15 NB ramps • Opening Year: N/A • 2030: Optimize signal offset along Russell Road
	Mitigation TRAF-3: Las Vegas Central Station B If the Las Vegas Central Station B is constructed, the Applicant shall be responsible to contribute to these mitigations equal to their fair-share of the adverse effect as determined by the appropriate jurisdictional authority (the Nevada Department of Transportation and/or Clark County): ▪ Intersection 1: W. Flamingo Road/Hotel Rio Drive • Opening Year: Add fourth eastbound through lane. Add second westbound left turn lane. Add fourth westbound through lane. Add second northbound right turn lane. • 2030: Stripe existing northbound through lane as a share through/right turn lane. ▪ Intersection 3: W. Flamingo/I-15 NB ramps • Opening Year: N/A • 2030: Add fourth westbound through lane.

Resource	Mitigation and Commitments
Traffic and Transportation, continued.	
Mitigation TRAF-3, continued.	▪ Intersection 4: Hotel Rio Drive/Dean Martin Drive • Opening Year: Modify eastbound right turn to have overlap phasing. • 2030: Add second northbound left turn lane. ▪ Intersection 7: W. Tropicana Avenue/Dean Martin Drive • Opening Year Add exclusive eastbound right turn lane. Add exclusive westbound right turn lane. Add exclusive northbound right turn lane. Add third southbound left turn lane. • 2030: Add fourth eastbound through lane. Add fourth westbound through lane. ▪ Intersection 9: Tropicana Avenue/I-15 NB Ramp • Opening Year: N/A • 2030: Add second northbound right turn lane.
	Mitigation Measure TRAF-4: Conduct a Design Review within the Parameters Defined in the Highway Interface Manual The Applicant shall coordinate with the State Departments of Transportation, FHWA division offices, and FRA for the design review and approval of specific Project components within the existing I-15 right-of-way. The design review shall be conducted within the parameters defined in the Highway Interface Manual (incorporated in the Final EIS as Appendix F-B). The procedures for the design review shall be agreed to by the Applicant and transportation agencies in a separate agreement. The design review shall be used to determine the following: ▪ Permanent placement of visual barriers from a motorist perspective; ▪ Need for standard highway work area traffic control measures both within and beyond the clear zone; and ▪ Appropriate protocols for access to the railroad from I-15, for operations, maintenance, or operations, and to ensure the ability to meet codes..

Resource	Mitigation and Commitments
Traffic and Transportation, continued.	
Mitigation TRAF-4, continued.	Project components within the I-15 right-of-way that require approval by the highway agencies for traffic safety, and to avoid vehicle intrusion into the railroad right-of-way, include the following: ▪ Clear zone modifications ▪ Barriers ▪ Bridges and tunnels ▪ Vertical clearance ▪ Retaining walls ▪ Drainage ▪ Median crossings ▪ Sight distance ▪ Security plans ▪ Fencing ▪ Visual screening ▪ Locked-gate access ▪ Temporary construction access ▪ Freeway interchanges or ramps and modifications ▪ Signing and striping ▪ Emergency preparedness plans
Visual Resources	
	Mitigation Measure VIS-1: Rail Features Per Mitigation Measure TRAF-4, the State Departments of Transportation, the FHWA division offices, and the FRA shall review the design of rail features within the I-15 freeway right-of-way. The Applicant shall ensure that design-build Project plans include design rail features, including pillars, raised tracks, trains, catenary structures, crash barriers, and embankments to blend with or represent the surrounding desert environment. The Applicant shall create the features in muted desert colors and avoid bright colors and highly reflective materials. The Applicant shall define in the design-build process certain rail features to include visual treatments and/or elements that create a sense of place and a memorable

Resource	Mitigation and Commitments
Visual Resources, continued	
Mitigation Measure VIS-1, continued.	experience for both motorists and pedestrians. Concrete shall be embossed with symbols or patterns, where appropriate, which create a visual link between rail features and the surrounding communities and/or the non-urbanized landscape. In coordination with the State Departments of Transportation, the FHWA division offices, and the FRA, design-build plans shall incorporate visual screening on the top of crash barriers along the entire rail corridor to mitigate any potential visual distraction to motorists from the trains and train lights. Coordination with the above agencies shall establish specific details regarding the type of screening and may also identify locations where such screening is not necessary and thus would not need to be included in design-build plans.
	Mitigation Measure VIS-2: Victorville Station Features The Applicant shall ensure that design build plans for the Victorville Station and its associated elements, such as the parking garages and pedestrian walkways, incorporate architecture, muted colors, and landscaping that reflect the surrounding non-urbanized aesthetic. The landscaping plan shall include the use of drought resistant desert plants, gravel, and stone. Pedestrian elements such as pathways and portals in both the station building and the associated garages shall incorporate desert elements such as landscaping, muted colors, and the use of desert-related symbols and patterns. Signage shall be consistent with the scale and character of the site and surroundings and avoid the use of highly reflective materials or bright neon lights.
	Mitigation Measure VIS-3: Maintenance Facility Features The Applicant shall ensure that design build plans for the maintenance facilities in California and Nevada are aesthetically appropriate for the surrounding non-urbanized landscapes through the use of muted colors and desert landscaping. The use of highly reflective materials shall be avoided. Concrete may be embossed with desert symbols and patterns.
	Mitigation Measure VIS-4: Contour Grading Where feasible, the design-build Project plans shall employ contour grading techniques to reduce the visual appearance of cuts and fill slopes. Grades, cuts, and fills shall be shaped so as to appear consistent and continuous with the natural landscape forms.

Resource	Mitigation and Commitments
Visual Resources, continued	
	Mitigation Measure VIS-5: Light and Glare Reduction The Applicant shall ensure that design-build Project plans for lighting at stations and maintenance facilities outside of the metropolitan Las Vegas area minimize disruption of the natural dark at night. The final lighting plan for these stations and maintenance facilities shall incorporate light and glare screening measures such as the use of plantings to screen well-lit areas, use of downward cast lighting, and the use of motion sensor lighting where appropriate.
	Mitigation Measure VIS-6: Educational Displays Within California, the Applicant shall provide interpretive displays and artwork in station pedestrian areas in order to create a coherent pedestrian landscape and sense of place. Such displays shall be consistent with pertinent guidelines of the Desert Managers Group (a consortium of federal and state agencies).
	Mitigation Measure VIS-7: Construction Site Management The Applicant shall maintain construction areas in an orderly manner, including proper containment and disposal of litter and debris to prevent dispersal onto adjacent properties or streets.
	Mitigation Measure VIS-8: Construction Site Lighting The Applicant shall ensure construction crews working at night direct any artificial lighting onto the work area to minimize the spillover of light or glare onto adjacent areas. Where feasible, construction lighting shall be screened from viewer groups - such as motorists on the freeway or residents in nearby towns and communities to prevent visible lighting overflow into the natural dark of the desert at night.
	Mitigation Measure VIS-9: Visual Screening The Applicant shall erect visual screening along construction areas as appropriate to ensure safety and minimize visual intrusions.
	Mitigation Measure VIS-10: Freeway Landscaping The Applicant shall replace landscaping that will be removed during construction as directed by the pertinent State Department of Transportation. Landscaping in Nevada along the I-15 freeway shall follow the Nevada Department of Transportation's (NDOT's) I-15 *Landscape and Aesthetics Corridor Plan*, 2005. Replacement landscaping shall occur in the median, along the shoulder, and in other right-of-way areas along the I-15 freeway, as appropriate, within six months of the completion of construction. In accordance with the NDOT's Landscape and Aesthetics Master Plan, up to three percent of the total construction cost of Nevada portions of the project may be allocated to landscape and aesthetic

Resource	Mitigation and Commitments
	treatments, with NDOT funding the consultant cost for landscape and design.
Cultural and Paleontological Resources	
	Mitigation Measure CR-1: Avoidance of Archaeological Resources The Applicant shall attempt to avoid archeological resources through Project design, as determined feasible in coordination with FRA and BLM. Prior to determining whether avoidance is feasible however, it may be necessary to conduct test excavations to determine the vertical and horizontal extent of resources. Once avoidance can be assured, resource location information would be placed on construction drawings in design build plans as locations to be monitored throughout construction. If during monitoring it was determined that avoidance was infeasible then the process outlined below under Evaluation (Mitigation Measure CR-2) would be followed.
	Mitigation Measure CR-2: Evaluation Prior to the commencement of ground disturbing activities, the FRA shall, in consultation with the cooperating agencies and with the Consulting Tribes, evaluate all cultural resources located within the Area of Potential Effect for the Selected Alternative for eligibility for listing in the National Register of Historic Places. With the exception of the expedited procedures outlined within the Programmatic Agreement developed for the Project (as set forth in Final EIS Appendix F-H), the FRA and the cooperating agencies will follow the provisions of 36 CFR §800.4(c). Evaluation methods and criteria shall be consistent with the Secretary of the Interior's Standards and Guidelines for Evaluation (48 Federal Register 44729-44738) (36 CFR Part 63). To the extent practicable, the FRA shall make eligibility determinations based on inventory information. If the information gathered in the inventory is inadequate to determine eligibility, the FRA, through its contractors and subcontractors, shall conduct limited subsurface testing or other evaluative techniques to determine eligibility. As needed, the FRA, in consultation with the signatories and other cooperating agencies, shall develop testing plans and consolidate all testing plans into one submission per state for concurrence by the appropriate State Historic Preservation Officer. Consistent with term III.B.7 of the Programmatic Agreement for the Project, the Applicant shall make all reasonable efforts to ensure that Native American monitor(s) designated by the Consulting Tribes are present during archaeological test excavation.

Resource	Mitigation and Commitments
Cultural and Paleontological Resources, continued.	
	Mitigation Measure CR-3: Treatment The FRA, in consultation with the cooperating agencies and the Consulting Tribes, shall develop one or more Historic Properties Treatment Plan(s) in accordance with the procedures outlined in Attachment D of the Programmatic Agreement for the Project (see Final EIS Appendix F-H). The FRA shall ensure mitigation for resources that are determined to be significant under National Register Criteria A, B, and C (36 CFR 60.4), such as the Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) program. The FRA shall follow the process outlined in the HPTP to conduct data recovery and any other appropriate mitigation. All archaeological work on National Register-eligible properties shall be conducted in accordance with "Treatment of Archaeological Properties: A Handbook" and "Archaeology and Historic Preservation: the Secretary of the Interior's Standards and Guidelines." Investigations shall be performed under the supervision of professionals whose education and experience meet or exceed the Secretary of the Interior's "Professional Qualifications Standards." The FRA shall ensure that curation of records and other cultural materials resulting from identification and data recovery efforts on federal lands is handled in accordance with 36 CFR Part 79. All archaeological materials recovered from federal lands shall be curated in accordance with 36 CFR Part 79 in the repository/repositories indicated in the original permit. No federal agency shall authorize access to lands or construction of any individual segment of the Project until receipt of concurrence from the appropriate State Historic Preservation Officer that the mitigation efforts have met the terms of the Historic Properties Treatment Plan(s) and the Section 106 responsibilities as described in the PA have been fulfilled for that segment.
	Mitigation Measure CR-4: Monitoring Portions of the Area of Potential Effect for the Selected Alternative have been determined to have the potential for buried resources. During construction, and consistent with the terms of the PA, the Applicant shall ensure Native American monitor(s) designated in consultation with the Consulting Tribes will be present within those sections identified in the Historic Properties Treatment Plan(s) as moderately to highly sensitive for prehistoric and historical archaeological deposits. The Historic Properties Treatment Plan(s) shall also outline the locations of monitoring, frequency and duration as well as the process to follow when monitoring results in an unanticipated discovery. Specifically, any unanticipated resources that are identified during monitoring shall be evaluated and treated in accordance with the requirements of the Historic Properties Treatment Plan(s) and the Programmatic Agreement for the Project (see Final EIS Appendix F-H). If human remains are discovered during monitoring, the regulatory requirements

Resource	Mitigation and Commitments
	described in Mitigation Measure CR-6 shall be followed.
Cultural and Paleontological Resources, continued.	
	Mitigation Measure CR-5: Preconstruction Meeting and Worker Awareness Training The Applicant shall ensure that all persons meeting the Secretary of the Interior's *Professional Qualifications Standards* who are supervising activities conducted as prescribed in the Programmatic Agreement for the Project (see Final EIS Appendix F-H) and all contracted field personnel, including construction workers, meet with one or more Consulting Tribes for a briefing on traditional customs and culturally sensitive protocols and procedures.
	Mitigation Measure CR-6: Human Remains and Stop Work Requirement As described in Stipulation III.G and Attachment E of the Programmatic Agreement for the Project (see Final EIS Appendix F-H), the FRA, in consultation with the cooperating agencies, Consulting Tribes, and the Applicant, shall develop a Native American Graves Protection and Repatriation Act Plan of Action (NAGPRA POA). The Applicant shall ensure that if human remains are inadvertently discovered during archaeological investigation or construction activities, all ground disturbing activities will cease within 50 feet in all directions of human remains and the Applicant shall immediately notify FRA. The FRA will notify the appropriate parties in accordance with the NAGPRA POA. The Applicant and the FRA shall treat human remains and grave goods in accordance with all appropriate state or federal laws. If the remains are found on state or private land within California, the FRA shall ensure the requirements of Public Resources Code (PRC) 5097 are met. If human remains are identified on state or private land within Nevada, the FRA shall ensure the requirements of Nevada Revised Statutes (Section 383.160) and (Section 383.170) are met.
	Mitigation Measure CR-7: Annual Reporting Consistent with Administrative Stipulation IV.B of the Programmatic Agreement for the Project (PA; see Final EIS Appendix F-H), the Applicant shall submit to the FRA an annual report documenting the completion status of the stipulations outlined in the PA. The Annual Report shall include, at a minimum: a. A list of all studies, reports, actions, evaluations, or monitoring reviewed or generated under the Stipulations of the PA. b. Efforts to identify and/or evaluate potential historic properties, monitoring efforts, archaeological management assessments or research designs, and treatment of historic properties.

Resource	Mitigation and Commitments
	c. Any recommendations to amend the PA or improve communications among the parties. d. A discussion of any inadvertent effects to historic properties occurring during the course of the year.
Cultural and Paleontological Resources, continued.	
Mitigation Measure CR-7, continued.	Consistent with the terms of the PA, the FRA shall ensure that the annual report is made available to the public and that members of the public are invited to provide comments to FRA, as well as to the Advisory Council on Historic Preservation and the State Historic Preservation Officers for California and Nevada.
	Mitigation Measure CR-8: Quarterly Reporting The Applicant shall prepare quarterly progress reports on the status of Project construction and submit all such reports to FRA. As lead agency, the FRA will be responsible for coordinating and submitting the report to Consulting Tribes (and, as necessary, cooperating agencies). The Quarterly report shall include, at a minimum, anticipated needs for Tribal representative monitors in the upcoming months.
	Mitigation Measure CR-9. Further Evaluation of Geologic Units Before ground-disturbing activities begin, the Applicant shall retain a qualified paleontologist as defined by the Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee (1995) or other appropriate personnel (e.g., California licensed professional geologist with appropriate experience and expertise) to conduct further literature review and discussion with subject area experts in order to resolve the paleontological sensitivity of any geologic units identified in the Final EIS as "undetermined" and the areas with strata of Holocene age exposed at the surface. If site-specific engineering geologic or geotechnical studies for the Project identify additional units likely to be affected by Project construction, they shall also be evaluated for paleontological sensitivity under this measure. This information shall be used to guide mitigation requirements on a site-specific basis during construction and during maintenance activities that require ground disturbance, as follows. ▪ Mitigation Measures CR-10, CR-11, and CR-12 shall apply to all ground-disturbing construction and maintenance activities. ▪ Mitigation Measures CR-13 shall apply to all ground-disturbing construction activities that affect geologic units identified as highly sensitive for paleontological resources, and to all maintenance activities that would involve new or extended ground disturbance in highly sensitive units.
	Mitigation Measure CR-10 Preconstruction Meeting and Worker Awareness Training The Applicant shall ensure that all construction and maintenance personnel receive paleontological

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	resources awareness training that includes information on the possibility of encountering fossils during construction; the types of fossils likely to be seen, based on finds in the site vicinity; and proper procedures in the event fossils are encountered.
Cultural and Paleontological Resources, continued.	
Mitigation Measure CR-10, continued	Worker training shall be prepared and presented by a qualified paleontologist as defined by the Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee (1995) or other appropriate personnel (e.g., California licensed professional geologist with appropriate experience and expertise) experienced in teaching non-specialists. It may be delivered at the same time as other pre-planned construction worker education, or it may be presented separately.
	Mitigation Measure CR-11: Paleontological Monitoring Full-time paleontological monitoring shall be conducted for all ground-disturbing activities in portions of the proposed rail alignment and facilities with substrate materials identified in the Final EIS as highly sensitive for paleontological resources. Full-time monitoring will also be required where Holocene materials overlie highly sensitive strata and site-specific investigations have identified the potential for Project activities to involve the underlying sensitive strata. A trained paleontological monitor shall oversee all ground-disturbing activities that affect highly sensitive substrate materials, as identified in the EIS, including vegetation removal, site preparation, construction grading and excavation, and any drilling for piers or pilings. Paleontological monitoring shall consist of observing operations and periodically inspecting disturbed, graded, and excavated surfaces. The monitor shall have authority to divert grading or excavation away from exposed surfaces temporarily in order to examine disturbed areas more closely, and/or recover fossils. The responsible paleontologist shall coordinate with the construction manager to ensure that monitoring is thorough but does not result in unnecessary delays. If additional personnel are needed for effective monitoring, the responsible paleontologist may train other consultant or in-house staff in paleontological monitoring. Once training is complete, individuals trained by the qualified paleontologist may then monitor the proposed Project construction independently, and shall have the same responsibilities as described above.
	Mitigation Measure CR-12: Stop Work Requirement If fossil materials are discovered during any Project-related activity, including but not limited to Project grading and excavation, all ground-disturbing work in the vicinity of the find shall stop immediately until the responsible paleontologist can assess the nature and importance of the find and recommend

Resource	Mitigation and Commitments
	appropriate treatment. Assessment shall occur in a timely manner, and recommendations for treatment shall be consistent with practices of the Society of Vertebrate Paleontology Conformable Impact Mitigation Guidelines Committee (1995). Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also
Cultural and Paleontological Resources, continued.	
Mitigation Measure CR-12, continued.	include preparation of a report for publication describing the finds. If no report is required, the Applicant will nonetheless ensure that information on the nature, location, and depth of all finds is readily available to the scientific community. The responsible paleontologist and all paleontological monitors shall be empowered to temporarily halt or redirect the excavation equipment away from fossils to be salvaged.
	Mitigation Measure CR-13: Fossil Recovery and Curation If fossil materials are discovered during Project-related activities, the responsible paleontologist shall determine whether recovery and curation is warranted, and shall be empowered to confer with local area experts as needed to arrive at a determination. All materials warranting recovery shall be stabilized on the site and then salvaged consistent with currently accepted procedures and the prevailing standard of care for paleontological excavations. The responsible paleontologist shall coordinate with the construction manager to ensure that specimen recovery proceeds in a timely manner. Recovered fossils shall be prepared for identification consistent with currently accepted procedures and the prevailing standard of care. They shall then be identified by competent specialists, potentially including, but not necessarily limited to, the responsible paleontologist. If possible, identification shall include genus, species, and, if applicable, subspecies. If species-level identification is not feasible, the maximum feasible level of specificity shall be provided. The fossil assemblage shall then be analyzed by stratigraphic occurrence and any other applicable parameters, such as size, taxa present, and/or taphonomic conditions. A faunal list shall be developed. Any specimens (fossils) of paleontological significance found during construction shall be temporarily housed in an appropriate museum or university collection. If curation is required, the responsible paleontologist shall develop appropriate curation agreements, consistent with applicable protocols and the prevailing standard of care. The responsible paleontologist shall prepare a final report that includes at least the following components: ▪ Information on site geology and stratigraphy, including a stratigraphic column; ▪ A description of field and laboratory methods; ▪ A faunal list, with stratigraphy ranges/occurrences for each taxon;

Resource	Mitigation and Commitments
	▪ A concise discussion of the significance of the site and its and relationship to other nearby and/or similar fossil localities. ▪ A list of references consulted during the Project, including published geologic maps for the site and vicinity; and
Cultural and Paleontological Resources, continued.	
Mitigation Measure CR-13, continued.	▪ A complete set of field notes, field photographs, and any new geologic maps developed for or during the Project. Full copies of the final report, including any appended materials, shall be put on file with any repository institution(s). Depending on the nature of the materials recovered, it may also be appropriate to prepare a report for publication in an appropriate peer-reviewed professional journal. Such publication shall be at the discretion of the responsible paleontologist.
Hydrology and Water Quality	
	Mitigation Measure HYD-1: Incorporate Site-Specific Permanent Water Quality Treatment Devices To protect water quality the Applicant shall install permanent water quality treatment devices. Examples of water quality best management practices (BMPs) may include a vegetated swale, traction sand traps, or settling basin to help remove sediments and nutrients. Such BMPs shall be sized properly and designed by a registered professional engineer and shall not allow untreated stormwater runoff to reach the Mojave River or any washes along the alignment, including those washes in the urbanized area of Las Vegas.
	Mitigation Measure HYD-2: Implement Construction-Related Best Management Practices (BMPs) The Applicant shall initiate construction activities with the installation of erosion control BMPs. Within design-build plans, the Applicant shall identify specifications of BMPs for grading and erosion control that are necessary to reduce erosion and sedimentation. These BMPs shall be selected to achieve maximum sediment removal and represent the best available technology that is economically achievable. Standard erosion control measures, such as management, structural, and vegetative controls, shall be implemented for all construction activities that expose soil. BMPs to be implemented as part of this mitigation measure may include, but are not limited to, the following measures: Temporary erosion control measures that would apply to construction of the stations, maintenance facilities and the rail (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be employed to control erosion from disturbed areas. Grass or other vegetative cover shall be established on the

Resource	Mitigation and Commitments
	construction site as soon as possible after disturbance. Erosion in disturbed areas shall be controlled by grading so that direct routes for conveying runoff to drainage channels are eliminated. The general contractors and subcontractors conducting the work shall construct or implement, regularly inspect, and maintain the BMPs in design-build Project plans. Some methods of Construction BMPs for rail installation that shall be included in the Project are:
Hydrology and Water Quality, continued.	
Mitigation Measure HYD-2, continued.	▪ Install erosion control material consisting of silt fences along the outside limits of construction on both sides of the disturbance corridor for track construction; ▪ Clear the construction area of brush and vegetation; ▪ Strip any topsoil and transport it to stockpile; ▪ Excavate material as required to extend any culverts using good quality material as fill and transport poor quality material to stockpile; ▪ Place quality fill material to establish the subgrade; ▪ Install the sub-ballast on the subgrade, composed of crushed rock that has sufficient strength to withstand settling from loads; ▪ Place standard rail ties, made of wood or concrete, on the sub-ballast, then place the rail on the ties, and anchor the rail to the ties; ▪ Bring in ballast and dump ballast rock between and along the sides of the track; and ▪ Use a tamper to raise the track and tamp the ballast beneath the ties.
	Mitigation Measure HYD-3: Comply with the National Pollutant Discharge Elimination System (NPDES) Construction General Permit The Applicant shall obtain coverage under the NPDES Construction General Permit. Most construction projects that disturb one acre of land or more are required to obtain coverage under the NPDES Construction General Permit, which required the property owner to file a Notice of Intent to discharge stormwater and to prepare and implement a stormwater pollution prevention plan (SWPPP). Implementing the requirements in the NPDES Construction General Permit will reduce or eliminate construction-related water quality effects. The Applicant shall ensure that construction activities comply with the conditions in this permit, which will require preparation of a stormwater pollution prevention plan (SWPPP), implementation of BMPs identified in the SWPPP, and monitoring to ensure that effects on water quality are minimized.

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	The Applicant shall implement the SWPPP. The implementation of the SWPPP in design-build Project plans will reduce the likelihood that stormwater will carry any spilled contaminants to water channels and reduce construction related impacts.
Hydrology and Water Quality, continued.	
	Mitigation Measure HYD-4: Implement Spill Prevention, Control, and Countermeasure Plan Prior to beginning any construction activity, the Applicant shall develop a spill prevention, control, and countermeasure plan (SPCCP) to prevent accidental releases of chemicals that are stored on site and measures to use in the case of a spill. The BMPs described in this plan shall apply to construction activities and operation activities. The Applicant shall implement appropriate hazardous material management practices identified in the SPCCP to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge to drainage channels. If a spill occurs, cleanup, containment, and response measures in the SPCCP shall be implemented by the Applicant. The federal reportable spill quantity for petroleum products, as defined at 40 CFR 110, is any oil spill that (1) violates applicable water quality standards, (2) causes a film or sheen upon or discoloration of the water surface or adjoining shoreline, or (3) causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. If a spill is reportable, a superintendent shall notify appropriate agencies and the contractor will need to take action to contact any other appropriate safety and clean-up crews to ensure the SPCCP is followed. A written description of reportable releases shall be submitted to the appropriate agency. This submittal shall include a description of the release, including the type of material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The release shall be documented on a spill report form.
	Mitigation Measure HYD-5: Proper Design of Drainage Systems Most of the rail segments would not result in a large amount of impervious surface that could concentrate and redirect stormwater flow causing onsite erosion. Runoff from the rail alignment would be captured and directed to existing designated drainage features. Where necessary, the Applicant shall redesign and resize the existing drainage facilities to accommodate the potential increase in runoff along the rail alignment. The rail alignment shall connect with and mirror the existing culverts along the I-15 freeway. Where the rail alignment deviates from the I-15 freeway, the Applicant shall install culverts at natural drainage features.

Resource	Mitigation and Commitments
	However, the stations and maintenance facilities would have parking lots that could concentrate and redirect stormwater flows. In order to determine the adequate size of drainage facilities, the total increase in impervious surface of the design of the facilities shall be included in a Rational Method calculation (a way of calculating flow intensity) to determine the increase in peak storm discharges resulting from the
Hydrology and Water Quality, continued.	
Mitigation Measure HYD-5, continued.	Project. The 100-year, 24-hour storm event shall be used to determine the appropriate size of drainage facilities needed for the Project. Drainage facilities shall retain flows and not contribute to additional flows in the Mojave River or other streams and washes. This could be achieved with several detention basins. Drainage facilities for both the rail alignment and station and maintenance facilities will need to be sized accordingly to handle adequate flow. It is important to note that when a culvert is used, the footprint of the rail will need to be reinforced with rip-rap, and the culvert will need to be large enough to handle the 100-year 24-hour storm flow so on site flooding can be avoided. Other drainage features such as bridge crossings will need to be designed to not increase the size of the floodplain. The Applicant shall create either a new ephemeral drainage or restore, where feasible, through the reestablishment of former ephemeral drainages to compensate for temporary construction impacts to waters of the US. In addition to all the above mitigation measures, the Applicant shall also be required to comply with all conditions and mitigation requirements that result from the CWA Section 404 permit and Section 401 Certification.
	Mitigation Measure HYD-6: Reduce Encroachment into the 100-Year Floodplain When Project features are located within the 100-year floodplain, the Applicant shall elevate the base elevation of rail and stations, including maintenance facilities or relocate them within the facility footprint or APE to avoid any impact. Portions of the rail alignment may utilize track support columns that are located in the 100-year floodplain. Specific engineering plans and modeling, using Hydraulic Engineering Centers-River Analysis System (HEC-RAS), or similar, shall be completed by a registered professional during the design-build process. Design-build Project plans shall incorporate all feasible recommendations of the HEC-RAS analysis.
	Mitigation Measure HYD-7: No Storage of Construction Equipment or Materials within the 100-Year Floodplain The Applicant shall not store construction equipment or materials within the limits of influence that are located in areas of the 100-year floodplain so as to avoid redirecting 100-year flood flows that could cause

Resource	Mitigation and Commitments
	structural damage or pose a safety risk to workers.
	Mitigation Measure HYD-8: Minimize Impact of OMSF 2 on Water Resources During the design-build process for Segment 1, the Victorville OMSF tracks and facilities shall be designed by the Applicant to avoid or bridge over the two small washes that feed into the Bell Mountain Wash.
Hydrology and Water Quality, continued.	
	Mitigation Measure HYD-9: Minimize Impacts of Autotransformers 7 and 11 on Water Resources During the design-build process for Segment 3, the Applicant shall locate autotransformers 7 and 11 within the limits of influence to avoid Telephone Wash and Kali Ditch, respectively, and to avoid other water resources.
	Mitigation Measure HYD-10: Minimize Impacts on Water Availability The Applicant shall obtain water from existing commercially available water sources during construction. The Applicant shall not develop new groundwater wells or surface water impoundments without subsequent environmental review as well as federal, state and local permits as appropriate and legally required.
Geology and Soils	
	Mitigation Measure GEO-1: Surface Fault Rupture For Segments 1, 2C, and 3B, as well as all stations and facilities associated with these segments, the Applicant shall conduct a site-specific, detailed evaluation, which includes surface reconnaissance and subsurface assessment, which shall be performed by a qualified geologist. The Applicant shall incorporate recommendations of this evaluation in design-build Project plans. This evaluation shall be performed prior to construction so that, in the event a fault-rupture hazard exists, the Applicant can implement recommendations of the geologist in the design-build Project plans.
	Mitigation Measure GEO-2: Ground Shaking For all rail alignments and all facilities, the Applicant shall conduct a site-specific evaluation of the potential ground shaking hazard, which shall be performed by a qualified geologist. The evaluation shall be performed during design development and prior to construction so that appropriate structural design and mitigation techniques can be incorporated into the design-build Project plans. Evaluation techniques shall include drilling of exploratory borings, laboratory testing of soils, computer software analysis to develop seismic design parameters for use by the Project structural engineer. Recommendations of this

Resource	Mitigation and Commitments
	evaluation that avoid or minimize impacts related to seismic ground shaking shall be incorporated into design-build Project plans. The Applicant shall design structural elements of the rail system to resist or accommodate appropriate site-specific ground motions and to conform to the current seismic design standards. The Applicant shall also implement an earthquake early warning system as part of the Project.
Geology and Soils, continued.	
	Mitigation Measure GEO-3: Liquefaction For all rail alignments and all facilities, the Applicant shall conduct a site-specific evaluation of the potential liquefaction hazard, which shall be performed by a qualified geotechnical engineer during design development and prior to construction. This evaluation shall assess the liquefaction and dynamic settlement characteristics of the on-site soils and shall include drilling of exploratory borings, evaluation of groundwater depths, and laboratory testing of soils. The Applicant shall incorporate recommendations of this evaluation that avoid or minimize impacts related to liquefaction into design-build Project plans.
	Mitigation Measure GEO-4: Dam-Inundation For Segments 1, 2C, and 3B, as well as all stations and facilities associated with these segments, the Applicant shall prepare a detailed hydrologic evaluation during design development and prior to construction. The evaluation shall be prepared by a qualified hydrologist to assess the risks and potential effects of inundation on Project improvements. The hydrologic evaluation shall identify potential dam inundation hazards at site-specific locations and identify corresponding design recommendations to be incorporated into design-build Project plans.
	Mitigation Measure GEO-5: Settlement For all rail alignments and all facilities, the Applicant shall conduct site-specific geotechnical evaluations, which shall be performed by a qualified geologist during the preliminary design phase of the Project to assess the settlement potential of the on-site natural soils and undocumented fill. Surface reconnaissance and subsurface evaluation shall be performed which addresses the potential settlement hazards. The evaluations shall include drilling of exploratory borings and laboratory testing of soils, in addition to surface reconnaissance to evaluate site conditions. Before construction commences, the Applicant shall implement recommendations of the geotechnical evaluation into design-build Project plans.
	Mitigation Measure GEO-6: Corrosive Soils For all rail alignments and all facilities, the Applicant shall conduct subsurface evaluation for corrosive soils. Evaluation of corrosive soil potential shall be accomplished by testing and analysis of soils at

Resource	Mitigation and Commitments
	design depths. Laboratory tests shall be conducted on the soils prior to construction and the results shall be reviewed by a qualified corrosion engineer. The qualified corrosion engineer shall prepare an improvement plan which shall include corrosion protection measures suitable to the Project elements.
Geology and Soils, continued.	
Mitigation Measure GEO-6, continued.	The improvement plan shall include corrosivity tests to evaluate the corrosivity of the subsurface soils. Before construction commences, the Applicant shall implement recommendations of the improvement plan into design-build Project plans.
	Mitigation Measure GEO-7: Expansive Soils For all rail alignments and all facilities, the Applicant shall conduct site-specific subsurface evaluation(s), including laboratory testing to evaluate the extent of which expansive soils are present. The evaluations shall be performed by a qualified geologist. Where expansive soil conditions are found and would be detrimental to proposed improvements. Before construction commences, the Applicant shall implement measures recommended by the geologist into design-build Project plans.
	Mitigation Measure GEO-8: Landslides For all rail alignments and all facilities in California and the Segment 5 rail alignment in Nevada, the Applicant shall further evaluate the potential for landslides and surficial slope failures along the proposed segments by conducting surface reconnaissance and subsurface evaluation, which shall be performed by a qualified geotechnical engineer during Project design. Surface reconnaissance shall include visual observation of the earth units and geomorphology and review of geologic maps to evaluate the condition of slopes relative to the alignment. Subsurface exploration shall be performed as recommended by the qualified geotechnical engineer to evaluate the potential for landslides and surficial slope failures. If necessary, subsurface evaluation shall include the excavation and detailed logging of exploratory trenches, test pits and/or borings as recommended by the qualified geotechnical engineer. Slope stability computer analyses shall be performed to address the stability of slopes where recommended by the qualified geotechnical engineer. Before construction commences, the Applicant shall implement measures recommended in the evaluation into design-build Project plans.
	Mitigation Measure GEO-9: Caliche/Hard Rock Excavation For all rail alignments and all facilities, the Applicant shall conduct a surface reconnaissance and subsurface evaluation, which shall be performed by a qualified geotechnical engineer to assess soil excavatibility. This evaluation shall include drilling of exploratory borings and/or test pits to evaluate ground conditions for excavation capability where recommended by the qualified geotechnical engineer.

Resource	Mitigation and Commitments
	Before construction commences, the Applicant shall implement measures recommended in the evaluation into design-build Project plans.
Geology and Soils, continued.	
	Mitigation Measure GEO-10: Shallow Groundwater For all rail alignments and all facilities, the Applicant shall assess groundwater conditions in the Project area, which shall be performed by a qualified geotechnical engineer. Before construction commences, the Applicant shall implement measures recommended in the evaluation into design-build Project plans, so that in the event shallow groundwater is detected or suspected, appropriate mitigation techniques would be implemented.
	Mitigation Measure GEO-11: Tunneling For Segment 4C, the Applicant shall perform excavations for underground structures (tunnels) with care to reduce the potential for lateral deflection of excavation sidewalls and/or shoring, which could also cause differential movement of structures located near the excavation. To reduce the potential for damage to improvements and structures resulting from dewatering operations, the Applicant shall monitor the ground surface and/or structures around the excavation for movement with a variety of instrumentation. If during the course of construction, the instrumentation detects ground movement that exceeds a pre-specified value, the Applicant shall stop work and the contractor's methods shall be reviewed by a qualified geotechnical engineer and appropriate changes shall be made, if recommended by the geotechnical engineer. Typical monitoring methods include installation of ground survey points around the outside of the excavation to monitor settlement, placing monitoring points on nearby structures to monitor performance of the structures, and installation of inclinometers along the sides of the excavation to monitor lateral deflection of sidewalls.
	Mitigation Measure GEO-12: Ground Fissures For Segments 5B and 6B as well as all associated facilities, the Applicant shall engage a qualified geologist to conduct further evaluation for the potential for ground fissures. This evaluation shall include surface reconnaissance and visual observation of the earth units, manmade features and geomorphology, and review of geologic maps to evaluate the surface conditions relative to Project features. Before construction commences, the Applicant shall incorporate recommendations of the evaluation into design-build Project plans.

Resource	Mitigation and Commitments
Hazardous Materials	
	Mitigation Measure HAZ-1: Structures Built Prior to 1980 During the design-build process and prior to construction of Segment 6B and its related facilities, the Applicant shall conduct an evaluation of all buildings to be demolished to determine the presence of asbestos containing materials and lead based paint. Before demolition commences, the Applicant shall incorporate remediation consistent with the recommendations of these evaluations into design-build Project plans.
	Mitigation Measure HAZ-2: Contaminated Soil and/or Groundwater Prior to the start of demolition, grading, or construction, the Applicant shall prepare a soil monitoring plan and incorporate the recommendations of this plan into design-build Project plans for implementation during all phases of construction. Disturbed soils shall be monitored for visual evidence of contamination (e.g., staining or discoloration). The Applicant shall monitor soil for the presence of volatile organic compounds (VOC) using appropriate field instruments such as organic vapor measurement with photoionization detectors (PIDs) or flame ionization detectors. If the monitoring procedures indicate the possible presence of contaminated soil, a contaminated soil contingency plan shall be implemented that shall include procedures for segregation, sampling, and chemical analysis of soil. The Applicant shall profile contaminated soil for disposal and transport with appropriate hazardous or non-hazardous waste manifests by a state-certified hazardous material hauler to a state-certified disposal or recycling facility licensed to accept and treat the type of waste indicated by the profiling process. The Applicant shall develop and implement a contaminated soil contingency plan during all construction activities. In the unlikely event that these processes generate any contaminated groundwater that must be disposed of outside of the dewatering/ National Pollutant Discharge Elimination System (NPDES) process, the Applicant shall be profile, manifest, haul, and dispose of groundwater in the same manner. Where conditions warrant a Phase II Environmental Site Assessment (ESA), the Applicant shall include the following in the ESAs: ▪ A work plan that includes the numbers and locations of proposed soil borings/monitoring wells, sampling intervals, drilling and sampling methods, analytical methods, sampling rationale, site geohydrology, field screening methods, quality control/quality assurance, and reporting methods. ▪ A site-specific Health and Safety Plan (HSP) signed by a Certified Industrial Hygienist. ▪ Necessary permits for encroachment, boring completion, and well installation. ▪ A traffic safety plan.

Resource	Mitigation and Commitments
Hazardous Materials, continued.	
Mitigation Measure HAZ-2, continued.	▪ Sampling program (fieldwork) in accordance with the work plan and HSP. Fieldwork shall be completed under the supervision of a geologist registered in the State of California and/or Nevada, as appropriate. ▪ Hazardous materials testing through a laboratory certified by California and/or Nevada. ▪ Documentation to include field procedures, boring logs/well diagrams, tables of analytical results, cross-sections, an evaluation of the levels and extent of contaminants found, and conclusions and recommendations regarding the environmental condition of the site and the need for further assessment. Recommendations may include additional assessment or handling of the contaminants found though the contaminated soil contingency plan. If the contaminated soil contingency plan is inadequate for the contamination found, a remedial action plan shall be developed. Contaminated groundwater shall generally be handled though the NPDES/dewatering process. ▪ Disposal process including transport by a state-certified hazardous material hauler to a state-certified disposal /recycling facility licensed to accept/treat the identified waste. Where contaminated groundwater is encountered, the Applicant shall obtain a NPDES permit prior to the issuance of a permit to construct. The NPDES permit shall specify site-specific testing and monitoring requirements and discharge limitations. Additionally, the Applicant shall review available agency files for moderate and high risk properties as identified in Final EIS Appendix F-K.1 prior to the commencement of demolition, grading, or construction. If the file review indicates a low likelihood of contaminants being present beneath or adjacent to a Project feature (rail alignment, station, maintenance facility, etc.), additional assessment/mitigation may not be recommended and the property could be reclassified as low risk.
	Mitigation Measure HAZ-3: Previously Unidentified Hazardous Materials Prior to the start of construction activities, the Applicant shall prepare a hazardous materials contingency plan addressing the potential for discovery of unidentified underground storage tanks, hazardous materials, petroleum hydrocarbons, or hazardous or solid wastes during construction. This contingency plan shall address underground storage tank decommissioning, field screening, and materials testing methods, mitigation and contaminant management requirements, and health and safety requirements. The Applicant shall incorporate the recommendations of this plan into design-build Project plans.

Resource	Mitigation and Commitments
Hazardous Materials, continued.	
	Mitigation Measure HAZ-4: Hazardous Material Disposal The Applicant shall dispose of all hazardous or solid wastes and debris encountered or generated during construction and demolition activities in accordance with all applicable federal regulations.
	Mitigation Measure HAZ-5: Operational Generated Hazardous Materials The Applicant shall prepare a Hazardous Materials Management Plan for all facilities that use, store, or dispose of hazardous materials. Facilities emitting toxic air emissions shall submit inventories and plans to the appropriate air quality management district and be subject to permitting and monitoring regulations of the district. The Applicant shall obtain all necessary local, state and federal permits for the installation and operation of any above or below ground chemical or fuel storage tanks prior to installing such tanks.
Air Quality and Global Climate Change	
	Mitigation Measure AQ-1: Fugitive Dust Control Plan During Construction to Meet Mojave Desert Air Quality Management District (MDAQMD) Rule 403.2 Requirements Prior to the commencement of construction of all rail alignments and facilities within the State of California, the Applicant shall implement the following control measures consistent with the MDAQMD Rule 403.2 (Fugitive Dust Control for the Mojave Desert Planning Area), including recordation of all measures into design-build Project plans: ▪ Use periodic watering for short-term stabilization of disturbed surface area to minimize visible fugitive dust emissions. Use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient to maintain compliance; ▪ Take actions sufficient to prevent Project-related trackout onto paved surfaces; ▪ Cover loaded haul vehicles while operating on publicly maintained paved surfaces; ▪ Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 30 days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions; ▪ Clean up Project-related trackout or spills on publicly maintained paved surfaces within 24 hours; and

Resource	Mitigation and Commitments
Air Quality and Global Climate Change, continued.	
Mitigation Measure AQ-1, continued.	▪ Reduce nonessential earth-moving activity under high wind conditions. A reduction in earth-moving activity when visible dusting occurs from moist and dry surfaces due to wind erosion shall be considered sufficient to maintain compliance.
	Mitigation Measure AQ-3: Fugitive Dust Control Plan during Construction to Meet Clark County Department of Air Quality and Environmental Management (DAQEM) Requirements Prior to the commencement of construction of all rail alignments and facilities within the State of Nevada, consistent with Section 94 of Clark County Air Quality Guidelines, the Applicant shall compile a Dust Mitigation Plan that is consistent with measures identified in the DAQEM Construction Activities Dust Control Handbook (included by reference in Section 94 of the Clark County Air Quality Regulations) and Desert Tortoise protective measures, and a Dust Control Permit shall be secured from the DAEQM. The Dust Control Plan may include the following measures, among other measures, all of which shall be incorporated into design-build Project plans: ▪ Use periodic watering for short-term stabilization of disturbed surface area to minimize visible fugitive dust emissions; ▪ Take actions sufficient to prevent Project-related trackout onto paved surfaces; ▪ Cover loaded haul vehicles while operating on publicly maintained paved surfaces; ▪ Stabilize graded site surfaces upon completion of grading when subsequent development is delayed or expected to be delayed more than 30 days, except when such a delay is due to precipitation that dampens the disturbed surface sufficiently to eliminate visible fugitive dust emissions; ▪ Clean up Project-related trackout or spills on publicly maintained paved surfaces within 24 hours; and ▪ Reduce nonessential earth-moving activity under high wind conditions.
	Mitigation Measure AQ-5: Utilize additional means to reduce construction period emissions of air pollutants. The Applicant shall integrate the following control measures into design-build Project plans: ▪ All off-road internal-combustion engine construction equipment shall be Tier-4 certified by the United States Environmental Protection Agency. ▪ All signal boards shall be solar-powered.

Resource	Mitigation and Commitments
Air Quality and Global Climate Change, continued.	
Mitigation Measure AQ-5, continued.	▪ All architectural coatings products shall contain no more than 250 grams of volatile organic compounds (VOC) per liter of coating (2.08 pounds per gallon). ▪ For all work conducted within Clark County, only the following fuels shall be used to power off-road equipment: • A composite fuel blend consisting of at least 20 percent biodiesel.
Noise and Vibration	
	Mitigation Measure NV-1: Noise Barriers The Applicant shall install noise barriers at least four feet in height along the at grade portions of the rail alignment and on the elevated structures to reduce severe noise impacts. The noise barriers shall be installed prior to the commencement of train operations along the rail alignment to reduce adverse noise effects. This is a common approach to reducing noise impacts from surface transportation sources. The primary requirements for an effective noise barrier are that (1) the barrier must be high enough and long enough to break the line-of-sight between the sound source and the receiver, (2) the barrier must be of an impervious material with a minimum surface density of four pounds per square foot and (3) the barrier must not have any gaps or holes between the panels or at the bottom. Because numerous materials meet these requirements, the selection of materials for noise barriers is usually dictated by aesthetics, durability, cost and maintenance considerations. The Applicant shall install noise barriers meeting the above criteria at the locations identified in the Final EIS (A list of these locations was provided as Final EIS Table F-3.12-5; an illustration of the locations of these barriers was provided in Final EIS Figures F-3.12-1 through F-3.12-3).
	Mitigation Measure NV-2: Location of Crossovers or Special Trackwork at Crossovers To reduce severe noise impacts, the Applicant shall locate crossovers away from residential areas where feasible, or use spring-rail or moveable point frogs in place of standard rigid frogs at turnouts where relocation of crossovers is not feasible. Because the impacts of wheels over rail gaps at track crossover locations, or turn-outs for passing tracks, increases vibration by about 6 dBA, crossovers are a major source of vibration noise impact when they are located in sensitive areas. If crossovers cannot be relocated away from residential areas, another approach is to use spring-rail or moveable point frogs in

Resource	Mitigation and Commitments
Noise and Vibration, continued.	
Mitigation Measure NV-2, continued.	place of standard rigid frogs at turnouts. These devices allow the flangeway gap to remain closed in the main traffic direction for revenue service trains. The Applicant shall incorporate these measures into design-build Project plans.
	Mitigation Measure NV-3: Building Sound Insulation Where sensitive receptors would be dispersed or limited in nature, the Applicant may choose to install building sound insulation rather than implementing noise barriers defined under Mitigation Measure NV-1 to mitigate severe noise impacts. Sound insulation to improve the outdoor-to-indoor noise reduction has been widely applied around airports and has seen limited application for rail Projects. Although this approach has no effect on noise in exterior areas, it may be the best choice for sites where noise barriers are not feasible or desirable, and for buildings where indoor sensitivity is of most concern. Substantial improvements in building sound insulation (on the order of 5 to 10 dBA) can often be achieved by adding an extra layer of glazing to the windows, by sealing any holes in exterior surfaces that act as sound leaks, and by providing forced ventilation and air-conditioning so that windows do not need to be opened.
	Mitigation Measure NV-4: Property Acquisitions or Easements Where sensitive receptors would be dispersed or limited in nature, the Applicant may choose to implement property acquisitions or easements rather than Mitigation Measure NV-1 to mitigate severe noise impacts. The Applicant may purchase residences likely to be impacted by train operations or to acquire easements for such residences by paying the homeowners to accept the future train noise conditions. These approaches are usually taken only in isolated cases where other mitigation options are infeasible, impractical, or too costly.
	Mitigation Measure NV-10[1]: Construction Noise and Vibration Measures The Applicant shall develop specific residential property line noise limits that comply with applicable local noise regulations to the extent feasible during the design-build process, include these noise limits in the construction specifications for the Project, and perform noise monitoring during construction to verify

[1] Note: Mitigation Measures NV-5 through NV-9, initially identified in the Draft EIS, applied only to a locomotive technology option (diesel-electric multiple unit or DEMU) that was not included in the Selected Alternative. Accordingly, mitigation specific to the DEMU technology is not included here.

Resource	Mitigation and Commitments
Noise and Vibration, continued.	
Mitigation Measure NV-10, continued.	compliance with the limits. This approach allows the contractor flexibility to meet the noise limits in the most efficient and cost-effective manner. Noise control measures that would be applied as needed to meet the noise limits include the following: ▪ Avoiding nighttime construction in residential neighborhoods. ▪ Using specially quieted equipment with enclosed engines and/or high-performance mufflers. ▪ Locating stationary construction equipment as far as possible from noise-sensitive sites. ▪ Constructing noise barriers, such as temporary walls or piles of excavated material, between noisy activities and noise-sensitive receivers. ▪ Re-routing construction-related truck traffic along roadways that will cause the least disturbance to residents. ▪ Avoiding impact pile driving near noise-sensitive areas, where possible. Drilled piles or the use of a sonic or vibratory pile driver are quieter alternatives where the geological conditions permit their use. If impact pile drivers must be used, their use will be limited to the periods between 8:00 AM and 5:00 PM on weekdays. With the incorporation of the appropriate noise mitigation measures, impacts from construction-generated noise should not be adverse. To provide added assurance, the Applicant shall institute a complaint resolution procedure to rapidly address any noise problems that may develop during construction.
Energy	
None required.	
Biological Resources	
Desert Tortoise-Specific Measures from the Biological Opinion	
	Mitigation Measure DT-1: Prior to the commencement of grading activities, the Applicant shall ensure all personnel working within the Project area attend an environmental awareness training program. The program will be presented by biologists authorized by the United States Fish and Wildlife Service (hereafter "authorized biologists") and include information on the life history of the desert tortoise, the legal protection it is afforded by the Endangered Species Act, the definition of take for listed species, measures to protect the desert tortoise, reporting requirements, specific measures that each worker will

Resource	Mitigation and Commitments
Biological Resources, continued.	
Mitigation Measure DT-1, continued.	need to employ to avoid adverse impacts on desert tortoises, a detailed description of environmental Project commitments as described in the decision records (i.e., record of decision), right-of-way grants, and biological opinion, and penalties for violation of federal and state environmental laws.
	Mitigation Measure DT-2: The Applicant shall ensure an authorized biologist will be on site during any construction activity within or near desert tortoise habitat to ensure the implementation and compliance of environmental commitments and avoidance measures.
	Mitigation Measure DT-3: The Applicant shall ensure the authorized biologists have the authority to stop work if dangers to desert tortoises arise, and to allow work to proceed after the hazard has been removed. The Applicant shall notify the Southern Nevada and Ventura United States Fish and Wildlife Offices, BLM Offices, and the California Department of Fish and Game of any desert tortoise injury or death resulting from Project-related activities.
	Mitigation Measure DT-4: The Applicant shall ensure, as part of the monitoring, that an authorized biologist checks construction areas immediately before construction activities each day to ensure that no desert tortoise has moved into the construction area. If desert tortoises are discovered within the construction area, the authorized biologist shall relocate the desert tortoises to adjacent habitat approximately 300 feet from the limit of disturbance (i.e., beyond the 162.5-foot temporary construction area).
	Mitigation Measure DT-5: The Applicant will ensure the authorized biologists properly implement protective measures, records and reports desert tortoise and sign observations in accordance with approved protocol, reports incidents of noncompliance in accordance with the biological opinion and other relevant permits and authorizations, and moves desert tortoises from harm's way and place these animals in adjacent habitat approximately 300 feet of the limit of disturbance.
	Mitigation Measure DT-6: The Applicant shall confine all construction activities to the designated work areas. Grubbing of vegetation will only be done to the extent necessary for construction and will be limited to areas designated for that. Overnight parking and storage of equipment and materials will be limited to previously disturbed areas or areas identified in the BLM right-of-way grant.
	Mitigation Measure DT-7: The Applicant shall restrict all vehicle traffic to existing paved roads and the Project alignment within the permanent or temporary construction area. Disturbance beyond the construction area would be prohibited except in emergency situations.

Resource	Mitigation and Commitments
Biological Resources, continued.	
	Mitigation Measure DT-8: The Applicant shall not allow speeds in excess of 15 miles per hour for construction vehicles within sensitive species habitat.
	Mitigation Measure DT-9: The Applicant shall implement a litter-control program during construction. The program will include the use of covered, common raven-proof trash receptacles, daily removal of trash from work areas to the trash receptacles, and proper disposal of trash in a designated solid waste disposal facility. Precautions will also be taken to prevent trash from blowing out of construction vehicles.
	Mitigation Measure DT-10: The Applicant will promptly remove all road-killed animals within the Project construction area and the permanent rail alignment to reduce the adverse effects associated with predation of desert tortoise by common ravens (Corvus corax).
	Mitigation Measure DT-11: The Applicant will not permit pets or firearms in the work area.
	Mitigation Measure DT-12: The Applicant shall take both pre- and post-construction photographs to document sensitive habitat conditions within the limits of Project disturbance.
	Mitigation Measure DT-13: During construction, the Applicant will perform weekly inspections and weed removal/control during the growing season of all construction areas, rail alignment, and facilities. Following the completion of construction activities, from March through August, the Applicant will continue monitoring and removal monthly during the first 2 years of operation and quarterly for the life of the facility. Weed removal and control will consist of physical control methods (e.g., hand pulling, hoeing, etc.) or herbicide application. A provision of this measure requires preparation of an invasive weed monitoring and treatment plan that would be applicable to all lands affected by the proposed action. This weed control plan will be developed in cooperation with FRA and BLM to ensure that weed control and removal activities do not affect desert tortoises. The use of herbicides to control weeds within the Project construction and operation area will be coordinated with biologists of the BLM, the California Department of Fish and Game, and the Nevada Department of Wildlife to ensure the application does not affect desert tortoises. In instances where desert tortoises may come into contact with herbicide, the plan will require manual removal of individual plants. The FRA will ensure the same methods and caution will occur on lands within the action area that are outside of those managed by the BLM.

Resource	Mitigation and Commitments
Biological Resources, continued.	
	Mitigation Measure DT-14: The Applicant shall develop and implement a vegetation and topsoil removal and restoration plan to reduce impacts on biological resources. The plan shall include a requirement for the Applicant to remove and stockpile construction area topsoil prior to initiating construction and replaced within areas of temporary disturbance once construction is complete. Any permanent topsoil stabilization measures will be constructed and maintained within the permanent right-of-way. These measures may include, but are not limited to, the use of geo-textile mats or rip-rap to in areas of high erosion potential.
	Mitigation Measure DT-15: The Applicant shall install and maintain rice wattles, straw wattles, and silt fencing along all construction areas to prevent sediment from being transported off of the right-of-way during construction. The Applicant shall employ permanent stabilization measures upon completion of construction along washes and in other areas of potential erosion.
	Mitigation Measure DT-16: To minimize adverse effects to the desert tortoise, the Applicant will fence the boundary of the Victorville Passenger Station and the Victorville OMSF with permanent desert tortoise exclusion fencing. The Applicant shall install desert tortoise guards at gated entries to prevent desert tortoises from gaining entry to the Project sites. The Applicant shall also fence the TCAs, the Baker MOW facility, autotransformers sites and substations, the construction areas for the utility corridors, and the rail alignment's temporary construction area, with temporary desert tortoise fencing prior to clearance surveys and ground disturbance. Proposed construction sites along the alignment that are not located in desert tortoise habitat (i.e., within Barstow, Baker, and Las Vegas) will not be fenced.
	Mitigation Measure DT-17: To ensure the clearance of all desert tortoises from all potential habitat areas, the Applicant shall conduct clearance surveys using service-authorized desert tortoise biologists as required by the Service.
	Mitigation Measure DT-18: The Applicant shall include the installation of temporary desert tortoise fencing around the perimeter prior to the commencement of on-site construction as part of desert tortoise relocation from the Project area. Installation of the fencing will be monitored by an authorized biologist to ensure that desert tortoises are not killed or injured during this activity. Temporary desert tortoise fencing will be installed in areas of construction that are beyond the perimeter of the right-of-way or in areas where construction staging will occur. Desert tortoise guards will be installed at construction area entry points and permanent rail alignment maintenance access points. After installation, the fence will be regularly inspected to ensure its integrity. The Applicant will ensure that cross-country travel for

Resource	Mitigation and Commitments
	construction purposes outside of the areas of desert tortoise fencing is prohibited.
Biological Resources, continued.	
	Mitigation Measure DT-19: In areas where high vehicular construction traffic is expected (such as TCAs), desert tortoise exclusionary fencing may require the supplemental use of a desert tortoise guard. Locations of such guards will be determined by an authorized biologist. This device resembles a cattle guard and is positioned at ground level and connected to the exclusionary fencing to prohibit desert tortoise from crossing into the construction area but allowing the passage of construction vehicles. The guard would be maintained throughout its use during the construction process by the Applicant. Such maintenance would require the presence of an authorized desert tortoise biologist. The guard would have a clear escape route away from construction activity for any desert tortoise that should fall into the guard. The guard would be inspected daily for desert tortoise and to ensure the escape route is free of obstruction. The guard would also be cleared of debris that may allow desert tortoise passage across the guard and into a construction area.
	Mitigation Measure DT-20: The Applicant shall ensure only biologists authorized by the Service will handle desert tortoises and follow the guidelines within the Desert Tortoise Field Manual. Desert tortoises found within the Project area will be removed and relocated to undisturbed suitable habitat beyond the construction site and within their own territory, where they may be familiar with alternate burrows. If no burrows are available, the Applicant shall create artificial burrows following the guidelines within the Desert Tortoise Field Manual.
	Mitigation Measure DT-21: After installation of the temporary fencing, the Applicant shall survey the entire Project area for desert tortoises. The survey shall be conducted by an authorized biologist. Following the procedures and precautions outlined in the Desert Tortoise Field Manual, all desert tortoise pallets and burrows within the survey areas will be examined and excavated by hand, either by or under the direct supervision of an authorized biologist, and collapsed to prevent re-entry.

Resource	Mitigation and Commitments
	Mitigation Measure DT-22: The Applicant shall ensure an authorized biologist will be present during all initial top soil removal, blading, or grading activities within the Project area. During Project implementation, the Applicant shall ensure all workers will inform the authorized biologist if a desert tortoise is found within or near Project areas. All work in the vicinity of the desert tortoise, which could injure or kill the animal, will cease and it will be observed until it is moved from harm's way by the authorized biologist.
Biological Resources, continued.	
	Mitigation Measure DT-23: Workers will inspect for desert tortoises under vehicles and equipment before such equipment is moved. If a desert tortoise is present, the worker will wait for it to move out from underneath the vehicle or the authorized biologist will be contacted to remove it.
	Mitigation Measure DT-24: The Applicant will replace any previously installed permanent desert tortoise exclusionary fencing along Interstate 15 that is removed during Project construction.
	Mitigation Measure DT-25: The Applicant shall implement minimization measures for potential impacts to downstream habitat from Segment 4C (if constructed), which may include the use of tunnels, aerial crossing structures, at-grade overcrossing structures, and culverts. At a minimum, the Applicant shall avoid all ephemeral drainages equal to or greater than 4 feet wide with these types of structures. Where tunnels and aerial crossing structures would be used, drainages less than 4 feet in width would also be avoided. If support piles or piers are necessary to support over crossing structures these structures would be located outside of the drainage being over crossed. Authorized biologists would be present during construction to ensure impacts to drainages are avoided or, where an impact is unavoidable, ensure the impact is minimized and the natural substrate of the drainage that has been disturbed is re-established to original grade and with natural substrate materials within the drainage channel. In addition to the ephemeral drainages over crossed, drainages established (created) or re-established as part of the Project's compensatory mitigation for replacement of affected waters of the United States or State of California would be monitored by an agency-approved biologist for a minimum of 5 years to ensure that agency-approved performance standards are met.

Resource	Mitigation and Commitments
	Mitigation Measure DT-26: In addition to habitat restoration, the Applicant will compensate for habitat disturbance through payment of a per-acre fee for disturbance of desert tortoise habitat in California and Nevada. These funds will be paid to the BLM and used for management actions expected to provide a benefit to the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species' biological requirements, reducing loss of individual animals, documenting the species' current status and trends, and preserving distinct population attributes. Specific actions to be funded will be determined during annual meetings between the BLM and the United States Fish and Wildlife Service to identify and prioritize management actions, which may include implementation of range wide monitoring of desert tortoises.
Biological Resources, continued.	
Terms and Conditions of the Biological Opinion Specific to Desert Tortoise	
	Mitigation Measure DT-27: To ensure that the measures proposed by the FRA and the Applicant are effective and are being properly implemented, the FRA or the Applicant must contact the United States Fish and Wildlife Service (USFWS) immediately if it becomes aware that a desert tortoise has been killed or injured by Project activities. At that time, the Applicant, in coordination with the FRA, must review the circumstances surrounding the incident with the USFWS to determine whether additional protective measures are required. Project activities may continue during the review, provided that the proposed protective measures in the Project description and any appropriate terms and conditions of this biological opinion have been and continue to be fully implemented. If five desert tortoises are injured or killed as a result of construction of the Project, the FRA shall re-initiate consultation on the Project, pursuant to the implementing regulations for section 7(a)(2) of the Endangered Species Act at 50 Code of Federal Regulations 402.16.
	Mitigation Measure DT-28: If two desert tortoises are injured or killed as a result of operation and maintenance of the Project in any calendar year, the FRA shall re-initiate consultation on the Project, pursuant to the implementing regulations for section 7(a)(2) of the Endangered Species Act at 50 Code of Federal Regulations 402.16.
	Mitigation Measure DT-29: The Applicant shall monitor, during construction and operation, the integrity of all desert tortoise exclusion fencing on a regular basis and following any rain events that result in surface flow of water in washes within the action area.
	Mitigation Measure DT-30: The Applicant shall use culverts that allow effective passage of desert tortoises but are large enough that desert tortoises are unlikely to use the culverts as burrows. The United

Resource	Mitigation and Commitments
	States Fish and Wildlife Service has estimated that any box culvert must be 3 feet on a side and pipe culverts 3 feet in diameter and recommends that box culverts be used because desert tortoises are less likely to use them as burrows. At a minimum, culverts would need to be large enough. The Applicant shall ensure regular maintenance of the culverts so desert tortoises do not use accumulated debris to construct burrows. If a culvert under the rail line is tied to an existing culvert under Interstate 15 or the Union Pacific Railroad, the Applicant, with approval from the FRA, may forego these specifications if they are incompatible with the existing culverts.
	Mitigation Measure DT-31: The Applicant shall use culverts that will not entrap desert tortoises or block their passage. Specifically, all erosion control devices must be constructed and maintained in a manner that allows desert tortoises to enter and leave them freely.
Biological Resources, continued.	
	Mitigation Measure DT-32: The Applicant shall install a sufficient number of culverts in Segment 2C where it deviates from Interstate 15 (excluding on the dry lake bed), to ensure any desert tortoise whose home range occurs across the action area could continue to access both sides easily. In general, the distance between culverts must be no greater than 0.25 mile unless topography is an obstacle.
	Mitigation Measure DT-33: The Applicant shall ensure authorized biologists survey areas that could become isolated from the main body of habitat where the alignment deviates slightly from the freeway (e.g., at off-ramps). If desert tortoises are present and construction of the Project may disrupt their behavior or if a culvert or other access to the main body of habitat does not exist or will not be provided, the authorized biologist must relocate them to the side of the rail line that is adjacent to the main body of habitat. In any event of uncertainty, the authorized biologist must contact the Service for guidance prior to moving the desert tortoise; during this time, the authorized biologist may install fencing around the area of the desert tortoise's burrow so he or she may find it again.
	Mitigation Measure DT-34: The Applicant shall design all new utility lines and ancillary structures associated with the Project in a manner that will reduce the likelihood of nesting by common ravens. The Applicant, as appropriate, must monitor these utility lines and ancillary structures to ensure the effectiveness of their measures and implement adaptive management, in coordination with the Service, if the initial measures are unsuccessful. The Applicant must ensure that any common ravens nests established on new utility lines and ancillary structures are removed within one year at a time when they are inactive.
	Mitigation Measure DT-35: During construction of the Segment 4C rail line (if constructed), if desert

Resource	Mitigation and Commitments
	tortoises that have been translocated from the Ivanpah solar plant site need to be moved from harm's way, the Applicant shall coordinate their capture and movement with the BLM to ensure that the health and welfare of these animals is not compromised. Prior to the onset of construction, the Applicant must contact the BLM to establish appropriate protocols to follow in the event these animals are encountered.
	Mitigation Measure DT-36: By January 31 of any year the proposed action is under construction and during its operation, the FRA must provide a report to the United States Fish and Wildlife Service (USFWS) that provides details on the effects of the action on the desert tortoise. Within 60 days of the completion of the proposed action, the FRA must provide a summary report that provides, in addition to the following information, a complete overview of the amount of habitat disturbed and the number of desert tortoises that were taken. The Applicant shall furnish all of these reports to the FRA no less than 15 days prior to the required USFWS submittal. These reports shall include information on any instances
Biological Resources, continued.	
Mitigation Measure DT-36, continued.	when desert tortoises were killed, injured, or handled, the circumstances of such incidents, and any actions undertaken to prevent similar instances from re-occurring. In addition, the reports should include any recommendations that would facilitate the implementation of the protective measures while maintaining protection of the desert tortoise and the names of any monitors who assisted the authorized biologist and an evaluation of the experience they gained on the Project.
	Mitigation Measure DT-37: Within 3 days of locating any dead or injured desert tortoises, the Applicant, in coordination with the FRA, shall notify the Ventura Office of the United States Fish and Wildlife Service by telephone (805 644-1766) and by facsimile (805 644-3958) or electronic mail. The report must include the date, time, and location of the carcass, a photograph, cause of death, if known, and any other pertinent information.
	Mitigation Measure DT-38: The Applicant shall take care in handling dead desert tortoises to preserve biological material in the best possible state for later analysis. If desert tortoises are killed by Project activities, the United States Fish and Wildlife Service will instruct the Applicant regarding the final disposition of the carcass.
General Mitigation Measures	
	Mitigation Measure BIO-1: Conduct Mandatory Environmental Awareness Training Program The Applicant shall ensure all personnel working within the Project area attend an environmental awareness training program. The program shall be presented by authorized biologists and include

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	information on the life history of special-status species that may be encountered during construction activities, the legal protection for each species, the definition of "take" for listed species, measures to protect special-status species, reporting requirements, specific measures that each worker shall need to employ to avoid adverse effects to individual sensitive species, a detailed description of environmental Project commitments as described in the decision records (i.e. Record of Decision), right-of-way grants, and Biological Opinion, and penalties for violation of federal and state environmental laws.
	Mitigation Measure BIO-2: Conduct Preconstruction Surveys and Install Environmental Fencing The Applicant shall undertake preconstruction surveys for special-status species; these surveys shall be conducted by qualified biologists (ie, one or more third party contractor(s) approved by the the United States Fish and Wildlife Service (USFWS)) prior to the start of construction. Preconstruction surveys shall be tailored for specific species based on the species biology, natural history, and regulatory
Biological Resources, continued.	
Mitigation Measure BIO-2, continued.	requirements. The locations for any individual or population of sensitive species within the limit of disturbance shall be documented with a GPS unit and reported to the state and federal regulatory agencies. Mohave ground squirrel surveys are only valid for 12 months. Therefore, they shall be done no more than 12 months prior to the start of construction in a particular area. If no Mohave ground squirrels are found during the surveys, no additional mitigation would be required. Mojave fringe-toed lizard surveys shall occur no more than 24 hours prior to the start of construction. Surveys shall be conducted within the work area and a 100-foot buffer. Any Mojave fringe-toed lizards observed in the work area shall be allowed to move out of the work area. Those that become trapped in the work area shall be captured and moved to nearby suitable habitat outside of the work area. Qualified biologists shall conduct preconstruction surveys for banded gila monsters no more than 24 hours prior to the start of construction within all suitable habitat in Segments 3 and 4. Surveys shall be conducted within the work area and a 100-foot buffer. Any gila monsters observed within the work areas shall be allowed to move out of the work area and those that become trapped within the work area shall be carefully moved to nearby suitable habitat. The handler shall have the necessary permit from the California Department of Fish and Game (CDFG) to handle and move lizards. Qualified biologists shall conduct preconstruction surveys for BLM-sensitive and Clark County multiple-species habitat conservation plan (MSHCP) covered reptile species no more than 48 hours prior to the start of construction. Surveys shall be conducted within the work area and include a 100-foot buffer. Any

Resource	Mitigation and Commitments
	sensitive reptile species observed within the work areas shall be allowed to move out of the work area and those that become trapped within the work area shall be very carefully moved to nearby suitable habitat. The Applicant shall implement the following measures, to avoid disturbance of tree, shrub- or ground-nesting special-status and migratory birds and raptors: ▪ If construction activities are scheduled to occur during the breeding season (generally between March 1 and August 15), a qualified wildlife biologist shall conduct focused nesting surveys within the appropriate habitat and an appropriate buffer distance up to 0.25 mile from the limit of Project disturbance for nesting raptors. ▪ The focused surveys shall include tree- and shrub-nesting birds, ground-nesting birds, and cliff-nesting birds. The surveys shall be conducted within the two-week period before initiation of construction activities in a particular area between March 1 and August 15. If no active nests are detected, then no additional mitigation would be required.
Biological Resources, continued.	
Mitigation Measure BIO-2, continued.	▪ Follow-up surveys shall be required on a monthly basis during the breeding season. If surveys indicate that active nests are present in any areas that would be directly affected by construction activities, a no-disturbance buffer would be established around the site to avoid disturbance or destruction of the nest site until after a wildlife biologist determines that the young have fledged (usually late June to mid-July). The extent of these buffers shall be determined by a wildlife biologist in consultation with the California Department of Fish and Game (CDFG) in California and the Nevada Department of Wildlife (NDOW) in Nevada and will depend on the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, and other topographical or artificial barriers. These factors shall be analyzed to make an appropriate decision on buffer distances. A qualified biologist shall conduct preconstruction surveys for active burrows according to CDFG guidelines for burrowing owl (1993 and 1995). The preconstruction surveys shall be conducted by a qualified biologist within the work area and include a 250-foot buffer and within the 2-week period before initiation of construction activities to locate active burrowing owl burrows. The preconstruction surveys shall include a nesting season survey and a wintering season survey the season immediately preceding construction. If no burrowing owls are detected, no further mitigation would be required. Focused surveys for the presence of sensitive bat species shall be conducted in areas that provide suitable roosting or nursery habitat. If a roosting site is active and cannot be avoided, the Applicant shall

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	consult with a bat expert in conjunction with the CDFG in California and the NDOW in Nevada to develop appropriate exclusion methods. If it is determined that a nursery sites is active and cannot be avoided, construction activities that would disturb the nursing bats shall be delayed until the breeding cycles for the bats are completed. The Applicant shall consult with a bat specialist in order to determine when the breeding cycle for bats. The Applicant shall document the results of any exclusion or avoidance of roosting/nursery sites for bats. Qualified biologists shall conduct preconstruction surveys for American badger no more than 48 hours prior to the start of construction. Surveys shall be conducted within the work area and a 100-foot buffer. Any American badgers observed in the work area shall be allowed to leave the work area. Construction activities conducted within suitable desert bighorn sheep habitat in the Mountain Pass area of the Project shall not occur during the period of the year when desert bighorn sheep are lambing (from January 1 to April 30). If construction activities must occur during the desert bighorn sheep lambing
Biological Resources, continued.	
Mitigation Measure BIO-2, continued.	period, pre-construction surveys for lambing desert bighorn sheep shall be conducted prior to construction. If lambing desert bighorn sheep are found, then the Applicant shall consult with the BLM and the CDFG to identify appropriate avoidance measures. Qualified botanists shall conduct preconstruction surveys for sensitive botanical species and invasive, non-native weed species prior to initiating construction of the Project. If sensitive botanical species are observed within the temporary construction area of effect, avoidance and minimization measures shall be applied by the Applicant. Temporary environmental fencing shall be installed around sensitive biological resources prior to the commencement of on-site Project construction in order to avoid unnecessary adverse effects to the resource. USFWS- and BLM-approved desert tortoise exclusionary fencing shall be erected by an authorized biologist within portions of the Project that occur in desert tortoise habitat. Temporary desert tortoise fencing shall be installed in areas of construction that are beyond the perimeter of the right-of-way or in areas where construction staging would occur. This includes fencing all work areas, temporary equipment and vehicle yards, and material staging and storage areas. Desert tortoise exclusionary fencing and clearance surveys shall be undertaken no more than 10 days prior to initiating construction activities. After installation of the temporary fencing, the entire Project area shall be surveyed for desert tortoises by an authorized biologist. Following the procedures and precautions outlined in the Desert Tortoise Council's guidelines, all desert tortoise pallets and burrows within the survey areas shall be examined and excavated by hand, either by or under the direct supervision of an authorized biologist, and

Resource	Mitigation and Commitments
	unoccupied features collapsed to prevent re-entry. After installation, the fence shall be regularly inspected to ensure its integrity. Desert tortoise encountered during preconstruction surveys shall be relocated off the Project ROW based on a USFWS, BLM, and CDFG-approved Project-specific Desert Tortoise Relocation Plan. At a minimum the Desert Tortoise Relocation Plan shall require the desert tortoises found within the Project area be removed to undisturbed areas beyond the construction site and relocated within their own territory where they may be familiar with alternate burrows. If no natural burrows are available, artificial burrows shall be created following the Desert Tortoise Council's guidelines. Only biologists authorized by the USFWS shall handle desert tortoises and shall follow the guidelines established by the Desert Tortoise Council. The Applicant shall install and maintain permanent exclusionary fencing along the open portion of the rail alignment in areas of suitable bighorn sheep habitat. The fencing shall be constructed to ensure that bighorn sheep cannot access the rails or any culverts/tunnels. In addition, prior to initiating construction,
Biological Resources, continued.	
Mitigation Measure BIO-2, continued.	temporary exclusionary fencing shall be placed around all sensitive botanical species that occur within the temporary construction areas. These areas shall be signed for avoidance by construction equipment and personnel.
	Mitigation Measure BIO-3: Conduct Construction Monitoring The Applicant shall implement the following measures during Project construction: ▪ Qualified biologists shall be on site during any construction activity within or near special-status species habitat to ensure the implementation and compliance of environmental commitments and avoidance measures. ▪ The qualified biologist shall have the authority to stop work if dangers to desert tortoises or other special-status wildlife species arise and allow work to proceed after the hazard has been removed. The United States Fish and Wildlife Service (USFWS) Southern Nevada and Ventura Ecological Services Offices, BLM Field Offices and the California Department of Fish and Game (CDFG) must be notified of any desert tortoise injury or death resulting from Project-related activities. In addition, the USFWS Division of Law Enforcement shall also be notified in accordance with reporting requirements. ▪ As part of the monitoring, the biologists shall check construction areas immediately before construction activities each day to ensure that no special-status wildlife species have moved into the construction area. If tortoises are discovered within the construction area they shall be

Resource	Mitigation and Commitments
	relocated by an authorized biologist based on the Desert Tortoise Relocation Plan. ▪ All construction activities shall be confined to the designated work areas. Grubbing of vegetation shall only be to the extent necessary for construction and shall be limited to areas designated for that. An authorized biologist(s) shall be present during all initial brushing or grading activities within the Project area. Overnight parking and storage of equipment and materials would be limited to previously disturbed areas or areas identified in the BLM right-of-way grant. ▪ All vehicle traffic shall be restricted to existing roads or land management agency approved newly constructed roads. The Applicant shall ensure that cross-country travel for construction purposes outside of the areas of desert tortoise fencing is prohibited. ▪ Construction vehicles within sensitive species habitat shall not exceed 15 miles per hour.
Biological Resources, continued.	
Mitigation Measure BIO-3, continued.	▪ A litter-control program shall be implemented during construction. The program shall include the use of covered, raven-proof trash receptacles, daily removal of trash from work areas to the trash receptacles, and proper disposal of trash in a designated solid waste disposal facility. Precautions shall also be taken to prevent trash from blowing out of construction vehicles. ▪ No pets or firearms shall be permitted in the work area. ▪ Both pre- and post-construction photographs shall be taken to document sensitive habitat conditions within the limits of Project disturbance.
	Mitigation Measure BIO-4: Avoid the Dispersal of Invasive, Non-Native Weed Species into Uninfested Areas To avoid the introduction or spread of invasive, non-native weed species into uninfested areas, the Applicant shall incorporate the following measures into the Project plans and specifications: ▪ Use only certified, weed-free, imported erosion-control materials (or rice straw in upland areas). ▪ Coordinate with BLM field offices and the NPS to ensure that the appropriate best management practices (BMPs) are implemented. ▪ Educate construction supervisors and managers on weed identification and the importance of controlling and preventing the spread of invasive, non-native weed species. ▪ Clean equipment at designated wash stations before and after entering the Project construction area. ▪ An invasive, non-native weed species survey of the Project right-of-way, including temporary

Resource	Mitigation and Commitments
	work areas, shall be completed prior to initiating Project construction. All areas disturbed by the Project shall be surveyed using approximately 30-foot meandering transects. Populations of invasive, non-native weed species shall be identified and mapped using global positioning systems (GPS). ▪ Develop an approved Invasive Weed Species Monitoring and Treatment Plan to detect and treat any noxious invasive, non-native weed species in the construction area. The plan shall include methods for monitoring, treating and reporting invasive, non-native weed species infestations within the construction area. The Invasive Weed Species Monitoring and Treatment Plan shall be drafted and submitted to the BLM prior to initiating construction as part of the BLM ROW grant requirements.
Biological Resources, continued.	
	Mitigation Measures BIO-5: Confine Construction Equipment to a Designated Work Zone (Including Access Roads) at Each Project Site The Applicant shall, clearly stake and flag the work zone prior to construction. During the environmental training program, construction personnel shall be informed about the importance of avoiding ground-disturbing activities outside the designated work area. During construction, the construction monitors and resource monitors shall ensure that construction equipment and associated activities avoid any disturbance of native vegetation and sensitive resources outside the designated work zones. Contaminant run-off shall be contained within the temporary construction boundaries and clean-up efforts shall be initiated immediately. Clean-up procedures shall be coordinated with the responsible agency to insure additional resource damage does not occur.
	Mitigation Measure BIO-6: Reestablish Preconstruction Site Conditions to Allow Revegetation The Applicant shall restore disturbed areas of native vegetation to preconstruction site conditions. To ensure that effects on native plant species and communities are not long-term, the Applicant shall stockpile and immediately replace native topsoil within the Project right-of-way, and reestablish natural site topography (including necessary amendments to soil structure) to allow natural colonization of plant species. In both California and Nevada, the Applicant shall relocate all succulents within the limits of disturbance to undeveloped BLM-administered public lands or maintain them within a temporary nursery (located within the right-of-way) and replant within the ROW as part of site restoration activities. In areas that require immediate stabilization, non-vegetative techniques that allow native species to

Resource	Mitigation and Commitments
	reestablish can be used, including use of weed- and disease-free mulch, erosion blankets, or rolled organic fiber material. Erosion control seed mixes may be necessary on selected sites. If sites need to be stabilized through seeding, the seed mix would be composed entirely of native and locally occurring species appropriate for stabilizing local site conditions. All seed mixes shall be approved by the BLM, NPS, and CDFG prior to initiating restoration activities. Special attention shall be given to erosion control near ephemeral drainages and within playas. The Applicant shall determine site-specific erosion control measures (non-vegetation or mechanical techniques) in consultation with a vegetation specialist and Project engineer.
Biological Resources, continued.	
	Mitigation Measure BIO-7: Retain and Stockpile Topsoil The Applicant shall remove native topsoil from areas of permanent disturbance and stockpile within the right-of-way. To avoid altering local hydrologic conditions or flood flows, spoils materials shall not be placed in sensitive habitat areas or within or adjacent to ephemeral drainages. Prior to disturbance, native topsoil shall be excavated and stockpiled for later reapplication in native vegetation areas. Separate stockpiling areas shall be identified and clearly marked for each different vegetation type as appropriate. The exact depths shall be determined for each native vegetation type and depend upon the stratigraphy and soil profiles (estimated to be 6-12 inches in depth). The excavated soil depths shall exceed the restored soil depths to allow for soil compaction during placement. The stockpiled soil shall not be covered to minimize damage to propagation material from heated soil conditions but it shall be protected from construction activity and signed to identify it as a protected resource.
	Mitigation Measure BIO-8: Restore Natural Site Topography The Applicant shall be responsible for restoring the natural site topography to pre-Project contours. The restored topography shall mimic the pre-Project condition to the greatest extent possible. Minor modifications may be required to conform with post-Project site condition. Construction area soil compaction shall be treated using grubbing, raking, and other BLM-approved soil decompaction techniques as part of the Project restoration. Proper compaction of the subsurface material and plow furrows is necessary to help prevent surface and subsurface migration of water along the plow or trench furrow, and to prevent trench settlement. The reapplied topsoil in the right-of-way shall be left in roughened condition to facilitate the establishment of vegetation and reduce the potential for erosion. Excessive passes of finish grading equipment that would compact topsoil shall be avoided. Upon completion of the grading operations, no further vehicular traffic shall be allowed, other than necessary

Resource	Mitigation and Commitments
	mitigation planting equipment.
	Mitigation Measure BIO-9: Implement Erosion Control Measures as Appropriate The Applicant shall prepare and implement an erosion control and restoration plan to control short-term and long-term erosion and sedimentation effects and to restore soils and native vegetation in areas affected by construction activities. The plan shall include requirements of applicable erosion control ordinances and grading permits and shall implement best management practices (BMPs) for erosion and sediment control as necessary. The erosion control plan shall be drafted and submitted to the BLM prior to initiating construction as part of the BLM right-of-way grant requirements.
Biological Resources, continued.	
Mitigation Measure BIO-9, continued.	In areas that require immediate stabilization, non-vegetative techniques that allow native species to reestablish can be used, including use of weed- and disease-free mulch, erosion blankets, or rolled organic fiber material. The use of such measures shall be identified in the Stormwater Pollution and Prevention Plan (SWPPP) for the Project or recommended by a soil or civil engineer based on slope, soil type, or other site factors as necessary and may be required later in the design phase.
	Mitigation Measure BIO-10: Obtain a Tree or Plant Removal Permit from San Bernardino County and the Nevada Division of Forestry The Applicant shall obtain a Tree or Plant Removal Permit from San Bernardino County and the Nevada Division of Forestry This permit is issued in compliance with San Bernardino County Development Code Subsection 88.01.050 for removal of regulated plants. The Applicant shall comply with all provisions of the Permit. A permit shall be required from the Nevada Division of Forestry and/or the BLM in order to relocate succulents within the Project alignment. The Applicant shall also comply with the California Desert Native Desert Plants Act, consistent with pertinent BLM regulations.
	Mitigation Measure BIO-11: Compensate for the Loss of Sensitive Vegetation Communities The Applicant shall compensate for the loss of Sensitive Vegetation Communities prior to initiating construction. Compensation ratios shall be based on site-specific information and determined through coordination with state and federal agencies (the California Department of Fish and Game (CDFG), the United States Army Corps of Engineers (USACE) and the BLM). This site-specific information will supplement the executed studies for the Project, including the 2010 botanical survey in California near Mountain Pass investigating the area where Segment 4C, if constructed, would be located. Compensation should be provided at a minimum 1:1 ratio (1 acre restored or created for every 1 acre removed/disturbed) and may be a combination of onsite restoration/creation, offsite restoration, or

Resource	Mitigation and Commitments
	mitigation credits. The Applicant shall develop and implement a restoration and monitoring plan that describes enhancement of sensitive communities, creation, and monitoring over a select time period.
	Mitigation Measure BIO-12: Conduct Preconstruction Surveys and Identify Sensitive Areas The Applicant shall mark specific areas of important riparian vegetation shall be marked with orange fencing and the limits of disturbance narrowed to reduce effects to sensitive vegetation where the rail alignment crosses the Mojave River,
Biological Resources, continued.	
	Mitigation Measure BIO-13: Avoid Known Special-Status Plant Populations During Project Design To the extent possible, the Applicant shall design the Project to avoid special-status plant populations, updating design-build Project plans accordingly. The Applicant shall comply with the minimum survey and mitigation standards as required by BLM Manual 6840-1. Where avoidance is infeasible, the Applicant shall focus on minimizing the width of construction work areas in and around special-status plant populations. Before construction, special-status plant populations shall be demarcated with temporary orange construction fencing and posted as a restricted area. Depending on the proximity of the populations to the construction work area, populations shall be monitored to ensure adverse effects on special-status plant populations are avoided. If effects on special-status plant populations are unavoidable, the Applicant shall implement Mitigation Measure BIO-14..
	Mitigation Measure BIO-14· Compensate for Adverse Effects on Special-Status Plant Populations If effects on a special-status plant population are unavoidable, the Applicant shall coordinate with the United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) to determine the appropriate mitigation strategy. If affected plants are listed under the federal Endangered Species Act (ESA), the appropriate take permits would be obtained from USFWS. Currently accepted mitigation of effects on special-status plants includes acquisition and preservation of nearby occupied habitat, or habitat creation at a ratio determined by the regulatory agency. Transplantation of affected populations is not considered a viable mitigation option. Creation of habitats with high levels of endemism, such as vernal pools, is effective only with stringent agency management guidelines. The Applicant shall coordinate with the USFWS to develop an effective mitigation and monitoring plan for specific vernal pool plants in conjunction with the construction of compensatory vernal pool habitat. Alternatively, the Applicant could acquire and preserve nearby high-quality occupied habitat, with the Applicant responsible for the long-term habitat management.
	Mitigation Measure BIO-15: Prepare a Desert Tortoise Relocation Plan

Resource	Mitigation and Commitments
	The Applicant shall develop a Desert Tortoise Relocation Plan in conjunction with the United States Fish and Wildlife Service (USFWS) Southern Nevada and Ventura Ecological Services Offices, the BLM, the NPS, and the California Department of Fish and Game. The relocation plan shall outline procedures and protocols to follow when tortoises need to be relocated out of the areas of disturbance. The relocation plans shall include: ▪ Clearance procedures for construction areas; ▪ Relocation procedures;
Biological Resources, continued.	
Mitigation Measure BIO-15, continued.	▪ Procedures for determining the health of tortoises; ▪ Relocation areas; ▪ Methods that shall be used to manage and protect relocation areas; ▪ Monitoring for short and long term success of the plan; and ▪ Permitted activities.
	Mitigation Measure BIO-16: Prepare Final Mitigation Monitoring Report The Applicant shall ensure that no more than 90 days after the completion of construction, the monitoring biologists prepare a report for the United States Fish and Wildlife Service (USFWS), the BLM, and appropriate state agencies. The report shall include the effectiveness of mitigation measures, the results of preconstruction and construction monitoring including the number of desert tortoises excavated and moved.
	Mitigation Measure BIO-17: Implement Mitigation Measures Outlined by the Regional USFWS Ecological Services Office to Protect Desert Tortoises The Applicant, in accordance with the United States Fish and Wildlife Service (USFWS) guidance, shall pay mitigation fees for disturbance to Desert Tortoise habitat on BLM administered public lands in Nevada.
	Mitigation Measure BIO-18: Compensate for the Permanent Loss of Desert Tortoise Habitat The Applicant shall provide compensation for the permanent loss of desert tortoise habitat. Compensation for loss of habitat in California shall be provided by the Applicant according to requirements of the BLM, the United States Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG). Current requirements for loss of desert tortoise habitat are based on a formula of 5:1 inside Desert Wildlife Management Areas (DWMAs) and 1:1 outside of DWMAs. For

Resource	Mitigation and Commitments
	the purposes of the Project, changes to the compensation formula must be reviewed and approved by the USFWS, the NPS, and the CDFG. For Project-related loss of habitat in Nevada, the Applicant shall follow the mitigation measures outlined by the Regional USFWS Ecological Office for the protection of desert tortoises.
Biological Resources, continued.	
	Mitigation Measure BIO-19: Construct Exclusion Fencing, Culverts, and Wildlife Crossings The Applicant shall install culverts under the proposed railroad line that match existing I-15 or Union Pacific Railroad (UPRR) culverts. Where the Project deviates from existing transportation facilities, the Applicant shall install culverts adequately designed to serve as wildlife crossings at natural drainage features and at appropriate intervals to allow for wildlife passage, including, but not limited to, desert tortoises and other wildlife to pass under the proposed rail alignment. The Project design shall ensure flow for natural drainages equal to or greater than four feet in width (as measured by the distance between the ordinary high water mark on each side of the drainage) during Project construction or operation in order to reduce potential effects to wildlife movement, including, but not limited to, desert tortoise and desert bighorn sheep. The culverts and fencing would be designed and spacing determined through coordination with the United States Fish and Wildlife Service (USFWS), the NPS, the BLM, the California Department of Fish and Game (CDFG), the Nevada Department of Wildlife (NDOW), and the United States Environmental Protection Agency (EPA) to ensure they meet agency wildlife standards. Exclusion fencing would be constructed parallel to the rail line and would direct tortoises and other wildlife species to the culverts.
	Mitigation Measure BIO-20: Compensate for the Permanent Loss of Mohave Ground Squirrel Habitat If Mohave ground squirrels are determined to be present in the Project area, the Applicant shall purchase compensatory lands to mitigate for the permanent loss of suitable habitat. Acreage of suitable habitats that shall be permanently affected by the segments alignments, associated stations, and operation and maintenance facilities was presented in Draft EIS **Table 3.3-11**. The mitigation ratios and the location of the compensatory lands shall be determined through coordination with the California Department of Fish and Game (CDFG) pursuant to Section 2081.
	Mitigation Measure BIO-21: Avoid Active Burrows or Passively Relocate Owls If burrowing owls are detected within 250 feet of proposed construction within the Project area, the Applicant shall implement the following measures: ▪ Occupied burrows shall not be disturbed during the nesting season (February 1 through August

Resource	Mitigation and Commitments
	31). ▪ If avoidance is the preferred method of dealing with potential effects, no disturbance shall occur within 160 feet of occupied burrows during the non-breeding season or within 250 feet during the breeding season.
Biological Resources, continued.	
Mitigation Measure BIO-21, continued	If destruction of occupied burrows is unavoidable during the non-nesting season (September 1–January 31), passive relocation techniques (e.g., installing one-way doors at burrow entrances) shall be used instead of trapping and active relocation. At least one week will be necessary to accomplish passive relocation and allow owls to acclimate to alternate burrows. Unsuitable burrows that will not be destroyed in the vicinity of the Project shall be enhanced (enlarged or cleared of debris).
Section 4(f) Resources	
None required.	

Source: Circlepoint, 2011.

EXHIBIT E

U.S. Department
of Transportation

Federal Railroad
Administration

1200 New Jersey Avenue, SE
Washington, DC 20590

MAR 25 2011

Ms. Linda J. Morgan, Esq.
Counsel for DesertXpress Enterprises, LLC
Covington & Burling LLP
1201 Pennsylvania Avenue, NW
Washington, DC 20004-2401

Re: Docket Number FRA-2010-0098

This letter is in response to DesertXpress Enterprises, LLC's (DXE) May 6, 2010, petition to the Federal Railroad Administration (FRA), in which DXE requests waivers of compliance from certain provisions of Title 49 of the Code of Federal Regulations (CFR) Parts 229 (Railroad Locomotive Safety Standards), 231 (Railroad Safety Appliance Standards), and 238 (Passenger Equipment Safety Standards). Specifically, DXE is seeking relief from 49 CFR Sections 229.141, 231.14, 238.115(b)(4)(ii), 238.121(c)(2), 238.403–238.413, 238.417, 238.419, 238.429, 238.435, and 238.447(f)(1).

Citing the U.S. Secretary of Transportation's July 2, 2009, announcement of the extension of California's high-speed rail corridor to include the corridor from Victorville, CA, to Las Vegas, NV, DXE indicates in its petition that it seeks this relief in connection with its intent to design, develop, and construct an intercity high-speed passenger rail system connecting Victorville to Las Vegas. DXE indicates that the rail system will extend along a 183-mile long, dedicated right-of-way, parallel to the Interstate 15 (I-15) highway corridor. According to DXE, the operation will be grade-separated without highway-rail grade crossings, and provide passenger service only, with no freight trains or any other dissimilar trains operating on the line. DXE further explains that the system will use fixed-length, 10-car trainsets, operating in the same orientation in either direction of travel (i.e., no push-pull operating method), at speeds of up to 150 mph. DXE proposes to use electric multiple unit (EMU) trainsets designed to meet European Standards (EN) for crashworthiness and related safety measures, but which do not meet all FRA regulatory requirements. Specifically, DXE proposes to use EMU trains designed to meet the requirements of EN 12663 and 15227.[1] EN 12663 sets forth structural requirements related to railroad passenger vehicles in revenue service in Europe and includes requirements for occupied volume integrity; EN 15227 includes requirements for crash energy management.

[1] EN 12663, "Railway Applications - Structural Requirements of Railway Vehicle Bodies - Part 1: Railway Vehicles Other than Freight Wagons," Ref. No. prEN12663-1:2007; EN 15227, "Railway Applications - Crashworthiness Requirements for Railway Vehicle Bodies," Ref. No. prEN5227:2007:E.

DXE also states that it intends to build additional safety features into the system, including: a fully-compliant positive train control (PTC) system (the INTERFLO 550 Automatic Train Control System); systems for intrusion protection and detection, detection of track buckling, pull apart, and broken rail; detection of dragging equipment; on-board systems to detect problems in the operation of individual trucks and the degradation of track quality; hot-box detectors; and seismic detectors. DXE asserts that using trains designed to meet EN (which DXE asserts offer higher reliability than typical, FRA-compliant equipment, higher energy efficiency due to the light vehicle weight, and better performance due to a power-to-weight ratio that will enable these trainsets to climb steep grades), in conjunction with eliminating the typical hazards that exist in North American railroad operations (e.g., mixed commuter/freight operations, grade crossings, and non-PTC signaling systems), and implementing the additional safety features that it is proposing, will result in a safe and reliable high-speed rail system.

In considering DXE's request for relief, FRA's Railroad Safety Board (Board) has taken into consideration the U.S. Department of Transportation's desire to facilitate the development and implementation of a nationwide, high-speed passenger rail network. In order to achieve a functioning, efficient, national high-speed passenger rail network, FRA believes that it is imperative that each high-speed rail trainset be interoperable with other conventional and high-speed rail trainsets. Therefore, FRA believes that it is critical that individual high-speed rail systems are compatible with and can connect with other high-speed rail and passenger systems.

Compatibility and interoperability can be furthered by ensuring that alternative, currently-non-FRA-compliant equipment used in individual high-speed rail systems comply with the engineering guidelines developed by the Engineering Task Force (ETF) of the Railroad Safety Advisory Committee (RSAC) Passenger Safety Working Group. These guidelines were approved on September 16, 2010, by the full RSAC. These guidelines are titled, "Technical Criteria and Procedures for Evaluating the Crashworthiness and Occupant Protection Performance of Alternatively-Designed Passenger Rail Equipment for Use in Tier I Service" (Tier I Guidelines) and are available for review on FRA's Web site at http://www.fra.dot.gov/downloads/safety/RSAC_REPORT-%209-16-10.pdf. With the exception of the static end-strength requirement of 49 CFR § 238.203, the Tier I Guidelines form a technical basis for making determinations concerning alternative compliance with the Tier I crashworthiness and occupant protection standards of FRA's Passenger Equipment Safety Standards (see 49 CFR § 238.201(b)).

Nonetheless, DXE's proposed operating speeds exceed those covered by 49 CFR Part 238's Tier I standards, which are limited to speeds up to, but not exceeding, 125 mph. DXE proposes to operate at speeds of up to 150 mph, which are currently authorized by 49 CFR Part 238's Tier II standards (see Subpart E of Part 238). The ETF is currently developing additional guidelines for trainsets that operate at Tier II speeds and higher. These new guidelines (Tier III Guidelines) are intended to apply to trainsets that operate on an exclusive right-of-way without grade crossings, at maximum speeds between 125 and 220 mph, and would therefore be appropriate for DXE's proposed system. At speeds of 125 mph and below, the Tier III trainsets would be capable of operating intermixed with Tier I traffic under Tier I conditions. These Tier III Guidelines are expected to be completed by the ETF in the next few months. The structural performance criteria under discussion are very similar to the Tier I Guidelines with some

potential modifications to better support high-speed operation. Compliance with the Tier III Guidelines would likely maximize the flexibility of the DXE operation by potentially allowing DXE operation on other high-speed lines.

FRA notes that DXE's petition was filed with the agency in May 2010. Given the subsequent development of the Tier I Guidelines and the anticipated development of the Tier III Guidelines in the near term, the Board has concluded that in lieu of granting DXE's specific requests for relief, DXE's passenger equipment should, at a minimum, demonstrate compliance with either the Tier I or, when completed, the Tier III Guidelines. Accordingly, the Board is conditionally approving DXE's use of either the Tier I or Tier III Guidelines as applicable to the equipment intended to be operated on the DXE system as proposed in its May 2010 petition.

The Board reminds DXE that this approval to use either the Tier I or Tier III Guidelines for the equipment DXE proposes to operate in accordance with the proposed passenger rail system in DXE's May 2010 petition does not constitute FRA's approval pursuant to 49 CFR § 238.111(b) for placing the equipment in service. For Tier II passenger equipment, such as that proposed by DXE, this section requires, among other things, (1) FRA's approval of a pre-revenue service acceptance testing plan, and (2) approval from FRA's Associate Administrator for Railroad Safety/Chief Safety Officer prior to placing the equipment in service. See 49 CFR § 238.111(b)(2) and (b)(7).

In addition to demonstrating compliance with the Tier I or Tier III Guidelines (and obtaining FRA's approvals pursuant to 49 CFR § 238.111(b)), DXE must comply with all other applicable railroad safety regulatory and statutory requirements, including, but not limited to: 49 CFR Parts 219 (Control of Alcohol and Drug Use), 225 (Railroad Accidents/Incidents: Reports Classification, and Investigations), 228 (Hours of Service of Railroad Employees), 236 (Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices, and Appliances, including Subpart I pertaining to PTC systems), 239 (Passenger Train Emergency Preparedness), and 240 (Qualification and Certification of Locomotive Engineers). Pursuant to these regulatory requirements applicable to all passenger railroads, DXE must obtain several additional FRA approvals prior to beginning operation. For example, DXE will need FRA's approval of an inspection, testing, and maintenance program under 49 CFR Part 238, Subpart F; an emergency preparedness plan under 49 CFR Part 239; and a locomotive engineer qualification program under 49 CFR Part 240. In addition, DXE must qualify its trainsets in accordance with FRA's requirements for vehicle/track interaction safety in 49 CFR Part 213 and suspension system safety in 49 CFR § 238.427. The RSAC Passenger Safety Working Group's Vehicle/Track Interaction Task Force has been assisting FRA with amending these regulations. (See the Notice of Proposed Rulemaking published on May 10, 2010, at 75 Fed. Reg. 25928.) A final rule is scheduled to be published in 2011.

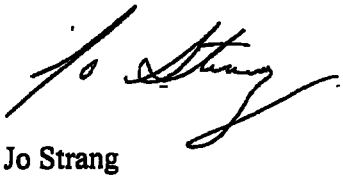
In addition to the above regulatory requirements, before final FRA approval of DXE's proposed operation, DXE shall submit for FRA approval a detailed technical description of the following systems to be incorporated into DXE's proposed operation for (1) intrusion protection and detection, (2) track buckling detection, (3) dragging equipment detection, and (4) seismic detection. DXE shall also submit for FRA approval a System Safety Program Plan developed in

accordance with either the American Public Transportation Association's Manual for the Development of System Safety Program Plans for Commuter Railroads or an equivalent, formal safety methodology.

For any future correspondence regarding this approval letter, please refer to Docket Number FRA-2010-0098.

If you have any questions, please contact Mr. Robert Lauby, FRA's Deputy Associate Administrator for Regulatory and Legislative Operations, at (202) 493-6474 or Robert. Lauby@dot.gov.

Sincerely,



Jo Strang
Associate Administrator for Railroad Safety/Chief Safety Officer

EXHIBIT F

Thomas Carroll and Associates, Ltd

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DESERT XPRESS: PREDICTED EMPLOYMENT AND ECONOMIC IMPACT ANALYSIS

At the request of DesertXpress, Thomas Carroll and Associates' chief economist Thomas Carroll (Ph.D., Economics, Syracuse University, 1973); with assistance from associate economist Michael Madison (B.A., Economics, University of Nevada, Las Vegas, 2010), prepared the following employment and economic impact analysis of the proposed Desert Xpress high speed rail project. The following section provides a synopsis of Dr. Carroll's credentials for preparing such a report. To view Dr. Carroll's cv visit www.thomascarrollandassociates.com.

THOMAS CARROLL & ASSOCIATES, FOUNDED 1995

Chief Economist Thomas M. Carroll, Ph.D., Economics, Syracuse University, 1973, has been a professor of economics at UNLV since August 1986 and chief economist at Thomas Carroll and Associates since its incorporation in 1995. Dr. Carroll participated in his first economic impact study while a Ph. D. student at Syracuse University when he worked as a research associate and later a research fellow at the Educational Policy Research Center (EPRC) in 1973. While at EPRC Dr. Carroll consulted with the US Office of Education on the Nixon Administration initiative, *Career Education.* After leaving Syracuse University Dr. Carroll spent two years at California State University Northridge, followed by eleven years at Memphis State University (now the University of Memphis). At Memphis Dr. Carroll completed a study on the employment impact of the 1964 Civil Rights Act on Memphis, Tennessee, employment patterns (for the Memphis State University Center for Manpower Research) and helped design a congestion alleviation charge for the Inland Waterway System for the Memphis State Bureau of Business Research. After coming to UNLV in 1986, Dr. Carroll worked closely with the late director of the Center for Business and Economic Research, Keith Schwer. Together they studied the economic impacts of the Nevada Test Site, Nellis Air Force Base, the Fallon Naval Air Station and the Hawthorne Armory as part of the Special Nevada Report ("The Nevada Regional Models: Forecasting and Simulation," *Nevada Review of Business and Economics*, Fall, 1990). Drs. Carroll and Schwer also collaborated on "Estimating the Employment Impacts of a Hub Airline Serving a Tourist Destination: The Case of America West Airline and Las Vegas Nevada," *International Journal of Public Administration*, 1994. Dr. Schwer and I collaborated with Dr. William T. White on a report of the impact of a water-imposed secession of construction on the Clark County economy on behalf of the Southern Nevada Water Authority.

Our consulting practice has performed economic analysis for parties (either plaintiffs or defendants) engaged in personal injury, wrongful deaths, discrimination, business damage, breach of contract, eminent domain and construction defect litigation. We also evaluate business startups, product development, and economic growth issues for public and private clients.

SUMMARY

To estimate the employment impact of the Desert Xpress train proposed to connect Las Vegas Nevada and Victorville California we used weekly earnings data from the Monthly Earner Study of the *Current Population Survey* to predict the number of full time equivalent jobs in construction and real estate for Clark County Nevada and San Bernardino County California for 2011, 2012, and 2013. We extracted monthly data for primary employment (agriculture, mining, construction, manufacturing, wholesale trade and military bases) and for secondary employment (retail trade and services) from the *Current Population Survey* from May 2004[1] through December 2009. We then arranged the data by month and place (either metropolitan area or rural area of each state) to generate a panel data set. We used a random effects regression to predict the change in secondary employment due to variations in basic (e.g., construction or real estate) employment. We inferred that each new basic job would create 0.94 additional secondary jobs. Our preliminary estimates are that the construction phase of the Desert Xpress project will generate 17,469 primary jobs (payroll = $1.33 billion) in Clark County and 28,384 primary jobs (payroll = $2.16 billion) in San Bernardino County. Expected secondary employment is 16,432 (payroll = $852 million) for Clark County and 26,699 (payroll = $1.52 billion) for San Bernardino County. Summing yields 88,984 total jobs with projected payrolls of $5.87 billion.

Primary Employment				
	2011	2012	2013	3 yr. Total
Clark County				
Employment	3,613	8,763	5,093	17,469
Payrolls	$266,013,520	$665,033,800	$399,020,280	$1,330,067,600
San Bernardino County				
Employment	5,898	14,238	8,248	28,384
Payrolls	$432,063,600	$1,080,159,000	$648,095,400	$2,160,318,000
Total				
Employment	9,511	23,001	13,341	45,853
Payrolls	$698,077,120	$1,745,192,800	$1,047,115,680	$3,490,385,600

[1] The indicators for metropolitan areas, drawn from the 2000 Census, were modified between April and May 2004.

DESERT XPRESS:

EMPLOYMENT AND ECONOMIC IMPACT ANALYSIS

	Secondary Employment			
	2011	2012	2013	3 yr. Total
Clark County				
Employment	3,398	8,243	4,791	16,432
Payrolls	$170,905,624	$426,384,386	$255,213,368	$852,453,377
San Bernardino County				
Employment	5,548	13,393	7,758	26,699
Payrolls	307,765,236	$763,950,588	$455,791,189	$1,527,507,013
Total				
Employment	8,946	21,636	12,549	43,131
Payrolls	$478,670,860	$1,190,284,974	$711,004,557	$2,379,960,390

ASSUMPTIONS

DesertXpress provided the following assumptions upon which we have based our calculations. The construction phase of the Desert Xpress project is to be completed over a three year period, with 20% of the work to be done in 2011, 50% in 2012, and the remaining 30% in 2013. The budgetary assumptions for work to be done and the percent of that budget going to labor can be found in the following table. The labor force associated with the Civil/Track Work, Electrical Work, Maintenance Facilities, Control/Signal Work, and Stations portions of the project are to be staffed entirely by union employees. Project Management and Environmental Mitigation work will be staffed by white collar non union labor.

Description	Clark County, NV	% to Primary Labor	Amount to Primary Labor	San Bernardino County, CA	% to Primary Labor	Amount to Primary Labor
Civil/Track Work	$1,017,714,000	80%	$814,171,200	$1,890,041,000	80%	$1,512,032,800
Electrical Work:						
Primary Distribution	$39,900,000	60%	$23,940,000	$74,100,000	60%	$44,460,000
Traction Power and Overhead Contact Systems	$136,150,000	60%	$81,690,000	$252,850,000	60%	$151,710,000
Maintenance Facilities						
Las Vegas (Wigwam) Facility	$23,718,000	60%	$14,230,800			
Baker MOW Facility				$4,952,000	60%	$2,971,200
Victorville (Site 3) Facility				$91,541,000	60%	$54,924,600
Control/Signal Work	$155,050,000	60%	$93,030,000	$287,950,000	60%	$172,770,000
Train Sets/Equipment	$179,200,000	0%		$332,800,000	0%	
Stations						
Las Vegas Central Station	$212,726,000	60%	$127,635,600			
Victorville Station (Site 3)				$242,368,000	60%	$145,420,800
Project Management						
Project Management Oversight	$160,000,000	80%	$128,000,000	$40,000,000	80%	$32,000,000
Professional Services	$40,000,000	80%	$32,000,000	$10,000,000	80%	$8,000,000
Contingency	$77,000,000	0%		$154,244,000	0%	
Environmental Mitigation	$21,210,000	60%	$12,726,000	$42,421,000	60%	$25,452,600
ROW Acquisition	$52,880,000	5%	$2,644,000	$211,520,000	5%	$10,576,000
Total	$2,115,548,000		$1,330,067,600	$3,634,787,000		$2,160,318,000

DETAILED EMPLOYMENT IMPACTS

Table 1a on page 9 shows the calculation of primary (i.e., construction and real-estate) employment for 2011, 2012 and 2013 in Clark County. The first column shows each type of expenditure and the expenditures on primary labor are shown for 2011 (column 2), 2012 (column 5), and 2013 (column 8). The average wage rate for the construction industry in Nevada (including fringe benefits) for 2011 (column 3), 2012 (column 6) and 2013 (column 9) are taken from page 23. The first equation on page 20 finds a 4.5% higher wage for union workers in the construction industry living in Nevada than the national average. Dividing the expenditure on labor by the average wage rate yields the employment for each expenditure class by year. Adding the employment for each category yields total employment of 17,469 for the three-year period. Adding the total wage payments for each year yields the 3 year increase in wages for primary workers, equal to $1,330,067,600.

Table 1b on page 10 continues the analysis for Clark County by evaluating the secondary employment (e.g., retail and service workers) that would be generated by the construction employment. The first equation on page 22 implies that for each extra primary worker, labor markets tend to generate an extra 0.94 secondary workers. Multiplying the primary employment in Table 1a by 0.94 generates the predicted secondary employment in 2011 (3,398), 2012 (8,243) and 2013 (4,791) for a total of 16,432. The descriptive statistics on page 21, under the heading Secondary Workers, imply that the average wage rate for secondary workers in 2009 was $795.38 ($41,360 in full-time equivalent earnings). The equation on the top of page 21 implies that the elasticity of the wage rate for secondary workers with respect to the cost of living is 0.937. Multiplying this elasticity by the predicted consumer price index for 2010, 2011, 2012 and 2013 (as shown on pages 27 and 28) implies that the average earnings (including fringe benefits) for secondary workers will be $50,295 in 2011, $51,720 in 2012, and $53,270 in 2013. Multiplying secondary employment for each year by the average secondary pay for each year implies total wage payments of $170,905,624 in 2011, $426,334,386 in 2012, and $255,213,368 in 2013, for a total pay to secondary workers equal to $852,453,377. Adding primary and secondary workers together, we predict that total Clark County employment generated by Desert Xpress will be 33,901 workers, and a total of $2,182,520,977 in payrolls.

Table 2a on page 11 computes the impact of construction expenditures on construction wages and employment for San Bernardino County. Using the average annual earnings of construction and real-estate workers, we predict 5,898 jobs in 2011 ($432,063,600 in payrolls), 14,238 jobs in 2012 ($1,080,159,000 in payrolls), and 8,248 jobs in 2013 ($648,095,400 in payrolls) in 2013. Summing yields 28,384 jobs and a total construction payroll of $2,160,318,000 over the three-year construction period.

Table 2b on page 12 performs the same calculations for secondary employment for San Bernardino County implying 5,548 jobs in 2011 (payroll of $307,765,236), 13,393 jobs in 2012 (payroll of $763,950,588) and, 7,758 jobs in 2013 (payroll of $455,791,189), for a total of 26,699 secondary jobs ($1,527,507,013 in wages and fringe benefits). Adding construction and secondary employment effects, we predict an addition of 55,083 total jobs, with a payroll of $3,687,825,013 for San Bernardino County.

Table 3a on page 13 combines construction expenditures for Clark and San Bernardino Counties for 2011, finding 9,511 total construction jobs, with earnings (wages and fringe benefits) equal to $698,077,120. Table 3b on page 14 makes the same computation for 2012, finding 23,001 total construction jobs, with earnings (wages and fringe benefits) equal to $1,745,192,800. Similarly, table 3c from page 15 combines construction expenditures for Clark and San Bernardino Counties for 2013, finding 13,341 total construction jobs, with earnings (wages and fringe benefits) equal to $1,047,115,680. The projected 3 year increase to construction jobs for Clark and San Bernardino Counties are 45,853 with earnings (wages and fringe benefits) equal to $3,490,385,600.

Table 3d on page 16 shows the combined secondary employment for 2011, equal to 8,946 secondary jobs and payrolls of $478,670,860. Table 3e from page 17 shows the combined secondary employment for 2012, equal to 21,636 secondary jobs and payrolls of $1,190,284,974. Table 3f from page 18 shows the combined secondary employment for 2013, equal to 12,549 secondary jobs and payrolls of $711,004,557. The projected 3 year increase to secondary jobs for Clark and San Bernardino Counties are 43,131 with earnings (wages and fringe benefits) equal to $2,379,960,390. Adding the total construction and secondary employment yields 88,984 total jobs and $5,870,345,990 total wages and fringe benefits.

STATISTICAL ANALYSIS OF WAGES AND EMPLOYMENT

The first equation on page 19 predicts the average hourly wage rate for construction workers based on the monthly consumer price index and the monthly unemployment rate. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for workers in the construction industry increases by 1.05% (which is significantly greater than zero but not significantly greater than 1). The descriptive statistics after the first equation predicts that the average weekly pay for construction workers in 2009 was $851.40.

The second equation on page 19 predicts the average hourly wage rate for union construction workers based on the monthly consumer price index and the monthly unemployment rate. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for workers in the construction industry increases by 1.01%. The descriptive statistics after the first equation predicts that the average weekly pay for union construction workers in 2009 was $1,073.93.

The first equation on page 20 predicts the average hourly wage rate for union construction workers based on the monthly consumer price index, the monthly unemployment rate, and an indicator variable for those living in Nevada. This equation predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for union workers in the construction industry increases by 1%. The equation also predicts that

living in Nevada has a statistically significant and positive 4.5% affect on the earnings of these workers[2].

The second equation on page 20 predicts that the elasticity of hourly wages in the real-estate industry with respect to the cost of living is 0.87. The descriptive statistics below the second equation imply that in 2009 the average weekly pay in the real-estate industry was $802.60.

The first equation on page 21 implies that the elasticity of the average wage rate for workers in secondary jobs (e.g., retail trade and services) with respect to the cost of living is 0.937. The descriptive statistics imply that the average weekly pay was $795.38.

The second equation on page 21 implies that secondary workers living in California earn on average 10.3% more in wages than the national average[3]. This equation also predicts that for each 1% increase in the cost of living (the consumer price index), the average wage rate for secondary workers increases by .92%, when the affect of living in California is accounted for.

The first equation on page 22 shows the panel regression (random effects model) that predicts the number of secondary jobs for each job in the primary (export) sector: agriculture, mining, construction, manufacturing and military bases. The data relate the number of basic and secondary jobs across 330 locations (metropolitan areas and the rural areas of states) between May 2004 and December 2009. The equation indicates that if one city creates one additional basic job (e.g., from government financed construction), that city will generate an additional 0.94 job in the secondary sector. Of the unexplained (stochastic) variation in secondary employment, 95.4% is due to difference in labor markets, while only 4.6% is due to variations over time within labor markets.

PREDICTING WAGE AND EMPLOYMENT CHANGES

Page 23 shows our calculations of future annual wage and fringe benefits for construction, real estate, and secondary workers. From page 25 we find that the fringe benefit rate in 2009 was 23.78%; because this time-series takes a random walk, we assume that the fringe benefit rate will remain constant through 2013. On page 27 we estimate that the inflation rate will average 2.71% in 2011, 3.02% in 2012, and 3.20% in 2013. Starting with the average construction (industry) annual wage of $44,273, we add the fringe benefits and predict construction wages from 2010 through 2013, based on an elasticity of 1.0545. We take the 2009 average union construction wage of $55,844 (national average) and $58,362 (adjusted for living in Nevada), adjust for elasticity of 1.01 and 1 respectively, and apply the fringe benefit rate. We take the average real-estate (industry) wage of $41,735, apply the fringe benefit rate, and adjust for an elasticity of 0.8712. Finally, we start with the average

[2] Living in California does not have a statistically significant impact on wages for union construction workers

[3] Living in Nevada does not have a statistically significant impact on wages for secondary workers

secondary wage of $41,360 (nationally) and $45,616 (adjusted for living in California), add fringe benefits, and then adjust future wage predictions by the elasticity of 0.94 for each.

Pages 24 and 25 show the historical data on personal income, including wage and salaries and fringe benefits that we used to compute the fringe benefit rate. Pages 26 and 27 show the consumer price index from April 1913 to 2010, the inflation rate (the percent change in the consumer price index) from April 1914 to April 2010, and the unemployment rate from May 1948 to May 2010. Page 27 shows the predicted future inflation, cpi, and unemployment rates, based on the equations on pages 29 and 30.

Page 29 shows that the inflation rate does not follow a random walk and that it can be predicted by the equation $\hat{dpci}_t = 1.53\% + .5514 dcpi_{t-1}$, where $\hat{dcpi}_t$ is the predicted inflation rate for the current year and $dcpi_{t-1}$ is the inflation rate for the previous year. Page 30 confirms that the unemployment rate does not follow a random walk and that it can be predicted by the equation $\hat{ue}_t = 1.86\% + .682 ue_{t-1} + .177(ue_{t-1} - ue_{t-2})$, where $\hat{ue}_t$ is the predicted unemployment rate in year t, ue_{t-1} is the unemployment rate in the previous year, and ue_{t-2} is the unemployment rate two years ago.

Finally, page 31 confirms that the fringe benefit rate follows a random walk, implying that the best predictor of future fringe benefit rates is its last known value, which was 23.78% in 2009.

Desert Xpress:
Employment Impact Analysis

Table 1a: Clark County 3 Year Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011	2011 Average Annual Wage	2011 Increase in Primary Workers	Amount to Primary Labor in 2012	2012 Average Annual Wage	2012 Increase in Primary Workers	Amount to Primary Labor in 2013	2013 Average Annual Wage	2013 Increase in Primary Workers
Civil/Track Work	$ 162,834,240	$76,146	2,138	$ 407,085,600	$78,457	5,189	$ 244,251,360	$80,974	3,016
Electrical Work									
Primary Distribution	$ 4,788,000	$76,146	63	$ 11,970,000	$78,457	153	$ 7,182,000	$80,974	89
Traction Power and Overhead Contact Systems	$ 16,338,000	$76,146	215	$ 40,845,000	$78,457	521	$ 24,507,000	$80,974	303
Maintenance Facilities									
Las Vegas (Wigwam) Facility Baker MOW Facility Victorville (Site 3) Facility	$ 2,846,160	$76,146	37	$ 7,115,400	$78,457	91	$ 4,269,240	$80,974	53
Control/Signal Work	$ 18,606,000	$76,146	244	$ 46,515,000	$78,457	593	$ 27,909,000	$80,974	345
Train Sets/Equipment									
Stations									
Las Vegas Central Station Victorville Station (Site 3)	$ 25,527,120	$76,146	335	$ 63,817,800	$78,457	813	$ 38,290,680	$80,974	473
Project Management									
Project Management Oversight	$ 25,600,000	$60,773	421	$ 64,000,000	$62,711	1,021	$ 38,400,000	$64,825	592
Professional Services	$ 6,400,000	$60,773	105	$ 16,000,000	$62,711	255	$ 9,600,000	$64,825	148
Contingency									
Environmental Mitigation	$ 2,545,200	$60,773	42	$ 6,363,000	$62,711	101	$ 3,817,800	$64,825	59
ROW Acquisition	$ 528,800	$47,098	11	$ 1,322,000	$48,339	27	$ 793,200	$49,685	16
Total	**$ 266,013,520**		**3,613**	**$ 665,033,800**		**8,763**	**$ 399,020,280**		**5,093**
							3 year increase in Primary Workers		**17,469**
							3 year increase to wages to Primary Workers		**$ 1,330,067,600**

Desert Xpress:
Employment Impact Analysis

Table 1b: Clark County 3 Year Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2011	2011 Average Annual Wage	Wages to Secondary Jobs in 2011	Secondary Jobs Created in 2012	2012 Average Annual Wage	Wages to Secondary Jobs in 2012	Secondary Jobs Created in 2013	2013 Average Annual Wage	Wages to Secondary Jobs in 2013
Civil/Track Work	2,011	$50,295	$ 101,168,635	4,881	$51,720	$ 252,427,410	2,837	$53,270	$ 151,144,154
Electrical Work									
Primary Distribution	59	$50,295	$ 2,974,776	144	$51,720	$ 7,422,410	83	$53,270	$ 4,444,263
Traction Power and Overhead Contact Systems	202	$50,295	$ 10,150,771	490	$51,720	$ 25,327,345	285	$53,270	$ 15,165,073
Maintenance Facilities									
Las Vegas (Wigwam) Facility	35	$50,295	$ 1,768,314	85	$51,720	$ 4,412,148	50	$53,270	$ 2,641,830
Baker MOW Facility									
Victorville (Site 3) Facility									
Control/Signal Work	230	$50,295	$ 11,559,876	558	$51,720	$ 28,843,224	324	$53,270	$ 17,270,251
Train Sets/Equipment									
Stations									
Las Vegas Central Station	315	$50,295	$ 15,859,956	765	$51,720	$ 39,572,419	445	$53,270	$ 23,694,494
Victorville Station (Site 3)									
Project Management									
Project Management Oversight	396	$50,295	$ 19,928,627	960	$51,720	$ 49,650,098	557	$53,270	$ 29,681,869
Professional Services	99	$50,295	$ 4,982,157	240	$51,720	$ 12,412,524	139	$53,270	$ 7,420,467
Contingency									
Environmental Mitigation	39	$50,295	$ 1,981,342	95	$51,720	$ 4,936,306	55	$53,270	$ 2,951,027
ROW Acquisition	11	$50,295	$ 531,169	26	$51,720	$ 1,330,501	15	$53,270	$ 799,938
Total	3,398		$ 170,905,624	8,243		$ 426,334,386	4,791		$ 255,213,368
								3 year increase in Secondary Workers	16,432
								3 year increase to wages to Secondary Workers	$ 852,453,377
								3 year increase to all workers	33,901
								3 year increase to wages to all workers	$ 2,182,520,977

Prepared by
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10/6/2010

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Table 2a: San Bernadino County 3 Year Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011	2011 Average Annual Wage	2011 Increase in Primary Workers	Amount to Primary Labor in 2012	2012 Average Annual Wage	2012 Increase in Primary Workers	Amount to Primary Labor in 2013	2013 Average Annual Wage	2013 Increase in Primary Workers
Civil/Track Work	$ 302,406,560	$73,936	4,090	$ 756,016,400	$76,591	9,871	$ 453,609,840	$79,343	5,717
Electrical Work									
Primary Distribution	$ 8,892,000	$73,936	120	$ 22,230,000	$76,591	290	$ 13,338,000	$79,343	168
Traction Power and Overhead Contact Systems	$ 30,342,000	$73,936	410	$ 75,855,000	$76,591	990	$ 45,513,000	$79,343	574
Maintenance Facilities									
Las Vegas (Wigwam) Facility									
Baker MOW Facility	$ 594,240	$73,936	8	$ 1,485,600	$76,591	19	$ 891,360	$79,343	11
Victorville (Site 3) Facility	$ 10,984,920	$73,936	149	$ 27,462,300	$76,591	359	$ 16,477,380	$79,343	208
Control/Signal Work	$ 34,554,000	$73,936	467	$ 86,385,000	$76,591	1,128	$ 51,831,000	$79,343	653
Train Sets/Equipment									
Stations									
Las Vegas Central Station		$73,936							
Victorville Station (Site 3)	$ 29,084,160	$73,936	393	$ 72,710,400	$76,591	949	$ 43,626,240	$79,343	550
Project Management									
Project Management Oversight	$ 6,400,000	$60,773	105	$ 16,000,000	$62,711	255	$ 9,600,000	$64,825	148
Professional Services Contingency	$ 1,600,000	$60,773	26	$ 4,000,000	$62,711	64	$ 2,400,000	$64,825	37
Environmental Mitigation	$ 5,090,520	$60,773	84	$ 12,726,300	$62,711	203	$ 7,635,780	$64,825	118
ROW Acquisition	$ 2,115,200	$47,098	45	$ 5,288,000	$48,339	109	$ 3,172,800	$49,685	64
Total	$ 432,063,600		5,898	$ 1,080,159,000		14,238	$ 648,095,400		8,248
							3 year increase in Primary Workers		28,384
							3 year increase to wages to Primary Workers		$ 2,160,318,000

Desert Xpress:
Economic Impact Analysis

Desert Xpress:
Employment Impact Analysis

Table 2b: San Bernadino County 3 Year Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2011	2011 Average Annual Wage	Wages to Secondary Jobs in 2011	Secondary Jobs Created in 2012	2012 Average Annual Wage	Wages to Secondary Jobs in 2012	Secondary Jobs Created in 2013	2013 Average Annual Wage	Wages to Secondary Jobs in 2013
Civil/Track Work	3,847	$55,471	$ 213,412,786	9,285	$57,043	$ 529,631,129	5,378	$58,751	$ 315,946,666
Electrical Work									
Primary Distribution	113	$55,471	$ 6,275,216	273	$57,043	$ 15,573,339	158	$58,751	$ 9,290,135
Traction Power and	386	$55,471	$ 21,412,799	932	$57,043	$ 53,140,606	540	$58,751	$ 31,700,548
Overhead Contact Systems									
Maintenance Facilities									
Las Vegas (Wigwam) Facility									
Baker MOW Facility	8	$55,471	$ 419,364	18	$57,043	$ 1,040,745	11	$58,751	$ 620,847
Victorville (Site 3) Facility	140	$55,471	$ 7,752,221	337	$57,043	$ 19,238,854	195	$58,751	$ 11,476,764
Control/Signal Work	440	$55,471	$ 24,385,269	1,061	$57,043	$ 60,517,451	614	$58,751	$ 36,101,138
Train Sets/Equipment									
Stations									
Las Vegas Central Station									
Victorville Station (Site 3)	370	$55,471	$ 20,525,122	893	$57,043	$ 50,937,640	517	$58,751	$ 30,386,389
Project Management									
Project Management Oversight	99	$55,471	$ 5,494,855	240	$57,043	$ 13,689,858	139	$58,751	$ 8,184,084
Professional Services	25	$55,471	$ 1,373,714	60	$57,043	$ 3,422,464	35	$58,751	$ 2,046,021
Contingency									
Environmental Mitigation	79	$55,471	$ 4,370,573	191	$57,043	$ 10,888,827	111	$58,751	$ 6,509,569
ROW Acquisition	42	$55,471	$ 2,343,318	103	$57,043	$ 5,869,676	60	$58,751	$ 3,529,027
Total	5,548		$ 307,765,236	13,393		$ 769,950,588	7,758		$ 455,791,189
								3 year increase in Secondary Workers	26,699
								3 year increase to wages to Secondary Workers	$ 1,527,507,013
								3 year increase to all workers	55,083
								3 year increase to wages to all workers	$ 3,687,825,013

Prepared by
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10/6/2010

Table 3a: 2011 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2011 (NV)	2011 Average Annual Wage (NV)	2011 Increase in Primary Workers (NV)	Amount to Primary Labor in 2011 (CA)	2011 Average Annual Wage (CA)	2011 Increase in Primary Workers (CA)	Amount to Primary Labor in 2011	2011 Increase in Primary Workers
Civil/Track Work	$ 162,834,240	$76,146	2,138	$ 302,406,560	$73,936	4,090	$ 465,240,800	6,229
Electrical Work								
Primary Distribution	$ 4,788,000	$76,146	63	$ 8,892,000	$73,936	120	$ 13,680,000	183
Traction Power and Overhead Contact Systems	$ 16,338,000	$76,146	215	$ 30,342,000	$73,936	410	$ 46,680,000	625
Maintenance Facilities								
Las Vegas (Wigwam) Facility	$ 2,846,160	$76,146	37				$ 2,846,160	37
Baker MOW Facility				$ 594,240	$73,936	8	$ 594,240	8
Victorville (Site 3) Facility				$ 10,984,920	$73,936	149	$ 10,984,920	149
Control/Signal Work	$ 18,606,000	$76,146	244	$ 34,554,000	$73,936	467	$ 53,160,000	712
Train Sets/Equipment								
Stations								
Las Vegas Central Station	$ 25,527,120	$76,146	335		$73,936		$ 25,527,120	335
Victorville Station (Site 3)				$ 29,084,160	$73,936	393	$ 29,084,160	393
Project Management								
Project Management Oversight	$ 25,600,000	$60,773	421	$ 6,400,000	$60,773	105	$ 32,000,000	527
Professional Services Contingency	$ 6,400,000	$60,773	105	$ 1,600,000	$60,773	26	$ 8,000,000	132
Environmental Mitigation	$ 2,545,200	$60,773	42	$ 5,090,520	$60,773	84	$ 7,635,720	126
ROW Acquisition	$ 528,800	$47,098	11	$ 2,115,200	$47,098	45	$ 2,644,000	56
Total	**$ 266,013,520**		3,613	**$ 432,063,600**		5,898	**$ 698,077,120**	9,511

Table 3b: 2012 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2012 (NV)	2012 Average Annual Wage (NV)	2012 Increase in Primary Workers (NV)	Amount to Primary Labor in 2012 (CA)	2012 Average Annual Wage (CA)	2012 Increase in Primary Workers (CA)	Amount to Primary Labor in 2012	2012 Increase in Primary Workers
Civil/Track Work	$ 407,085,600	$78,457	5,189	$ 756,016,400	$76,591	9,871	$ 1,163,102,000	15,059
Electrical Work								
Primary Distribution	$ 11,970,000	$78,457	153	$ 22,230,000	$76,591	290	$ 34,200,000	443
Traction Power and Overhead Contact Systems	$ 40,845,000	$78,457	521	$ 75,855,000	$76,591	990	$ 116,700,000	1,511
Maintenance Facilities								
Las Vegas (Wigwam) Facility	$ 7,115,400	$78,457	91				$ 7,115,400	91
Baker MOW Facility				$ 1,485,600	$76,591	19	$ 1,485,600	19
Victorville (Site 3) Facility				$ 27,462,300	$76,591	359	$ 27,462,300	359
Control/Signal Work	$ 46,515,000	$78,457	593	$ 86,385,000	$76,591	1,128	$ 132,900,000	1,721
Train Sets/Equipment								
Stations								
Las Vegas Central Station	$ 63,817,800	$78,457	813				$ 63,817,800	813
Victorville Station (Site 3)				$ 72,710,400	$76,591	949	$ 72,710,400	949
Project Management								
Project Management Oversight	$ 64,000,000	$62,711	1,021	$ 16,000,000	$62,711	255	$ 80,000,000	1,276
Professional Services	$ 16,000,000	$62,711	255	$ 4,000,000	$62,711	64	$ 20,000,000	319
Contingency								
Environmental Mitigation	$ 6,363,000	$62,711	101	$ 12,726,300	$62,711	203	$ 19,089,300	304
ROW Acquisition	$ 1,322,000	$48,339	27	$ 5,288,000	$48,339	109	$ 6,610,000	137
Total	**$ 665,033,800**		**8,763**	**$ 1,080,159,000**		**14,238**	**$ 1,745,192,800**	**23,001**

Table 3c: 2013 Aggregate Effect to Primary Employment and Output

Description	Amount to Primary Labor in 2013 (NV)	2013 Average Annual Wage (NV)	2013 Increase in Primary Workers (NV)	Amount to Primary Labor in 2013 (CA)	2013 Average Annual Wage (CA)	2013 Increase in Primary Workers (CA)	Amount to Primary Labor in 2013	2013 Increase in Primary Workers
Civil/Track Work	$ 244,251,360	$80,974	3,016	$ 453,609,840	$79,343	5,717	$ 697,861,200	8,733
Electrical Work								
Primary Distribution	$ 7,182,000	$80,974	89	$ 13,338,000	$79,343	168	$ 20,520,000	257
Traction Power and	$ 24,507,000	$80,974	303	$ 45,513,000	$79,343	574	$ 70,020,000	876
Overhead Contact Systems								
Maintenance Facilities								
Las Vegas (Wigwam) Facility	$ 4,269,240	$80,974	53				$ 4,269,240	53
Baker MOW Facility				$ 891,360	$79,343	11	$ 891,360	11
Victorville (Site 3) Facility				$ 16,477,380	$79,343	208	$ 16,477,380	208
Control/Signal Work	$ 27,909,000	$80,974	345	$ 51,831,000	$79,343	653	$ 79,740,000	998
Train Sets/Equipment								
Stations								
Las Vegas Central Station	$ 38,290,680	$80,974	473				$ 38,290,680	473
Victorville Station (Site 3)				$ 43,626,240	$79,343	550	$ 43,626,240	550
Project Management								
Project Management Oversight	$ 38,400,000	$64,825	592	$ 9,600,000	$64,825	148	$ 48,000,000	740
Professional Services	$ 9,600,000	$64,825	148	$ 2,400,000	$64,825	37	$ 12,000,000	185
Contingency								
Environmental Mitigation	$ 3,817,800	$64,825	59	$ 7,635,780	$64,825	118	$ 11,453,580	177
ROW Acquisition	$ 793,200	$49,685	16	$ 3,172,800	$49,685	64	$ 3,966,000	80
Total	**$ 399,020,280**		**5,093**	**$ 648,095,400**		**8,248**	**$ 1,047,115,680**	**13,341**
							3 year increase in Primary Workers	**45,853**
							3 year increase to wages to Primary Workers	**$ 3,490,385,600**

Table 3d: 2011 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2011 (NV)	2011 Average Annual Wage (NV)	Wages to Secondary Jobs in 2011 (NV)	Secondary Jobs Created in 2011 (CA)	2011 Average Annual Wage (CA)	Wages to Secondary Jobs in 2011 (CA)	Secondary Jobs Created in 2011	Wages to Secondary Jobs in 2011
Civil/Track Work	2,011	$50,295	$ 101,168,635	3,847	$55,471	$ 213,412,786	5,859	$ 314,581,421
Electrical Work								
Primary Distribution	59	$50,295	$ 2,974,776	113	$55,471	$ 6,275,216	172	$ 9,249,992
Traction Power and Overhead Contact Systems	202	$50,295	$ 10,150,771	386	$55,471	$ 21,412,799	588	$ 31,563,570
Maintenance Facilities								
Las Vegas (Wigwam) Facility	35	$50,295	$ 1,768,314				35	$ 1,768,314
Baker MOW Facility				8	$55,471	$ 419,364	8	$ 419,364
Victorville (Site 3) Facility				140	$55,471	$ 7,752,221	140	$ 7,752,221
Control/Signal Work	230	$50,295	$ 11,559,876	440	$55,471	$ 24,385,269	669	$ 35,945,145
Train Sets/Equipment								
Stations								
Las Vegas Central Station	315	$50,295	$ 15,859,956				315	$ 15,859,956
Victorville Station (Site 3)				370	$55,471	$ 20,525,122	370	$ 20,525,122
Project Management								
Project Management Oversight	396	$50,295	$ 19,928,627	99	$55,471	$ 5,494,855	495	$ 25,423,482
Professional Services	99	$50,295	$ 4,982,157	25	$55,471	$ 1,373,714	124	$ 6,355,871
Contingency								
Environmental Mitigation	39	$50,295	$ 1,981,342	79	$55,471	$ 4,370,573	118	$ 6,351,915
ROW Acquisition	11	$50,295	$ 531,169	42	$55,471	$ 2,343,318	53	$ 2,874,487
Total	3,398		$ 170,905,624	5,548		$ 307,765,236	8,946	$ 478,670,860

Table 3e: 2012 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2012 (NV)	2012 Average Annual Wage (NV)	Wages to Secondary Jobs in 2012 (NV)	Secondary Jobs Created in 2012 (CA)	2012 Average Annual Wage (CA)	Wages to Secondary Jobs in 2012 (CA)	Secondary Jobs Created in 2012	Wages to Secondary Jobs in 2012
Civil/Track Work	4,881	$51,720	$ 252,427,410	9,285	$57,043	$ 529,631,129	14,165	$ 782,058,539
Electrical Work								
Primary Distribution	144	$51,720	$ 7,422,410	273	$57,043	$ 15,573,339	417	$ 22,995,749
Traction Power and	490	$51,720	$ 25,327,345	932	$57,043	$ 53,140,606	1,421	$ 78,467,951
Overhead Contact Systems								
Maintenance Facilities								
Las Vegas (Wigwam) Facility	85	$51,720	$ 4,412,148				85	$ 4,412,148
Baker MOW Facility				18	$57,043	$ 1,040,745	18	$ 1,040,745
Victorville (Site 3) Facility				337	$57,043	$ 19,238,854	337	$ 19,238,854
Control/Signal Work	558	$51,720	$ 28,843,224	1,061	$57,043	$ 60,517,451	1,619	$ 89,360,674
Train Sets/Equipment								
Stations								
Las Vegas Central Station	765	$51,720	$ 39,572,419				765	$ 39,572,419
Victorville Station (Site 3)				893	$57,043	$ 50,937,640	893	$ 50,937,640
Project Management								
Project Management Oversight	960	$51,720	$ 49,650,098	240	$57,043	$ 13,689,858	1,200	$ 63,339,955
Professional Services	240	$51,720	$ 12,412,524	60	$57,043	$ 3,422,464	300	$ 15,834,989
Contingency								
Environmental Mitigation	95	$51,720	$ 4,936,306	191	$57,043	$ 10,888,827	286	$ 15,825,133
ROW Acquisition	26	$51,720	$ 1,330,501	103	$57,043	$ 5,869,676	129	$ 7,200,177
Total	8,243		$ 426,334,986	13,393		$ 769,950,588	21,636	$ 1,190,284,974

Table 3f: 2013 Aggregate Effect to Secondary Employment and Output

Description	Secondary Jobs Created in 2013 (NV)	2013 Average Annual Wage (NV)	Wages to Secondary Jobs in 2013 (NV)	Secondary Jobs Created in 2013 (CA)	2013 Average Annual Wage (CA)	Wages to Secondary Jobs in 2013 (CA)	Secondary Jobs Created in 2013	Wages to Secondary Jobs in 2013
Civil/Track Work	2,837	$53,270	$ 151,144,154	5,378	$58,751	$ 315,946,666	8,215	$ 467,090,820
Electrical Work							0	
Primary Distribution	83	$53,270	$ 4,444,263	158	$58,751	$ 9,290,135	242	$ 13,734,398
Traction Power and Overhead Contact Systems	285	$53,270	$ 15,165,073	540	$58,751	$ 31,700,548	824	$ 46,865,622
Maintenance Facilities								
Las Vegas (Wigwam) Facility	50	$53,270	$ 2,641,830				50	$ 2,641,830
Baker MOW Facility				11	$58,751	$ 620,847	11	$ 620,847
Victorville (Site 3) Facility				195	$58,751	$ 11,476,764	195	$ 11,476,764
Control/Signal Work	324	$53,270	$ 17,270,251	614	$58,751	$ 36,101,138	939	$ 53,371,389
Train Sets/Equipment								
Stations								
Las Vegas Central Station	445	$53,270	$ 23,694,494				445	$ 23,694,494
Victorville Station (Site 3)				517	$58,751	$ 30,386,389		
Project Management							0	
Project Management Oversight	557	$53,270	$ 29,681,869	139	$58,751	$ 8,184,084	697	$ 37,865,953
Professional Services	139	$53,270	$ 7,420,467	35	$58,751	$ 2,046,021	174	$ 9,466,488
Contingency							0	
Environmental Mitigation	55	$53,270	$ 2,951,027	111	$58,751	$ 6,509,569	166	$ 9,460,596
ROW Acquisition	15	$53,270	$ 799,938	60	$58,751	$ 3,529,027	75	$ 4,328,965
Total	4,791		$ 255,213,368	7,758		$ 455,791,189	12,549	$ 711,004,557

3 year increase in Secondary Workers	43,131
3 year increase to wages to Secondary Workers	$ 2,379,960,390
3 year increase to all workers	88,984
3 year increase to wages to all workers	$ 5,870,345,990

Construction Industry

reg lwage lcpi lue if const==1, cluster(time)

Linear regression

Number of obs =	49770
F(2, 71) =	153.29
Prob > F =	0
R-squared =	0.0151
Root MSE =	0.43095

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
lcpi	1.054537	0.06026	17.5	0	0.934382	1.174691
lue	0.14145	0.025996	5.44	0	0.089617	0.1932842
cons	-3.104296	0.333598	-9.31	0	-3.76947	-2.439121

su wklypay if construction==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	9335	851.3965	520.1919	0	2884.61

Union Workers in the Construction Industry

reg lwage lcpi lue if const==1 & union==1, cluster(time)

Linear regression

Number of obs =	9309
F(2, 71) =	68.62
Prob > F =	0
R-squared =	0.0164
Root MSE =	0.41235

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lcpi	1.009939	0.087291	11.57	0	0.835885	1.183993
lue	0.095278	0.047689	2	0.05	0.000188	0.1903681
cons	-2.464598	0.493003	-5	0	-3.447618	-1.481578

su wklypay if construction==1 & union==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	1570	1073.931	497.8953	0	2884.61

Desert Xpress:

Employment Impact Analysis

Union Workers in the Construction Industry with Affect Adjustment for Living in Nevada

. reg lwage lcpi lue nevada if construction==1 & union==1, cluster(time)

Linear regression

Number of obs =	9309
F(3, 71) =	50.55
Prob > F =	0
R-squared =	0.0168
Root MSE =	0.41229

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lcpi	1.003667	0.087247	11.5	0	0.829702	1.177632
lue	0.094499	0.047568	1.99	0.051	-0.00035	0.1893474
nevada	0.045075	0.019467	2.32	0.023	0.00626	0.0838904
_cons	-2.431792	0.492342	-4.94	0	-3.413494	-1.45009

Real Estate Industry

reg lwage lcpi lue if realestind==1, cluster(time)

Linear regression

Number of obs =	6162
F(2, 71) =	39.15
Prob > F =	0
R-squared =	0.0128
Root MSE =	0.40195

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
lcpi	0.871159	0.098673	8.83	0	0.674411	1.067907
lue	0.046368	0.042346	1.09	0.277	-0.038067	0.1308035
cons	-2.201753	0.539782	-4.08	0	-3.278049	-1.125458

su wklypay if realestind==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	2205	802.5956	620.6943	0	2884.61

Desert Xpress:
Employment Impact Analysis

Secondary Workers

reg lwage lcpi lue if secondary==1, cluster(time)

Linear regression

Number of obs =	304074
F(2, 71) =	473.87
Prob > F =	0
R-squared =	0.011
Root MSE =	0.47427

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>t	[95% Conf.	Interval]
lcpi	0.937092	0.041318	22.68	0	0.854706	1.019478
lue	0.03285	0.020951	1.57	0.121	-0.008925	0.074237
cons	-2.525984	0.243892	-10.36	0	-3.01229	-2.039678

su wklypay if secondary==1 & year==2009

Variable	Obs	Mean	Std. Dev.	Min	Max
wklypay	88835	795.3791	611.8022	0	2884.61

Secondary Workers with Affect of Living In California

. reg lwage lcpi lue california if secondary==1, cluster(time)

Linear regression

Number of obs =	304074
F(3, 71) =	533.79
Prob > F =	0
R-squared =	0.0141
Root MSE =	0.47354

(Std. Err. adjusted for 72 clusters in time)

lwage	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
lcpi	0.929091	0.040981	22.67	0	0.847377	1.010805
lue	0.034532	0.020801	1.66	0.101	-0.006944	0.0760081
california	0.102907	0.004069	25.29	0	0.094795	0.1110191
_cons	-2.493759	0.241783	-10.31	0	-2.975859	-2.011658

xtreg secondary basic, re

Random-effects GLS regression		Number of obs =	20591
Group variable: place		Number of groups =	330
R-sq: within = 0.3003		Obs per group: min =	4
between = 0.8908		avg =	62.4
overall = 0.8804		max =	68
Random effects u_i ~ Gaussian		Wald chi2(1) =	10035.46
corr(u_i, X) = 0 (assumed)		Prob > chi2 =	0

secondary	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
basic	0.940635	0.00939	100.18	0	0.922231	0.9590383
_cons	82.14173	4.679492	17.55	0	72.9701	91.31337

sigma_u	82.10699	
sigma_e	17.95275	
rho	0.954373	(fraction of variance due to u_i)

reg lsecondary vlconst sblconst lconst

Source	SS	df	MS	Number of obs =	20591
				F(3, 20587) =	29605.79
Model	20796.34	3	6932.113	Prob > F =	0
Residual	4820.389	20587	0.234147	R-squared =	0.8118
				Adj R-squared =	0.8118
Total	25616.73	20590	1.244134	Root MSE =	0.48389

lsecondary	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
vlconst	0.025351	0.013339	1.9	0.057	-0.000795	0.0514973
sblconst	-0.024474	0.014557	-1.68	0.093	-0.053007	0.0040585
lconst	0.83608	0.002834	295.05	0	0.830526	0.8416344
_cons	2.604671	0.00706	368.94	0	2.590833	2.618509

Desert Xpress:
Employment Impact Analysis

Fringe benefit rate	23.78%
inflation rate April 2009 to April 2010	2.24%
inflation rate 2010 to 2011	2.71%
inflation rate 2011 to 2012	3.02%
inflation rate 2012 to 2013	3.20%

2009 Average Construction Wage	$44,273	2009 Average Union Construction Wage	$55,844
construction wage elasticity to inflation	1.05	construction wage elasticity to inflation	1.01
Annual Construction wage & fringes		**Annual Union Construction wage & fringes**	
2010	$59,084	2010	$71,375
2011	$60,773	2011	$73,936
2012	$62,711	2012	$76,591
2013	$64,825	2013	$79,343
2009 Average Union Construction Wage	$58,362	2009 Average Real Estate Wage	$41,735
Union construction wage elasticity to inflation	1.00	real estate wage elasticity to inflation	0.87
Wage differential for Nevada Workers	4.51%	Annual Real Estate wage & fringes	
NV Annual Union Construction wage & fringes		**Annual Real Estate Wage & Fringes**	
2010	$74,129	2010	$46,012
2011	$76,146	2011	$47,098
2012	$78,457	2012	$48,339
2013	$80,974	2013	$49,685
2009 Average Secondary Wage	$41,360	2009 Average Secondary Wage	$45,616
secondary wage elasticity to inflation	0.94	secondary wage elasticity to inflation	0.94
Annual Secondary Wage & Fringes		Wage differential for California workers	10.29%
2010	$49,049	**Annual Secondary Wage & Fringes for California workers**	
2011	$50,295	2010	$54,097
2012	$51,720	2011	$55,471
2013	$53,270	2012	$57,043
		2013	$58,751

Prepared by
Thomas Carroll Associates
10/6/2010

Tax and Fringe Benefit Rates, 1929- 2009

expressed in Billions of current dollars

Year	Personal Income billions	Personal Taxes billions	Tax Rate percent	Wages & Sararies billions	Fringe Benefits billions	FB Rate percent
1929	$84.9	$1.7	2.00%	$50.5	$0.7	1.39%
1930	$76.1	$1.6	2.10%	$46.2	$0.7	1.52%
1931	$65.2	$1.0	1.53%	$39.2	$0.6	1.53%
1932	$49.9	$0.7	1.40%	$30.5	$0.6	1.97%
1933	$46.8	$0.8	1.71%	$29.0	$0.5	1.72%
1934	$53.7	$0.9	1.68%	$33.7	$0.6	1.78%
1935	$60.3	$1.1	1.82%	$36.7	$0.7	1.91%
1936	$68.6	$1.3	1.90%	$42.0	$1.0	2.38%
1937	$74.1	$1.9	2.56%	$46.1	$1.8	3.90%
1938	$68.4	$1.9	2.78%	$43.0	$2.0	4.65%
1939	$72.9	$1.5	2.06%	$46.0	$2.2	4.78%
1940	$78.4	$1.7	2.17%	$49.9	$2.3	4.61%
1941	$96.0	$2.3	2.40%	$62.1	$2.7	4.35%
1942	$123.4	$4.9	3.97%	$82.1	$3.2	3.90%
1943	$152.1	$16.7	10.98%	$105.6	$3.8	3.60%
1944	$166.0	$17.7	10.66%	$116.9	$4.5	3.85%
1945	$171.6	$19.4	11.31%	$117.5	$5.8	4.94%
1946	$178.6	$17.2	9.63%	$112.0	$7.6	6.79%
1947	$190.9	$19.8	10.37%	$123.1	$7.0	5.69%
1948	$209.7	$19.2	9.16%	$135.5	$6.4	4.72%
1949	$207.0	$16.7	8.07%	$134.8	$7.1	5.27%
1950	$228.9	$18.9	8.26%	$147.2	$8.0	5.43%
1951	$257.9	$27.1	10.51%	$171.5	$9.8	5.71%
1952	$275.2	$32.0	11.63%	$185.7	$10.5	5.65%
1953	$291.7	$33.2	11.38%	$199.1	$11.2	5.63%
1954	$294.3	$30.2	10.26%	$197.3	$11.9	6.03%
1955	$316.0	$32.9	10.41%	$212.2	$13.5	6.36%
1956	$339.5	$36.6	10.78%	$229.0	$15.5	6.77%
1957	$358.5	$38.9	10.85%	$240.0	$17.6	7.33%
1958	$368.9	$38.5	10.44%	$241.3	$18.2	7.54%
1959	$392.3	$42.3	10.78%	$259.8	$21.1	8.12%
1960	$411.3	$46.1	11.21%	$272.9	$23.6	8.65%
1961	$428.8	$47.3	11.03%	$280.5	$24.8	8.84%
1962	$456.4	$51.6	11.31%	$299.4	$27.8	9.29%
1963	$479.5	$54.6	11.39%	$314.9	$30.4	9.65%
1964	$514.3	$52.1	10.13%	$337.8	$32.9	9.74%
1965	$555.5	$57.7	10.39%	$363.8	$35.7	9.81%
1966	$603.8	$66.4	11.00%	$400.3	$42.3	10.57%
1967	$648.1	$73.0	11.26%	$429.0	$46.1	10.75%
1968	$711.7	$87.0	12.22%	$472.0	$52.3	11.08%
1969	$778.3	$104.5	13.43%	$518.3	$59.3	11.44%
1970	$838.6	$103.1	12.29%	$551.6	$65.7	11.91%

Tax and Fringe Benefit Rates, 1929- 2009

expressed in Billions of current dollars

1971	$903.1	$101.7	11.26%	$584.0	$74.4	12.74%
1972	$992.6	$123.6	12.45%	$638.8	$86.4	13.53%
1973	$1,110.5	$132.4	11.92%	$708.8	$102.5	14.46%
1974	$1,222.7	$151.0	12.35%	$772.8	$118.0	15.27%
1975	$1,334.9	$147.6	11.06%	$814.7	$134.3	16.48%
1976	$1,474.7	$172.3	11.68%	$899.6	$159.6	17.74%
1977	$1,632.5	$197.5	12.10%	$994.1	$186.4	18.75%
1978	$1,836.7	$229.4	12.49%	$1,120.3	$214.9	19.18%
1979	$2,059.5	$268.7	13.05%	$1,253.5	$245.0	19.55%
1980	$2,301.5	$298.9	12.99%	$1,373.5	$274.2	19.96%
1981	$2,582.3	$345.2	13.37%	$1,511.3	$308.3	20.40%
1982	$2,766.8	$354.1	12.80%	$1,587.5	$332.1	20.92%
1983	$2,952.2	$352.3	11.93%	$1,678.0	$358.0	21.33%
1984	$3,268.9	$377.4	11.55%	$1,844.7	$400.5	21.71%
1985	$3,496.7	$417.3	11.93%	$1,982.8	$429.2	21.65%
1986	$3,696.0	$437.2	11.83%	$2,102.3	$455.3	21.66%
1987	$3,924.4	$489.1	12.46%	$2,256.3	$479.4	21.25%
1988	$4,231.2	$504.9	11.93%	$2,439.8	$514.4	21.08%
1989	$4,557.5	$566.1	12.42%	$2,583.1	$548.3	21.23%
1990	$4,846.7	$592.7	12.23%	$2,741.1	$585.1	21.35%
1991	$5,031.5	$586.6	11.66%	$2,814.5	$623.9	22.17%
1992	$5,347.3	$610.5	11.42%	$2,973.5	$673.6	22.65%
1993	$5,568.1	$646.5	11.61%	$3,076.6	$714.1	23.21%
1994	$5,874.8	$690.5	11.75%	$3,230.8	$750.1	23.22%
1995	$6,200.9	$743.9	12.00%	$3,418.0	$760.8	22.26%
1996	$6,591.6	$832.0	12.62%	$3,616.3	$771.4	21.33%
1997	$7,000.7	$926.2	13.23%	$3,876.6	$792.0	20.43%
1998	$7,525.4	$1,026.4	13.64%	$4,181.6	$842.3	20.14%
1999	$7,910.8	$1,107.5	14.00%	$4,460.0	$888.8	19.93%
2000	$8,559.4	$1,232.3	14.40%	$4,827.7	$961.2	19.91%
2001	$8,883.3	$1,234.8	13.90%	$4,952.2	$1,027.1	20.74%
2002	$9,060.1	$1,050.4	11.59%	$4,997.3	$1,113.5	22.28%
2003	$9,378.1	$1,000.3	10.67%	$5,139.6	$1,228.0	23.89%
2004	$9,937.2	$1,047.8	10.54%	$5,425.7	$1,282.7	23.64%
2005	$10,485.9	$1,208.6	11.53%	$5,701.0	$1,359.1	23.84%
2006	$11,268.1	$1,352.4	12.00%	$6,068.9	$1,406.9	23.18%
2007	$11,894.1	$1,490.9	12.53%	$6,408.9	$1,453.8	22.68%
2008	$12,238.8	$1,432.4	11.70%	$6,545.9	$1,496.6	22.86%
2009	$12,072.1	$1,107.6	9.17%	$6,330.6	$1,505.7	23.78%

Source: http://www.bea.gov/national/nipaweb

Year	CPI	Inflation	UE
1913	9.8		
1914	9.9	1.02%	
1915	10	1.01%	
1916	10.4	4.00%	
1917	12	15.38%	
1918	14.1	17.50%	
1919	16.2	14.89%	
1920	19.5	20.37%	
1921	18.4	-5.64%	
1922	16.9	-8.15%	
1923	16.8	-0.59%	
1924	17.2	2.38%	
1925	17.2	0.00%	
1926	17.9	4.07%	
1927	17.4	-2.79%	
1928	17.1	-1.72%	
1929	17.1	0.00%	
1930	17	-0.58%	
1931	15.7	-7.65%	
1932	14.1	-10.19%	
1933	12.7	-9.93%	
1934	13.3	4.72%	
1935	13.7	3.01%	
1936	13.8	0.73%	
1937	14.1	2.17%	
1938	14.1	0.00%	
1939	13.9	-1.42%	
1940	14	0.72%	
1941	14.1	0.71%	
1942	15.8	12.06%	
1943	16.9	6.96%	
1944	17.4	2.96%	
1945	17.8	2.30%	
1946	18.1	1.69%	
1947	21.5	18.78%	
1948	23.5	9.30%	3.8
1949	23.8	1.28%	4.7
1950	23.5	-1.26%	6.4
1951	25.7	9.36%	3.4
1952	26.3	2.33%	3.1
1953	26.5	0.76%	2.6
1954	26.9	1.51%	5.2
1955	26.7	-0.74%	4.7
1956	26.8	0.37%	3.9
1957	27.7	3.36%	3.9
1958	28.6	3.25%	6.4
1959	28.9	1.05%	5.9
1960	29.4	1.73%	4.8
1961	29.8	1.36%	6.9

Desert Xpress:
Employment Impact Analysis

Year	CPI	Inflation	UE
1962	30.1	1.01%	5.5
1963	30.4	1.00%	5.9
1964	30.9	1.64%	5.4
1965	31.2	0.97%	5.1
1966	32	2.56%	3.8
1967	32.9	2.81%	3.8
1968	34.2	3.95%	3.8
1969	35.8	4.68%	3.4
1970	38	6.15%	4.2
1971	39.9	5.00%	5.9
1972	41.3	3.51%	5.7
1973	42.9	3.87%	5
1974	47.2	10.02%	5.2
1975	52.5	11.23%	8.1
1976	55.8	6.29%	7.7
1977	59.1	5.91%	7.6
1978	62.9	6.43%	6.3
1979	69.1	9.86%	5.9
1980	78.9	14.18%	6.3
1981	87.9	11.41%	7.4
1982	94.6	7.62%	8.9
1983	97.9	3.49%	10.4
1984	102.4	4.60%	7.8
1985	106	3.52%	7.2
1986	109.3	3.11%	7.2
1987	111.6	2.10%	6.6
1988	116	3.94%	5.7
1989	121.6	4.83%	5.2
1990	128	5.26%	5.3
1991	134.8	5.31%	6.6
1992	138.6	2.82%	7.4
1993	143.1	3.25%	7.1
1994	146.7	2.52%	6.6
1995	150.9	2.86%	5.4
1996	154.9	2.65%	5.5
1997	159.6	3.03%	5.2
1998	161.9	1.44%	4.6
1999	164.5	1.61%	4.4
2000	169.8	3.22%	4.1
2001	175.8	3.53%	4.2
2002	177.8	1.14%	5.7
2003	183.1	2.98%	5.9
2004	186.2	1.69%	5.6
2005	191.8	3.01%	5.4
2006	198.7	3.60%	4.8
2007	203.5	2.42%	4.5
2008	211.7	4.03%	4.8
2009	212.2	0.24%	8.2
2010	216.7	2.14%	9.7

Desert Xpress:
Employment Impact Analysis

Year	CPI	Inflation	UE
2011	222.6	2.71%	8.75
2012	229.3	3.02%	7.66
2013	236.7	3.20%	6.90
2014	244.5	3.29%	6.43
2015	252.6	3.34%	6.17
2016	261.2	3.37%	6.02
2017	270.0	3.39%	5.95
2018	279.2	3.40%	5.91
2019	288.7	3.40%	5.88
2020	298.5	3.41%	5.87
2021	308.7	3.41%	5.87
2022	319.2	3.41%	5.86
2023	330.1	3.41%	5.86
2024	341.3	3.41%	5.86
2025	353.0	3.41%	5.86
2026	365.0	3.41%	5.86
2027	377.5	3.41%	5.86
2028	390.3	3.41%	5.86
2029	403.6	3.41%	5.86
2030	417.4	3.41%	5.86
2031	431.6	3.41%	5.86
2032	446.3	3.41%	5.86
2033	461.5	3.41%	5.86
2034	477.3	3.41%	5.86
2035	493.5	3.41%	5.86
2036	510.4	3.41%	5.86
2037	527.8	3.41%	5.86
2038	545.7	3.41%	5.86
2039	564.3	3.41%	5.86
2040	583.6	3.41%	5.86
2041	603.5	3.41%	5.86
2042	624.0	3.41%	5.86
2043	645.3	3.41%	5.86
2044	667.3	3.41%	5.86
2045	690.1	3.41%	5.86
2046	713.6	3.41%	5.86
2047	737.9	3.41%	5.86
2048	763.1	3.41%	5.86
2049	789.1	3.41%	5.86
2050	816.0	3.41%	5.86
2051	843.8	3.41%	5.86
2052	872.5	3.41%	5.86
2053	902.3	3.41%	5.86
2054	933.0	3.41%	5.86
2055	964.8	3.41%	5.86
2056	997.7	3.41%	5.86
2057	1031.7	3.41%	5.86
2058	1066.9	3.41%	5.86
2059	1103.3	3.41%	5.86
2060	1140.9	3.41%	5.86

dfuller inf, regress lags(0)

Dickey-Fuller test for unit root Number of obs = 96

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
	←——— Interpolated Dickey-Fuller ———			
Z(t)	-5.219	-3.516	-2.893	-2.582

MacKinnon approximate p-value for Z(t) = 0.0000

D.inf	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
inf						
L1.	-0.44859	0.085947	-5.22	0	-0.6192368	-0.2779371
_cons	0.015291	0.0053164	2.88	0.005	0.0047351	0.0258466

reg inf l.inf

Source	SS	df	MS	Number of obs =	96
				F(1, 94) =	41.16
Model	0.078286	1	0.07828611	Prob > F =	0
Residual	0.178781	94	0.001901921	R-squared =	0.3045
				Adj R-squared =	0.2971
Total	0.257067	95	0.002705965	Root MSE =	0.04361

inf	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
inf						
L1.	0.551413	0.085947	6.42	0	0.3807632	0.7220629
_cons	0.015291	0.0053164	2.88	0.005	0.0047351	0.0258466

dfuller ue, regress lags(1)

Dickey-Fuller test for unit root Number of obs = 61

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
		Interpolated Dickey-Fuller		
Z(t)	-2.981	-3.565	-2.921	-2.596

MacKinnon approximate p-value for Z(t) = 0.0367

D.ue	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ue						
L1.	-0.31767	0.1065785	-2.98	0.004	-0.5310099	-0.1043298
LD.	0.17683	0.1351376	1.31	0.196	-0.0936772	0.4473374
_cons	1.861704	0.6148992	3.03	0.004	0.6308491	3.092558

reg ue l.ue l.d.ue

Source	SS	df	MS		
				Number of obs =	61
				F(2, 58) =	29.81
Model	76.93981	2	38.4699049	Prob > F =	0
Residual	74.8533	58	1.29057412	R-squared =	0.5069
				Adj R-squared =	0.4899
Total	151.7931	60	2.52988515	Root MSE =	1.136

ue	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
ue						
L1.	0.68233	0.1065785	6.4	0	0.4689901	0.8956702
LD.	0.17683	0.1351376	1.31	0.196	-0.0936772	0.4473374
_cons	1.861704	0.6148992	3.03	0.004	0.6308491	3.092558

dfuller tx, regress lags(0)

Dickey-Fuller test for unit root Number of obs = 80

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
	---------- Interpolated Dickey-Fuller ----------			
Z(t)	-2.129	-3.538	-2.906	-2.588

MacKinnon approximate p-value for Z(t) = 0.2328

D.tx	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
tx						
L1.	-0.06603	0.0310076	-2.13	0.036	-0.1277611	-0.0042982
_cons	0.007849	0.0033091	2.37	0.02	0.0012606	0.0144365

dfuller tx, regress lags(1)

Dickey-Fuller test for unit root Number of obs = 80

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
	---------- Interpolated Dickey-Fuller ----------			
Z(t)	-0.726	-3.538	-2.906	-2.588

MacKinnon approximate p-value for Z(t) = 0.1620

D.fbr	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
fbr						
L1.	-0.0061	0.0084095	-0.73	0.47	-0.0228448	0.0106392
_cons	0.003496	0.0012619	2.77	0.007	0.0009842	0.0060086

. dfuller r, lags(0).

Dickey-Fuller test for unit root Number of obs = 28

	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
	---------- Interpolated Dickey-Fuller ----------			
Z(t)	-0.66	-3.73	-2.992	-2.626

MacKinnon approximate p-value for Z(t) = 0.8569

EXHIBIT G

The first table on pages 2 and 3 summarize the findings of the economic and employment impact study done by Thomas Carroll & Associates on behalf of Desert Xpress. This study found that the proposed Desert Xpress high speed rail project will bring an increase in primary employment spending of $1,330,067,600 in Clark County, Nevada and $2,160,318,000 in San Bernardino County, California.[1] Additionally, Desert Xpress is projected to increase spending in secondary employment in Clark County by $856,203,699 and $1,552,444,889 in San Bernardino County.

The second table on each of the following pages use final demand output multipliers provided by the Bureau of Economic Analysis, Regional Input - Output Modeling System (RIMSII).[2] Based on these multipliers and the assumptions of spending provided by Desert Xpress, we find an additional $779,579,438 will be spent into the economy in Clark County and $1,882,092,709 in San Bernardino County. I used data from the Bureau of Economic Analysis State and Regional GDP[3] to find employment multipliers for each industry identified by RIMSII to find the expected amount of the induced spending that will go to labor spending. Clark County can expect $346,528,619 in labor expenditures from the induced spending, and San Bernardino County can expect $852,042,154 of its induced spending to be spent on labor.

The following two tables sum the expected economic increase in Clark and San Bernardino Counties as the result of the construction phase of the Desert Xpress Project. Clark County is expected to benefit by $2,965,850,737 and San Bernardino can expect $5,594,855,597 in benefit.

Primary Employment	$	1,330,067,600
Secondary Employment	$	856,203,699
Induced Spending	$	779,579,438
Total Impact to Clark County Economy	**$**	**2,965,850,737**

Primary Employment	$	2,160,318,000
Secondary Employment	$	1,552,444,889
Induced Spending	$	1,882,092,709
Total Impact to San Bernardino Economy	**$**	**5,594,855,597**

[1] All findings are based on the assumptions provided by Desert Xpress as found on page 3 of the Predicted Employment and Economic Analysis
[2] http://www.bea.gov/regional/rims/index.cfm
[3] http://www.bea.gov/regional/gsp/

Clark County: Aggregated Effect to Employment and Output in 2010 Dollars

Description	Clark County, NV	% to Primary Labor	Amount to Primary Labor	2010 Average Annual Wage	Increase in Primary Workers	Secondary Jobs Created	Average Annual Wage	Wages to Secondary Jobs
Civil/Track Work	$ 1,017,714,000	80%	$ 814,171,200	$ 74,129	10,983	10,331	$49,049	$ 506,733,507
Electrical Work								
Primary Distribution	$ 39,900,000	60%	$ 23,940,000	$ 74,129	323	304	$49,049	$ 14,900,061
Traction Power and	$ 136,150,000	60%	$ 81,690,000	$ 74,129	1,102	1,037	$49,049	$ 50,843,189
Overhead Contact Systems								
Maintenance Facilities								
Las Vegas (Wigwam) Facility	$ 23,718,000	60%	$ 14,230,800	$ 74,129	192	181	$49,049	$ 8,857,134
Baker MOW Facility								
Victorville (Site 3) Facility								
Control/Signal Work	$ 155,050,000	60%	$ 93,030,000	$ 74,129	1,255	1,180	$49,049	$ 57,901,112
Train Sets/Equipment	$ 179,200,000	0%						
Stations								
Las Vegas Central Station	$ 212,726,000	60%	$ 127,635,600	$ 74,129	1,722	1,620	$49,049	$ 79,439,355
Victorville Station (Site 3)								
Project Management								
Project Management Oversight	$ 160,000,000	80%	$ 128,000,000	$ 59,084	2,166	2,038	$49,049	$ 99,952,527
Professional Services	$ 40,000,000	80%	$ 32,000,000	$ 59,084	542	509	$49,049	$ 24,988,132
Contingency	$ 77,000,000	0%						
Environmental Mitigation	$ 21,210,000	60%	$ 12,726,000	$ 59,084	215	203	$49,049	$ 9,937,468
ROW Acquisition	$ 52,880,000	5%	$ 2,644,000	$ 46,012	57	54	$49,049	$ 2,651,214
Total	$ 2,115,548,000		$ 1,330,067,600		18,558	17,456		$ 856,203,699
							Increase in Workers	$ 36,014
							Increase to Wages	$ 2,186,271,299

	Construction Multiplier*	Construction Spending	Induced Spending	Employment Multiplier	Amount to Employment
Agriculture, forestry, fishing, and hunting	0	$2,115,548,000	$0	0.2289653	$0
Mining	0.0043	$2,115,548,000	$9,096,856	0.2584085	$2,350,705
Utilities*	0.0065	$2,115,548,000	$13,751,062	0.3027847	$4,163,611
Manufacturing	0.0813	$2,115,548,000	$171,994,052	0.331744	$57,057,995
Wholesale trade	0.024	$2,115,548,000	$50,773,152	0.4781621	$24,277,797
Retail trade	0.0513	$2,115,548,000	$108,527,612	0.368414	$39,983,092
Transportation and warehousing*	0.0162	$2,115,548,000	$34,271,878	0.5420351	$18,576,561
Information	0.0127	$2,115,548,000	$26,867,460	0.2746995	$7,380,478
Finance and insurance	0.0184	$2,115,548,000	$38,926,083	0.1747405	$6,801,963
Real estate and rental and leasing	0.0288	$2,115,548,000	$60,927,782	0.069386	$4,227,535
Professional, scientific, and technical services	0.0766	$2,115,548,000	$162,050,977	0.6649545	$107,756,526
Management of companies and enterprises	0.0121	$2,115,548,000	$25,598,131	0.8459958	$21,655,911
Administrative and waste management services	0.0162	$2,115,548,000	$34,271,878	0.7932045	$27,184,608
Educational services	0.0001	$2,115,548,000	$211,555	0.7963862	$168,479
Health care and social assistance	0.0006	$2,115,548,000	$1,269,329	0.7708488	$978,461
Arts, entertainment, and recreation	0.0017	$2,115,548,000	$3,596,432	0.255232	$917,924
Accommodation	0.0027	$2,115,548,000	$5,711,980	0.5524346	$3,155,495
Food services and drinking places	0.0036	$2,115,548,000	$7,615,973	0.6934112	$5,281,001
Other services*	0 0114	$2,115,548,000	$24,117,247	0 6058103	$14,610,477
			$779,579,438		$346,528,619

*Construction Multiplier provided by Bureau of Economic Analysis, RIMSII. Final Demand Output Multipliers - Industry aggregations

Region Las Vegas-Paradise, NV Metropolitan Statistical Area (Type I)

Series: 2002 U.S. Benchmark I-O data and 2007 Regional Data

San Bernadino County: Aggregated Effect to Employment and Output in 2010 Dollars

Description	San Bernardino County, CA	% to Primary Labor	Amount to Primary Labor	2010 Average Annual Wage	Increase in Primary Workers	Secondary Jobs Created	Average Annual Wage	Wages to Secondary Jobs
Civil/Track Work	$ 1,890,041,000	80%	$ 1,512,032,800	$71,375	21,184	19,927	$54,097	$ 1,077,968,321
Electrical Work								
Primary Distribution	$ 74,100,000	60%	$ 44,460,000	$71,375	623	586	$54,097	$ 31,696,714
Traction Power and	$ 252,850,000	60%	$ 151,710,000	$71,375	2,126	1,999	$54,097	$ 108,158,086
Overhead Contact Systems								
Maintenance Facilities								
Las Vegas (Wigwam) Facility								
Baker MOW Facility	$ 4,952,000	60%	$ 2,971,200	$71,375	42	39	$54,097	$ 2,118,247
Victorville (Site 3) Facility	$ 91,541,000	60%	$ 54,924,600	$71,375	770	724	$54,097	$ 39,157,205
Control/Signal Work	$ 287,950,000	60%	$ 172,770,000	$71,375	2,421	2,277	$54,097	$ 123,172,319
Train Sets/Equipment	$ 332,800,000	0%						
Stations								
Las Vegas Central Station								
Victorville Station (Site 3)	$ 242,368,000	60%	$ 145,420,800	$71,375	2,037	1,916	$54,097	$ 103,674,349
Project Management								
Project Management Oversight	$ 40,000,000	80%	$ 32,000,000	$60,773	527	495	$54,097	$ 26,793,608
Professional Services	$ 10,000,000	80%	$ 8,000,000	$60,773	132	124	$54,097	$ 6,698,402
Contingency	$ 154,244,000	0%						
Environmental Mitigation	$ 42,421,000	60%	$ 25,452,600	$60,773	419	394	$54,097	$ 21,311,469
ROW Acquisition	$ 211,520,000	5%	$ 10,576,000	$46,012	230	216	$54,097	$ 11,696,168
Total	$ 3,634,787,000		$ 2,160,318,000		30,509	28,698		$ 1,552,444,889
							Increase in Workers	$ 59,206
							Increase to Wages	$ 3,712,762,889

	Construction Multiplier*	Construction Spending	Induced Spending	Employment Multiplier	Amount to Employment
Agriculture, forestry, fishing, and hunting	0.0036	$3,634,787,000	$13,085,233	0.146715	$1,919,800
Mining	0.0104	$3,634,787,000	$37,801,785	0.1307486	$4,942,530
Utilities*	0.0116	$3,634,787,000	$42,163,529	0.1709525	$7,207,961
Manufacturing	0.2055	$3,634,787,000	$746,948,729	0.4610934	$344,413,129
Wholesale trade	0.0417	$3,634,787,000	$151,570,618	0.5181238	$78,532,345
Retail trade	0.0521	$3,634,787,000	$189,372,403	0.4156678	$78,716,010
Transportation and warehousing*	0.0321	$3,634,787,000	$116,676,663	0.4015428	$46,850,674
Information	0.013	$3,634,787,000	$47,252,231	0.3456241	$16,331,510
Finance and insurance	0.0172	$3,634,787,000	$62,518,336	0.6008259	$37,562,636
Real estate and rental and leasing	0.0287	$3,634,787,000	$104,318,387	0.05564	$5,804,275
Professional, scientific, and technical services	0.0526	$3,634,787,000	$191,189,796	0.6054006	$115,746,417
Management of companies and enterprises	0.0068	$3,634,787,000	$24,716,552	0.2709534	$6,697,034
Administrative and waste management services	0.0201	$3,634,787,000	$73,059,219	0.6826277	$49,872,246
Educational services	0.0002	$3,634,787,000	$726,957	0.8495705	$617,602
Health care and social assistance	0.0007	$3,634,787,000	$2,544,351	0.7829259	$1,992,038
Arts, entertainment, and recreation	0.001	$3,634,787,000	$3,634,787	0.6621226	$2,406,675
Accommodation	0.0029	$3,634,787,000	$10,540,882	0.5107329	$5,383,575
Food services and drinking places	0.0039	$3,634,787,000	$14,175,669	0.6434541	$9,121,393
Other services*	0.0137	$3,634,787,000	$49,796,582	0.7615845	$37,924,305
			$1,882,092,709		$852,042,154

*Construction Multiplier provided by Bureau of Economic Analysis, RIMSII Final Demand Output Multipliers - Industry aggregations
Region Riverside-San Bernardino-Ontario, CA Metropolitan Statistical Area (Type I)
Series 2002 U.S Benchmark I-O data and 2007 Regional Data

EXHIBIT H

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 34914

Affidavit of Anthony A. Marnell, II in Support of the DesertXpress Petition for an Exemption from 49 U.S.C. § 10901

STATE OF NEVADA)
) ss.
COUNTY OF CLARK)

I, Anthony A. Marnell, II, being first duly sworn under oath, hereby state as follows:

1. I am the Chairman of DesertXpress Enterprises, LLC and the Managing Director of DX, LLC. DX, LLC is the majority owner of DesertXpress Enterprises, LLC. My business address is 222 Via Marnell Way, Las Vegas, Nevada 89119. Additional information about my companies and myself can be found in Exhibit C.

2. The proposed DesertXpress project ("Project") is a privately-developed interstate high-speed passenger rail system that, upon completion, will span an approximately 190-mile route between Victorville, California and Las Vegas, Nevada. DesertXpress' plan of finance is supported by Steer Davies Gleave's April 2011 investment grade ridership study. The study forecasts an average annual ridership of over 6.49 million round trips in the Project's initial years and 8.93 million round trips in Year 35 of the Project's operation. These ridership forecasts

confirm that robust ridership and demand exists to support the Project, and demonstrate that revenues from passenger fares will cover project and financing costs with a going concern valuation that exceeds the collateral requirements for the anticipated Railroad Rehabilitation and Improvement Financing ("RRIF") loan.

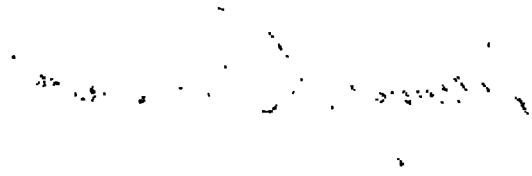
3. The Project's total cost is currently estimated at $6.5 billion. It is currently expected that the Project will be financed through a combination of private capital investment and a federal loan administered by the Federal Railroad Administration's RRIF Program. The current working estimate of approximately $6.5 billion in total direct capital costs for the Project takes into consideration: (1) total construction costs, (2) project management costs, (3) administrative and management oversight costs, (4) rolling stock costs, (5) working capital for rolling stock operations, (6) commissioning and pre-operation costs, (7) working capital requirements, and (8) a credit risk premium required for the RRIF loan.

Anthony A. Marnell, II

SUBSCRIBED AND SWORN to before me
this 26th day of July 2011.

Meredith C. Ellis
Notary Public in and for said
County and State

Notary Public - State of Nevada
County of Clark
MEREDITH C. ELLIS
My Appointment Expires
February 20, 2012
No: 92-0275-1



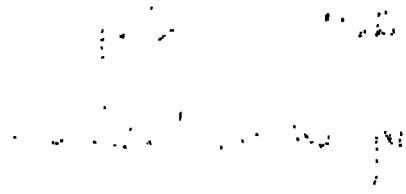


EXHIBIT I

SOLICITATION, OFFER AND AWARD

1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING	PAGE OF PAGES
		1 | 56

2. CONTRACT NUMBER	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER
	DTFR53-11-R-00006	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	07/01/2011	RRIF11-06

7. ISSUED BY	CODE RAD-30	8. ADDRESS OFFER TO (If other than Item 7)
FRA FEDERAL RAILROAD ADMINISTRATION OFFICE OF ACQ AND GRANT SERVICES 1200 NEW JERSEY AVENUE SE WEST BUILDING 3RD FLOOR STOP-50 WASHINGTON DC 20590		FRA - ATTN: Anthony Terrell 1200 New Jersey Avenue, SE West Building, Rm W36-111 Washington, D.C. 20590

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and see Section L.3 copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if hand carried, in the depository located in RAD-30 until 1630 ES local time 08/02/2011 (Hour) (Date)

CAUTION: LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME	B. TELEPHONE (NO COLLECT CALLS) AREA CODE	NUMBER	EXT.	C. E-MAIL ADDRESS
	ANTHONY TERRELL	202	493-6080		Anthony.Terrell@dot.gov

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OFFER (Must be fully completed by offeror)

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days (60 calendar days unless a different period is inserted by the offeror) from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT (See Section I, Clause No. 52.232.8)	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)

14. ACKNOWLEDGEMENT OF AMENDMENTS (The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated):	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER (Type or print)

15B. TELEPHONE NUMBER AREA CODE	NUMBER	EXT.	15C. CHECK IF REMITTANCE ADDRESS ☐ IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	17. SIGNATURE	18. OFFER DATE

AWARD (To be completed by government)

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: ☐ 10 U.S.C. 2304 (c) ( ) ☐ 41 U.S.C. 253 (c) ( )	23. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM

24. ADMINISTERED BY (If other than Item 7)	CODE	25. PAYMENT WILL BE MADE BY	CODE

26. NAME OF CONTRACTING OFFICER (Type or print)	27. UNITED STATES OF AMERICA (Signature of Contracting Officer)	28. AWARD DATE
Robert L. Carpenter		

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice

AUTHORIZED FOR LOCAL REPRODUCTION
Previous edition is unusable

STANDARD FORM 33 (Rev. 9-97)
Prescribed by GSA - FAR (48 CFR) 53.214(c)

ITEM NO. (A)	SUPPLIES/SERVICES (B)	QUANTITY (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)
	The contract to be awarded from this solicitation shall include BOTH FIRM FIXED-PRICE and TIME & MATERIALS ELEMENTS for INDEPENDENT FINANCIAL ANALYSIS SERVICES Delivery Location Code: RPD-12 CREDIT PROGRAMS DIVISION 1200 NEW JERSEY AVE SE WASHINGTON DC 20590 USA Period of Performance: 09/15/2011 to 07/15/2012				
0001	B.1 Services to be Provided Financial Analysis of RRIF Loan Application ID #2011-006: DesertXpress Contractor shall perform financial assessment services that will assist in determining the creditworthiness of the loan applicant under FRA's "Railroad Rehabilitation Improvement Financing" (RRIF) loan program. The applicant, DesertXpress (a Nevada based consortium), has requested a $6 Billion RRIF loan to finance construction of a High Speed Rail network to run from Victorville, California to Las Vegas, Nevada. In accordance with Section C (Statement of Work), the services to be provided by the contractor may include, but are not limited to, one or more of the following: Evaluate the economic soundness of the project and creditworthiness of the applicant for credit assistance. This evaluation will include analyzing: (1) the financial viability of the project, including the plan of finance (capitalization plan) and its assumptions (2) the financial projections of the borrower and other relevant parties to the overall transaction (3) the business plan including all projections for revenue, ridership studies, financial modeling, and assessment of future ability to meet all repayment obligations (4) project risks, including reasonableness of the applicant's revenue and expense forecasts, validation of ridership studies, project schedule and project costs; and (5) cost/benefit analysis regarding the overall cost to the government versus the public benefits derived from the project. Product/Service Code: R710				

SECTION B (cont'd) - SUPPLIES OR SERVICES AND PRICE/COSTS

B.2 PAYMENT SCHEDULE

TASK	*DUE*	*PERCENTAGE VALUE*
PHASE 1		**FIRM FIXED-PRICE**
Task 1.1	*10 days after award*	
Task 1.2	*30 days after award*	$_____
		25%
Task 2.1	*10 days after Task 1 Report*	
Task 2.2	*30 days after Task 1 Report*	
Task 2.3	*30 days after Task 1 Report*	$_____
		25%
Task 3.1	*10 days after Task 2 Report*	
Task 3.2	*30 days after Task 2 Report*	
Task 3.3	*30 days after Task 2 Report*	$_____
		25%
Task 4.1	*10 days after Task 3 Report*	
Task 4.2	*30 days after Task 3 Report*	
Task 4.3	*30 days after Task 3 Report*	
Task 4.4	*30 days after Task 3 Report*	
Task 4.5	*30 days after Task 3 Report*	$_____
Final Summary Report	*15 days after approval of Task 4.5 deliverable*	*25%*
		100%
TOTAL PHASE 1 FIRM FIXED-PRICE		$_____
PHASE 2	***COST REIMBERABLE***	**TIME & MATERIALS**
Consultation and Advisory Services	*As required during 6 months after completion of Final Summary Report*	***Total Phase 2 Estimate*** **$100,000**
		to be invoiced on a monthly basis

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK

DesertXpress Independent Financial Advisor Scope of Work

Railroad Rehabilitation and Improvement Financing Program

Tasks to be performed by the Independent Financial Advisor ("Contractor")

Application Background:

DesertXpress is planned to be the first inter-state, high speed passenger rail project linking southern California and southern Nevada. Overall costs of the project are currently estimated to be over $6 billion. Potential RRIF financing for this project, if approved, may consist of over $5 billion, with the remainder coming from equity investments. Project highlights include:

- 188 miles from Victorville, California to Las Vegas, Nevada.
- New exclusive double track with no at-grade vehicle or pedestrian crossings.
- Dedicated passenger-only service – no mixing with freight trains.
- Two stations with no intermediate stops – express service.
- Primarily within or adjacent to the existing I-15 freeway right of way.
- Maximum vertical grade of 4.5% and minimum radius curves of 8000 feet deliver a trip time of 84 minutes.
- Proven off-the-shelf standard gauge steel wheel on steel rail high speed train technology, operating initially up to 150 MPH.
- Designed to enable future extensions and enhancements to interconnect to the planned California high-speed rail system.

DesertXpress (DXE) is a privately operated venture and owned by Desert Xpress Enterprises, LLC, a Nevada limited liability company. Financing is required to construct and acquire the assets necessary to support the system to include land, track and structure, buildings, rolling stock, systems and other items as summarized in the RRIF loan application. Equity and other financing to be finally determined prior to financial closure will supplement the requested RRIF loan. The requested loan amount is still to be determined but is expected to be in the range of $5.5-$6.5 billion, depending on the final Environmental Impact Statement and scope to be covered by the loan.

The DXE system will own significant physical assets with the applicant proposing to offer the enterprise as the collateral. DXE is also requesting a potential multiple year deferment of principal and interest. Given the scale of the loan and the complexity of the project and the potential degree of Government exposure in financing such a project, a careful and thorough review of the risk is required. DXE expects to request that the RRIF program contribute above 80% of the overall project financing, with the balance coming from other debt and private equity sources. The requested financial structure will be determined once the final cost of the project is determined.

Overview of the Scope of Work: To accommodate the unique concerns of this venture, the Contractor is required to perform analysis organized under four discrete categories. The schedule required for the completion of each category is included in this statement of work. The anticipated period of performance for the four (4) tasks below is four (4) months, at which time the final report is expected. Thereafter, during the remaining six (6) months of the total period of performance, the Contractor may be called upon for consultations related to the four tasks completed under this contract. These consultations may involve a Key Person(s) from the Contractor's staff who worked on the project to travel to Washington, D.C.

TASK 1: Initial Review Support
The Contractor will perform a preliminary evaluation of the proposed venture, project approach and institutional structure of DXE, and comment on any application materials needing further information or clarity needed for the financial review and analysis.

TASK 2: Ridership Analysis
The Contractor will perform a comprehensive review and evaluation of the Investment Grade Ridership Study and provide a review of the applicant's projected ridership and operating revenues to assess the reasonableness of the assumptions underlying the projections.

TASK 3: Project Evaluation
The Contractor will review and evaluate the applicant's submission of high level design documents and drawings, detailed cost estimates, project schedule and a loan drawdown schedule for the construction phase. The Contractor will analyze the adequacy of forecast project costs, design specifications, construction schedules, and other engineering factors to determine the financial feasibility of the project.

TASK 4: Capacity to Repay and Collateral
The Contractor will independently evaluate the financial plan and final contracting structure of the project, including a full analysis (to include sensitivity analysis) of the applicant's ability to repay the loan, and identify any unique project risks. This analysis will provide recommendations to FRA to enable the decision to grant or deny a loan, provide commentary on risk of a potential deferment period and determine the overall level of risk and associated credit risk premium. The Contractor will develop detailed terms for the financing agreement to include specific financial and legal protections and recommendations on loan covenants. The Contractor will perform an evaluation of all collateral offered and methodology recommendation on asset valuation (specifically in the event of default).

TASKS

PHASE 1

TASK 1: Initial Review Support

Background: Due to the unique structure of this project, with several of the critical elements being completed in a parallel process, FRA is setting the goal of a 30-day completion of this initial application review. Application sections 1, 2, 3, 4, 5, 7, 12, 13, 21, and 23 will be reviewed under Task 1. In addition, the Environmental Impact Statement and Waiver for operation shall be made available to the Contractor to provide sufficient background material to clearly understand the project.

TASK 1.1 – Confirmation that applicant has submitted all elements required under Category 1

Task Description: The purpose of the Task 1.1 is to aid the FRA in preparing its request to the borrower for supplemental application information. In close consultation with FRA, the Contractor will compile a list of additional documents and information needed to complete the tasks listed below. Significant information which the Contractor believes is essential to this initial review will be submitted to FRA as Report #1-1.

TASK 1.2 – Review of proposed institutional structure and project approach

Task Background: DesertXpress is a private venture that has assumed it would cover both operating and capital costs from system revenues. The Southern California – Las Vegas corridor accounts for one quarter of the 40 million annual visitors to Las Vegas. The DXE business model is based on capturing a percentage of those who travel by car. Land acquisition related to the right-of-way has been simplified as most of the alignment is located within the I-15 corridor. DXE believes the construction phase could begin as early as the fourth quarter of 2011 (calendar year). While the DXE proposed institutional structure has aspects not commonly applied in the United States rail industry, some components of the proposed structure have been successfully applied in other US transportation projects and also in railway ventures in other countries. Contractor is to provide an evaluation on how DXE compares to other high speed rail lines in Europe and around the globe.

Task Description: To aid the FRA in evaluating the fundamental viability of the proposed project approach and general institutional structure, the Contractor shall review the proposed legal structure of DXE and the project implementation structure with the understanding that the details of the institutional structure by necessity will not be finalized until the final review when the contractual arrangements between the various parties are complete. In addition, the Contractor will perform an investigation of all ownership parties of DXE and a full review of the DesertXpress Operating Agreement including an assessment of any applicable risks.

DELIVERABLES – TASK 1

The deliverables associated with Task 1.1 shall be submitted electronically to COTR within ten (10) days after the task order is awarded.

All other tasks above shall be delivered within 30 days after the task order is awarded. All reports required under this Task (other than the one required by Task 1.1) shall be submitted to FRA contact in electronic format, along with 7 paper color copies.

TASK 2: Projected Ridership and Operating Revenues

Task 2 background: Several ridership studies have been performed and reviewed for the Environmental Impact Statement. Those studies were on a technology that operated at speeds of 125 mph top speeds while the DXE RRIF application calls for 150 mph speeds with increased frequency. Of most relevance, Steer Davies Gleave (SDG) has conducted an "investment grade" ridership study. Application sections 15 and 16 shall be included in the Task 2 review.

TASK 2.1 – Determination of Initial Loan Application completeness sufficient for Task 2

Task Description: The purpose of the Task 2.1 is to aid the FRA in preparing its request to the borrower for supplemental application information. The Contractor will examine the applicant's submission. In close consultation with FRA, the Contractor will then compile a list of additional documents and information needed to complete the tasks listed below. Significant information which the Contractor believes is essential to this initial review will be submitted to FRA as Report #2-1.

TASK 2.2 – Review of projected ridership

Task Description: The Contractor will perform a review and audit of the investment grade ridership and revenue study used for the final loan application. The Contractor will review the development of the various historical ridership studies, and assess their reasonableness and the assumptions supporting the final SDG investment grade ridership study. The Contractor will also provide details of weaknesses and suggestions for improving the projections and recommend any additional sensitivity analysis that should be undertaken. Contractor will review the economic growth projections including real estate and growth in gaming industry as well as the competition and growth in alternative modes of transportation including auto and air and plans for expansion of highway and air facilities in the Corridor.

TASK 2.3 – Review of operating revenues and deal structure

It is assumed the majority of the revenue will come from the sale of train tickets. SDG, as part of its study, has conducted a price sensitivity analysis and determined the projected

fares for one-way and round-trip journeys. The Contractor will review the reasonableness and methodology of these sensitivity analyses and indicate whether this level of study is sufficiently comprehensive or if additional ridership analysis is still warranted.

DELIVERABLES – TASK 2

The deliverable associated with Task 2.1 shall be submitted electronically to COTR within ten (10) business days after the Task 1 report is completed.

Tasks 2.2 and 2.3 shall be completed and delivered within 30 days after the Task 1 report is completed. All reports required under this Task (other than the one required by Task 2.1) shall be submitted to FRA in electronic format along with 7 paper color copies.

TASK 3: Design, Construction, Operations Costs

Task 3 background: DXE has been under development for eight years and significant investment in design, engineering, planning and permitting activities have occurred. In addition, Draft and Supplemental Environmental Impact Statements have been completed. The FRA has issued a waiver to DXE for operation.

The system proposed will be composed of new dedicated, grade-separated high-speed standard-gauge track over which trains will operate at speeds of up to 150 miles per hour, powered by overhead catenary. Extensions and enhancements to this point-to-point system are proposed, such as interconnection to the planned state of California high-speed rail system. However, evaluation of these potential future developments are not part of the scope of this application review and the application shall be evaluated based on the merits of the base system scope. Application Sections 6, 8, 9, 10, 11, 17, 18, 19, and 20 will be included under Task 3.

TASK 3.1 – Determination of loan application completeness sufficient to accomplish Task 3

Task Description: The purpose of the Task 3.1 is to aid the FRA in preparing its request to the borrower for supplemental application information. The Contractor will examine the applicant's submission. In close consultation with FRA, the Contractor will then compile a list of additional documents and information needed to complete the tasks listed below. Significant information which the Contractor believes is essential to this initial review will be submitted to FRA as Report #3-1.

TASK 3.2 – Review of project construction plans, schedule and capital expenditure projections

Task Background: The Applicant has prepared design documents and drawings, detailed project costs, project schedule and an estimated loan drawdown schedule for the

construction phase of the DesertXpress. It is expected that the work will be performed under firm fixed prices.

Task Description: The Contractor will analyze the adequacy of forecast project costs, design specifications, construction schedules, and other engineering factors including details on construction and technology risks. The focus shall be on the following:

- Conceptual designs, high level drawings and functional description of the system
- Engineering, Procurement and Construction (EPC) implementation structure
- Construction schedule
- Reasonableness of budget estimates
- Evaluation of any currency risk to extent of foreign contracts or financial guarantees, if any.
- All applicable (including local, state, federal) permitting elements and regulatory approvals
- Critical completion risks
- Technology risk elements (with commentary on applicability to schedule risk)
- Ensure essential safety requirements are satisfied
- Provide insurance requirement recommendations
- Review of Victorville being appropriate starting point for line versus alternative California locations

The Contractor shall identify and assess areas of cost or schedule risk that would impact viability of the business case or initiation of operations and subsequent debt service repayment in accordance with the project plan. This task will include a review of the major federal, state and local permitting milestones and assessment of their associated schedule and cost risk. The Contractor shall evaluate terms and conditions of design-build and equipment supply contracts for all potential risk to include, but not limited to, risk of cost-overruns, delays, warranties, and system integration risks.

Task 3.3 Review of operational plan, maintenance plan and safety plan

DXE has submitted an operations plan detailing the trip times, load factors and procedures it will use. They have also submitted a maintenance plan. The IFA will review the proposed plans and determine whether they are adequate or require revisions and detail what changes should be made. The Contractor shall also review the methodology and processes for DXE to receive safety certification for the operation of the service.

DELIVERABLES – TASK 3

The deliverable associated with Task 3.1 shall be submitted electronically to COTR within ten (10) calendar days after the Task 2 report is completed. Tasks 3.2 and 3.3 shall be completed and delivered within 30 days after the Task 2 report is completed. All reports required under this Task (other than the one required by Task 3.1) shall be submitted to FRA in electronic format along with 7 paper color copies.

TASK 4: Analysis of Repayability/Collateral and ramifications of default to the Lender

Task Background: The DXE system will own significant physical assets. It is anticipated that those assets would be insufficient to provide adequate collateral to secure the Lender in the case of default. Therefore, the applicant is proposing the "going concern" value of the enterprise as the collateral.

- Please note that DOT will be requiring a full investment grade rating on the proposed RRIF debt from a US based rating agency. This information, once available, must be factored into the analysis of the Contractor. Contractor shall complete a full analysis of the rating, analyze assumptions and overall validity and provide their own assessment of an appropriate rating.

Task Description: The Contractor shall review the methodology for estimating the going concern value of the project, and confirm that this methodology will enable the Contractor to determine the final going concern value.

Task 4 background: DXE has provided detailed financial projections. These projections reflect expectations about future ridership, operating revenues, expenses, capital expenditures, and other factors. Application Sections 22, 23, 24 and 25, and running the approved model for going concern shall be included in Task 4.

TASK 4.1 – Determination of Initial Loan Application completeness sufficient to accomplish Task 4

Task Description: The purpose of the Task 4.1 is to aid the FRA in preparing its request to the borrower for supplemental application information. The Contractor will examine the applicant's submission. In close consultation with FRA, the Contractor will then compile a list of additional documents and information needed to complete the tasks listed below. Significant information which the Contractor believes is essential to this initial review will be submitted to FRA as Report #4-1.

TASK 4.2 – Analysis of Financial Forecast

Task Description: The Contractor will review the information available, and will develop projections of the financial performance of the applicant, including an analysis of the applicant's ability to repay the loan and identify unique project risks. The Contractor will also undertake sensitivity analysis on both the applicant and lender financial models to determine the magnitude of revenue reduction and/or cash increases that would compromise the repayment of the proposed RRIF loan. The analysis should include projections of the Applicant's planned cash expenditures, including operating expenses, planned capital spending, amortization of the RRIF loan, other scheduled principal and interest payments, and any other anticipated cash expenditures. The analysis should include the ability to repay any other debt as any default on subordinate debt could have a strong potential impact on the overall project viability.

The amortization schedule will extend for the life of the proposed loan and the detailed analysis of revenues and expenditures described above should extend beginning with the first loan drawdown through a potential six year deferment and extending through the life of the loan. The Contractor should also discuss any other factors or conduct other analyses it finds relevant in order to assess thoroughly the repayability of the proposed RRIF loan.

The Contractor's final report to the FRA shall identify and assess the main strengths and weaknesses of the project, as well as the nature and extent of credit risks associated with it.

TASK 4.3 – Recommendation of size and general terms of loan, summary of risks, and discussion of alternative structures and terms

Task Background: Based on the analysis completed in the tasks above, the Contractor will make recommendations for loan terms and other structural requirements the Contractor believes are necessary to evaluate the risk of non-payment of the RRIF loan. This analysis should include a recommendation of the maximum debt capacity of the borrower and comment on suggested debt/equity ratio.

Task Description: The Contractor shall review the scale and general terms of the loan requested and summarize the risks determined during performance of the previous tasks. If necessary, the Contractor shall make recommendations as to level of financing and general terms that FRA could offer the borrower to mitigate the risk of non-payment. The Contractor's analysis shall include the following:

- Analyze the applicant's creditworthiness.
- Analyze risk associated with principal and interest deferment period.
- Evaluate strength of proposed security interest in rolling stock and infrastructure improvements, including during construction and acquisition periods.
- Perform detailed financial calculations and establish ratios related to the overall financial structure of the transaction. These calculations may include coverage ratios, debt capacity, alternative repayment structures, sensitivity analysis, stress testing and other financial tests.
- Analysis of overall cost to include the cost of the Credit Risk Premium/CRP (associated cost of obtaining the RRIF loan in addition to the interest charges) that must be included in all financial modeling.
- Analysis should include projections of DXE's planned cash expenditures, including operating expenses, planned capital spending, amortization of RRIF loan, other scheduled principal and interest payments and any other anticipated cash expenditures with comparisons to other high speed rail line start ups. Analysis to include detailed analysis of revenues and expenditures and stress revenue streams for point of default stress scenario modeling for all identified risks.

- Evaluate strength of guarantees from design-builders and equipment suppliers and rights they may have in event of payment default.
- Full review of ownership expectations on profit and recommend appropriate limitations until RRIF debt is repaid.
- Evaluate legal relationship with states of Nevada, California, federal entities and local communities with respect to operating rights, liabilities and taxation.
- Analysis of various scenarios based upon amounts of equity contribution and non-RRIF debt brought into overall project versus only RRIF debt financing. Comment on associated risks.
- Contractor will summarize in the final report to FRA to what degree the loan, as proposed, is reasonably repayable. Contractor will provide full identification of the main strengths and weaknesses of the loan, as well as the nature and extent of credit risks associated with it. Specific attention should be given to a discussion of ways to mitigate the main weaknesses of the loan. If no alternatives exist, the contractor shall explain why alternatives are infeasible or unnecessary. The contractor may, if necessary, discuss such alternatives with the applicant. However, the main purpose of this task is to aid FRA in discussing and negotiating potential alternative structures with the applicant.

Task 4.4 – Going Concern Value - Collateral

Task Background: Based on the complete financial information, the going concern value will be determined. Contractor should also consider the net liquidation values in a default/liquidation scenario.

Task Description: The Contractor will review the methodology for the going concern reviewed and determined in Task 1. The Contractor will use that model with the final numbers developed in Tasks 2-4 to determine the going concern value of the operation. Commentary on the optimal valuation method in a default scenario should also be included.

Task 4.5 – Cost Benefit Analysis

Task Background: A Cost Benefit Analysis is requested that provides information regarding the overall public benefits versus the overall financial cost associated with the transaction.

Task Description: FRA will assist Contractor with further detail as to the numerical analysis needed to analyze the overall cost to the government compared to the overall public benefit derived from construction of this project.

DELIVERABLES – TASK 4

The deliverable associated with Task 4 shall be submitted electronically to COTR within ten (10) calendar days after Phase 3 report is completed.

Tasks 4.2, 4.3, 4.4 and 4.5 shall be completed and delivered within 30 days after the Phase 3 report is completed. All reports required under this Task (other than the one required by Task 4.1) shall be submitted to FRA in electronic format along with 7 paper color copies.

Final Summary Report
Within fifteen (15) days after submission of the Task 4.5 report and approval by FRA, the contractor will submit a written Final Summary Report of all the analyses and findings associated with Tasks 1 through 4. This summary report shall reflect any changes made as a result of discussions between FRA and the contractor during the course of the work in Tasks 1 through 4.

PHASE 2

Consultation and Advisory Services

As the RRIF loan moves through the approval process, the contractor will provide continuing consultation and advisory support services to FRA, as may be required, regarding the transaction until financial closing of the RRIF loan is completed. Travel to Washington, D.C. may be required by one or more of the contractor's representatives associated with these additional advisory and consultation services, for purposes to include:

- Internal DOT meetings (to include Credit Council and/or executive briefings)
- Assistance in preparing responses to the Office of Management and Budget (OMB) questions on the transaction

SECTION D - PACKAGING AND MARKING

D.1 PRESERVATION, PACKING AND MARKING
All packing, packaging and mailing shall be accomplished in the most economical manner in accordance with best commercial practices.

D.2 MARKING
All information submitted to the Contracting Officer or the Contracting Officer's Technical Representative (COTR) shall clearly indicate the applicable contract number for which the information is being submitted.

SECTION E - INSPECTION AND ACCEPTANCE

E.1 FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	DATE	TITLE
52.246-4	AUG 1996	INSPECTION OF SERVICES – FIXED-PRICE

52.246-6	MAY 2001	INSPECTION OF SERVICES – TIME-AND-MATERIAL AND LABOR-HOUR

E.2 INSPECTION AND ACCEPTANCE

a. All deliverable items set forth in Sections C and F of this contract shall be delivered prepaid and clearly identified by contract number to the addressee specified in Section F.

b. Satisfactory completion of work under this contract shall be indicated by written acceptance of such work by the Contracting Officer or the designated Contracting Officer's Technical Representative (COTR). Taking physical delivery shall not constitute acceptance. Final acceptance at the conclusion of the contract shall be made in writing by the Contracting Officer.

SECTION F - DELIVERIES OR PERFORMANCE

F.1 FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	DATE	TITLE
52.242-15	AUG 1989	STOP-WORK ORDER
52.242-15	AUG 1989	STOP-WORK ORDER Alternate I (APR 1984)
52.242-17	APR 1984	GOVERNMENT DELAY OF WORK

F.2 PERIOD OF PERFORMANCE

The period of performance for work under this contract shall extend **ten (10) months** after the date of contract award.

F.3 PLACE OF DELIVERY

a. All written deliverables under the contract shall be delivered F.O.B. destination, under a transmittal letter, to the Contracting Officer's Technical Representative at the following destination:

(TO BE DETERMINED), COTR
Federal Railroad Administration
Office of Research and Development
1200 New Jersey Avenue, Rm. W36-418
Washington, DC 20590
(202)493-XXXX
XXXX@dot.gov

b. A copy of each transmittal letter and a copy of the respective report(s) shall be delivered F.O.B. destination to the Contracting Officer at the following address:

Robert Carpenter, Contracting Officer
Federal Railroad Administration
Office of Acquisition & Grants Services, Rm. W34-302
1200 New Jersey Avenue
Washington, D.C. 20590
(202)493-6153
robert.carpenter@dot.gov

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 TAR 1252.242-73 CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (OCT 1994)

a. The Contracting Officer may designate Government personnel to act as the Contracting Officer's Technical Representative (COTR) to perform functions under the contract such as review and/or inspection and acceptance of supplies, services, including construction, and other functions of a technical nature. The Contracting Officer will provide a written notice of such designation to the Contractor within five working days after contract award or for construction, not less than five working days prior to giving the contractor the notice to proceed. The designation letter will set forth the authorities and limitations of the COTR under the contract.

b. The Contracting Officer cannot authorize the COTR or any other representative to sign documents (i.e., contracts, contract modifications, etc.) that require the signature of the Contracting Officer.

G.2 COTR ASSIGNMENT

(TO BE DETERMINED) is hereby designated as the Contracting Officer's Technical Representative (COTR) for this contract. (TO BE DETERMINED) can be reached by telephone at (202) 493-XXXX.

As the COTR, (TO BE DETERMINED) has the authority to monitor the technical progress of the services that are required to be delivered under the contract. This includes visits to the contractor's place of performance, meetings, and telephone conversations with the contractor's personnel, inspection, acceptance, or rejection of the contracted items and other duties that may be authorized by the contracting officer.

The COTR cannot authorize or order the cessation of contract work, nor delete, change, or waive any of the technical requirements or other terms and conditions of the contract. If a change (monetary or otherwise) to the contract is desired, the contractor must submit a written request to the contracting officer for consideration. If appropriate, the change

will be effected by a contract modification after discussions and/or negotiations. Whenever a difference of opinion between the contractor and the COTR occurs, the contracting officer or contract specialist should be contacted immediately for resolution. The contractor should also contact the contracting officer or contract specialist when the COTR cannot be contacted on a technical matter and for assistance on all other matters pertaining to this contract.

G.3 INVOICING INSTRUCTIONS

The contractor shall submit invoices for payment utilizing Standard Form 1034 prepared in one original copy sent to be sent to the following address:

DOT/FRA
Franchise Commercial Payments Branch, AMZ-150
P.O. Box 268943
Oklahoma City, OK 73126

-OR-

9-AMC-AMZ-FRA-Invoices@faa.gov

Payment will be made by electronic funds transfer to the contractor's bank account in accordance with the banking information to be supplied by the contractor on the SF 3881 (see Attachment 3).

G.4 TRAVEL AND PER DIEM

All travel reimbursable hereunder shall conform to the FAR 31.205-46 and the following:

a. All travel shall be reimbursed in accordance with current Government travel regulations at economy class rates when available. If not available, reimbursement vouchers shall be annotated that economy class was not available.

b. Per diem and subsistence: The contractor shall be reimbursed for actual costs in accordance with current Government travel regulations.

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 ACCESSIBILITY OF MEETINGS AND CONFERENCES TO PERSONS WITH DISABILITIES

The contractor shall assure that any meeting or conference held pursuant to the contract will meet all applicable standards for accessibility to persons with disabilities in accordance with Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. 794) and any implementing regulations.

H.2 EXCLUDED FUNCTIONS AND RESPONSIBILITIES

Functions and responsibilities directly involved or associated with the management of any FRA office are expressly excluded from this contract. The parties hereby agree that any instructions, directives, or orders issued under this contract involving such management functions and responsibilities shall be null and void. The following activities are representative of the excluded functions and responsibilities that cannot be provided by the contractor under this contract:

(1) Policy making or management of FRA operations;
(2) Program or project management;
(3) Technical management of Government contracts;
(4) Government purchasing, contracting, contract administration, acceptance of materials and/or performance, and pay and accounting therefor;
(5) Direction or supervision of other Government contracts or Government agencies, or otherwise acting as an agent to obligate or commit in any capacity;
(6) Clerical and other administrative type functions required to be performed by civil service personnel and;
(7) Supervision of Government employees.

H.3 REPRODUCTION OF REPORTS

a. Federal printing and binding regulations require that printing or reproduction of reports, data, or other written materials produced under contracts or grants which exceed 5,000 production units or any page or 25,000 production units in the aggregate must be processed through the U.S. Government Printing Office (GPO). Accordingly, unless otherwise specifically approved in advance by the Contracting Officer, any project report or other written materials produced under this contract expected to exceed these limits must be submitted to the COTR in one camera-ready original. The required number of copies exceeding the above limits will be reproduced by the Government.

b. All printing funded by this agreement must be done in conformance with Joint Committee on Printing regulations as prescribed in Title 44, U.S.C., and Section 308 of Public Law 101-163, and all applicable Government Printing Office and Department of Transportation regulations.

H.4 NOTICE OF INCORPORATION OF SECTION K

Section K, "Representations, Certifications, and Other Statements of Offerors," as completed by the contractor via the Online Representations and Certifications Application (ORCA) website at https://orca.bpn.gov/login.aspx is incorporated into this contract by reference.

H.5 PROHIBITION OF PERSONAL SERVICES

The Contractor shall not perform personal services under this contract. Contractor personnel are employees of the Contractor or its subcontractors and are under the administrative control and supervision of the Contractor. The Government will not supervise or direct Contractor employees in the performance of their assignments. If at any time the Contractor believes that any Government action or communication has been given that would create a personal service relationship between the Government and any Contractor employee, the Contractor shall promptly notify the Contracting Officer of such communication or action.

The Contractor shall not perform any inherently Government functions under this contract. No Contractor employee shall represent, or give the appearance, that he/she is a Government employee, agent, or representative. No Contractor employee shall state, orally or in writing, at any time that he or she is acting on behalf of the Government. The Contractor is responsible for ensuring that all employees assigned to this contract understand, and are committed to following, these requirements.

H.6 CONFLICT OF INTEREST

The FRA and DOT are committed to avoiding situations which may place any of its contractors in a position that may subject them to circumstances involving bias, conflicts of interest, or unprofessional conduct. In this respect, the Contractor's strategic goals, corporate policies, management practices, and culture must be designed to maintain the Offeror's public responsibility of independence without regard to remuneration from other sources.

It is incumbent upon the Contractor to promptly disclose in writing to the Contracting Officer and COTR any actual or apparent conflict of interest, or an interest or interests that may give rise to the appearance of a conflict that could affect the public's confidence in FRA's and DOT's execution of federal laws and regulations governing its financial assistance and safety programs. DOT's policy is to award contracts to only those Offerors whose objectivity is not impaired due to any related past, present, or planned interest, financial or otherwise, in organizations regulated by DOT or in organizations whose interests may be substantially affected by Departmental activities. No member partner or key personnel of the Contractor, or an immediate family member thereof, shall have a financial interest in the applicant, project or a real property interest in either real property specifically acquired for or to be acquired for a project, or property that is adjacent thereto, for which the FRA is providing credit assistance.

The FRA seeks independent financial expertise that will provide the highest caliber of service commensurate with the complexity of the financial advice requested. The Department recognizes that advisory firms often represent a party and provide services to a party in one transaction and upon completion of a transaction may represent another party. Conflicts are viewed within the legal and financial

profession on a transactional basis and subject to rules of professional responsibility or codes of conduct.

The Contractor shall be bound by, and strictly comply with, applicable Rules of Professional Responsibility or Code of Conduct requirements regarding ethical and conflict of interest issues that impact the delivery of advisory services provided to the Department, and the firm shall promptly disclose to the Contracting Officer and COTR, any relationship with an entity that might give rise to an actual or apparent conflict of interest.

Any other matter that could represent a potential conflict of interest must be promptly brought to the attention of the Contracting Officer who, after consulting with the COTR, FRA's Office of Chief Counsel and/or DOT's Office of General Counsel, will make a final decision relative to the transaction for which the Department is seeking advisory services.

Key Personnel identified in the contract shall not represent any applicant or borrower seeking assistance from the RRIF Program described herein. Key Personnel may provide program information that is publicly available to non-key members such as the RRIF statute, its implementing regulations, and other information that has been disclosed to the public.

Other Offeror members not identified as key personnel may provide such services and representation provided that:

1. Such representation or potential representation is promptly disclosed in writing to the Contracting Officer and COTR; and
2. Key Personnel identified by the Contractor to serve as outside counsel for the RRIF program enter into a confidentiality agreement with the Contracting Officer that precludes any communication within the Offeror between key personnel to this contract and other Offeror members, associates, and assistants that are representing a party in a proposed financing. However, at no time may an Offeror represent both FRA and an applicant or borrower on the same transaction.

The Contractor is required to certify compliance with the DOT's conflict of interest policy as follows:

1. Based on the names of RRIF applicants on the RRIF website at http://www.fra.dot.gov/rpd/freight/1770.shtml and to be provided by the Contracting Officer, the Offeror will determine whether any of the entities or any related entities are also clients of the Contractor.
2. Whether the contractor ever represented any entity in any proceeding before the FRA or DOT?
3. In accordance with Federal Acquisition Regulation (FAR) Subpart 9.5, and consistent with State Code of Professional Responsibility or the Model Rules of Professional Conduct (depending on which is applicable to the contractor),

the Contractor shall conduct a conflict of interest analysis.

4. The Contractor shall then certify that no actual or potential conflict exists with respect to the services to be provided in connection with the task order or that any actual or potential conflict of interest that does or may exist has been communicated in writing to the Contracting Officer.
5. Notwithstanding such certification and communication, the Contracting Officer reserves the right under 9.504 of the FAR to independently evaluate any potential conflict(s) of interest and take action to avoid, neutralize, or mitigate the conflict(s) prior to award of a task order. If the Contractor was aware of a potential or actual conflict of interest prior to award of a contract or discovered an actual or potential conflict after award, and failed to disclose or misrepresented relevant information to the Contracting Officer, whether intentionally or not, the Government may terminate the contract for cause.

If at any time following execution of the contract or task order for financial advisory services, the Contractor determines that it represents a RRIF Program applicant, or a related Party, in any capacity whether related to any of the RRIF Programs or not, the contractor shall: a) disclose the representation and (b) allow the Contracting Officer to make a determination under this section that there are adequate safeguards to protect the DOT's interest.

The Contractor agrees that if, after award of the contract or a task order, the Contractor discovers any other organizational or personal conflict of interest, it shall make an immediate and full disclosure in writing to the Contracting Officer, including a description of the action the Contractor has taken to remedy the conflict. The contractor shall take any action requested by the Contracting Officer to avoid, neutralize, or mitigate the conflict.

PART II - CONTRACT CLAUSES

SECTION I - CONTRACT CLAUSES

I.1 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at the following website:

http://www.arnet.gov/far/index.html

I.2 FEDERAL ACQUISITION REGULATION (48 CFR CHAPTER 1) CLAUSES

NUMBER	DATE	TITLE
52.202-1	JULY 2004	DEFINITIONS
52.203-3	APR 1984	GRATUITIES

52.203-5	APR 1984	COVENANT AGAINST CONTINGENT FEES
52.203-6	SEPT 2006	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT
52.203-7	OCT 2010	ANTI-KICKBACK PROCEDURES
52.203-8	JAN 1997	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-10	JAN 1997	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY
52.203-12	SEPT 2007	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
52.204-4	AUG 2000	PRINTING OR COPIED DOUBLED-SIDED ON RECYCLED PAPER
52.204-7	APR 2008	CENTRAL CONTRACTOR REGISTRATION
52.204-9	JAN 2011	PERSONAL IDENTITY VERIFICATION OF CONTRACTOR PERSONNEL
52.204-10	JUL 2010	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS
52.209-6	DEC 2010	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT
52.209-9	JAN 2011	UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS
52.215-1	JAN 2004	INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITION
52.215-2	OCT 2010	AUDIT AND RECORDS--NEGOTIATION
52.215-8	OCT 1997	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT
52.215-17	OCT 1997	WAIVER OF FACILITIES CAPITAL COST OF MONEY
52.215-19	OCT 1997	NOTIFICATION OF OWNERSHIP CHANGES
52.219-1	APR 2011	SMALL BUSINESS PROGRAM REPRESENTATIONS

a)(1) The North American Industry Classification System (NAICS) code for this acquisition is **523930.**

(2) The small business size standard is **$7.0 Million**.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations.

(1) The offeror represents as part of its offer that it □□ is, □□ is not a small business concern.

(2) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents, for general statistical purposes, that it ☐☐ is, ☐☐is not, a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents as part of its offer that it ☐☐ is, ☐☐is not a women-owned small business concern.

(4) Women-owned small business (WOSB) concern eligible under the WOSB Program. [*Complete only if the offeror represented itself as a women-owned small business concern in paragraph (b)(3) of this provision.*] The offeror represents as part of its offer that—

(i) It ☐☐ is, ☐☐ is not a WOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It ☐☐ is, ☐☐ is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (b)(4)(i) of this provision is accurate in reference to the WOSB concern or concerns that are participating in the joint venture. [*The offeror shall enter the name or names of the WOSB concern or concerns that are participating in the joint venture:* _____.] *Each WOSB concern participating in the joint venture shall submit a separate signed copy of the WOSB representation.*

(5) Economically disadvantaged women-owned small business (EDWOSB) concern. [*Complete only if the offeror represented itself as a women-owned small business concern eligible under the WOSB Program in (b)(4) of this provision.*] The offeror represents as part of its offer that—

(i) It ☐☐ is, ☐☐ is not an EDWOSB concern eligible under the WOSB Program, has provided all the required documents to the WOSB Repository, and no change in circumstances or adverse decisions have been issued that affects its eligibility; and

(ii) It ☐☐ is, ☐☐ is not a joint venture that complies with the requirements of 13 CFR part 127, and the representation in paragraph (b)(5)(i) of this provision is accurate in reference to the EDWOSB concern or concerns that are participating in the joint venture. [*The offeror shall enter the name or names of the EDWOSB concern or concerns that are participating in the joint venture:* _____.] *Each EDWOSB concern participating in the joint venture shall submit a separate signed copy of the EDWOSB representation.*

(6) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents as part of its offer that it ☐☐ is, ☐☐ is not a veteran-owned small business concern.

(7) [*Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(6) of this provision.*] The offeror represents as part of its offer that it ☐☐ is, ☐☐is not a service-disabled veteran-owned small business concern.

(8) [*Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.*] The offeror represents, as part of its offer, that—

(i) It ☐☐ is, ☐☐ is not a HUBZone small business concern listed, on the date of this representation, on the List of Qualified HUBZone Small Business Concerns maintained by the Small Business Administration, and no material changes in ownership and control, principal office, or HUBZone employee percentage have occurred since it was certified in accordance with 13 CFR Part 126; and

(ii) It ☐☐ is, ☐☐ is not a HUBZone joint venture that complies with the requirements of 13 CFR Part 126, and the representation in paragraph (b)(8)(i) of this provision is accurate for each HUBZone small business concern participating in the HUBZone joint venture. [*The offeror shall*

enter the names of each of the HUBZone small business concerns participating in the HUBZone joint venture: _____.] Each HUBZone small business concern participating in the HUBZone joint venture shall submit a separate signed copy of the HUBZone representation.

(c) *Definitions.* As used in this provision—

"Economically disadvantaged women-owned small business (EDWOSB) concern" means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States and who are economically disadvantaged in accordance with 13 CFR part 127. It automatically qualifies as a women-owned small business concern eligible under the WOSB Program.

"Service-disabled veteran-owned small business concern"—

(1) Means a small business concern—

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) "Service-disabled veteran" means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern" means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

"Veteran-owned small business concern" means a small business concern—

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern" means a small business concern—

(1) That is at least 51 percent owned by one or more women; or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

"Women-owned small business (WOSB) concern eligible under the WOSB Program" (in accordance with 13 CFR part 127), means a small business concern that is at least 51 percent directly and unconditionally owned by, and the management and daily business operations of which are controlled by, one or more women who are citizens of the United States.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a business concern that is small, HUBZone small, small disadvantaged, service-disabled veteran-owned small, economically disadvantaged women-owned small, or women-owned small eligible under the WOSB Program in order to obtain a contract to be awarded under the preference programs

established pursuant to section 8, 9, 15, 31, and 36 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall—

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

52.219-8	JAN 2011	UTILIZATION OF SMALL BUSINESS CONCERNS
52.219-9	JAN 2011	SMALL BUSINESS SUBCONTRACTING PLAN Alternate II (OCT 2001)
52.219-16	JAN 1999	LIQUIDATED DAMAGES—SUBCONTRACTING PLAN
52.219-28	APR 2009	POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION

g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following re-representation and submit it to the contracting office, along with the contract number and the date on which the re-representation was completed:

The Contractor represents that it ☐☐ is, ☐☐ is not a small business concern under NAICS Code 523930 assigned to contract number _____.

[*Contractor to sign and date and insert authorized signer's name and title*].

_____ _____

Signature Date

_____ _____

Name Title

52.222-3	JUN 2003	CONVICT LABOR
52.222-21	FEB 1999	PROHIBITION OF SEGREGATED FACILITIES
52.222-26	MAR 2007	EQUAL OPPORTUNITY
52.222-35	SEPT 2010	EQUAL OPPORTUNITY FOR SPECIAL DISABLED VETERANS, VETERANS OF THE VIETNAM ERA, AND OTHER ELIGIBLE VETERANS
52.222-36	OCT 2010	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES
52.222-37	SEPT 2006	EMPLOYMENT REPORTS ON VETERANS
52.222-40	DEC 2010	NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT
52.222-50	FEB 2009	COMBATING TRAFFICKING IN PERSEONS
52.223-6	MAY 2001	DRUG-FREE WORKPLACE
52.223-14	AUG 2003	TOXIC CHEMICAL RELEASE REPORTING

52.223-18	SEP 2010	CONTRACTOR POLICY TO BAN TEXT MESSAGING WHILE DRIVING
52.224-1	APR 1984	PRIVACY ACT NOTIFICATION
52.224-2	APR 1984	PRIVACY ACT
52.227-1	DEC 2007	AUTHORIZATION AND CONSENT
52.227-2	DEC 2007	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT
52.232-1	APR 1984	PAYMENTS
52.232-7	FEB 2007	PAYMENTS UNDER TIME-AND-MATERIALS AND LABOR-HOUR CONTRACTS
52.232-9	APR 1984	LIMITATION ON WITHHOLDING OF PAYMENTS
52.232-16	AUG 2010	PROGRESS PAYMENTS

(l) *Due date.* The designated payment office will make progress payments on the 30TH day after the designated billing office receives a proper progress payment request. In the event that the Government requires an audit or other review of a specific progress payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date. Progress payments are considered contract financing and are not subject to the interest penalty provisions of the Prompt Payment Act.

52.232-17	OCT 2010	INTEREST
52.232-20	APR 1984	LIMITATION OF COST
52.232-23	JAN 1986	ASSIGNMENT OF CLAIMS
52.232-25	OCT 2008	PROMPT PAYMENT
52.232-25	OCT 2008	PROMPT PAYMENT Alternate I (FEB 2002)
52.232-33	OCT 2003	PAYMENT BY ELECTRONIC FUNDS TRANSFER PAYMENT-CENTRAL CONTRACTOR REGISTRATION
52.233-1	JUL 2002	DISPUTES
52.233-3	AUG 1996	PROTEST AFTER AWARD Alternate I (JUN 1985)
52.233-4	OCT 2004	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM
52.242-2	APR 1984	PRODUCTION PROGRESS REPORTS
52.242-4	JAN 1997	CERTIFICATION OF FINAL INDIRECT COSTS

CERTIFICATE OF FINAL INDIRECT COSTS

This is to certify that I have reviewed this proposal to establish final indirect cost rates and to the best of my knowledge and belief:

1. All costs included in this proposal (identify proposal and date) to establish final indirect cost rates for (identify period covered by rate) are allowable in accordance with the cost principles of the Federal

Acquisition Regulation (FAR) and its supplements applicable to the contracts to which the final indirect cost rates will apply; and

2. This proposal does not include any costs which are expressly unallowable under applicable cost principles of the FAR or its supplements.

Firm: _____

Signature: _____

Name of Certifying Official: _____

Title: _____

Date of Execution: _____

52.242-13	JUL 1995	BANKRUPTCY
52.243-1	AUG 1987	CHANGES – FIXED PRICE, Alternate I (APR 1984)
52.243-3	SEPT 2000	CHANGES – TIME-AND-MATERIALS OR LABOR HOURS
52.243-7	APR 1984	NOTIFICATION OF CHANGES (Insert "10" in blanks appearing in paragraphs (b) and (c)).
52.244-2	OCT 2010	SUBCONTRACTS
52.244-6	DEC 2010	SUBCONTRACTS FOR COMMERCIAL ITEMS
52.253-1	JAN 1991	COMPUTER GENERATED FORMS

I.3 PAYMENT FOR OVERTIME PREMIUMS

This dollar figure does not apply to the exceptions in subparagraphs (a)(1) through (a)(4) of FAR clause 52.222-2. If one of the exceptions under FAR clause 52.222-2 applies during the period of performance, the contractor is required to gain approval from the Contracting Officer before incurring any costs for overtime premiums that exceed zero dollars. The contractor shall submit requests for estimated overtime premiums to the Contracting Officer in accordance with FAR 52.222-2.

I.4 TAR 1252.242-72 DISSEMINATION OF CONTRACT INFORMATION (OCT 1994)

The Contractor shall NOT publish, permit to be published, or distribute for public consumption, any information, oral or written, concerning the results or conclusions made pursuant to the performance of this contract, without the prior written consent of the Contracting Officer. Two copies of any material proposed to be published or distributed shall be submitted to the Contracting Officer.

I.5 TAR 1252.215-70 KEY PERSONNEL AND/OR FACILITIES (OCT 1994)

a. The personnel and/or facilities as specified in paragraph (c) are considered essential to the work being performed hereunder and may, with the consent of the

contracting parties, be changed from time to time during the course of the contract by adding or deleting personnel and/or facilities, as appropriate.

b. Prior to removing, replacing, or diverting any of the specified individuals or facilities, the Contractor shall notify, in writing, and receive consent from, the Contracting Officer reasonably in advance of the action and shall submit justification (including proposed substitutions) in sufficient detail to permit evaluation of the impact on this contract.

c. No diversion shall be made by the Contractor without the written consent of the Contracting Officer. The Contracting Officer may ratify, in writing, the change and such ratification shall constitute the: consent of the Contracting Officer required by this clause. The Key Personnel and/or Facilities under this Contract:

[To be provided in the offeror's proposal.]

L.6 ADDITIONAL TRANSPORTATION ACQUISITION REGULATION (TAR) CLAUSES BY REFERENCE

TAR 1252.223-71	APR 2005	ACCIDENT AND FIRE REPORTING
TAR 1252.223-72	APR 2005	PROTECTION OF HUMAN SUBJECTS
TAR 1252.223-73	APR 2005	SEAT BELT USE POLICIES AND PROGRAMS
TAR 1252.237-70	APR2005	QUALIFICATIONS OF CONTRACTOR EMPLOYEES
TAR 1252.242-72	OCT 1994	DISSEMINATION OF CONTRACT INFORMATION
TAR 1252.242-73	OCT 1994	CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE

SECTION J - LIST OF ATTACHMENTS

Attachment 1	Non-Disclosure Agreement (Sample Form)
Attachment 2	Past Performance Survey Form (Blank)
Attachment 3	ACH Vendor/Miscellaneous Payment Enrollment Form (Blank)

SECTION K - REPRESENTATIONS, CERTIFICATIONS, AND OTHER STATEMENTS OF OFFERORS

Note: To be eligible for a contract with the Federal Government, an offeror MUST be registered in the Federal Central Contractor Registration system, and the associated ORCA element.

K.1 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (FEB 2009)

(a) (1) The North American Industry Classification System (NAICS) code for this acquisition is 523930

(2) The small business size standard is **$7.0 Million**
(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) (1) If the clause at 52.204-7, Central Contractor Registration, is included in this solicitation, paragraph (d) of this provision applies.
(2) If the clause at 52.204-7 is not included in this solicitation, and the offeror is currently registered in CCR, and has completed the ORCA electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:
[ ] (i) Paragraph (d) applies.
[ ] (ii) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c) The offeror has completed the annual representations and certifications electronically via the Online Representations and Certifications Application (ORCA) website at http://orca.bpn.gov. After reviewing the ORCA database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [*offeror to insert changes, identifying change by clause number, title, date*]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause #	Title	Date	Change

K.2 SUBCONTRACT CERTIFICATION

This contract does {__} does not {__} provide for any subcontracting possibilities. If answer is in the affirmative, offeror will submit {__} a subcontracting plan in accordance with the requirements of 52.219-9

SECTION L - INSTRUCTIONS, CONDITIONS AND NOTICES TO OFFERORS

L. 1 52.215-1 INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITIONS (JAN 2004)

(a) Definitions. As used in this provision—

"Discussions" are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the offeror being allowed to revise its proposal.

"In writing," "writing," or "written" means any worded or numbered expression that can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

"Proposal modification" is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

"Proposal revision" is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

"Time," if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

(b) Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Offerors shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

(c) Submission, modification, revision, and withdrawal of proposals.

(1) Unless other methods (*e.g.*, electronic commerce or facsimile) are permitted in the solicitation, proposals and modifications to proposals shall be submitted in paper media in sealed envelopes or packages (i) addressed to the office specified in the solicitation, and (ii) showing the time and date specified for receipt, the solicitation number, and the name and address of the offeror. Offerors using commercial carriers should ensure that the proposal is marked on the outermost wrapper with the information in paragraphs (c)(1)(i) and (c)(1)(ii) of this provision.

(2) The first page of the proposal must show—

(i) The solicitation number;
(ii) The name, address, and telephone and facsimile numbers of the offeror (and electronic address if available);

(iii) A statement specifying the extent of agreement with all terms, conditions, and provisions included in the solicitation and agreement to furnish any or all items upon which prices are offered at the price set opposite each item;

(iv) Names, titles, and telephone and facsimile numbers (and electronic addresses if available) of persons authorized to negotiate on the offeror's behalf with the Government in connection with this solicitation; and

(v) Name, title, and signature of person authorized to sign the proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority, unless that evidence has been previously furnished to the issuing office.

(3) Submission, modification, revision, and withdrawal of proposals.

(i) Offerors are responsible for submitting proposals, and any modifications or revisions, so as to reach the Government office designated in the solicitation by the time specified in the solicitation. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office on the date that proposal or revision is due.

(ii) (A) Any proposal, modification, or revision received at the Government office designated in the solicitation after the exact time specified for receipt of offers is "late" and will not be considered unless it is received before award is made, the Contracting Officer determines that accepting the late offer would not unduly delay the acquisition; and—

(1) If it was transmitted through an electronic commerce method authorized by the solicitation, it was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of proposals; or

(2) There is acceptable evidence to establish that it was received at the Government installation designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers; or

(3) It is the only proposal received.

(B) However, a late modification of an otherwise successful proposal that makes its terms more favorable to the Government, will be considered at any time it is received and may be accepted.

(iii) Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

(iv) If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the office designated for receipt of proposals by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume.

(v) Proposals may be withdrawn by written notice received at any time before award. Oral proposals in response to oral solicitations may be withdrawn orally. If the solicitation authorizes facsimile proposals, proposals may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision at 52.215-5, Facsimile Proposals. Proposals may be withdrawn in person by an offeror or an authorized representative, if the identity of the person requesting withdrawal is established and the person signs a receipt for the proposal before award.

(4) Unless otherwise specified in the solicitation, the offeror may propose to provide any item or combination of items.

(5) Offerors shall submit proposals in response to this solicitation in English, unless otherwise permitted by the solicitation, and in U.S. dollars, unless the provision at FAR 52.225-17, Evaluation of Foreign Currency Offers, is included in the solicitation.

(6) Offerors may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

(7) Offerors may submit revised proposals only if requested or allowed by the Contracting Officer.

(8) Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

(d) Offer expiration date. Proposals in response to this solicitation will be valid for the number of days specified on the solicitation cover sheet (unless a different period is proposed by the offeror).

(e) Restriction on disclosure and use of data. Offerors that include in their proposals data that they do not want disclosed to the public for any purpose, or used by the Government except for evaluation purposes, shall—

(1) Mark the title page with the following legend:

This proposal includes data that shall not be disclosed outside the Government and shall not be duplicated, used, or disclosed—in whole or in part—for any purpose other than to evaluate this proposal. If, however, a contract is awarded to this offeror as a result of—or in connection with—the submission of this data, the Government shall have the right to duplicate, use, or disclose the data to the extent provided in the resulting contract. This restriction does not limit the Government's right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in sheets [*insert numbers or other identification of sheets*]; and

(2) Mark each sheet of data it wishes to restrict with the following legend:

Use or disclosure of data contained on this sheet is subject to the restriction on the title page of this proposal.

(f) Contract award.

(1) The Government intends to award a contract or contracts resulting from this solicitation to the responsible offeror(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and sub-factors in the solicitation.

(2) The Government may reject any or all proposals if such action is in the Government's interest.

(3) The Government may waive informalities and minor irregularities in proposals received.

(4) The Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. The Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the

number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.

(5) The Government reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the offeror specifies otherwise in the proposal.

(6) The Government reserves the right to make multiple awards if, after considering the additional administrative costs, it is in the Government's best interest to do so.

(7) Exchanges with offerors after receipt of a proposal do not constitute a rejection or counteroffer by the Government.

(8) The Government may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to the Government.

(9) If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

(10) A written award or acceptance of proposal mailed or otherwise furnished to the successful offeror within the time specified in the proposal shall result in a binding contract without further action by either party.

(11) If a post-award debriefing is given to requesting offerors, the Government shall disclose the following information, if applicable:

(i) The agency's evaluation of the significant weak or deficient factors in the debriefed offeror's offer.

(ii) The overall evaluated cost or price and technical rating of the successful and the debriefed offeror and past performance information on the debriefed offeror.

(iii) The overall ranking of all offerors, when any ranking was developed by the agency during source selection.

(iv) A summary of the rationale for award.

(iv) For acquisitions of commercial items, the make and model of the item to be delivered by the successful offeror.

(vi) Reasonable responses to relevant questions posed by the debriefed offeror as to whether source-selection procedures set forth in the solicitation, applicable regulations, and other applicable authorities were followed by the agency.

(End of provision)

L.2 52.216-1 TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a contract composed of **both Firm Fixed-Price and Time & Materials** elements resulting from this solicitation.

L.3 PROPOSAL FORMAT AND SUBMISSION INSTRUCTIONS

All proposals must be submitted as follows:

- one (1) electronic copy on Compact Disc (CD-ROM) or Digital Versatile Disc (DVD), in Microsoft Word and/or Excel formats or Adobe PDF
- four (4) printed copies

Proposals must be submitted to:

Federal Railroad Administration (FRA)
ATTN: Anthony Terrell, Contract Specialist
1200 New Jersey Avenue, SE
West Building, Room W36-111
Washington, DC 20590

PROPOSALS MUST BE RECEIVED NO LATER THAN
4:30PM EST, TUESDAY, AUGUST 2, 2011

NO faxed or e-mailed proposals will be accepted. Offerors are solely responsible for ensuring that their offer is received at the designated place and time for receipt of offers.

L.4 INQUIRIES/QUESTIONS PERTAINING TO THIS SOLICITATION

Inquiries concerning the solicitation requirements shall be in writing and must be received by the Point of Contact, Anthony Terrell, within fifteen (15) calendar days after issuance of the RFP, via e-mail at: Anthony.Terrell@dot.gov . In the event of an amendment to the solicitation, questions must be received within three (3) calendar days after issuance of the amendment.

L.5 PROPOSAL CONTENT

Proposals shall be submitted in three (3) parts, clearly marked and separated as follows:

VOLUME 1 - TECHNICAL PROPOSAL

(A) Technical Proposal

Technical proposals shall include concise summary of the offeror's understanding and general approach to each of the tasks. The technical proposal shall not exceed 25 pages (excluding Parts B and C).

(B) Key Personnel Resumes

This section should include resumes of key personnel, demonstrating the experience and education level relevant to the requirement.

(C) Subcontracting Plan

Any proposed Subcontracting Plan must conform to the requirements of FAR 52.219-8, 52.219-9, and 52.219-16.

VOLUME 2 - PRICE PROPOSAL

The offeror shall provide a price proposal in accordance with the delivery schedule provided in this synopsis/solicitation. The proposal shall include a spreadsheet identifying individual price elements, rates, and all charges contributing to the total firm fixed price. The proposal shall clearly indicate a Total Firm Fixed Price for PHASE 1 which will be divided into four equal 25% parts for the payment schedule. For PHASE 2, an estimated cost of $100,000 shall be applied in each offeror's proposal for the purpose of proposal evaluation. PHASE 2 estimated effort and cost will be determined as needed on a cost-reimbursable time and materials basis after contract award.

VOLUME 3 - PAST PERFORMANCE INFORMATION

General Instructions

Offerors should note the difference between organizational experience and past performance. Organizational experience pertains to the types and amounts of work experience previously performed by a contractor, whereas, past performance relates to the quality and how well a contractor performs the services. Past performance information is an indicator of the Offeror's ability to perform the contract. The assessment of past performance is separate from the responsibility determination required in accordance with FAR 9.103. The number and severity of an Offeror's problems, the effectiveness of corrective action taken, the Offeror's overall work record, and the age and relevance of past performance information shall be considered. Offerors lacking a record of relevant past performance or for whom information on past performance is not available, shall be evaluated neither favorably nor unfavorably in this area.

It is the responsibility of the Offeror to ensure all information supplied as references is current and accurate (i.e., contacts persons, phone numbers and fax numbers.) Offerors should contact their references prior to submittal of their written proposal to inform them of the urgency of their response to our past performance survey. The Contracting Officer will not contact Offerors if the information provided is incorrect, incomplete or no longer current. Lack of reference response may affect the Government's evaluation of the Offeror's past performance record. The collection of past performance information is not

meant to violate the protection and guarantees of Attorney-Client privilege. In the event disclosure of any of the required information might constitute, or give the appearance of constituting, a violation of Attorney-Client privilege, the Offeror shall contact the Contracting Officer for guidance.

The Government shall not be limited to the information or references provided solely by the Offeror. Information offered or obtained independent of this solicitation may be used in the evaluation of the Offeror's past performance.

Specific Instructions

Offerors shall provide at least two (2) references of past performance on directly related or similar relevant contracts it has held in the last 3 years. The information must clearly state if the work was completed as the prime or subcontractor. Offerors who describe similar contracts and subcontracts shall provide a detailed explanation demonstrating the similarity of the contracts to the requirements of the solicitation.

The offeror shall utilize the *Contractor Past Performance Survey* form (Attachment 2) for all Past Performance references.

L.6 ORAL PRESENTATIONS

Offerors in the competitive range, provided that a competitive rand is established, may be required to participate in an oral presentation. At the time the Offeror is notified to provide an oral presentation, the Government will provide specific guidance on the expected content, location, date(s), time, and any other requirements. The team making the Offeror's presentation and responding to questions must include Key Personnel proposed to perform on Tasks 1 through 4.

L.7 NOTICE OF AWARD

Information concerning award of competitive solicitations will be disclosed to offerors as required by regulations applicable to negotiated procurements at the Federal Acquisition Regulation 15.503(b). Debriefing of unsuccessful offerors is not anticipated, unless requested by the Federal Acquisition Regulation.

L.8 DISPOSITION OF PROPOSALS

Following selection of the successful contractor and contract award, the original unsuccessful proposals will be retained for the contract file at the contracting office and the remaining copies will be destroyed.

L.9 52.233-2 SERVICE OF PROTEST (SEP 2006)

(a) Protests, as defined in section 31.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the

Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

U.S Department of Transportation/Federal Railroad Administration
Office of Acquisition and Grant Services, Rm. W34-304
1200 New Jersey Avenue, Washington, DC 20590
Attn: Robert Carpenter, Contracting Officer

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

SECTION M - EVALUATION FACTORS FOR AWARD

M.1 FAR 52.252-1 Solicitation Provisions Incorporated By Reference (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation of offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this address:

http://www.arnet.gov/far/index.html

M.2 TECHNICAL PROPOSAL EVALUATION

Technical proposals will be evaluated in accordance with the factors listed below in descending order of importance, with factors 1 and 2 being of equal importance and each more important than factor 3.

FACTOR 1 - Understanding of Requirements and Approach to the Statement of Work

Description of the offeror's understanding of the work objectives and the methodology and approach proposed to be used in performing the Statement of Work, with emphasis on assessing the validity of ridership study results.

FACTOR 2 - Key Personnel Experience

The professional experience and subject matter expertise necessary to perform the Statement of Work. Qualifications of personnel, including specific experience in project financings, structure, magnitude and complexity similar in nature to that to be performed under the Statement of Work.

FACTOR 3 - Staffing/Management Plan

Description of the staffing structure, organizational responsibilities in conducting the work, and management of inter-relationships between functional parties within the offeror's internal organization and/or with subcontractors. If subcontracting is proposed, refer to Section L.6 for Subcontracting Plan requirements. If subcontracting includes any key personnel, the offeror should describe previous working relationship(s) with the respective subcontractor organization and personnel on similar projects.

Scoring Adjectives. The following adjectives will be used as general guidance in assessing each technical sub-criterion and the technical proposal as a whole:

OUTSTANDING
Very significantly exceeds most or all solicitation requirements. Response exceeds a "Good" rating. The Offeror has clearly demonstrated an understanding of all aspects of the requirements to the extent that timely and highest quality performance is anticipated.

GOOD
Fully meets all solicitation requirements and significantly exceeds many of the solicitation requirements. Response exceeds an "Acceptable" rating. The areas in which the Offeror exceeds the requirements are anticipated to result in a high level of efficiency or productivity or quality.

ACCEPTABLE
Meets all solicitation requirements. Complete, comprehensive, and exemplifies an understanding of the scope and depth of the task requirements as well as the Offeror's understanding of the Government's requirements.

MARGINAL
Less than "Acceptable." There are some deficiencies in the technical proposal. However, given the opportunity for discussions, the technical proposal has a reasonable chance of becoming at least "Acceptable." (Areas of a technical proposal which remain "Marginal" after "Best and Final" offers shall not be subject to further discussion or revision.) If award is made on initial offers, there will not be an opportunity for discussions, nor a chance to become at least "Acceptable."

UNACCEPTABLE
Technical proposal has many deficiencies and/or gross omissions: Failure to understand much of the scope of work necessary to perform the required tasks; failure to provide a reasonable, logical approach to fulfilling much of the Government's requirements; failure to meet many personnel requirements of the solicitation. (When applying this adjective to the technical proposal as a whole, the technical proposal must be so unacceptable in one or more areas that it would have to be significantly revised to attempt to make it other than unacceptable.)

M.3 EVALUATION OF COST/PRICE

The total firm fixed price for PHASE 1 will be evaluated based on fairness and reasonableness. For PHASE 2, an estimated cost of $100,000 will be applied to each offeror's proposal for evaluation purposes. An offeror's costs used in developing the evaluated price may be modified by the results of a Cost Realism analysis, if one is being performed.

M.4 COST REALISM

(a) Cost realism may be performed as part of the proposal evaluation process, in accordance with FAR 15.404-1(d). The purpose of this evaluation shall be:

(1) to verify the Offeror's understanding of the requirements;
(2) to assess the degree to which the cost/price proposal reflects the approaches and/or risk assessments made in the technical proposal as well as the risk that the Offeror will provide the supplies or services for the offered prices/costs; and
(3) assess the degree to which the cost included in the cost/price proposal accurately represents the work effort included in the technical proposal

(b) Proposed costs may be adjusted, for purposes of evaluation, based upon the results of the cost realism evaluation. When this cost realism is performed, the resulting cost realistic cost estimate shall be used in the evaluation of cost.

M.6 EVALUATION OF PAST PERFORMANCE

(a) In relation to the evaluation of other non-cost factors, the evaluation of past performance will be considered equal to cost/price, but slightly less than all technical factors combined.

(b) The Government will evaluate the quality of the offeror's past performance. This evaluation is separate and distinct from the Contracting Officer's responsibility determination. The assessment of the offeror's past performance will be used to evaluate the relative capability of the offeror and other competitors to successfully meet the requirements of the RFP. Past performance of significant and/or critical subcontractors will be considered to the extent warranted by the subcontractor's involvement in the proposed effort. Past performance of "key personnel," if any, may be considered.

(c) The Government reserves the right to obtain information for use in the evaluation of past performance from any and all sources including sources outside of the Government. Offerors lacking relevant past performance history will receive a neutral rating for past performance. However, the proposal of an offeror with no relevant past performance history, while rated neutral in past performance, may not represent the most advantageous proposal to the Government and thus, may be an unsuccessful proposal when compared to the proposals of other offerors. The offeror must provide the information requested above for past performance evaluation or affirmatively state that it possesses no relevant

directly related or similar past performance experience. The Government reserves the right not to evaluate or consider for award the entire proposal from an offeror which fails to provide the past performance information or which fails to assert that it has no relevant directly related or similar past performance experience.

(d) The Government will consider the following elements of past performance:

QUALITY OF SERVICE
Assess the offeror's conformance to contract requirements and standards of good workmanship.

SCHEDULE
Assess the timeliness of the offeror against the completion of the contract task orders, milestones, delivery schedules, administrative requirements.

COST CONTROL
Assess the offeror's effectiveness in forecasting, managing, and controlling costs.

BUSINESS RELATIONS
Assess the integration and coordination of all activity needed to execute the contract, specifically the timeliness and quality of problem identification, corrective action plans, proposal submittals, the offeror's history of reasonable and cooperative behavior, customer satisfaction, timely award and management of subcontracts and whether the offeror met small/small disadvantaged, HUBZone small business, and women-owned business participation goals.

(e) Contracting Officers will use the following adjectival definitions as guidelines in evaluating past performance:

NEUTRAL
No relevant past performance available for evaluation. Offeror has asserted that it has no relevant directly related or similar past performance. Proposal received no merit or demerit for this factor.

EXCEPTIONAL
No risk anticipated with delivery of quality product, on time, or any degradation of performance or lack of customer satisfaction (or cost growth if applicable) based upon the offeror's past performance.

VERY GOOD
Very little risk anticipated with delivery of quality product, on time, or of degradation of performance or lack of customer satisfaction (or cost growth if applicable) based upon the offeror's past performance.

SATISFACTORY
Some potential risk anticipated with delivery of quality product, on time, and of degradation of performance or lack of customer satisfaction (or cost growth if applicable) based upon the offeror's past performance.

MARGINAL
Significant potential risk anticipated with delivery of quality product, on time, and of degradation of performance or lack of customer satisfaction (or cost growth if applicable) based upon the offeror's past performance (A rating of marginal does not by itself make a proposal ineligible for award.).

UNSATISFACTORY
Significant potential risk of anticipated failure of performance based upon the offeror's past performance.

M.7 RISK ASSESSMENT

Risk assessment may have a negative impact in the technical evaluation. It reflects the degree to which there is a concern that the cost/price proposal is too low and not consistent with the technical proposal, and that the offeror cannot provide quality services/personnel over the life of the contract at the price proposed. Unrealistically low pricing which leads to such a concern may result in a reduced technical rating (such as determining that an otherwise acceptable "personnel qualifications" section is "Marginal" or "Unacceptable").

M.8 CONTRACT AWARD - BEST VALUE

(a) The Federal Railroad Administration (FRA) intends to evaluate and award a contract without discussions with Offerors. However, the FRA reserves the right to conduct discussions if later determined by the FRA Contracting Officer to be necessary. Therefore, each initial Offeror should contain the Offeror's best terms from a cost or price and technical standpoint.

The FRA contemplates award of a single contract containing Firm Fixed-Price and Cost-Reimbursable Time and Materials elements resulting from this solicitation.

(b) Proposals received in response to this solicitation will be evaluated by the FRA pursuant to the criteria set forth herein, the Federal Acquisition Regulation (FAR), and the Transportation Acquisition Regulation (TAR). Multiple contractors will be selected for award on the basis of their proposal being the best value to the Government, price and other factors considered.

(c) Each technical proposal will be evaluated qualitatively and categorized as Exceptional, Very Good, Satisfactory, Marginal, or Unsatisfactory in relation to the evaluation factors set forth in this solicitation. A finding of Unsatisfactory in one technical factor may result in the entire technical proposal being found to be

Unsatisfactory. The Past Performance factor will be evaluated qualitatively and categorized as Exceptional, Very Good, Satisfactory, Marginal and Unsatisfactory as set forth in the Past Performance Questionnaire in Attachment 2.

(d) When combined, all evaluation factors other than price/cost are more important than price/cost.

(e) Prospective Offerors are forewarned that an acceptable technical proposal and marginal past performance with the lowest price may not be selected if award to a higher-priced proposal affords the FRA a greater overall benefit. The FRA may elect to pay a price premium to select an Offeror whose non-cost/price evaluation factors (e.g. technical and past performance) are superior.

M.9 AWARD WITHOUT DISCUSSIONS

Offeror's are advised an award may be made without discussions (see provision 52.215-1, Instructions to Offerors Competitive Acquisition). The Contracting Officer cannot overemphasize the necessity for the initial proposal of an offeror to provide the Government with sufficient information identifying the offeror's best terms from a cost or price and technical/management standpoint.

[END OF SOLICITATION]

ATTACHMENT 1

NON-DISCLOSURE AGREEMENT

Federal Railroad Administration

DEPARTMENT OF TRANSPORTATION

NON-DISCLOSURE AGREEMENT (CONTRACTORS)

To: _____
Source Selection Authority

From: _____
Individual (Print or Type)
Program/Contract No.: _____

The contractor, _____ ***(print Contractor name)***, and its employee, _____ ***(print employee name)*** recognize that in the ~~performance of duties for or with the United States Department of Transportation,~~ Federal Railroad Administration under the above listed Program/Contract, the contractor employee will become knowledgeable of Government and proprietary information/software. In consideration of being given access to information/software required to perform the contract duties for or with the Federal Railroad Administration (FRA) Source Selection Evaluation Board (SSEB) on the above listed Program/Contract, it is specifically agreed that the contractor's employee will not use, release, or disclose in whole or in part, outside of the FRA SSEB information made know to him/her through the performance of this contract or through any and all FRA SSEB defined efforts on the above listed program/contract, without the express, written authorization of the Contracting Officer, except as may be required by law. The obligation not to discuss, disclose, release, reproduce or otherwise provide or make available such data, or any portion thereof, shall continue in perpetuity, even after completion of the contract.

It is agreed that the employee's obligations contained in this agreement apply to the unauthorized use/disclosure of information/software to his/her employer (the contractor) or a competing contactor and may not be used by the employee for a competitive, or commercial, or employment-related or personal advantage purpose.

It is also agreed that when the need for any such data ends, the data shall be immediately returned to the appropriate Government personnel. I understand that this document will be made part of the source selection record and the official contract file.

_____ _____
Signature of Person signing for Contractor *Date*

_____
Position/Title of Person signing for Contractor

_____ _____
Signature of Employee *Date*

Federal Railroad Administration

DEPARTMENT OF TRANSPORTATION

To: Source Selection Authority

From: [insert name]

Subj: CERTIFICATION -- CONFLICT OF INTEREST, NONDISCLOSURE OF INFORMATION REGARDING BROAD AGENCY ANNOUNCEMENT DTFR53-09-0002

Ref: FEDERAL PROCUREMENT ACT (41 USC 423)

In accordance with all current laws, regulations, directives, and instructions including that which is referenced above, I hereby certify that:

- ✓ Based on my current status, I have executed an OGE Form 450.
- ✓ I have notified my supervisor and the Contracting Officer of any possible, real, or apparent condition, situation, or affiliation that may constitute a conflict of interest under current laws, regulations, directives, and instructions.
- ✓ I, nor any member of my immediate household, do not have any interest in, affiliation or association with, any individual, firm, or organization which may benefit from the outcome of these proceedings.

I further certify that I understand my obligations and responsibility under the applicable laws, regulations, directives, and instructions not to discuss, divulge, or otherwise disclose any information, procedure, correspondence, documentation, evaluation or other data pertaining to this acquisition, except as approved by the Contracting Officer, or as otherwise authorized by law.

I understand that this document is a part of the source selection record and official contract file.

_____
Signature and Date

_____
Signature and Date
Source Selection Authority

ATTACHMENT 2

PAST PERFORMANCE SURVEY FORM

Attachment 2
CONTRACTOR PAST PERFORMANCE SURVEY

INTRODUCTION

The Federal Railroad Administration (FRA) is currently conducting a competitive procurement solicitation under which each prospective Offeror has been requested to identify Government agencies or commercial business firms it has previously contracted with or to whom it is currently under contract, to serve as potential references for its past performance record. You are being asked to complete and return this Contractor Past Performance Survey. **Parts I and II are to be completed and returned by the Offeror with its submission. Part III should be completed by the evaluator/respondent and forwarded directly to FRA (See Note below regarding Part III transmittal.)** You may also be contacted by an FRA procurement official to arrange a telephone interview, using the survey as the focal point of the interview.

To ensure frank and open evaluations and expressions of opinions by evaluators, all parties are advised that the identity of the evaluators completing the survey will be held in confidence and will not be released or disclosed to the contractor or to anyone outside the Government. However, as specified under Federal Acquisition Regulation 15.306, conditions may exist in which the contractor may be provided an opportunity to discuss adverse past performance information on which the Offeror has not had a previous opportunity to comment. Any relevant contractor performance/customer evaluations previously prepared within the last three years by the agency/firm providing this reference, and subsequent responses or rebuttals from the Offeror/contractor, may be requested to augment or furnished in lieu of this survey or interview.

NOTE: Part III – "Evaluator's Assessment" of this survey should NOT be returned or furnished in a copy to the subject Offeror/contractor. The evaluator/respondent submit Part III directly to: Anthony.terrell@dot.gov. If you have any questions, Mr. Terrell may also be reached by phone at (202) 493-6080.

EVALUATION RATING GUIDELINES

Exceptional (5) - Performance in the respective area of evaluation, consistently and reliably *far exceeded standards* or expectations as set forth in the contract, or as prior experience and knowledge of the industry would suggest or dictate. There were essentially *no major problems*, weaknesses, or deficiencies of consequence, nor negative performances issues as it applies to the respective area of evaluation. The contractual performance of the element or sub-element being assessed was accomplished with *few minor problems* for which the contractor took *highly effective and timely corrective action.*

Very Good (4) -Performance in the respective area of evaluation, consistently and reliably *exceeded standards* or expectations as set forth in the contract, or as prior experience and knowledge of the industry would suggest or dictate. There were essentially *no major problems*, weaknesses, or deficiencies of consequence, nor negative performances issues as it applies to the respective area of evaluation. The contractual performance of the element or sub-element being assessed was accomplished with *some minor problems* for which the contractor took *effective and timely corrective action.*

Satisfactory (3) - Performance in the respective area of evaluation, consistently and reliably *met standards* or expectations as set forth in the contract, or as prior experience and knowledge of the industry would suggest or dictate. There were essentially *no major problems*, weaknesses, or deficiencies of consequence, nor negative performances issues as it applies to the respective area of evaluation. The contractual performance of the element or sub-element being assessed was accomplished with *some minor problems* for which the contractor took *competent and timely corrective action.*

Marginal (2) - Performance in the respective area of evaluation, *did not meet standards* or expectations as set forth in the contract, or as prior experience and knowledge of the industry would suggest or dictate. There were problems, weaknesses, or deficiencies of consequence, or negative performances issues as it applies to the respective area of evaluation. The contractual performance of the element or sub-element being assessed was accomplished with *some minor problems and one or more major problems* for which the contractor took *minimal or ineffectual and/or untimely corrective action.*

Unsatisfactory (1) - Performance in the respective area of evaluation, *failed to meet standards* or expectations as set forth in the contract, or as prior experience and knowledge of the industry would suggest or dictate. There were problems, weaknesses, or deficiencies of consequence, or negative performances issues as it applies to the respective area of evaluation. The contractual performance of the element or sub-element being assessed was accomplished with *numerous minor and numerous major problems* for which the contractor took *virtually no, or minimal or ineffectual, and/or untimely corrective action.*

PART I - ADMINISTRATION – Contractor Past Performance Survey

(To be completed by the Offeror and submitted with its Offer/Submission)

Name of Agency/Business: U.S Department of Transportation/Federal Railroad Administration Reference Conducting Assessment: Contracting Officer: Robert Carpenter	
Name of Offeror/Applicant Making Submission Under RFP No. DTFR53-11-R-00006	Name of Organization/Person To Whom Reference Applies If Other Than Offeror/Applicant:
Contract or Project Title: Nature of the work:	
Contract No.	Delivery/Task Order No.
Performance Period(s): Base Period- from to	& Base plus All Options - from to
Dollar Value(s): Base Period -	& Base plus All Options -

Contract Type and Method of Contracting: (*Check all that apply*)

[ ] Full & Open Competition [ ] Other Than Full & Open Competition
[ ] Negotiated [ ] Sealed Bid [ ] Simplified Acquisition [ ] FSS/MAS [ ] 2-Step or Phased
[ ] Firm Fixed Price [ ] Other FP type _____ *(specify)*
[ ] Cost (no fee) [ ] Cost Plus Fixed Fee [ ] Other Cost Reimbursement type _____ *(specify)*
[ ] Other Contract type _____ *(specify)*
[ ] SBA 8(a) [ ] SBIR [ ] HUBZone Set-Aside [ ] SDB Price Adjustment [ ] Small Business Set-Aside

PART II - RELEVANCY/PERSPECTIVE – Contractor Past Performance Survey

(To be completed by Offeror/Applicant and submitted with its Offer/Submission)

For Part II, the Offeror shall complete and insert a single page that addresses the following three areas of inquiry: Description of Prior Contract Services, Relevancy, and Problem Resolution and Quality Honors. The text of the Offeror's responses for all three inquiries combined shall not exceed one page.

Description of Prior Contract Services: Provide a short description of services the Offeror furnished in the referenced contract evaluated herein. *(Recommend 5 -10 lines.)*	**Relevancy:** Describe how the referenced contract evaluated herein is relevant (in terms of scope, magnitude, cost, human resources, or other aspects) to the project proposed in the Offeror's proposal. Identify whether the Offeror was the prime contractor or a major subcontractor (in terms of total contract cost, 25% or more), or served in some other capacity/role or relationship. Provide name, point of contact and phone number of prime contractor, if other than Offeror. *(Recommend 20 -25 lines.)*	**Problem Resolution and Quality Honors:** The Offeror may describe problems encountered in the identified contract and the demonstrated effectiveness of the Offeror's corrective actions. Identify any Federal Government contracts/orders, of any type, at any dollar value, held by the Offeror which were terminated for cause or for default (partial or complete) within the past three (3) years and subsequent corrective action. The Offeror may also describe any specific quality awards or quality certifications received in connection with the referenced contract. *(Recommend 15 -20 lines.)*

NOTE: Do not return or furnish a copy of this Part III to the subject Offeror/contractor.
The evaluator/respondent should complete this part and mail or FAX it directly to: FRA, Office of Acquisition & Grants Services, Room W36-111, 1200 New Jersey Avenue SE, Washington, DC 20590.
If you have any questions, please contact Anthony Terrell, Tel: 202/493-6080, Email: anthony.terrell@dot.gov

PART III - EVALUATOR'S ASSESSMENT

(To be completed and signed by referred Evaluator/Respondent for RFP No. DTFR53-11-R-0006)

Contractor Name: _____ Contract No. _____

1. Quality of Product or Service - The Offeror is to be evaluated on its compliance with contract requirements, accuracy of reports, technical excellence to include quality awards/certificates, or other quality-related contract standards.

Were services and/or deliverables in compliance with contract requirements or specifications?	[ ] yes - [ ] no - [ ] n/a *(Check one)*
Were the services/tasks performed and/or deliverables furnished in conformance with standards of good workmanship and otherwise acceptable?	[ ] yes - [ ] no - [ ] n/a *(Check one)*

QUALITY OF PRODUCT/SERVICE	Corresponding Adjectival & Numerical Ratings *(Circle one)*				
	Unsatisfactory	Marginal	Satisfactory	Very Good	Exceptional
	1	2	3	4	5

Use remaining space (and additional cross-referenced sheets, as necessary) toB
(1) Explain the rationale for the assigned adjectival/numerical rating (i.e., recount specific extraordinary or poor contractor performance, or problems and responses that support assessment), and (2) Describe the basis for any Ano@ responses to questions.

SOURCE SELECTION INFORMATION
The disclosure of which is restricted -- See FAR 2.101 and 3.104

2. **Timeliness of Performance** - The Offeror is to be evaluated on meeting milestones, reliability, responsiveness to technical direction, deliverables completed on-time, adherence to contract schedules including contract administration, or other time-related contract standards.

Were all deliverable(s) and/or report(s) furnished on or before the time/event specified in or agreed to pursuant to the contract?	[ ] yes - [ ] no - [ ] n/a *(Check one)*
Were contract schedules consistently met and adhered to, and were timely adjustments made in response to technical direction so as to stay on agreed schedule(s)?	[ ] yes - [ ] no - [ ] n/a *(Check one)*

TIMELINESS OF PERFORMANCE	Corresponding Adjectival & Numerical Ratings *(Circle one)*				
	Unsatisfactory	Marginal	Satisfactory	Very Good	Exceptional
	1	2	3	4	5

Use remaining space (and additional cross-referenced sheets, as necessary) to:
(1) Explain the rationale for the assigned adjectival/numerical rating (i.e., recount specific extraordinary or poor contractor performance, or problems and responses that support assessment), and (2) Describe the basis for any Ano® responses to questions.

Contractor: _____ Contract No. _____

3. **Cost Control** - The Offeror is to be evaluated on its ability to perform within or below budget, use of cost efficiencies, relationship of negotiated costs to actuals, submission of reasonably priced change proposals, and providing current, accurate, and complete billing in a timely fashion. For fixed price contracts, this area assesses whether the contractor met the original price/cost estimated or needed to negotiate cost changes to meet program requirements.

Did the contractor operate at or below budget, or at the stated, fixed price?	[ ] yes - [ ] no - [ ] n/a *(Check one)*
Were actual cost expenditures reported by the contractor generally in line with projected costs (including approved shifts in effort) for designated time frames or specific supplies/services?	[ ] yes - [ ] no - [ ] n/a *(Check one)*

COST CONTROL	Corresponding Adjectival & Numerical Ratings *(Circle one)*				
	Unsatisfactory	Marginal	Satisfactory	Very Good	Exceptional
	1	2	3	4	5

Use remaining space (and additional cross-referenced sheets, as necessary) to:
(1) Explain the rationale for the assigned adjectival/numerical rating (i.e., recount specific extraordinary or poor contractor performance, or problems and responses that support assessment), and (2) Describe the basis for any Ano® responses to questions.

4. Business Relations - The Offeror is to be evaluated on its ability to provide effective management, meet applicable subcontractor and small, small disadvantaged, and women-owned business goals, cooperative and proactive behavior with the technical representative(s) and Contracting Officer, flexibility, responsiveness to inquires, problem resolution, and customer satisfaction with the overall performance, and final product or services.

Was the contractor responsive to complaints and did the contractor commit adequate resources to meet contract requirements or otherwise provide effective solutions to solve problems as they arose?	[ ] yes - [ ] no - [ ] n/a *(Check one)*
Would you recommend or elect to contract with this contractor for future work of the same or substantially similar nature as that conducted under the contract evaluated in this survey?	[ ] yes - [ ] no - [ ] n/a [ ] n/a to assessment period

BUSINESS RELATIONS	Corresponding Adjectival & Numerical Ratings *(Circle one)*				
	Unsatisfactory	Marginal	Satisfactory	Very Good	Exceptional
	1	2	3	4	5

~~*Use remaining space (and additional cross-referenced sheets, as necessary) to:*~~

(1) Explain the rationale for the assigned adjectival/numerical rating (i.e., recount specific extraordinary or poor contractor performance, or problems and responses that support assessment) , and (2) Describe the basis for any Ano® responses to questions.

5. **General Information:** Please provide answers to the following questions.

a. Has the contractor ever been given a cure notice, show cause notice, suspension of progress payments or other letters directing the correction of a performance problem in the past 3 years?
[ ] YES [ ] NO If yes, please explain.

b. Have you terminated this contractor for default within the past 3 years, or are there any pending termination actions? [ ] YES [ ] NO If yes please explain.

c. Based on the contractor's overall performance, would you award them another contract?
[ ] YES [ ] NO If no, please explain.

d. Have you discussed any adverse past performance problems with the contractor and given them an opportunity to comment? Do you file past performance information in a database that the Government's Contracting Officer may search? Please explain.

6. Evaluator's Identification/Signature

Contractor: _____ Contract No. _____

Name of Evaluator/Respondent: **Position or Title:** *(e.g., COTR, Task Monitor, Project Manager, etc.)*:		
Address of Activity/Business:		
Telephone No.	**Fax No.**	**Email Address:**
Signature:		**Date:**

(To be completed by Gov't Interviewer only when survey is completed on behalf of Evaluator/Respondent. Otherwise leave blank.)

Name of Interviewer:		
Telephone No.	Fax No.	Email Address:
Signature:		Date of Interview:

ATTACHMENT 3

ACH VENDOR/MISCELLANEOUS PAYMENT ENROLLMENT FORM (SF 3881)

ACH VENDOR/MISCELLANEOUS PAYMENT ENROLLMENT FORM

OMB No. 1510-0056

This form is used for Automated Clearing House (ACH) payments with an addendum record that contains payment-related information processed through the Vendor Express Program. Recipients of these payments should bring this information to the attention of their financial institution when presenting this form for completion. See reverse for additional instructions.

PRIVACY ACT STATEMENT

The following information is provided to comply with the Privacy Act of 1974 (P.L. 93-579). All information collected on this form is required under the provisions of 31 U.S.C. 3322 and 31 CFR 210. This information will be used by the Treasury Department to transmit payment data, by electronic means to vendor's financial institution. Failure to provide the requested information may delay or prevent the receipt of payments through the Automated Clearing House Payment System.

AGENCY INFORMATION

FEDERAL PROGRAM AGENCY		
AGENCY IDENTIFIER:	AGENCY LOCATION CODE (ALC):	ACH FORMAT: ☐ CCD+ ☐ CTX
ADDRESS:		
CONTACT PERSON NAME:		TELEPHONE NUMBER: ( )
ADDITIONAL INFORMATION:		

PAYEE/COMPANY INFORMATION

NAME	SSN NO. OR TAXPAYER ID NO.
ADDRESS	
CONTACT PERSON NAME:	TELEPHONE NUMBER: ( )

FINANCIAL INSTITUTION INFORMATION

NAME:	
ADDRESS:	
ACH COORDINATOR NAME:	TELEPHONE NUMBER: ( )
NINE-DIGIT ROUTING TRANSIT NUMBER:	
DEPOSITOR ACCOUNT TITLE:	
DEPOSITOR ACCOUNT NUMBER:	LOCKBOX NUMBER:
TYPE OF ACCOUNT: ☐ CHECKING ☐ SAVINGS ☐ LOCKBOX	
SIGNATURE AND TITLE OF AUTHORIZED OFFICIAL: (Could be the same as ACH Coordinator)	TELEPHONE NUMBER: ( )

AUTHORIZED FOR LOCAL REPRODUCTION

SF 3881 (Rev. 2/2003)
Prescribed by Department of Treasury
31 U S C 3322; 31 CFR 210

Instructions for Completing SF 3881 Form

Make three copies of form after completing. Copy 1 is the Agency Copy; copy 2 is the Payee/Company Copy; and copy 3 is the Financial Institution Copy.

1. Agency Information Section - Federal agency prints or types the name and address of the Federal program agency originating the vendor/miscellaneous payment, agency identifier, agency location code, contact person name and telephone number of the agency. Also, the appropriate box for ACH format is checked.

2. Payee/Company Information Section - Payee prints or types the name of the payee/company and address that will receive ACH vendor/miscellaneous payments, social security or taxpayer ID number, and contact person name and telephone number of the payee/company. Payee also verifies depositor account number, account title, and type of account entered by your financial institution in the Financial Institution Information Section.

3. Financial Institution Information Section - Financial institution prints or types the name and address of the payee/company's financial institution who will receive the ACH payment, ACH coordinator name and telephone number, nine-digit routing transit number, depositor (payee/company) account title and account number. Also, the box for type of account is checked, and the signature, title, and telephone number of the appropriate financial institution official are included.

Burden Estimate Statement

The estimated average burden associated with this collection of information is 15 minutes per respondent or recordkeeper, depending on individual circumstances. Comments concerning the accuracy of this burden estimate and suggestions for reducing this burden should be directed to the Financial Management Service, Facilities Management Division, Property and Supply Branch, Room B-101, 3700 East West Highway, Hyattsville, MD 20782 and the Office of Management and Budget, Paperwork Reduction Project (1510-0056), Washington, DC 20503.