# Appendix D Cultural Resources

**CONTENTS**

Appendix D.1 Native American Correspondence

From: Bridget Nash [mailto:b.nash@quechantribe.com]
Sent: Tuesday, March 10, 2009 1:09 PM
To: Pell, Jerry
Subject: Baja Wind Transmission line

Good Morning -

The Cultural Committee has requested that all of the resources (cultural and
biological) within the project area and in the natural landscape be considered within the EIS. The project is within the Tribes' traditional land area and there are several resources affiliated with the Tribe in the area. There is concern over the cumulative impacts on the area as several projects, most large in scale, have been proposed or are currently being constructed within the area. The Tribe would like each of these evaluated as
we are seeing more and more of the traditional landscape being destroyed. Also, we ask that when evaluating the project area for cultural resources, that we be allowed to participate and that the firm look at the landscape from a holistic perspective.

Please feel free to call or email with any questions you may have.

Bridget R. Nash-Chrabascz

Quechan Tribe Historic Preservation Officer

Quechan Indian Tribe

PO Box 1899

Yuma, AZ  85366

760-572-2423

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

**NATIVE AMERICAN HERITAGE COMMISSION**
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

March 27, 2009

Ms. Cheryl Bowden-Renna, Archaeologist
**EDAW, INC.**
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101

Sent by FAX to: 619-233-0952
No. of Pages: 4

Re: Request for a Sacred Lands File records search and Native American Contacts list for the **Energia Sierra Juarez (ESJ) U.S. Transmission, LLC (ESJ-US) Project.** Located in the In-Ko-Pah Area on the San Diego and imperial County Line, California

Dear Ms. Bowden-Renna:

The Native American Heritage Commission (NAHC) was able to perform a record search of its Sacred Lands File (SLF) for the affected project area (APE). The SLF search did_ indicate the presence of Native American cultural resources in the project area (APE or 'area of potential effect) and environs.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of the nearest tribes that may have knowledge of cultural resources in the project area. We recommend that you contact persons on the attached list of Native American contacts. A Native American tribe or individual may be the only source of information about a cultural resource. They may have specific knowledge as to whether or not the known cultural resources identified may be at-risk by the proposed project. We also suggest that you contact the nearest information center of the California Historic Resources Information System (CHRIS); a location nearest you can be obtained by calling the Office of Historic Preservation at (916) 653-7278.

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road Diegueno
Lakeside , CA 92040
sue@barona-nsn.gov
(619) 443-6612
619-443-0681

Sycuan Band of the Kumeyaay Nation
Danny Tucker, Chairperson
5459 Sycuan Road Diegueno/Kumeyaay
El Cajon , CA 92021
ssilva@sycuan-nsn.gov
619 445-2613
619 445-1927 Fax

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
PO Box 1120 Diegueno
Boulevard , CA 91905
(619) 478-2113
619-478-2125

Viejas Band of Mission Indians
Bobby L. Barrett, Chairperson
PO Box 908 Diegueno/Kumeyaay
Alpine , CA 91903
daguilar@viejas-nsn.gov
(619) 445-3810
(619) 445-5337 Fax

San Pasqual Band of Mission Indians
Allen E. Lawson, Chairperson
PO Box 365 Diegueno
Valley Center , CA 92082
(760) 749-3200
(760) 749-3876 Fax

Kumeyaay Cultural Historic Committee
Ron Christman
56 Viejas Grade Road Diegueno/Kumeyaay
Alpine , CA 92001
(619) 445-0385

Santa Ysabel Band of Diegueno Indians
Johnny Hernandez, Spokesman
PO Box 130 Diegueno
Santa Ysabel , CA 92070
brandietaylor@yahoo.com
(760) 765-0845
(760) 765-0320 Fax

Mesa Grande Band of Mission Indians
Mark Romero, Chairperson
P.O Box 270 Diegueno
Santa Ysabel , CA 92070
mesagrandeband@msn.com
(760) 782-3818
(760) 782-9092 Fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed IEnergia Energia Sierra Juarez (ESJ), U.S. Transmission, LLC (ESJ-US) Project; located in the In-Ko-Pah Community on the San Diego-Imperial County line, California for which a Sacred Lands File search and Native American Contacts list were requested.**

**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Manzanita Band of Kumeyaay Nation
Leroy J. Elliott, Chairperson
PO Box 1302 Kumeyaay
Boulevard , CA 91905
(619) 766-4930
(619) 766-4957 Fax

Manzanita Band of the Kumeyaay Nation
Nick Elliott, Cultural Resources Coordinator
P.O. Box 1302 Kumeyaay
Boulevard , CA 91905
(619) 766-4930
(619) 925-0952 - cell
(919) 766-4957

Campo Kumeyaay Nation
Monique LaChappa, Chairperson
36190 Church Road, Suite 1 Kumeyaay
Campo , CA 91906
chairman@campo-nsn.gov
(619) 478-9046
(619) 478-5818 Fax

Ah-Mut-Pipa Foundation
Preston J. Arrow-weed
P.O. Box 160 Quechan
Bard , CA 92222 Kumeyaay
(928) 388-9456

ahmut@earthlink.net

Ewiiaapaayp Tribal Office
Will Micklin, Executive Director
PO Box 2250 Kumeyaay
Alpine , CA 91903-2250
wmicklin@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Ewiiaapaayp Tribal Office
Michael Garcia, Vice-Chairman/EPA Director
PO Box 2250 Kumeyaay
Alpine , CA 91903-2250
michaelg@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

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**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Kumeyaay Cultural Heritage Preservation
Paul Cuero
36190 Church Road, Suite 5 Diegueno/ Kumeyaay
Campo , CA 91906
chairman@campo-nsn.gov
(619) 478-9046
(619) 478-9505
(619) 478-5818 Fax

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775 Diegueno -
Pine Valley , CA 91962
(619) 709-4207

Kumeyaay Cultural Repatriation Committee
Steve Banegas, Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
(619) 742-5587
(619) 443-0681 FAX

Clint Linton
P.O. Box 507 Diegueno/Kumeyaay
Santa Ysabel , CA 92070
(760) 803-5694
cjlinton73@aol.com

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**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed IEnergia Energia Sierra Juarez (ESJ), U.S. Transmission, LLC (ESJ-US) Project; located in the In-Ko-Pah Community on the San Diego-Imperial County line, California for which a Sacred Lands File search and Native American Contacts list were requested.**

COPY

# Department of Energy
Washington, DC 20585

April 14, 2009

Mike Jackson, Sr., President
Quechan Tribal Council
P.O. Box 1899
Yuma, AZ 85366-1899

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear President Jackson:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. In your March 10, 2009, e-mail to DOE, you stated that the Tribe is concerned about potential cumulative impacts from several projects within the Quechan Indian Tribe's traditional land area. Therefore, DOE invites the Tribe to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from the Tribe about historic properties, including those of traditional religious and cultural importance to the Quechan Tribe in or near the project area, and to provide you an opportunity to indentify your concerns about such properties, including potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference.

Our contractor that will be preparing the EIS is Entrix, Inc., and they will be in touch with your Tribe's Historic Preservation Office. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Quechan Tribe may have with regard to this proposed project.

Sincerely,

COPY

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA
Bridget R. Nash-Chrabascz,
Quechan Tribe Historic Preservation Office

**Department of Energy**
**Washington, DC 20585**

May 28, 2009

Mr. Preston J. Arrow-weed
Ah-Mut-Pipa Foundation
P.O. Box 160
Bard, CA 92222

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Mr. Arrow-weed:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Ah-Mut-Pipa Foundation on the Native American contacts list for the subject project. Therefore, DOE invites the Foundation to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Ah-Mut-Pipa Foundation in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Ah-Mut-Pipa Foundation may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

**Department of Energy**
**Washington, DC 20585**

May 28, 2009

Mr. Edwin Romero, Chairperson
Barona Group of the Capitan Grande
1095 Sarona Road
Lakeside, CA 92040

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Romero:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Barona Group of the Capitan Grande on the Native American contacts list for the subject project. Therefore, DOE invites the Barona Group of the Capitan Grande to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Barona Group of the Capitan Grande in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Barona Group of the Capitan Grande may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Monique LaChappa, Chairperson
Campo Kumeyaay Nation
36190 Church Road, Suite 1
Campo, CA 91906

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson LaChappa:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Campo Kumeyaay Nation on the Native American contacts list for the subject project. Therefore, DOE invites the Campo Kumeyaay Nation to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Campo Kumeyaay Nation in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

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Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Campo Kumeyaay Nation may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Will Micklin, Executive Director
Ewiiaapaayp Tribal Office
PO Box 2250
Alpine, CA 91903·2250

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Executive Director Micklin:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Ewiiaapaayp Tribe on the Native American contacts list for the subject project. Therefore, DOE invites the Tribe to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Ewiiaapaayp Tribe in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

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Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Ron Christman
Kumeyaay Cultural Historic Committee
56 Viejas Grade Road
Alpine, CA 92001

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Mr. Christman:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Kumeyaay Cultural Historic Committee on the Native American contacts list for the subject project. Therefore, DOE invites the Committee to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Kumeyaay Cultural Historic Committee in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

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Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Steve Banegas, Spokesperson
Kumeyaay Cultural Repatriation Committee
1095 Barona Road
Lakeside, CA 92040

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Spokesperson Banegas:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Kumeyaay Cultural Repatriation Committee on the Native American contacts list for the subject project. Therefore, DOE invites the Committee to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Kumeyaay Cultural Repatriation Committee in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, Federal Register is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Kumeyaay Cultural Repatriation Committee may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Ms. Carmen Lucas
Kwaaymii Laguna Band of Mission Indians
P.O. Box 775
Pine Valley, CA 91962

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Ms. Lucas:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Kwaaymii Laguna Band of Mission Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Kwaaymii Laguna Band of Mission Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Kwaaymii Laguna Band of Mission Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Ms. Gwendolyn Parada, Chairperson
La Posta Band of Mission Indians
PO Box 1120
Boulevard, CA 91905

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Parada:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the La Posta Band of Mission Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the La Posta Band of Mission Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the La Posta Band of Mission Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Leroy J. Elliott, Chairperson
Manzanita Band of the Kumeyaay Nation
PO Box 1302
Boulevard, CA 91905

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Elliott:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Manzanita Band of the Kumeyaay Nation on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Manzanita Band of the Kumeyaay Nation in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Manzanita Band of Kumeyaay Nation may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Mark Romero, Chairperson
Mesa Grande Band of Mission Indians
P.O. Box 270
Santa Ysabel, CA 92070

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Romero:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Mesa Grande Band of Mission Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Mesa Grande Band of Mission Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Mesa Grande Band of Mission Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

**Department of Energy**
**Washington, DC 20585**

May 28, 2009

Mr. Allen E. Lawson, Chairperson
San Pasqual Band of Mission Indians
PO Box 365
Valley Center, CA 92082

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Lawson:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the San Pasqual Band of Mission Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the San Pasqual Band of Mission Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the San Pasqual Band of Mission Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Johnny Hernandez, Spokesperson
Santa Ysabel Band of Diegueno Indians
PO Box 130
Santa Ysabel ,CA 92070

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Spokesperson Hernandez:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Santa Ysabel Band of Diegueno Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Santa Ysabel Band of Diegueno Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Santa Ysabel Band of Diegueno Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Danny Tucker, Chairperson
Sycuan Band of the Kumeyaay Nation
5459 Sycuan Road
EI Cajon, CA 92021

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Tucker:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Sycuan Band of the Kumeyaay Nation on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Sycuan Band of the Kumeyaay Nation in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Sycuan Band of the Kumeyaay Nation may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Bobby L. Barrett, Chairperson
Viejas Band of Mission Indians
PO Box 908
Alpine , CA 91903

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Chairperson Barrett:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include the Viejas Band of Mission Indians on the Native American contacts list for the subject project. Therefore, DOE invites the Band to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to the Viejas Band of Mission Indians in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

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Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions the Viejas Band of Mission Indians may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA

# Department of Energy
**Washington, DC 20585**

May 28, 2009

Mr. Paul Cuero
Kumeyaay Cultural Heritage Preservation
36190 Church Road, Suite 5
Campo, CA 91906

SUBJECT: **Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC**

Dear Mr. Cuero:

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border. ESJ's proposed transmission line would connect wind turbines (the La Rumorosa Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

Pursuant to Section 106 of the National Historic Preservation Act (NHPA), and 36 CFR Part 800, DOE must determine if the proposed Federal action has the potential to cause effects on historic properties. A sacred lands search and a list of Native American contacts were requested from the Native American Heritage Commission (NAHC) for the ESJ Project. The NAHC's March 27, 2009, response to our request did indicate the presence of Native American cultural resources in the ESJ Project area and did include Kumeyaay Cultural Heritage Preservation on the Native American contacts list for the subject project. Therefore, DOE invites Kumeyaay Cultural Heritage Preservation to consult with us regarding the proposed ESJ Project.

DOE would like to obtain information from you about historic properties, including those of traditional religious and cultural importance to Kumeyaay Cultural Heritage Preservation in or near the project area, and also to provide you an opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures. Your assistance in the identification and evaluation of historic properties, including those of traditional religious and cultural importance, will provide us the opportunity to resolve any adverse effects this undertaking may have on these properties. If available, we would welcome any information on the location and importance of archaeological sites, historic structures, and any other localities of interest to you that are known to occur in the proposed project area.

A copy of the "Notice of Intent to Prepare an Environmental Impact Statement (EIS)" that was published in the February 25, 2009, *Federal Register* is enclosed for your information and reference. In addition, please note that ESJ Project-related maps, documents, and schedule updates are available for your information on the ESJ Project Web site at http://ESJProjectEIS.org and on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334).

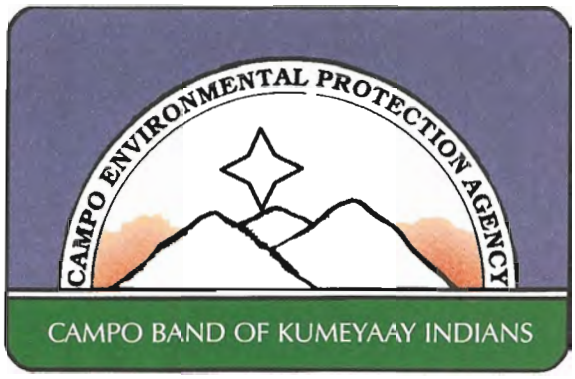
Our contractor that will be preparing the EIS is ENTRIX, Inc. Please feel free to contact them directly as follows: by mail at ENTRIX, Inc., Attention John A. Nadolski, 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by e-mail at jnadolski@entrix.com. Also, please feel free to contact Dr. Jerry Pell, our EIS Document Manager for this project, by e-mail at Jerry.Pell@hq.doe.gov, by phone at 202-586-3362, or by fax at 202-318-7761 with regard to any concerns or questions Kumeyaay Cultural Heritage Preservation may have with regard to this proposed project.

Sincerely,

Anthony J. Como
Acting Deputy Assistant Secretary
Permitting, Siting and Analysis Division
Office of Electricity Delivery and
Energy Reliability

Enclosure: *Federal Register* Notice

cc: Tim J. Murphy, Entrix
Allen Anspach, Regional Director, BIA






June 29, 2009

**Fax: 202-318-7761**
Dr. Jerry Pell
Office of Electricity Delivery and Energy Reliability (OE-20)
US Dept of Energy
1000 Independence Ave, SW
Washington DC 20585

Re: Invitation to Consult on the Project Proposed by Energia Sierra Juarez U.S. Transmission, LLC.

Dear Dr. Pell:

I am contacting you at the request Chairwoman Monique La Chappa of the Campo Band of Mission Indians regarding cultural resources surveys and monitoring that should take place in accordance with the National Environmental Protection Act (NEPA) process relating to the proposed project.

The Campo Band of Kumeyaay (Mission) Indians (Campo Band) requests a consultation meeting between the Campo Band and the Department of Energy on this project to discuss cultural resources and historic preservation activities. The Campo Band will wish to provide Campo cultural monitors to assist in any historic preservation and/or cultural resources activities regarding the proposed project.

Any transmission line in Baja California to the Southwest Power Link (SWPL) has potential consequences for cultural resources of the Kumeyaay people and the Tribe is entitled to meaningful participation and consultation on this project with regard to both environmental concerns and cultural resources. You may know that a right of way for the Southwest Power Link runs through the Campo Indian Reservation. The Campo Band therefore requests the initiation of formal consultation in a meeting at the Campo Indian Reservation at the earliest convenience.

Please contact myself, Lisa Gover, Director, Campo EPA, (619) 478-9369 or Erlinda Panigua, Assistant to the Chairwoman (619) 478-9046 to set up a meeting. We look forward to working with you on this important project.

With regards,

Lisa N. Gover, Director
Campo Environmental Protection Agency
cc: Chairwoman Monique La Chappa

**ENERGIA SIERRA JUAREZ U.S. TRANSMISSION (ESJ) LINE**
**ENVIRONMENTAL IMPACT STATEMENT (EIS)**
Consultation Meeting with the Campo Band of Kumeyaay (Mission) Indians
MEETING SUMMARY
September 16, 2009

In May 2009, the Department of Energy (DOE) invited the Campo Band of Kumeyaay Mission Indians (Campo Band) and Chairperson Monique LaChappa to consult with the DOE regarding the proposed construction of either a double-circuit 230,000-volt (230-kV), or a single-circuit 500-kV, transmission line across the U.S.-Mexico border by Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly known as Baja Wind U.S. Transmission, LLC). The proposed transmission line would connect wind turbines (ESJ Wind Project) to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line.

In June 2009, Lisa N. Gover, Director, Campo Environmental Protection Agency, responded to DOE's invitation to consult, requesting a consultation meeting "to discuss cultural resources and historic preservation activities." (The letter from the Campo Band is available on the project Web site at http://esjprojecteis.org.)

On behalf of DOE, John A. Nadolski of ENTRIX, DOE's environmental contractor for the project, responded to the Campo Band's request for consultation in August 2009, which led to a meeting with Chairperson Monique LaChappa on September 16, 2009, at the Campo Indian Reservation.

The scheduled attendees for the September 16, 2009, meeting included Chairperson LaChappa, Dr. Jerry Pell, the DOE EIS Document Manager for the project, Timothy Murphy, ENTRIX EIS project manager, and Mr. Nadolski, the ENTRIX California Cultural Resources Program Manager. Mr. Nadolski was scheduled to attend the meeting in person and Dr. Pell and Mr. Murphy were scheduled to attend the meeting by teleconference. Mr. Nadolski did meet with Chairperson LaChappa, but unanticipated technical issues prevented the participation of Dr. Pell and Mr. Murphy in the meeting.

The discussion during the meeting between Chairperson LaChappa and Mr. Nadolski included the following:

- Mr. Nadolski presented an overview of the proposed ESJ project and provided Chairperson LaChappa with a copy of the publically available cultural resources report and project maps. He also discussed the cultural resources identification issues, the results of investigations, and the potential of the project to impact any cultural resources.

- Chairperson LaChappa asked questions regarding the scope of the cultural resources survey, the types of cultural resources identified in the project area, and whether we were aware of the presence of cultural resources in vicinity of the ESJ Wind Project in Mexico. Chairperson LaChappa stated that she and the Campo Band have personal knowledge of cultural resources in Mexico in vicinity of the ESJ Wind Project.

  Mr. Nadolski responded to Chairperson LaChappa's questions by describing the survey, the cultural resources in the project area, and informing her that we are aware of the

cultural resources in Mexico and that some information regarding those resources appears in the cultural resources report.

- Chairperson LaChappa requested that project activity and any excavations at sites be monitored by members of the Campo Band that have knowledge of the area and have been trained as cultural resources monitors. She also stated that the Campo Band could provide contractors and laborers to work on the project, and requested to be contacted regarding any opportunities to provide construction services for the project.

  Mr. Nadolski responded that the request for monitoring would be addressed in the EIS, and that he would inform the appropriate ESJ personnel regarding the possibility of the Campo Band providing construction services for the project.

- Chairperson LaChappa discussed the Campo Band's proposed wind farm project and the use of the Southwest Powerlink to distribute power generated from the wind farm. She also stated that the Campo Band owned 105 acres of land near the current project and was willing to discuss the use and/or development of that land with ESJ.

  Mr. Nadolski thanked Chairperson LaChappa for the information about their wind project, and stated that he would inform appropriate ESJ personnel regarding the land owned by the Campo Band near the ESJ project.

- Chairperson LaChappa expressed appreciation for the opportunity to discuss the project and was supportive of the project. She stated, however, that the Campo Band was concerned about construction of the ECO Substation.

  Mr. Nadolski informed Chairperson LaChappa that the ECO Substation was not part of the ESJ project, but rather is an undertaking of San Diego Gas & Electric. She confirmed that she understood the situation.

- At the conclusion of the meeting, Chairperson LaChappa stated that she considered the consultation process to be completed with this meeting.

  Mr. Nadolski thanked Chairperson LaChappa for her time and input, and her determination that consultation was concluded; he informed the Chairperson that the Campo Band would be kept informed about the ESJ project.

In summary, a consultation meeting regarding the ESJ transmission line project and the Campo Band was held on September 16, 2009, at the Band's offices. The scope of the project and the cultural resources associated with the project were discussed at the meeting. Chairperson LaChappa was supportive of the project and considered the meeting sufficient for closure of consultation.

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Monday, November 30, 2009 12:55 PM
To: Bridget Nash
Cc: Tim Murphy; Heredia, Joan
Subject: RE: Energia Sierra Juarez

Thank you very much for the courtesy of your reply!

Best regards,

Dr. Jerry Pell, CCM
Principal NEPA* Document Manager
Permitting, Siting and Analysis, OE-20
Office of Electricity Delivery and Energy Reliability

U.S. Department of Energy
Washington, DC 20585
202-586-3362
Fax 202-318-7761
Jerry.Pell@HQ.DOE.GOV
*National Environmental Policy Act
-----Original Message----From:
Bridget Nash [mailto:b.nash@quechantribe.com]
Sent: Monday, November 30, 2009 3:54 PM
To: Pell, Jerry
Subject: Energia Sierra Juarez

Good afternoon

It appears that the proposed project lies outside of the traditional land area of the Quechan, based on maps included in the draft archaeological report for the project. When originally informed of the project by BLM, it was my understanding that the project would cross from Mexico into Imperial County closer to El Centro; however, Figure 1 shows the project crossing from Mexico into San Diego County, just west of the Imperial County line. If this is the case the Tribe will defer all comments on this project to the Kumeyaay and will support the Tribe as needed.

Thank you again for your notification.

Bridget R. Nash-Chrabascz
Quechan Tribe Historic Preservation Officer
Quechan Indian Tribe
PO Box 1899
Yuma, AZ 85366
760-572-2423

From: Pell, Jerry [Jerry.Pell@hq.doe.gov]
Sent: Wednesday, November 25, 2009 12:10 PM
To: Bridget Nash
Cc: John Nadolski; Tim Murphy
Subject: RE: Energia Sierra Juarez

Attachments: Archaeological & Historical Investigations Report; Draft, May 2009.pdf

Ms. Nash-Chrabascz,

First of all, apologies for this delayed response!

In response to your message, we remain interested in obtaining information from the Quechan Indian Tribe about historic properties in or near the project area, including those of traditional religious and cultural importance to the Tribe, and also in providing you with the opportunity to indentify your concerns about such properties, including the identification of potential mitigation measures.

The current cultural resource report for the proposed project is available for review on the Tribal Consultation page of the project website, at http://www.esjprojecteis.org/docs/consultation/Tribal_consultation_packet_2009Sept.pdf. I am also attaching this report to this message as a convenience for you. In addition, please note that ESJ Project-related maps, other documents, and schedule updates are available for your review on the DOE Web site at http://www.oe.energy.gov/permits_pending.htm (see PP-334), and in greater detail on the ESJ Project Web site at http://ESJProjectEIS.org; I encourage you to consider subscribing to future e-mail updates (on the Web site home page).

Our contractor for the preparation of the environmental impact statement (EIS) is ENTRIX, Inc. Please feel free to contact my tribal affairs contact, Mr. John A. Nadolski, directly by mail at ENTRIX, Inc., 701 University Avenue, Suite 200, Sacramento, CA 95825; by phone at 916-923-1097; by fax at 916-923-6251; or by email at jnadolski@entrix.com. Of course, please feel free to contact me any time as noted below with regard to any specific concerns or questions the Quechan Tribe may have with regard to this proposed project

Best regards,

Dr. Jerry Pell
Principal NEPA* Document Manager
Permitting, Siting and Analysis
Office of Electricity Delivery and Energy Reliability (OE-20)
U.S. Department of Energy
Washington, DC 20585
Tel. 202-586-3362
Fax 202-318-7761
Cell 240-529-3553
Jerry.Pell@hq.doe.gov

*National Environmental Policy Act

-----Original Message-----
From: Bridget Nash [mailto:b.nash@quechantribe.com]
Sent: Friday, November 20, 2009 11:21 AM
To: Pell, Jerry
Subject: Energia Sierra Juarez

Good morning –

I have not heard anything on this project in quite some time and am writing to follow-up. Where does the project stand and when will the Tribe receive more project specific information, including a biological and cultural report, so that we may begin discussing specific concerns?

Any information would be greatly appreciated.

Bridget R. Nash-Chrabascz
Quechan Tribe Historic Preservation Officer
Quechan Indian Tribe
PO Box 1899
Yuma, AZ 85366
760-572-2423

Appendix D.2 Section 106 Consultation

Cardno ENTRIX
Shaping the Future

Cardno ENTRIX
701 University Avenue, Suite 200
Sacramento, CA 95825
(916) 923-1097 | Fax (916) 923-6251
www.cardnoentrix.com

# Letter of Transmittal

**Date:** April 23, 2012

**To:** Ed Carroll
Office of Historic Preservation
1725 23rd Street, Ste. 100
Sacramento, CA 95816

**From:** John Nadolski

**Project No.:** N/A

**Project Name:** Energia Sierra Suarez U.S. Electric Transmission Line Project

**Re:** **Submittal of Cultural Resources Documents on Behalf of DOE**

**We are sending you:**

[X] Attached [ ] Under Separate Cover Via _____

[ ] Drawings [ ] Contracts [ ] Plans [ ] Report
[ ] Copy of Letter [ ] Aerials [ ] Other [ ] Proposal

| QUANTITY | DATE | DESCRIPTION |
|---|---|---|
| 1 | 4-23-2012 | A binder containing DOE's transmittal letter and cultural resources documents relating to the project. |
| | | |

**These are transmitted as checked below:**

[ ] For approval [ ] For your use [ ] As requested [X] For review and comment
[ ] For signature [ ] Call me [ ] Return [ ] For your information

**REMARKS:**

Mr. Carroll: Please do not hesitate to contact me if you have any questions regarding the documents for the Energia Sierra Suarez U.S. Electric Transmission Line Project.

**SIGNED:** John Nadolski **ACCEPTED BY:**

**Department of Energy**
Washington, DC 20585

**April 18, 2012**

Milford Wayne Donaldson
State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Re: U.S. Department of Energy Section 106 Findings for the
Energia Sierra Juarez U.S. Electric Transmission Line Project

Dear Mr. Donaldson:

The U.S. Department of Energy (DOE) is considering whether to issue a Presidential Permit to Energia Sierra Juarez U.S. Transmission, LLC (ESJ), to construct, operate, maintain, and connect an electric transmission line that would cross the U.S.-Mexico border near the town of Jacumba in San Diego County, California. The construction of the electric transmission line includes two distinct areas; (1) the area of the proposed transmission line and associated access roads, and (2) the area of an existing water well and proposed access road (see figures 1-2 and figure 3). In the context of section 106 of the National Historic Preservation Act (NHPA), DOE has determined that its decision whether to issue a Presidential Permit for the proposed ESJ project is an "undertaking" within the meaning of that section. Accordingly, DOE has identified historic properties, assessed the potential effects on historic properties, and has involved the public, consulting parties, and Indian tribes in the section 106 process.

DOE has determined that the undertaking would have "No Adverse Effect" on historic properties with incorporation in the Presidential Permit of conditions to mitigate any potential impacts to historic properties. The following sections provide a summary of the supporting documentation specified in the Code of Federal Regulations (CFR) at 36 CFR 800.11 (e). DOE respectfully seeks your review and concurrence on its finding that the undertaking would have "No Adverse Effect" on historic properties with implementation of the appropriate mitigation conditions that would be stipulated in the Presidential Permit.

*Description of the Undertaking and its Area of Potential Effects (APE)*

The undertaking associated with potentially issuing a Presidential Permit to ESJ is described in the Draft Environmental Impact Statement for the project (DOE/EIS-0414), available at http://esjprojecteis.org and summarized below.

ESJ has applied to the DOE's Office of Electricity Delivery and Energy Reliability for a Presidential Permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line across the U.S.-Mexico border approximately 3.5 miles east of Jacumba in San Diego County, California. The transmission line within the U.S. would be approximately 0.65-miles long and would extend from the Mexican border to San Diego Gas and Electric's (SDG&E's) proposed East County (ECO) Substation Project adjacent to the Southwest Powerlink 500-kV transmission line in eastern San Diego County. The proposed transmission line would connect up to 1,250 megawatts (MW) of electrical power from wind turbines (the ESJ Wind project) to be located near La Rumorosa in Northern Baja California, Mexico, (see Figure 1-1 in Enclosure 1) with the existing Southwest Powerlink transmission line. The proposed transmission line would be supported on three to five 150-foot steel lattice towers or 170-foot steel monopoles that would be accessed by a new 28-foot wide road from Old Highway 80 to the selected corridor (see figures 2a and 2-1b Enclosure 1).

To support the construction of the proposed transmission line, ESJ would use water from an existing Jacumba Community Service warm water well; however, ESJ would need to construct a new dirt access road to the well, which is located in the western portion of Jacumba, approximately 150 feet from Old Highway 80. The proposed dirt access road would be approximately 150 feet long and 15 feet wide from Old Highway 80 to the existing well (see Figure 3 in Enclosure 1). The water would be transported from the well site approximately 3.75 miles west on Old Highway 80 to the ESJ transmission line project site in 2,500-gallon water trucks.

The APE for construction of the ESJ transmission line is a 70-acre area that includes the rights-of-way of the alternative corridors from the U.S.-Mexico border to the proposed ECO substation, the main access road, and areas adjacent to those features. The APE for the existing water well and proposed dirt access road encompasses approximately ¾ acre that includes the existing water well, the proposed access road, and a 100-foot buffer around the well and proposed access road (see figures 3 and 3.5-2 in Enclosure 1).

*Identification of Historic and Cultural Resources*

Archaeological and historical investigations for the proposed alternative transmission line corridors began in 2007 and 2008, and included a literature review and archival searches in the South Coastal Information Center at San Diego State University and the Southeast Information Center at the Imperial Valley College Desert Museum for all relevant records. Data reviewed included historic maps, the California Inventory of Historic Places, and the National Register of Historic Places (National Register) for the area within a one-mile radius of the alternative corridors (an area much larger than the APE). A pedestrian survey of the ground surface of the APE was performed following this review. Archaeological and historical investigations also were performed in 2009 in the area of the proposed main access road from Old Highway 80 to the alternative corridors, and included an additional intensive pedestrian survey of the ground surface in a 2.6-acre area along the alignment of the proposed main access road (see Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California, May 2010, in Enclosure 2).

As part of the cultural resources identification efforts for the transmission line, DOE

representatives contacted the Native American Heritage Commission (NAHC) in March 2009, requesting a Sacred Lands file search and list of Native American contacts. DOE representatives received a response from the NAHC on March 27, 2009, indicating that there are known Native American cultural resources within or in the vicinity of the project, along with a contact list of Native American tribes that might have knowledge of cultural resources in the proposed ESJ U.S. Transmission Line project area. In April and May, 2009, DOE initiated section 106 consultation with 15 Native American Tribes (see Enclosure 3, Summary of Native American Tribal Consultations).

Combined results from these 2008 and 2009 efforts for the transmission line identified 17 cultural resources within the project APE: 11 prehistoric archaeological sites and 6 isolated prehistoric and historic artifacts. Sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494 are within the proposed ESJ project APE; therefore, subsurface excavations were performed at these sites to assess their potential to provide information in regional or local prehistory and to determine their eligibility for inclusion in the National Register. The subsurface excavations indicated that the sites had limited or no subsurface components, and subsurface testing and surface collection exhausted each site's data potential (see Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California, May 2010, in Enclosure 2).

In 2010, ESJ identified two alternative routes for the proposed ESJ transmission line as a result of changes to the proposed location of SDG&E's proposed ECO Substation Project, to which the proposed transmission line would connect. SDG&E relocated the proposed ECO Substation to avoid potential impacts to cultural resources.[1] As a result, since issuing the draft EIS, DOE has identified the known archaeological sites CA-SDI-6119, CA-SDI-19486, CA-SDI-19489, and CA-SDI-19492 within the new alternative routes (see Figure 4 in Enclosure 1).

Archaeological and historical investigations associated with existing well and proposed access road were conducted in early 2011, and included archival searches, literature review, and an intensive pedestrian survey of the APE. As part of the cultural resources identification, DOE representatives contacted the NAHC on January 24, 2011, and consultation with Native American Tribes occurred in January 2011 (see Summary of Native American Tribal Consultations in Enclosure 3)[2]. The 2011 investigation found that the proposed well access road would be located within the boundaries of two previously recorded sites; prehistoric site CA-SDI-4455 and Old Highway 80, P-37-024023. No cultural material was observed along the proposed access road. Several quartz flakes were observed approximately 66 feet north and west of the existing well, within the 100-foot buffer around the proposed road (see Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit Application, Jacumba, California, February 2011 in Enclosure 2). This area has not been subject to subsurface testing, such it is unknown whether any subsurface deposits are present.

---

[1] The proposed ECO Substation's revised location is about 700 feet east of the originally proposed location. Both revised ESJ project routes are located within the established APE for the project and original alignments. The ECO Substation Project documents, including the Final Environmental Impact Report/Environmental Impact Statement (prepared by the California Public Utility Commission and the U.S. Bureau of Land Management in 2011), the Proponent's Environmental Assessment (PEA), and related comments are available online at: http://www.cpuc.ca.gov/environment/info/dudek/ECOSUB/ECOSUB.htm.

[2] As of this writing, a response has not been received from the NAHC.

*Assessment of Cultural Resources*

The project APEs extend across a relatively uniform landscape of woody scrub vegetation crisscrossed by dirt roads. The prehistoric archaeological sites in the project APEs are primarily sparse lithic scatters that consist of minimal remnants of stone tool manufacturing. These sites, either individually or collectively, do not exhibit any of the characteristics that are typically used to identify specific uses of a landscape. Therefore, the assessment of cultural and historic resources addressed the potential adverse effects to the individual sites identified in the project APEs, rather than analyzing the project APEs as a cultural landscape.

A cultural resources work plan to determine the eligibility of the sites for inclusion in the California Register of Historical Resources (California Register) in the transmission line APE was approved by San Diego County. The work plan included subsurface testing at sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19492, CA-SDI-19493, and CA-SDI-19494. The excavations in conjunction with the pedestrian survey determined that the sites do not possess the potential to yield important information in regional or local prehistory, and do not appear to be eligible for inclusion in the California Register (see Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California, May 2010 in Enclosure 2). DOE asserts that the investigations conducted for sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19492, CA-SDI-19493, and CA-SDI-19494 meet the requirements of 36 CFR Part 800 for identifying and assessing the effects of an undertaking on historic properties, and that these sites do not meet any of the eligibility criteria for inclusion on the National Register presented at 36 CFR Part 60.4 [a-d].

Sites CA-SDI-19486 and CA-SDI-19489 are located within the revised single-circuit 500-kV route. Subsurface excavations have not been conducted at these two sites; consequently, the sites may possess the potential to yield information important to prehistory. However, if this route is selected, DOE would require as a condition of the Presidential Permit that subsurface investigations be performed at sites CA-SDI-19486 and CA-SDI-19489 prior to any ground disturbance to determine their eligibility for inclusion in the National Register, and that the Office of Historic Preservation be consulted to review and concur with the eligibility determination and the results of any subsequent subsurface investigations. Based on previous investigations at the other sites in the transmission line APE, DOE does not anticipate that the sites would meet the eligibility criteria for inclusion in the National Register. Regardless, if the sites were determined eligible for the National Register, data recovery would be conducted at the sites in accordance with all applicable guidelines to mitigate any project related effects. By incorporating such mitigation measures as conditions in the Presidential Permit for the proposed ESJ project, DOE expects that implementation of the project would not have any adverse effects on sites CA-SDI-19486 and CA-SDI-19489.

Cultural resources investigations for the water well APE identified sites CA-SDI-4455 and P-37-024023; the latter is recorded as the village site of Hacúm, and, as part of a site record update in 1991, was recommended eligible for inclusion in the National Register. Site P-37-024023 is a section of Old Highway 80, a two-lane undivided highway built in the 1910s that connects San Diego to El Centro and Yuma, Arizona. The site is at the southern boundary of the proposed water well access road and is a contributing element to Old Highway 80, which is eligible for inclusion on the National Register.

Construction of the proposed access road to the existing water well would not affect P-37-024023. The proposed access road would not alter any of the elements of design or construction that make Old Highway 80 eligible for the National Register; therefore, the project would have no effect on the site. However, construction of the proposed access road to the water well has the potential to impact site CA-SDI-4455. The site may possess the potential to yield information important to prehistory; consequently DOE would require as a condition of the Presidential Permit that subsurface investigations be performed at the site prior to any ground disturbance to determine its eligibility for inclusion in the National Register, and that the Office of Historic Preservation be consulted to review and concur with the eligibility determination and the results of any subsequent subsurface investigations. By incorporating such mitigation measures as conditions in the Presidential Permit for the proposed ESJ project, DOE expects that implementation of the project would not have any adverse effects on site CA-SDI-4455.

*Summary and Conclusion*

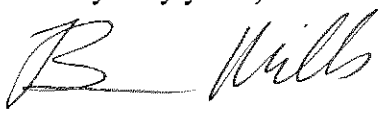
In summary, cultural resource identification efforts are complete for the entire ESJ transmission line project (transmission line and water well areas). These investigations found that sites CA-SDI-4455,
CA-SDI-6119, CA-SDI-19486, CA-SDI-19488, CA-SDI-19489, CA-SDI-19490, CA-SDI-19492,
CA-SDI-19493, CA-SDI-19494, and P-37-024023 could be impacted by project related activities. Subsurface excavations were conducted at sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490,
CA-SDI-19492, CA-SDI-19493, and CA-SDI-19494 and the results of the excavations indicate that the sites do not meet the eligibility criteria for inclusion in the National Register. DOE asserts that the investigations conducted for sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19492,
CA-SDI-19493, and CA-SDI-19494 meet the requirements of 36 CFR Part 800 for identifying and assessing the effects of an undertaking on historic properties, and that these sites do not meet any of the eligibility criteria for inclusion on the National Register presented at 36 CFR Part 60.4 [a-d]. In addition, construction of the proposed access road to the existing water well would not alter any of the elements of design or construction that make Old Highway 80 eligible for the National Register; therefore, the project would not affect P-37-024023. **DOE requests the concurrence of the State Historic Preservation Officer with these assertions and DOE's determination that the ESJ transmission line project would not affect any of these sites.**

Subsurface excavations have not been conducted at sites CA-SDI-4455, CA-SDI-19486, and CA-SDI-19489 to determine their eligibility for inclusion in the National Register. Accordingly, if the Presidential Permit were to be granted, DOE would require that subsurface investigations be performed at these three sites prior to any ground disturbance and would incorporate such mitigation measures as conditions in the Presidential Permit for the proposed ESJ project. Therefore, DOE has determined that the undertaking would have "No Adverse Effect" on historic properties with conditions incorporated into the proposed project to determine the eligibility of sites CA-SDI-4455, CA-SDI-19486, and
CA-SDI-19489 and to consult with the Office of Historic Preservation regarding the eligibility determinations prior to project construction.

In closing, DOE looks forward to **your review and concurrence on its finding that the proposed undertaking in the area of the ESJ transmission line would have "No Adverse Effect" on historic properties.** Please provide your concurrence in writing or electronically as noted below so that it may be added to the administrative record as evidence of DOE's compliance with its section 106 responsibilities.

If you have any questions or require further information, please feel free to contact me at Brian.Mills@hq.doe.gov or at 202-586-8267. Thank you very much in advance for your cooperation and assistance.

Very truly yours,



Brian Mills
Deputy Assistant Secretary
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy (OE-20)
1000 Independence Avenue, SW
Washington, DC 20585-0001

**Enclosures:**

**Enclosure 1, Figures**
Figure 1-1, Project Region
Figure 1-2, proposed transmission line and associated access roads
Figure 2a, Project Vicinity
Figure 2-1b, EIS Alternatives
Figure 3, Water Well Arch Study Area
Figure 3.5-2, Cultural Resource Area APE
Figure 4, Site Locations and Numbers

**Enclosure 2, Reports**
Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California, (May 2010)
Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit Application, Jacumba, California, (February 2011)

**Enclosure 3, Native American Tribal Consultations**
Summary of Native American Tribal Consultations


**Source(s):**
AECOM 2010b; ESJ LLC 2009; Google 2009; USGS 2006.

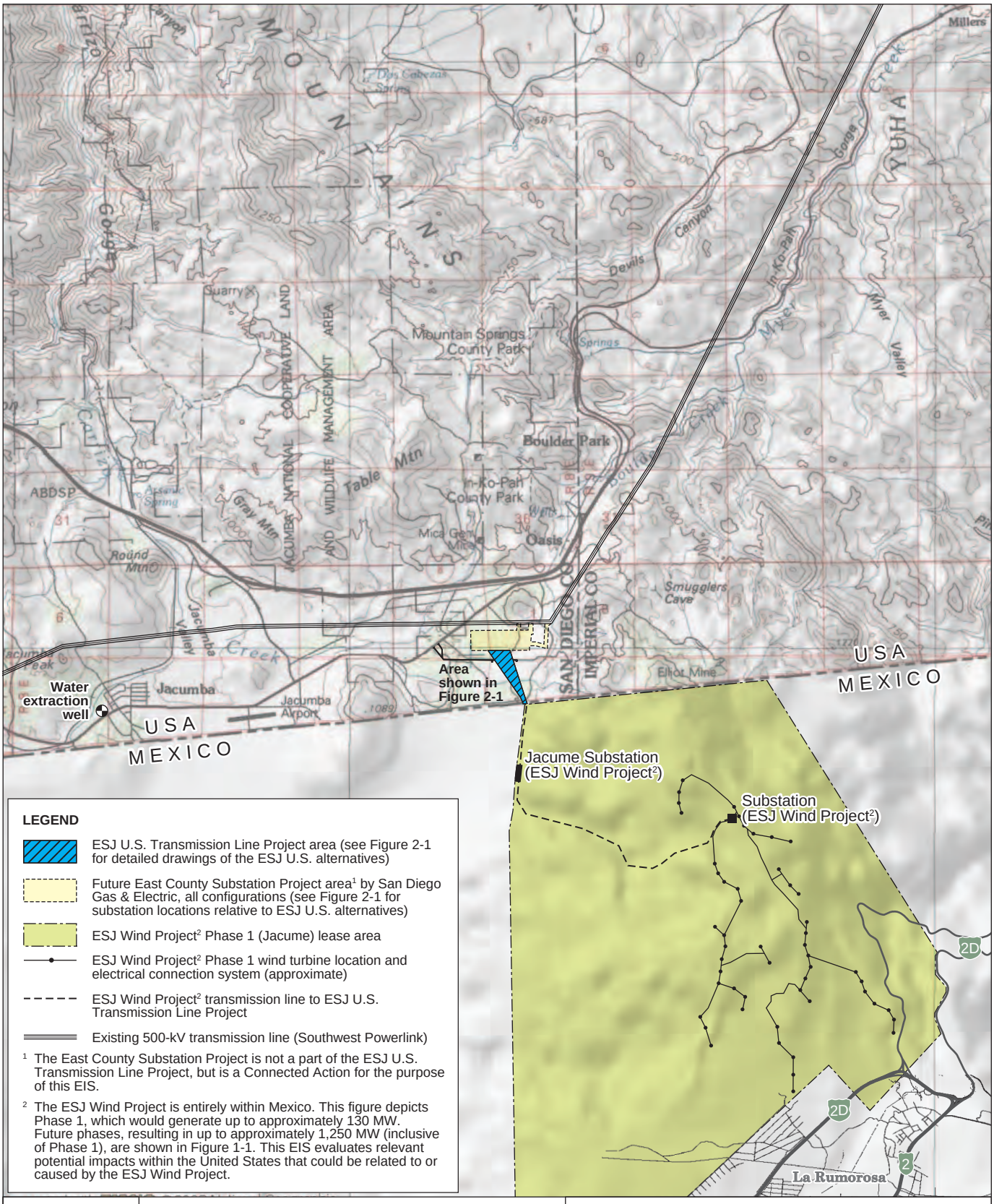
ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

FIGURE 1-1

**PROJECT REGIONAL MAP**

January 2012

(Sacramento) ..\PROJECTS\Energia_Sierra_Juarez_EIS-3218300\ESJ_EIS_Figures\Figure_1-1_ProjectRegion_8x11_v10.ai (01/16/2012, 03:24 pm) R. Wurgler/T. Murphy



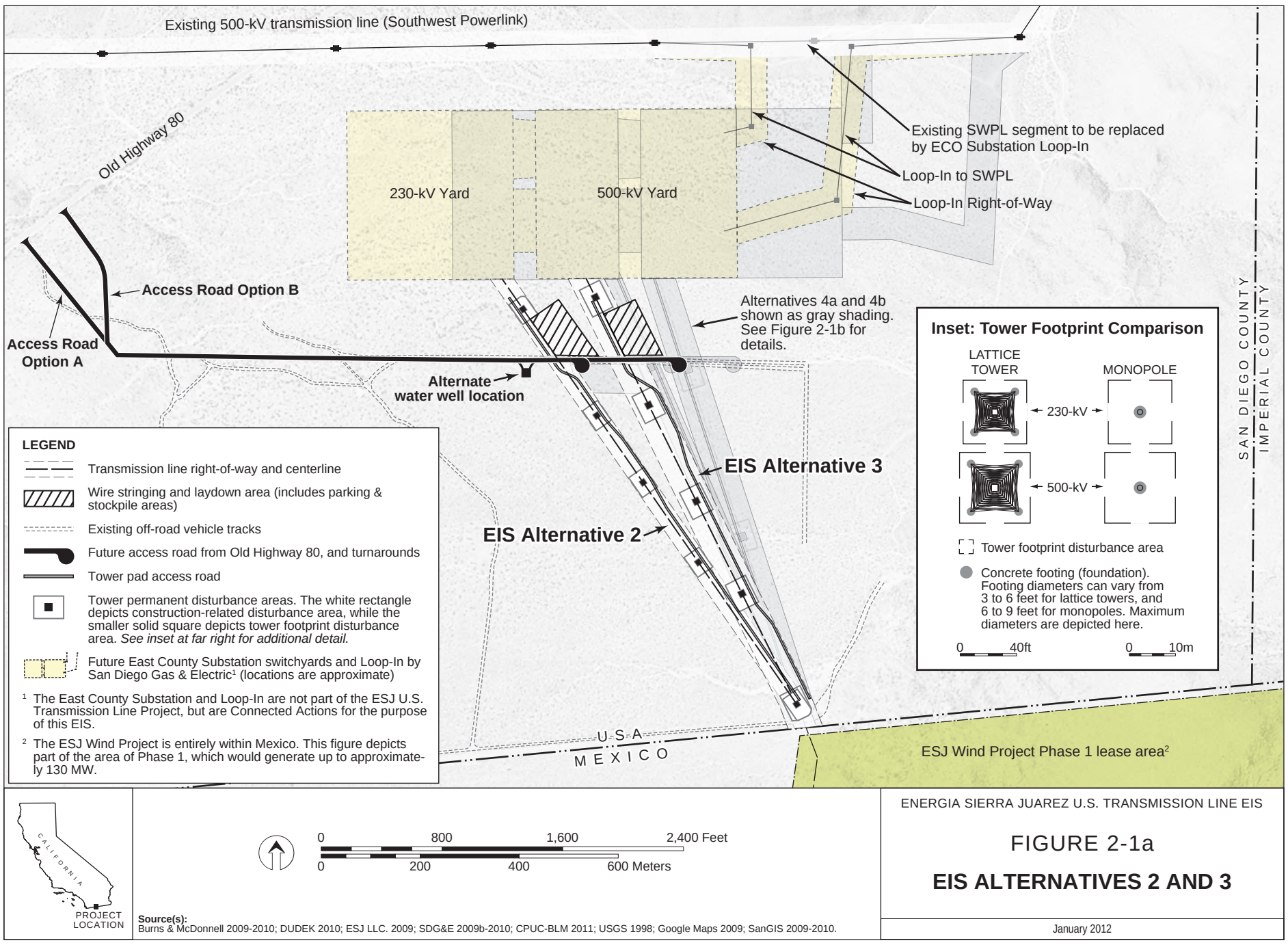

**Source(s):**
Burns & McDonnell 2009-2010; AECOM 2010b; ESJ LLC. 2009; SDG&E 2009b-2010; USGS 1979, 2006; Google Maps 2009; SanGIS 2009-2010.

ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

# FIGURE 1-2

# PROJECT VICINITY MAP

January 2012




**Source(s):**
Burns & McDonnell 2009-2010; DUDEK 2010; ESJ LLC. 2009; SDG&E 2009b-2010; CPUC-BLM 2011; USGS 1998; Google Maps 2009; SanGIS 2009-2010.

ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

FIGURE 2-1a

**EIS ALTERNATIVES 2 AND 3**

January 2012




**Source(s):**
Burns & McDonnell 2009-2010; DUDEK 2010; ESJ LLC. 2009; SDG&E 2009b-2010; CPUC-BLM 2011; USGS 1998; Google Maps 2009; SanGIS 2009-2010.

ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

FIGURE 2-1b

**EIS ALTERNATIVES 4A AND 4B**

January 2012


Source: Sempra 2010; SANGIS 2010; DigitalGlobe 2008

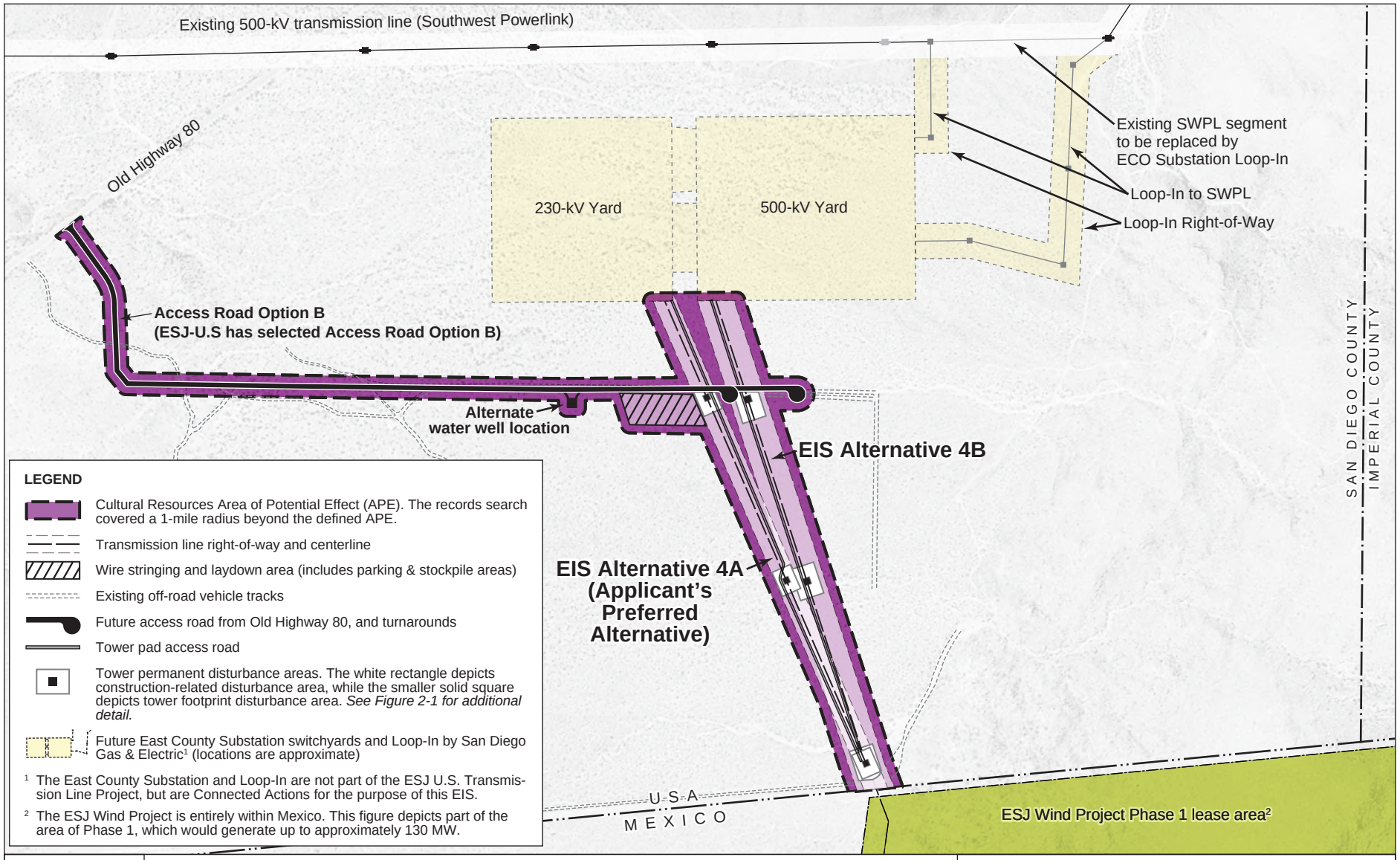
50 25 0 50 Feet

Scale: 1 = 600; 1 inch = 50 feet

**Figure 3**
**Project Footprint**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Well_Cultural\Fig3_Footprint.mxd, 02/03/11, SorensenJ*




**Source(s):**
Burns & McDonnell 2009a, 2009b, 2010a, 2010b; CPUC/BLM 2011a; SanGIS 2011; SDG&E 2009b; Sempra Generation 2010; USGS 1998.

ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE EIS

FIGURE 3.5-2

# CULTURAL RESOURCES AREA OF POTENTIAL EFFECT ALTERNATIVES 4A AND 4B

April 2012

**Figure 4 Cultural Resources Within or Adjacent to the Project Area**

**CONFIDENTIAL FIGURES**
***(Confidential – Bound Separately)***

**Enclosure 2 Cultural Resources Reports**

**Note to reader: the following reports were appended to DOE April 18, 2012 letter to SHPO, and are included in the EIS as Appendix D.3 and Appendix D.4, respectively.**

EDAW, Inc. 2010. Final Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project Jacumba, California (May 2010) (this document is provided in EIS Appendix D.3)

AECOM, 2011. Draft Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application Jacumba, California (February 2011) (this document is provided in EIS Appendix D.4)

Appendix D.3 Final Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project Jacumba, California (May 2010)

# FINAL
# ARCHAEOLOGICAL AND HISTORICAL INVESTIGATIONS FOR THE ENERGIA SIERRA JUAREZ U.S. GEN-TIE LINE PROJECT JACUMBA, CALIFORNIA

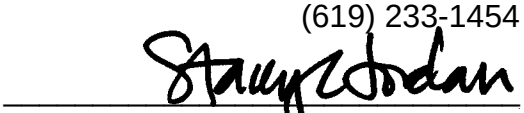
Energia Sierra Juarez U.S. Transmission, LLC
MUP 09-008, Log No. 09-22-001

***Lead Agency:***

County of San Diego
Department of Planning and Land Use
Contact:
Patrick Brown
5201 Ruffin Road, Suite B
San Diego, California 92123
(619) 694-3831

***Preparers:***

Stacey C. Jordan, Ph.D., R.P.A.,
EDAW, Inc.
1420 Kettner Blvd., Suite 500
San Diego, California 92101
(619) 233-1454



Stacey C. Jordan, Ph.D.

With contributions by Ecology & Environment, Inc.

***Project Proponent:***

Energia Sierra Juarez U.S. Transmission, LLC
101 Ash Street, HQ 14
San Diego, California 92101

~~March~~ May 2010

## National Archaeological Data Base Information

| | |
|---|---|
| Authors: | Stacey C. Jordan with contributions by Ecology & Environment, Inc. |
| Firm: | EDAW, Inc. |
| Client/Project Proponent: | Energia Sierra Juarez U.S. Transmission, LLC |
| Report Date: | May 2010 |
| Report Title: | Draft Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California |
| Type of Study: | Intensive Pedestrian Survey and Phase I Testing |
| New Sites: | CA-SDI-19480, CA-SDI-19484, CA-SDI-19485, CA-SDI-19486, CA-SDI-19488, CA-SDI-19489, CA-SDI-19490, CA-SDI-19492, CA-SDI-19493, CA-SDI-19494, P-37-30672, P-37-30673, P-37-30674, P-37-30675, P-37-30678 |
| Updated Sites | CA-SDI-6119 |
| USGS Quad: | In-Ko-Pah Gorge 1975 |
| Acreage: | Approximately 71.81 acres |
| Permit Numbers: | MUP 09-008, Log No. 09-22-001 |
| Key Words: | Intensive pedestrian survey, Phase I testing; ceramic scatter, lithic scatter, lithic reduction area, quarry, CA-SDI-6119, CA-SDI-19480, CA-SDI-19484, CA-SDI-19485, CA-SDI-19486, CA-SDI-19488, CA-SDI-19489, CA-SDI-19490, CA-SDI-19492, CA-SDI-19493, CA-SDI-19494, P-37-30672, P-37-30673, P-37-30674, P-37-30675, P-37-30678 |

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APPENDICES

## LIST OF FIGURES



## LIST OF TABLES

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ACEC | Area of Critical Environmental Concern |
| amsl | above mean sea level |
| APE | Area of Potential Effect |
| B.P. | Before Present |
| CEQA | California Environmental Quality Act |
| County | County of San Diego Department of Planning and Land Use |
| CRHR | California Register of Historical Resources |
| CWA | Clean Water Act |
| DPR | Department of Parks and Recreation |
| E&E | Ecology and Environment, Inc. |
| ECO Substation | East County Substation |
| EDAW | EDAW, Inc. |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| ESJ | Energia Sierra Juarez |
| ESJ U.S. | Energia Sierra Juarez U.S. Transmission, LLC |
| ENSO | El Niño Southern Oscillation |
| FAA | Federal Aviation Administration |
| Gen-Tie Line | generator interconnection line |
| GPS | Global Positioning System |
| ha | hectares |
| kV | Kilovolt |
| Local Register | San Diego County Local Register of Historical Resources |
| MW | megawatts |
| NAHC | Native American Heritage Commission |
| NRHP | National Register of Historic Places |
| O&M | operations and maintenance |
| ROW | right-of-way |
| R.P.A. | Register of Professional Archaeologist |
| RPO | San Diego County Resource Protection Ordinance |
| RWQA | Regional Water Quality Board |
| SCIC | South Coastal Information Center |
| SDG&E | San Diego Gas & Electric |
| SIC | Southeast Information Center |
| SDSU | San Diego State University |
| STP | Shovel Test Pit |
| SWPL | Southwest Powerlink |
| SWPPP | Stormwater Pollution Prevention Plan |
| TEU | Test Excavation Unit |
| U.S. | United States |
| U.S.G.S. | United States Geological Survey |

## MANAGEMENT SUMMARY

### Project Description

For the purposes of this Cultural Resources Technical Report, the "project" refers to the Gen-Tie right-of way (ROW) (Route A1, Route A2, Route D1, and Route B2) and the access road (Route PA Options A and B).

Energia Sierra Juarez (ESJ) U.S. Transmission, LLC, proposes the construction, operation and maintenance of a less than one-mile electric generator-tie line from the Mexico border to a substation adjacent to the Southwest Powerlink (SWPL) 500 kV transmission line in Eastern San Diego County (see Figures 1, 2a, and 2b). This project, known as Energia Sierra Juarez U.S. Gen-Tie project (ESJ Gen-Tie Project) is proposed by ESJ U.S. In August of 2009, SDG&E submitted a Proponents Environmental Assessment (PEA) with the proposed "ECO Substation" location. Subsequently, SDG&E proposed an "ECO Substation Alternative" that was located approximately 100 meters to the northeast. The proposed ESJ Gen-Tie Project proposes two sets of gen-tie routes based upon the East County Substation (ECO Substation) location and the ECO Substation Alternative location. The "ESJ Gen-Tie" route consists of Routes A1 and A2. The "ESJ Gen-Tie Alternative" route consists of Routes D1 and D2. Each set consists of a single circuit 500 kV line (Route A1 or Route D1) or double-circuit 230 kV line (Route A2 or Route B2). The route that is ultimately selected would be supported on three to five 150 foot steel lattice towers or up to 170-foot steel monopoles. Currently, Routes A1 and A2 are proposed to be supported by five steel lattice towers or steel monopoles and Routes D1 and B2 are proposed to be supported by three steel lattice towers or steel monopoles. Figure 3a shows the alignments and project features for Routes A1 and A2 and Figure 3b shows the alignments and project features for Routes D1 and B2. The proposed Gen-Tie would have the capacity to interconnect up to 1250 MW of future renewable energy produced by generators located in Northern Baja California Mexico.

The ESJ Gen-Tie Routes would connect with the proposed ECO Substation and the ESJ Gen-Tie Alternative Routes would connect to the ECO Substation Alternative. The ECO substation is proposed by San Diego Gas and Electric (SDG&E) which in turn would interconnect to SWPL. The ECO Substation will be permitted by the California Public Utility Commission and will be constructed and operated by SDG&E. The ECO Substation is located approximately 0.65 miles north of the U.S. Mexico border and approximately 3.75 miles east of Jacumba in the southeast corner of San Diego County near the Imperial County Line (see Figures 1, 2a, and 2b).

The total length of the generator tie line would be approximately two miles, with approximately one mile in the United States (ESJ Gen-Tie Project) and approximately one mile from the international border to the first point of interconnection in Mexico, at the ESJ Jacume substation in Mexico. An additional overhead static ground wire running

above the conductors would have a fiber optic core for communications between the ESJ Jacume Substation in Mexico and the proposed SDG&E ECO Substation.

## Surveys/Investigations

The project proponent, ESJ U.S., originally contracted Ecology and Environment, Inc. (E&E) to conduct archaeological and historical survey investigations in support of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the proposed project. A records search was conducted by Sandra Pentney of E&E on August 23, 2007 at the South Coastal Information Center (SCIC) located at San Diego State University and by staff of the Southeast Information Center (SIC) at the Imperial Valley College Desert Museum on August 29, 2007. The records searches revealed that 43 previously recorded sites are located within a 1-mile radius of the survey area. The survey area is approximately 1.5 miles from the Table Mountain Historic District and is adjacent to the Jacumba Discontiguous Archaeological District. One previously recorded cultural resource, CA-SDI-6119, was mapped in the project area, intersecting with the Option A and Option B Access Road alignments.

E&E staff conducted pedestrian archaeological and historical survey investigations on January 16, 17, and 18, 2008, with additional survey conducted on March 31, 2008. This survey covered approximately 69.25 acres of the proposed project's Area of Potential Effect (APE). Subsequently, ESJ U.S. contracted EDAW, Inc. (EDAW) to conduct additional survey of approximately 2.56 acres of proposed Option A access road right-of-way and incorporate the results of E&E's survey into a County-format cultural resources report authored by a County-approved consultant. The combined 71.81 acres constitutes the proposed project's APE. Prior to conducting additional surveys of the proposed Option A access road alignment on April 3 and 22, 2009, EDAW staff sent a Sacred Lands file search request to the Native American Heritage Commission (NAHC) on March 19, 2009. A response was received on March 30, 2009, and immediately forwarded to the County at their request to establish government-to-government consultation. At the request of the County, Mr. Clint Linton, Kumeyaay representative, and Mr. Preston Arrow-weed, Quechan representative, were contacted by telephone on April 2, 2009, to notify them of the survey and solicit their participation; both declined participation in the survey. Field notes and photographs for the original project survey are on file at E&E. Field notes and photographs for the access road survey are on file at EDAW. Mr. Linton and Mr. Arrow-weed were also contacted by telephone on February 3, 2010 to consult regarding the testing program and findings. Mr. Linton declined participation and, as a result of the discussion with Mr. Arrow-weed, EDAW forwarded Mr. Arrow-weed information on the findings, a project description, a location map, and a response form for any additional comments or questions. Additionally, the western end of the proposed Option B access road alignment, where it diverges from its shared alignment with the proposed Option A access road, was reconnaissance surveyed during the extended recordation and testing of site CA-SDI-6119 and no new resources were observed.

## Area Findings

Results of the combined Phase I cultural resources inventory indicate that 17 cultural resources are present within the project APE. These consist of 11 archaeological sites and six isolates. Identified archaeological sites include six lithic reduction areas (CA-SDI-19480, CA-SDI-19484, CA-SDI-19486, CA-SDI-19488, CA-SDI-19489, and CA-SDI-19492), two lithic scatters (CA-SDI-19490 and CA-SDI-19494), one lithic reduction area with associated ceramics (CA-SDI-19493), one ceramic scatter (CA-SDI-19485), and one probable quarry site consisting of a lithic reduction area and roasting pit (CA-SDI-6119). One of these sites, previously recorded site CA-SDI-6119, was relocated and updated during the survey effort. Because none of the 11 resources have undergone formal evaluation by the County, they are considered "important" resources because of their potential to yield important information on prehistory. Isolates include one historic lead ball (P-37-30670), one ceramic sherd (P-37-30674), and four lithic isolates (P-37-30672, P-37-30673, P-37-30675, and P-37-30678). The County identifies isolates as "Not Important" resources requiring no work beyond appropriate documentation and discussion in the current report. No human remains have been identified in the project area. Department of Parks and Recreation 523 forms have been completed for all newly identified and relocated resources and submitted to SCIC.

## Project Impacts

Four archaeological sites, CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, and CA-SDI-19493, will be directly impacted by the proposed project as currently designed. CA-SDI-6119 will be impacted by construction and maintenance of the Legal Property Access Road, CA-SDI-19488 by construction of proposed Route A2 (230kV), and CA-SDI-19490 and CA-SDI-19493 by construction of proposed Route A1 (500kV). While the project has been designed to minimize impacts to cultural resources, project redesign of the proposed north-south Gen-Tie access roads to avoid impacts to resources, followed by construction monitoring and placement in an open space easement, is recommended to avoid direct impacts to these sites. The remaining site, CA-SDI-19494, faces indirect impacts due to project construction activity and inadvertent ground disturbance. Because further project redesign was not feasible, a testing program was established for sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494. The remaining six sites will not be impacted by the proposed project and can be preserved in open space.

## Site Testing

In coordination with County of San Diego, a testing plan was developed for sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494. The field investigations were conducted between December 14 through December 16, 2009, and preceded according to the general field methods described in the County approved testing plan. Additionally, surface collection was as conducted at site CA-SDI-6119 on January 20, 2010. All collected materials are temporarily curated at EDAW. It is anticipated that the collection will be permanently curated at the San Diego

Archaeological Center pursuant to an accession agreement with the County of San Diego. As a result of the testing program, the data potential of these sites has been exhausted and impacts form the proposed project are reduced to less than significant. This report documents the testing and evaluation effort for these sites. A copy of this report will be sent to SCIC for future researchers.

The western end of the proposed Option B access road alignment, where it diverges from its shared alignment with the proposed Option A access road, was reconnaissance surveyed during the extended recordation and testing of site CA-SDI-6119 and no new resources were observed. However, this section of the Option B alignment will require intensive pedestrian survey of the entire 40-foot wide road easement should this option be selected for construction.

# 1.0 INTRODUCTION

## 1.1 Project Description

For the purposes of this Cultural Resources Technical Report, the "project" refers to the Gen-Tie right-of way (ROW) (Route A1, Route A2, Route D1, and Route B2) and the access road (Route PA Options A and B).

Energia Sierra Juarez (ESJ) U.S. Transmission, LLC, proposes the construction, operation and maintenance of a less than one-mile electric generator-tie line from the Mexico border to a substation adjacent to the Southwest Powerlink (SWPL) 500 kV transmission line in Eastern San Diego County. This project, known as Energia Sierra Juarez U.S. Gen-Tie project (ESJ Gen-Tie Project) is proposed by ESJ U.S. The proposed ESJ Gen-Tie Project proposes two sets of gen-tie routes based upon the East County Substation (ECO Substation) location and the ECO Substation Alternative location. The first set consists of the ESJ Gen-Tie Routes A1 and A2, and the second set consists of the ESJ Gen-Tie Alternative Routes D1 and D2. Each set consists of a single circuit 500 kV line (Route A1 or Route D1) or double-circuit 230 kV line (Route A2 or Route D2). The route that is ultimately selected would be supported on three to five 150 foot steel lattice towers or up to 170-foot steel monopoles. Currently, Routes A1 and A2 are proposed to be supported by five steel lattice towers or steel monopoles and Routes D1 and D2 are proposed to be supported by three steel lattice towers or steel monopoles. Figure 3a shows the alignments and project features for Routes A1 and A2 and Figure 3b shows the alignments and project features for Routes D1 and D2. The proposed Gen-Tie would have the capacity to interconnect up to 1250 MW of future renewable energy produced by generators located in Northern Baja California Mexico.

The ESJ Gen-Tie Routes would connect with the proposed ECO Substation and the ESJ Gen-Tie Alternative Routes would connect to the ECO Substation Alternative. The ECO substation is proposed by San Diego Gas and Electric (SDG&E) which in turn would interconnect to SWPL. The ECO Substation will be permitted by the California Public Utility Commission and will be constructed and operated by SDG&E. The ECO Substation is located approximately 0.65 miles north of the U.S. Mexico border and approximately 3.75 miles east of Jacumba in the southeast corner of San Diego County near the Imperial County Line (see Figures 1, 2a, and 2b).

The total length of the generator tie line would be approximately two miles, with approximately one mile in the United States (ESJ Gen-Tie Project) and approximately one mile from the international border to the first point of interconnection in Mexico, at the ESJ Jacume substation in Mexico. An additional overhead static ground wire running above the conductors would have a fiber optic core for communications between the ESJ Jacume Substation in Mexico and the proposed SDG&E ECO Substation.


Source: ESRI 2009; SANGIS 2008

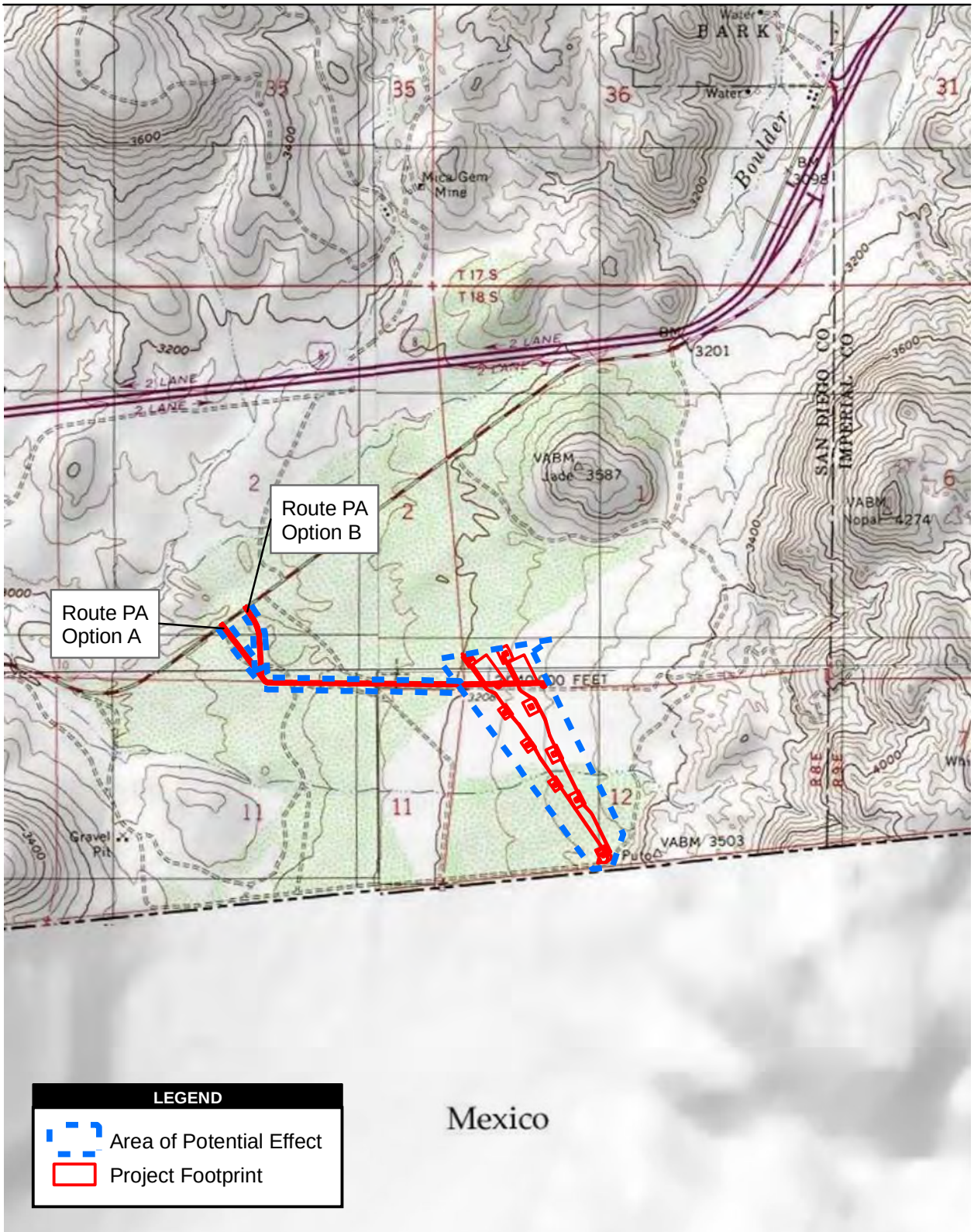
7 3.5 0 7 Miles

Scale: 1 = 693,000; 1 inch = 10.9 mile(s)

**Figure 1**
**Regional Location Map**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Figure1_Regional_Location.mxd, 03/15/10, SorensenJ*




Source: ESRI 2009, USGS Topographic Quadrangle In-Ko-Pah Gorge 1975, Jacumba 1975

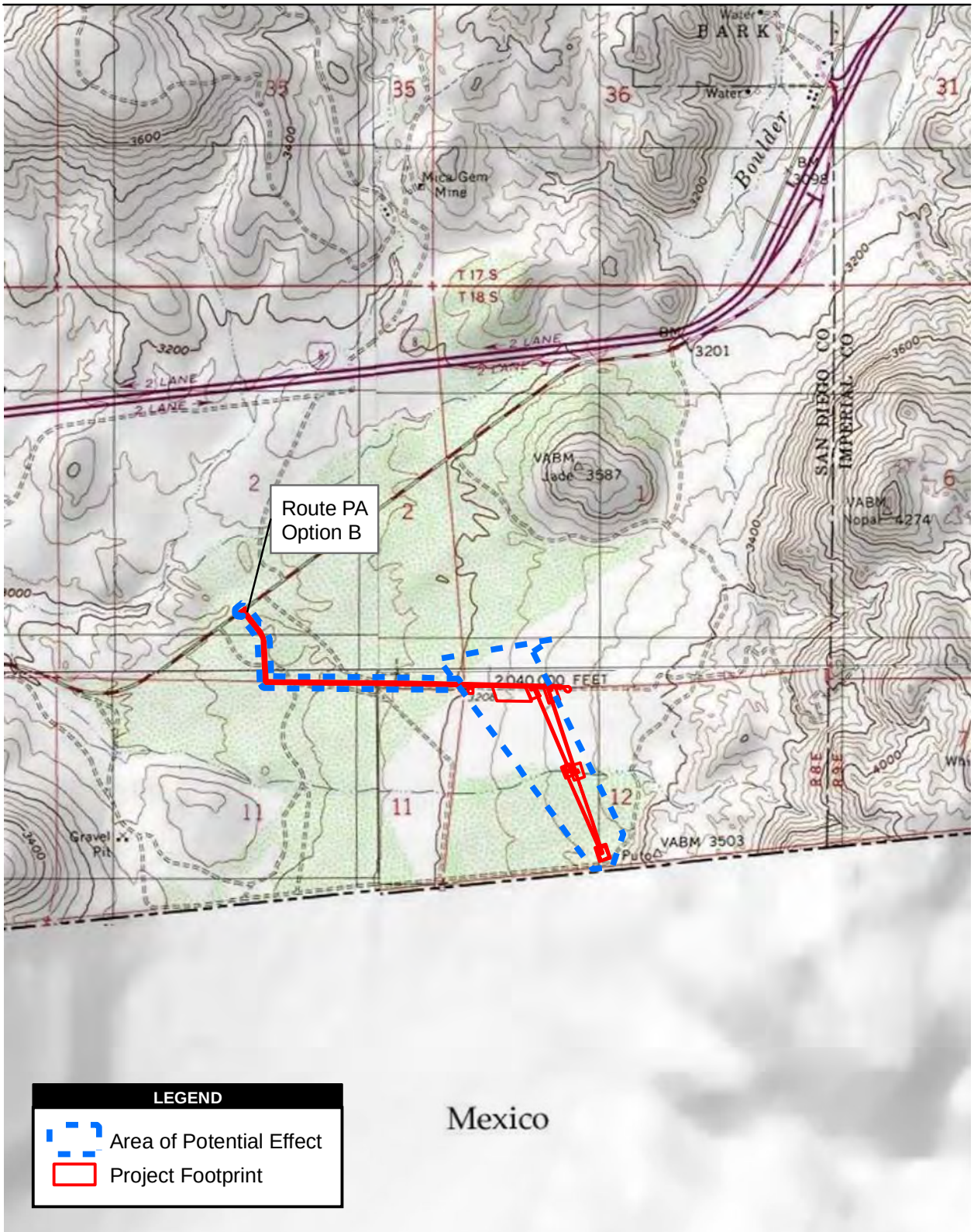
2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

**Figure 2a**
**Project Vicinity**
**ESJ Gen-Tie Routes A1 and A2**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Figure2_Project_Vicinity.mxd, 03/15/10, SorensenJ*




Source: ESRI 2009, USGS Topographic Quadrangle In-Ko-Pah Gorge 1975, Jacumba 1975

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2,000 feet

**Figure 2b**
**Project Vicinity**
**ESJ Gen-Tie Alternative Routes D1 and D2**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Figure2_Project_Vicinity.mxd, 03/15/10, SorensenJ*

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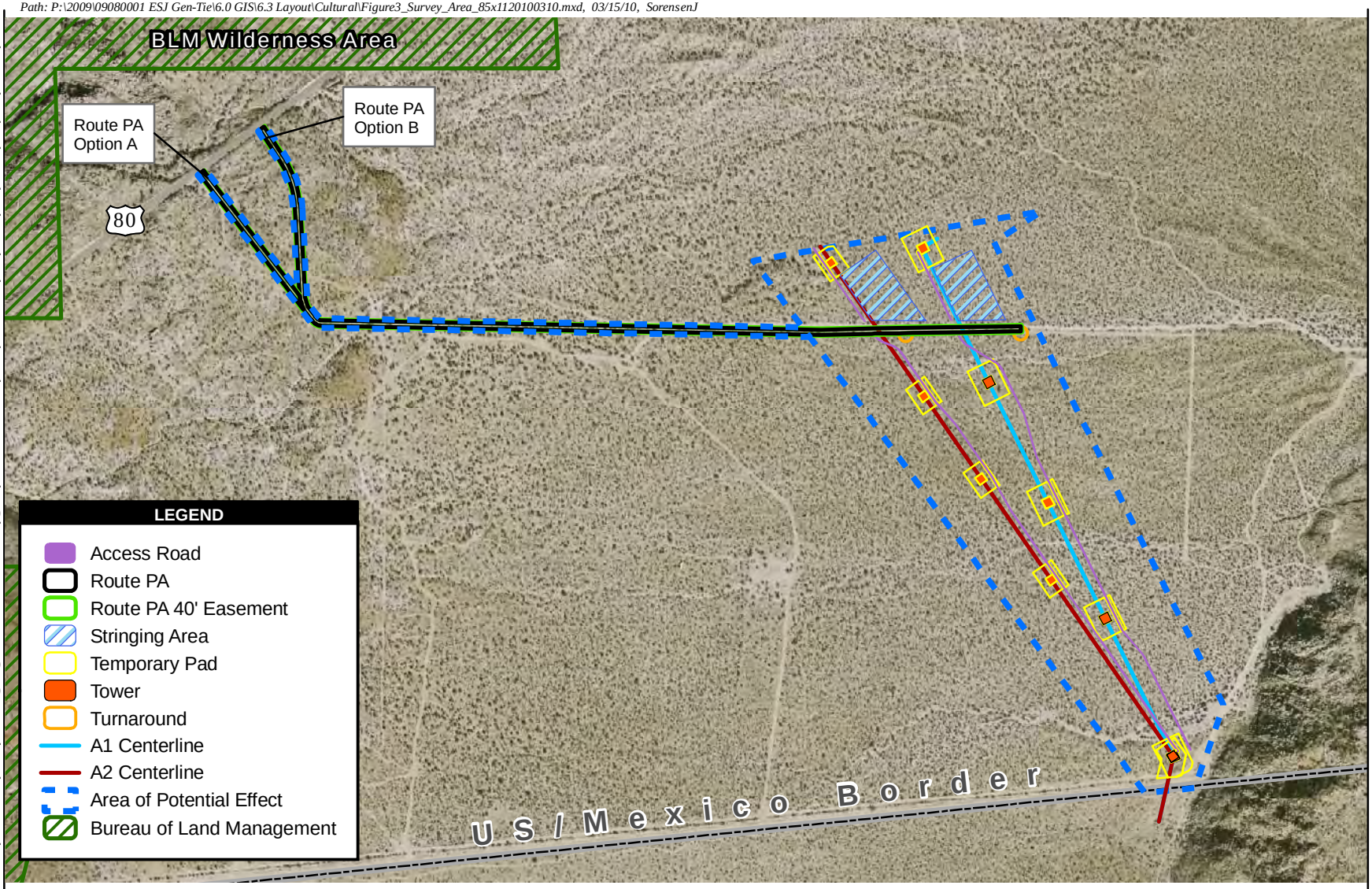


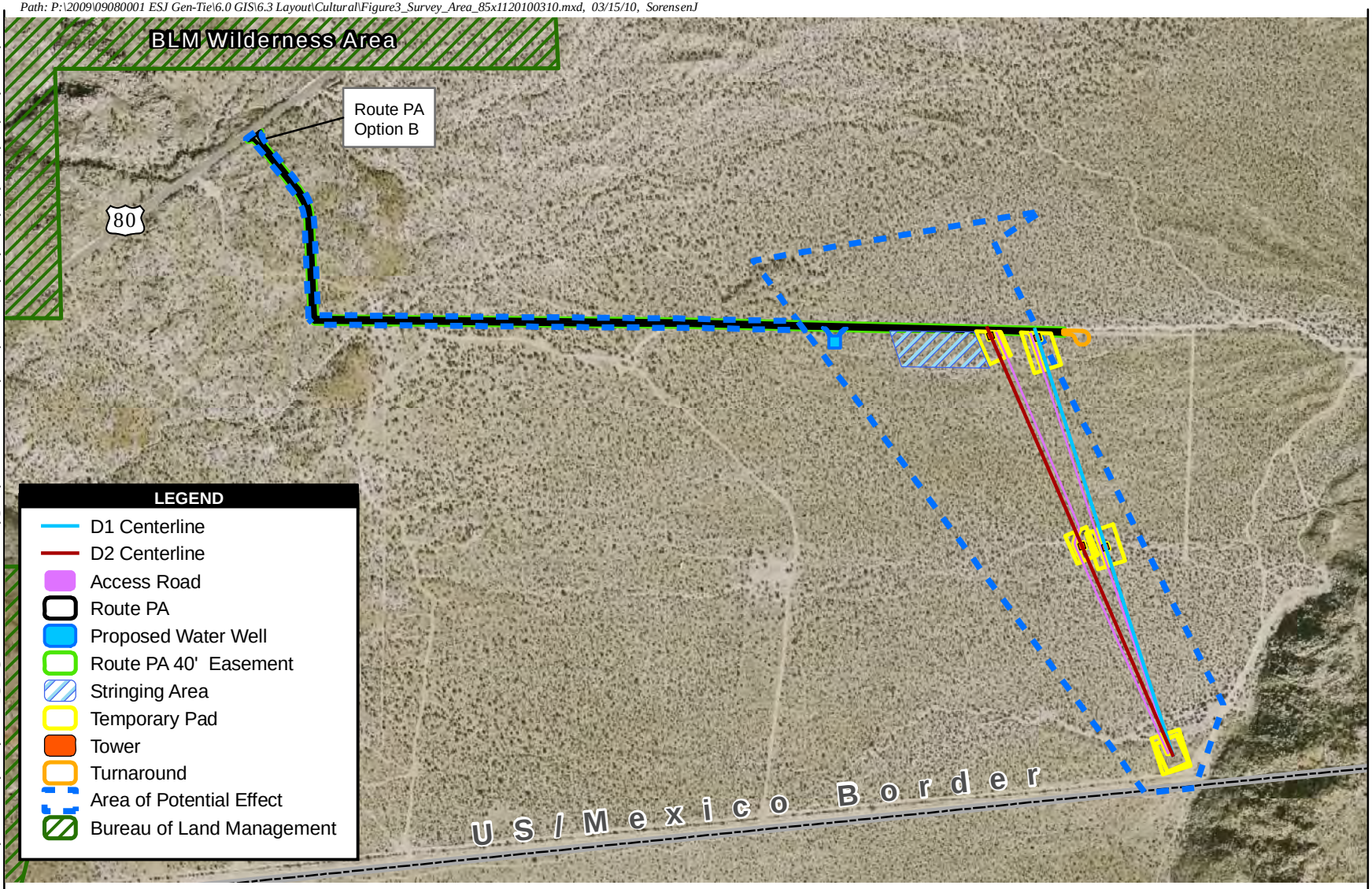

Source: DigitalGlobe 2008, Sempra Energy 2009, SANGIS 2008

800 0 800 Feet

Scale: 1 = 9,600; 1 inch = 800 feet

**Figure 3a**
**Study Area and Site Plan**
**ESJ Gen-Tie Routes A1 and A2**

Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Figure3_Survey_Area_85x1120100310.mxd, 03/15/10, SorensenJ




Source: DigitalGlobe 2008, Sempra Energy 2009, SANGIS 2008

800 0 800 Feet

Scale: 1 = 9,600; 1 inch = 800 feet

**Figure 3b**
**Study Area and Site Plan**
**ESJ Gen-Tie Alternative Routes D1 and D2**

Access to the ESJ Gen-Tie Project area is provided by Old Highway 80. The proposed project has two property access (PA) road options, Option A and B. Option A is the historical property easement; however, the County of San Diego determined this easement did not satisfy the County's Site Distance requirements. Option B satisfies the County of San Diego Site Distance requirements. The locations and alignments for both PA options are shown in Figures 3a and 3b. Both options would require construction of a new 28 foot wide road and turnaround within a 40-foot wide easement, as required by the Rural Fire Protection District. It is possible that the entire 40-foot easement could be impacted during construction of the access road. Disturbed areas within the 40-foot easement, but beyond the 28-foot wide access road, would be revegetated with a native seed mix.

A new Gen-Tie tower access road would be constructed that would parallel the proposed Gen-Tie. The Gen Tie tower access road and foundations for the lattice towers or monopoles would be located entirely within the permanent right-of-way. The Gen-tie tower access road would be an approximately 12-foot wide graded dirt road. Both the property access road and Gen-Tie tower access road would be maintained periodically. This maintenance would include periodic grading and minor repairs.

As noted above, the Gen-Tie would consist of either a single circuit 500 kV line or double circuit 230 kV line. The key features and impacts of each of these alternatives are summarized in Table 1.

Route A1 or D1 (the 500 kV Gen-tie) would be constructed within a 214-foot wide permanent right-of-way. Route A2 or D2 (the 230 kV Gen-tie) would be constructed within a 130-foot permanent right-of way. A 100-foot and 70 foot wide temporary construction easement along the right-of-way was originally proposed for Route A1 and A2, respectively. The temporary easement has been eliminated to minimize disturbed areas.

In lieu of these 100-foot wide (7.72 acres) or 70-foot wide (5.64 acres) temporary easements, the wire stringing site proposed at the north end of the project site immediately adjacent to the property access road, and which was originally identified as having a disturbance of 0.69 acres, would instead be used as a wire stringing site and as a construction laydown and parking area. This consolidated construction laydown/parking/stringing disturbance area would be 1.88 acres for Route A1 and 1.98 acres for Route A2, which is a reduction in impacts in comparison to the 100-foot and 70-foot easements. Route D1 and Route D2 share a common 1.99 acre staging area south of common roadway of both Route PA options (Figures 3a and 3b).

**Table 1. 500 kV and 230 kV Parameters**

| Parameter | 500 kV (Route A1 or D1) Interconnection | 230 kV (Route A2 or B2) Interconnection |
|---|---|---|
| Maximum Capacity | 1250 MW | 1250 MW |
| Number of Circuits | Single Circuit | Double Circuit |
| Minimum Ground Clearance | 39 ft | 34 ft |
| Permanent Right-of-Way | 214 ft | 130 ft |
| Number of Structures | 3 to 5 | 3 to 5 |
| Maximum Spacing Between Structures | 1500 ft | 1500 ft |
| Permanent Impacts at each structure | 150 ft x 200 ft (0.69 acre) | 120 ft x 160 ft (0.44 acre) |
| Permanent Impacts for all structures | 3.45 acres (assuming 5 structures) | 2.20 acres (assuming 5 structures) |
| Maximum Height of Lattice Towers | 150 ft | 150 ft |
| Maximum Base of Lattice Towers | 34 ft x 34 ft | 29 ft x 29 ft |
| Foundation of Lattice Tower at each corner | 3-6 ft diameter | 3-6 ft diameter |
| Maximum Height of Steel Monopoles | 170 ft | 150 ft |
| Foundation of Steel Monopoles | 7-9 ft diameter | 6-9 ft diameter |

Construction impacts would include:

- Clearing, grading, and grubbing;
- Access road and pad construction;
- Digging and drilling for tower foundations;
- Pouring concrete foundations for towers;
- Overhead electrical power system construction; and
- Final grading and site clean-up

Vegetation would be cleared and grubbed along the proposed access roads. Limited grading would be required for the tower/pole pads and the construction laydown/ parking/stringing site (construction staging and wire stringing site). Top soil removed during the grading of the tower areas and construction staging area would be stockpiled in the construction staging and wire stringing site, if necessary. This topsoil would be utilized during final grading of the road and tower areas. Based on preliminary engineering design, grading would require the export of soil.

Gen-Tie towers/poles would be supported on excavated, reinforced concrete foundations. The foundations would be excavated using a backhoe or similar excavation equipment. The maximum area of disturbance at each tower site would be approximately 150 feet by 200 feet, or 0.69 acre at each site, for a total of 3.45 acres of impacts if five structures are installed. This disturbed acreage is based on the 500 kV Route A1 and D1; impacts associated with the 230 kV Route A2 and D2 would be less.

Tables 2a and 2b quantify the amounts of land disturbance for all project components associated with Routes A1 and A2, and Routes D1 and B2, respectively.

### Table 2a. Land Disturbance (Routes A1 and A2)

| Project Components | 500 kV (Route A1) Interconnection | 230 kV (Route A2) Interconnection |
|---|---|---|
| Construction lay-down/ parking/ stringing area | 1.9 acres | 2.0 acres |
| 28-foot Property Access Road and Turn Around[1] | 4.5 acres[2] | 4.5 acres[2] |
| Gen-Tie Tower Access Road | 0.8 acres | 0.9 acres |
| Permanent Impacts (5 towers and 30-foot fire clearing)[3] | 3.45 acres | 2.2 acres |
| Totals | 10.77 acres[4] | 9.72 acres[4] |

1 The 28' Property Access Road is located within a 40' easement. The entire 40' easement could be impacted during construction. Therefore impacts to the entire 40' easement have been assumed for this calculation.
2 Impacts associated with the Property Access Road include Option B in order to provide show the greatest amount of impact.
3 Depending on final design 3-5 towers would be installed. Values are approximate.
4 The total amount of land disturbance shown in this row is larger than the sum of the rows above due to rounding.

### Table 2b. Land Disturbance (Routes D1 and B2)

| Project Components | 500 kV (Route D1) Interconnection | 230 kV (Route B2) Interconnection |
|---|---|---|
| Construction lay-down/ parking/ stringing area | 1.99 acres | 1.99 acres |
| 28-foot Property Access Road and Turn Around[1] | 4.49 acres[2] | 4.49 acres[2] |
| Gen-Tie Tower Access Road | 0.68 acres | 0.65 acres |
| Permanent Impacts (3 towers and 30-foot fire clearing)[3] | 1.32 acres | 2.02 acres |
| Totals | 8.48 acres | 9.15 acres |

1 The 28' Property Access Road is located within a 40' easement. The entire 40' easement could be impacted during construction. Therefore impacts to the entire 40' easement have been assumed for this calculation.
2 Impacts associated with the Property Access Road include Option B in order to provide show the greatest amount of impact.
3 Depending on final design 3-5 towers would be installed. Values are approximate.

In addition to the permanent impact associated with each tower pad, fire protection guidelines require a defensible space of 30 feet on all sides of each tower. Therefore, for purposes of this technical report, the entire project ground disturbance is considered a permanent impact.

Project construction would require approximately 20 to 25 workers per day for up to six months. The bulk of the work would be completed in late 2011 or early 2012. There would be approximately 5 to 15 construction vehicles operating on-site during construction, with approximately 10 to 20 worker vehicles entering or leaving the site each day.

During operation of the facility, minimal personnel (1 or 2) would be required to patrol and visually inspect the Gen-Tie on a periodic basis. Operations and maintenance related traffic would consist of approximately two vehicles entering and leaving the site weekly.

Project construction would require approximately 780,000 gallons of water (assumes use of 2 – 2,500 gallon water trucks per day and a six day work week), for watering of roads and minimizing dust generated from traffic and excavation activities and for aid in soil compaction. It is anticipated that water would be trucked onto the site in tank trucks, although a temporary groundwater well could be drilled for use during construction. Very little water would be needed when the facilities are in operation, and would mainly consist of the occasional pressure washing of the insulators to remove dirt accumulation to minimize arcing.

Road maintenance activities are anticipated to occur no more than twice per year on average, but would be performed on an as-needed basis. No fencing is proposed. However, the Gen-Tie towers would be equipped with devices to prevent climbing on the towers. Warning signs in English and Spanish would alert the public to the electrical hazard.

Project impacts can be summarized as follows. The total disturbance would encompass one of eight possibilities: 10.55 acres for Route A1 and PA Option A, 10.77 acres for Route A1 and PA Option B, 9.50 acres for Route A2 and PA Option A, or 9.72 acres for Route A2 and PA Option B; or 8.37 acres for Route D1 and PA Option A, 8.48 acres for Route D1 and PA Option B, 9.03 acres for Route B2 and PA Option A, or 9.14 acres for Route B2 and PA Option B.

## 1.2 Existing Conditions

### 1.2.1 Environmental Setting

#### Natural

The project site is located approximately 3.75 miles (6.04 km) east of the community of Jacumba and approximately 1.75 miles (2.81 km) northeast of the intersection of Old Highway 80 and Carrizo Gorge Road. An existing west-east dirt road provides access to the proposed project area. Currently the area is used extensively by the U.S. Border Patrol who has created roads to monitor the border fence. Other users of the site are target shooters who have left a consistently spread scatter of shattered clay pigeon debris and people disposing of garbage such as household trash and old appliances.

Precipitation averages 15.58 inches (in.) per year at Jacumba. Most rain falls from November to March. Jacumba experiences its hottest average temperatures in August, with an average maximum of 94 degrees Fahrenheit (°F). January is the coldest month, with an average high of 62°F (Weather Channel 2009).

## Topography

The proposed project is in the Desert Slopes ecological subsection of the Southern California Mountains and Valleys ecological subregion in southeastern-most San Diego County. Located on the eastern side of the Peninsular Ranges physiographic region, formed by the large, intrusive La Posta igneous pluton (Walawender and Hanan 1991), the proposed project is situated south of Table Mountain and the Jacumba Mountains and southeast of the In-Ko-Pah Mountains. Generally, the area contains steep to moderately steep mountains with narrow to rounded summits and broad valleys occupied by alluvial fans. The Table Mountain area provides the highest elevations within a 1-mile (1.61-km) radius of the project (3,000 to 4,000 feet [914.4 to1,219.2 meters] above mean sea level [amsl]) with slope gradients of up to 40 percent (Cook and Fulmer 1980). Although human uses have been found virtually anywhere in the level areas, site locations are concentrated in the Table Mountain Formation Gravels, at the escarpments of Table Mountain, and on “beaches” along the shores of well-watered drainages at the base of the Southern California Batholith. Concentrations in this area form significant patterns and imply that this geomorphic formation was particularly desirable for human occupation (May 1976).

Elevation at the project site ranges from approximately 3,200 ft amsl at the northwest corner of the footprint to approximately 3,400 ft amsl at the southeast corner. The proposed project site consists of level terrain surrounded by low east-west finger ridges forming the foothills of Blue Angels Peak to the east. The general area includes a hill that slopes down to the west, south, and north. Boulder Creek runs south from the In-Ko-Pah Gorge, located approximately 8.5 miles northeast of the proposed project. This, together with smaller tributary drainages, has been responsible for the alluvial deposits in the general project area. A hill comprising granitic ridge outcroppings and boulders is located to the east of the proposed project.

## Geology

The area began with the Mesozoic aged granitic bedrock of the Southern California Batholith, which was subsequently buried by Early Miocene-age Table Mountain Formation gravels. Subsequently, Late Miocene Jacumba Volcanics erupted to cover both earlier formations, distributing porphyritic pyroclastic materials throughout the region. Quaternary alluviation and Late Pleistocene erosion converted the Table Mountain Formation into ridges and terraces (May 1976). Gray Mountain, in the western portion of the Table Mountain area, is an exposure of the Southern California Batholith. The gravel-covered ridges in the general area are Table Mountain Formation Gravels, with Table Mountain itself composed of more recent intrusive Jacumba Volcanics (May 1976, Cooley 2006, Strand 1962). Overall, this area is predominantly granitic, with

scattered zones of gabbro intrusive and mixed granitic-metamorphic rocks (Underwood and Gregory 2006).

The geology of the region provided raw materials for everyday life in prehistoric San Diego County. The exposed granitic boulders of the Southern California Batholith provide a landscape offering shelter from the elements, secluded locations for caches of cultural items, and canvasses for rock art. Boulder outcrops in well-watered washes, valleys and saddles also served as the raw materials for milling stations to process the region's edible natural resources (May 1976). The ridges, terraces, and benches of the Table Mountain Formation gravels contain porphyritic andesites that provided suitable raw materials for the production of chipped stone tools, and the gravels contained many cobbles that retain heat well for use in roasting pits. Jacumba Volcanics, present in the northern region of the project vicinity, also yield materials such as fine-grained basalts and porphyritic andesite that can be quarried and are suitable for the production of stone tools (May 1976).

Soils

Soils within the general area consist of acid igneous rock, Rositas loamy coarse sand, rough broken land, and sloping gullied land soil associations. The acid igneous rock soil series, deposited during Quaternary alluviation, is present in the southeastern portion of the project vicinity and consists of rough, broken terrain. Large boulders and rock outcrops of granite, granodiorite, tonalite, quartz diorite, gabbro, basalt, or gabbro diorite cover 50% to 90% of the total area of this soil type in San Diego County. The soil material is loamy to coarse sand in texture and is very shallow (0 to 4 inches) over decomposed granite or basic igneous bedrock (U.S. Bureau of Land Management [BLM] 2007; Natural Resources Conservation Service [NRCS] 2007)].

Rositas loamy coarse sand, present in the south-central portion of the project site, consists of somewhat excessively drained, variable-depth (0 to 60 inches) loamy coarse sands derived from Quaternary granitic alluvium (BLM 2007; NRCS 2007). Rough broken land, present in the central and northeast portions of the project site, is made up of well-drained to excessively drained, steep and very steep land dissected by many narrow V-shaped valleys and sharp tortuous divides. Areas of exposed raw sediments are common, and there are areas of very shallow soils (0 to 2 inches). Runoff is rapid to very rapid, and erosion is very high (BLM 2007; NRCS 2007). Sloping gullied land occurs in the desert on alluvial fans adjacent to mountains and is present in the north-central portion of the project site. It consists of a wide variety of material derived from igneous, sedimentary, and metamorphic rocks, with a range of depths between 0 and 60 inches. The texture ranges from clay loam to gravelly, cobbly sand. Limy material has been exposed where gullies have dissected areas of old alluvium. Drainage is good to somewhat excessive. Runoff is medium to very rapid, and the erosion hazard is moderate to high (BLM 2007; NRCS 2007).

Biota

Plant communities occurring in the project vicinity include juniper woodland and semi-desert chaparral. Semi-desert chaparral habitat is predominant. Common shrub or perennial species in this habitat include jojoba, waterjacket (*Lycium andersonii*), lotebush, ephedra, Gander's cholla, Mojave yucca and creosote (*Larrea tridentata*). Annuals present in the southern portion include dense patches of common goldfields (*Lasthenia gracilis*), desert dandelion (*Malacothrix glabrata*), scale-bud (*Anisocoma acaulis)*, wild heliotrope (*Phacelia distans*), California butterweed (*Senecio californicus*), California coreopsis (*Coreopsis californica* var. californica), and pincushion (*Chaenactis* spp.). Near the northwestern corner of the site, habitat begins to transition into juniper woodland with species such as California juniper, jojoba, lotebush, waterjacket, desert agave, hedgehog cactus (Echinocereus engelmannii), ephedra, and Gander's cholla (*Cylindropuntia ganderi*). The herbaceous cover in this area is fairly sparse and consists primarily of filaree (*Erodium cicutarium*) with scattered individuals of Wallace's woolly daisy (*Eriophyllum wallacei*), chia (*Salvia columbariae*), hydra stick-leaf (*Mentzelia affinis*) and three-lobed starry puncturebract (*Sidotheca trilobata*) (E&E 2009).

Habitat in the area supports abundant populations of small mammals and reptiles as indicated by frequent sightings of small rodent burrows and lizards. Snake species with ranges overlapping the project site include rattlesnake (*Crotalus* spp.), California kingsnake (*Lampropeltis getula californiae*), coachwhip (*Masticophis flagellum*), nightsnake (*Hypsiglena torquata*), gopher snake (*Pituophis catenifer*), and long-nosed snake (*Rheinocheilus lecontei*). Lizard species include western banded gecko (*Coleonlyx variegatus*), side-blotched lizard (*Uta stansburiana*), and tiger whiptail (*Aspidoscelis tigris*) (California Herps 2008). None of these species were detected during the site visits. Several species of birds likely use the area seasonally and during the flowering and fruiting season of local vegetation, including ladder-backed woodpecker, red-tailed hawk, common raven, western scrub jay, horned lark, Scott's oriole, northern mockingbird, ash-throated flycatcher, western kingbird, black-throated sparrow, and white-crowned sparrow. Mammals likely to be found within the area of the proposed project include black-tailed jackrabbit and coyote (E&E 2009).

## Cultural

Regional Prehistory

*Paleoindian*

The prehistory of the east San Diego County region is generally divided into three major periods of occupation: Paleoindian, Archaic, and Late Prehistoric. An earlier pre-projectile point (pre-Paleoindian) culture was proposed by Malcolm Rogers who used the term Malpais – later reclassified as San Dieguito I – to refer to very early materials (Rogers 1939). Malpais materials consist of very heavily varnished choppers, scrapers,

and other core-based tools typically found on old desert pavement areas. Many scholars are skeptical of these posited early occupations (e.g., Schaefer 1994).

The first well-documented cultural tradition in southern California is the San Dieguito complex (12,000 to 7,000 years before present [B.P.]). The type site is on the San Dieguito River in north-coastal San Diego County. The San Dieguito complex has been radiocarbon dated here at 9,030 B.P., but most scholars assume that it began a few thousand years earlier (Underwood and Gregory 2006). Related materials have been found in the Mojave Desert and in the Great Basin, sometimes called the Lake Mojave complex (e.g., Campbell et al. 1937; Warren and Ore 1978). Diagnostic artifact types and categories associated with the San Dieguito complex include percussion-flaked core tools and flake-based tools such as scraper planes; choppers; scrapers; crescentics; elongated bifacial knives; and diagnostic Silver Lake, Lake Mojave, and leaf-shaped projectile points (Rogers 1939).

In areas adjacent to the coast, many Paleoindian period sites are believed to have been covered by the rise in sea levels that began at the end of the Pleistocene. In more inland regions, alluvial sedimentation in valley areas may have covered these materials. Few San Dieguito-Lake Mojave sites in the desert contain subsurface deposits, temporally diagnostic artifacts, or datable material (Hayden 1976; Rogers 1939). Temporal placement of desert sites is based primarily on degree of weathering and patination, and absolute dating has been problematic (Underwood and Gregory 2006).

*Archaic*

Underwood and Gregory (2006) provide a detailed discussion of the Archaic period in the area of the current project, and their research is summarized below. Desert and coastal Archaic period sites have generally been dealt with separately, although there are clear similarities between the two. In the desert, the Archaic can be divided into the Pinto complex (7000 to 4000 B.P.) and the Amargosa or Gypsum complex (4,000 to 1,500 B.P.). The Pinto complex shows evidence of a shift from big game exploitation to a broader-based economy with increased emphasis on the exploitation of plant resources, and is thought to be an adaption to erratic climatic drying of the Altithermal (Grayson 1993, Warren 1984, Warren and Crabtree 1986). Groundstone artifacts are rare; these are typically thin slabs with smooth, highly polished surfaces which “may be platforms upon which fibrous leaves or skins were scraped. They are invariably associated with pulping planes” (Rogers 1939:52-53). Projectile points are distinctive crude, percussion-flaked Pinto series atlatl points. Other lithics include percussion-flaked scrapers, knives, scraper planes, and choppers (Underwood and Gregory 2006).

The subsequent Amargosa or Gypsum complex is characterized by the presence of fine, pressure-flaked Elko, Humboldt, and Gypsum-series projectile points; leaf-shaped points; rectangular-based knives; flake scrapers; T-shaped drills; and occasional large scraper planes, choppers, and hammerstones (Underwood and Gregory 2006). Manos and basin metates became relatively common, and the mortar and pestle were

introduced late in this period (Warren 1984:416). The florescence of tool types and the addition of groundstone hard seed-processing equipment suggest an attempt to adapt to drier desert conditions in the greater Southwest. Most examples of this complex have been found in the southern Great Basin-Mojave Desert.

Archaic period sites are more commonly found in California in coastal areas. These are generally called La Jollan complex sites in coastal San Diego County. As noted in Underwood and Gregory (2006):

> The assemblage is similar to those of the desert Archaic prompting Warren and others (1961:28) and Kowta (1969:68) to suggest that the Altithermal (ca. 8000 B.P. - 5000 B.P.) made the deserts largely uninhabitable at that time. This induced people to migrate to the coast, beginning at approximately 8000 B.P., where they quickly shifted their subsistence strategies to include shellfish and other seashore resources.

Subsistence again shifted to a more intense utilization of hard seeds and other terrestrial resources along the coast in the Late Archaic, when siltation is thought to have reduced available coastal lagoon resources. Further inland, the similar but separately named Pauma complex may represent seasonal inland occupations of coastal La Jollan peoples (Moratto 1984; True 1958, 1980).

*Late Prehistoric*

The incursion of Yuman-speaking people via the Gila/Colorado River drainages of western Arizona is apparent by approximately 2,000 years ago, and subsequent movements westward had great impact on the people of San Diego County (Moriarty 1966, 1967, 1968). This Late Prehistoric period (1,500 B.P. to 450 B.P.) is similarly characterized by two geographic expressions, the transmontane in the desert east of the mountains and the cismontane in the coast and foothill area west of the mountains. Both patterns indicate higher population densities and elaborations in social, political, and technological systems. Culture traits generally associated with this period include increasingly elaborate kinship systems and rock art, including ground figures or geoglyphs (McGuire 1982). Extensive trail systems also indicate connections between the coast and desert for trade, religious activities, and other interactions, peaceful or otherwise (Davis 1961).

The desert manifestation of the Late Prehistoric is broadly referred to as the Patayan pattern (e.g., Waters 1982). Paddle and anvil pottery first appears, likely via the Yuman-speaking Hokan culture of the middle Gila River area (Rogers 1945; Schroeder 1975, 1979). Tizon brownware appears at approximately A.D. 1000 at Mount Laguna, located 24 miles northwest of the project site (Underwood and Gregory 2006). Cottonwood Triangular series projectile points and Desert side-notched series projectile points used in bow and arrow hunting appear at approximately A.D. 800 (1200 B.P). Cremation rather than inhumation also became the burial norm. Artifactual material is

characterized by the presence of arrow shaft straighteners, pendants, comales (heating stones), Tizon Brownware pottery, ceramic figurines, ceramic "Yuman bow pipes," ceramic rattles, miniature pottery, various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, manos and metates, and mortars and pestles.

Subsistence in desert areas is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Vegetation resources included honey mesquite and screwbean mesquite with smaller amounts of palo verde, ironwood and native grasses (Underwood and Gregory 2006).

The proposed project sits in an area of small mountains and valleys on the eastern side of the Peninsular Ranges. Locally, the project site is situated within the area of the Cuyamaca Complex. True (1970) defined Cuyamaca complex based on excavations within Cuyamaca Rancho State Park and collections at the San Diego Museum of Man to differentiate interior San Diego County assemblages from Meighan's (1954) San Luis Rey complex. It is widely accepted that the Cuyamaca complex is associated with the Hokan-based, Yuman-speaking peoples (Diegueño/Kumeyaay) and that the San Luis Rey complex is associated with the Takic Shoshonean- speaking peoples (Luiseño).

The region surrounding the proposed project has extensive evidence of the cultural elaboration that occurred in the Late Prehistoric. In Baja California's Sierra de Juárez Mountains south of the proposed project is the town of La Rumorosa. Like the Jacumba region of the U.S., the La Rumorosa region is one of transition between the mountain and desert environments. Within this region is the site of *El Vallecito*, located approximately 3 miles northeast from the town of La Rumorosa. The site is home to La Rumorosa-style Late Prehistoric petroglyphs and pictographs, as well as other Late Prehistoric artifactual remains like ceramics. This style is associated with the Kumeyaay (often spelled Kumiai in Mexico), whose territory straddled both sides of the present-day U.S.-Mexico border. The La Rumorosa style, which flourished in southeastern San Diego County and northern Baja California, is characterized by rectilinear and curvilinear polychrome designs in red, black, yellow and white. Defining elements include lizard forms, digitate anthropomorphs, circles, sunbursts, rectangular grids, oval grids, simple anthropomorphs, crosses, and rectangles (Hedges 1970).

Ethnographic Background

The project site is in the traditional territory of the Kumeyaay. Also known as Kamia, Ipai, Tipai, and Diegueño, the Kumeyaay occupied the southern two-thirds of San Diego County. The Kumeyaay spoke a Yuman language belonging to the Hokan language family, which includes the lower Colorado River tribes and Arizona groups to whom they are closely related. South of the Kumeyaay, in the vicinity of modern-day Ensenada, are the closely related Paipai. Desert Kumeyaay or Kamia ranged over the Imperial Valley and northeastern Baja California (Underwood and Gregory 2006). As noted in Cooley (2006):

> Early chronicler Gifford (1931) designated the Kumeyaay living in the Jacumba area as the Kamia, who were distinguished by a desert orientation with contacts and travel most frequently between Jacumba and the Imperial Valley. This term has generally been replaced with the designation of eastern Kumeyaay or Tipai, or sometimes Jacumeño (Chace 1980, Cook et al. 1997, Hedges 1975; Langdon 1975; Gifford 1931:2; Luomala 1978). The Jacumeño or Kamia were closely connected to the Quechan on the Colorado River and served as trading partners between the coastal and desert groups using a travel route through the Mountain Springs Grade.

The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that some clans had more than one rancheria and some rancherias contained more than one clan (Bean and Shipek 1978). The Kamia or Desert Kumeyaay relied on hunting and gathering, supplementing that subsistence base with floodplain horticulture along the New and Alamo rivers and at various springs (Underwood and Gregory 2006).

The predominant determining factor for placement of villages and campsites was the ready availability of water, preferably on a year-round basis, with seasonal movements to exploit available food resources. Inland bands could travel to the coast to fish and gather salt, then shift to desert areas in the spring to gather agave (*Agave deserti*), moving to higher altitudes later in the year to gather seasonally available acorns and pine nuts (Cline 1984; Shipek 1991). Several large villages have been documented within the region through ethnographic accounts and archaeological investigations in the area. These include *Pa'Mu* northeast of Ramona; *Tukmak*, located near Mesa Grande, and *Pauba*, located between the previous two villages (Cooley and Barrie 2004; Kroeber 1925:590-591). Most important was likely the village of *Hakum*, the source of the word "Jacumba." Like many prehistoric villages, its location is not certain. However, it has been postulated that the large, complex archaeological site CA-SDI-4455, situated in the hills immediately west of Jacumba, is likely the village of *Hakum* (Cook et al. 1997:8).

Historic Period

The Spanish period in California (1769-1821) represents a time of European exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the Mission San Diego de Alcalá along the coast. The mission system introduced horses, cattle, and other agricultural goods and implements to the area. It also disrupted traditional native lifeways, and many Native American populations became tied economically to the colonists. Contact with the interior came later, when Pedro Fages lead a Spanish expedition through what is now Eastern San Diego County in 1785. Despite the lack of early interaction between colonists and interior Native Americans, the Jacumeño were already hostile to the Spaniards and in alliance with other native groups, actively resisting Spanish rule in the area by the time of Fages'

expedition. Still, during their period of governance the Spaniards had little involvement in the eastern areas of the county.

The cultural systems and institutions established by the Spanish continued to influence the region beyond 1821, when California came under Mexican rule. The Mexican period (1821-1848) retained many of the Spanish institutions and laws; the mission system, however, was secularized in 1834. Secularization allowed for increased Mexican settlement, with large tracts of land granted to individuals and families, and establishment of a rancho system based on cattle grazing (Pourade 1963). Secularization also meant that many Native Americans were further dispossessed. The Native Americans of the eastern mountain areas began to have hostile interactions with the Mexican settlers who began to enter the area. By this time, contact had led the Eastern Kumeyaay to incorporate domestic livestock, especially horses and cattle, procured through raids. Anglo-European contact also led to the adoption of agriculture, replacing the previous subsistence system based on hunting and gathering.

In San Diego County, cattle ranching dominated agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established at the former Presidio's settlement along the San Diego River in 1834. Just over a decade after that occasion, however, Mexican rule in California ended. The Mexican-American War began in 1846, following Texas' declaration of Republic status, breaking from Mexican governance. The conflict expanded to California, and Mexico ceded its California territory to the United States as part of the Treaty of Guadalupe-Hidalgo at the war's end in 1848.

At the start of American rule in 1848, gold was discovered in California and American immigration began in earnest. Few Mexican ranchos remained intact because of land claim disputes. The homestead system encouraged American immigration to the west and brought further settlement in the inland mountain areas. Mid-century saw the Jacumba area become a focal point of contact. It was situated along a well-travelled road from San Diego to Fort Yuma which served as the military mail route. The Jacumba station kept horses for the mail carriers who traveled the route, and had come under increasing attack by local Native Americans. In the early 1850s, Old Town settler James McCoy was sent to Jacumba with 14 men to protect the mail line from Native American raids. McCoy and his men constructed a fort there to protect the station garrison (Sullivan 1977). The Jacumeño, who had continued to resist European and Anglo rule through both the Mexican and American Periods, were finally subdued in 1880 and evicted from the Jacumba area (Cook et al. 1997).

The San Diego & Arizona Railway arrived in the area in 1919, with a station in Jacumba. This transportation innovation was soon followed by the formal establishment of Highway 80 for automobile transportation. Following much of the route of the Old Plank Road that had been maintained by travelers in eastern San Diego and Imperial Counties, the original alignment of the highway was in place by 1919. A "second

generation" of the highway was built in the 1920 and 1930s, now known as Old Highway 80 (County of San Diego n.d.). The highway brought new traffic to Jacumba. A hot springs spa was established at Jacumba's natural spring, giving roots to the town. Now easily connected to distant markets, stock raising and dairy farming became important pursuits for the area's residents (Cook et al. 1997). The Jacumba Hot Springs Resort became a local tourist attraction beginning in the 1920s, hosting Hollywood celebrities, and spawned hotels, a race track and other recreational facilities in Jacumba (Cooley 2006). Following World War II, the popularity of the resort began to decline. The construction of Interstate 8 in 1967, bypassing Jacumba, marked the end of the town's glory days (Chace 1980).

### 1.2.2 Records Search Results

A records search was conducted by Sandra Pentney of E&E on August 23, 2007 at the South Coastal Information Center (SCIC) located at San Diego State University and by the staff of the Southeast Information Center (SIC) at the Imperial Valley College Desert Museum on August 29, 2007. The archival searches consisted of an archaeological and historical records and literature review. The data reviewed included historic maps, the California Inventory of Historic Places, and National Register of Historic Places (NRHP) information for the area of the proposed project. The search included a 1-mile radius surrounding the project site. This research provides a background on the types of sites that would be expected in the region. The research was also used to determine whether previous surveys had been conducted in the area and what resources had been previously recorded within the project limits. A records search confirmation letter was received from SIC and is included in Appendix A. No confirmation letter from SCIC was available from E&E; the SCIC NADB list and E&E's records search map are instead included in Appendix A.

#### Previous Investigations

Thirty-five cultural resources studies have been conducted within a one-mile radius of the project site (Table 3). Two studies, Wirth Associates (1981) and Cook and Fulmer (1980) include the study area. Wirth Associates (1981) consisted of linear survey for a proposed transmission line, and runs through the project site's northern boundary. A portion of the Jacumba Discontiguous Archaeological District, discussed below, was recorded adjacent to the current project site as part of this study. Cook and Fulmer (1980) involved a Class II cultural resources inventory of much of eastern San Diego County including the southeastern corner where the current project site is located. It does not appear that survey transects for this study included the project site, and no sites were identified within or adjacent to the proposed project as part of this inventory.

## Table 3. Previous Investigations within a 1-Mile Radius of the Project APE

| Author | Title | Date | NADB Document Number |
|---|---|---|---|
| Arrington | Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California. | 2006 | 1130551 |
| Barker | Preliminary Archaeological … [missing] | n.d. | 1100011 |
| Bull and von Werlhof | Cultural Resource Study of a Proposed Electric Transmission Line from Jade to the San Hills, Imperial County, California. | 1981 | 1100233 |
| Bureau of Land Management | Table Mountain District National Register of Historic Places. | 1980 | 1122626 |
| Bureau of Land Management | Proposed Resource Management Plan and Final Environmental Impact Statement – South Coast. | 1992 | 1122473 |
| Bureau of Land Management | Final Environmental Assessment for the Table Mountain Study Area Wind Energy Development. | 1984 | 1122065 |
| Bureau of Land Management | Table Mountain Area of Critical Environmental Concern Management Plan. | 1984 | 1122064 |
| Bureau of Land Management | EA Number CA-067-EA99-19. Wilderness Reclamation. | 2001 | 1100890 |
| Caterino | The Cemeteries and Gravestones of San Diego County: An Archaeological Study. | 2005 | 1129506 |
| Cook and Fulmer | Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California. | 1980 | 1125760 |
| Gallegos and Ni Ghabhlain | Cultural Resource Literature Review for the Rural Highway 94 Corridor, Jacumba-Jacume Port of Entry San Diego County, California. | 1999 | 1124166 |
| Hillier and Zorkman | Final Record of Decision for the Table Mountain Wind Energy Study. | 1984 | 1121818 |
| Johnson | An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County. | 1976 | 1121267 |
| Lambert | Historic Resource Report: CA07/Hendrix Peak Intersection of Interstate 8 and Carrizo Gorge Road, Jacumba, Imperial County, California. | 2004 | 1100957 |
| May | Hwi-Nip-Shish: A settlement and Land Use Pattern Model for the Table Mountain Complex Near Jacumba, California. | 1976 | 1121815 |
| McCoy and Thesken | Archaeological Survey of the Mazzanti Property, Jacumba, California. | 1979 | 1121318 |
| Mitchell | Archaeological Reconnaissance Report: Ryerson Frink Pit Site, Mineral Sales. | 1998 | 1100431 |
| SRS, Inc. | Archaeological Report – Volume I Data Presentation on the Survey, Surface Collection and test Excavation of the Archaeological Resources on the Mazzanti Property, Located in the Jacumba Area of the County of San Diego. | 1982 | 1121463 |

**Table 3. (continued)**

| Author | Title | Date | NADB Document Number |
|---|---|---|---|
| Shackley | Environment and Behavior: Agave Desert Procurement in the In-ko-pah Gorge Area, San Diego and Imperial Counties, California. | 1982 | 1125229 |
| Shackley | Volume I: Phase II Archaeological Survey of the Mountain Springs (Jade) to Sand Hills Portion of the APS/SDG&E Interconnection Project 500 kV Transmission Line. | 1982 | 1100279 |
| Shackley | Volume III: Site Documentation (Field Notes, mapping Books, Etc.), Data Recovery on the Mountain Springs (Jade) to the Sand Hills Segment: Southwest Powerlink Project. | 1983 | 1100314 |
| Shackley | Volume IV: Site Documentation (Field Notes, mapping Books, Etc.), Data Recovery on the Mountain Springs (Jade) to the Sand Hills Segment: Southwest Powerlink Project. | 1984 | 1100315 |
| Shackley | Volume II: Appendices, Data recovery on the Mountain Spring (Jade) to San Hills Segment: Southwest Powerlink Project. | 1984 | 1100316 |
| Shackley | Volume I: Archaeological Investigations in the Western Colorado Desert: A Socioecological Approach: Data recovery on the Mountain Spring (Jade) to San Hills Segment: Southwest Powerlink Project. | 1984 | 1100319 |
| Taylor | Archaeological Survey Report and National register of historic Places Eligibility Assessment Imperial Irrigation District Coachella-Midway-East Mesa 230 kV Transmission Line Project Riverside and Imperial Counties, California. | 1987 | 1100387 |
| Townsend | Miguel to Mountain Springs Grade (Jade) Archaeological Survey Report. | 1981 | 1124902 |
| Townsend | Southwest Powerlink Cultural Resources Management Plan. | 1984 | 1100310; 1123836 |
| Townsend | Southwest Powerlink Cultural Resources Management Plan. Volume III-B. | 1984 | 1100310 |
| Townsend | Southwest Powerlink Cultural Resources Management Plan. Volume II. | 1984 | 1100311 |
| Townsend | Prehistoric Lifeways in the Jacumba Valley. Volumes I and II and Appendices. | 1986 | 1122492 |
| Weaver | Sundesert Nuclear Project – Archaeological Inventory and Assessment of Two Alternative Corridor Segments (Alignment 43 and 44) in the In-ko-pah Gorge Area, Imperial and San Diego Counties, California. | 1976 | 104482 |
| White | Documentation of the Phase II (Plant Site to Devers and Miguel Substations) Archaeological Inventory Report (Draft). | 1978 | 1121509 |
| Wirth Associates | Jacumba Archaeological District. | 1981 | 1128602 |
| Wirth Associates | IN-ko-pah Gorge Discontinuous Archaeological District. | 1982 | 1100588; 1101068 |
| Wirth Associates | Jacumba Archaeological District. | 1987 | 1124401 |

## Previously Recorded Cultural Resources

The general area and surroundings are very rich in prehistoric cultural resources and have some notable historic era resources. This richness is caused by an intersection of eco-zones and geological formations resulting in an abundance of food and tool resources in the nearby Table Mountain and Jacumba Valley areas. The abundance of these resources attracted human populations who used the landscape in a variety of ways including long term habitation, short term campsites, agave and other plant processing areas, quarries for stone tool materials, and lithic workstations.

The results of the records search revealed that 55 resources have been recorded within a one-mile radius of the ESJ U.S. Gen-Tie project area (Table 4). One previously recorded resource, CA-SDI-6119, appears to be adjacent to or intersect with the proposed Option A and Option B property access road alignments in the western portion of the proposed project APE. This resource is discussed below. No other resources were previously recorded within or directly adjacent to the proposed project APE. This, however, is likely a reflection of the paucity of cultural resources investigations conducted within the project area, and the potential for resources remains high. Portions of the Table Mountain Historic District and the Jacumba Discontiguous Archaeological District are located within a one-mile radius of the project site, and are discussed below.

### Table 4. Previously Recorded Cultural Resources within a 1-Mile Radius of the Project APE

| Primary Number (P-) | Permanent Trinomial (CA-) | Site Description | Site Dimensions | Reference |
|---|---|---|---|---|
| 13-000181 | IMP-181 | Cleared circles | 6 m x 3 m | Miller 1976 |
| 13-002431 | IMP-2,431 | Temporary camp; milling station | N/A | Hatley1976 |
| 13-002615 | IMP-2,615 | Milling station | 30 sq. m | RW 1976 |
| 13-002616 | IMP-2,616 | Lithic and ceramic scatter | 15 sq. m | RW 1976 |
| 13-003694 | IMP-3,694 | Isolate – scraper | 1 m x 1 m | Walker and von Werlhof 1979 |
| 13-003695 | IMP-3,695 | Ceramic scatter | 135 sq. ft. | Walker 1979 |
| 13-003696 | IMP-3,696 | Lithic and Ceramic scatter | 12 m x 10 m | Walker 1979 |
| 13-003697 | IMP-3,697 | Isolate – Core | 0.5 m x 0.5 m | Talley 1979 |
| 37-000175 | SDI-175 | Lithic quarry | 3 miles dia. | Treganza 1930/40s |
| 37-000176 | SDI-176 | Habitation site; milling features; possible cremations | 230 m x 120 m | Hector, Moslak and Pallette 2006; Treganza 1930/40s |

## Table 4. (continued)

| Primary Number (P-) | Permanent Trinomial (CA-) | Site Description | Site Dimensions | Reference |
|---|---|---|---|---|
| 37-000178 | SDI-178 | Ceramic Scatter (not relocated and suggested to be mapped incorrectly) | Undetermined | Hector, Moslak and Pallette 2006; Treganza 1930/40s |
| 37-000179 | SDI-179 | Ceramic scatter | 1 mile x 0.5 mile | Treganza 1930/40s |
| 37-001080 | SDI-1,080 | Possible Rancheria; pictographs | 220 ft x 100 ft | May 1978; Bryan 1963 |
| 37-002720 | SDI-2,720 | Unknown | 200 sq. m | Prewitt 1964 |
| 37-004477 | SDI-4,477 | Temporary camp | 1001-5000 sq. m | Hector, Moslak and Pallette 2006; Easland 1976 |
| 37-004448 | SDI-4,448 | Temporary camp | N/A | Waldron 1976 |
| 37-006098 | SDI-6,098 | Lithic quarry | 100 m x 50 m | RW 1976 |
| 37-006099 | SDI-6,099 | Temporary camp; milling station | 100 m x 50 m | RW 1976 |
| 37-006115 | SDI-6,115 | Temporary camp | N/A | RW 1976 |
| 37-006116 | SDI-6,116 | Lithic and ceramic scatter, agave roasting pits | 200 m x 150 m | SWCA and Applied Earthworks 2008 |
| 37-006117 | SDI-6,117 | Agave roasting pit | 2.5 m x 2.5. m | RW 1976 |
| 37-006118 | SDI-6,118 | Lithic scatter | 5 m x 5 m | RW 1976 |
| 37-006119 | SDI-6119 | Lithic quarry | 100 m x 50 m | RW 1976 |
| 37-006120 | SDI-6,120 | Milling station | 50 m x 50 m | RW 1976 |
| 37-006191 | SDI-6,191 | Milling station; lithic and groundstone scatter | N/A | Moore 1978 |
| 37-006740 | SDI-6,740 | Temporary camp; milling station | N/A | Welch 1976 |
| 37-006800 | SDI-6,800 | Roasting pit with ceramic scatter | 20 m x 20 m | May 1978 |
| 37-007059 | SDI-7,059 | Sparse lithic and ceramic scatter | >105,000 sq. m | Hector, Moslak and Pallette 2006 |
| 37-007060 | SDI-7,060 | Temporary camp; lithic quarry | 488 m x 396 m | Hector, Moslak and Pallette 2006; Donovan 1981; Townsend 1979 |
| 37-007061H | SDI-7,061H | Rock enclosure | 1 m x .9 m | SWCA and Applied Earthworks 2008; Dominici 1979 |
| 37-007074 | SDI-7,074 | Lithic scatter | 60 m x 30 m | Moore 1979 |
| 37-007075 | SDI-7,075 | Lithic scatter | 30 m x 20 m | Dominici 1979 |
| 37-007076 | SDI-7,076 | Cairn | 1 m x 1 m | Moore 1979 |
| 37-007077 | SDI-7,077 | Lithic scatter | 25 m x 10 m | Moore 1979 |

**Table 4. (continued)**

| Primary Number (P-) | Permanent Trinomial (CA-) | Site Description | Site Dimensions | Reference |
|---|---|---|---|---|
| 37-007078 | SDI-7,078 | Isolate – hammerstone and core | 1 m x 1 m | Donovan 1979 |
| 37-007079 | SDI-7,079 | Lithic and groundstone scatter | 70 m x 40 m | Moore 1979 |
| 37-007081 | SDI-7,081 | Lithic scatter | 333 m x 166 m | Crotteau 1979 |
| 37-007082 | SDI-7,082 | Lithic scatter | 10 m x 10 m | Crotteau 1979 |
| 37-007083 | SDI-7,083 | Ceramic scatter | 1.5 m x 1.5 m | Moore 1979 |
| 37-008306 | SDI-8,306 | Ceramic cache; projectile point | N/A | Bianchi and Jones 1976; Treganza 1950 |
| 37-008307 | SDI-8,307 | Ceramic scatter | 10 m x 3 m | Walker 1979 |
| 37-008309 | SDI-8,309 | Ceramic scatter | 2.5 sq. ft. | Walker 1979 |
| 37-009102 | SDI-9,102 | Lithic scatter | N/A | Welch 1981 |
| 37-009163 | SDI-9,163 | Historic trash scatter | 2 m x 3 m | Hawkins 1981 |
| 37-009164 | SDI-9,164 | Lithic and ceramic scatter; historic railroad spike | 10 m x 7 m | Donovan 1981 |
| 37-009170 | SDI-9,170 | Isolate – core | 1 m x 1 m | Pierce 1981 |
| 37-009187 | SDI-9,187 | Milling; lithic and ceramic scatter | 160m x 45 m | Palmer 1981 |
| 37-009188 | SDI-9,188 | Temporary camp; milling feature | 150 m x 55 m | Palmer 1981 |
| 37-009189 | SDI-9,189 | Lithic and ceramic scatter; roasting pit | 80 m x 70 m | Palmer 1981 |
| 37-009343 | SDI-9,343 | Temporary camp | 75 m x 10 m | May 1976 |
| 37-019193 | SD-15,879 | Lithic scatter | 30 m x 10 m | Andrews 2000 |
| 37-027805 | SDI-18,065 | Historic Mine | 20 m x 85 m | Hector, Moslak and Pallette 2006; |
| 37-027806 | SDI-18,066 | Lithic scatter | 215 m x 80 m | Hector, Moslak and Pallette 2006; |
| 37-027807 | SDI-18,067 | Historic Mica Gem Mine | 100 m x 35 m | Hector, Moslak and Pallette 2006; |
| 37-027809 | SD-18,069 | Historic structures and debris | N/A | Hector, Moslak and Pallette 2006; |

## CA-SDI-6119

Site CA-SDI-6119, consisting of a lithic scatter and roasting pit, was documented as a probable quarry site in 1976 during an unidentified survey; the recorder is marked only by the initials “RW.” This site is located approximately 100 m south of Old Highway 80. A hand drawn sketch map shows the site directly north of the Property Legal Access Road Option A alternative in the western portion of the project APE.

## Table Mountain District

The Table Mountain Historic District was first documented in 1976 (May 1976) and nominated for the NRHP in 1980 (BLM 1980). The geomorphology of Table Mountain contains varied vegetation communities due to the elevation of the landform. This provides a varied and more stable source of plant resources for human use. The mountain is a remnant volcano surrounded by granitic boulder fields. This provides raw materials for both groundstone and chipped stone tool resources. The large granitic outcroppings also provided areas to construct lean-tos, overhangs, and shelters for habitation and storage (BLM 1980).

The southeastern extent of the Table Mountain Historic District is approximately 1.5 miles (2.41 km) to the north northwest of the project area. The district was defined based on the recordation of 124 sites, 11 of which are said to be permanent village sites (May 1976). While the district is only marginally within the 1-mile (1.61 km) buffer of the project site its presence influences the potential of the project site to contain cultural resources.

Rock art panels and ethnographic documentation also imply that the Table Mountain area had medicinal or religious significance (BLM 1980). Due to the sensitive nature of the Table Mountain Historic District the BLM has designated six sections of public land around the area as an area of critical environmental concern (ACEC) (BLM 1980).

## Jacumba Discontiguous Archaeological District (JDAD)

The proposed JDAD includes 70 sites and 22 isolated finds in a 441-acre (178.46-ha) predominantly linear area (Wirth Associates 1981). Identified during linear surveys for the Southwest Powerlink 500kV line north of the project area, sites in this district are organized somewhat horizontally in four different discontiguous areas, Sections A through D. The easternmost portion of Section D (the easternmost section of the district) falls approximately 1,500 to 1,900 feet north of the northwestern portion of the current project area; one site in the western portion of Section D, CA-SDI-7,060, is located approximately 600 feet north of the proposed access road to the site. No contributing elements of the proposed district are within the current project boundaries.

Lithic quarrying and stone tool manufacture was a major industry in the JDAD; however, temporary camps, base camps, rock cairns, and ceramic scatters are also present (Wirth Associates 1981). Jacumba Valley was an area of intensive trade between the Quechan peoples, located along the Colorado River, and the mountain and desert Kumeyaay who lived in the Peninsular Range and the general project area (Wirth Associates 1981). Carrizo and In-Ko-Pah Gorges were used as trade routes (BLM 1980). The foot traffic that came near the area on the trade routes also acts to increase the probability that cultural resources will be found in the project site.

## 1.3 Applicable Regulations

Various federal, state, and local regulations are applicable to projects located within San Diego County. These regulations are used to assess cultural resources, address adverse impacts to cultural resources, and identify protection measures for these resources. Applicable regulations for addressing these concerns and for determining resource significance include CEQA, the San Diego County Local Register of Historical Resources (Local Register), and the San Diego County Resource Protection Ordinance (RPO). The following sections describe the criteria that a resource must meet to be determined a significant resource or an important resource under each guideline.

### 1.3.1 California Environmental Quality Act

A cultural resource is considered "historically significant" under CEQA if the resource meets the criteria for listing in the California Register of Historical Resources (CRHR). The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR (Public Resources Code §§5024.1, Title 14 CCR, Section 4852). A resource is considered significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Is associated with the lives of persons important in our past; or
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

### 1.3.2 San Diego County Local Register of Historical Resources

The County requires that a resource be assessed for importance at the local level as well as the state level. If a resource meets any one of the criteria outlined in the Local Register, it will be considered important. The criteria are as follows (County of San Diego 2007b):

1. Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;
2. Is associated with the lives of persons important to the history of San Diego County or its communities;

3. Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or

4. Has yielded, or may likely yield, information important in prehistory or history.

### 1.3.3 Resource Protection Ordinance

The County's RPO protects significant cultural resources. The RPO definition of a "Significant Prehistoric or Historic Site" is as follows (County of San Diego 2007b):

> Location of past intensive human occupation where buried deposits can provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious or other ethnic value of local, regional, State or Federal importance. Such locations shall include, but not limited to: any prehistoric or historic district, site, or object included in or eligible for inclusion in the National Register of Historic Places or the State Landmark Register; or included or eligible for inclusion, but not previously rejected, for the San Diego County Historical Site Board List; any area of past human occupation located on public or private lands where important prehistoric or historic activities and/or events occurred; and any location of past or current sacred, religious or ceremonial observances protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code Section 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures, and natural rocks or places which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

The RPO does not allow nonexempt activities or uses damaging to significant prehistoric or historic lands on properties under County jurisdiction. The only exempt activity is scientific investigations authorized by the County. All discretionary projects are required to be in conformance with applicable County standards related to cultural resources, including the noted RPO criteria on prehistoric and historic sites.

## 2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

Section 15064.5(b) of the State CEQA Guidelines identifies adverse environmental impacts to historical resources. The County has prepared guidelines for determining the significance of environmental impacts to cultural resources, based on CEQA and the County RPO. Pursuant to the County of San Diego Guidelines for Determining Significance – Cultural Resources: Archaeological and Historical Resources (2007b), any of the following will be considered a significant impact to cultural resources:

1. The project, as designed, causes a substantial change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alterations of characteristics or elements of a resource that cause it to be significant in the manner not consistent with the Secretary of Interior Standards.
2. The project, as designed, causes a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains the potential to contain information important to history or prehistory.
3. The project, as designed, disturbs any human remains, including those interred outside formal cemeteries.
4. The project proposes non-exempt activities or uses damaging to, and fails to preserve, significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

## 3.0 RESEARCH DESIGN

The following Phase I investigation plan, developed in coordination with and approved by the County of San Diego, was designed to assess prehistoric sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, and CA-SDI-19493. The sites are located within the area designated for the development of two gen-tie alternatives, consisting of either 500-kV single circuit line towers (alternative A1) or double circuit 230-kV towers (alternative A2), associated facility and circuit line access roads, and construction staging areas for the proposed project and will be subject to impacts during construction. Site CA-SDI-19494 is also subject to indirect impacts posed by the proposed project. In the absence of mitigation of impacts through avoidance by placing the sites in an open space easement, the County of San Diego determined that these five sites required archaeological significance testing.

This investigation was intended to ascertain the presence or absence of subsurface cultural deposits and, if present, the horizontal and vertical extents (depths) of such deposits as well as a general idea of their content.

### CA-SDI-6119

Site CA-SDI-6119 was originally recorded in 1976 as a probable quarry area measuring 200 x 100 m with a single agave roasting pit located east of Old Highway 80, at an elevation of 3,120 ft amsl. At that time, erosion of the alluvial soils from flooding was noted. Numerous flakes, cores, and retouched flakes were observed; no stone tools were identified. Intensive pedestrian survey efforts for the proposed Option A access road alignment found that the site contains a broad lithic scatter of metavolcanic, volcanic, quartz, and quartzite flakes and cores; the roasting pit was not relocated.

### CA-SDI-19488

This resource consists of a lithic reduction area with cores, over 50 flakes, debitage, and battered implements. Lithic materials include quartz, rhyolite, and felsite. The site measures 45 m x 80 m in area. The site is situated at 3,273 ft amsl on an alluvial fan with a seasonal, intermittent stream running east-west through the project area located approximately 225 m to the south.

### CA-SDI-19490

This resource consists of a lithic reduction area with a rhyolite core fragment and several rhyolite and quartz flakes. The site measures approximately 15 m x 15 m at an elevation of 3,293 ft amsl. A seasonal, intermittent stream running east-west through the project area sits approximately 300 m to the south.

### CA-SDI-19493

This resource consists of a lithic scatter with a groundstone implement and single ceramic sherd. Within the site are approximately 70 quartz flakes, one quartz core, two rhyolite cores, approximately 25 rhyolite flakes, one rhyolite hammerstone, one probable mano, and one brownware body sherd. Measuring 45 m x 60 m, the site is located at an elevation of 3,280 ft amsl. A seasonal, intermittent stream running east-west through the project area sits approximately 275 m to the south.

### CA-SDI-19494

This resource consists of one rhyolite flake, more than five quartz flakes and more than two felsite flakes. The site is located at an elevation of 3,249 ft amsl, and a seasonal, intermittent stream running east-west through the project area lies approximately 400 m to the south.

## Proposed Testing Plan

In consultation with the County of San Diego, the proposed testing plan consists of the following field (Figure 1 attached) and laboratory methods outlined below.

### Field Methods

Site Mapping

The sites were mapped using a submeter global positioning system (GPS). All features, shovel test pits (STPs), and test excavation units (TEUs) were mapped and documented. A central site datum for each resource was established during the testing and mapped with the GPS. STPs and TEUs were provenienced with reference to the site datum. A subdatum was established in any loci within each site. Existing Department of Parks and Recreation (DPR) site records were updated as appropriate and included as an appendix in the testing and evaluation report.

Photographic records were kept documenting the progress of the evaluation program. This will include general overviews; unit profiles; and views of site excavation, features, and unusual stratigraphic changes. Photographs were taken and a photographic log was kept to document orientation and subject matter by type of collection and level.

Shovel Test Pits

*CA-SDI-6119*

Due to the extremely sparse nature of the surface deposit of CA-SDI-6119, diagnostic surface artifacts were collected, and 18 STPs were placed at 50-m intervals along an established grid (with a focus along the existing roadway proposed for road

improvements) to determine the presence or absence of archaeological deposits at the site and determine site boundaries. The STPs measured 30 cm in diameter and were excavated in 10-cm levels to culturally sterile sediments or a maximum depth of 30 cm. Soil removed from the STPs was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. Each STP was completely backfilled on completion.

*CA-SDI-19488*

Due to the extremely sparse nature of the surface deposit of CA-SDI-19488, surface artifacts were recorded and collected, and 6 STPs were placed at 50-m intervals along an established grid to determine the presence or absence of subsurface deposits and to determine site boundaries. The STPs measured 30 cm in diameter and were excavated in 10 cm levels to culturally sterile sediments or a maximum depth of 30 cm. Soil removed from the STPs was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. Each STP was completely backfilled on completion.

*CA-SDI-19490*

Due to the extremely sparse nature of the surface deposit of CA-SDI-19490, surface artifacts were recorded and collected, and 3 STPs were placed at 50-m intervals along an established grid to determine the presence or absence of subsurface deposits and to determine site boundaries; the easternmost is within the boundary of nearby site CA-SDI-19492. The STPs measured 30 cm in diameter and were excavated in 10 cm levels to culturally sterile sediments or a maximum depth of 30 cm. Soil removed from the STPs was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. Each STP was completely backfilled on completion.

*CA-SDI-19493*

To determine the presence or absence of archaeological deposits at CA-SDI-19493, and 6 STPs were placed at 20-m intervals along an established grid. The STPs measured 30 cm in diameter and were excavated in 10-cm levels to culturally sterile sediments or a maximum depth of 30 cm. Soil removed from the STPs was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. Each STP was completely backfilled on completion. One additional STP was placed approximately 50 m east of the site boundary.

*CA-SDI-19494*

Due to the extremely sparse nature of the surface deposit of CA-SDI-19488, surface artifacts were recorded and collected, and 5 STPs were placed at 50-m intervals along an established grid to determine the presence or absence of subsurface deposits and to determine site boundaries. The STPs measured 30 cm in diameter and were excavated in 10 cm levels to culturally sterile sediments or a maximum depth of 30 cm.

Soil removed from the STPs was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. Each STP was completely backfilled on completion.

Test Excavation Units

When a subsurface deposit was encountered at a site, one TEU was excavated at that site to sample the subsurface deposit. The TEU measured 1 m by 1 m and was hand-excavated in 10-cm levels to culturally sterile sediments or a maximum depth of 1 m. Soil removed from the TEU was dry-screened through 1/8-inch mesh and all cultural materials retained for analysis. The unit was documented in a standard unit notebook and was completely backfilled on completion. Sidewall profiles were drawn, depicting and describing the stratification of soil in each unit.

## Laboratory Processing

Upon arrival at the laboratory, the collections were checked in and segregated into materials to be washed and not washed. Materials such as lithic debitage, faunal remains, and ceramics were washed. All of the recovered materials was described, counted, measured, and weighed, and the data entered into a computerized cataloging system (Paradox or comparable software). Catalog entries were arranged according to provenience. Numbers were assigned to artifacts based on their classification. After cataloging, the materials are stored in archival plastic bags labeled with permanent ink.

Artifact Analysis

Analysis of the artifact collection focused on basic characterization of the materials recovered, as appropriate, to determine their applicability to identified research issues. Artifacts were described and cataloged. Lithic debitage were characterized according to basic parameters (material type, size and reduction stage), while groundstone was analyzed according to type, material, size, and degree of wear. Diagnostic artifacts such as projectile points or beads were categorized according to established typologies.

Radiocarbon Dating

If recovered during excavation, samples of charcoal from the site loci would be submitted to Beta Analytic, Inc. for dating by standard radiocarbon assay or, for small samples, Accelerator Mass Spectrometry. Samples recovered would be from concentrations inferred to represent cultural activity, and either directly from the deposit or from bulk soil samples.

Curation

In consultation with the County and the property owner, it is anticipated the collection will be permanently curated at the San Diego Archaeological Center. The San Diego Archaeological Center offers curatorial services that meet state and federal standards.

# 4.0 ANALYSIS OF PROJECT EFFECTS

## 4.1 Survey Methods

### 4.1.1 Survey Methods

E&E staff members Sandra Pentney, Heather Thomson, and Gloriella Cardenas conducted pedestrian archaeological and historical survey investigations on March 17, and 18, 2008, with additional survey conducted on March 31, 2008. Approximately 69.25 acres were surveyed as part of the currently proposed project. Subsequently, ESJ U.S. contracted EDAW, Inc. to incorporate the results of E&E's survey into a County-format cultural resources report and to conduct additional surveys of approximately 2.56 acres of proposed Option A access road right-of-way extending from Old Highway 80 to the proposed transmission lines. Under the direction of Stacey C. Jordan, Ph.D., EDAW archaeologists Nick Doose and Brian Spelts conducted additional pedestrian survey of the existing access road alignment on April 3, 2009 and Stacey Jordan and Cheryl Bowden-Renna conducted pedestrian survey of the newly proposed Option A access road alignment on April 22, 2009.

Stacey C. Jordan, Ph.D. prepared the County-format report based on the findings of the EDAW survey and previous E&E documentation (E&E 2009). Resumes of key EDAW personnel are provided in Appendix B.

Intensive pedestrian archaeological survey of the original 69.25 acres of the project APE was conducted in continuous parallel 10 m transects walked in an east/west direction. Visibility was good to fair with approximately 20-30% of the project area partially obscured by ground cover in the form of dry grasses and cacti. All sites were recorded in the field with a global positioning system (GPS) unit, either by establishing a datum point for the site or taking a point at a feature or artifact. Each GPS-recorded item was assigned a record number for data tracking and this number was written on a data-recording sheet. For each new site, California State Parks Department of Parks and Recreation (DPR) 523 site forms were generated. One or more photographs were taken of each site or isolate, and the view recorded on a DPR 523 photo log form (DPR 523-I).

The additional survey of the 2.56 acres of the Legal Property Access Road alignment was conducted in 5 to 10 m transects following the roadway alignment, including a buffer of 20' on either side of centerline, as vegetation permitted. Visibility was excellent, with areas outside the roadbed partially obscured by vegetation. Aerial photographs were used in relocating a previously identified site. A submeter GPS unit was used to record the location of newly identified and previously identified sites. For each new site, California State Parks DPR 523 site forms were generated and an update provided for the single relocated site. A visual inspection was conducted at each site, to confirm or expand previously established site boundaries, to determine if any recent disturbances have occurred, and to confirm whether these sites were within the current project.

Seventeen cultural resources are located within the project APE. One previously recorded site, CA-SDI-6119, was relocated and updated during the access road survey efforts. This resource consists of a probable quarry site consisting of a lithic reduction area and roasting pit. Ten previously unidentified archaeological sites were recorded. Newly recorded archaeological sites consist of six lithic reduction areas, two lithic scatters, one lithic reduction area with associated ceramics, and one ceramic scatter. Six new isolates were also identified within the proposed project's APE (see Section 3.2 below). The County identifies isolates as "Not Important" resources requiring no work beyond appropriate documentation and discussion in the current report. No historical resources were identified in the proposed project area.

DPR forms for newly recorded sites, site updates, and resources identified as part of the SCIC and SIC records searches are included in Appendix C (bound separately). All site forms for newly recorded and updated resources have been submitted to the SCIC, and Primary Numbers and Trinomials were issued on September 1, 2009.

### 4.1.2 Native American Consultation

As part of this investigation, EDAW contacted the NAHC via fax on March 19, 2009, to solicit a Sacred Lands file search and request a list of Native American contacts for the proposed project. A response from the NAHC was received on March 27, 2009. The NAHC indicated that there are known Native American cultural resources within or in the vicinity of the project area. At the request of the County, the NAHC response and appended Native American Contact list was forwarded to County Archaeologist Heather Kwiatkowski for the purposes of government-to-government consultation under CEQA. Also at the request of the County, EDAW staff member Cheryl Bowden-Renna contacted Native American representatives Mr. Clint Linton, Kumeyaay, and Mr. Preston Arrow-weed, Quechan, by telephone on April 2, 2009, to notify them of the access road alignment alternatives survey and solicit their participation; both declined participation in the survey. Native American correspondence is included in confidential Appendix D.

## 4.2 Survey Results

Together, the E&E and EDAW field surveys resulted in the identification and/or relocation of seventeen cultural resources within the proposed project's APE (Table 5; Figure 4, Appendix E - bound separately). One previously recorded site, CA-SDI-6119, was relocated and updated during survey efforts for the Legal Property Access Road alignment. Ten previously unidentified archaeological sites were recorded. Newly recorded archaeological sites consist of six lithic reduction areas, two lithic scatters, one lithic reduction area with associated ceramics, and one ceramic scatter. Six new isolates were also identified. Permanent trinomial and P- numbers have been assigned by SCIC.

**Table 5. Cultural Resources Within the ESJ Gen-Tie APE**

| Trinomial/Primary No. | Site Type |
|---|---|
| ***Sites*** | |
| CA-SDI-6119 | Lithic reduction area, roasting pit |
| CA-SDI-19480 | Lithic reduction area |
| CA-SDI-19484 | Lithic reduction Area |
| CA-SDI-19485 | Ceramic scatter |
| CA-SDI-19486 | Lithic reduction area |
| CA-SDI-19488 | Lithic reduction area |
| CA-SDI-19489 | Lithic reduction area |
| CA-SDI-19490 | Lithic scatter |
| CA-SDI-19492 | Lithic reduction area |
| CA-SDI-19493 | Lithic reduction area, ceramic sherd |
| CA-SDI-19494 | Lithic scatter |
| ***Isolates*** | |
| P-37-30670 | Historic lead ball isolate |
| P-37-30672 | Lithic isolate |
| P-37-30673 | Lithic isolate |
| P-37-30674 | Ceramic isolate |
| P-37-30675 | Lithic isolate |
| P-37-30678 | Lithic isolate |

### 4.2.1 Sites Within the APE

### CA-SDI-6119

Site CA-SDI-6119 was originally recorded in 1976 as a probable quarry area measuring 200 x 100 m located east of Old Highway 80, at an elevation of 3,120 ft amsl (see Appendix C – bound separately). At that time, erosion of the alluvial soils from flooding was noted. Numerous flakes, cores, and retouched flakes were observed; no stone tools were identified. Survey efforts for the existing and proposed Option A access road alignments found that the site contains a broad lithic scatter of metavolcanic, volcanic, quartz, and quartzite flakes and cores. The site boundary encompasses portions of both the proposed Option A access road and the newly proposed Option B access road. DPR 523 Primary and Location map updates are attached in Confidential Appendix C (bound separately).

# FIGURE 4

## CULTURAL RESOURCES WITHIN OR ADJACENT TO THE PROJECT AREA
***(Confidential – Bound Separately)***
**See Appendix E**

**CA-SDI-19480**

This resource consists of one quartz core, one quartz scraper, and two or more flakes in a 5 m diameter area. The site is situated on the south side of a west trending finger ridge at an elevation of 3,242 ft amsl. Vegetation observed within the project area includes scrub oak, yucca, agave, ephedra, opuntia and native grasses. A seasonal, intermittent drainage running east-west through the project area is located approximately 500 m to south.

**CA-SDI-19484**

This resource consists of a lithic scatter with two rhyolite flakes and a core in a 30 m x 20 m area. The site is located at an elevation of 3,258 ft amsl. A seasonal, intermittent drainage running east-west through the project area is adjacent approximately 100 m to the south.

**CA-SDI-19485**

This ceramic scatter is comprised of approximately seven Tizon brownware body sherds from a vessel with a constricted neck. The site measures 15 m x 15 m and sits at an elevation of 3,309 ft amsl. A seasonal, intermittent drainage running east-west through the project area lies approximately 250 m to the north.

**CA-SDI-19486**

This site consists of a lithic reduction area with approximately 30 quartz flakes and one quartz core in a 10 m x 7 m area. Sitting at an elevation of 3,322 ft amsl, the site lies approximately 100 m north of a seasonal, intermittent drainage running east-west through the project area.

**CA-SDI-19488**

This resource consists of a lithic reduction area with cores, over 50 flakes, debitage, and battered implements. Lithic materials include quartz, rhyolite, and felsite. The site measures 45 m x 80 m in area. The site is situated at 3,273 ft amsl on an alluvial fan with a seasonal, intermittent drainage running east-west through the project area located approximately 225 m to the south.

**CA-SDI-19489**

This site is comprised of a lithic reduction area with two quartz core fragments and approximately 10 flakes. It sits at 3,321 ft amsl, with a seasonal, intermittent drainage running east-west through the project area located approximately 175 m to the south.

**CA-SDI-19490**

This resource consists of a lithic reduction area with a rhyolite core fragment and several rhyolite and quartz flakes. The site measures approximately 15 m x 15 m at an elevation of 3,293 ft amsl. A seasonal, intermittent drainage running east-west through the project area sits approximately 300 m to the south.

**CA-SDI-19492**

This site consists of one quartz core and approximately 25 quartz flakes located on a boulder-strewn finger ridge at an elevation of 3,313 ft amsl. A seasonal, intermittent drainage running east-west through the project area lies 225 m to the south.

**CA-SDI-19493**

This resource consists of a lithic scatter with a groundstone implement and single ceramic sherd. Within the site are approximately 70 quartz flakes, one quartz core, two rhyolite cores, approximately 25 rhyolite flakes, one rhyolite hammerstone, one probable mano, and one brownware body sherd. Measuring 45 m x 60 m, the site is located at an elevation of 3,280 ft amsl. A seasonal, intermittent drainage running east-west through the project area sits approximately 275 m to the south.

**CA-SDI-19494**

This resource consists of one rhyolite flake, more than five quartz flakes and more than two felsite flakes. The site is located at an elevation of 3,249 ft amsl, and a seasonal, intermittent drainage running east-west through the project area lies approximately 400 m to the south.

### 4.2.2 Isolates Within the APE

**P-37-30670**

This isolate consists of a round metal ball approximately 5 cm in diameter and stamped with the number “2”. Located at an elevation of 3,228 ft amsl, this item sits 125 m north of a dirt roadway. The function of this item is as yet undetermined; it may be related to mining or railroad operations.

**P-37-30672**

This isolate consists of a single quartz flake located at an elevation of 3,360 ft amsl, approximately 100 m north of the U.S.-Mexico border and 350 m south of a seasonal, intermittent drainage running east-west through the project area.

**P-37-30673**

This resource consists of a single rhyolite flake approximately 225 m south of a seasonal, intermittent drainage running east-west through the project area at an elevation of 3,340 ft amsl.

**P-37-30674**

This isolate consists of a single thick, gray potsherd located at an elevation of 3,332 ft amsl, approximately 125 m south of a seasonal, intermittent drainage running east-west through the project area.

**P-37-30675**

This resource consists of a single large rhyolite primary flake located at an elevation of 3,307 ft amsl, approximately 100 m north of a seasonal, intermittent drainage running east-west through the project area.

**P-37-30678**

This isolate consists of a single hammerstone located at an elevation of 3,260 ft amsl, approximately 300 m north of a seasonal, intermittent drainage running east-west through the project area.

## 4.3 Testing Methods

Site testing was conducted between December 14 through December 16, 2009 and surface collection of diagnostic artifacts at CA-SDI-6119 was conducted on January 20, 2010. Testing proceeded according to the general field methods described in the testing plan for sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494 (Figure 5 – see Appendix E). Native American representatives Mr. Linton and Mr. Arrow-weed were contacted by telephone on February 3, 2010 to consult regarding the testing program and findings. A message was left for Mr. Linton and, as a result of the discussion with Mr. Arrow-weed, EDAW forwarded Mr. Arrow-weed information on the findings, a project description, a location map, and a response form for any additional comments or questions. Mr. Linton was reached on February 8, 2010 and declined to participate (see Appendix 4 for contact program communication log). Copies of any additional communications received from Native American representatives will be forwarded to the County upon receipt.

### 4.3.1 Field Methods

The sites were mapped using a submeter global positioning system (GPS). All features, STPs, and TEUs were mapped and documented. A central site datum for each

# FIGURE 5

## CULTURAL RESOURCES SUBJECTED TO TESTING
***(Confidential – Bound Separately)***
**See Appendix E**

resource was established during the testing and mapped with the GPS. STPs and TEUs were provenienced with reference to the site datum and any loci within each site also have a subdatum established. STPs measured 30 cm diameter and were excavated in 10 cm arbitrary levels, to a minimum depth of 30 cm or until sterile sediments or bedrock was encountered. All excavated soil was passed through 1/8-inch mesh hardware cloth and all cultural materials were collected. Cultural materials were separated into artifact and ecofact categories; bagged and labeled by 10 cm level; and taken to EDAW's processing facility for cleaning, cataloging, analysis, and temporary curation.

During testing, each site was resurveyed to examine potential changes in observable boundaries. In the case of CA-SDI-6119, surface examination continued northwest of the site to Interstate 80 to encompass any potential redesigns of the project access road. At the County's request, diagnostic artifacts were collected from the surface of CA-SDI-6119.

One TEU was excavated at CA-SDI-6119. The TEU consisted of a 1–m-by-1-m unit oriented to true north and excavated in arbitrary 10 cm levels from the surface contours. The excavation was terminated when sterile subsoil or bedrock was encountered. All excavated soil passed through 1/8-inch mesh hardware cloth and all artifacts retained in the screens were collected. Stratigraphic profiles were photographed and drawn. Soil samples were taken for each sediment unit encountered in the excavation.

Level sheets were recorded for each level of the excavated STPs and TEUs detailing the field observations for that section of the STP or TEU including preliminary counts of cultural materials. Recovered items were separated into artifact and ecofact categories; bagged and labeled by unit type and 10 cm level; and taken to EDAW for cleaning, cataloging, analysis, and temporary curation.

Photographic records were kept to document the progress of the testing phase. These included general overviews; unit profiles; and views of the site excavation, features, and unusual stratigraphic changes. Digital photographs were taken and photographic logs were kept to document orientation and subject matter. GPS points were taken for all STPs and TEUs using a submeter GPS unit.

### 4.3.2 Analytical Methods

Identification and cataloging of artifactual materials was completed by EDAW technicians under the direction of the project archaeologist. A standard system of cataloging cultural material was used to document the recovered artifacts. When appropriate, items were washed and separated by class, prior to cataloging.

Each artifact or group of artifacts was counted, weighted, and/or measured and given consecutive catalog numbers. Each item was analyzed for specific attributes particular to that artifact class. A computerized master catalog was created in a database program

and is included in Appendix B. The master catalog includes the results from both the testing and evaluation phase and the data recovery program. All items were divided into typological categories and placed in appropriately labeled archival boxes for temporary storage at EDAW.

### 4.3.3 Curation

EDAW prepared the recovered materials for permanent curation. Material from this project will be submitted to the San Diego Archaeological Center pursuant to an accession agreement with the County of San Diego.

### 4.3.4 Results

#### CA-SDI-6119

Eighteen STPs were placed along transects in relation to the site datum (Figure 6). STPs were labeled based on their coordinates from the datum. Eight of the STPs were positive. After the completion of the STPs, a single 1-by-1-m TEU (95S 80E) was initiated and excavated to 50 cm. A total of 40 pieces of debitage, three pieces of ceramic, 1.2 g of charcoal, 0.6 g of faunal material, and 1.0 g of intrusive material were recovered from the STPs and TEU 1. Surface collection of diagnostics artifacts was conducted and three bifaces, 35 pieces of ceramics, one core, and one tool were collected (Table 6).

**Table 6. CA-SDI-6119, Cultural Material Summary by Depth**

| Depth (cm) | Biface | Ceramic | Core | Debitage | Tool | Charcoal* | Faunal* | Intrusive materials* | Total | Relative Frequency |
|---|---|---|---|---|---|---|---|---|---|---|
| Surface | 3 | 36 | 1 | 5 | 1 | | | 1 | 46 | 54.8% |
| 0-10 | | 2 | | 21 | | 1.2 | | | 23 | 27.4% |
| 10-20 | | | | 12 | 1 | | 0.6 | | 13 | 15.5% |
| 20-30 | | | | 1 | | | | | 1 | 1.2% |
| 30-40 | | | | 1 | | | | | 1 | 1.2% |
| Total | 3 | 38 | 1 | 40 | 3 | 1.2 | 0.6 | 1 | 84 | |
| Relative Frequency | 3.6% | 45.2% | 1.1% | 47.6% | 2.3% | | | | | 100.0% |

*Weight in grams and not included in totals.

Forty pieces of lithic debitage were collected during the testing effort, with 63 percent recovered from the TEU (N=26) and 36 percent recovered from the STPs (N=14). The majority of the debitage assemblage from the testing effort is tertiary (N=29, 68%). Only 10 percent of the assemblage retains some cortex on the dorsal surface (Table 7), suggesting that it is the result cobble core reduction. Metavolcanic material dominates the lithic material recovered. (N=28; 70%), followed by quartz (N=11; 27%). One piece of CCS was recovered from the TEU (Table 8).

**FIGURE 6**

**CA-SDI-6119, EXCAVATION**
***(Confidential – Bound Separately)***
**See Appendix E**

**Table 7. CA-SDI-6119, Cortex Removal by Provenience**

| Cortex Removal | STP | TEU | Total | Relative Frequency |
|---|---|---|---|---|
| Primary | 3 | 1 | **4** | 9.8% |
| Secondary | 5 | 4 | **9** | 22.0% |
| Tertiary | 6 | 21 | **29** | 68.2% |
| **Total** | **14** | **26** | **40** | |
| **Relative Frequency** | 36.6% | 63.4% | | **100%** |

**Table 8. CA-SDI-6119, Debitage Material by Provenience**

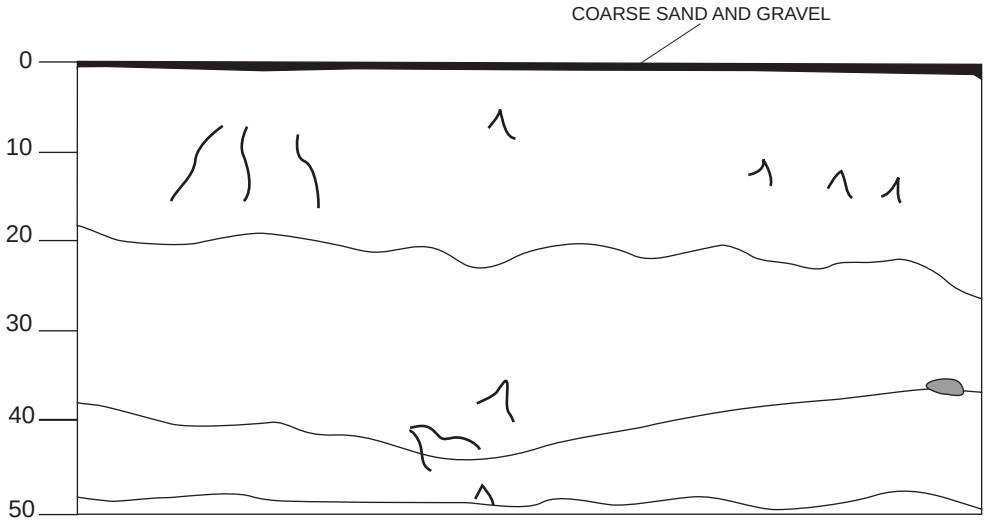
| Material Type | STP | TEU | Total | Relative Frequency |
|---|---|---|---|---|
| Quartz | 1 | 10 | **11** | 26.8% |
| Metavolcanic | 13 | 15 | **28** | 70.7% |
| Cryptocrystalline | -- | 1 | **1** | 2.5% |
| **Total** | **14** | **26** | **40** | |
| **Relative Frequency** | 36.6% | 63.4% | | 100% |

Stratigraphy of TEU 1 was uniformly silty sand with increased compaction as the depth increased (Figure 7). TEU was terminated at 50 cm in sterile soil. Based on the investigations, the horizontal extent of the site remains unchanged. As seen in the vertical distribution of the material recovered, the subsurface deposit is sparse. Further, it appears to reflect alluvial transport and redeposition of material rather than in situ accumulation. Disturbance resulting in alluvial redeposition was visible following heavy rainstorms and observed in process even during the fieldwork effort. In addition, the largest densities of material were recovered near or in active wash areas.

One metavolcanic, single platform, core (artifact number CA-SDI-6119-25) was collected from the surface. Two tools were collected. One is a flaked-based scraper (CA-SDI-6119-32), identified based on the type of flake removal and retouch exhibited. CA-SDI-6119-5 is a modified flake with flake removal exhibited along one edge. Material type for both is metavolcanic.

Three bifaces were collected from the surface. Two are preforms. CA-SDI-6119-1 is complete, and composed of metavolcanic material. CA-SDI-6119 consists of a quartz base and mid-section. CA-SDI-6119-26 consists of the base and mid-section of a possible Desert-side notch projectile point of metavolcanic material.

Thirty-eight ceramic sherds were recovered from CA-SDI-6119, 34 (89%) from the surface collection, one (3%) from STP 80S 100E, and two (5%) from TEU 1. Thirty-one of these are from a single surface collection (SC) locus (SC-5; CA-SDI-6119-28). All sherds were identified as Tizon Brownware, with the exception of CA-SDI-6119-31. This




| | |
|---|---|
| I | LIGHT BROWN SILTY SAND, COARCE, LOW COMPACTION, HIGH MOISTURE |
| II | LIGHT BROWN, SILTY SAND, SANDY CLAY, COARSE, MODERATE COMPACTION, HIGH MOISTURE |
| III | LIGHT BROWN, TAN, SANDY SILT, COARSE, HIGH COMPACTION, MODERATE MOISTURE |
| | ROOTS |
| | ROCK |

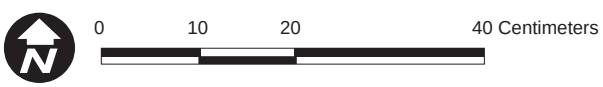



**Figure 7**
**CA-SDI-6119, TEU 1 North Wall Profile**

## FIGURE 8

## CA-SDI-19488, -19490, -19493, EXCAVATION
***(Confidential – Bound Separately)***
**See Appendix E**

sherd appears to be a desert buffware. It is buff on the exterior of the piece; however, the interior is red. Three rim sherds were recovered from SC-5. Two are small sherds with a defined lip and slight curvature, indicative of a small vessel. One rim and neck sherd has a defined lip with a moderate curvature of the neck, indicative of a small to moderate olla.

### CA-SDI-19488

Five STPs were placed along transects in relation to the site datum (Figure 8). STPs were labeled based on their coordinates from the datum. All of the STPs were sterile. No cultural material was collected from this site. Based on the investigations, there is no subsurface deposit at this site.

### CA-SDI-19490

Four STPs were placed along transects in relation to the site datum (Figure 8). STPs were labeled based on their coordinates from the datum. All of the STPs were sterile. All full site surface collection of artifacts material was conducted. Artifacts included 36 pieces of debitage and one core.

Thirty-six pieces of lithic debitage were collected during the testing effort, all collected from the surface collection. The majority of the debitage assemblage from the testing effort is tertiary (N=30, 83%). Only 3 percent of the assemblage retains some cortex on the dorsal surface (Table 9). This data suggests on-site cobble core reduction, which is common at many prehistoric sites in San Diego County.

Quartz material dominates the lithic material recovered. (N=31; 86%), followed by metavolcanic (N=5, 13%) (Table 10). Based on the investigations, there is no subsurface deposit at this site.

### Table 9. CA-SDI-19490, Cortex Removal by Provenience

| Cortex Removal | Surface Collection | Relative Frequency |
|---|---|---|
| Primary | 1 | 2.8% |
| Secondary | 5 | 13.8% |
| Tertiary | 30 | 83.4% |
| **Total** | **36** | |
| **Relative Frequency** | | 100% |

**Table 10. CA-SDI-19490, Debitage Material by Provenience**

| Material Type | Surface Collection | Relative Frequency |
|---|---|---|
| Quartz | 31 | 86.5% |
| Metavolcanic | 5 | 13.5% |
| **Total** | **37** | |
| **Relative Frequency** | | **100%** |

### CA-SDI-19493

Six STPs were placed along transects in relation to the site datum (see Figure 8). STPs were labeled based on their coordinates from the datum. All of the SPTs were sterile. No cultural material was collected from this site. Based on the investigations, there is no subsurface deposit at this site.

### CA-SDI-19494

Five STPs were placed along transects in relation to the site datum (see Figure 8). STPs were labeled based on their coordinates from the datum. All of the SPTs were sterile. A full site surface collection of artifacts material was conducted. Artifacts included seven pieces of debitage.

Seven pieces of lithic debitage were retrieved during the testing effort, all from the surface collection, and all reflecting tertiary reduction (Table 11). These data suggest on-site cobble core reduction, which is common at many prehistoric sites in San Diego County. Quartz material dominates the lithic material recovered. (N=5; 71%), followed by metavolcanic (N=2, 29%). Based on the investigation results, there is no subsurface deposit at this site.

**Table 11. CA-SDI-19494, Debitage Material by Provenience**

| Material Type | Surface Collection | Relative Frequency |
|---|---|---|
| Quartz | 5 | 71.4% |
| Metavolcanic | 2 | 28.6% |
| **Total** | 7 | 100% |

## 4.3.5 Discussion

Based on the testing results, it appears that sites CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494 are surface lithic scatters with no subsurface components. No diagnostic materials were recovered from these sites. Further, based on surface artifact distribution at and between CA-SDI-19490 and CA-SDI-19493, and

the close proximity (less than 20 m) of CA-SDI-19492, these sites have been combined into one larger surface scatter, CA-SDI-19490. This does not change the testing results as both CA-SDI-19492 and CA-SDI-19493 have demonstrated a lack of a subsurface deposit (Figure 9). An STP placed within the boundary of CA-SDI-19492 as part of testing efforts at CA-SDI-19490 indicated that this resource lacked a subsurface component.

Site CA-SDI-6119 contains a shallow subsurface deposit. Diagnostic artifacts are limited to two performs, one possible (broken) Desert Side-notch point, and ceramics, which point to Late Prehistoric origins for the cultural material. The subsurface deposit, however, is limited to almost exclusively the upper 20 cm, and appears to be disturbed by alluvial action.

# FIGURE 9

## CULTURAL RESOURCES TESTING RESULTS
***(Confidential – Bound Separately)***
**See Appendix E**

# 5.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION

## 5.1 Resource Importance

The cultural resources survey conducted for the ESJ U.S. Gen-Tie Project resulted in the documentation of ten unrecorded archaeological sites and the re-identification of one previously recorded archaeological site, CA-SDI-6119 within the proposed project APE.

Prehistoric cultural uses of the APE are suggested by the observable archaeological data. Lithic reduction areas reflect the use of diverse raw materials. Quartz was the predominant raw material at many of the sites and, although no quartz bedrock outcroppings are present in the project area, outcroppings of quartz are present in the vicinity. Much of the observed material was metavolcanic and volcanic. The nearby Table Mountain Archaeological District was used as a cobble quarry for volcanic rock cobbles (Laylander 2005a). Alluvium from Table Mountain has carried porphyritic andesites into the project area, making fine-grained volcanic raw materials available for stone tool production.

Lithic artifacts, primarily debitage, comprise the most abundant artifact type recorded find in the project area. It is possible that some of the flakes present in the project area also served as expedient tools – flakes that are picked up, used to perform an immediate task, and then discarded after use. In contrast, only one possible groundstone artifact was observed in the project APE, consisting of a probable mano at site CA-SDI-19493. The dearth of groundstone is not surprising considering that the project site is located in the alluvial floodplain west of a hill comprised of many bedrock outcroppings. It is expected that bedrock milling features would be present in those outcroppings and that few of the portable groundstone tools associated with milling activities would have made their way to the floodplain.

While no diagnostic lithic artifacts were found to place the archaeological sites chronologically, the presence of Tizon Brownware in the project area indicates its use during the Late Prehistoric. The date of the first appearance of ceramics in San Diego County is a debated issue (Laylander 2005b), however it is generally acknowledged that ceramics are a marker of the Late Prehistoric period.

Only one historic artifact was observed in the project APE. This unidentified isolate is a lead sphere approximately five centimeters in diameter stamped with the number “2”. E & E archaeologists conferred with various colleagues who have suggested that the artifact may have been associated with railway operations, historic mining, historic munitions, or served as a gate weight (Branstner 2008, May 2008, Serr 2008, Wayne 2008, Gojak 2008, Hangan 2008). To date, no positive identification for the artifact has been found.

Five of the sites within the APE (CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494) have been tested and no longer have the potential to yield important information. The six remaining sites identified within the project APE have not been formally tested for CEQA or RPO significance and have the potential to yield information, they are all considered "important" resources under County guidelines. The County identifies isolates as "not important" resources requiring no work beyond appropriate documentation and discussion. Specific recommendations for the 11 archaeological resources and the six identified isolates within the project APE are outlined below in Table 12.

**Table 12. Subsurface Potential for Resources within the APE**

| Trinomial/ Primary No. | Resource Description | Subsurface Potential? | Recommendation |
|---|---|---|---|
| CA-SDI-6119 | Lithic reduction area, roasting pit | Low | Documentation of testing program findings |
| CA-SDI-19480 | Lithic reduction area | Medium | Avoidance |
| CA-SDI-19484 | Lithic reduction Area | Medium | Avoidance |
| CA-SDI-19485 | Ceramic scatter | Medium | Avoidance |
| CA-SDI-19486 | Lithic reduction area | Medium | Avoidance |
| CA-SDI-19488 | Lithic reduction area | Low | Documentation of testing program findings |
| CA-SDI-19489 | Lithic reduction area | Medium | Avoidance |
| CA-SDI-19490 | Lithic scatter | Low | Documentation of testing program findings |
| CA-SDI-19492* | Lithic reduction area | Low | Documentation of testing program findings |
| CA-SDI-19493* | Lithic reduction area, ceramic sherd | Low | Documentation of testing program findings |
| CA-SDI-19494 | Lithic scatter | Low | Documentation of testing program findings |
| P-37-30670 | Historic lead ball isolate | Low | Avoidance |
| P-37-30672 | Lithic isolate | Low | Avoidance |
| P-37-30673 | Lithic isolate | Low | Avoidance |
| P-37-30674 | Ceramic isolate | Low | Avoidance |
| P-37-30675 | Lithic isolate | Low | Avoidance |
| P-37-30678 | Lithic isolate | Low | Avoidance |

*Now combined with CA-SDI-19490

## 5.2 Impact Identification

Four archaeological sites, CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, and CA-SDI-19493, have the potential to be directly impacted by project alternatives A1 and A2 (see Figure 4, Appendix E – bound separately). One remaining site, CA-SDI-19494, has the potential to be indirectly impacted by project-related construction and maintenance activities.

The footprint of alternative A1 (500kV) will impact lithic scatter CA-SDI-19490 and lithic reduction area CA-SDI-19493. CA-SDI-19490 is located within the footprint of both the proposed access road alignment and a proposed tower location, and CA-SDI-19493 is located within a proposed tower location. Results of the testing program indicated that these sites have no subsurface component and, with CA-SDI-19492, have been combined into a single surface scatter, CA-SDI-19490. Testing and surface collection of this site has exhausted its data potential. As such, the impact to this site is reduced to below a level of significance.

The footprint of alternative A2 (230kV) bisects lithic reduction area CA-SDI-19488. This large site extends approximately 300 feet to the west and 200 feet to the east of the proposed alignment's access road. Results of the testing program indicated that this site has no subsurface component. Testing and surface collection of this site has exhausted its data potential. As such, the impact to this site is reduced to below a level of significance.

Previously recorded site CA-SDI-6119, a large lithic reduction area with an agave roasting pit, faces impacts from both Option A and Option B Legal Property Access Road alignments. Impacts will result from construction of either of the Legal Property Access Road alignments, each of which runs through the length of the site boundary. Results of the testing program indicated that this site has a limited subsurface component, likely redeposited. Testing and surface collection of this site has exhausted it data potential. As such, the impact to this site is reduced to below a level of significance.

While the project as planned does not pose any direct impacts to site CA-SDI-19494, it may be subject to indirect impacts due to project construction activity and inadvertent ground disturbance as a result of its proximity to the proposed project footprint of alternative A2. Results of the testing program indicated that this site has no subsurface component. Testing and surface collection of this site has exhausted it data potential. As such, the impact to this site is reduced to below a level of significance.

No significant impacts to the remaining six sites within the APE are posed by the proposed project's construction or operation activities.

## 6.0 MANAGEMENT CONSIDERATIONS – MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Archaeological sites are nonrenewable resources. The ideal treatment for cultural resources is avoidance of impacts, and measures to ensure avoidance can be incorporated into project design. If a project is determined to cause damage to a significant cultural resource, reasonable efforts must be made to mitigate the impact to a level below significant.

Upon review and consideration of the original E&E surveys, the ESJ project was redesigned to greatly reduce the transmission line impacts along the north-south ROW construction ROW, and the temporary lay-down/parking/stringing area was consolidated to avoid and/or minimize impacts to cultural resources (see discussion on page 7). Subsequent to these feasible project redesigns, based on the findings in Section 4.2 above, the remaining mitigation measures for the project have been identified.

### 6.1 Mitigable Impacts

Upon review and consideration of the original E&E surveys, the ESJ project was redesigned to greatly reduce the transmission line impacts along the north-south ROW construction ROW, and the temporary lay-down/parking/stringing area was consolidated to avoid and/or minimize impacts to cultural resources (see discussion on page 7). Subsequent to these feasible project redesigns. The testing program implemented at sites CA-SDI-6119, CA-SDI-19488, CA-SDI-19490, CA-SDI-19493, and CA-SDI-19494, reduced all project impacts to a level below significant. As such, there are no remaining mitigable impacts associated with the proposed project.

### 6.2 No Significant Adverse Effects

The remaining six sites within the APE – CA-SDI-19480, CA-SDI-19484, CA-SDI-19485, CA-SDI-19486, CA-SDI-19489, and CA-SDI-19492 – will not be impacted by the construction or operation of any of the four proposed project alternatives and can be preserved in open space.

In the event of incidental discoveries during construction activities, each discovery would require significance testing as outlined in the County's Guidelines for Determining Significance (2007b). Any new facility, infrastructure, roadway or staging area for construction or maintenance not shown on the current site plan may require additional survey or, if within previous survey boundaries, further analysis of impacts to cultural resources. While no resources were observed along the western terminus of Legal Property Access Road Option B during reconnaissance survey related to detailed recordation and testing of site CA-SDI-6119, the engineered 40-foot wide easement for this alignment should undergo intensive pedestrian archaeological survey if this option is selected for construction.

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1981 *Jacumba Discontiguous Archaeological District*. Unpublished report on file at the South Coastal Information Center.

## 8.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Stacey C. Jordan, Ph.D.
Senior Archaeologist
EDAW, Inc.

Cheryl Bowden-Renna
Associate/Staff Archaeologist
EDAW, Inc.

South Coastal Information Center
San Diego State University

Southeast Information Center
Imperial Valley College Desert Museum
Native American Heritage Commission

Sandra Pentney
Environment & Ecology, Inc.

Heather Kwiatkowski
Staff Archaeologist
County of San Diego DPLU

## 9.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS

| Cultural Resource | Design Consideration | Mitigation Measure | Less than Significant Impact? |
|---|---|---|---|
| **CA-SDI-6119** | East-west Legal Property Access Road Option A and B alignment grading and widening | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19488** | Alternative 2 north-south access roadway alignment | Avoidance, construction monitoring | Yes |
| | | Designated open space easement | Yes |
| | | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19490** | Alternative 1 north-south access roadway alignment and tower location | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19492*** | Construction and development of Gen-Tie lines and access roads | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19493*** | Alternative 1 tower location | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19494** | Construction and development of Gen-Tie lines and access roads | Site Evaluation/Data Recovery program | Yes |
| **CA-SDI-19480, CA-SDI-19484, CA-SDI-19485, CA-SDI-19486, CA-SDI-19489** | Construction and development of Gen-Tie lines and access roads | Avoidance, construction monitoring | Yes |
| | | Designated open space easement | Yes |

*Now combined with CA-SDI-19490

# APPENDIX A

## RECORDS SEARCH RESULTS
***(Confidential – Bound Separately)***

# APPENDIX B

# RESUMES OF KEY PERSONNEL

## STACEY JORDAN, PhD
**Senior Archaeologist**

Dr. Stacey Jordan has been professionally involved in the fields of archaeology and history for over a decade. Her specialty in historical archaeology combines the use of material culture and the archival record in anthropologically driven analyses of cultural resources. Dr. Jordan was the recipient of the Excellence Fellowship at Rutgers University, as well as multiple research grants from the Wenner-Gren Foundation for Anthropological Research. She is the author of various publications as well as numerous papers that have been presented at national and international conferences. Dr. Jordan is particularly well versed in the analysis of historical ceramics and has taught courses in the method and theory of historical archaeology as well as in the identification and analysis of historical ceramics and glass. She has extensive experience in archival research and historical writing, and has worked on projects spanning from early colonial contact to the recent past. In addition, Dr. Jordan has served on a variety of prehistoric and historic excavations both in the United States and abroad. Supplementing her work in cultural resources management, she conducts research on ceramics, community development, and identity construction in colonial South Africa.

### EDUCATION
Ph.D., Anthropology, Rutgers University, 2000

M.Phil., Anthropology, Rutgers University, New Brunswick, NJ, 1995

M.A., Anthropology, Rutgers University, 1994

B.A. with High Distinction, Anthropology
University of California, Berkeley, 1991

### AFFILIATIONS
Society for American Archaeology

Register of Professional Archaeologists

### CERTIFICATIONS AND APPROVALS
County of San Diego Approved Consultant List for Archaeological Resources

County of San Diego Approved Consultant List for Historic Resources

County of Riverside Approved Cultural Resources Consultant (No. 222)

### AWARDS
2008 - San Diego AEP Outstanding Environmental Resource Document Finalist, *Boulder Oaks Open Space Preserve* (winner Honorable Mention at September 25 AEP Awards)

2008 - Riverside County Planning Department, *Certificate of Appreciation for the Cultural Resources Working Group*

2006 - City of San Diego Historical Resources Board Award of Excellence, *CCDC Downtown San Diego African-American Heritage Study*

2005 - California Preservation Foundation Preservation Design Award, *CCDC Downtown San Diego African-American Heritage Study*

2005 - AEP Outstanding Public Involvement/ Education Program, *CCDC Downtown San Diego African-American Heritage Study*

2005 - APA, San Diego Section Focused Issue Planning Award Honorable Mention, *CCDC Downtown San Diego African-American Heritage Study*

### GRANTS AND FELLOWSHIPS
2003, Wenner-Gren Foundation for Anthropological Research Individual Research Grant Team Member: "Analysis and Interpretation of Archaeological Residues from Excavations at the Castle of Good Hope, Cape, South Africa'"

1996-1997, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #6021

1994-1995, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #5739

1992-1996, Rutgers University Excellence Fellowship

## PROJECT EXPERIENCE

**Bear Valley Parkway Cultural Resources Study**
**San Diego County, CA**
**Project Manager**
**CLIENT:** County of San Diego Department of Public Works
Project Manager of ongoing cultural resources inventory and evaluation efforts for the proposed expansion of Bear Valley Parkway in unincorporated northern San Diego County. The project involves field survey for archaeological and architectural resources, Native American coordination and identified resource evaluation according to County RPO and California Register eligibility criteria.

**San Nicolas Island Archaeological Evaluations, Ventura County, CA**
**Project Manager**
**CLIENT:** NAVFAC Southwest
Project Manager for ongoing archaeological evaluation of prehistoric sites CA-SNI-316, 361 and 550 on San Nicolas Island in the Channel Islands of the California Bight. This project involves the significance testing and analysis of Middle and Late Holocene sites and synthesis of results with existing island-wide archaeological data.

**Jefferson National Expansion Memorial Environmental Impact Study**
**Senior Archaeologist, St. Louis, MO**
**CLIENT:** U.S. National Park Service
Co-author for prehistoric and historical archaeology background and impact analysis sections related to the proposed expansion of the Jefferson National Expansion Memorial (Gateway Arch) in St. Louis, Missouri and East St. Louis, Illinois.

**Heber Dunes SVRA General Plan & Environmental Impact Report**
**Cultural Resources, Imperial County, CA**
**Cultural Resources Task Manager/Senior Archaeologist**
**CLIENT:** California State Parks
Ongoing Cultural Resources Phase I Survey and Inventory of Heber Dunes State Vehicular Recreation Area. This project involves the analysis of existing cultural resources conditions, assessment of proposed facilities maintenance and development impacts, and recommendations for the treatment of cultural resources.

STACEY JORDAN, PhD

**Emergency Storage Project Cultural Resources – Lake Hodges, San Diego County, CA**
**Senior Archaeologist**
**CLIENT:** San Diego County Water Authority
Senior Archaeologist and report co-author for data recovery project at site CA-SDI-10,920 along Lake Hodges. The project involves integration of regional data to provide context for the analysis of CA-SDI-10,920 and examination of the Late Prehistoric occupation of the San Dieguito River Valley around present-day Lake Hodges.

**Banning State Water Transmission Line, Riverside County, CA**
**Senior Archaeologist**
**CLIENT:** City of Banning
Task Manager for cultural resources sensitivity analysis for the construction of an approximately 2.4-mile long pipeline within the rights-of-way of paved streets within the unincorporated area of the county. As part of this analysis a records search of the Eastern Information Center was conducted by EDAW archaeologists to identify cultural resources studies and identified resources within a one-mile radius of the Banning State Water Transmission Line's proposed alignment. EDAW also requested a sacred lands file search from the Native American Heritage Commission.

**Old Town State Historic Park Jolly Boy Project, San Diego, CA**
**Senior Archaeologist**
**CLIENT:** California State Parks
Contributor to the archaeological data recovery report for the Jolly Boy Saloon site in Old Town San Diego State Historic Park. Contributions to this project involve the synthesis of existing data on Old Town San Diego and development of an archaeological and historic context for the analysis and interpretation of recovered material.

**Boulder Oaks, Sycamore/Goodan, El Capitan/Oakoasis/ El Monte/Steltzer Open Space Preserve and Regional Park Cultural Resources Inventories, San Diego County, CA**
**Project Director**
**CLIENT:** County of San Diego Department of Parks and Recreation
Project director for Phase I pedestrian survey and cultural resource inventories of Open Space Preserves and Regional Parks in unincorporated central San Diego County. The projects involved the identification and documentation of prehistoric and historic resources, built environment features, and existing infrastructure to assist the Department of Parks and Recreation in resource management. Inventory reports included extensive archival research and historical narrative, an inventory of identified sites, and management guidelines for potentially significant cultural resources developed in consultation with Native Americans where appropriate. Work done before joining EDAW.

**State Route 94 Operational Improvements Inventory and Evaluation, San Diego County, CA**
**Project Director**
**CLIENT:** Parsons Brinkerhoff
Director of cultural resources efforts and Caltrans coordination for survey, documentation, and evaluation related to proposed operational improvements along an 18-mile stretch of State Route 94 in San Diego County. Development of Caltrans-format documentation for archaeological and built environment resources. Work done before joining EDAW.

**Santa Rosa San Jacinto Mountains National Monument Trails Inventory, Riverside County, CA**
**Project Director**
**CLIENT:** Bureau of Land Management

Directed cultural resources inventory of trail systems within the Santa Rosa San Jacinto Mountains National Monument, including documentation of prehistoric and historic routes and associated resources within trail corridors. Completed cultural resources inventory report for BLM, including BLM-format GIS database. Work done before joining EDAW.

**Southern California Edison As-Needed Archaeological Services, Statewide**
**Project Director**
**CLIENT:** Southern California Edison
Director of on-call survey, resource identification, documentation, testing, and evaluation efforts related to Southern California Edison infrastructure replacements and development throughout the state on both private and public lands, including BLM, USACE, and USFS. Product involves completion of State of California DPR forms, assessment of resource significance according to NRHP eligibility and CEQA significance criteria, and management recommendations. Work done before joining EDAW.

**Hercules Gunpowder Point Historical Resources Evaluation, Chula Vista, CA**
**Project Director**
**CLIENT:** U.S. Fish and Wildlife Service
Project director for the historical evaluation of the Hercules Powder Company Gunpowder Point facility in Chula Vista. Supervised archival and historical research, directed field survey and documentation efforts, and provided National Register eligibility evaluation for the site. Work done before joining EDAW.

**Downtown San Diego African-American Heritage Study, San Diego, CA**
**Senior Historian**
**CLIENT:** Centre City Development Corporation (CCDC)
Documented the development and growth of the African-American community in downtown San Diego through the 19th and 20th centuries. Archival information, oral histories, architectural evaluations, and recognition of potential archaeological sites were used to document the African-American community's economic, social, and political history in the downtown area, and to identify an African-American Thematic Historic District. Work done before joining EDAW.

**Mannasse's Corral/Presidio Hills Golf Course, San Diego, CA**
**Project Manager**
**CLIENT:** Presidio Hills Golf Course
Directed and managed archaeological excavation and interpretation of historic refuse and features related to Old Town San Diego located within the city-owned Presidio Hills Golf Course property. Conducted analysis of excavated material, researched and interpreted site history and use, and assessed resource significance, broadening the understanding of Old Town's archaeological signature and historic lifeways. Work done before joining EDAW.

**Old Town San Diego State Historic Park Archaeological Excavations, San Diego, CA**
**Project Manager**
**CLIENT:** Bazaar del Mundo LLC/California State Parks
Managed excavation and analysis of 19th-century deposits recovered from two locations within Old Town State Historic Park, representing roadbed flood wash and tavern refuse, respectively. Oversaw ceramic and glass cataloguing, and conducted historical research and interpretation on specific site uses and depositional processes. Prepared State of California DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work done before joining EDAW.

**Cole Road and Dogwood Road Widening Projects, Imperial County, CA**

**Project Director**

**CLIENT:** City of El Centro

Project management of field survey and documentation efforts related to the widening of Dogwood Road and Cole Road in unincorporated Imperial County. Produced CEQA and Caltrans-format documentation related to identified resources and proposed project impacts. Work done before joining EDAW.

**Blackwater West Cultural Resources Phase I and Phase II Studies, Potrero, CA**

**Project Director**

**CLIENT:** Blackwater USA

Project director overseeing the survey of an approximately 850-acre area in eastern San Diego County and test excavation of identified prehistoric sites. Directed archaeological and built environment documentation, Extended Phase I testing, and Phase II testing efforts under the new County of San Diego Guidelines implemented September 2006. Work done before joining EDAW.

**Vine/Carter Hotel Historical Assessment, San Diego, CA**

**Project Manager**

**CLIENT:** Wakeland Housing

Conducted extensive archival research and historical assessment of the African-American-owned Vine/Carter Hotel building in San Diego's East Village. Conducted historical research on the building's ownership history and development; its historical uses, managers, and residents; and its place in San Diego's historical African-American community. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State of California DPR forms, and assessed the building's significance according to local, state, and federal significance criteria. As a result of the project, the Vine/Carter Hotel was nominated as a significant historical resource by the City of San Diego Historical Resources Board. Work done before joining EDAW.

**Mission San Gabriel Gardens Excavation, Jump Start Project, San Gabriel, CA**

**Project Manager**

**CLIENT:** Terry A. Hayes Associates

Conducted monitoring and excavation of Spanish colonial and American-era deposits associated with the construction of the original Mission San Gabriel and later 19th-century occupations. Documented the sites according to State Office of Historic Preservation guidelines, and assessed the resources according to NRHP and CEQA significance criteria. Work done before joining EDAW.

**Lillian Grant Property Public Art Project, San Diego, CA**

**Project Manager**

**CLIENT:** Wakeland Housing

Provided historical research services and written text incorporated into the public art commissioned for the redevelopment of the historical Lillian Grant Property in the East Village of San Diego. The public art, located at 14th and J streets at the Lillian Place affordable housing complex, commemorates the histories, experiences, and contributions of African-Americans to the development of San Diego and the East Village area in particular. Work done before joining EDAW.

**Lillian Grant Property Historic American Building Survey (HABS), San Diego, CA**

**Project Manager**

**CLIENT:** Wakeland Housing

Supervised HABS of the Lillian Grant properties in the East Village community of San Diego, submitted to the City of San Diego. Oversaw archival quality photographic documentation, and architectural line and plan drawings, as well

as completed required HABS historical narrative on the subject buildings. Work done before joining EDAW.

**San Gabriel Mission Trench Excavation, San Gabriel, CA**
**Senior Archaeologist**
**CLIENT:** Terry A. Hayes Associates
Conducted historical and archival research on the prehistory and history of the San Gabriel Mission and surrounding areas to assess potential impacts of proposed below-grade railway trench. Compiled historical narrative, identified potential subsurface features, and recommended appropriate mitigation strategies. Work done before joining EDAW.

**Camp Seely National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA**
**Senior Historian**
**CLIENT:** City of Los Angeles Department of Recreation and Parks
Conducted NRHP evaluation of the early-20th-century Camp Seely recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, including Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work done before joining EDAW.

**Camp Radford National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA**
**Senior Historian**
**CLIENT:** Michael Brandman Associates
Conducted NRHP evaluation of the early-20th-century Camp Radford recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work done before joining EDAW.

**High Winds Wind Farm Project, Solano County, CA**
**Senior Archaeologist**
**CLIENT:** Environmental Services Associates (ESA)
Conducted archival and historical research on the settlement and development of southern Solano County. Evaluated nine historic resources and surrounding landscape significance according to CEQA criteria. Completed historical background and assessment report, photographically documented resources and landscape, and updated State DPR forms for previously identified resources. Work done before joining EDAW.

## PUBLICATIONS

### Books

Jordan, Stacey. In prep. Coarse Earthenware Collections at the Cape: "…diverse kinds of baked and glazed earthenware…" and European Stoneware at the Cape: Masks, medallions and merchandise. In: *The Material Culture of the Dutch East India Company at the Cape of Good Hope, 1652-1800*, Carmel Schrire (ed.). Left Coast Press, Walnut Creek, CA.

Jordan, Stacey. 2002. Classification and Typologies. In: *Encyclopedia of Historical Archaeology*, Charles E. Orser, Jr. (ed.). Routledge. London.

Jordan, Stacey and Carmel Schrire. 2002. Material Culture and the Roots of Colonial Society at the South African Cape of Good Hope. In: *The Archaeology of Colonialism*, Claire Lyons and John Papadopoulos (eds.). Getty Research Institute. Los Angeles.

### Journal Articles

Jordan, Stacey C. 2000. Coarse Earthenware at the Dutch Colonial Cape of Good Hope, South Africa: A history of local production and typology of products. *International Journal of Historical Archaeology*, Vol. 4, No. 2.

Jordan, Stacey, Duncan Miller and Carmel Schrire. 1999. Petrographic Characterization of Locally Produced Pottery from the Dutch Colonial Cape of Good Hope, South Africa. *Journal of Archaeological Science*, Vol. 26.

Jordan, Stacey. 1994. Colonial Coarse Earthenware at the South African Cape of Good Hope, 1669-c.1900. *Crosscurrents*, Vol. VI.

## PAPERS AND PRESENTATIONS

*Dissertation: "The „Utility' of Coarse Earthenware: Potters, Pottery Production and Identity at the Dutch Colonial Cape of Good Hope South Africa (1652-1795)"*

*The Development of Colonial Culture at the South African Cape of Good Hope: Examining the many "functions" of utilitarian ceramics*. Paper presented at the Archaeology of Colonialism Symposium, Archaeological Institute of America Annual Meetings, January 2001.

*Urban Archaeology and the Focus of Memory: a study in the history and narrative of South Central Los Angeles*. Paper Presented at the Society for American Archaeology Annual Meeting, March 2002.

*Historical Archaeology as Anthropology: Artifacts, Identities, and Interpretations in the Study of the Recent Past*. Presented at the World Archaeological Congress, January 2003.

*Old Town Made New Again: The Archaeology of San Diego's First Settlement*. Paper presented at the Society for California Archaeology Annual Meeting, April 2005.

*Past as Present: Tourism and Archaeology in Old Town San Diego*. Presented at the Society for Applied Anthropology Annual Meeting, April 2005.

*The Face of Mercantilism at the South African Cape of Good Hope: Ceramics and the Hesitant Empire*. Presented at the Society for Historical Archaeology Annual Meeting, January 2006.

*A Patchwork History: Interweaving Archaeology, Narrative and Tourism in Old Town San Diego*. Paper presented at the Society for American Archaeology Annual Meeting, March 2007.

*Mannasse's Corral: The Life History of a Piece of Old Town*. Presented to the Presidio Council, January 2008.

*Making the Past Present: Archaeology, Heritage and Tourism in Old Town San Diego*. Paper presented at the Society for California Archaeology Annual Meeting, April 2008.

*CEQA and Historical Resources*. Guest Lecturer, California Environmental Quality Act, UCSD Extension Course, August 2008.

## CHERYL BOWDEN-RENNA
**Staff Archaeologist/Assistant Laboratory Director**

### SUMMARY
More than 12 years of experience in cultural resources management

Extensive survey, excavation, and monitoring experience

GPS mapping and post processing

Background in laboratory supervision and management

### EDUCATION
BA, Anthropology, San Diego State University, 1987

Square supervisor and field school, Instructor, at Tel Dor, Israel, U.C. Berkeley

### AFFILIATIONS
Society for California Archaeology

### CERTIFICATIONS
40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER Course maintained since 1996)

### PAPERS AND PRESENTATIONS
*Sandstone Features Adjacent to Lake Cahuilla* (with S. Rose). Proceedings of the Society of California Archaeology 1998 Annual Meeting, Volume 12, Fresno (1999).

*The Cultural Resources of the Chocolate Mountains* (with R. Apple). Presented to the 2004 Society of California Archaeological Annual Meeting.

Cheryl Bowden-Renna has served as archaeologist and assistant laboratory director for several cultural resource firms in San Diego. With 15 years of archaeological experience, Ms. Bowden-Renna has worked at sites throughout the southwestern United States. She also has a background in accounting, database management, and has developed solid management and supervisory skills.

Ms. Bowden-Renna has extensive archaeological monitoring experience of ordnance removal at the Salton Sea Test Base in Imperial County. She has also served as archaeological monitor of the test excavation for the Inmate Reception Center in downtown San Diego. In that role, she was responsible for monitoring excavations, including the use of backhoes, during the data recovery of features from an urban historic site.

### PROJECT EXPERIENCE

**CALTRANS District 11 New Headquarters**
**Monitor**
**CLIENT:** DGS Federal Services
Monitoring for historic and prehistoric resources during preconstruction and construction for CALTRANS 11 New Headquarters.

**Camp Lockett**
**Monitor**
**CLIENT:** County of San Diego
Monitoring during construction of a sewage treatment facility in Campo, San Diego County.

**East Miramar Housing Alternative**
**Project Archaeologist**
**CLIENT:** U.S. Navy, Southwest Division and Marine Corps Air Station, Miramar
Conducted cultural resources survey, excavation, and evaluation of several sites located on MCB Miramar.

**Miramar Jet Fuel**
**Crew Chief**
**CLIENT:** U.S. Navy, Southwest Division and Marine Corps Air Station, Miramar
Conducted cultural resources survey for proposed fuel line for the Marine Corps, San Diego County.

**Riverside OHV Project, Riverside County**
**Crew Chief**
**CLIENT:** Riverside County Economic Development Authority
Conducted cultural resources survey of over 1,000 acres in Riverside County, California.

**Coronado Monitoring Project**
**Crew Chief/Monitor**
**CLIENT:** Sempra Energy and Utilities
Monitoring of powerline trenching on Coronado Island, California.

**Cross Valley Survey, Los Angeles County**
**Crew Chief**
**CLIENT:** City of Santa Clarita and Caltrans District 7
Conducted cultural resources survey in Los Angeles County, California.

CHERYL BOWDEN-RENNA

**McAuliffe (Winterwood) Community Park, San Diego, CA**
**Crew Chief**
**CLIENT:** City of San Diego
Crew chief for cultural resources survey of a proposed park.

**Two Crash Sites on The Barry M. Goldwater Range, Marine Corps Air Station, Yuma**
**Crew Chief**
**CLIENT:** U.S. Navy, Southwest Division and Marine Corps Air Station, Yuma
Crew chief for cultural resources survey of two helicopter crash sites.

**Cultural Resources Inventory For the Infantry Squad Battle Course (P-633), Marine Corps Base Camp Pendleton, CA**
**Crew Chief**
**CLIENT:** U.S. Navy, Southwest Division
Crew chief for cultural resources survey and site recordation.

**Emergency Storage Project, San Diego County, CA**
**Project Archaeologist, Crew Chief, Field Technician and Laboratory Analysis**
**CLIENT:** San Diego County Water Authority
Conducted cultural resources survey, testing and evaluation of several large project sites within San Diego County.

**Valley Rainbow Transmission Line Project, Riverside and San Diego Counties**
**Crew Chief**
**CLIENT:** San Diego Gas and Electric
Crew chief for cultural resources survey and site recordation for major portions of a large transmission line project.

**LMXU Village Center**
**Crew Chief**
**CLIENT:** Western Pacific Housing
Crew chief for cultural resources excavation and water screening.

**Plum Canyon Park Project, Los Angeles County**
**Crew Chief**
**CLIENT:** Los Angeles Department of Parks and Recreation
Conducted cultural resources survey for a community park in Saugus, Los Angeles County, California.

**Escondido Tract 207A**
**Project Archaeologist**
**CLIENT:** Elderly Development Company
Conducted cultural resources survey of 1.13 acres in the City of Escondido.

**North Baja Gas Pipeline Project, Riverside and Imperial Counties**
**Crew Chief and Monitor**
**CLIENT:** Foster Wheeler Environmental Corporation
Conducted cultural resources survey and monitoring for large pipeline project in Riverside and Imperial counties, California.

**Archaeological Testing and National Register Evaluation of Site CA-SDI-16,002 Near Range 210 Marine Corps Base Camp Pendleton, CA**
**Field Director**
**CLIENT:** U.S. Navy, Southwest Division
Field Director for test excavation of CA-SDI-16,002.

CHERYL BOWDEN-RENNA

**Ballpark Infrastructure, San Diego, CA**
**Field Monitor**
**CLIENT:** Sverdrup, Inc.
Historic monitoring and testing of downtown east village area for the proposed Ballpark.

**Ballpark Remediation, San Diego, CA**
**Field Monitor**
**CLIENT:** Sverdrup, Inc.
Historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

**Nobel Drive, San Diego County, CA**
**Field Monitor**
**CLIENT:** Boyle Engineering
Prehistoric monitoring of road extension to I-805 interchange.

**SEMPRA On-call Cultural Services, San Diego, CA**
**Field Monitor**
**CLIENT:** SEMPRA
Historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

**Inmate Reception Center Project, San Diego County, CA**
**Laboratory Supervisor**
**CLIENT:** County of San Diego
Conducted field monitoring of large machinery, including backhoes, during the data recovery of features from an urban historic site in downtown San Diego. Catalog and database management for project.

**Levee Bridge, San Diego County, CA**
**Crew Chief/Laboratory Supervisor**
**CLIENT:** U.S. Navy, Southwestern Division
Catalog, database management, table creation for CA-SDI-10,156 and discovery sites.

**Salton Sea Test Base Project, Imperial County, CA**
**Crew Chief**
**CLIENT:** U.S. Navy and OHM Remediation, Inc.
Site recordation, test excavation, and monitoring of 130 prehistoric sites in the County.

**SR-56 EIR, Cultural Investigations, San Diego County, CA**
**Laboratory Technician**
**CLIENT:** City of San Diego and Caltrans
Cataloged 12 prehistoric sites during preparation of EIR.

**SR-56 Cultural Resources Testing, San Diego County, CA**
**Crew Chief**
**CLIENT:** City of San Diego and Caltrans
Testing at 12 prehistoric sites.

**P-527 Santa Margarita/San Onofre Cultural Resources Testing and Monitoring, MCB Camp Pendleton, San Diego County, CA**
**Field Technician**
**CLIENT:** U.S. Navy, Southwest Division
Monitoring water treatment pond and pipeline construction in the County.

CHERYL BOWDEN-RENNA

**San Clemente Island Existing Conditions Study for Pumped Hydrostorage/Wind Farm Project, Los Angeles County, CA**
**Field Technician**
**CLIENT:** U.S. Navy, Southwest Division
Recording 80 sites on San Clemente Island.

**Tactical Aircrew Combat Training System Range Upgrade, MCAS Yuma, Yuma County, AZ**
**Field Technician**
**CLIENT:** U.S. Navy, Southwest Division
Phase I cultural resource survey of proposed transmission line and 17 threat emitter stations.

**Boulder Valley Project, San Diego County, CA**
**Crew Chief**
**CLIENT:** Private Developer
Cultural resource survey of proposed reservoir and pipeline tunnels in the County.

**Pacific Rim Laboratory Analysis, San Diego County, CA**
**Field Technician**
**CLIENT:** Private Developer
Analyzed CA-SDI-691, a prehistoric site on Batiquitos Lagoon.

**Cal Terraces Laboratory Analysis, San Diego County, CA**
**Laboratory Technician**
**CLIENT:** County of San Diego
Analyzed one prehistoric site, and reanalyzed two prehistoric sites, in Otay Mesa.

**Elsmere Cultural Resource Survey, Los Angeles County, CA**
**Field Technician**
**CLIENT:** Elsmere Corporation
Conducted cultural resource survey of 2,200 acres in the San Gabriel Mountains.

**Kern River Project, San Bernardino County, CA, Beaver, Miller, and Utah Counties, UT, and Clark County, NV**
**Field Technician**
**CLIENT:** Federal Energy Regulatory Commission
Excavated, surveyed, and monitored along pipeline right-of-way. Analyzed artifacts from all phases of project in Las Vegas, Nevada.

**Coursegold Excavation, Madera County, CA**
**Field Technician**
**CLIENT:** Caltrans
Excavated site for Caltrans road widening.

**Vandenberg Laboratory Analysis, Santa Barbara County, CA**
**Laboratory Technician**
**CLIENT:** U.S. Navy
Sorted artifacts and wet-screened column samples.

**Camelot Cultural Resource Survey, Kern County, CA**
**Crew Chief**
**CLIENT:** Private Developer
Conducted a cultural resource survey of a 200-acre lot split in the Mojave Desert.

CHERYL BOWDEN-RENNA

**SR-86 Cultural Resource Survey, Imperial County, CA**
**Crew Chief**
**CLIENT:** Caltrans
Conducted a cultural resource survey of SR-86 road widening in the County.

**Black Mountain Ranch Excavation, San Diego County, CA**
**Laboratory Supervisor**
**CLIENT:** Private Developer
Excavated and analyzed 15 prehistoric sites in the La Jolla Valley.

**Cannon Ranch Reaches 3 and 4, San Diego County, CA**
**Crew Chief**
**CLIENT:** City of Carlsbad
Excavated and analyzed two prehistoric sites in Carlsbad.

**Rancho San Miguel Project, San Diego County, CA**
**Field Technician/laboratory Supervisor**
**CLIENT:** San Diego Gas & Electric
Excavated and analyzed nine sites and conducted extensive surface collections in the County.

**Cottonwood Canyon Laboratory Analysis, Riverside County, CA**
**Laboratory Supervisor**
**CLIENT:** Private Developer
Analyzed two prehistoric sites in the County.

**Rancho del Rey (Spa III) Excavation, San Diego County, CA**
**Field Technician/laboratory Supervisor**
**CLIENT:** Private Developer
Excavated and analyzed a prehistoric site in Chula Vista.

**Stallions Crossing Laboratory Analysis, San Diego County, CA**
**Laboratory Supervisor**
**CLIENT:** Private Developer
Analyzed five prehistoric sites in Del Mar.

**Valley Ranch Cultural Resource Survey, Los Angeles County, CA**
**Crew Chief**
**CLIENT:** Private Developer
Conducted cultural resource survey of 350 acres in Palmdale.

**Fairbanks Highland Cultural Resource Survey, San Diego County, CA**
**Field Technician/Laboratory Supervisor**
**CLIENT:** Private Developer
Conducted cultural resource survey, excavation, and analysis.

**Eagle Mountain Cultural Resource Survey, Riverside County, CA**
**Crew Chief**
**CLIENT:** Kaiser Mine Co.
Conducted cultural resource survey of the Eagle Mountain mine and railroad to Salton Sea.

**Santa Margarita River Cultural Resource Survey, San Diego and Riverside Counties, CA**
**Crew Chief**
**CLIENT:** Private Developer
Conducted cultural resource survey of Santa Margarita River from Temecula to the Pacific Ocean.

CHERYL BOWDEN-RENNA

**Scripps Ranch North Excavation, San Diego County, CA**
**Field Technician/Laboratory Supervisor**
**CLIENT:** Pardee
Excavated and analyzed two prehistoric sites and one historic site in Poway.

**Sycamore Canyon Excavation, San Diego County, CA**
**Field Technician/Laboratory Supervisor**
**CLIENT:** County of San Diego
Excavated and analyzed two prehistoric sites east of Poway.

**Los Campanos Excavation, San Diego County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** Private Developer
Excavated and analyzed four prehistoric sites and one historic site in Valley Center.

**American Girl Mine Cultural Resource Survey, Imperial County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** American Girl Mine Co.
Conducted cultural resource survey, excavation, and analysis of historic artifacts from a historic gold mining town in the Cargo Muchacho Mountains.

**Railroad Canyon Cultural Resource Survey, Riverside County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** Caltrans
Conducted cultural resource survey, excavation, and analysis of a road realignment in Temecula.

**Edwards Air Force Base Cultural Resource Survey, Excavation, and Analysis, Kern County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** U.S. Air Force
Conducted cultural resource survey, excavation, and analysis of 1,000-acre area on Edwards Air Force Base.

**Johnson-Taylor Adobe Excavation, San Diego County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** County of San Diego Parks and Recreation Department
Excavated and analyzed the area around the Johnson-Taylor Adobe and C wing.

**Pacific Rim Laboratory Analysis, San Diego County, CA**
**Field Technician/Laboratory Technician**
**CLIENT:** Private Developer
Conducted extensive shell and lithic analysis of prehistoric sites on Batiquitos Lagoon.

## REPORTS

Cultural Resources Survey for the Lockheed/Laborde Canyon Off-Highway Vehicle (OHV) Park, Riverside County, California. Prepared for the Riverside County Economic Development Authority (2004).

Supplemental Cultural Resources Survey Emergency Storage Project, Relocated Beeler Mitigation Shaft and Staging Area, San Diego County, California. Prepared for the San Diego County Water Authority (2004).

Supplemental Cultural Resources Survey Emergency Storage Project, San Vicente Pipeline Geotechnical Boring #102h at Slaughterhouse Canyon, San Diego County, California. Prepared for the San Diego County Water Authority (2004).

**CHERYL BOWDEN-RENNA**

Archaeological Survey for Replacements of Jet Fuel USTs and Distribution System, MCAS Miramar San Diego County, California (with Jackson Underwood). Prepared for the U.S. Navy, Southwest Division (2004).

Evaluation of Three Cultural Resources Along the Shore of Lake Hodges, San Diego County Water Authority Emergency Storage Project (with Christy Dolan and Rebecca Apple). Prepared for the San Diego County Water Authority (2003).

Supplemental Cultural Resources Survey Emergency Storage Project, San Vicente Pipeline Geotechnical Boring Locations and San Vicente Pipeline Tunnel Facilities, San Diego County, California (with Lori Lilburn). Prepared for the San Diego County Water Authority (2003).

Supplemental Cultural Resources Survey, Emergency Storage Project, San Vicente Pump Station 69 kV Transmission Line Alternatives, San Diego County, California. Prepared for the San Diego County Water Authority (2003).

Phases I, II and III Literature Review and Cultural Resources Survey for the North City Water Reclamation System Project. Prepared for the City of San Diego. EDAW, Inc. (2002).

Archaeological Survey For Two Crash Sites On the Barry M. Goldwater Range Marine Corps Air Station, Yuma (with Rebecca Apple). Prepared for U.S. Department of the Navy Southwest Division and Marine Corps Air Station, Yuma. EDAW, Inc., San Diego (2002).

Supplemental Cultural Resources Survey Emergency Storage Project, Geotechnical Boring Locations, San Vicente Pipeline, San Diego County, California (with Tanya Wahoff and Rebecca Apple). Prepared for the San Diego County Water Authority. KEA Environmental, Inc. (2002).

Addendum 9 to Cultural Resources Overview and Survey for the North Baja Gas Pipeline Project: Archaeological Survey of the Ripley Contractor's Yard (with Rebecca Apple). Prepared for Foster Wheeler Environmental Company (2001).

Cultural Resources Technical Report for the Valley Rainbow Interconnect (with James H. Cleland and Tanya Wahoff). Prepared for San Diego Gas and Electric. KEA Environmental, Inc. (2001).

Cultural Resource Survey of the McAuliffe (Winterwood) Community Park San Diego, California (with Rebecca Apple). Prepared for the City of San Diego. EDAW, Inc., San Diego (2001).

Archaeological Survey for the City of Escondido Segment of the Multiple Habitat Conservation Program Acquisition Project (EIR 200-14) San Pasqual Valley, San Diego County California (with James Eighmey). Prepared for the City of Encinitas. KEA Environmental, San Diego (2000).

Archaeological Survey for the City of Encinitas Segment of the Multiple Habitat Conservation Program Acquisition Project (EIR 200-14) Encinitas, San Diego County, California (with James Eighmey). Prepared for the City of Encinitas. KEA Environmental, San Diego (2000).

Cultural Resource Survey of the Escondido Tract 207A City of Escondido, San Diego County, California (with Rebecca Apple). Prepared for the Elderly Development Company. KEA Environmental, San Diego (2000).

Cultural Resource Survey of the Plum Canyon Park Project, Saugus, Los Angeles County, California (with Rebecca Apple). Prepared for the Los Angeles County Department of Parks and Recreation. KEA Environmental, San Diego (2000).

**CHERYL BOWDEN-RENNA**

Cultural Resource Survey for the San Diego Water Authority Moreno Lakeside Alternative Project, San Diego County, California (with R. McCorkle Apple and L. Lilburn). Prepared for the San Diego County Water Authority. KEA Environmental, San Diego (2000).

Archaeological Monitoring of the Nobel Drive Extension and I-805 Interchange (with R. McCorkle Apple). Prepared for Boyle Engineering. KEA Environmental, San Diego (2000).

Cultural Resource Survey for the San Diego Water Authority, Emergency Storage Project Potential Wetlands Creation Sites, C2, C3, C4, C5, and C6, San Pasqual Valley, San Diego County, California (with R. McCorkle Apple). Prepared for the San Diego County Water Authority. KEA Environmental, San Diego (2000).

Archeological Monitoring Program for Ordnance Removal at the Salton Sea Test Base, Imperial County, California (with R. McCorkle Apple and S. Rose). Prepared for the U.S. Navy. KEA Environmental, San Diego (1998).

Biological and Archaeological Monitoring of Remediation Work at the Salton Sea Test Base, Imperial County, California (with R. McCorkle Apple and D. Scoles). Prepared for OHM Remediation Services Corporation. KEA Environmental, San Diego (1997).

Archaeological Survey of a 129-Acre Parcel, the Devore Property, San Bernardino County, California. Prepared for Montecite Equities, Inc. Recon, San Diego (1990).

Archaeological Testing of CA-RIV-1057, Loci A-F, Perris Valley, Riverside County, California (with S.A. Wade). Prepared for Hogle & Associates. Recon, San Diego (1990).

Significance Assessment of SDI-11,463 and SDI-11,464 for the Bresa del Mar Development, San Diego County, California (with D.M. Cheever). Prepared for Bonsall Land, Inc. Recon, San Diego (1990).

Archaeological Survey and Site Update for Carlsbad Promenade, Carlsbad, California (with S.A. Wade). Prepared for City of Carlsbad. Recon, San Diego (1990).

# APPENDIX C

## DPR FORMS
***(Confidential – Bound Separately)***

# APPENDIX D

# NATIVE AMERICAN CONSULTATION

**EDAW Inc**
1420 Kettner Boulevard, Suite 500, San Diego, California 92101
T 619.233.1454 F 619.233.0952 www.edaw.com

# Facsimile

| **Please deliver to** | | **From** | |
|---|---|---|---|
| Name | | Name | Cheryl Bowden-Renna |
| Firm | Native American Heritage Commission | Direct line | 619-233-1454 x 6815 |
| Fax number | 916-657-5390 | Date transmitted | 5/1/2009 |
| Phone number | | Total pages | 01 |
| Subject | Energia Sierra Juarez (ESJ) U.S. Transmission, LLC. (ESJ-US) Project | | |
| Project number | 06080136 | | |

We are contacting you to request a sacred lands file check for the proposed Energia Sierra Juarez (ESJ) U.S. Transmission, LLC. (ESJ-US) Project. The project area is to be located approximately 4 miles east of Jacumba, in the southeast corner of San Diego County, near the Imperial County Line. The project area comprises approximately 60 acres located approximately 75 miles (120.70 km) from downtown San Diego and approximately one-half mile (0.8 km) south of Interstate 8. This area incorporates a 1-mile radius around the sections located on the following quadrangles:

In-Ko-Pah Gorge Sections 1 and 12, T18S, R8E

If you have any questions, please do not hesitate to call me at (619) 233-1454.

Sincerely,

Cheryl Bowden-Renna
Archaeologist/Associate

**NATIVE AMERICAN HERITAGE COMMISSION**
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

March 27, 2009

Ms. Cheryl Bowden-Renna, Archaeologist
**EDAW, INC.**
1420 Kettner Boulevard, Suite 500
San Diego, CA 92101

Sent by FAX to: 619-233-0952
No. of Pages: 4

Re: Request for a Sacred Lands File records search and Native American Contacts list for the **Energia Sierra Juarez (ESJ) U.S. Transmission, LLC (ESJ-US) Project.** Located in the In-Ko-Pah Area on the San Diego and imperial County Line, California

Dear Ms. Bowden-Renna:

The Native American Heritage Commission (NAHC) was able to perform a record search of its Sacred Lands File (SLF) for the affected project area (APE). The SLF search did_ indicate the presence of Native American cultural resources in the project area (APE or 'area of potential effect) and environs.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Enclosed are the names of the nearest tribes that may have knowledge of cultural resources in the project area. We recommend that you contact persons on the attached list of Native American contacts. A Native American tribe or individual may be the only source of information about a cultural resource. They may have specific knowledge as to whether or not the known cultural resources identified may be at-risk by the proposed project. We also suggest that you contact the nearest information center of the California Historic Resources Information System (CHRIS); a location nearest you can be obtained by calling the Office of Historic Preservation at (916) 653-7278.

Lead agencies should consider avoidance, as defined in Section 15370 of the California Environmental Quality Act (CEQA) when significant cultural resources could be affected by a project. Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery. Discussion of these should be included in your environmental documents, as appropriate.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road Diegueno
Lakeside , CA 92040
sue@barona-nsn.gov
(619) 443-6612
619-443-0681

Sycuan Band of the Kumeyaay Nation
Danny Tucker, Chairperson
5459 Sycuan Road Diegueno/Kumeyaay
El Cajon , CA 92021
ssilva@sycuan-nsn.gov
619 445-2613
619 445-1927 Fax

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
PO Box 1120 Diegueno
Boulevard , CA 91905
(619) 478-2113
619-478-2125

Viejas Band of Mission Indians
Bobby L. Barrett, Chairperson
PO Box 908 Diegueno/Kumeyaay
Alpine , CA 91903
daguilar@viejas-nsn.gov
(619) 445-3810
(619) 445-5337 Fax

San Pasqual Band of Mission Indians
Allen E. Lawson, Chairperson
PO Box 365 Diegueno
Valley Center , CA 92082
(760) 749-3200
(760) 749-3876 Fax

Kumeyaay Cultural Historic Committee
Ron Christman
56 Viejas Grade Road Diegueno/Kumeyaay
Alpine , CA 92001
(619) 445-0385

Santa Ysabel Band of Diegueno Indians
Johnny Hernandez, Spokesman
PO Box 130 Diegueno
Santa Ysabel , CA 92070
brandietaylor@yahoo.com
(760) 765-0845
(760) 765-0320 Fax

Mesa Grande Band of Mission Indians
Mark Romero, Chairperson
P.O Box 270 Diegueno
Santa Ysabel , CA 92070
mesagrandeband@msn.com
(760) 782-3818
(760) 782-9092 Fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed IEnergia Energia Sierra Juarez (ESJ), U.S. Transmission, LLC (ESJ-US) Project; located in the In-Ko-Pah Community on the San Diego-Imperial County line, California for which a Sacred Lands File search and Native American Contacts list were requested.**

**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Manzanita Band of Kumeyaay Nation
Leroy J. Elliott, Chairperson
PO Box 1302 Kumeyaay
Boulevard , CA 91905
(619) 766-4930
(619) 766-4957 Fax

Manzanita Band of the Kumeyaay Nation
Nick Elliott, Cultural Resources Coordinator
P.O. Box 1302 Kumeyaay
Boulevard , CA 91905
(619) 766-4930
(619) 925-0952 - cell
(919) 766-4957

Campo Kumeyaay Nation
Monique LaChappa, Chairperson
36190 Church Road, Suite 1 Kumeyaay
Campo , CA 91906
chairman@campo-nsn.gov
(619) 478-9046
(619) 478-5818 Fax

Ah-Mut-Pipa Foundation
Preston J. Arrow-weed
P.O. Box 160 Quechan
Bard , CA 92222 Kumeyaay
(928) 388-9456

ahmut@earthlink.net

Ewiiaapaayp Tribal Office
Will Micklin, Executive Director
PO Box 2250 Kumeyaay
Alpine , CA 91903-2250
wmicklin@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

Ewiiaapaayp Tribal Office
Michael Garcia, Vice-Chairman/EPA Director
PO Box 2250 Kumeyaay
Alpine , CA 91903-2250
michaelg@leaningrock.net
(619) 445-6315 - voice
(619) 445-9126 - fax

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

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**Native American Contact**
Imperial and San Diego Counties
March 27, 2009

Kumeyaay Cultural Heritage Preservation
Paul Cuero
36190 Church Road, Suite 5 Diegueno/ Kumeyaay
Campo , CA 91906
chairman@campo-nsn.gov
(619) 478-9046
(619) 478-9505
(619) 478-5818 Fax

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas
P.O. Box 775 Diegueno -
Pine Valley , CA 91962
(619) 709-4207

Kumeyaay Cultural Repatriation Committee
Steve Banegas, Spokesperson
1095 Barona Road Diegueno/Kumeyaay
Lakeside , CA 92040
(619) 742-5587
(619) 443-0681 FAX

Clint Linton
P.O. Box 507 Diegueno/Kumeyaay
Santa Ysabel , CA 92070
(760) 803-5694
cjlinton73@aol.com

**This list is current only as of the date of this document.**

**Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.**

**This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed IEnergia Energia Sierra Juarez (ESJ), U.S. Transmission, LLC (ESJ-US) Project; located in the In-Ko-Pah Community on the San Diego-Imperial County line, California for which a Sacred Lands File search and Native American Contacts list were requested.**

Slaney 2

# County of San Diego

**ERIC GIBSON**
*DIRECTOR*

**DEPARTMENT OF PLANNING AND LAND USE**

5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CALIFORNIA 92123-1666
INFORMATION (858) 694-2960
TOLL FREE (800) 411-0017

March 30, 2009

***TO:***

Ah-Mut-Pipa Foundation
Mr. Preston J. Arrow-weed
Barona Group of the Capitan Grande
Mr. Edwin Romero, Chairperson
Campo Kumeyaay Nation
Ms. Monique LaChappa, Chairperson
Ewiiaapaayp Band of Kumeyaay Indians
Mr. Will Micklin, Executive Director
Mr. Michael Garcia, Vice-Chairman/EPA Director
Kumeyaay Cultural Heritage Preservation
Mr. Paul Cuero
Kumeyaay Cultural Historic Committee
Mr. Ron Christman
Kumeyaay Cultural Repatriation Committee
Mr. Steve Banegas, Spokesperson
Kwaaymii Band of Mission Indians
Ms. Carmen Lucas
La Posta Band of Mission Indians
Ms. Gwendolyn Parada, Chairperson
Manzanita Band of the Kumeyaay Nation
Mr. Nick Elliot, Cultural Resource Coordinator
Mesa Grande Band of Mission Indians
Mr. Mark Romero, Chairman
San Pasqual Band of Mission Indians
Mr. Allen E. Lawson Jr., Chairman
Iipay Nation of Santa Ysabel
Mr. Johnny M. Hernandez, Spokesman
Mr. Clint Linton
Sycuan Band of the Kumeyaay Nation
Mr. Daniel Tucker, Chairman
Viejas Band of Kumeyaay Indians
Mr. Bobby L. Barrett, Chairman
Ms. Lisa Haws, Special Projects Manager



RE: SACRED LANDS CHECK; Project Name: Energia Sierra Juarez Gen-Tie Project; Project Numbers; Pre-App 09-009; In-Ko-Pah Gorge USGS; Sections: 1, 2, 11, and 12 ; Township: 18S ; Range: 8E

The County of San Diego (County) requests your participation in the review process of the Energia Sierra Juarez (ESJ) Gen-Tie Project, Pre-App 09-009. This project proposes to connect the ESJ Wind Energy Facility in northern Baja California Mexico near the town of La Rumorosa with the Imperial Valley-Miguel segment of the Southwest Powerlink located in San Diego County. It is located in the southeastern corner of San Diego County (APNs# 661-090-03, -04, -05, and -06) in the community planning area of Jacumba/Mountain Empire and is subject to the California Environmental Quality Act (CEQA), and the County of San Diego Resource Protection Ordinance (RPO). Staff contacted the Native American Heritage Commission (NAHC) who has requested that we contact you directly regarding the potential for the presence of Native American cultural resources that may be impacted by this project. The project is currently in the process of environmental review.

Any information you have regarding cultural places will be kept strictly confidential and will not be divulged to the public. Although we are providing to you for the purposes of your review this confidential information regarding the location of cultural places, this information is not available to the public.

The County of San Diego feels that your comments regarding decisions that may affect ancestral tribal sites are very important. Please forward any comments regarding this project to Heather Kwiatkowski by April 30, 2009.

If you have any questions, you can reach me at (858) 694-3716; further contact information can be found below.

Sincerely,

Heather Kwiatkowski

Heather Kwiatkowski
Staff Archaeologist

Department of Planning and Land Use
5201 Ruffin Road, Suite B, MS 0650
San Diego, CA 92123-1666
(858) 694-3716
(858) 694-3373 fax
<mailto:heather.kwiatkowski@sdcounty.ca.gov>

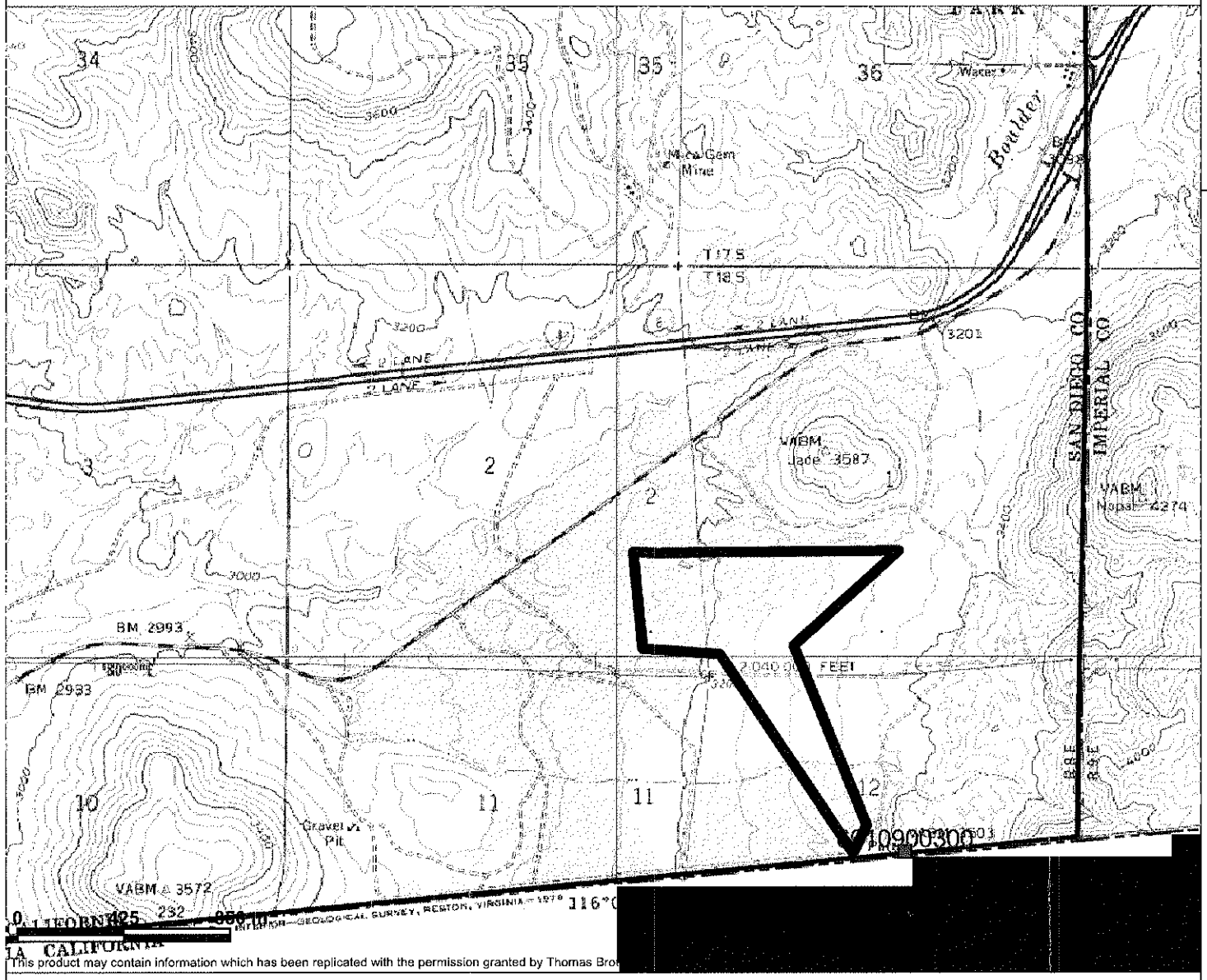
HK:hk

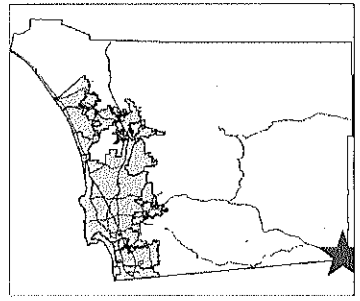
Attachment
USGS In-Ko-Pah Gorge Map

cc: Joan Heredia, Sempra Generation, 101 Ash St, San Diego, CA 92101
Michael Page, 1420 Kettner Blvd, Ste 500, San Diego, CA 92101
Stacey Jordan, EDAW, 1420 Kettner Blvd, Ste 500, San Diego, CA 92101
Chantal Saipe, Tribal Liaison, Chief Administrative Office, M.S. A-6

Email cc: Patrick Brown, Project Manager, DPLU

# ESJ Gen-Tie Project



## Legend

**Water Bodies**

Water Bodies

**USGS 7.5 Min Topo Quad**

Scale: 1:23,883



DPLU GIS

# APPENDIX E

## CONFIDENTIAL FIGURES
***(Confidential – Bound Separately)***

Appendix D.4 Draft Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application Jacumba, California (February 2011)

# DRAFT
# ARCHAEOLOGICAL AND HISTORICAL INVESTIGATIONS FOR THE ENERGIA SIERRA JUAREZ U.S. MAJOR USE WATER EXTRACTION PERMIT (MUP) APPLICATION JACUMBA, CALIFORNIA

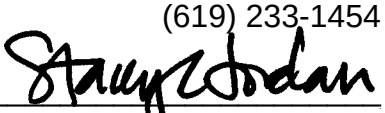
Energia Sierra Juarez U.S. Transmission, LLC
MUP 10-014, KIVA PROJECT 3300-10-014

***Lead Agency:***

County of San Diego
Department of Planning and Land Use
Contact:
Patrick Brown
5201 Ruffin Road, Suite B
San Diego, California 92123
(619) 694-3831

***Preparers:***

Stacey C. Jordan, Ph.D., R.P.A.
AECOM
1420 Kettner Blvd., Suite 500
San Diego, California 92101
(619) 233-1454



Stacey C. Jordan, Ph.D.

With contributions by Cheryl Bowden-Renna.

***Project Proponent:***

Energia Sierra Juarez U.S. Transmission, LLC
101 Ash Street, HQ 14
San Diego, California 92101

February 2011

## National Archaeological Data Base Information

| | |
|---|---|
| Authors: | Stacey C. Jordan with contributions by Cheryl Bowden-Renna |
| Firm: | AECOM |
| Client/Project Proponent: | Energia Sierra Juarez U.S. Transmission, LLC |
| Report Date: | February 2011 |
| Report Title: | Draft Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California |
| Type of Study: | Intensive Pedestrian Survey |
| New Sites: | None |
| Updated Sites | CA-SDI- 4455; P-37-024023 |
| USGS Quad: | Jacumba 1975 |
| Acreage: | Approximately 1.47 acres |
| Permit Numbers: | MUP 10-014, KIVA PROJECT 3300-10-014 |
| Key Words: | Intensive pedestrian survey, Prehistoric, CA-SDI-4455, Village of *Hacúm*, Historic, P-37-024023, Old Highway 80 |

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## LIST OF TABLES

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## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| amsl | above mean sea level |
| APE | Area of Potential Effect |
| bgs | below ground surface |
| B.P. | Before Present |
| CEQA | California Environmental Quality Act |
| CRHR | California Register of Historical Resources |
| DPLU | County of San Diego Department of Planning and Land Use |
| DPR | Department of Parks and Recreation |
| DPW | San Diego County Department of Public Works |
| ESJ | Energia Sierra Juarez |
| ESJ U.S. | Energia Sierra Juarez U.S. Transmission, LLC |
| Gen-Tie | generator interconnection line |
| HPSR | Historic Property Survey Report |
| In | inches |
| JCSD | Jacumba Community Service District |
| JDAD | Jacuma Discontiguous Archaeological District |
| kV | Kilovolt |
| Local Register | San Diego County Local Register of Historical Resources |
| MUP | Major Use Water Extraction Permit |
| NAHC | Native American Heritage Commission |
| NRHP | National Register of Historic Places |
| R.P.A. | Register of Professional Archaeologist |
| RPO | San Diego County Resource Protection Ordinance |
| SCIC | South Coastal Information Center |
| SHPO | State Historic Preservation Office |
| U.S. | United States |

## MANAGEMENT SUMMARY

### Project Description

For the purposes of this Cultural Resources Technical Report, the "project" refers to the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California. A new access route, approximately 150 feet in length, is proposed from Old Highway 80 to an existing well site. All other facilities are existing.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ U.S.), on behalf of Jacumba Community Service District (JCSD), is preparing a San Diego County Major Use Water Extraction Permit (MUP) Application to allow for the acquisition of water from an existing JCSD warm water well and its use at the ESJ U.S. project site to control fugitive dust during an approximately 6 month construction schedule. It is estimated that approximately 800,000 gallons of water will be purchased for this purpose. The County of San Diego is currently reviewing a separate ESJ U.S. MUP for the construction, operation, and maintenance of a less than one mile segment of an "electric generator-tieline" (Gen-Tie) in Eastern San Diego County (KIVA Project: 09-0107420). The proposed ESJ Gen-Tie Project consists of a single circuit 500 kV line or double-circuit 230 kV line supported on three to five 150-foot steel lattice towers or 170-foot steel monopoles. It is at this project site where the water will be used for dust control. A cultural resources technical report has been previously prepared by AECOM for this project (Jordan 2009).

### Surveys/Investigations

AECOM staff conducted pedestrian archaeological and historical survey investigations on January 25, 2011. This survey covered the proposed access route to the existing JCSD water well and 100 ft (30 m) buffer on either side of the proposed 150 ft (45 m) linear access route, which total approximately 1.47 acres, defined for the purposes of this study as the Project APE.

Prior to conducting the survey investigations, AECOM conducted a literature review of at the South Coastal Information Center (SCIC), housed at San Diego State University on January 24, 2011. The records search indicated that the proposed project is located within the site boundary for site CA-SDI-4455. This site has been previously recorded as the village site of *Hacúm*. Portions of this site, south of the proposed project area, have been tested and a substantial subsurface deposit was observed (Joyner and Beck 1991). The County of San Diego's Department of Public Works has previously recommended this site as eligible for inclusion to the National Register of Historic Places (NRHP) (Joyner and Beck 1991). AECOM staff also sent a Sacred Lands file search request to the Native American Heritage Commission (NAHC) on January 24, 2011. To date no response has been received. At the request of the County, Mr. Clint Linton, Kumeyaay representative, was contacted by telephone to notify them of the

survey and solicit their participation. Mr. Linton was not available at this time to participate in the survey effort.

During the survey investigation, no cultural material was observed within the proposed project area. Several quartz flakes were observed within the 100 ft (30 m) buffer area, north of the proposed access route.

As the proposed project area is located within the site boundary for CA-SDi-4455, a limited testing program is recommended prior to any ground disturbing activity in the area. Additionally, monitoring by a qualified archaeologist and a Native American monitor is recommended during all ground disturbing activities for the proposed project.

# 1.0 INTRODUCTION

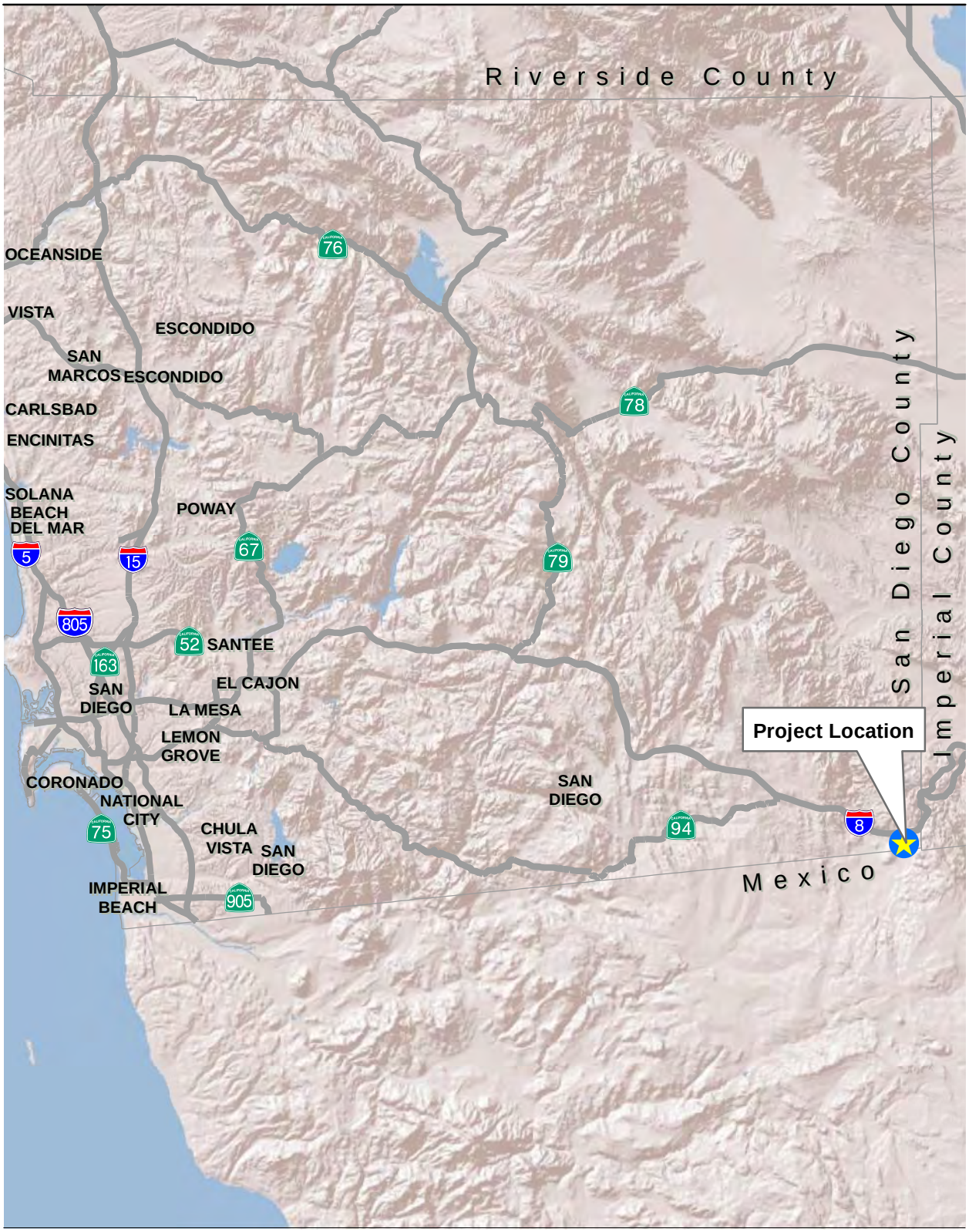
## 1.1 Project Description

For the purposes of this Cultural Resources Technical Report, the "project" refers to the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California.

The proposed project for this San Diego County MUP application is the acquisition of water from an existing Jacumba Community Service District (JCSD) warm water well #6, use of the water at the ESJ Gen-Tie construction site to control fugitive dust emissions, and construction of a new access route. It is estimated that approximately 800,000 gallons will be purchased and used over a six month period for this purpose. It should be noted that this water well has been in operation since 2003, serving the JCSD since that time.

The project is located west of downtown Jacumba, in southeastern San Diego County (Figures 1 and 2). Water well #6 was drilled in 2003 to a depth of 465 feet below ground surface (bgs) and cased to 113 feet bgs. The well was initially intended for use as a potable water well; however, during drilling a hot springs aquifer was encountered. Due to its elevated temperature, use of the water is limited. The quality of the water is appropriate for fugitive dust control. The County of San Diego Department of Planning and Land Use (DPLU) has reviewed the water well quality and hydrology information and made an initial determination that water quality and quantity are adequate for the use of the water for the purpose sought in this application.

Access to the water well will be from Old Highway 80 via the construction of a new dirt road approximately 150 feet long by 15 feet wide (Figure 3). Water will be extracted from the well using an existing pump and flexible hose configuration. Water trucks will drive along the new access route, connect to the flexible hose, and upon filling will exit the site. It is estimated that two 2,500 gallon water trucks per day will be filled during a six day work week over a six month construction schedule. The speed limit in the immediate area where the easement is located on Old Highway 80 is 25 miles an hour, which will allow safe ingress and egress of the trucks. Additionally, there is an elementary school within 100 yards of the easement entrance. Visual sight lines from the exit meet County standards. The water will be transported approximately 3.75 miles west on Old Highway 80 to the ESJ Gen-Tie project site.




Source: SANGIS 2008; ESRI 2011

11 5.5 0 11 Miles

Scale: 1 = 696,960; 1 inch = 11 mile(s)

**Figure 1**
**Regional Location Map**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Well_Cultural\Figure1_Regional_Location.mxd, 02/03/11, SorensenJ*

Source: Sempra Energy 2009; SANGIS 2008; USGS 7.5' Topographic Quadrangle In-Ko-Pah Gorge, CA 1975, Jacumba, CA 1975

3,000 0 3,000 Feet

Scale: 1 = 36,000; 1 inch = 3,000 feet

**Figure 2**
**Project Vicinity Map**



Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Well_Cultural\Fig2_Well_Vicinity_8x11.mxd, 02/03/11, SorensenJ


Source: Sempra 2010; SANGIS 2010; DigitalGlobe 2008

50 25 0 50 Feet

Scale: 1 = 600; 1 inch = 50 feet

**Figure 3**
**Project Footprint**



*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Cultural\Well_Cultural\Fig3_Footprint.mxd, 02/03/11, SorensenJ*

The DPLU has requested the preparation of a Minor Stormwater Management Plan (minor SWMP). The minor SWMP includes options for standard sediment control devices such as silt fences, straw wattles, straw bales and soil stabilizers, as necessary to minimize soil erosion. There will be no fueling or hazardous materials at the site associated with the JCSD Water Extraction Project.

Construction impacts for the proposed project would include:

- Clearing and grubbing;
- Access road construction consisting of using fill;
- Construct drainage in the fill; and
- Final grading and site clean-up

Vegetation would be cleared and grubbed along the proposed access road. It is anticipated that the contractor will use dirt fill to smooth out the elevation transition from Old Highway 80 to the well site. A pipe will be build into this fill area to allow water to continue to cross underneath. The road will not be paved and will remain a dirt road. It is anticipated that limited ground disturbance will be necessary for the construction of the proposed access route and that the area of impact would be no more than 150 ft (45 m in length and 20 ft (6 m) in width.

## 1.2 Existing Conditions

### 1.2.1 Environmental Setting

**Natural**

The water well is located at the west end of downtown Jacumba in the southeast corner of San Diego County, on the north side of Old Highway 80. Two existing dirt roads provide access to the proposed project area. Currently the area is a vacant lot. Single family residences are located to the south of the project and an elementary school is located approximately 0.1 mile west of the project. Extensive pockets of dumping of trash and construction debris litter the area.

Precipitation averages 15.58 inches (in.) per year at Jacumba. Most rain falls from November to March. Jacumba experiences its hottest average temperatures in August, with an average maximum of 94 degrees Fahrenheit (°F). January is the coldest month, with an average high of 62°F (Weather Channel 2009).

Topography

The proposed project is in the Desert Slopes ecological subsection of the Southern California Mountains and Valleys ecological subregion in southeastern-most San Diego County. Located on the eastern side of the Peninsular Ranges physiographic region, formed by the large, intrusive La Posta igneous pluton (Walawender and Hanan 1991),

the proposed project is situated south of Table Mountain and the Jacumba Mountains and southwest of the In-Ko-Pah Mountains. Generally, the area contains steep to moderately steep mountains with narrow to rounded summits and broad valleys occupied by alluvial fans. The Table Mountain area provides the highest elevations within a 1-mile (1.61-km) radius of the project (3,000 to 4,000 feet [914.4 to 1,219.2 meters]) above mean sea level [amsl]) with slope gradients of up to 40 percent (Cook and Fulmer 1980). Although human uses have been found virtually anywhere in the level areas, site locations are concentrated in the Table Mountain Formation Gravels, at the escarpments of Table Mountain, and on "beaches" along the shores of well-watered drainages at the base of the Southern California Batholith. Concentrations in this area form significant patterns and imply that this geomorphic formation was particularly desirable for human occupation (May 1976).

Elevation at the project site is approximately 2,840 ft amsl and is located on a slight south facing slope into the drainage for Boundary Creek. The project is located at the base of hills leading up to Jacumba Peak and at the western edge of Jacumba Valley. A small ridge containing granitic outcroppings and boulders is located to the northeast of the proposed project.

Geology

The area began with the Mesozoic aged granitic bedrock of the Southern California Batholith, which was subsequently buried by Early Miocene-age Table Mountain Formation gravels. Subsequently, Late Miocene Jacumba Volcanics erupted to cover both earlier formations, distributing porphyritic pyroclastic materials throughout the region. Quaternary alluviation and Late Pleistocene erosion converted the Table Mountain Formation into ridges and terraces (May 1976). Gray Mountain, in the western portion of the Table Mountain area, is an exposure of the Southern California Batholith. The gravel-covered ridges in the general area are Table Mountain Formation Gravels, with Table Mountain itself composed of more recent intrusive Jacumba Volcanics (May 1976; Cooley 2006; Strand 1962). Overall, this area is predominantly granitic, with scattered zones of gabbro intrusive and mixed granitic-metamorphic rocks (Underwood and Gregory 2006).

The geology of the region provided raw materials for everyday life in prehistoric San Diego County. The exposed granitic boulders of the Southern California Batholith provide a landscape offering shelter from the elements, secluded locations for caches of cultural items, and canvasses for rock art. Boulder outcrops in well-watered washes, valleys and saddles also served as the raw materials for milling stations to process the region's edible natural resources (May 1976). The ridges, terraces, and benches of the Table Mountain Formation gravels contain porphyritic andesites that provided suitable raw materials for the production of chipped stone tools, and the gravels contained many cobbles that retain heat well for use in roasting pits. Jacumba Volcanics, present in the northern region of the project vicinity, also yield materials such as fine-grained basalts

and porphyritic andesite that can be quarried and are suitable for the production of stone tools (May 1976).

Soils

Soils within the general area consist of acid igneous rock, Rositas loamy coarse sand, rough broken land, and sloping gullied land soil associations. The acid igneous rock soil series, deposited during Quaternary alluviation, is present in the southeastern portion of the project vicinity and consists of rough, broken terrain. Large boulders and rock outcrops of granite, granodiorite, tonalite, quartz diorite, gabbro, basalt, or gabbro diorite cover 50% to 90% of the total area of this soil type in San Diego County. The soil material is loamy to coarse sand in texture and is very shallow (0 to 4 in.) over decomposed granite or basic igneous bedrock (U.S. Bureau of Land Management [BLM] 2007; Natural Resources Conservation Service [NRCS] 2007)].

Rositas loamy coarse sand consists of somewhat excessively drained, variable-depth (0 to 60 in.) loamy coarse sands derived from Quaternary granitic alluvium (BLM 2007; NRCS 2007). Rough broken land, present in the central and northeast portions of the project site, is made up of well-drained to excessively drained, steep and very steep land dissected by many narrow V-shaped valleys and sharp tortuous divides. Areas of exposed raw sediments are common, and there are areas of very shallow soils (0 to 2 in.). Runoff is rapid to very rapid, and erosion is very high (BLM 2007; NRCS 2007). Sloping gullied land occurs in the desert on alluvial fans adjacent to mountains and is present in the north-central portion of the project site. It consists of a wide variety of material derived from igneous, sedimentary, and metamorphic rocks, with a range of depths between 0 and 60 in. The texture ranges from clay loam to gravelly, cobbly sand. Limy material has been exposed where gullies have dissected areas of old alluvium. Drainage is good to somewhat excessive. Runoff is medium to very rapid, and the erosion hazard is moderate to high (BLM 2007; NRCS 2007).

Biota

Plant communities occurring in the project vicinity include desert saltbush scrub and southern cottonwood riparian. Desert saltbush scrub is comprised usually of low, grayish, microphyllous shrubs, with some succulent species. Total cover is often low, with much bare ground between the widely spaced shrubs. Stands typically are strongly dominated by a single Atriplex species and found on fine-textured, poorly drained soils with high alkalinity and/or salinity, usually surrounding playas on slightly higher ground (Holland 1986). The dominant species within the desert saltbush scrub is fourwing saltbush (*Atriplex canescens)*. Other species within this habitat included London rocket (*Sisymbrium irio*) and grasses as such wild oats (*Avena* sp.) and red brome (*Bromus madritensis). S*outhern cottonwood willow riparian is comprised of tall, open, broadleafed winter-deciduous riparian forests dominated by cottonwoods, and several tree willows. Understories usually are shrubby willows. This habitat is usually found in sub-irrigated and frequently overflowed lands along rivers and streams. The dominant

species require moist, bare mineral soil for germination and establishment. This is provided after flood waters recede, leading to uniform-aged stands in this seral type (Holland 1986). The dominant species within the habitat on site is cottonwood (*Populus fremontii*), willows (*Salix* sp.) and mule fat (*Baccharis salicifolia*).

Habitat in the area supports abundant populations of small mammals and reptiles as indicated by frequent sightings of small rodent burrows and lizards. Snake species with ranges overlapping the project site include rattlesnake (*Crotalus* spp.), California kingsnake (*Lampropeltis getula californiae*), coachwhip (*Masticophis flagellum*), nightsnake (*Hypsiglena torquata*), gopher snake (*Pituophis catenifer*), and long-nosed snake (*Rheinocheilus lecontei*). Lizard species include western banded gecko (*Coleonlyx variegatus*), side-blotched lizard (*Uta stansburiana*), and tiger whiptail (*Aspidoscelis tigris*) (California Herps 2008). None of these species were detected during the site visits. Several species of birds likely use the area seasonally and during the flowering and fruiting season of local vegetation, including red-tailed hawk, common raven, house finches, and common yellowthroat. Mammals likely to be found within the area of the proposed project include desert cottontail.

## Cultural

### Regional Prehistory

*Paleoindian*

The prehistory of the east San Diego County region is generally divided into three major periods of occupation: Paleoindian, Archaic, and Late Prehistoric. An earlier pre-projectile point (pre-Paleoindian) culture was proposed by Malcolm Rogers who used the term Malpais – later reclassified as San Dieguito I – to refer to very early materials (Rogers 1939). Malpais materials consist of very heavily varnished choppers, scrapers, and other core-based tools typically found on old desert pavement areas. Many scholars are skeptical of these posited early occupations (e.g., Schaefer 1994).

The first well-documented cultural tradition in southern California is the San Dieguito complex (12,000 to 7,000 years before present [B.P.]). The type site is on the San Dieguito River in north-coastal San Diego County. The San Dieguito complex has been radiocarbon dated here at 9,030 B.P., but most scholars assume that it began a few thousand years earlier (Underwood and Gregory 2006). Related materials have been found in the Mojave Desert and in the Great Basin, sometimes called the Lake Mojave complex (e.g., Campbell et al. 1937; Warren and Ore 1978). Diagnostic artifact types and categories associated with the San Dieguito complex include percussion-flaked core tools and flake-based tools such as scraper planes; choppers; scrapers; crescentics; elongated bifacial knives; and diagnostic Silver Lake, Lake Mojave, and leaf-shaped projectile points (Rogers 1939).

In areas adjacent to the coast, many Paleoindian period sites are believed to have been covered by the rise in sea levels that began at the end of the Pleistocene. In more inland regions, alluvial sedimentation in valley areas may have covered these materials. Few San Dieguito-Lake Mojave sites in the desert contain subsurface deposits, temporally diagnostic artifacts, or datable material (Hayden 1976; Rogers 1939). Temporal placement of desert sites is based primarily on degree of weathering and patination, and absolute dating has been problematic (Underwood and Gregory 2006).

*Archaic*

Underwood and Gregory (2006) provide a detailed discussion of the Archaic period in the area of the current project, and their research is summarized below. Desert and coastal Archaic period sites have generally been dealt with separately, although there are clear similarities between the two. In the desert, the Archaic can be divided into the Pinto complex (7000 to 4000 B.P.) and the Amargosa or Gypsum complex (4,000 to 1,500 B.P.). The Pinto complex shows evidence of a shift from big game exploitation to a broader-based economy with increased emphasis on the exploitation of plant resources, and is thought to be an adaption to erratic climatic drying of the Altithermal (Grayson 1993; Warren 1984; Warren and Crabtree 1986). Groundstone artifacts are rare; these are typically thin slabs with smooth, highly polished surfaces which “may be platforms upon which fibrous leaves or skins were scraped. They are invariably associated with pulping planes” (Rogers 1939:52-53). Projectile points are distinctive crude, percussion-flaked Pinto series atlatl points. Other lithics include percussion-flaked scrapers, knives, scraper planes, and choppers (Underwood and Gregory 2006).

The subsequent Amargosa or Gypsum complex is characterized by the presence of fine, pressure-flaked Elko, Humboldt, and Gypsum-series projectile points; leaf-shaped points; rectangular-based knives; flake scrapers; T-shaped drills; and occasional large scraper planes, choppers, and hammerstones (Underwood and Gregory 2006). Manos and basin metates became relatively common, and the mortar and pestle were introduced late in this period (Warren 1984:416). The florescence of tool types and the addition of groundstone hard seed-processing equipment suggest an attempt to adapt to drier desert conditions in the greater Southwest. Most examples of this complex have been found in the southern Great Basin-Mojave Desert.

Archaic period sites are more commonly found in California in coastal areas. These are generally called La Jollan complex sites in coastal San Diego County. As noted in Underwood and Gregory (2006):

> The assemblage is similar to those of the desert Archaic prompting Warren and others (1961:28) and Kowta (1969:68) to suggest that the Altithermal (ca. 8000 B.P. to 5000 B.P.) made the deserts largely uninhabitable at that time. This induced people to migrate to the coast,

beginning at approximately 8000 B.P., where they quickly shifted their subsistence strategies to include shellfish and other seashore resources.

Subsistence again shifted to a more intense utilization of hard seeds and other terrestrial resources along the coast in the Late Archaic, when siltation is thought to have reduced available coastal lagoon resources. Further inland, the similar but separately named Pauma complex may represent seasonal inland occupations of coastal La Jollan peoples (Moratto 1984; True 1958, 1980).

*Late Prehistoric*

The incursion of Yuman-speaking people via the Gila/Colorado River drainages of western Arizona is apparent by approximately 2,000 years ago, and subsequent movements westward had great impact on the people of San Diego County (Moriarty 1966, 1967, 1968). This Late Prehistoric period (1,500 B.P. to 450 B.P.) is similarly characterized by two geographic expressions, the transmontane in the desert east of the mountains and the cismontane in the coast and foothill area west of the mountains. Both patterns indicate higher population densities and elaborations in social, political, and technological systems. Culture traits generally associated with this period include increasingly elaborate kinship systems and rock art, including ground figures or geoglyphs (McGuire 1982). Extensive trail systems also indicate connections between the coast and desert for trade, religious activities, and other interactions, peaceful or otherwise (Davis 1961).

The desert manifestation of the Late Prehistoric is broadly referred to as the Patayan pattern (e.g., Waters 1982). Paddle and anvil pottery first appears, likely via the Yuman-speaking Hokan culture of the middle Gila River area (Rogers 1945; Schroeder 1975, 1979). Tizon brownware appears at approximately A.D. 1000 at Mount Laguna, located 24 miles northwest of the project site (Underwood and Gregory 2006). Cottonwood Triangular series projectile points and Desert side-notched series projectile points used in bow and arrow hunting appear at approximately A.D. 800 (1200 B.P). Cremation rather than inhumation also became the burial norm. Artifactual material is characterized by the presence of arrow shaft straighteners, pendants, comales (heating stones), Tizon Brownware pottery, ceramic figurines, ceramic “Yuman bow pipes,” ceramic rattles, miniature pottery, various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, manos and metates, and mortars and pestles.

Subsistence in desert areas is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Vegetation resources included honey mesquite and screwbean mesquite with smaller amounts of palo verde, ironwood and native grasses (Underwood and Gregory 2006).

The proposed project sits in an area of small mountains and valleys on the eastern side of the Peninsular Ranges. Locally, the project site is situated within the area of the Cuyamaca Complex. True (1970) defined Cuyamaca complex based on excavations within Cuyamaca Rancho State Park and collections at the San Diego Museum of Man to differentiate interior San Diego County assemblages from Meighan's (1954) San Luis Rey complex. It is widely accepted that the Cuyamaca complex is associated with the Hokan-based, Yuman-speaking peoples (Diegueño/Kumeyaay) and that the San Luis Rey complex is associated with the Takic Shoshonean- speaking peoples (Luiseño).

The region surrounding the proposed project has extensive evidence of the cultural elaboration that occurred in the Late Prehistoric. In Baja California's Sierra de Juárez Mountains south of the proposed project is the town of La Rumorosa. Like the Jacumba region of the U.S., the La Rumorosa region is one of transition between the mountain and desert environments. Within this region is the site of *El Vallecito*, located approximately 3 miles northeast from the town of La Rumorosa. The site is home to La Rumorosa-style Late Prehistoric petroglyphs and pictographs, as well as other Late Prehistoric artifactual remains like ceramics. This style is associated with the Kumeyaay (often spelled Kumiai in Mexico), whose territory straddled both sides of the present-day U.S.-Mexico border. The La Rumorosa style, which flourished in southeastern San Diego County and northern Baja California, is characterized by rectilinear and curvilinear polychrome designs in red, black, yellow and white. Defining elements include lizard forms, digitate anthropomorphs, circles, sunbursts, rectangular grids, oval grids, simple anthropomorphs, crosses, and rectangles (Hedges 1970).

Ethnographic Background

The project site is in the traditional territory of the Kumeyaay. Also known as Kamia, Ipai, Tipai, and Diegueño, the Kumeyaay occupied the southern two-thirds of San Diego County. The Kumeyaay spoke a Yuman language belonging to the Hokan language family, which includes the lower Colorado River tribes and Arizona groups to whom they are closely related. South of the Kumeyaay, in the vicinity of modern-day Ensenada, are the closely related Paipai. Desert Kumeyaay or Kamia ranged over the Imperial Valley and northeastern Baja California (Underwood and Gregory 2006). As noted in Cooley (2006):

> Early chronicler Gifford (1931) designated the Kumeyaay living in the Jacumba area as the Kamia, who were distinguished by a desert orientation with contacts and travel most frequently between Jacumba and the Imperial Valley. This term has generally been replaced with the designation of eastern Kumeyaay or Tipai, or sometimes Jacumeño (Chace 1980, Cook et al. 1997, Hedges 1975; Langdon 1975; Gifford 1931:2; Luomala 1978). The Jacumeño or Kamia were closely connected to the Quechan on the Colorado River and served as trading partners

between the coastal and desert groups using a travel route through the Mountain Springs Grade.

The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherias. Most rancherias were the seat of a clan, although it is thought that some clans had more than one rancheria and some rancherias contained more than one clan (Bean and Shipek 1978). The Kamia or Desert Kumeyaay relied on hunting and gathering, supplementing that subsistence base with floodplain horticulture along the New and Alamo rivers and at various springs (Underwood and Gregory 2006).

The predominant determining factor for placement of villages and campsites was the ready availability of water, preferably on a year-round basis, with seasonal movements to exploit available food resources. Inland bands could travel to the coast to fish and gather salt, then shift to desert areas in the spring to gather agave (*Agave deserti*), moving to higher altitudes later in the year to gather seasonally available acorns and pine nuts (Cline 1984; Shipek 1991). Several large villages have been documented within the region through ethnographic accounts and archaeological investigations in the area. These include *Pa'Mu* northeast of Ramona; *Tukmak*, located near Mesa Grande, and *Pauba*, located between the previous two villages (Cooley and Barrie 2004; Kroeber 1925:590-591). Most important was likely the village of *Hakum* or *Hacúm*, the source of the word "Jacumba." Like many prehistoric villages, its location is not certain. However, it has been postulated that the large, complex archaeological site CA-SDI-4455, situated in the hills immediately west of Jacumba and within the proposed project area, is likely the village of *Hakum* (Cook et al. 1997:8; Rogers 1920s; McGinnis et al. 2003).

Historic Period

The Spanish period in California (1769-1821) represents a time of European exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the Mission San Diego de Alcalá along the coast. The mission system introduced horses, cattle, and other agricultural goods and implements to the area. It also disrupted traditional native lifeways, and many Native American populations became tied economically to the colonists. Contact with the interior came later, when Pedro Fages lead a Spanish expedition through what is now Eastern San Diego County in 1785. Despite the lack of early interaction between colonists and interior Native Americans, the Jacumeño were already hostile to the Spaniards and in alliance with other native groups, actively resisting Spanish rule in the area by the time of Fages' expedition. Still, during their period of governance the Spaniards had little involvement in the eastern areas of the county.

The cultural systems and institutions established by the Spanish continued to influence the region beyond 1821, when California came under Mexican rule. The Mexican period (1821-1848) retained many of the Spanish institutions and laws; the mission system,

however, was secularized in 1834. Secularization allowed for increased Mexican settlement, with large tracts of land granted to individuals and families, and establishment of a rancho system based on cattle grazing (Pourade 1963). Secularization also meant that many Native Americans were further dispossessed. The Native Americans of the eastern mountain areas began to have hostile interactions with the Mexican settlers who began to enter the area. By this time, contact had led the Eastern Kumeyaay to incorporate domestic livestock, especially horses and cattle, procured through raids. Anglo-European contact also led to the adoption of agriculture, replacing the previous subsistence system based on hunting and gathering.

In San Diego County, cattle ranching dominated agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established at the former Presidio's settlement along the San Diego River in 1834. Just over a decade after that occasion, however, Mexican rule in California ended. The Mexican-American War began in 1846, following Texas' declaration of Republic status, breaking from Mexican governance. The conflict expanded to California, and Mexico ceded its California territory to the United States as part of the Treaty of Guadalupe-Hidalgo at the war's end in 1848.

At the start of American rule in 1848, gold was discovered in California and American immigration began in earnest. Few Mexican ranchos remained intact because of land claim disputes. The homestead system encouraged American immigration to the west and brought further settlement in the inland mountain areas. Mid-century saw the Jacumba area become a focal point of contact. It was situated along a well-travelled road from San Diego to Fort Yuma which served as the military mail route. The Jacumba station kept horses for the mail carriers who traveled the route, and had come under increasing attack by local Native Americans. In the early 1850s, Old Town settler James McCoy was sent to Jacumba with 14 men to protect the mail line from Native American raids. McCoy and his men constructed a fort there to protect the station garrison (Sullivan 1977). The Jacumeño, who had continued to resist European and Anglo rule through both the Mexican and American Periods, were finally subdued in 1880 and evicted from the Jacumba area (Cook et al. 1997).

The San Diego & Arizona Railway arrived in the area in 1919, with a station in Jacumba. This transportation innovation was soon followed by the formal establishment of Highway 80 for automobile transportation. Following much of the route of the Old Plank Road that had been maintained by travelers in eastern San Diego and Imperial Counties, the original alignment of the highway was in place by 1919. A "second generation" of the highway was built in the 1920 and 1930s, now known as Old Highway 80 (County of San Diego n.d.). The highway brought new traffic to Jacumba. A hot springs spa was established at Jacumba's natural spring, giving roots to the town. Now easily connected to distant markets, stock raising and dairy farming became important pursuits for the area's residents (Cook et al. 1997). The Jacumba Hot Springs Resort

became a local tourist attraction beginning in the 1920s, hosting Hollywood celebrities, and spawned hotels, a race track and other recreational facilities in Jacumba (Cooley 2006). Following World War II, the popularity of the resort began to decline. The construction of Interstate 8 in 1967, bypassing Jacumba, marked the end of the town's glory days (Chace 1980).

### 1.2.2 Records Search Results

A records search was conducted on January 25, 2011, at the South Coastal Information Center (SCIC) located at San Diego State University. The archival searches consisted of an archaeological and historical records and literature review. The data reviewed included historic maps, the California Inventory of Historic Places, the California Register of Historic Resources (CRHR), and National Register of Historic Places (NRHP) information for the area of the proposed project. The search included a ¼-mile radius surrounding the project site. This research provides a background on the types of sites that would be expected in the region. The research was also used to determine whether previous surveys had been conducted in the area and what resources had been previously recorded within the project limits. A records search confirmation letter was received from SCIC and is included in Appendix A.

#### Previous Investigations

Eight cultural resources studies have been conducted within a ¼-mile radius of the project site (Table 1). Two studies, Cook et al. (2000) and Rosen (2001) have been previously conducted within or adjacent to the study area. These consist of linear surveys for a fiber optic line (Cook et al 2000) and a historic property survey for Old Highway 80 (Rosen 2001), both through the southern portion of the study area. Two additional investigations have been noted in the proposed project area, but are not on file at the SCIC. These consist of a survey investigation and monitoring program for the Jacumba Water System Rehabilitation Project (McGinnis et al. 2003; McGinnis and Baksh 2005). Monitoring of trenching along both the northern and southern shoulders of Old Highway 80 was conducted.

#### Previously Recorded Cultural Resources

The general area and surroundings are very rich in prehistoric cultural resources and have some notable historic era resources. This richness is caused by an intersection of eco-zones and geological formations resulting in an abundance of food and tool resources in the nearby Table Mountain and Jacumba Valley areas. The abundance of these resources attracted human populations who used the landscape in a variety of ways including long term habitation, short term campsites, agave and other plant processing areas, quarries for stone tool materials, and lithic workstations.

**Table 1. Previous Investigations within a 1-Mile Radius of the Project APE**

| Author | Title | Date | NADB Document Number |
|---|---|---|---|
| Chace | A Cultural Resources Assessment of Jacumba, San Diego County. | 1980 | 1120479 |
| Cook and Fulmer | Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California. | 19880 | 1122760 |
| Cook et al. | Final: A Cultural Resources Inventory of the Proposed AT&T/ PF.Net Fiber optic Conduit Ocotillo to San Diego, California. | 2000 | 1132421 |
| Johnson | An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County. | 1976 | 1121267 |
| McGinnis and Baksh | Archaeological Monitoring Report for the Jacumba Water System Rehabilitation Project, San Diego County, California. | 2005 | – |
| McGinnis et al. | Archaeological Survey Report for the Jacumba Water System Rehabilitation Project, San Diego County, California. | 2003 | – |
| Rosen | Historic Property Survey Report for Old Highway 80, San Diego County, California. | 2001 | 1128282 |
| Wade | Cultural Resource Survey Report Form for the Richard Cox Property, Jacumba, California. | 1995 | 1123014 |
| Welch | Cultural Resource Report: Lark Canyon Motorcycle Trails and Trail Location. | 1982 | 1125214 |
| Wirth Environmental Services | Archaeological Investigations at SDI-4470. | 1987 | 1121633 |

The results of the records search revealed that 14 resources have been recorded within a ¼-mile radius of the project area (Table 2). The project area is located within the site boundary for site CA-SDI-4455. Additionally, site P-37-024023 is adjacent to the southern portion of the proposed project APE. These resources are discussed below. No other resources were previously recorded within or directly adjacent to the proposed project APE.

## CA-SDI-4455

Site CA-SDI-4455 was originally recorded by Malcolm Rogers (1920s) as a large prehistoric village site that extends into Mexico and was partially destroyed by the development of the town of Jacumba. In 1976 the site was revisited and determined to possibly be the location of the village site of *Hacúm* (Townsend 1976; Waldron 1976). Midden soils along with lithics, lithic tools, multiple milling features, ground stone, ceramics sherds as well as historic debris was observed. Backhoe trenching for a new

**Table 2. Previously Recorded Cultural Resources within a 1/4-Mile Radius of the Project APE**

| Primary Number (P-37-) | Permanent Trinomial (CA-SDI-) | Site Description | Site Dimensions | Reference |
|---|---|---|---|---|
| 004455 | 4455 | Village site of *Hacúm* | 920 m x 150 m | McGinnis 2003; Joyner and Beck 1991; Wilcox and Von Werlhof 1987; Waldron 1976; Townsend 1976; Rogers 1920s |
| 007015 | 7015 | San Diego and Arizona (Eastern) Railroad | N/A | Burkenroad 1979 |
| 008066 | 8066 | Temporary camp | 60 m x 51 m | Chace1980 |
| 008067 | 8067 | Milling station; lithic and ceramic scatter | 128 m x 94 m | Wade 1995; Chace 1980 |
| 011712 | 11,712H | Vaughn Hotel/ Jacumba Hot Springs Hotel | 50 m x 40 m | McGinnis 2003; Crull and Smith 1990 |
| 013989 | 13,947 | Historic debris scatter | 213 m x 39 m | Wade 1995 |
| 013990 | 13,948 | Historic debris scatter | 10 m dia. | Wade 1995 |
| 013991 | 13,949 | Lithic and ceramic scatter | 55 m x 38 m | Wade 1995 |
| 014004 | 13,962 | Milling station; lithic scatter | 152 m x 73 m | Wade 1995 |
| 024023 | – | Old Highway 80 | NA | Lorrie 2000 |
| 024943 | – | Jacumba Casino | 35 m x 25 m | McGinnis 2003 |
| 024945 | – | Historic stone structure | NA | McGinnis 2003 |
| 025185 | 16,682 | Habitation site; milling station | 40 m x 25 m | McGinnis 2003 |
| 025680 | – | Union Pacific Railroad (portion of the San Diego and Arizona (Eastern) Railroad) | NA | Williams 2009; Wee and Ferrell 2000 |

waterline along Railroad Avenue, south of Old Highway 80 and the current study area, through Locus A and B in 1987, Soils from the trenching were screened and trench profiles were taken, indicating a substation subsurface deposit of approximately 20 cm (Wilcox and Von Werlhof 1987).

The site was again revisited by County of San Diego Department of Public Works (DPW) archaeologist for a proposed road widening project for the Jacumba Water Tank, located south of Old Highway 80. The proposed project impact area for the road widening was surveyed and test excavations were conducted in the area south of Old Highway 80. While portions of the site were found to be disturbed, the DPW recommended the site eligible for inclusion to the National Register of Historic Places

(Joyner and Beck 1991). In 2003, the site was once again revisited and confirmed Rogers' initial assessment that this site is the village of *Hacúm* (McGinnis et al. 2003). No evidence of State Historic Preservation Office (SHPO) concurrence with the eligibility recommendation was on file at SCIC.

**P-37-024023**

This site was recorded by Caltrans (Lorrie 2000) as part of a Historic Property Survey Report (HPSR) (Rosen 2001). This was recorded as a two-lane undivided highway built in the 1910s, connecting San Diego to El Centro and Yuma Arizona. Portions of the highway were upgraded between the late 1910s and the early 1930s. The highway was designated Highway 80 in the 1920. As a result of the HPSR study conducted by Caltrans, several sections of the highway are considered contributing elements to the Old U.S. 80 Historic District under Criterion A of the California Register of Historic Places eligibility criteria for its "association with San Diego's efforts to become a terminus for a U.S. transcontinental highway and the significance of the highway for the regional economy" as well as under Criterion C for its "state of preservation as an example of highway engineering and construction techniques before the modern freeway era" (Lorrie 2000). Eligible segments include the segment adjacent to the Project APE. No evidence of SHPO concurrence with the eligibility recommendation was on file at SCIC.

## 1.3 Applicable Regulations

Various federal, state, and local regulations are applicable to projects located within San Diego County. These regulations are used to assess cultural resources, address adverse impacts to cultural resources, and identify protection measures for these resources. Applicable regulations for addressing these concerns and for determining resource significance include CEQA, the San Diego County Local Register of Historical Resources (Local Register), and the San Diego County Resource Protection Ordinance (RPO). The following sections describe the criteria that a resource must meet to be determined a significant resource or an important resource under each guideline.

### 1.3.1 California Environmental Quality Act

A cultural resource is considered "historically significant" under CEQA if the resource meets the criteria for listing in the CRHR. The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR (Public Resources Code §§5024.1, Title 14 CCR, Section 4852). A resource is considered significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Is associated with the lives of persons important in our past; or
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

### 1.3.2 San Diego County Local Register of Historical Resources

The County requires that a resource be assessed for importance at the local level as well as the state level. If a resource meets any one of the criteria outlined in the Local Register, it will be considered important. The criteria are as follows (County of San Diego 2007b):

1. Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;
2. Is associated with the lives of persons important to the history of San Diego County or its communities;
3. Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
4. Has yielded, or may likely yield, information important in prehistory or history.

### 1.3.3 Resource Protection Ordinance

The County's RPO protects significant cultural resources. The RPO definition of a "Significant Prehistoric or Historic Site" is as follows (County of San Diego 2007b):

> Location of past intensive human occupation where buried deposits can provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious or other ethnic value of local, regional, State or Federal importance. Such locations shall include, but not limited to: any prehistoric or historic district, site, or object included in or eligible for inclusion in the National Register of Historic Places or the State Landmark Register; or included or eligible for inclusion, but not previously rejected, for the San Diego County Historical Site Board List; any area of past human occupation located on public or private lands where important prehistoric or historic activities and/or events occurred; and any location of past or current sacred, religious or

> ceremonial observances protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code Section 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures, and natural rocks or places which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

The RPO does not allow nonexempt activities or uses damaging to significant prehistoric or historic lands on properties under County jurisdiction. The only exempt activity is scientific investigations authorized by the County. All discretionary projects are required to be in conformance with applicable County standards related to cultural resources, including the noted RPO criteria on prehistoric and historic sites.

## 2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

Section 15064.5(b) of the State CEQA Guidelines identifies adverse environmental impacts to historical resources. The County has prepared guidelines for determining the significance of environmental impacts to cultural resources, based on CEQA and the County RPO. Pursuant to the County of San Diego Guidelines for Determining Significance – Cultural Resources: Archaeological and Historical Resources (2007b), any of the following will be considered a significant impact to cultural resources:

1. The project, as designed, causes a substantial change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alterations of characteristics or elements of a resource that cause it to be significant in the manner not consistent with the Secretary of Interior Standards.
2. The project, as designed, causes a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains the potential to contain information important to history or prehistory.
3. The project, as designed, disturbs any human remains, including those interred outside formal cemeteries.
4. The project proposes non-exempt activities or uses damaging to, and fails to preserve, significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

## 3.0 ANALYSIS OF PROJECT EFFECTS

## 3.1 Survey Methods

### 3.1.1 Survey Methods

Under the direction of Stacey C. Jordan, Ph.D., AECOM staff member Cheryl Bowden-Renna conducted the pedestrian archaeological and historical survey investigation on January 25, 2011. Stacey C. Jordan, Ph.D. prepared the County-format report based on the findings of the AECOM survey. Resumes of key AECOM personnel are provided in Appendix B.

An intensive pedestrian archaeological survey of the 1.47 acres of the Project APE was conducted in continuous parallel 10 m transects walked in an east/west direction. The project area consists of 150 ft (45 m) linear area, 20 ft (6 m) wide with a 100 ft (30 m) buffer around the proposed project area. Visibility was good to fair with approximately 20–30 percent of the project area partially obscured by ground cover in the form of non-native grasses, chaparral, and oak trees.

Two previously recorded sites, CA-SDI-4455 (the village site of *Hacúm*), and P-37-024023 (Old Highway 80), were relocated and updated during the current survey efforts. No newly recorded resources were identified during the current survey effort.

### 3.1.2 Native American Consultation

As part of this investigation, AECOM contacted the NAHC via fax on January 25, 2011, to solicit a Sacred Lands file search and request a list of Native American contacts for the proposed project. To date, no response has been received. The NAHC response usually indicates if there are known Native American cultural resources within or in the vicinity of the project area. At the request of the County, the NAHC response and appended Native American Contact list will forwarded to County Archaeologist for the purposes of government-to-government consultation under CEQA. Also at the request of the County, AECOM staff member Cheryl Bowden-Renna contacted Native American representatives Mr. Clint Linton, Kumeyaay, by telephone on January 25, 2011, to notify them of the access road alignment alternatives survey and solicit their participation. Mr. Clinton was not available to participate at this time. After the survey effort was completed. Ms. Bowden-Renna contacted Mr. Linton to apprise him of the survey results.

## 3.2 Survey Results

The field survey effort resulted in the relocation of two cultural resources within the proposed Project APE, CA-SDI-4455 and P-37-024023 (Table 3; Figure 4, Confidential

Appendix E - bound separately). No other cultural or historic resources were identified during the current survey effort.

**Table 3. Cultural Resources within the Project APE**

| Trinomial/Primary No. | Site Type |
|---|---|
| ***Sites*** | |
| CA-SDI-4455 | Village of Hacúm |
| P-37-024023 | Old Highway 80 |

### 3.2.1 Sites within the APE

#### CA-SDI-4455

Site CA-SDI-4455 was originally recorded in the 1920s as the ethnographic village site of *Hacúm* (Rogers 1920s). Test excavations (Joyner and Beck 1991) and trenching monitoring (Wilcox and Van Werlhof 1987) have been conducted in portions of the southern part of the site, which indicated the presence of a substantial subsurface deposit in the site area. Based on the results of these survey efforts and subsequent testing efforts, the County of San Diego DPW has previously recommended this site as eligible for the NRHP (Joyner and Beck 1991).

The current effort confirmed that the project is located within the site boundaries of CA-SDI-4455. While no artifactual material was observed within the proposed access route for the existing well, several quartz flakes were observed approximately 20 m north and west of the existing well, within the 100 ft (30 m) buffer area of the Project APE. A small ridgeline of bedrock is located approximately 50 m northeast of the well with multiple milling features just outside of the Project APE. Metavolcanic lithic debitage was observed in increasing amounts around this milling area. Ceramic sherds have been stockpiled into several of the bedrock mortars from the surrounding area, though it is unknown whether this is prehistoric or more recent activity. Because the area of site CA-SDI-4455 within the Project APE has not been subject to subsurface testing, it is unknown whether subsurface deposits are present in this area.

#### P-37-024023

This site was recorded by Caltrans (Lorrie 2000) as part of a Historic Property Survey Report (HPSR) (Rosen 2001). This was recorded as a two-lane undivided highway built in the 1910s', connecting San Diego to El Centro and Yuma Arizona. Portions of the highway were upgraded between the late 1910s and the early 1930s. The highway was designated Highway 80 in the 1920. The segment of P-37-024023 located at the

# FIGURE 4

# CULTURAL RESOURCES WITHIN THE PROJECT AREA
***(Confidential – Bound Separately)***
**See Appendix E**

southern boundary of the Project APE is considered a contributing element to a resource recommended eligible to the NRHP. Character-defining features of this contributing element consist of the Portland cement concrete road surface, the relatively narrow right-of-way, the two-lane undivided roadway, the route including the method of construction that “mostly follows the natural contours of the terrain with a minimum of cut and fill” done with a low level of earth moving (Lorrie 2000).

Site form updates have been completed on appropriated Department of Parks and Recreation (DPR) forms and are attached in Confidential Appendix C (bound separately).

## 4.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION

### 4.1 Resource Importance

The cultural resources survey conducted for the proposed project resulted in the re-identification of two previously recorded archaeological sites CA-SDI-4455 and P-37-024023, within the proposed project APE (Table 4).

**Table 4. Subsurface Potential for Resources within the APE**

| Trinomial/ Primary No. | Resource Description | Subsurface Potential? | Recommendation |
|---|---|---|---|
| CA-SDi-4455 | Village of Hacúm | Medium | Limited testing of project APE; monitoring |
| P-37-024023 | Old Highway 80 | Low | Avoidance |

Prehistoric cultural uses of the APE are suggested by the observable archaeological data. Lithic reduction evidenced with CA-SDI-4455 reflects the use of diverse raw materials. Quartz was the predominant lithic material, although no quartz bedrock outcroppings are present in the project area, outcroppings of quartz are present in the vicinity. While quartz predominated the lithic assemblage, metavolcanic and volcanic materials are present. The nearby Table Mountain Archaeological District was used as a cobble quarry for volcanic rock cobbles (Laylander 2005a). Alluvium from Table Mountain has carried porphyritic andesites into the project area, making fine-grained volcanic raw materials available for stone tool production. Multiple locus of milling are noted within the site area, consisting of multiple milling elements, including slicks, mortars, and basins. The relative depths of these elements are indicative of long tern use. While no diagnostic lithic artifacts were found to date the archaeological site, the presence of Tizon Brownware indicates its use during the Late Prehistoric. The date of the first appearance of ceramics in San Diego County is a debated issue (Laylander 2005a and 2005b); however it is generally acknowledged that ceramics are a marker of the Late Prehistoric period. Test excavations (Joyner and Beck 1991) and trenching monitoring (Wilcox and Van Werlhof 1987) have been conducted in portions of the southern part of the site, which indicated the presence of a substantial subsurface deposit in the site area. The breadth and range of artifactual material, subsurface deposits, and long-term us of milling elements, support the original recordation of the site as a village site, specifically, the village of *Hacúm.*

As a village, this site interconnects with other resources in the area, such as the Table Mountain District, located approximately 2 miles northeast of the project area, and the Jacumba Discontiguous Archaeological District (JDAD). Table Mountain District, was first documented in 1976 (May 1976) and nominated for the NRHP in 1980 (BLM 1980).

The Table Mountain Historic District was defined based on the recordation of 124 sites, 11 of which are said to be permanent village sites (May 1976). Rock art panels and ethnographic documentation also imply that the Table Mountain area had medicinal or religious significance (BLM 1980). The JDAD includes 70 sites and 22 isolated finds in a 441-acre identified during linear surveys for the Southwest Powerlink 500kV line northeast of the project area. Lithic quarrying and stone tool manufacture was a major industry in the JDAD; however, temporary camps, base camps, rock cairns, and ceramic scatters are also present (Wirth Associates 1981). Jacumba Valley was an area of intensive trade between the Quechan peoples, located along the Colorado River, and the mountain and desert Kumeyaay who lived in the Peninsular Range and the general project area (Wirth Associates 1981). Carrizo and In-Ko-Pah Gorges were used as trade routes (BLM 1980).

Historic uses of the APE consist of Old Highway 80 as a transportation corridor, connecting San Diego with El Centro and further to Yuma, Arizona. The historic town of Jacumba, is located approximately 0.12 mile to the east of the proposed project. This site demonstrates large-scale infrastructure efforts and construction techniques during the early 20th century and its impact on the regions' economy (Lorrie 2000).

## 4.2 Impact Identification

One archaeological site, CA-SDI-4455 has the potential to be directly impacted by the proposed project (see Figure 4, Confidential Appendix E – bound separately). The footprint of proposed new access route will impact site CA-SDI-4455. Previous testing of the southern portion of the site has indicated a substation subsurface deposit is present at the site (Joyner and Beck 1991; Wilcox and Von Werlhof 1987. Further, this site has been recommended eligible for inclusion to the NRHP (Joyner and Beck 1991),

As a disturbance to an important archaeological site that has the potential to contain information important to prehistory, project activities related to the construction and use of the access road within the Project APE will cause a substantial adverse change in the significance of this archaeological resource pursuant to §15064.5 of the State CEQA Guidelines and County significance guidelines. This direct impact is significant and mitigable to below a level of significance.

The project as planned does not proposed to alter any of the character defining features of the segment of P-37-024023, Old Highway 80, located directly south of the Project APE. As such, project construction or operation activities do not pose a significant impact to this resource.

## 5.0 MANAGEMENT CONSIDERATIONS – MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Archaeological sites are nonrenewable resources. The ideal treatment for cultural resources is avoidance of impacts, and measures to ensure avoidance can be incorporated into project design. If a project is determined to cause damage to a significant cultural resource, reasonable efforts must be made to mitigate the impact to a level below significant.

### 5.1 Mitigable Impacts

Unless the proposed project can be redesigned to avoid site CA-SDI-4455, which would likely prove unfeasible, impacts to this site would be considered significant and a testing program would need to be conducted within the project footprint to determine whether subsurface deposits are present. Should such testing exhaust the data potential of this portion of the site, impacts from the proposed project would be reduced to less than significant. Upon completion of this phase it may be determined, in consultation with the County, that further testing and/or data recovery will be needed. All testing and data recovery efforts would be implemented prior to construction or ground-disturbing activities.

### 5.2 No Significant Adverse Effects

P-37-024023, Old Highway 80, will not be impacted by the construction or operation of the proposed project. In the event of incidental discoveries during construction activities, each discovery would require significance testing as outlined in the County's Guidelines for Determining Significance (2007b). Any new facility, infrastructure, roadway or staging area for construction or maintenance not shown on the current site plan may require additional survey or, if within previous survey boundaries, further analysis of impacts to cultural resources.

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## 7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Stacey C. Jordan, Ph.D.
Senior Archaeologist
AECOM

Cheryl Bowden-Renna
Associate/Staff Archaeologist
AECOM

South Coastal Information Center
San Diego State University

## 8.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS

| Cultural Resource | Design Consideration | Mitigation Measure | Less than Significant Impact? |
|---|---|---|---|
| **CA-SDI-4455** | Construction of new access route | Site Evaluation/Data Recovery program | Yes |
| | | Construction monitoring | Yes |
| **P-37-024023** | Construction of new access route | Avoidance, construction monitoring | Yes |

# APPENDIX A

## RECORDS SEARCH RESULTS
***(Confidential – Bound Separately)***

# APPENDIX B

# RESUMES OF KEY PERSONNEL

# Stacey Jordan, PhD, RPA
## Practice Leader, Cultural Resources Group
## Senior Archaeologist

**Education**
PhD, Anthropology, Rutgers University, New Brunswick, NJ,2000
MPhil, Anthropology, Rutgers University, New Brunswick, NJ, 1995
MA, Anthropology, Rutgers University, New Brunswick, NJ, 1994
BA with High Distinction, Anthropology, University of California, Berkeley, 1991

**Professional Affiliations**
Member, Society for American Archaeology
Member, Register of Professional Archaeologists

**Certifications + Approvals**
County of San Diego Approved Consultant List for Archaeological Resources
County of San Diego Approved Consultant List for Historic Resources
County of Riverside Approved Cultural Resources Consultant (No. 222)

**Awards**
2009 - San Diego Archaeological Center Excellence in Archaeology Award, Excellence in Cultural Heritage, Archaeological Data Recovery at CA-SDI-10,920 and Site Stabilization at Sites CA-SDI-586 and CA-SDI-10,920 Along the Southern Shore of Lake Hodges
2008 - San Diego AEP Outstanding Environmental Resource Document Finalist, Boulder Oaks Open Space Preserve (winner Honorable Mention at September 25 AEP Awards)
2008 - Riverside County Planning Department, Certificate of Appreciation for the Cultural Resources Working Group

**Grants + Fellowships**
2003, Wenner-Gren Foundation for Anthropological Research Individual Research Grant Team Member: "Analysis and Interpretation of Archaeological Residues from Excavations at the Castle of Good Hope, Cape, South Africa'"
1996-1997, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #6021
1994-1995, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #5739
1992-1996, Rutgers University Excellence Fellowship

**Publications**
Jordan, Stacey. 2002. Classification and Typologies. In: *Encyclopedia of Historical Archaeology*, Charles E. Orser, Jr. (ed.). Routledge. London.
Jordan, Stacey and Carmel Schrire. 2002. Material Culture and the Roots of Colonial Society at the South African Cape of Good Hope. In: *The Archaeology of Colonialism*, Claire Lyons and John Papadopoulos (eds.). Getty Research Institute. Los Angeles.

Dr. Stacey Jordan has been professionally involved in the fields of archaeology and history for over a decade. Her specialty in historical archaeology combines the use of material culture and the archival record in anthropologically driven analyses of cultural resources. Dr. Jordan was the recipient of the Excellence Fellowship at Rutgers University, as well as multiple research grants from the Wenner-Gren Foundation for Anthropological Research. She is the author of various publications as well as numerous papers that have been presented at national and international conferences. Dr. Jordan is particularly well versed in the analysis of historical ceramics and has taught courses in the method and theory of historical archaeology as well as in the identification and analysis of historical ceramics and glass. She has extensive experience in archival research and historical writing, and has worked on projects spanning from early colonial contact to the recent past. In addition, Dr. Jordan has served on a variety of prehistoric and historic excavations both in the United States and abroad. Supplementing her work in cultural resources management, she conducts research on ceramics, community development, and identity construction in colonial South Africa.

**Project Experience**

**Solar Millennium Ridgecrest Solar Power Project, Ridgecrest, CA**
Project Manager of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

**Solar Millennium Blythe Solar Power Project, Blythe, CA**
Project Coordinator of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

**Solar Millennium Palen Solar Power Project, Palen, CA**
Project Coordinator of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

**San Diego Gas & Electric On-Call Cultural Services,**

**San Diego and Imperial Counties, CA**
Director of on-call inventory, survey, monitoring and reporting work as part of SDGEs infrastructure operations and maintenance activities on both private and public lands. Tasks include records searches, construction monitoring, archaeological survey and documentation, completion of State of California DPR forms, and management recommendations.

**Southern California Edison As-Needed Archaeological Services, CA**
Director of on-call survey, resource identification, documentation, testing, and evaluation efforts related to Southern California Edison infrastructure replacements and development throughout the state on both private and public lands, including BLM, USACE, and USFS. Product involves completion of State of California DPR forms, assessment of resource significance according to NRHP eligibility and CEQA significance criteria, and management recommendations. Work done before joining this firm.

**Bureau of Land Management National Historic Trails Cultural and Visual Inventory, Multiple States**
Cultural resources task manager for ongoing archival research and Phase I cultural resources inventories of National Historic Trails and trail-associated resources on Bureau of Land Management lands in New Mexico, Colorado, Utah, Arizona, California, Nevada and Wyoming. Inventories include pedestrian survey for the identification of trail traces of the Old Spanish, El Camino Real de Tierra Adentro, California, Oregon, Mormon Pioneer, and Pony Express National Historic Trails, documentation of sites and features associated with the trails during their period of significance, and conditions assessments of observable trail traces. Results of the inventory will be combined with visual and cultural landscape analysis to support BLM's management and protection of high potential route segments and historic sites.

**City of San Diego City Planning and Community Investment As-Needed Archaeological Services, City of San Diego, CA**
Project Manager of ongoing cultural resources consulting services in support of community plan updates under the newly adopted City of San Diego General Plan. Services include records searches, Native American contact programs, background information syntheses, and assessments of archaeological potential as part of the community plan update Historic Preservation Elements.

**San Nicolas Island Archaeological Evaluations, Ventura County, CA**
Project Manager for ongoing archaeological evaluation of prehistoric sites CA-SNI-316, 361 and 550 on San Nicolas Island in the Channel Islands of the California Bight. This project involves the significance testing and analysis of Middle and Late Holocene sites and synthesis of results with existing island-wide archaeological data.

**County of San Diego Department of Parks and Recreation Sage Hill Preserve Cultural Surveys, San Diego County, CA**
Cultural resources task manager for Phase I pedestrian survey and cultural resource inventories of the Sage Hill Preserve in unincorporated northern San Diego County. This project involved the identification and documentation of prehistoric and historic resources, built environment features, and existing infrastructure to assist the Department of Parks and Recreation in resource management through development of a Resource Management Plan including Area Specific Management Directives. Extensive archival and background research, including a contact program with local historic societies, was conducted to develop a historical context for the property. Methods and results of the intensive pedestrian survey were reported in a County of San Diego format technical report which included extensive cultural histories, a descriptive inventory of identified sites, and management guidelines for potentially significant cultural resources. All resources were documented on DPR 523 forms, and field work was conducted in coordination with a Native American monitor.

**Emergency Storage Project Cultural Resources, Lake Hodges, San Diego County, CA**
Senior Archaeologist and report co-author for data recovery project at site CA-SDI-10,920 along Lake Hodges. The project involves integration of regional data to provide context for the analysis of CA-SDI-10,920 and examination of the Late Prehistoric occupation of the San Dieguito River Valley around present-day Lake Hodges.

**Jefferson National Expansion Memorial Environmental Impact Study, St. Louis, MO**
Co-author for prehistoric and historical archaeology background and impact analysis sections related to the proposed expansion of the Jefferson National Expansion Memorial (Gateway Arch) in St. Louis, Missouri and East St. Louis, Illinois.

**Old Town State Historic Park Jolly Boy Project, San Diego, CA**
Contributor to the archaeological data recovery report for the Jolly Boy Saloon site in Old Town San Diego State Historic Park. Contributions to this project involve the synthesis of existing data on Old Town San Diego and development of an archaeological and historic context for the analysis and interpretation of recovered material.

**Ocotillo Wells SVRA General Plan & Environmental Impact Report Cultural Resources, Imperial County, CA**
Ongoing Cultural Resources analyses of Ocotillo Wells State Vehicular Recreation Area. This project involves the analysis of existing cultural resources conditions, and recommendations for the treatment of cultural resources.

**County Department of Public Works, Bear Valley Parkway Cultural Resources Inventory and Assessment, San Diego County, CA**
Task Manager for the survey, documentation and evaluation of archaeological and historical resources related to the expansion of Bear Valley Parkway in unincorporated San Diego County. Project conducted for the County Department of Public Works according to County of San Diego guidelines.

**Banning State Water Transmission Line, Riverside County, CA**
Task Manager for cultural resources sensitivity analysis for the construction of an approximately 2.4-mile long pipeline within the rights-of-way of paved streets within the unincorporated area of the county. As part of this analysis a records search of the Eastern Information Center was conducted to identify cultural resources studies and identified resources within a one-mile radius of the Banning State Water Transmission

Line's proposed alignment. A sacred lands file search was also requested from the Native American Heritage Commission.

**Heber Dunes SVRA General Plan & Environmental Impact Report Cultural Resources, Imperial County, CA**
Ongoing Cultural Resources Phase I Survey and Inventory of Heber Dunes State Vehicular Recreation Area. This project involves the analysis of existing cultural resources conditions, assessment of proposed facilities maintenance and development impacts, and recommendations for the treatment of cultural resources.

**El Camino Real Bridge Historical Evaluation—City of San Diego, California**
Senior Archaeologist and Historian for a historical resources assessment of the historic El Camino Real Bridge over the San Dieguito River in accordance with CEQA and City of San Diego significance guidelines. Conducted archival research on the bridge's construction history and alterations using historic photographs and original engineering drawings. Work done before joining this firm.

**El Camino Real Historic Properties Survey and Evaluation Reports—Tierra Environmental Services, City of San Diego, California**
Senior Archaeologist and Historian for archival and archaeological investigations along a segment of El Camino Real. Prepared Caltrans-format Historic Properties Survey Report and Historic Resources Evaluation Report for a segment of the historic El Camino Real through the San Dieguito River Valley, as well as a turn of the century bungalow and an early-20th century Craftsman residence. Conducted extensive research on the San Dieguito River Valley's land use and occupational history. Work done before joining this firm.

**SWPL 500kV Line Wetland Delineation ,**
**San Diego County, CA**
Project Director for Phase I pedestrian surveys, resource documentation, Section 106 resource evaluation, findings of effect and management recommendations in support of USACE wetland permitting associated with proposed jurisdictional water crossing improvement projects in southern San Diego County. Work done before joining this firm.

**Boulder Oaks, Sycamore/Goodan, El Capitan/Oakoasis/**
**El Monte/Steltzer Open Space Preserve and Regional Park Cultural Resources Inventories, San Diego County, CA**
Project director for Phase I pedestrian survey and cultural resource inventories of Open Space Preserves and Regional Parks in unincorporated central San Diego County. The projects involved the identification and documentation of prehistoric and historic resources, built environment features, and existing infrastructure to assist the Department of Parks and Recreation in resource management. Inventory reports included extensive archival research and historical narrative, an inventory of identified sites, and management guidelines for potentially significant cultural resources developed in consultation with Native Americans where appropriate. Work done before joining this firm.

**State Route 94 Operational Improvements Inventory and Evaluation, San Diego County, CA**
Director of cultural resources efforts and Caltrans coordination for survey, documentation, and evaluation related to proposed operational improvements along an 18-mile stretch of State Route 94 in San Diego County. Development of Caltrans-format documentation for archaeological and built environment resources. Work done before joining this firm.

**BLM Santa Rosa San Jacinto Mountains National Monument Trails Inventory, Riverside County, CA**
As Project Director, directed cultural resources inventory of trail systems within the Santa Rosa San Jacinto Mountains National Monument, including documentation of prehistoric and historic routes and associated resources within trail corridors. Completed cultural resources inventory report for BLM, including BLM-format GIS database. Work was performed before joining this firm.

**High Winds Wind Farm Project, Solano County, CA**
Conducted archival and historical research on the settlement and development of southern Solano County. Evaluated nine historic resources and surrounding landscape significance according to CEQA criteria. Completed historical background and assessment report, photographically documented resources and landscape, and updated State DPR forms for previously identified resources. Work done before joining this firm.

**U.S. Fish & Wildlife Service Hercules Gunpowder Point Historical Resources Evaluation, Chula Vista, CA**
Project director for the historical evaluation of the Hercules Powder Company Gunpowder Point facility in Chula Vista. Supervised archival and historical research, directed field survey and documentation efforts, and provided National Register eligibility evaluation for the site. Work was performed before joining this firm.

**CCDC Downtown San Diego African-American Heritage Study, San Diego, CA**
As Senior Historian, documented the development and growth of the African-American community in downtown San Diego through the 19th and 20th centuries. Archival information, oral histories, architectural evaluations, and recognition of potential archaeological sites were used to document the African-American community's economic, social, and political history in the downtown area, and to identify an African-American Thematic Historic District. Work was performed before joining this firm.

**Mannasse's Corral/Presidio Hills Golf Course, San Diego, CA**
Directed and managed archaeological excavation and interpretation of historic refuse and features related to Old Town San Diego located within the city-owned Presidio Hills Golf Course property. Conducted analysis of excavated material, researched and interpreted site history and use, and assessed resource significance, broadening the understanding of Old Town's archaeological signature and historic lifeways. Work was performed before joining this firm.

**California State Parks Old Town San Diego State Historic Park Archaeological Excavations, San Diego, CA**
Managed excavation and analysis of 19th-century deposits recovered from two locations within Old Town State Historic Park, representing roadbed flood wash and tavern refuse, respectively. Oversaw ceramic and glass cataloguing, and conducted historical research

and interpretation on specific site uses and depositional processes. Prepared State of California DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

**City of El Centro Cole Road and Dogwood Road Widening Projects, Imperial County, CA**
Project management of field survey and documentation efforts related to the widening of Dogwood Road and Cole Road in unincorporated Imperial County. Produced CEQA and Caltrans-format documentation related to identified resources and proposed project impacts. Work was performed before joining this firm.

**Blackwater West Cultural Resources Phase I and Phase II Studies, Potrero, CA**
Project director overseeing the survey of an approximately 850-acre area in eastern San Diego County and test excavation of identified prehistoric sites. Directed archaeological and built environment documentation, Extended Phase I testing, and Phase II testing efforts under the new County of San Diego Guidelines implemented September 2006. Work was performed before joining this firm.

**Vine/Carter Hotel Historical Assessment, San Diego, CA**
As Project Manager, conducted extensive archival research and historical assessment of the African-American-owned Vine/Carter Hotel building in San Diego's East Village. Conducted historical research on the building's ownership history and development; its historical uses, managers, and residents; and its place in San Diego's historical African-American community. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State of California DPR forms, and assessed the building's significance according to local, state, and federal significance criteria. As a result of the project, the Vine/Carter Hotel was nominated as a significant historical resource by the City of San Diego Historical Resources Board. Work was performed before joining this firm.

**Mission San Gabriel Gardens Excavation, Jump Start Project, San Gabriel, CA**
As Project Manager, conducted monitoring and excavation of Spanish colonial and American-era deposits associated with the construction of the original Mission San Gabriel and later 19th-century occupations. Documented the sites according to State Office of Historic Preservation guidelines, and assessed the resources according to NRHP and CEQA significance criteria. Work was performed before joining this firm.

**Lillian Grant Property Public Art Project, San Diego, CA**
As Project Manager, provided historical research services and written text incorporated into the public art commissioned for the redevelopment of the historical Lillian Grant Property in the East Village of San Diego. The public art, located at 14th and J streets at the Lillian Place affordable housing complex, commemorates the histories, experiences, and contributions of African-Americans to the development of San Diego and the East Village area in particular. Work was performed before joining this firm.

**Lillian Grant Property Historic American Building Survey (HABS), San Diego, CA**
As Project Manager, supervised HABS of the Lillian Grant properties in the East Village community of San Diego, submitted to the City of San Diego. Oversaw archival quality photographic documentation, and architectural line and plan drawings, as well as completed required HABS historical narrative on the subject buildings. Work was performed before joining this firm.

**San Gabriel Mission Trench Excavation, San Gabriel, CA**
As Senior Archaeologist, conducted historical and archival research on the prehistory and history of the San Gabriel Mission and surrounding areas to assess potential impacts of proposed below-grade railway trench. Compiled historical narrative, identified potential subsurface features, and recommended appropriate mitigation strategies. Work was performed before joining this firm.

**LA Department of Parks and Recreation Camp Seely National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA**
As Senior Historian, conducted NRHP evaluation of the early-20th-century Camp Seely recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, including Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

**Camp Radford National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA**
As Senior Historian, conducted NRHP evaluation of the early-20th-century Camp Radford recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

**Papers and Presentations**

*The Development of Colonial Culture at the South African Cape of Good Hope: Examining the many "functions" of utilitarian ceramics*. Paper presented at the Archaeology of Colonialism Symposium, Archaeological Institute of America Annual Meetings, January 2001.

*Urban Archaeology and the Focus of Memory: a study in the history and narrative of South Central Los Angeles*. Paper Presented at the Society for American Archaeology Annual Meeting, March 2002.

*Historical Archaeology as Anthropology: Artifacts, Identities, and Interpretations in the Study of the Recent Past*. Presented at World Archaeological Congress, January 2003.

*Old Town Made New Again: The Archaeology of San Diego's First Settlement*. Paper presented at the Society for California Archaeology Annual Meeting, April 2005.

*Past as Present: Tourism and Archaeology in Old Town San Diego*. Presented at the Society for Applied Anthropology Annual Meeting, April 2005.

*The Face of Mercantilism at the South African Cape of Good Hope: Ceramics and the Hesitant Empire*. Presented at the Society for Historical Archaeology Annual Meeting, January 2006.

*A Patchwork History: Interweaving Archaeology, Narrative and Tourism in Old Town San Diego*. Paper presented at the Society for American Archaeology Annual Meeting, March 2007.

*Mannasse's Corral: The Life History of a Piece of Old Town*. Presented to the Presidio Council, January 2008.

*Making the Past Present: Archaeology, Heritage and Tourism in Old Town San Diego*. Paper presented at the Society for California Archaeology Annual Meeting, April 2008.
*CEQA and Historical Resources*. Guest Lecturer, California Environmental Quality Act, UCSD Extension Course, 2008-2010.

# Cheryl Bowden-Renna
## Archaeologist/Associate
## Assistant Laboratory Director

**Education**
BA, Anthropology, San Diego State University, 1987
Square supervisor and Field School Instructor, at Tel Dor, Israel, U.C. Berkeley

**Affiliations**
Member, Society for California Archaeology

**Certifications**
40-Hour Hazardous Waste Operations and Emergency Response
(HAZWOPER Course maintained since 1996)

**Lectures + Instruction**
Sandstone Features Adjacent to Lake Cahuilla (with S. Rose), Volume 12, Society of California Archaeology, 1999
The Cultural Resources of the Chocolate Mountains (with R. Apple), Society of California Archaeology, 2004

Cheryl Bowden-Renna has served as archaeologist and assistant laboratory director for several cultural resource firms in San Diego. With 15 years of archaeological experience, Ms. Bowden-Renna has worked at sites throughout the southwestern United States. She also has a background in accounting, database management, and has developed solid management and supervisory skills.

Ms. Bowden-Renna has extensive archaeological monitoring experience of ordnance removal at the Salton Sea Test Base in Imperial County. She has also served as archaeological monitor of the test excavation for the Inmate Reception Center in downtown San Diego. In that role, she was responsible for monitoring excavations, including the use of backhoes, during the data recovery of features from an urban historic site.

**Project Experience**

**Department of General Services Federal Services Caltrans District 11 New Headquarters, San Diego, CA**
Performed cultural monitoring for historic and prehistoric resources during preconstruction and construction for Caltrans 11 new headquarters building.

**County of San Diego Camp Lockett Monitoring, Campo, CA**
Performed monitoring during construction of a sewage treatment facility in Campo, San Diego County.

**NAVFAC Southwest and MCAS Miramar East Miramar Housing Alternative, San Diego, CA**
As Project Archaeologist, conducted cultural resources survey, excavation, and evaluation of several sites located on MCB Miramar.

**NAVFAC Southwest and MCAS Miramar Jet Fuel Line, San Diego, CA**
As Crew Chief, conducted cultural resources survey for proposed fuel line for the Marine Corps, San Diego County.

**Riverside County Economic Development Authority OHV Project, Riverside County, CA**
As Crew Chief, conducted cultural resources survey of over 1,000 acres in Riverside County, California.

**Sempra Utilities Coronado Monitoring Project, Coronado, CA**
Monitoring of powerline trenching on Coronado Island, California.

**City of Santa Clarita and Caltrans District 7 Cross Valley Survey, Los Angeles County, CA**
As Crew Chief, conducted cultural resources survey in Los Angeles County, California.

**City of San Diego McAuliffe (Winterwood) Community Park, San Diego, CA**
Crew Chief for cultural resources survey of a proposed park.

**NAVFAC Southwest and MCAS Yuma Two Crash Sites on The Barry M. Goldwater Range, Yuma, AZ**
Crew Chief for cultural resources survey of two helicopter crash sites.

**NAVFAC Southwest Cultural Resources Inventory For the Infantry Squad Battle Course (P-633), Marine Corps Base Camp Pendleton, CA**
Crew Chief for cultural resources survey and site recordation.

**San Diego County Water Authority Emergency Storage Project, San Diego County, CA**
As Project Archaeologist, Crew Chief, Field Technician and Laboratory Analysis, conducted cultural resources survey, testing and evaluation of several large project sites within San Diego County.

**San Diego Gas & Electric Valley Rainbow Transmission Line Project, Riverside and San Diego Counties, CA**
Crew Chief for cultural resources survey and site recordation for major portions of a large transmission line project.

**LMXU Village Center**
Crew chief for cultural resources excavation and water screening.

**Los Angeles Department of Parks and Recreation Plum Canyon Park Project, Los Angeles County, CA**
As Crew Chief, conducted cultural resources survey for a community park in Saugus, Los Angeles County, California.

**City of Escondido Tract 207A**
As Project Archaeologist, conducted cultural resources survey of 1.13 acres in the City of Escondido.

**Tactical Aircrew Combat Training System Range Upgrade, MCAS Yuma, Yuma County, AZ**
Phase I cultural resource survey of proposed transmission line and 17 threat emitter stations.

**North Baja Gas Pipeline Project, Riverside and Imperial Counties, CA**
Conducted cultural resources survey and monitoring for large pipeline project in Riverside and Imperial counties, California.

**Archaeological Testing and National Register Evaluation of Site CA SDI-16,002 Near Range 210 Marine Corps Base Camp Pendleton, CA**
Field Director for test excavation of CA-SDI-16,002.

**Ballpark Infrastructure, San Diego, CA**
As Field Monitor, performed historic monitoring and testing of downtown east village area for the proposed Ballpark.

**Ballpark Remediation, San Diego, CA**
As Field Monitor, performed historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

**Nobel Drive, San Diego County, CA**
As Field Monitor, performed prehistoric monitoring of road extension to I-805 interchange.

**Sempra Utilities On-call Cultural Services, San Diego, CA**
As Field Monitor, historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

**County of San Diego Inmate Reception Center Project, San Diego County, CA**
As Laboratory Supervisor, conducted field monitoring of large machinery, including backhoes, during the data recovery of features from an urban historic site in downtown San Diego. Catalog and database management for project.

**NAVFAC Southwest Levee Bridge, San Diego County, CA**
As Crew Chief/Laboratory Supervisor, was responsible for catalog, database management, table creation for CA-SDI-10,156, and discovery sites.

**U.S. Navy Salton Sea Test Base Project, Imperial County, CA**
As Crew Chief, was responsible for site recordation, test excavation, and monitoring of 130 prehistoric sites in the County.

**City of San Diego and Caltrans SR-56 EIR, Cultural Investigations, San Diego County, CA**
As Laboratory Technician, cataloged 12 prehistoric sites during preparation of EIR.

**City of San Diego and Caltrans SR-56 Cultural Resources Testing, San Diego County, CA**
As Crew Chief, performed testing at 12 prehistoric sites.

**P-527 Santa Margarita/San Onofre Cultural Resources Testing and Monitoring, MCB Camp Pendleton,**
**San Diego County, CA**
Performed monitoring of water treatment pond and pipeline construction in the County.

**NAVFAC Southwest San Clemente Island Existing Conditions Study for Pumped Hydrostorage/Wind Farm Project, Los Angeles County, CA**
As Field Technician, responsible for recording 80 sites on San Clemente Island.

**NAVFAC Southwest Tactical Aircrew Combat Training System Range Upgrade, MCAS Yuma, Yuma County, AZ**
As Field Technician, responsible for Phase I cultural resource survey of proposed transmission line and 17 threat emitter stations.

**Boulder Valley Project, San Diego County, CA**
Cultural resource survey of proposed reservoir and pipeline tunnels in the County.

**Kern River Project, San Bernardino County, CA, Beaver, Miller, and Utah Counties, UT, and Clark County, NV**
Excavated, surveyed, and monitored along pipeline right-of-way. Analyzed artifacts from all phases of project in Las Vegas, Nevada.

**Pacific Rim Laboratory Analysis, San Diego County, CA**
As Field Technician, analyzed CA-SDI-691, a prehistoric site on Batiquitos Lagoon.

**County of San Diego Cal Terraces Laboratory Analysis, San Diego County, CA**
As Laboratory Technician, analyzed one prehistoric site, and reanalyzed two prehistoric sites, in Otay Mesa.

**Elsmere Corporation Cultural Resource Survey, Los Angeles County, CA**
As Field Technician, conducted cultural resource survey of 2,200 acres in the San Gabriel Mountains.

**Caltrans Coursegold Excavation, Madera County, CA**
As Field Technician, excavated site for Caltrans road widening.

**U.S. Navy Vandenberg Laboratory Analysis, Santa Barbara County, CA**
As Laboratory Technician, sorted artifacts and wet-screened column samples.

**Camelot Cultural Resource Survey, Kern County, CA**
As Crew Chief, conducted a cultural resource survey of a 200-acre lot split in the Mojave Desert.

**Caltrans SR-86 Cultural Resource Survey, Imperial County, CA**
As Crew Chief, conducted a cultural resource survey of SR-86 road widening in the County.

**Black Mountain Ranch Excavation, San Diego County, CA**
As Laboratory Supervisor, excavated and analyzed 15 prehistoric sites in the La Jolla Valley.

**City of Carlsbad Cannon Ranch Reaches 3 and 4, San Diego County, CA**
As Crew Chief, excavated and analyzed two prehistoric sites in Carlsbad.

**San Diego Gas & Electric Rancho San Miguel Project, San Diego County, CA**
As Field Technician/laboratory Supervisor, excavated and analyzed nine sites and conducted extensive surface collections in the County.

**Cottonwood Canyon Laboratory Analysis, Riverside County, CA**
As Laboratory Supervisor, analyzed two prehistoric sites in the County.

**Rancho del Rey (Spa III) Excavation, San Diego County, CA**
As Field Technician/laboratory Supervisor, excavated and analyzed a prehistoric site in Chula Vista.

**Stallions Crossing Laboratory Analysis, San Diego County, CA**
As Laboratory Supervisor, analyzed five prehistoric sites in Del Mar.

**Valley Ranch Cultural Resource Survey, Palmdale, CA**
Conducted cultural resource survey of 350 acres in Palmdale.

**Fairbanks Highland Cultural Resource Survey, San Diego County, CA**
Conducted cultural resource survey, excavation, and analysis.

**Eagle Mountain Cultural Resource Survey, Riverside County, CA**
Conducted cultural resource survey of the Eagle Mountain mine and railroad to Salton Sea.

**Santa Margarita River Cultural Resource Survey, San Diego and Riverside Counties, CA**
Conducted cultural resource survey of Santa Margarita River from Temecula to the Pacific Ocean.

**Scripps Ranch North Excavation, San Diego County, CA**
Excavated and analyzed two prehistoric sites and one historic site in Poway.

**Sycamore Canyon Excavation, San Diego County, CA**
Excavated and analyzed two prehistoric sites east of Poway.

**Los Campanos Excavation, San Diego County, CA**
Excavated and analyzed four prehistoric sites and one historic site in Valley Center.

**American Girl Mine Cultural Resource Survey, Imperial County, CA**

Conducted cultural resource survey, excavation, and analysis of historic artifacts from a historic gold mining town in the Cargo Muchacho Mountains.

**Railroad Canyon Cultural Resource Survey,**
**Riverside County, CA**

Conducted cultural resource survey, excavation, and analysis of a road realignment in Temecula.

**U.S. Air Force Edwards Air Force Base Cultural Resource Survey, Excavation, and Analysis, Kern County, CA**

As Field Technician/Laboratory Technician, conducted cultural resource survey, excavation, and analysis of 1,000-acre area on Edwards Air Force Base.

**County of San Diego Parks and Recreation Department Johnson-Taylor Adobe Excavation, San Diego County, CA**

As Field Technician/Laboratory Technician, excavated and analyzed the area around the Johnson-Taylor Adobe and C wing.

**Pacific Rim Laboratory Analysis, San Diego County, CA**

As Field Technician/Laboratory Technician, conducted extensive shell and lithic analysis of prehistoric sites on Batiquitos Lagoon.

# APPENDIX C

## DPR FORMS
***(Confidential – Bound Separately)***

# APPENDIX D

# NATIVE AMERICAN CONSULTATION

**EDAW Inc**
1420 Kettner Boulevard, Suite 500, San Diego, California 92101
T 619.233.1454 F 619.233.0952 www.edaw.com

# Facsimile

| **Please deliver to** | | **From** | |
|---|---|---|---|
| Name | | Name | Cheryl Bowden-Renna |
| Firm | Native American Heritage Commission | Direct line | 619-233-1454 x 6815 |
| Fax number | 916-657-5390 | Date transmitted | 2/3/2011 |
| Phone number | | Total pages | 04 |
| Subject | Jacumba Water Well | | |
| Project number | 09080001 | | |

We are contacting you to request a sacred lands file check for the proposed Jacumba Water Well Access Road Project, located in eastern San Diego County. The proposed areas incorporates a 1/4-mile radius each area, located on the following quadrangle:

Jacumba T17S R8E Section 7

If you have any questions, please do not hesitate to call me at (619) 233-1454.

Sincerely,

Cheryl Bowden-Renna
Archaeologist/Associate

*Document1*


Source: USGS 7.5' Topo Quad Jacumba, CA 1975; ESRI 2011; Sempra 2010;

2,000 1,000 0 2,000 Feet

Scale: 1 = 24,000; 1 inch = 2000 feet

# Records Search Map

JCSD Water Purchase Project

*Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Well_accessRd_working\Well_accessRd_.mxd, 01/04/11, SorensenJ*

# APPENDIX E

## CONFIDENTIAL FIGURES
***(Confidential – Bound Separately)***

# Appendix E Noise Analysis

**CONTENTS**

# Audible Noise Performance

**for the Construction Activities**
**Associated with the**

# Energia Sierra Juarez U.S. Gen-Tie Project

**in**

**San Diego County, California**
**Application No. MUP 09-008**
**KIVA 09-0107420**

**Prepared for:**
**Energia Sierra Juarez U.S. Transmission LLC**

**Prepared by:**
**Burns & McDonnell Engineering Company, Inc.**
**Kansas City, Missouri**

**Project Number: 52573**

**October 2009**

Energia Sierra Juarez U.S. (ESJ U.S.) Transmission Gen-Tie Project
October 29, 2009
Project No. 52573

Audible Noise Performance

Corona is a phenomenon associated with all energized transmission lines. Under certain conditions, the localized electric field near an energized conductor can be sufficiently concentrated to produce a tiny electric discharge that can ionize air close to the conductors. This partial discharge of electrical energy is called corona discharge, or corona. Several factors, including conductor voltage, diameter, and surface irregularities such as scratches, nicks, dust, or water drops can affect a conductor's electrical surface gradient and its corona performance. Corona is the physical manifestation of energy loss, and can transform discharge energy into very small amounts of sound, radio noise, heat, and chemical reactions.

Transmission lines can generate a small amount of sound energy during corona activity. This audible noise from the line can barely be heard in fair weather conditions on higher voltage lines, and is typically immediately near the structure. During wet weather conditions, water drops collect on the conductor and increase corona activity so that a crackling or humming sound may be heard near the line. This noise is caused by small electrical discharges from the water drops.

The corona performance of the proposed project was predicted using the Corona and Field Effects Program (CORONA) developed by the Bonneville Power Administration (BPA, 1977). Corona performance is calculated using empirical equations that have been developed over several years from the results of measurements on numerous high-voltage lines. Of the methods available for predicting radio interference levels, the BPA empirical equivalent method agrees most closely with long-term data. Important input parameters to the computer program are voltage, current, conductor size, and geometric configuration on the line.

Because corona is a statistical phenomenon, corona computations are made under conditions of average operating voltage and for average line height. Corona is basically a foul-weather phenomenon, and is characterized by exceedence levels, typically $L_5$ and $L_{50}$ foul weather levels. The $L_{50}$ value is the level exceeded for 50% of the time. It is statistically the mid-point of the noise readings, and is most commonly used for audible noise evaluation.

Using the BPA CORONA program, audible noise values were calculated for the ESJ U.S. Gen-Tie lines under foul weather conditions. This project is zoned S92, so the levels were compared to the San Diego County Noise Ordinance, Section 36.404. The audible noise limit is a one-hour average daytime sound level limit of 50 dBA in daytime and a nighttime sound level limit of 45 dBA at the property line.

Table 1 shows a summary of the results for both the 500kV single-circuit configuration and the 230kV double-circuit configuration at various receptor locations. This modeling indicates that, during wet weather conditions for the 500kV configuration, conductor selection is a factor concerning the audible noise level limit. A 2-conductor 2156 kcmil Bluebird configuration, Line Configuration A, and a 3-conductor 795 kcmil Drake configuration, Line Configuration D, both meet the criteria, but a single Bluebird or a 2-conductor 954 kcmil Cardinal configuration do not.

TABLE 1
Foul Weather Noise Analysis Results

| | | | Audible Noise Level (dBA) | | | | | |
|---|---|---|---|---|---|---|---|---|
| Receptor No. | Location | Line Configuration --> | A | B | C | D | E | F |
| 1 | On 230kV Centerline | | -- | -- | -- | -- | 17.9 | 23.6 |
| 2 | On 500kV Centerline | | 52.8 | 69.1 | 60.1 | 49.4 | -- | -- |
| 3 | On Access Road<br>700ft from 230kV<br>1300ft from 500kV | | 38.0 | 54.3 | 45.2 | 34.6 | 6.9 | 12.5 |
| 4 | On Access Road<br>1400ft from 230kV<br>2000ft from 500kV | | 35.8 | 52.1 | 43.1 | 32.4 | 3.5 | 9.1 |
| 5 | On East Property Line<br>1500ft from 230kV<br>1100ft from 500kV | | 38.8 | 55.1 | 46.0 | 35.4 | 3.2 | 8.8 |
| 6 | On West Property Line<br>2200ft from 230kV<br>3000ft from 500kV | | 33.8 | 50.1 | 41.1 | 30.4 | 1.3 | 6.9 |
| 7 | Edge of 230kV ROW<br>65ft from Centerline | | -- | -- | -- | -- | 16.7 | 22.3 |
| 8 | Edge of 500kV ROW<br>107ft from Centerline | | 49.7 | 66.0 | 57.0 | 46.3 | -- | -- |

| Line Configuration | Line Description | Conductor Configuration |
|---|---|---|
| A | 500kV Single-Circuit | (2) Bluebird |
| B | 500kV Single-Circuit | (1) Bluebird |
| C | 500kV Single-Circuit | (2) Cardinal |
| D | 500kV Single-Circuit | (3) Drake |
| E | 230kV Double-Circuit | (2) Bluebird |
| F | 230kV Double-Circuit | (2) Finch / ACSS |

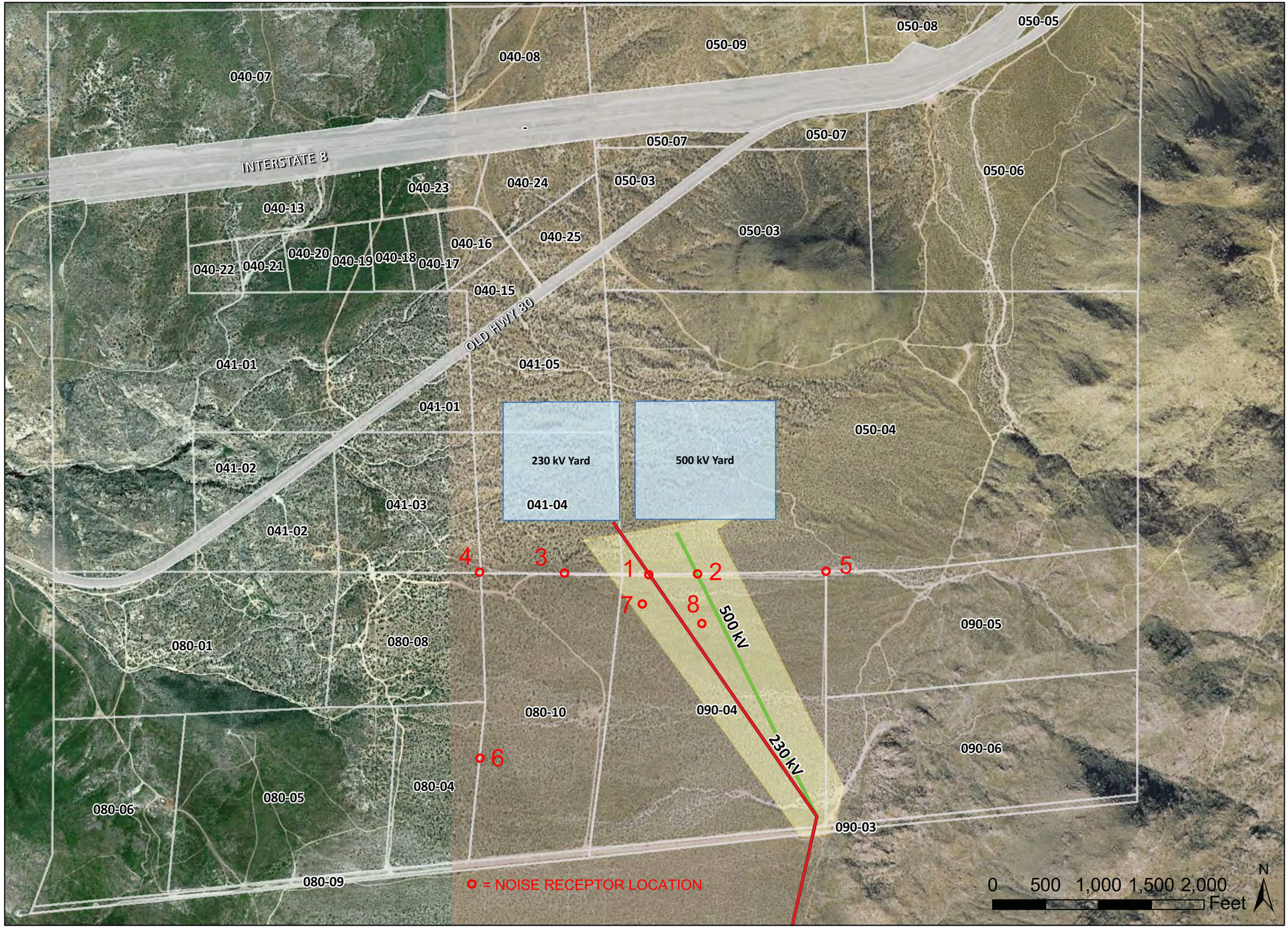
Corona and audible noise are usually not a design issue for transmission lines at 230kV or below. Either 230kV conductor configuration will meet the audible noise criteria.

Conclusions

Audible noise decreases with distance from the proposed transmission line. The proposed transmission line is located in open country, away from residences, businesses, and other receptors. During most of the year, in fair weather, the audible noise level at the edge of the right-of-way will not exceed 28 dBA. Due to all of these factors, impacts from corona noise should not be significant with the correct conductor selection.

A 3-conductor bundle 795 kcmil ACSR Drake is an acceptable configuration for the 500kV ESJ U.S. Gen-Tie line. Either conductor configuration will meet the audible noise criteria for the 230kV ESJ U.S. Gen-Tie line.

* * * * *




Sempra®
Energía Sierra Juárez®

**Energía Sierra Juárez U.S. Transmission, LLC.**

**San Diego County United States**

## Gen Tie Line

- 230 kV
- 500 kV
- ECO Substation

## US Landowners

- Parcels
- Road

# Audible Noise Performance

**for the Construction Activities**
**Associated with the**

# Energia Sierra Juarez U.S. Gen-Tie Alternative Project

**in**

**San Diego County, California**
**Application No. MUP 09-008**
**KIVA 09-0107420**

**Prepared for:**
**Energia Sierra Juarez U.S. Transmission LLC**

**Prepared by:**
**Burns & McDonnell Engineering Company, Inc.**
**Kansas City, Missouri**

**Project Number: 52573**

**May 2010**

Energia Sierra Juarez U.S. (ESJ U.S.) Transmission Gen-Tie Alternative Project
May 25, 2010
Project No. 52573

## Project Description

Energia Sierra Juarez (ESJ) U.S. Transmission, LLC, proposes the construction, operation and maintenance of a less than one-mile electric generator-tie line (Gen-Tie) from the Mexico border to a proposed East County Substation (ECO Substation) adjacent to the South West Power Link (SWPL) 500 kV gen-tie line in Eastern San Diego County. The ECO Substation will be permitted, constructed and operated by San Diego Gas and Electric (SDG&E). In August of 2009, SDG&E submitted a Proponents Environmental Assessment (PEA) with the proposed "ECO Substation" location. Subsequently, SDG&E proposed an "ECO Substation Alternative" that was located approximately 100 meters to the northeast. Therefore, two sets of gen-tie routes for the ESJ Gen-Tie Project are proposed. The "ESJ Gen-Tie" route consists of Routes A1 and A2. The "ESJ Gen-Tie Alternative" route consists of Routes D1 and D2. Each set consists of a single circuit 500 kV line (Route A1 or Route D1) or double-circuit 230 kV lines (Route A2 or Route D2) supported on three to five 150- to 170-foot steel monopoles or three to five 150-foot tall steel lattice towers (total line capacity would be 1,250 MW for either alternative).

A noise analysis was previously developed and submitted to the County of San Diego for Routes A1 and A2. This report examines the audible noise performance for the ESJ Gen-tie Alternative Project (Routes D1 and D2) located in San Diego County, California. This report has been developed for ESJ U.S. by Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) as a requirement of the application for a San Diego County Major Use Permit (MUP).

## Audible Noise Performance

Corona is a phenomenon associated with all energized transmission lines. Under certain conditions, the localized electric field near an energized conductor can be sufficiently concentrated to produce a tiny electric discharge that can ionize air close to the conductors. This partial discharge of electrical energy is called corona discharge, or corona. Several factors, including conductor voltage, diameter, and surface irregularities such as scratches, nicks, dust, or water drops can affect a conductor's electrical surface gradient and its corona performance. Corona is the physical manifestation of energy loss, and can transform discharge energy into very small amounts of sound, radio noise, heat, and chemical reactions.

Transmission lines can generate a small amount of sound energy during corona activity. This audible noise from the line can barely be heard in fair weather conditions on higher voltage lines, and is typically immediately near the structure. During wet weather conditions, water drops collect on the conductor and increase corona activity so that a crackling or humming sound may be heard near the line. This noise is caused by small electrical discharges from the water drops.

The corona performance of the proposed project was predicted using the Corona and Field Effects Program (CORONA) developed by the Bonneville Power Administration (BPA, 1977). Corona performance is calculated using empirical equations that have been developed over several years from the results of measurements on numerous high-voltage lines. Of the methods available for predicting radio interference levels, the BPA empirical equivalent method agrees most closely with long-term data. Important input parameters to the computer program are voltage, current, conductor size, and geometric configuration on the line.

Because corona is a statistical phenomenon, corona computations are made under conditions of average operating voltage and for average line height. Corona is basically a foul-weather phenomenon, and is characterized by exceedence levels, typically $L_5$ and $L_{50}$ foul weather levels. The $L_{50}$ value is the level exceeded for 50% of the time. It is statistically the mid-point of the noise readings, and is most commonly used for audible noise evaluation.

Using the BPA CORONA program, audible noise values were calculated for the ESJ U.S. Gen-Tie lines under foul weather conditions. This project is zoned S92, so the levels were compared to the San Diego County Noise Ordinance, Section 36.404. The audible noise limit is a one-hour average daytime sound level limit of 50 dBA in daytime and a nighttime sound level limit of 45 dBA at the property line.

Table 1 shows a summary of the results for both the 500kV single-circuit configuration and the 230kV double-circuit configuration at various receptor locations. This modeling indicates that, during wet weather conditions for the 500kV configuration, conductor selection is a factor concerning the audible noise level limit. A 2-conductor 2156 kcmil Bluebird configuration, Line Configuration A, and a 3-conductor 795 kcmil Drake configuration, Line Configuration D, both meet the criteria, but a single Bluebird or a 2-conductor 954 kcmil Cardinal configuration do not.

TABLE 1
Foul Weather Noise Analysis Results

| | | | Audible Noise Level (dBA) | | | | | |
|---|---|---|---|---|---|---|---|---|
| Receptor No. | Location | Line Configuration --> | A | B | C | D | E | F |
| 1 | On 230kV Centerline | | -- | -- | -- | -- | 17.9 | 23.6 |
| 2 | On 500kV Centerline | | 52.8 | 69.1 | 60.1 | 49.4 | -- | -- |
| 3 | On Access Road<br>375 ft from 230kV<br>625 ft from 500kV | | 42.3 | 58.6 | 49.5 | 38.9 | 9.8 | 15.1 |
| 4 | On Access Road<br>800 ft from 230kV<br>1050 ft from 500kV | | 39.0 | 55.4 | 46.2 | 35.6 | 6.6 | 12.2 |
| 5 | On East Property Line<br>1000 ft from 230kV<br>775 ft from 500kV | | 41.0 | 57.3 | 48.2 | 37.6 | 5.2 | 10.6 |
| 6 | On West Property Line<br>1100 ft from 230kV<br>1300 ft from 500kV | | 38.0 | 54.3 | 45.2 | 34.6 | 4.7 | 10.3 |
| 7 | Edge of 230kV ROW<br>65 ft from Centerline | | -- | -- | -- | -- | 16.7 | 22.3 |
| 8 | Edge of 500kV ROW<br>107 ft from Centerline | | 49.7 | 66.0 | 57.0 | 46.3 | -- | -- |
| 9 | On West Property Line<br>1750 ft from 230kV<br>1850 ft from 500kV | | 36.4 | 52.7 | 43.8 | 33.1 | 2.5 | 8.1 |

| Line Configuration | Line Description | Conductor Configuration |
|---|---|---|
| A | 500kV Single-Circuit | (2) Bluebird |
| B | 500kV Single-Circuit | (1) Bluebird |
| C | 500kV Single-Circuit | (2) Cardinal |
| D | 500kV Single-Circuit | (3) Drake |
| E | 230kV Double-Circuit | (2) Bluebird |
| F | 230kV Double-Circuit | (2) Finch / ACSS |

Corona and audible noise are usually not a design issue for transmission lines at 230kV or below. Either 230kV conductor configuration will meet the audible noise criteria.

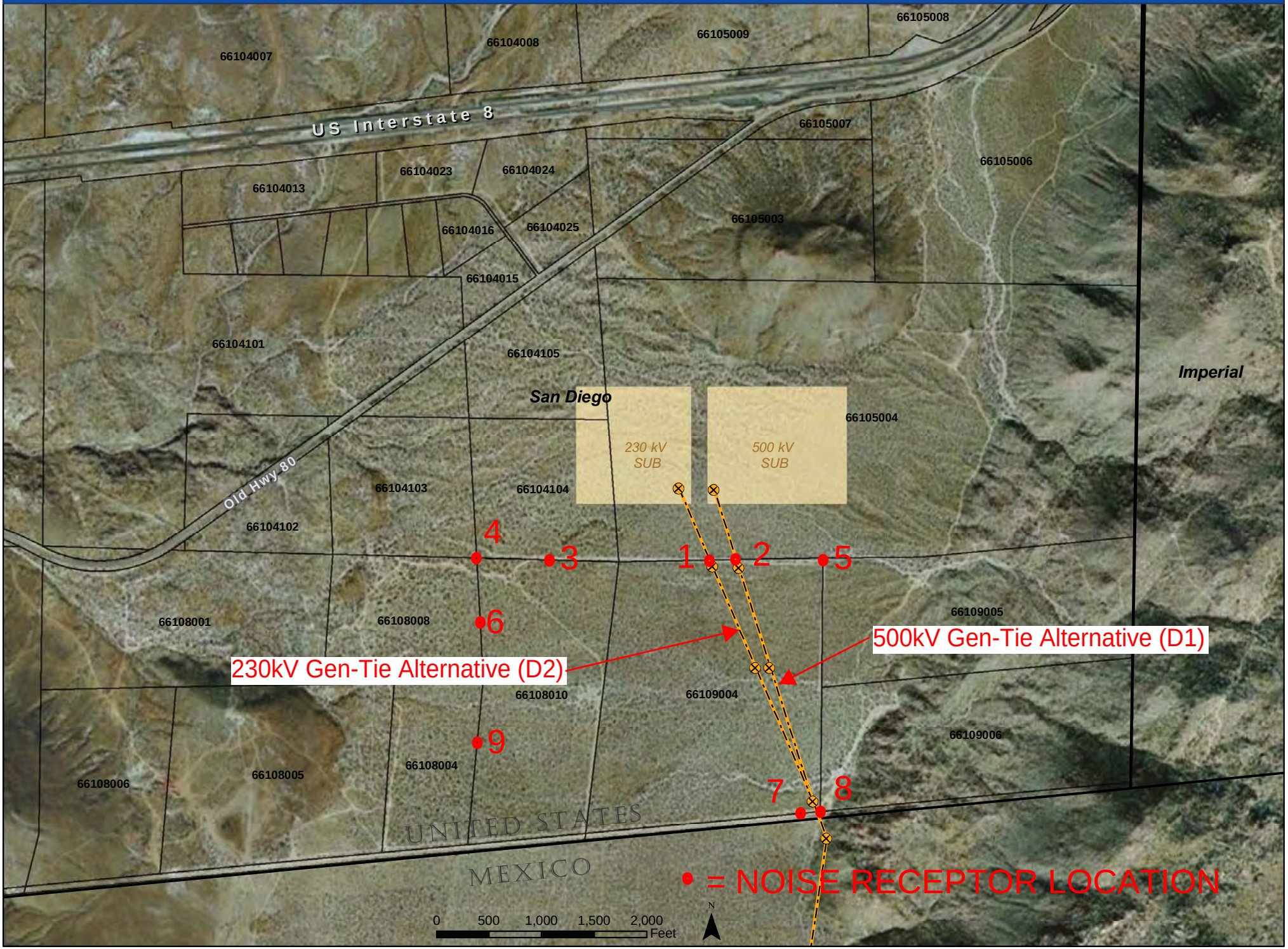
Conclusions

Audible noise decreases with distance from the proposed transmission line. The proposed transmission line is located in open country, away from residences, businesses, and other receptors. During most of the year, in fair weather, the audible noise level at the edge of the right-of-way will not exceed 28 dBA. Due to all of these factors, impacts from corona noise should not be significant with the correct conductor selection.

A 3-conductor bundle 795 kcmil ACSR Drake has been selected for the 500kV ESJ U.S. Gen-Tie line. A 2-conductor bundle 1113 kcmil ACSS Finch has been selected for the 230kV ESJ U.S. Gen-Tie lines.

* * * * *

# Energía Sierra Juárez U.S. Transmission, LLC. San Diego County, United States



# Appendix E.3 Typical Electrical Transmission Conductor Specifications





# ACSS

Aluminum Conductor, Steel Supported.

## APPLICATIONS

ACSS is used for overhead distribution and transmission lines. It is designed to operate continuously at elevated temperatures up to 250°C without loss of strength; it sags less under emergency electrical loadings than ACSR; it is self-damping if prestretched during installation; and its final sags are not affected by long term creep of aluminum. The advantages make ACSS especially useful in reconductoring applications requiring increased current with existing tensions and clearances, new line applications where structures can be economized because of reduced conductor sag, new line applications requiring high emergency loadings, and lines where aeolian vibration is a problem.

**Code Words:**

Partridge, Junco, Ostrich, Linnet, Oriole, Brant, Ibis, Lark, Flicker, Hawk, Hen, Parakeet, Dove, Eagle, Peacock, Squab, WoodDuck, Teal, Rook, Grosbeak, Scoter, Egret, Flamingo, Gannet, Stilt, Starling, Redwing, Cuckoo, Drake, Macaw, Tern, Condor, Mallard, Ruddy, Canary, Redbird, Rail, Towhee, Cardinal, Canvasback, Snowbird, Ortolan, Curlew, Bluejay, Finch, Bunting, Bittern, Pheasant, Dipper, Martin, Bobolink, Plover, Nuthatch, Parrot, Ratite, Lapwing, Falcon, Chukar, Mockingbird, Roadrunner, Bluebird, Kiwi, Thrasher, Joree

**Product Specifications**

MADE IN THE USA

RELATED PRODUCTS

 AAAC-6201

 AAC

 AAC/TW

 ACAR

 ACSR

 ACSR/AW

 ACSR/TW

 ACSS/AW

 ACSS/TW

 Armor Wire/Binder Tape

 Motion-Resistant Conductor

 Tie & Ground Wire

 VR2 Cable

# ACSS

**Aluminum Conductor, Steel Supported.**

## APPLICATIONS

ACSS is used for overhead distribution and transmission lines. It is designed to operate continuously at elevated temperatures up to 250°C without loss of strength; it sags less under emergency electrical loadings than ACSR; it is self-damping if prestretched during installation; and its final sags are not affected by long term creep of aluminum. The advantages make ACSS especially useful in reconductoring applications requiring increased current with existing tensions and clearances, new line applications where structures can be economized because of reduced conductor sag, new line applications requiring high emergency loadings, and lines where aeolian vibration is a problem.

## SPECIFICATIONS

Southwire's ACSS conductor meets or exceeds the following ASTM specifications:

- B341 Aluminum-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced.
- B500 Metallic Coated Stranded Steel Core For Aluminum Conductors, Steel Reinforced.
- B609 Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes.
- B802 Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum Conductors, Steel Reinforced.
- B803 High-Strength Zinc-5% Aluminum-Mischmetal Alloy-Coated Steel Core Wire for Aluminum and Aluminum-Alloy Conductors, Steel Reinforced.
- B856 Concentric-Lay-Stranded Aluminum Conductors, Coated Steel Supported (ACSS).

The strandings available are identical to those listed in ASTM specification B232.

## CONSTRUCTION

ACSS is a composite concentric-lay stranded conductor. Steel strands form the central core of the conductor with one or more layers of aluminum 1350-0 wire stranded around it. The steel core carries most or all of the mechanical load of the conductor due to the "0" (fully annealed or soft) temper aluminum. Steel core wires are protected from corrosion by galvanizing, aluminizing, or mischmetal alloy coating. Corrosion protection should be selected to suit the environment to which the conductor will be exposed. High strength steel core is also available.

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# ACSS

| Code Word | Size (kcmil) | Stranding (Al/St) | Diameter (in) | | | | Weight Per 1000 ft (lb) | | | Rated Strength | | | Resistance OHMS/1000 ft | | Ampacity at 200°C (AMPS) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Individual Wires | | Steel Core | Complete Cable | | | | | | | DC @ 20°C | AC @ 75°C | |
| | | | Al | Steel | | | Al | Steel | Total | Standard Strength lb | High* Strength lb | HS285** Strength lb | | | |
| Partridge/ACSS | 266.8 | 26/7 | 0.1013 | 0.0788 | 0.2363 | 0.642 | 251.3 | 115.5 | 366.8 | 8880 | 9730 | 11400 | .0619 | .0761 | 812 |
| Junco/ACSS | 266.8 | 30/7 | 0.0943 | 0.0943 | 0.2829 | 0.660 | 251.9 | 165.5 | 417.4 | 11700 | 13000 | 15200 | .0615 | .0756 | 822 |
| Ostrich/ACSS | 300.0 | 26/7 | 0.1074 | 0.0835 | 0.2506 | 0.680 | 282.6 | 129.9 | 412.4 | 10000 | 10900 | 12800 | .0551 | .0677 | 877 |
| Linnet/ACSS | 336.4 | 26/7 | 0.1137 | 0.0885 | 0.2654 | 0.720 | 316.8 | 145.7 | 462.5 | 11200 | 12300 | 14400 | .0491 | .0604 | 945 |
| Oriole/ACSS | 336.4 | 30/7 | 0.1059 | 0.1059 | 0.3177 | 0.741 | 317.6 | 208.7 | 526.3 | 14800 | 16300 | 19100 | .0488 | .0600 | 957 |
| Brant/ACSS | 397.5 | 24/7 | 0.1287 | 0.0858 | 0.2574 | 0.772 | 374.4 | 137.0 | 511.4 | 11000 | 12100 | 14100 | .0417 | .0514 | 1047 |
| Ibis/ACSS | 397.5 | 26/7 | 0.1236 | 0.0962 | 0.2885 | 0.783 | 374.4 | 172.1 | 546.5 | 13000 | 14200 | 16500 | .0416 | .0512 | 1054 |
| Lark/ACSS | 397.5 | 30/7 | 0.1151 | 0.1151 | 0.3453 | 0.806 | 375.3 | 246.5 | 621.9 | 17500 | 19300 | 22600 | .0413 | .0508 | 1068 |
| Flicker/ACSS | 477 | 24/7 | 0.1410 | 0.0940 | 0.2819 | 0.846 | 449.3 | 164.4 | 613.6 | 13000 | 14200 | 16400 | .0348 | .0429 | 1180 |
| Hawk/ACSS | 477 | 26/7 | 0.1354 | 0.1053 | 0.3160 | 0.858 | 449.3 | 206.5 | 655.8 | 15600 | 17100 | 19800 | .0346 | .0427 | 1188 |
| Hen/ACSS | 477 | 30/7 | 0.1261 | 0.1261 | 0.3783 | 0.883 | 450.4 | 295.9 | 746.3 | 21000 | 22700 | 26700 | .0344 | .0424 | 1204 |
| Parakeet/ACSS | 556.5 | 24/7 | 0.1523 | 0.1015 | 0.3045 | 0.914 | 524.1 | 191.8 | 715.9 | 15200 | 16600 | 19200 | .0298 | .0368 | 1306 |
| Dove/ACSS | 556.5 | 26/7 | 0.1463 | 0.1138 | 0.3413 | 0.927 | 524.2 | 240.9 | 765.1 | 18200 | 19900 | 23200 | .0297 | .0366 | 1315 |
| Eagle/ACSS | 556.5 | 30/7 | 0.1362 | 0.1362 | 0.4086 | 0.953 | 525.4 | 345.2 | 870.6 | 24500 | 26500 | 31100 | .0295 | .0363 | 1331 |
| Peacock/ACSS | 605 | 24/7 | 0.1588 | 0.1058 | 0.3175 | 0.953 | 569.8 | 208.5 | 778.3 | 16500 | 18100 | 20800 | .0274 | .0339 | 1379 |
| Squab/ACSS | 605 | 26/7 | 0.1525 | 0.1186 | 0.3559 | 0.966 | 569.8 | 261.9 | 831.8 | 19700 | 21300 | 25200 | .0273 | .0337 | 1389 |
| Wood Duck/ACSS | 605 | 30/7 | 0.1420 | 0.1420 | 0.4260 | 0.994 | 571.2 | 375.3 | 946.5 | 26000 | 28300 | 33300 | .0271 | .0334 | 1407 |
| Teal/ACSS | 605 | 30/19 | 0.1420 | 0.0852 | 0.4260 | 0.994 | 571.2 | 367.4 | 938.6 | 26600 | 29300 | 34800 | .0272 | .0335 | 1406 |
| Rook/ACSS | 636 | 24/7 | 0.1628 | 0.1085 | 0.3256 | 0.977 | 599.0 | 219.2 | 818.2 | 17300 | 19000 | 21900 | .0261 | .0322 | 1425 |
| Grosbeak/ACSS | 636 | 26/7 | 0.1564 | 0.1216 | 0.3649 | 0.991 | 599.0 | 275.4 | 874.4 | 20700 | 22400 | 26000 | .0260 | .0321 | 1435 |
| Scoter/ACSS | 636 | 30/7 | 0.1456 | 0.1456 | 0.4368 | 1.019 | 600.5 | 394.5 | 995.0 | 27400 | 29700 | 35000 | .0258 | .0318 | 1454 |
| Egret/ACSS | 636 | 30/19 | 0.1456 | 0.0874 | 0.4368 | 1.019 | 600.5 | 386.3 | 986.8 | 28000 | 30900 | 36600 | .0258 | .0319 | 1453 |
| Flamingo/ACSS | 666.6 | 24/7 | 0.1667 | 0.1111 | 0.3333 | 1.000 | 627.9 | 229.7 | 857.6 | 18200 | 19900 | 22900 | .0249 | .0308 | 1470 |
| Gannet/ACSS | 666.6 | 26/7 | 0.1601 | 0.1245 | 0.3736 | 1.014 | 627.8 | 288.6 | 916.4 | 21700 | 23400 | 27300 | .0248 | .0306 | 1480 |
| Stilt/ACSS | 715.5 | 24/7 | 0.1727 | 0.1151 | 0.3453 | 1.036 | 673.9 | 246.5 | 920.5 | 19500 | 21300 | 24600 | .0232 | .0287 | 1540 |
| Starling/ACSS | 715.5 | 26/7 | 0.1659 | 0.1290 | 0.3871 | 1.051 | 673.9 | 309.8 | 983.7 | 23300 | 25200 | 29800 | .0231 | .0286 | 1550 |
| Redwing/ACSS | 715.5 | 30/19 | 0.1544 | 0.0927 | 0.4633 | 1.081 | 675.6 | 434.6 | 1110.1 | 30800 | 34000 | 39800 | .0230 | .0284 | 1570 |
| Cuckoo/ACSS | 795 | 24/7 | 0.1820 | 0.1213 | 0.3640 | 1.092 | 748.8 | 274.0 | 1022.7 | 21700 | 23300 | 26900 | .0209 | .0259 | 1650 |
| Drake/ACSS | 795 | 26/7 | 0.1749 | 0.1360 | 0.4080 | 1.107 | 748.8 | 344.2 | 1093.0 | 25900 | 28000 | 32600 | .0209 | .0257 | 1662 |
| Macaw/ACSS | 795 | 42/7 | 0.1376 | 0.0764 | 0.2293 | 1.055 | 748.8 | 108.7 | 857.5 | 11800 | 12600 | 14300 | .0211 | .0262 | 1621 |
| Tern/ACSS | 795 | 45/7 | 0.1329 | 0.0886 | 0.2658 | 1.063 | 748.8 | 146.1 | 894.9 | 14200 | 15200 | 17400 | .0210 | .0263 | 1618 |
| Condor/ACSS | 795 | 54/7 | 0.1213 | 0.1213 | 0.3640 | 1.092 | 748.8 | 274.0 | 1022.7 | 21700 | 23300 | 26900 | .0209 | .0266 | 1618 |
| Mallard/ACSS | 795 | 30/19 | 0.1628 | 0.0977 | 0.4884 | 1.139 | 750.6 | 482.8 | 1233.4 | 34300 | 37900 | 44300 | .0207 | .0255 | 1683 |
| Ruddy/ACSS | 900 | 45/7 | 0.1414 | 0.0943 | 0.2828 | 1.131 | 847.7 | 165.4 | 1013.1 | 15800 | 17000 | 19200 | .0186 | .0233 | 1755 |
| Canary/ACSS | 900 | 54/7 | 0.1291 | 0.1291 | 0.3873 | 1.162 | 847.7 | 310.1 | 1157.8 | 24600 | 26400 | 30500 | .0184 | .0236 | 1756 |

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# ACSS

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Redbird/ACSS | 954 | 24/7 | 0.1994 | 0.1329 | 0.3987 | 1.196 | 898.5 | 328.7 | 1227.3 | 26000 | 28000 | 32300 | .0174 | .0217 | 1859 |
| Rail/ACSS | 954 | 45/7 | 0.1456 | 0.0971 | 0.2912 | 1.165 | 898.5 | 175.3 | 1073.9 | 16700 | 18000 | 20400 | .0175 | .0220 | 1824 |
| Towhee/ACSS | 954 | 48/7 | 0.1410 | 0.1097 | 0.3290 | 1.175 | 898.5 | 223.7 | 1122.3 | 19700 | 21300 | 24300 | .0175 | .0218 | 1842 |
| Cardinal/ACSS | 954 | 54/7 | 0.1329 | 0.1329 | 0.3987 | 1.196 | 898.6 | 328.7 | 1227.3 | 26000 | 28000 | 32300 | .0174 | .0223 | 1825 |
| Canvasback/ACSS | 954 | 30/19 | 0.1783 | 0.1070 | 0.5350 | 1.248 | 900.7 | 579.4 | 1480.1 | 41100 | 45400 | 53100 | .0172 | .0214 | 1897 |
| Snowbird/ACSS | 1033.5 | 42/7 | 0.1569 | 0.0871 | 0.2614 | 1.203 | 973.4 | 141.3 | 1114.7 | 15400 | 16500 | 18500 | .0162 | .0204 | 1924 |
| Ortolan/ACSS | 1033.5 | 45/7 | 0.1515 | 0.1010 | 0.3031 | 1.212 | 973.4 | 190.0 | 1163.4 | 18100 | 19500 | 22000 | .0162 | .0204 | 1921 |
| Curlew/ACSS | 1033.5 | 54/7 | 0.1383 | 0.1383 | 0.4150 | 1.245 | 973.4 | 356.2 | 1329.6 | 28200 | 30300 | 35000 | .0161 | .0206 | 1924 |
| Bluejay/ACSS | 1113 | 45/7 | 0.1573 | 0.1048 | 0.3145 | 1.258 | 1048.3 | 204.5 | 1252.8 | 19500 | 21100 | 23800 | .0150 | .0190 | 2017 |
| Finch/ACSS | 1113 | 54/19 | 0.1436 | 0.0861 | 0.4307 | 1.292 | 1053.4 | 375.5 | 1428.9 | 30400 | 33200 | 38700 | .0150 | .0193 | 2015 |
| Bunting/ACSS | 1192.5 | 45/7 | 0.1628 | 0.1085 | 0.3256 | 1.302 | 1123.2 | 219.2 | 1342.4 | 21400 | 23500 | 25400 | .0140 | .0178 | 2110 |
| Bittern/ACSS | 1272 | 45/7 | 0.1681 | 0.1121 | 0.3362 | 1.345 | 1198.1 | 233.8 | 1431.9 | 22300 | 24000 | 27200 | .0131 | .0167 | 2200 |
| Pheasant/ACSS | 1272 | 54/19 | 0.1535 | 0.0921 | 0.4604 | 1.381 | 1203.9 | 429.2 | 1633.0 | 34100 | 37300 | 43000 | .0131 | .0169 | 2200 |
| Dipper/ACSS | 1351 | 45/7 | 0.1733 | 0.1155 | 0.3465 | 1.386 | 1272.5 | 248.3 | 1520.8 | 23700 | 25500 | 28800 | .0124 | .0158 | 2289 |
| Martin/ACSS | 1351 | 54/19 | 0.1582 | 0.0949 | 0.4745 | 1.424 | 1278.7 | 455.8 | 1734.5 | 36200 | 39600 | 45600 | .0123 | .0160 | 2288 |
| Bobolink/ACSS | 1431 | 45/7 | 0.1783 | 0.1189 | 0.3566 | 1.427 | 1347.8 | 263.0 | 1610.8 | 25100 | 27000 | 30500 | .0117 | .0150 | 2375 |
| Plover/ACSS | 1431 | 54/19 | 0.1628 | 0.0977 | 0.4884 | 1.465 | 1354.4 | 482.8 | 1837.2 | 38400 | 41900 | 48300 | .0117 | .0151 | 2375 |
| Nuthatch/ACSS | 1510 | 45/7 | 0.1832 | 0.1221 | 0.3664 | 1.465 | 1422.2 | 277.5 | 1699.8 | 26500 | 28100 | 31800 | .0111 | .0143 | 2459 |
| Parrot/ACSS | 1510 | 54/19 | 0.1672 | 0.1003 | 0.5017 | 1.505 | 1429.2 | 509.5 | 1938.6 | 40400 | 44200 | 51000 | .0110 | .0144 | 2460 |
| Ratite/ACSS | 1590 | 42/7 | 0.1946 | 0.1081 | 0.3243 | 1.492 | 1497.6 | 217.4 | 1715.0 | 23400 | 25000 | 27900 | .0105 | .0136 | 2543 |
| Lapwing/ACSS | 1590 | 45/7 | 0.1880 | 0.1253 | 0.3759 | 1.504 | 1497.6 | 292.2 | 1789.8 | 27900 | 29600 | 33500 | .0105 | .0136 | 2543 |
| Falcon/ACSS | 1590 | 54/19 | 0.1716 | 0.1030 | 0.5148 | 1.544 | 1504.9 | 536.5 | 2041.4 | 42600 | 46600 | 53700 | .0105 | .0137 | 2545 |
| Chukar/ACSS | 1780 | 84/19 | 0.1456 | 0.0873 | 0.4367 | 1.601 | 1684.7 | 386.1 | 2070.8 | 35400 | 38200 | 43900 | .0094 | .0122 | 2751 |
| Mockingbird/ACSS | 2034.5 | 72/7 | 0.1681 | 0.1121 | 0.3362 | 1.681 | 1925.6 | 233.7 | 2159.3 | 27200 | 28900 | 32000 | .0083 | .0110 | 2960 |
| Roadrunner/ACSS | 2057 | 76/19 | 0.1645 | 0.0768 | 0.3839 | 1.700 | 1946.9 | 298.3 | 2245.2 | 31700 | 33900 | 38300 | .0082 | .0108 | 2992 |
| Bluebird/ACSS | 2156 | 84/19 | 0.1602 | 0.0961 | 0.4806 | 1.762 | 2040.6 | 467.6 | 2508.2 | 42100 | 45500 | 51700 | .0078 | .0103 | 3106 |
| Kiwi/ACSS | 2167 | 72/7 | 0.1735 | 0.1157 | 0.3470 | 1.735 | 2051.0 | 248.9 | 2299.9 | 29000 | 30800 | 34100 | .0078 | .0104 | 3080 |
| Thrasher/ACSS | 2312 | 76/19 | 0.1744 | 0.0814 | 0.4070 | 1.802 | 2188.2 | 335.3 | 2523.5 | 35600 | 38100 | 43000 | .0073 | .0098 | 3218 |
| Joree/ACSS | 2515 | 76/19 | 0.1819 | 0.0849 | 0.4245 | 1.880 | 2380.4 | 364.7 | 2745.1 | 38700 | 41400 | 46800 | .0067 | .0092 | 3390 |

Notes:
(1) Data based on a nominal cable manufactured in accordance with ASTM B 856.
(2) Resistance and ampacity based on an aluminum conductivity of 63%, IACS at 20°C, and a steel conductivity of 8% IACS at 20°C.
(3) Ampacity based on a 200°C conductor temperature, 25°C ambient temperature, 2 ft/sec. wind, in sun, with an emissivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level.
(4) Rated strength for standard strength core based on Class A Galfan coated steel core wire in accordance with ASTM B 802.
(5) Rated strength for high strength core based on Class A Galfan coated high strength steel core wire in accordance with B 803.
* Designated by "/HS" (e.g. Drake/ACSS/HS)
** Designated by "/HS285" (e.g. Drake/ACSS/HS285)

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# Appendix F Air Quality Calculations and Summary Tables

**Table F-1**
**Ambient Air Quality Standards**

| Pollutant | Averaging Time | California Standards | | Federal Standards[1] | |
|---|---|---|---|---|---|
| | | ppmv | µg/m$^3$ | ppmv | µg/m$^3$ |
| Ozone ($O_3$) | 1-hour | 0.09 | 177 | -- | -- |
| | 8-hour | 0.07 | 137 | 0.075 | 147 |
| Nitrogen Dioxide ($NO_2$) | 1-hour | 0.18 | 338 | -- | -- |
| | Annual | 0.03 | 56 | 0.053 | 100 |
| Sulfur Dioxide ($SO_2$) | 1-hour | 0.25 | 655 | -- | -- |
| | 3-hour (secondary) | -- | -- | 0.50 | 1,309 |
| | 24-hour | 0.04 | 105 | 0.14 | 367 |
| | Annual | -- | -- | 0.03 | 79 |
| Carbon Monoxide (CO) | 1-hour | 20 | 22,898 | 35 | 40,071 |
| | 8-hour | 9 | 10,304 | 9 | 10,304 |
| Particulates ($PM_{10}$) | 24-hour | -- | 50 | -- | 150 |
| | Annual | -- | 20 | -- | -- |
| Particulates ($PM_{2.5}$) | 24-hour | -- | -- | -- | 35 |
| | Annual | -- | 12 | -- | 15 |
| Lead (Pb) | 30-day | -- | 1.5 | -- | -- |
| | Rolling 90-day | -- | -- | -- | 0.15 |
| | Quarterly | -- | -- | -- | 1.5 |
| Sulfates ($SO_4$) | 24-hour | -- | 25 | -- | -- |
| Hydrogen Sulfide ($H_2S$) | 1-hour | 0.03 | 42 | -- | -- |
| Vinyl Chloride ($C_2H_3Cl$) | 24-hour | 0.01 | 26 | -- | -- |
| Visibility Reducing Particles | 8-hour | Extinction coefficient of 0.23 per km; visibility of 10 miles or more due to particles when relative humidity is less than 70%. | | -- | -- |

**Notes:**

[1] Commonly known as the National Ambient Air Quality Standards (NAAQS)

ppmv = parts per million by volume; µg/m$^3$ = micrograms per cubic meter; -- = not applicable

For gases, µg/m$^3$ is calculated from ppmv based on pollutant molecular weight and standard conditions (Standard Temperature = 25 °C [77 °F]; Standard Molar Volume = 24.465 liter/g-mole)

***Sources***: CARB 2010, USEPA 2010

**Table F-2**
**Attainment Status Summary - San Diego County**

| Criteria Pollutant | Federal Designation | State Designation |
|---|---|---|
| Ozone ($O_3$) (1-hour) | Attainment[1] | Nonattainment |
| Ozone ($O_3$) (8-hour) | Nonattainment[2] | Nonattainment |
| Nitrogen Dioxide ($NO_2$) | Attainment | Attainment |
| Sulfur Dioxide ($SO_2$) | Attainment | Attainment |
| Carbon Monoxide (CO) | Attainment | Attainment |
| Particulates ($PM_{10}$) | Unclassified[3] | Nonattainment |
| Particulates ($PM_{2.5}$) | Attainment | Nonattainment |
| Lead (Pb) | Attainment | Attainment |
| Sulfates (as $SO_4$) | (no federal standard) | Attainment |
| Hydrogen Sulfide (H2S) | (no federal standard) | Unclassified |
| Vinyl Chloride ($C_2H_3Cl$) | (no federal standard) | Unclassified |
| Visibility | (no federal standard) | Unclassified |

**Notes:**

[1] The federal 1-hour standard of 0.12 ppmv was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in the SIP (per SDAPCD).

[2] The 0.08 ppmv federal 8-hour ozone standard applied until May 27, 2008; after that the standard was changed to 0.075 ppmv.

[3] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassified.

***Source***: SDAPCD 2008

**Table F-3**
**Ambient Air Quality in Project Vicinity - Regional Maxima and Averages[1]**

| Pollutant | Period | Units | 2008 | 2007 | 2006 | 2005 | 2004 |
|---|---|---|---|---|---|---|---|
| Ozone ($O_3$)[2] | 1-hour max | ppmv | 0.140 | 0.130 | 0.120 | 0.110 | 0.110 |
| | 8-hour max | ppmv | 0.110 | 0.090 | 0.100 | 0.090 | 0.090 |
| Nitrogen Dioxide ($NO_2$) | 1-hour max | ppmv | 0.047 | 0.057 | 0.057 | 0.061 | 0.063 |
| | Annual avg | ppmv | 0.008 | 0.010 | 0.010 | 0.011 | 0.011 |
| Sulfur Dioxide ($SO_2$) | 24-hour max | ppmv | 0.004 | 0.004 | 0.006 | 0.005 | 0.015 |
| | Annual avg | ppmv | 0.002 | 0.003 | 0.003 | 0.003 | 0.003 |
| Carbon Monoxide (CO) | 1-hour max | ppmv | 5.6 | 5.2 | 5.7 | 5.9 | 5.3 |
| | 8-hour max | ppmv | 2.8 | 3.2 | 3.6 | 3.1 | 3.6 |
| Particulates ($PM_{10}$) | 24-hour max | $\mu g/m^3$ | 40 | 48 | 47 | 48 | 55 |
| | Annual avg | $\mu g/m^3$ | 27 | 26 | 27 | 28 | 30 |
| Particulates ($PM_{2.5}$) | 24-hour max | $\mu g/m^3$ | 31 | 43 | 38 | 41 | 44 |
| | Annual avg | $\mu g/m^3$ | 13 | 12 | 11 | 11 | 13 |

**Notes:**

[1] Data are reported for the nearest air quality monitoring station that measures each pollutant, as follows:
$O_3$ and $NO_2$ – Alpine Monitoring Station (40 miles (64 km) northwest of the corridors)
$SO_2$ – Chula Vista Monitoring Station (55 miles (88 km) west-northwest of the corridors)
CO – Escondido Monitoring Station (65 miles (105 km) northwest of the corridors)
$PM_{10}$ and $PM_{2.5}$ – El Cajon Monitoring Station (49 miles (79 km) west-northwest of the corridors)

[2] The 0.08 ppmv federal 8-hour ozone standard applied until May 27, 2008; 0.075 ppmv thereafter.

***Source:*** SDAPCD 2010

**Table F-4**
**Ambient Air Quality in Project Vicinity - Compliance History[1]**

| Pollutant | Period | Criteria | 2008 | 2007 | 2006 | 2005 | 2004 |
|---|---|---|---|---|---|---|---|
| Ozone ($O_3$)[2] | 1-hour | State | Exceed | Exceed | Exceed | Exceed | Exceed |
| | | days | 13 | 17 | 21 | 13 | 5 |
| | 8-hour | Federal | Exceed | Exceed | Exceed | Exceed | Exceed |
| | | days | 10 | 6 | 14 | 5 | 2 |
| Nitrogen Dioxide ($NO_2$) | 1-hour | State | Meet | Meet | Meet | Meet | Meet |
| | Annual | State | Meet | Meet | Meet | Meet | Meet |
| Sulfur Dioxide ($SO_2$) | 24-hour | State | Meet | Meet | Meet | Meet | Meet |
| | Annual | Federal | Meet | Meet | Meet | Meet | Meet |
| Carbon Monoxide (CO) | 1-hour | State | Meet | Meet | Meet | Meet | Meet |
| | 8-hour | State | Meet | Meet | Meet | Meet | Meet |
| Particulates ($PM_{10}$) | 24-hour | State | Meet | Meet | Meet | Meet | Exceed |
| | Annual | State | Exceed | Exceed | Exceed | Exceed | Exceed |
| Particulates ($PM_{2.5}$) | 24-hour | Federal | Meet | Exceed | Exceed | Exceed | Exceed |
| | Annual | State | Exceed | Meet | Meet | Meet | Exceed |

**Notes:**

[1] Data are reported for the nearest air quality monitoring station that measures each pollutant, as follows:

$O_3$ and $NO_2$ – Alpine Monitoring Station (40 miles (64 km) northwest of the corridors)
$SO_2$ – Chula Vista Monitoring Station (55 miles (88 km) west-northwest of the corridors)
CO – Escondido Monitoring Station (65 miles (105 km) northwest of the corridors)
$PM_{10}$ and $PM_{2.5}$ – El Cajon Monitoring Station (49 miles (79 km) west-northwest of the corridors)

[2] The 0.08 ppmv federal 8-hour ozone standard applied until May 27, 2008; 0.075 ppmv thereafter.
[3] days = number of days standards were exceeded in the year

***Source:*** SDAPCD 2010

**Table F-5**
**Emissions Significance Thresholds**

| Criteria Pollutant and GHG Emissions | Construction | | Operation | |
|---|---|---|---|---|
| | lb/day | tons/yr | lb/day | tons/yr |
| Reactive Organic Gases (ROG as $CH_4$) | 75 | 14 | 55 | n/a |
| Carbon Monoxide (CO) | 550 | 100 | 550 | n/a |
| Nitrogen Dioxide ($NO_X$ as $NO_2$) | 250 | 40 | 55 | n/a |
| Sulfur Dioxide ($SO_X$ as $SO_2$) | 250 | 40 | 150 | n/a |
| Particulates ($PM_{10}$) | 100 | 15 | 150 | n/a |
| Particulates ($PM_{2.5}$) | 55 | 10 | 55 | n/a |
| Carbon Dioxide Equivalents ($CO_2$ eqv) | n/a | 7,716 | n/a | 7,716 |

**Note:**

lb/day = pounds per day; tons/yr = tons per year

***Sources***: SDAPCD 1998; ICAPCD 2007; County of San Diego 2007a; CARB 2008.

## Table F-6
## Estimated Equipment and Vehicle Use During Construction

| Activity | Equipment and Vehicles | | | | Working days | Hours per day | Daily | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | BHP | quantity | | | VMT | VKT | VMT |
| Survey Sites | pickup truck | onroad LD | | 1 | 6 | | 50 | 80 | 300 |
| Worker Commuting | pickup truck | onroad LD | | 20 | 541 | | 1,000 | 1,609 | |
| Hauling, fill dirt | dump truck, 18 cubic yards | onroad HHD | | 12 | 48 | | 1080 | 1738 | 51840 |
| Aerial Support | helicopter | aircraft | 420 | 1 | 3 | 8 | | | |
| Marshalling Yards | pickup truck | onroad LD | | 3 | 54 | | 150 | 241 | 8,100 |
| | water truck | onroad HHD | | 1 | 54 | | 50 | 80 | 2,700 |
| | tractor truck w/trailer | onroad HHD | | 1 | 48 | | 50 | 80 | 2,400 |
| | hydraulic crane, 25 ton | offroad | 300 | 1 | 36 | 3.33 | | | |
| | loader, model 980 | offroad | 300 | 1 | 48 | 3.75 | | | |
| | forklift, 5 ton | offroad | 155 | 1 | 48 | 3.75 | | | |
| | portable generator | offroad | 5 | 1 | 48 | 3.75 | | | |
| Grading & Road Work | pickup truck | onroad LD | | 2 | 12 | | 100 | 161 | 1,200 |
| | water truck | onroad HHD | | 1 | 12 | | 50 | 80 | 600 |
| | bulldozer | offroad | 285 | 1 | 12 | 8 | | | |
| | steamroller | offroad | 80 | 1 | 12 | 8 | | | |
| Foundations | pickup truck | onroad LD | | 2 | 12 | | 100 | 161 | 1,200 |
| | water truck | onroad HHD | | 1 | 12 | | 50 | 80 | 600 |
| | concrete truck | onroad HHD | | 2 | 12 | | 200 | 322 | 2,400 |
| | drill rig | offroad | 600 | 1 | 12 | 10 | | | |
| Steel Assembly & Erection | pickup truck | onroad LD | | 3 | 12 | | 150 | 241 | 1,800 |
| | water truck | onroad HHD | | 1 | 12 | | 50 | 80 | 600 |
| | tractor truck w/trailer | onroad HHD | | 1 | 12 | | 50 | 80 | 600 |
| | crane, 40 ton | offroad | 350 | 1 | 12 | 10 | | | |
| | air compressor | offroad | 75 | 1 | 12 | 10 | | | |
| | portable generator | offroad | 5 | 1 | 12 | 10 | | | |
| Conductor Installation | pickup truck | onroad LD | | 2 | 12 | | 100 | 161 | 1,200 |
| | water truck | onroad HHD | | 1 | 12 | | 50 | 80 | 600 |
| | flatbed truck w/reels | onroad MD | | 1 | 12 | | 50 | 80 | 600 |
| | rigging truck | onroad MD | | 5 | 12 | | 250 | 402 | 3,000 |
| | dump truck | onroad HHD | | 1 | 6 | | 50 | 80 | 300 |
| | puller tensioner | offroad | 165 | 1 | 12 | 10 | | | |
| | splice rig | offroad | 300 | 1 | 6 | 10 | | | |
| | portable generator | offroad | 5 | 1 | 12 | 10 | | | |
| Cleanup | pickup truck | onroad LD | | 2 | 12 | | 100 | 161 | 1,200 |
| **Peak Daily and Total Construction Mileage by Vehicle Type** | | | | | | | | | |
| | Vehicle Type | Category | | | | | | | |
| | Light Duty | onroad LD | | | | | 1,150 | | 69,000 |
| | Medium Duty | onroad MD | | | | | 300 | | 3,600 |
| | Heavy Heavy Duty | onroad HHD | | | | | 1,380 | | 62,640 |
| | **Total** | | | | | | **2,830** | | **135,240** |

**Notes:**

[1] Section 2 (Project Description) indicates that work would be completed over a six-month period; however, the work is expected to occur over a number of sporadic intervals. In no case would a continuous period of work exceed 54 days.

LD = light duty; MD = medium duty; HHD = heavy heavy duty; VMT = vehicle miles traveled; VKT = vehicle kilometers traveled

For on-road vehicles, weight class applies in lieu of BHP rating

BHP = brake horsepower (measure of an engine's output without the loss in power caused by the gearbox, generator, differential, water pump, and other auxiliary components such as alternator, power steering pump, exhaust system, etc.)

Construction activities occur six days per week maximum; Daily operating hours, VMT and VKT are maximum estimates

Model 980 Loader also used for loading haul trucks with fill dirt.

**Table F-7**
**Estimated Maximum Construction Emissions[1]**

| Criteria Pollutant Emissions | Peak lb/day | Threshold lb/day | Significant Yes/No | Total tons[2] | Threshold tons[2] | Significant Yes/No |
|---|---|---|---|---|---|---|
| Reactive Organic Gases (ROG as $CH_4$) | 8.0 | 75 | No | 0.21 | 14 | No |
| Carbon Monoxide (CO) | 37.3 | 550 | No | 0.95 | 100 | No |
| Nitrogen Dioxide ($NO_X$ as $NO_2$) | 74.0 | 250 | No | 1.92 | 40 | No |
| Sulfur Dioxide ($SO_X$ as $SO_2$) | 0.1 | 250 | No | 0.00 | 40 | No |
| Combustion Particulates (C-$PM_{10}$) | 3.5 | 100 | No | 0.09 | 15 | No |
| Combustion Particulates (C-$PM_{2.5}$) | 3.1 | 55 | No | 0.08 | 10 | No |
| Fugitive Dust (F-$PM_{10}$) | 84.8 | 100 | No | 1.94 | 15 | No |
| Fugitive Dust (F-$PM_{2.5}$) | 15.7 | 55 | No | 0.34 | 10 | No |

**Notes:**

[1] Includes dust suppression measures required by the SDAPCD

[2] Entire project

Fugitive dust and combustion particulates are determined exclusively; C = combustion particle, F = fugitive dust

***Sources:*** SCAQMD 2008; USEPA 2011; SDAPCD 1998; ICAPCD 2007; County of San Diego 2007a

**Table F-8**
**Estimated Maximum Construction Greenhouse Gas Emissions**

| Greenhouse Gas Emissions | Peak lb/day | Total tons[1] | Threshold tons[1] | Significant Yes/No |
|---|---|---|---|---|
| Carbon Dioxide (GHG - $CO_2$) | 11,173 | 263 | n/a | n/a |
| Methane (GHG - $CH_4$) | 0.5 | 0.01 | n/a | n/a |
| Nitrous Oxide (GHG - $N_2O$) | 0.4 | 0.01 | n/a | n/a |
| Carbon Dioxide Equivalents ($CO_2$ eqv)[2] | 11,269 | 266 | 7,716 | No |

**Notes:**

[1] Entire project

[2] Carbon dioxide equivalents ($CO_2$ eqv) are calculated by summing the products of mass GHG emissions by species times their respective GWP coefficients.

***Sources:*** SCAQMD 2008; USEPA 2009; CARB 2008

**Table F-9**
**Estimated Vehicle Use for Wind Turbine Trucking**

| Point of Origin | Category | Truckloads per System | Days per Shipment | Number of Shipments | Daily VMT | Daily VKT | Total VMT | Total VKT |
|---|---|---|---|---|---|---|---|---|
| San Diego | onroad HHD | 15 | 1 | 52 | 600 | 966 | 31,200 | 50,212 |
| Houston | onroad HHD | 15 | 6 | 52 | 7,500 | 12,070 | 2,340,000 | 3,765,865 |
| Midwest1 | onroad HHD | 15 | 8 | 52 | 7,500 | 12,070 | 3,120,000 | 5,021,153 |

**Notes:**

[1] As estimated from major cities in the Midwest (e.g., Chicago, Minneapolis) to the Otay Mesa border crossing

HHD = heavy heavy duty; VMT = vehicle miles traveled; VKT = vehicle kilometers traveled

Daily VMT and VKT are maximum estimates

***Source:*** Sempra 2009, as cited in EDAW 2009b

**Table F-10**
**Estimated Wind Turbine Trucking Greenhouse Gas Emissions**

| Greenhouse Gas Emissions | via San Diego | | via Houston | | via Midwest | |
|---|---|---|---|---|---|---|
| | Peak | Total | Peak | Total | Peak | Total |
| | lb/day | tons[1] | lb/day | tons[1] | lb/day | tons[1] |
| Carbon Dioxide (GHG - $CO_2$) | 2,532 | 66 | 31,653 | 4,938 | 31,653 | 6,584 |
| Methane (GHG - $CH_4$) | 0.1 | 0.00 | 1.0 | 0.15 | 1.0 | 0.20 |
| Nitrous Oxide (GHG - $N_2O$) | 0.1 | 0.00 | 0.9 | 0.14 | 0.9 | 0.19 |
| Carbon Dioxide Equivalents ($CO_2$ eqv)[2] | 2,557 | 66 | 31,956 | 4,985 | 31,956 | 6,647 |

**Notes:**

[1] Entire project

[2] Carbon dioxide equivalents ($CO_2$ eqv) are calculated by summing the products of mass GHG emissions by species times their respective GWP coefficients.

***Sources:*** SCAQMD 2008; USEPA 2009

**Table F-11**
**South Coast Air Quality Management District Emission Factors[1]**

| Activity | Equipment and Vehicles | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | BHP | lb/unit[2] | lb/unit[2] | lb/unit[2] | lb/unit[2] | lb/unit[2,3] | lb/unit[2,3] | lb/unit[2] | lb/unit[2] | lb/unit[2,4] |
| Survey Sites | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| Worker Commuting | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| Hauling, fill dirt | dump truck, 18 cy | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| Aerial Support | helicopter | aircraft | 420 | 0.20155 | 0.60611 | 2.09084 | 0.00226 | 0.07121 | 0.06551 | 223.87 | 0.01819 | 0.00808 |
| Marshalling Yards | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| | water truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | tractor truck w/trailer | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | hydraulic crane, 25 ton | offroad | 300 | 0.12818 | 0.38484 | 1.25163 | 0.00136 | 0.04679 | 0.04305 | 125.75 | 0.01157 | 0.00514 |
| | loader, model 980 | offroad | 300 | 0.15390 | 0.46433 | 1.53790 | 0.00181 | 0.05581 | 0.05135 | 166.58 | 0.01389 | 0.00617 |
| | forklift, 5 ton | offroad | 155 | 0.06313 | 0.29091 | 0.44339 | 0.00053 | 0.03125 | 0.02875 | 47.03 | 0.00570 | 0.00253 |
| | portable generator | offroad | 5 | 0.00548 | 0.02375 | 0.03700 | 0.00005 | 0.00217 | 0.00199 | 3.40 | 0.00049 | 0.00022 |
| Grading & Road Work | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| | water truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | bulldozer | offroad | 285 | 0.20665 | 0.62495 | 1.92350 | 0.00196 | 0.07658 | 0.07046 | 179.17 | 0.01865 | 0.00829 |
| | steamroller | offroad | 80 | 0.12371 | 0.38394 | 0.47914 | 0.00055 | 0.03628 | 0.03337 | 45.70 | 0.01116 | 0.00496 |
| Foundations | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| | water truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | concrete truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | drill rig | offroad | 600 | 0.21104 | 0.78140 | 2.67080 | 0.00431 | 0.07919 | 0.07286 | 434.70 | 0.01904 | 0.00846 |

**Table F-11**
**South Coast Air Quality Management District Emission Factors[1]**

| Activity | Equipment and Vehicles | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | BHP | lb/unit[2] | lb/unit[2] | lb/unit[2] | lb/unit[2] | lb/unit[2,3] | lb/unit[2,3] | lb/unit[2] | lb/unit[2] | lb/unit[2,4] |
| Steel Assembly & Erection | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| | water truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | tractor truck w/trailer | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | crane, 40 ton | offroad | 350 | 0.14638 | 0.45651 | 1.42892 | 0.00155 | 0.05345 | 0.04918 | 145.45 | 0.01321 | 0.00587 |
| | air compressor | offroad | 75 | 0.10444 | 0.29475 | 0.35383 | 0.00038 | 0.03496 | 0.03217 | 31.09 | 0.00942 | 0.00419 |
| | portable generator | offroad | 5 | 0.00548 | 0.02375 | 0.03700 | 0.00005 | 0.00217 | 0.00199 | 3.40 | 0.00049 | 0.00022 |
| Conductor Installation | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| | water truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | flatbed truck w/reels | onroad MD | | 0.00242 | 0.01693 | 0.01893 | 0.00003 | 0.00070 | 0.00060 | 2.75 | 0.00012 | 0.00018 |
| | rigging truck | onroad MD | | 0.00242 | 0.01693 | 0.01893 | 0.00003 | 0.00070 | 0.00060 | 2.75 | 0.00012 | 0.00018 |
| | dump truck | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| | puller tensioner | offroad | 165 | 0.14251 | 0.55713 | 1.01760 | 0.00102 | 0.06659 | 0.06127 | 89.77 | 0.01286 | 0.00572 |
| | splice rig | offroad | 300 | 0.15156 | 0.42067 | 1.60242 | 0.00174 | 0.05329 | 0.04903 | 161.55 | 0.01367 | 0.00608 |
| | portable generator | offroad | 5 | 0.00548 | 0.02375 | 0.03700 | 0.00005 | 0.00217 | 0.00199 | 3.40 | 0.00049 | 0.00022 |
| Cleanup | pickup truck | onroad LD | | 0.00085 | 0.00826 | 0.00084 | 0.00001 | 0.00009 | 0.00006 | 1.10 | 0.00008 | 0.00003 |
| Turbine Trucking, San Diego | tractor truck w/trailer | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| Turbine Trucking, Houston | tractor truck w/trailer | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |
| Turbine Trucking, Midwest | tractor truck w/trailer | onroad HHD | | 0.00280 | 0.01112 | 0.03456 | 0.00004 | 0.00166 | 0.00144 | 4.22 | 0.00013 | 0.00012 |

**Notes:**

[1] Emission factors weighted for calendar year 2011 (SCAQMD 2008)

[2] Units are operating hours for offroad engines, vehicle miles traveled (VMT) for onroad vehicles

[3] Offroad diesel exhaust $PM_{2.5}$ = 92% of $PM_{10}$ ; Onroad HHD particulate emission factors include allowances for tire and brake wear (SCAQMD 2008)

[4] Onroad $N_2O$ emissions are based on Annex 3, Table A-99; Offroad $N_2O$ emissions are based on Annex 3, Table A-101 (EPA 2009)

## Table F-12
## Estimated Daily Project Emissions[1]

| Activity | Equipment and Vehicles[2] | | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2$ eqv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | hrs | VMT | lbs | lbs | lbs | lbs | lbs[3] | lbs[3] | lbs | lbs | lbs[4] | lbs[5] |
| Survey Sites | pickup truck | onroad LD | | 50 | 0.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 55.1 | 0.0 | 0.0 | 56 |
| Worker Commuting | pickup truck | onroad LD | | 1,000 | 0.9 | 8.3 | 0.8 | 0.0 | 0.1 | 0.1 | 1,102.4 | 0.1 | 0.0 | 1,114 |
| Hauling, fill dirt | dump truck, 18 cy | onroad HHD | | 1,080 | 3.0 | 12.0 | 37.3 | 0.0 | 1.8 | 1.6 | 4,558.1 | 0.2 | 0.2 | 4,602 |
| Aerial Support | helicopter | aircraft | 8 | | 1.6 | 4.8 | 16.7 | 0.0 | 0.6 | 0.5 | 1,790.9 | 0.1 | 0.1 | 1,814 |
| Marshalling Yards | pickup truck | onroad LD | | 150 | 0.1 | 1.2 | 0.1 | 0.0 | 0.0 | 0.0 | 165.4 | 0.0 | 0.0 | 167 |
| | water truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | tractor truck w/trailer | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | hydraulic crane, 25 ton | offroad | 3.33 | | 0.4 | 1.3 | 4.2 | 0.0 | 0.2 | 0.1 | 419.2 | 0.0 | 0.0 | 425 |
| | loader, model 980 | offroad | 3.75 | | 0.6 | 1.7 | 5.8 | 0.0 | 0.2 | 0.2 | 624.7 | 0.1 | 0.0 | 633 |
| | forklift, 5 ton | offroad | 3.75 | | 0.2 | 1.1 | 1.7 | 0.0 | 0.1 | 0.1 | 176.3 | 0.0 | 0.0 | 180 |
| | portable generator | offroad | 3.75 | | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 12.8 | 0.0 | 0.0 | 13 |
| Grading & Road Work | pickup truck | onroad LD | | 100 | 0.1 | 0.8 | 0.1 | 0.0 | 0.0 | 0.0 | 110.2 | 0.0 | 0.0 | 111 |
| | water truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | bulldozer | offroad | 8 | | 1.7 | 5.0 | 15.4 | 0.0 | 0.6 | 0.6 | 1,433.3 | 0.1 | 0.1 | 1,457 |
| | steamroller | offroad | 8 | | 1.0 | 3.1 | 3.8 | 0.0 | 0.3 | 0.3 | 365.6 | 0.1 | 0.0 | 380 |
| Foundations | pickup truck | onroad LD | | 100 | 0.1 | 0.8 | 0.1 | 0.0 | 0.0 | 0.0 | 110.2 | 0.0 | 0.0 | 111 |
| | water truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | concrete truck | onroad HHD | | 200 | 0.6 | 2.2 | 6.9 | 0.0 | 0.3 | 0.3 | 844.1 | 0.0 | 0.0 | 852 |
| | drill rig | offroad | 10 | | 2.1 | 7.8 | 26.7 | 0.0 | 0.8 | 0.7 | 4,347.0 | 0.2 | 0.1 | 4,377 |
| Steel Assembly & Erection | pickup truck | onroad LD | | 150 | 0.1 | 1.2 | 0.1 | 0.0 | 0.0 | 0.0 | 165.4 | 0.0 | 0.0 | 167 |
| | water truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | tractor truck w/trailer | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | crane, 40 ton | offroad | 10 | | 1.5 | 4.6 | 14.3 | 0.0 | 0.5 | 0.5 | 1,454.5 | 0.1 | 0.1 | 1,475 |
| | air compressor | offroad | 10 | | 1.0 | 2.9 | 3.5 | 0.0 | 0.3 | 0.3 | 310.9 | 0.1 | 0.0 | 326 |
| | portable generator | offroad | 10 | | 0.1 | 0.2 | 0.4 | 0.0 | 0.0 | 0.0 | 34.0 | 0.0 | 0.0 | 35 |
| Conductor Installation | pickup truck | onroad LD | | 100 | 0.1 | 0.8 | 0.1 | 0.0 | 0.0 | 0.0 | 110.2 | 0.0 | 0.0 | 111 |
| | water truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | flatbed truck w/reels | onroad MD | | 50 | 0.1 | 0.8 | 0.9 | 0.0 | 0.0 | 0.0 | 137.6 | 0.0 | 0.0 | 141 |
| | rigging truck | onroad MD | | 250 | 0.6 | 4.2 | 4.7 | 0.0 | 0.2 | 0.1 | 688.0 | 0.0 | 0.0 | 703 |

## Table F-12
## Estimated Daily Project Emissions[1]

| Activity | Equipment and Vehicles[2] | | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2$ eqv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | hrs | VMT | lbs | lbs | lbs | lbs | lbs[3] | lbs[3] | lbs | lbs | lbs[4] | lbs[5] |
| | dump truck | onroad HHD | | 50 | 0.1 | 0.6 | 1.7 | 0.0 | 0.1 | 0.1 | 211.0 | 0.0 | 0.0 | 213 |
| | puller tensioner | offroad | 10 | | 1.4 | 5.6 | 10.2 | 0.0 | 0.7 | 0.6 | 897.7 | 0.1 | 0.1 | 918 |
| | splice rig | offroad | 10 | | 1.5 | 4.2 | 16.0 | 0.0 | 0.5 | 0.5 | 1,615.5 | 0.1 | 0.1 | 1,637 |
| | portable generator | offroad | 10 | | 0.1 | 0.2 | 0.4 | 0.0 | 0.0 | 0.0 | 34.0 | 0.0 | 0.0 | 35 |
| | pickup truck | onroad LD | | 100 | 0.1 | 0.8 | 0.1 | 0.0 | 0.0 | 0.0 | 110.2 | 0.0 | 0.0 | 111 |
| **Total Daily Emissions by Activity** | | | | | | | | | | | | | | |
| Survey Sites | | | | | 0.04 | 0.41 | 0.04 | 0.00 | 0.00 | 0.00 | 55 | 0.00 | 0.00 | 56 |
| Worker Commuting | | | | | 0.85 | 8.26 | 0.84 | 0.01 | 0.09 | 0.06 | 1,102 | 0.08 | 0.03 | 1,114 |
| Hauling, fill dirt | | | | | 3.02 | 12.01 | 37.32 | .04 | 1.79 | 1.56 | 4,558 | 0.14 | 0.13 | 4,602 |
| Aerial Support | | | | | 1.61 | 4.85 | 16.73 | 0.02 | 0.57 | 0.52 | 1,791 | 0.15 | 0.06 | 1,814 |
| Marshalling Yards | | | | | 1.67 | 6.56 | 15.32 | 0.02 | 0.67 | 0.60 | 1,820 | 0.14 | 0.07 | 1,844 |
| Grading & Road Work | | | | | 2.87 | 9.45 | 21.03 | 0.02 | 0.99 | 0.91 | 2,120 | 0.25 | 0.12 | 2,161 |
| Foundations | | | | | 2.89 | 11.42 | 35.43 | 0.05 | 1.22 | 1.10 | 5,512 | 0.23 | 0.12 | 5,554 |
| Steel Assembly & Erection | | | | | 2.97 | 10.10 | 21.78 | 0.03 | 1.09 | 0.99 | 2,387 | 0.26 | 0.12 | 2,429 |
| Conductor Installation | | | | | 4.09 | 17.03 | 35.79 | 0.04 | 1.61 | 1.45 | 3,905 | 0.33 | 0.19 | 3,971 |
| Cleanup | | | | | 0.09 | 0.83 | 0.08 | 0.00 | 0.01 | 0.01 | 110 | 0.01 | 0.00 | 111 |
| **Maximum Single Activity Emissions, lb/day** | | | | | **4.09** | **17.03** | **35.79** | **0.05** | **1.61** | **1.45** | **5,512** | **0.33** | **0.19** | **5,554** |
| **Peak Daily Construction Emissions, lb/day[6]** | | | | | **7.96** | **37.31** | **73.96** | **0.11** | **3.49** | **3.07** | **11,173** | **0.54** | **0.35** | **11,269** |

**Notes:**
[1] Emission weighted for calendar year 2011 (SCAQMD 2008)
[2] Units are operating hours for offroad engines, vehicle miles traveled (VMT) for onroad vehicles
[3] Offroad diesel exhaust $PM_{2.5}$ = 92% of $PM_{10}$ ; Onroad HHD particulate emission factors include allowances for tire and brake wear (SCAQMD 2008)
[4] Onroad $N_2O$ emissions are based on Annex 3, Table A-99; Offroad $N_2O$ emissions are based on Annex 3, Table A-101 (USEPA 2009)
[5] Carbon dioxide equivalents ($CO_2$ eqv) are calculated by summing the products of mass GHG emissions by species times their respective GWP coefficients (USEPA 2009)
[6] Peak daily construction emissions include worker commuting, fill dirt hauling, plus maximum single activity; excludes wind turbine trucking emissions

## Table F-13
## Estimated Total Project Emissions1

| Activity | Equipment and Vehicles[2] | | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2$ eqv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | hrs | VMT | lbs | lbs | lbs | lbs | lbs3 | lbs3 | lbs | lbs | lbs4 | lbs5 |
| Survey Sites | pickup truck | onroad LD | | 300 | 0.3 | 2.5 | 0.3 | 0.0 | 0.0 | 0.0 | 330.7 | 0.0 | 0.0 | 334 |
| Worker Commuting | pickup truck | onroad LD | | 54,000 | 46.0 | 446.2 | 45.6 | 0.6 | 4.8 | 3.1 | 59,527.0 | 4.1 | 1.7 | 60,134 |
| Hauling, fill dirt | dump truck, 18 cy | onroad HHD | | 51,840 | 144.9 | 576.7 | 1,791.5 | 2.1 | 86.1 | 74.9 | 218,788.5 | 6.7 | 6.3 | 220,882 |
| | tractor truck w/trailer | onroad HHD | | 31,200 | 87.2 | 347.1 | 1,078.2 | 1.2 | 51.8 | 45.1 | 131,678.3 | 4.0 | 3.8 | 132,938 |
| | tractor truck w/trailer | onroad HHD | | 2,340,000 | 6,541.3 | 26,031.6 | 80,865.9 | 92.9 | 3,886.4 | 3,381.0 | 9,875,868.9 | 302.1 | 284.3 | 9,970,351 |
| | tractor truck w/trailer | onroad HHD | | 3,120,000 | 8,721.7 | 34,708.8 | 107,821.3 | 123.9 | 5,181.9 | 4,508.0 | 13,167,825.2 | 402.8 | 379.1 | 13,293,801 |
| Aerial Support | helicopter | aircraft | 24 | | 4.8 | 14.5 | 50.2 | 0.1 | 1.7 | 1.6 | 5,372.8 | 0.4 | 0.2 | 5,442 |
| Marshalling Yards | pickup truck | onroad LD | | 8,100 | 6.9 | 66.9 | 6.8 | 0.1 | 0.7 | 0.5 | 8,929.0 | 0.6 | 0.3 | 9,020 |
| | water truck | onroad HHD | | 2,700 | 7.5 | 30.0 | 93.3 | 0.1 | 4.5 | 3.9 | 11,395.2 | 0.3 | 0.3 | 11,504 |
| | tractor truck w/trailer | onroad HHD | | 2,400 | 6.7 | 26.7 | 82.9 | 0.1 | 4.0 | 3.5 | 10,129.1 | 0.3 | 0.3 | 10,226 |
| | hydraulic crane, 25 ton | offroad | 120 | | 15.4 | 46.2 | 150.2 | 0.2 | 5.6 | 5.2 | 15,089.7 | 1.4 | 0.6 | 15,310 |
| | loader, model 980 | offroad | 180 | | 27.7 | 83.6 | 276.8 | 0.3 | 10.0 | 9.2 | 29,984.9 | 2.5 | 1.1 | 30,382 |
| | forklift, 5 ton | offroad | 180 | | 11.4 | 52.4 | 79.8 | 0.1 | 5.6 | 5.2 | 8,464.6 | 1.0 | 0.5 | 8,627 |
| | portable generator | offroad | 180 | | 1.0 | 4.3 | 6.7 | 0.0 | 0.4 | 0.4 | 612.5 | 0.1 | 0.0 | 627 |
| Grading & Road Work | pickup truck | onroad LD | | 1,200 | 1.0 | 9.9 | 1.0 | 0.0 | 0.1 | 0.1 | 1,322.8 | 0.1 | 0.0 | 1,336 |
| | water truck | onroad HHD | | 600 | 1.7 | 6.7 | 20.7 | 0.0 | 1.0 | 0.9 | 2,532.3 | 0.1 | 0.1 | 2,557 |
| | bulldozer | offroad | 96 | | 19.8 | 60.0 | 184.7 | 0.2 | 7.4 | 6.8 | 17,199.9 | 1.8 | 0.8 | 17,484 |
| | steamroller | offroad | 96 | | 11.9 | 36.9 | 46.0 | 0.1 | 3.5 | 3.2 | 4,387.4 | 1.1 | 0.5 | 4,558 |
| Foundations | pickup truck | onroad LD | | 1,200 | 1.0 | 9.9 | 1.0 | 0.0 | 0.1 | 0.1 | 1,322.8 | 0.1 | 0.0 | 1,336 |
| | water truck | onroad HHD | | 600 | 1.7 | 6.7 | 20.7 | 0.0 | 1.0 | 0.9 | 2,532.3 | 0.1 | 0.1 | 2,557 |
| | concrete truck | onroad HHD | | 2,400 | 6.7 | 26.7 | 82.9 | 0.1 | 4.0 | 3.5 | 10,129.1 | 0.3 | 0.3 | 10,226 |
| | drill rig | offroad | 120 | | 25.3 | 93.8 | 320.5 | 0.5 | 9.5 | 8.7 | 52,164.4 | 2.3 | 1.0 | 52,527 |
| Steel Assembly & Erection | pickup truck | onroad LD | | 1,800 | 1.5 | 14.9 | 1.5 | 0.0 | 0.2 | 0.1 | 1,984.2 | 0.1 | 0.1 | 2,004 |
| | water truck | onroad HHD | | 600 | 1.7 | 6.7 | 20.7 | 0.0 | 1.0 | 0.9 | 2,532.3 | 0.1 | 0.1 | 2,557 |
| | tractor truck w/trailer | onroad HHD | | 600 | 1.7 | 6.7 | 20.7 | 0.0 | 1.0 | 0.9 | 2,532.3 | 0.1 | 0.1 | 2,557 |
| | crane, 40 ton | offroad | 120 | | 17.6 | 54.8 | 171.5 | 0.2 | 6.4 | 5.9 | 17,453.6 | 1.6 | 0.7 | 17,705 |
| | air compressor | offroad | 120 | | 12.5 | 35.4 | 42.5 | 0.0 | 4.2 | 3.9 | 3,730.2 | 1.1 | 0.5 | 3,910 |
| | portable generator | offroad | 120 | | 0.7 | 2.8 | 4.4 | 0.0 | 0.3 | 0.2 | 408.3 | 0.1 | 0.0 | 418 |

## Table F-13
## Estimated Total Project Emissions1

| Activity | Equipment and Vehicles[2] | | | | ROG | CO | $NO_X$ | $SO_X$ | $PM_{10}$ | $PM_{2.5}$ | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2$ eqv |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Type | Category | hrs | VMT | lbs | lbs | lbs | lbs | lbs3 | lbs3 | lbs | lbs | lbs4 | lbs5 |
| Conductor Installation | pickup truck | onroad LD | | 1,200 | 1.0 | 9.9 | 1.0 | 0.0 | 0.1 | 0.1 | 1,322.8 | 0.1 | 0.0 | 1,336 |
| | water truck | onroad HHD | | 600 | 1.7 | 6.7 | 20.7 | 0.0 | 1.0 | 0.9 | 2,532.3 | 0.1 | 0.1 | 2,557 |
| | flatbed truck w/reels | onroad MD | | 600 | 1.5 | 10.2 | 11.4 | 0.0 | 0.4 | 0.4 | 1,651.1 | 0.1 | 0.1 | 1,686 |
| | rigging truck | onroad MD | | 3,000 | 7.3 | 50.8 | 56.8 | 0.1 | 2.1 | 1.8 | 8,255.4 | 0.3 | 0.5 | 8,431 |
| | dump truck | onroad HHD | | 300 | 0.8 | 3.3 | 10.4 | 0.0 | 0.5 | 0.4 | 1,266.1 | 0.0 | 0.0 | 1,278 |
| | puller tensioner | offroad | 120 | | 17.1 | 66.9 | 122.1 | 0.1 | 8.0 | 7.4 | 10,772.3 | 1.5 | 0.7 | 11,017 |
| | splice rig | offroad | 60 | | 9.1 | 25.2 | 96.1 | 0.1 | 3.2 | 2.9 | 9,693.0 | 0.8 | 0.4 | 9,823 |
| | portable generator | offroad | 120 | | 0.7 | 2.8 | 4.4 | 0.0 | 0.3 | 0.2 | 408.3 | 0.1 | 0.0 | 418 |
| | pickup truck | onroad LD | | 1,200 | 1.0 | 9.9 | 1.0 | 0.0 | 0.1 | 0.1 | 1,322.8 | 0.1 | 0.0 | 1,336 |
| Total Construction Emissions, lbs6 | | | | | 418 | 1,907 | 3,847 | 5 | 179 | 157 | 526,080 | 30 | 17 | 532,103 |
| Total Construction Emissions, tons6 | | | | | 0.21 | 0.95 | 1.92 | 0.003 | 0.09 | 0.08 | 263 | 0.01 | 0.01 | 266 |

**Notes**:
[1] Emission weighted for calendar year 2011 (SCAQMD 2008)
[2] Units are operating hours for offroad engines, vehicle miles traveled (VMT) for onroad vehicles
[3] Offroad diesel exhaust $PM_{2.5}$ = 92% of $PM_{10}$ ; Onroad HHD particulate emission factors include allowances for tire and brake wear (SCAQMD 2008)
[4] Onroad N2O emissions are based on Annex 3, Table A-99; Offroad N2O emissions are based on Annex 3, Table A-101 (EPA 2009)
[5] Carbon dioxide equivalents (CO2 eqv) are calculated by summing the products of mass GHG emissions by species times their respective GWP coefficients (EPA 2009)6
[6] Total construction emissions include worker commuting, fill dirt hauling, plus all activities; excludes wind turbine trucking emissions

## Table F-14
## Fugitive Dust Estimation Calculations - Earthmoving

| Construction Earthmoving | Pk. Daily hours | Project hours | $PM_{10}$ lb/hr | $PM_{2.5}$ lb/hr | $PM_{10}$ lb/day | $PM_{2.5}$ lb/day | $PM_{10}$ lbs | $PM_{2.5}$ lbs |
|---|---|---|---|---|---|---|---|---|
| **Grading & Road Work** | | | | | | | | |
| bulldozer | 8 | 96 | 1.32827 | 0.66775 | 4.65 | 2.34 | 55.8 | 28.0 |
| steamroller | 8 | 96 | 0.24800 | 0.01358 | 0.87 | 0.05 | 10.4 | 0.60 |
| **Subtotals** | | | | | **5.52** | **2.39** | **66.2** | **28.6** |
| Foundations | | | | | | | | |
| drill rig | 10 | 120 | 0.00509 | 0.00079 | 0.02 | 0.0 | 0.30 | 0.0 |
| **Subtotals** | | | | | **0.02** | **0.0** | **0.30** | **0.0** |
| **Peak Daily Earthmoving Emissions, lbs/day** | | | | | **5.6** | | | |
| **Total Earthmoving Emissions, tons** | | | | | | | **0.03** | **0.01** |

**Notes:**

Based on USEPA 2011. Compilation of Air Pollution Emission Factors (AP-42), Fifth Edition (1995-2011).

AP-42 Section 11.9 for dozing (Table 11.9-1):

E = 0.75 * (s)1.5 / (M)1.4 for $PM_{10}$

E = 0.105 * 5.7 x (s)1.2 / (M)1.3 for $PM_{2.5}$

E = lb/hr fugitive

s = Silt Content assumed to be 8.5% for construction sites

M = moisture content = 8% (assumes unwatered subsoil)

AP-42 Section 11.9 for grading, rolling, and excavating (Table 11.9-1) :

E = S * 0.60 * 0.051 x (S)2.0 for $PM_{10}$

E = S * 0.031 * 0.040 x (S)2.5 for $PM_{2.5}$

Simplifies to E = 0.60 * 0.051 x (S)3.0 for $PM_{10}$

Simplifies to E = 0.031 * 0.040 x (S)3.5 for $PM_{2.5}$

E = lb/VMT * VMT/hr = lb/hr fugitive

S = Mean Vehicle Speed assumed to be 3 mph for graders, 1.5 mph for excavators & rollers

Assumes VMT = S * hours of use

AP-42 Section 13.2.4 Loading/Handling (digger, driller, backhoe, loader):

E = W * 0.35 * 0.0032 * (U/5)1.3/ (M/2)1.4 for $PM_{10}$

E = W * 0.053 * 0.0032 * (U/5)1.3/ (M/2)1.4 for $PM_{2.5}$

E = lb/ton * tons/hr = lb/hr fugitive

U = average wind speed is 7.8 mph for Yuma, AZ (NOAA 2002)

M = moisture content = 8% (assumes unwatered subsoil)

Amount of material moved is assumed to be 120 cy/tower and materials will be dropped twice (2 x 120 = 240 cy/site)

Daily earth movement = 100 cy/day total (12 days/5 towers = 2.4 days/site)

Material is assumed to be 1.7 tons/cy (sp gr = 2) for 170 tons/day total for tower foundations

W = (tons/day) / daily hours = tons/hr

| | |
|---|---|
| W for tower foundations: | 120 cy/tower |
| | 2 drop twice |
| | 240 cy/site |
| | 2.4 days/site |
| | 100 cy/day |
| | 1.7 tons/cy |
| | 170 tons/day |

## Table F-15
## Fugitive Dust Estimation Calculations - Road Dust

| Construction Road Dust | Pk. Daily VMT | Project VMT | $PM_{10}$ lb/VMT | $PM_{2.5}$ lb/VMT | $PM_{10}$ lb/day | $PM_{2.5}$ lb/day | $PM_{10}$ lbs | $PM_{2.5}$ lbs |
|---|---|---|---|---|---|---|---|---|
| All Roads (onsite only totals) | | | | | | | | |
| Light Duty (pickup trucks) | 1,150 | 69,000 | | | | | | |
| Medium Duty (work trucks) | 300 | 3,600 | | | | | | |
| Heavy Heavy Duty (tractor/trailers) | 1,380 | 62,640 | | | | | | |
| **Subtotals** | **2,830** | **135,240** | | | | | | |
| Unpaved Roads | | | | | | | | |
| Light Duty (pickup trucks) | 58 | 3,450 | 0.85092 | 0.08493 | 4.9 | 0.5 | 277.5 | 27.7 |
| Medium Duty (work trucks) | 270 | 3,240 | 1.17213 | 0.11705 | 31.6 | 3.2 | 359.0 | 35.8 |
| Heavy Heavy Duty (tractor/trailers) | 112 | 7,467 | 1.90362 | 0.19020 | 20.87 | 2.08 | 1,308.95 | 130.78 |
| **Subtotals** | **440** | **14,157** | | | **57.37** | **5.78** | **1,945.45** | **194.28** |
| Paved Roads | | | | | | | | |
| Light Duty (pickup trucks) | 1,093 | 65,550 | 0.00293 | 0.00071 | 3.2 | 0.8 | 189.5 | 46.5 |
| Medium Duty (work trucks) | 30 | 360 | 0.00796 | 0.00195 | 0.2 | 0.1 | 2.8 | 0.1 |
| Heavy Heavy Duty (tractor/trailers) | 1,269 | 55,173 | 0.12275 | 0.03013 | 38.9 | 9.6 | 1,669.9 | 409.9 |
| **Subtotals** | **2,392** | **121,083** | | | **42.3** | **10.5** | **1,862.2** | **457.1** |
| **Peak Daily Road Dust Emissions, lbs/day** | | | | | **99.67** | **16.28** | | |
| **Total Road Dust Emissions, tons** | | | | | | | **1.90** | **0.33** |
| **Composite Peak Daily Fugitive Dust Emissions, lbs/day** | | | | | **105.27** | **18.68** | | |
| **Composite Total Fugitive Dust Emissions, tons** | | | | | | | **1.93** | **0.34** |

**Notes:**

Based on USEPA 2011. Compilation of Air Pollution Emission Factors (AP-42), Fifth Edition (1995-2011).
Construction emissions include worker commuting, fill dirt hauling, plus activities; excludes wind turbine trucking emissions
Unpaved Road Dust (AP-42 Section 13.2.2):
$E = 1.5 * (s/12)0.9 * (W/3)0.45 * PC * (1\text{-}CE)$ for $PM_{10}$
$E = 0.15 * (s/12)0.9 * (W/3)0.45 * PC * (1\text{-}CE)$ for $PM_{2.5}$
E = lb/VMT fugitive
s = surface silt content = 9% (average for unpaved roads and construction sites, AP-42 Table 13.2.2-1)
W = average vehicle weight (see below)
PC = (365-P)/365
P = Number of wet days over 0.01 in precipitation for averaging period (18 days/year average for Desert)

**Note:** precipitation correction not used (PC = 1) for worst case day calculations
CE = Control Efficiency for watering = 90% for M between 4 and 5 (AP-42 Figure 13.2.2-2)
Light Duty = 3 tons average
Medium Duty = 8 tons average
Heavy Heavy Duty = 30 tons average (loaded 40 tons, unloaded 20 tons)
Assumes 90% paved mileage, 10% unpaved mileage for LD
Assumes 80% paved mileage, 20% unpaved mileage for MD & HHD
Heavy Heavy Duty includes water trucks
Paved Road Dust (AP-42 Section 13.2.1)
$E = [0.016*(sL/2)0.65 *(W/3)1.5 - 0.00047] * PC$ for $PM_{10}$
$E = [0.0024*(sL/2)0.65 *(W/3)1.5 - 0.00036] * PC$ for $PM_{2.5}$
E = lb/VMT fugitive
sL = Silt Loading assumed to be 0.22 g/m2 for average ADT categories from Table 13.2.1-3
W = Average weight of vehicles in tons (below)
C = Correction for exhaust, break wear, tire wear: 0.00047 lb/VMT for $PM_{10}$, 0.00036 lb/VMT for $PM_{2.5}$
PC = (1-P/4N)
P = Number of wet days over 0.01 in precipitation for averaging period (18 days/year average for Desert)
N = days of period = 365 days (4N = 1460)

**Note**: precipitation correction not used (PC = 1) for worst case day calculations
Light Duty = 3 tons average
Medium Duty = 8 tons average
Heavy Heavy Duty = 30 tons average (loaded 40 tons, unloaded 20 tons)
Assumes 90% paved mileage, 10% unpaved mileage for LD
Assumes 80% paved mileage, 20% unpaved mileage for MD & HHD
HHD includes water trucks

**Table F-16**
**Supplemental Activity Calculations - Hauling, Aircraft, and Trucking**

| Parameter / Description | Value | Units | Reasons & Remarks |
|---|---|---|---|
| Hauling/Dump Trucks (HHD) | | | |
| Number of Hauls | 576 | trips | per ESJ-U.S. March 2011 |
| Round Trip (RT) Distance | 90 | miles | per ESJ-U.S. March 2011 |
| Total Distance | 51,840 | miles | |
| Helicopter (aircraft) | | | |
| Engine Rating | 420 | BHP | assume same as similar project elsewhere |
| Number of Days | 3 | days | assume same as similar project elsewhere |
| Daily Hours | 8 | hours/day | assume same as similar project elsewhere |
| Total Hours | 24 | hours | assume same as similar project elsewhere |
| Wind Turbine Transport (highway trucking) | | | |
| Port of San Diego RT | 40 | miles | to Otay Mesa border crossing RT |
| | 1 | day | to Otay Mesa border crossing RT |
| | | | |
| Port of Houston RT | 3,000 | miles | to Otay Mesa border crossing RT |
| | 6 | days | to Otay Mesa border crossing RT |
| | | | |
| Midwest City RT | 4,000 | miles | to Otay Mesa border crossing RT |
| | 8 | days | to Otay Mesa border crossing RT |
| | | | |
| Total System Weight | 306 | tons | each system |
| Truckload (HHD) | 20 | tons | assume 40,000 lbs/load |
| Truckloads (HHD) | 15 | trips | each system (rounded) |
| Installed Capacity | 130 | MW | from Project Description for Phase 1 |
| Turbine Rating | 2.5 | MW | from Project Description for Phase 1 |
| Number of Turbines (2.5 MW) | 52 | systems | from Project Description for Phase 1 |
| Number of Truckloads | 780 | trips | for all components |
| via Port of San Diego | 31,200 | miles | Total RT for all systems |
| | 40 | miles/day | each day per truckload |
| | 600 | miles/day | each day per system |
| | | | |
| via Port of Houston | 2,340,000 | miles | Total RT for all systems |
| | 500 | miles/day | each day per truckload |
| | 7,500 | miles/day | each day per system |
| | | | |
| via Midwest City | 3,120,000 | miles | Total RT for all systems |
| | 500 | miles/day | each day per truckload |
| | 7,500 | miles/day | each day per system |

**Notes:**
Wind turbine trucking emissions determined separately from (exclusive of) construction activities
"Midwest City" assumed to be either Des Moines, IA; Minneapolis, MN; or Chicago, IL as "typical" (c. 3,000 miles)
Otay Mesa border crossing is approximately 5.4 miles east of the San Ysidro (Tijuana) border crossing
RT = round trip; HHD = heavy heavy duty; BHP = brake horsepower; MW = megawatt
***Source:*** EDAW 2009b

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# Appendix G Agency Consultation

**CONTENTS**



* Correspondence with the USFWS regarding the NOI to prepare an EIS can be found in Appendix C.6. All Native American correspondence can be found in Appendix D.1

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. David Reese
USM/OCAO/Occupational Safety and Environmental Programs
Department of Homeland Security
Washington, DC 20528

Dear Mr. Reese:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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If you believe that you have relevant information or specific environmental issues that we should consider, or feel that you have a material interest in this matter, we would be very glad to hear from you. Please contact me at Jerry.Pell@hq.DOE.gov (preferred), 202-586-3362, or fax 202-318-7761. My address is: Dr. Jerry Pell, U.S. Department of Energy, Office of Electricity (OE-20), Washington, DC 20585. Please note, however, that regularly mailed materials are delayed by security screening, and media such as CDs or DVDs are usually destroyed as a result.

Very truly yours,

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Ms. Elizabeth Orlando
Department of State
Office of Environmental Policy: OES/ENV
Bureau of Oceans and International Environmental and Scientific Affairs
2201 C Street, NW
Washington, DC 20520-7818

Dear Ms. Orlando:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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Very truly yours,

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Thomas Cuddy
Office of Environment and Energy
Federal Aviation Administration (AEE-400)
U.S. Department of Transportation
800 Independence Avenue, S.W., Room 900
Washington, DC 20591

Dear Mr. Cuddy:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Jeff C. Wright
Director, Office of Energy Projects
Federal Energy Regulatory Commission
888 First Street, NE
Room 6A-01, PJ-1
Washington, DC 20426

Dear Mr. Wright:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Alfredo J. Riera
U.S. Section
International Boundary and Water Commission
Building C, Suite 100
4171 North Mesa Street
El Paso, TX 79902-1441

Dear Mr. Riera:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Harold Hartman
U.S. Army Corps of Engineers
Southern California Area Office
40015 Sierra Highway
Palmdale, CA 93550

Dear Mr. Hartman:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

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Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Henry Soule
U.S. Border Patrol
39701 Avenida de Robles Verdes
Boulevard, CA 91905

Dear Mr. Soule:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

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Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Ms. Vicki Wood
El Centro Field Office
Bureau of Land Management
1661 South 4th Street
El Centro, CA 92243

Dear Ms. Wood:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Ms. Patricia S. Port
Regional Environmental Officer
U.S. Department of the Interior
Oakland Regional Office
Jackson Center One, Suite 520
Oakland, CA 94607

Dear Ms. Port:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Willie R. Taylor, Director
Office of Environmental Policy and Compliance
U.S. Department of the Interior
Mail Stop 2462
1849 C Street, NW
Washington, DC 20240

Dear Mr. Taylor:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Ms. Ann McPherson
Department of Energy Reviewer
Environmental Review Office
U.S. Environmental Protection Agency
75 Hawthorne Street (CED-2)
San Francisco, CA 94105

Dear Ms. McPherson:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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**Department of Energy**
Washington, DC 20585

17 November 2009

Ms. Susan Bromm
Director, Office of Federal Activities
U.S. Environmental Protection Agency
Mail Code 2251-A
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Ms. Bromm:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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Since that time, the project name was changed by the applicant to Energia Sierra Juarez U.S. Transmission, LLC (ESJ), and DOE determined that an Environmental Impact Statement (EIS) was the appropriate level of NEPA review. Accordingly, a *Federal Register* "Notice of Intent to Prepare an EIS" for the ESJ project was issued on February 25, 2009 (74 FR 8517). All of these documents, along with background information, schedule, opportunity to subscribe, and more, are available on our project-specific Web site at http://ESJProjectEIS.org .

If you believe that you have relevant information or specific environmental issues that we should consider, or feel that you have a material interest in this matter, we would be very glad to hear from you. Please contact me at Jerry.Pell@hq.DOE.gov (preferred), 202-586-3362, or fax 202-318-7761. My address is: Dr. Jerry Pell, U.S. Department of Energy, Office of Electricity (OE-20), Washington, DC 20585. Please note, however, that regularly mailed materials are delayed by security screening, and media such as CDs or DVDs are usually destroyed as a result.

Very truly yours,

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Ed Pert
California Department of Fish and Game
4949 Viewridge Avenue
San Diego, CA 92123

Dear Mr. Pert:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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Very truly yours,

Jerry Pell

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Milford Wayne Donaldson
State Historic Preservation Officer
Office of Historic Preservation
California Department of Parks and Recreation
P.O. Box 942896
Sacramento, CA 94296-0001

Dear Mr. Donaldson:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ, formerly Baja Wind U.S. Transmission, LLC), has applied to the Department of Energy's (DOE) Office of Electricity Delivery and Energy Reliability for a Presidential permit to construct either a double-circuit 230,000-volt (230-kV) or a single-circuit 500-kV transmission line on either lattice towers or steel monopoles. ESJ's proposed transmission line would connect wind turbines (the ESJ Wind Project), to be located in the vicinity of La Rumorosa, Baja California, Mexico, to the existing Southwest Powerlink 500-kV transmission line at an interconnection location in southeastern San Diego County, near the community of Jacumba, California. About ⅔ of a mile (1 km) of transmission line would be constructed in the U.S.

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Very truly yours,

Jerry Pell

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

California State Parks
200 Palm Canyon Drive
Borrego Springs, CA 92004-5055

Dear Sir or Madam:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Very truly yours,

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

California State Parks
Ocotillo Wells District
P.O. Box 360
Borrego Springs, CA 92004-0360

Dear Sir or Madam:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

California State Parks
4477 Pacific Highway
San Diego, CA 92110-3136

Dear Sir or Madam:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

**Department of Energy**
Washington, DC 20585

17 November 2009

Mr. Douglas Larson
Executive Director
Western Interstate Energy Board
1600 Broadway Street
Suite 1700
Denver, CO 80202

Dear Mr. Larson:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

I am writing to you today to ensure that you are aware of the subject project, and to inquire as to whether you wish to be considered, or participate, in the conduct of our ongoing analysis of potential environmental impacts.

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Very truly yours,

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis, OE-20
Office of Electricity Delivery and
Energy Reliability
U.S. Department of Energy

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Monday, November 30, 2009 12:21 PM
To: Thomas.Cuddy@faa.gov
Cc: Tim Murphy; Heredia, Joan
Subject: RE: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

Tom,

Much thanks for your message. I am copying this to our contractor to ensure that your concerns are properly addressed.

Best regards,

Dr. Jerry Pell, CCM
Principal NEPA* Document Manager
Permitting, Siting and Analysis, OE-20
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
Washington, DC 20585
202-586-3362
Fax 202-318-7761
Jerry.Pell@HQ.DOE.GOV

*National Environmental Policy Act

-----Original Message-----
From: Thomas.Cuddy@faa.gov [mailto:Thomas.Cuddy@faa.gov]
Sent: Monday, November 30, 2009 3:04 PM
To: Pell, Jerry
Subject: RE: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

Dear Dr. Pell,

Thank you for your recent letter regarding the Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project.

The FAA would like to point out two thing that your EIS project team should consider during environmental review and planning to see if they are

applicable to the project.

Advisory Circular 70/7460-1K, Obstruction Marking and Lighting, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc.

If your organization is planning to sponsor any construction or alterations which may affect navigable airspace (200 feet or more in height), you must file a Notice of Proposed Construction or Alteration ( Form 7460-1) with the FAA.

Descriptions of these programs and the forms can be found on the website for the office of Obstruction Evaluation:

http://www.faa.gov/airports/engineering/airspace_analysis/

Best of luck with the project.

Tom C.

_____
Thomas W. Cuddy

Office of Environment and Energy (AEE-400) Federal Aviation Administration 800 Independence Avenue Washington, DC  20591 T  202-493-4018 F

202-267-5594 E  thomas.cuddy@faa.gov

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Friday, December 04, 2009 7:48 AM
To: Sevrens, Gail
Cc: Tim Murphy
Subject: RE: proposed energia sierra juarez u.s. electric transmission line project

Gail,

Thank you very much for your message.

We do not have a specific mailing list for the project. Once the draft environmental impact statement is ready for release, we will use the Web site subscriber list to advise of its availability, and then develop a mailing list from the responses received, as well as from other sources. The Web subscriber list remains our mainstay means of communication with interested parties.

Hope this helps.

Best regards,

Jerry Pell

-----Original Message-----
From: Sevrens, Gail [mailto:gsevr@parks.ca.gov]
Sent: Thursday, December 03, 2009 11:47 AM
To: Pell, Jerry
Subject: proposed energia sierra juarez u.s. electric transmission line project

Dr. Pell-

I am the environmental coordinator for the Colorado Desert District of California State Parks and received your letter of 11/17/09.

Because of the proximity of Anza-Borrego Desert State Park to the project, we are interested in the project.

I have subscribed to the project website email list, but would also like to be placed on the mailing list for the project at the address below.

Thank you,

Gail Sevrens

District Services Manager

Colorado Desert District, California State Parks

200 Palm Canyon Drive

Borrego Springs, CA 92004

gsevr@parks.ca.gov

(760) 767-4315

Fax (760) 767-3427

INTERNATIONAL BOUNDARY AND WATER COMMISSION
UNITED STATES AND MEXICO

OFFICE OF THE COMMISSIONER
UNITED STATES SECTION

December 15, 2009

Dr. Jerry Pell
Principal NEPA Document Manager
Permitting, Siting, and Analysis (OE-20)
Office of Electricity Delivery and Energy Reliability
U.S. Department of Energy
Washington, DC 2058

Re: Participation in review of Environmental Impact Statement (EIS) Process for Energia Sierra Juarez U.S. Transmission, LLC to construct transmission line and towers.

Dear Mr. Pell:

The United States International Boundary and Water Commission (USIBWC) would like to be included in all steps within the process of reviewing environmental impacts, application for a presidential permit, and review of the EIS.

We look forward to working with you on issues related to the international boundary, specifically international treaties and agreements, border environmental concerns, USIBWC jurisdiction, and USIBWC real property. Please forward all review material to the USIBWC Environmental Management Division.

Should you or your staff have any questions, please contact me at (915) 832-4749 or Mr. Carlos Peña at (915) 832-4740.

Sincerely,

John Merino
Principal Engineer
Engineering and Planning Department

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Friday, December 18, 2009 10:22 AM
To: SOULE, HENRY S
Cc: HANCE, MICHAEL D; HASELTON, SCOTT E; MORRISON, JEFFREY G; Tim Murphy; Heredia, Joan
Subject: RE: Proposed Energia Sierra Juarez / U.S. Electric Transmission Line Project

Deputy Commander Soule,

Thank you very much for your important message. I am forwarding your e-mail to our contractor, ENTRIX, for the preparation of the environmental

impact statement (EIS), and to the applicant, Sempra Global (ESJ), for their information, addition to the administrative record, and incorporation

into our work. Please continue to keep us informed of your concerns; in particular, when the draft EIS is available, we will look forward to your

review and comments. Please consider availing yourself of a subscription to our e-mail news list that will keep you informed of developments; the

Project EIS Web site is at http://ESJProjectEIS.org.

Best regards,

Jerry Pell

---

From: SOULE, HENRY S [mailto:henry.soule@dhs.gov]
Sent: Thursday, December 17, 2009 12:26 PM
To: Pell, Jerry
Cc: HANCE, MICHAEL D; HASELTON, SCOTT E; MORRISON, JEFFREY G
Subject: Proposed Energia Sierra Juarez / U.S. Electric Transmission Line Project

Dr. Jerry Pell

U.S. Department of Energy

Office of Electricity (OE-20)

Washington, DC 20585

Dr. Pell:

Subject: Proposed Energia Sierra Juarez (ESJ) U.S. Electric Transmission Line Project

The Border Patrol maintains a 60’ government easement at the international boundary border fence in the project area. The entire easement is, for the most part, a 50’ wide dirt road. This project should not impact our operations environmentally as long as the road surface is sufficiently maintained and correctly graded. However, below are a few concerns that we would request are addressed in this project:

a.. Border fence integrity – cross-border working: this fence is 20’ steel and concrete bollard design and extremely expensive. It will not be breached for a commercial enterprise without Office of Border Patrol, Washington, D.C. approval.

b.. Helicopter based construction in the area potentially poses a threat to our 24/7 aircraft patrols.

c.. Ability to positively identify all vehicles and personnel involved with the construction project in the immediate border area. “Cloned” vehicles have been an issue at several border construction sites.

d.. Construction work schedule (working hours)

e.. Equipment storage area: security of unused equipment. Cross-border thieves target this type of construction equipment. The Border Patrol will not alter its border security mission to secure commercial property in such an endeavor.

f.. Name of private security for construction equipment and materials

We (Border Patrol) have been involved in many border construction projects over the years and have developed techniques that counter attempts to defeat security at the border without delaying or negatively impacting construction progress.

Respectfully,

Henry S. Soule

(A) Deputy Commander

U.S. Border Patrol

Boulevard Station

# United States Department of the Interior

BUREAU OF LAND MANAGEMENT
El Centro Field Office
1661 South 4th Street
El Centro, California 92243-4561

December 21, 2009

In Reply Refer To:
3031 (P)
CACA 51204
CACA 49698

CERTIFIED MAIL – RETURN RECIEPT REQUESTED

Dr. Jerry Pell
Principal NEPA Document Manager
Office of Electricity Delivery and Energy Reliability (OE-20)
U.S. Department of Energy
1000 Independence Avenue, SW.
Washington, DC 20585

Dear Dr. Pall:

The Bureau of Land Management (BLM) has received applications for rights-of-way for two separate, but related, proposed projects in eastern San Diego County. The first of these is for San Diego Gas and Electric Company's proposed East County (ECO) Substation near Jacumba, California. The proposed ECO substation would involve construction of a new 500/230/138 kV substation on about 58 acres of private land, a rebuild of the existing Boulevard substation, and construction of a new 13.3-mile-long 138 kV transmission between the two substations. The new 138 kV transmission line would traverse approximately 1.5 miles of public land managed by the BLM. The existing White Star communications facility located about 14 miles northwest of the proposed ECO substation would also be rebuilt as part of this project.

The second project is Iberdrola's proposed Tule Wind project in McCain Valley, California. The proposed project site is located on approximately 15,492 acres of land under multiple jurisdictions. The proposed project includes turbines, access roads, electrical collector and transmission lines, a substation, MET towers and storage yards/operations and maintenance facilities. The total number of wind turbines involved in the project could vary depending on the size of the turbines ultimately selected for the project. Iberdrola proposes to produce a total of 200 megawatts and to deliver them via a new transmission line that would connect to the proposed ECO substation at the rebuilt Boulevard substation.

The BLM and the California Public Utilities Commission (PUC) are planning to jointly prepare an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) that evaluates both the proposed ECO Substation and, as a connected action, the proposed Tule Wind project. Upon completion of the joint EIR/EIS, the BLM will render two decisions, one for each of the proposed projects, and will document these in two distinct Records of Decision.

The EIR/EIS for the proposed proposed ECO Substation and Tule Wind project will also address the proposed Energia Sierra Juarez Transmission Line as a connected action. As you know, the

Department of Energy is currently evaluating the Presidential permit application for this proposed gen-tie between the La Rumorosa Wind Project in Mexico and the proposed ECO substation. For this reason, and in accordance with the regulations at 40 CFR 1501.6, we are writing to request you to participate in environmental review process for these projects as a Cooperating Agency because your agency either has jurisdiction by law, special expertise, or both.

Thank you for your careful and prompt consideration of our request. We look forward to hearing from you at your earliest convenience. If you have any questions regarding this request, please contact Thomas Zale at (760) 337-4420.

Sincerely,

Daniel Steward
Acting Field Manager

Enclosures – Maps of proposed ECO substation and Tule Wind project

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Wednesday, December 30, 2009 12:16 PM
To: Erinn Wilson
Cc: Helen Birss; Paul Schlitt; Stephen Juarez; Tim Murphy; Megan Schwartz; William Staeger; Heredia, Joan; Como, Anthony
Subject: RE: Proposed Energia Sierra Juarez (ESJ) U.S. ElectricalTransmission Line Project EIS
Importance: High

Mr. or Ms. Wilson,

Thank you very much for your message; I am somewhat dismayed to learn that my letter regarding the project reached you only on 24 December, however. By copy of this message, I am asking ENTRIX, our contractor for preparation of the environmental impact statement (EIS), to coordinate and consult with you directly regarding your interest in providing input on State ranked sensitive resources that occur within the project vicinity.

Also, if you have not already done so, may I suggest that you avail yourself of the resources available on the project web site, esjprojecteis.org, including the opportunity to register for electronic updates of new developments, postings of significant new documents, etc.; this is our major means of communicating with interested parties.

If we can work with you at this time on anything more specific, please feel free to contact me or contact directly my principal at ENTRIX, Mr. Tim Murphy, as follows:

Tim J. Murphy, AICP
ENTRIX
Senior Consultant / Environmental Management
201 North Calle Cesar Chavez, Suite 203, Santa Barbara, CA 93103
DIRECT: 805.963.0480 * MAIN: 805.962.7679 * CELL: 805.895.5420 * FAX: 805.963.0412
EMAIL: tmurphy@entrix.com<mailto:tmurphy@entrix.com> * WEBSITE: www.entrix.com<http://www.entrix.com>

I hope the above is responsive to your needs.

Best regards and Best wishes for the new year,

Jerry Pell

-----Original Message-----
From: Erinn Wilson [mailto:ewilson@dfg.ca.gov]
Sent: Wednesday, December 30, 2009 2:55 PM
To: Pell, Jerry
Cc: Helen Birss; Paul Schlitt; Stephen Juarez
Subject: Proposed Energia Sierra Juarez (ESJ) U.S. ElectricalTransmission Line Project EIS

Dr. Pell,

The Ca. Department of Fish and Game, San Diego Office, received your letter regarding the preparation of the Energia Sierra Juarez (ESJ) U.S. Electrical Transmission Line Project EIS on December 24th.
We would much appreciate being added to any distribution list, receive any materials pertinent to this project, and participate in any collaboration or meeting. We would like to provide input to the DOE on State ranked sensitive resources that occur within the project vicinity. We are currently working with the CPUC, BLM, and FWS on the East County Substation and Tule Wind project which are all interconnected.

Thank you for the consideration,

My contact information is as follows:

Erinn Wilson
Staff Environmental Scientist
South Coast Region
18627 Brookhurst Street # 559
Fountain Valley, Ca 92708-6748
Office: 714-968-0953
On the first, second, and third Friday of each month I will be out of the office on furlough leave pursuant to Governor's Executive Order S-16-08.

From: Pell, Jerry [mailto:Jerry.Pell@hq.doe.gov]
Sent: Thursday, January 07, 2010 6:07 AM
To: VILLA, RICHARD R
Cc: Tim Murphy; Heredia, Joan; Como, Anthony
Subject: RE: Energia Sierra Juarez U.S. Transmission
Importance: High

Mr. Villa,

Much thanks for your message.

By cc, I am asking our contractor for the environmental impact statement (EIS), Mr. Tim Murphy of Entrix, to work with you in this regard as the point of contact. For anything non-routine or policy-related, please do continue to feel free to contact me directly.

I am also cc'ng Ms. Joan Heredia, my contact at Sempra, the project proponent,

to make her aware of your concerns and to encourage her to cooperate with you and Entrix to resolve these issues.

Also, please note the project EIS Web site, http://esjprojecteis.org, for information on the project; you may wish to subscribe to the e-mail list-serve, which is our primary means of public communication of news and site changes.

I hope this is responsive to your needs.

Best regards,

Dr. Jerry Pell, CCM
Principal NEPA* Document Manager
Permitting, Siting, and Analysis (OE-20)
Office of Electricity Delivery and Energy Reliability

U.S. Department of Energy
Washington, DC 20585
Tel. 202-586-3362
Fax 202-318-7761
Cell 240-529-3553
*National Environmental Policy Act

From: VILLA, RICHARD R [mailto:richard.villa@dhs.gov]
Sent: Wednesday, January 06, 2010 6:09 PM
To: Pell, Jerry
Subject: Energia Sierra Juarez U.S. Transmission

Sir,

Can you please provide me with some information and/or a POC regarding the proposed ESJ lines?

1.. Who do I need to ask to notify us when they start the actual construction on the towers? Specifically due to flight safety (hazards to terrain flight).

2.. Who do I need to coordinate with to request marker balls in certain canyons throughout our sector?

I have been and still am working with SDG&E regarding several of their 500kV lines through our sector and although most towers don’t meet the FAA designated lighting/marker requirement they have agreed to our request to install them anyways. I am hoping to negotiate the same with this project.

I don’t know if Ms. Carol M. Borgstrom would be able to assist me on this specific request but if you think so can you let me know and provide me with her email?

Thank you very much for your time and assistance and I hope to hear from you soon.

Richard Villa
Air Interdiction Agent
Customs and Border Protection
Air and Marine, San Diego Branch
Brown Field Air Unit
7685 Pogo Row
San Diego, CA 92154

(619) 540-0927 cell
(619) 710-4400 office
(619) 661-3181 fax
richard.villa@dhs.gov

OFFICE OF THE SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

JAN 12 2011

Dr. Jerry Pell
U.S. Department of Energy
Office of Electric Delivery and Energy Reliability
OE-20
Washington, DC 20585

Dear Dr. Pell:

This is in response to your October 21, 2010, request for comment on the Draft Environmental Impact Statement (EIS) for the construction, operation, maintenance, and connection of electrical transmission facilities at the international border between the United States and Mexico, in the vicinity of Jacumba, California, in eastern San Diego County.

We have reviewed the Draft EIS and have no objection to the granting of the subject permit to Energia Sierra Juarez Project, OE Docket PP-334. If the electrical transmission facility or transmission line will be sited, constructed, expanded or operated on land or interest in land owned or controlled by a Military Department, including Army civil works activities, then an appropriate real estate use agreement must be obtained, as a separate action, with the applicable departments.

Sincerely,

Peter J. Potochney
Director, Basing
Office of the Deputy Under Secretary of Defense
(Installations and Environment)

United States Department of State
*Washington, D.C. 20520*

January 27, 2011

Dr. Jerry Pell
Environmental Scientist
U.S. Department of Energy
Office of Electricity Delivery and Energy Reliability, OE-20
1000 Independence Avenue, SW
Washington, DC 20585-0350

REF: **Presidential Permit, Energia Sierra Juarez Project**
Docket Number: **PP-334**

Dear Mr. Pell:

Your letter dated October 21, 2010, requested the Department of State to provide its recommendation on an application for a Presidential permit filed by **Energia Sierra Juarez U.S. Transmission, LLC (ESJ).** The permit is for the construction, operation, maintenance, and connection of either a 230-kilovolt (kV) or a 500-kV electric transmission line that would cross the U.S.-Mexico border in the vicinity of Jacumba, California, in eastern San Diego County.

According to the Environmental Impact Statement (EIS), Energia Sierra Juarez U.S. Transmission, LLC is a subsidiary of Sempra Generation (Sempra). The U.S. portion of the double-circuit transmission line would be 0.65 miles in length, and would transmit up to 1,250 megawatts (MW) of wind-generated electricity.

The Department has reviewed the draft environmental impact statement and federal register notices pertaining to the project and does not object to issuance of the permit.

Sincerely,

Stephen J. Gallogly
Director
Office of International Energy and
Commodities Policy

**From:** Megan Schwartz
**Sent:** Monday, October 17, 2011 12:49 PM
**To:** Tim Murphy
**Cc:** Molly Middaugh
**Subject:** FW: border patrol communication summary

On October 17, 2011, Ms. Megan Schwartz of Cardno ENTRIX spoke on the telephone with Mr. Henry Soule, Chief of the Boulevard Station. Mr. Soule confirmed that he and Gary Lickert, Director of Air Operations for the Border Patrol, San Diego Sector met with Albert Abrieu. During the meeting it was determined that neither the Border Patrol nor the FAA have any concerns regarding tower lighting related to Border Patrol operations. Based on these discussions, it has been determined that there would be no need to light the towers.

***Molly Middaugh***
Staff Scientist
**Cardno ENTRIX**

10940 Wilshire Boulevard, Suite 1525, Los Angeles, CA 90024
**Phone:** 424 832 1303 **Direct:** 424 248 2113 **Fax:** 424 248 2101
molly.middaugh@cardno.com www.cardnoentrix.com www.cardno.com

# Appendix H Conflict of Interest

**CONTENTS**

**NEPA DISCLOSURE STATEMENT FOR PREPARATION OF THE ENERGIA SIERRA JUAREZ U.S. TRANSMISSION LINE ENVIRONMENTAL IMPACT STATEMENT**

The Council on Environmental Quality (CEQ) Regulations at Title 40 of the *Code of Federal Regulations* (CFR) Section 1506.5(c), which have been adopted by the U.S. Department of Energy (10 CFR 1021), require contractors and subcontractors who will prepare an environmental impact statement to execute a disclosure specifying that they have no financial or other interest in the outcome of the project.

"Financial or other interest in the outcome of the project" is defined as any direct financial benefit such as a promise of future construction or design work in the project, as well as indirect financial benefits the contractor is aware of.

In accordance with these requirements, the offeror and any proposed subcontractors hereby certify as follows, to the best of their actual knowledge as of the date set forth below:

(a) X Offeror and any proposed subcontractors have no financial or other interest in the outcome of the project.

(b) _____ Offeror and any proposed subcontractor have the following financial or other interest in the outcome of the project and hereby agree to divest themselves of such interest prior to award of this contract, or agree to the attached plan to mitigate, neutralize or avoid any such conflict of interest.

Financial or Other Interests

1.
2.
3.

Certified by:

Brenda Peters

Brenda Peters, Vice President
ENTRIX, Inc.
August 11, 2009

# Appendix I Distribution List

## U.S. CONGRESS

### U.S. HOUSE OF REPRESENTATIVES

The Honorable Robert Filner, U.S. Congressman, 51st District, California

### U.S. SENATE

The Honorable Harry Reid, U.S. Senator, Nevada

## FEDERAL GOVERNMENT

Mr. David A. Bergsten, Animal and Plant Health Inspection Services, U.S. Department of Agriculture

Mr. Steve Borchard, District Manager, U.S. Bureau of Land Management, California Desert District

Ms. Susan Bromm, Director, Office of Federal Activities, U.S. Environmental Protection Agency

Mr. Thomas Cuddy, Office of Environment and Energy, Federal Aviation Administration (AEE-400)

Ms. Karen Goebel, Assistant Feld Supervisor for San Diego County, U.S. Fish and Wildlife Service, Carlsbad Office

Ms. Kathleen Goforth, Manager, U.S. Environmental Protection Agency, Region IX

Mr. Harold Hartman, Area Engineer, U.S. Army Corps of Engineers, Los Angeles District

Mr. James Hester, Agency Environmental Coordinator, U.S. Agency for International Development

Mr. David Ingersoll, Environmental Specialist, International Trade Commission

Mr. John Merino, Principal Engineer, International Boundary and Water Commission, U.S. Section

Mr. Jose Nunez, Supervisory Civil Engineer, International Boundary and Water Commission, U.S. Section

Dr. Jerry Pell, NEPA Document Manager, U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability, OE-20

Mr. Mark Plank, Rural Utilities Service, U.S. Department of Agriculture

Ms. Patricia Sanderson Port, Regional Environmental Officer, U.S. Department of the Interior, San Francisco Regional Office

Mr. David Reese, U.S. Department of Homeland Security, USM/OCAO/Occupational Safety & Environmental Programs

Ms. Shanti Santulli, Project Manager, Regulatory Division, U.S. Army Corps of Engineers, San Diego Field Office

Dr. Ellen Smith, Oak Ridge National Laboratory

Mr. Henry Soule, Special Operations Supervisor, U.S. Border Patrol, Boulevard Station

Mr. Scott Sysym, Department of Energy Reviewer, Environmental Review Office, Environmental Protection Agency Region 9

Ms. Katina Tsongas, Special Assistant, U.S. Department of Energy, Office of Congressional and Intergovernmental Affairs

Ms. Genevieve Walker, U.S. Department of State, Office of Environmental Policy: OES/ENV

Ms. Vicki Wood, Field Manager, U.S. Bureau of Land Management, El Centro Office

Mr. Jeff C. Wright, Director, Office of Energy Projects, Federal Energy Regulatory Commission

Mr. Thomas Zale, U.S. Bureau of Land Management, El Centro Office

## CALIFORINIA STATE AND LOCAL GOVERNMENT

### STATE LEGISLATURE

Senator Javier Avila, District 40

Assemblymember V. Manuel Perez, District 80

### STATE GOVERNMENT

Ms. Amy Baker, California Public Utilities Commission, Energy Division

Mr. Milford Donaldson, California State Historic Preservation Officer, Office of Historic Preservation

Mr. Bill Figge, Chief, Department Review Branch, California Department of Transportation, District 11

Mr. David Gibson, Executive Officer, California Regional Water Quality Control Board, Region 9, San Diego

Mr. Greg Holmes, Unit Chief, California Department of Toxic Substances Control

Mr. Douglas Larson, Executive Director, Western Interstate Energy Board

Mr. Scott Morgan, Director, California Governor's Office of Planning and Research State Clearinghouse and Planning Unit

Mr. Larry Myers, Executive Secretary, Native American Heritage Commission

Mr. Dan Otis, Program Manager, Williamson Act Program, California Natural Agency, Department of Conservation, Division of Land Resource Protection

Mr. Ed Pert, South Coast Regional Manager, California Department of Fish and Game, Region 5

Mr. Jim Porter, California State Lands Commission

Ms. Gail Sevrens, District Services Manager, California State Parks, Colorado Desert District

Ms. Erinn Wilson, Staff Environmental Scientist, California Department of Fish and Game, South Coast Region

Mr. Gerald Zimmerman, Acting Executive Director, Colorado River Board of California

Mr. Eric Nelson, Airport Engineer, County of San Diego Airports

California State Parks, San Diego Coast District

California State Parks, Ocotillo Wells District

**LOCAL GOVERNMENT**

Ms. Cynthia Eldred, San Diego Rural Fire Protection District

Mr. Mark Ostrander, Environmental Coordinator, CAL FIRE San Diego Unit

Mr. Eric Gibson, Director, County of San Diego Department of Planning and Land Use

Ms. Dianne Jacob, Supervisor, Second District, San Diego County Board of Supervisors

Ms. Denise Morse, Campo-Lake Morena Planning Group

Mr. David Nissen, Fire Chief, San Diego Rural Fire Protection District

Mr. Bill Pape, Jacumba Sponsor Group

Mr. Robert Reider, Chief, Planning and Rules, San Diego Air Pollution Control District

Mayor Jerry Sanders, Mayor of San Diego

Mr. Mark Slovic, Project Manager, County of San Diego, Planning and Land Use

Ms. Donna Tisdale, Chair, Boulevard Planning Group

Mr. Hector Vanegas, Borders Program Manager, San Diego Association of Governments

**NATIVE AMERICAN REPRESENTATIVES**

Mr. Brian Golding, Sr., Resources Director, Quechan Indian Tribe

Ms. Lisa Gover, Director, Campo EPA, Campo Band of Kumeyaay Indians

Ms. Bridget R. Nash-Chrabascz, Quechan Tribe Historic Preservation Officer, Quechan Indian Tribe

Mr. Jerry R. Pardilla, Executive Director, National Tribal Environmental Council

Ms. Jacqueline Pata, Executive Director, National Congress of American Indians

Mr. Edwin Romero, Chairperson, Barona Group of Capitan Grande

**COMPANIES**

Mr. Alberto Abreu, Project Director, Sempra Generation

Mr. David Barrett, Sempra Global

Mr. Jeffry Coward, Managing Biologist, Insignia Environmental

Professor Paul Friesema, Environmental Policy and Culture Program, Northwestern University

Mr. Art Larson, Sempra Global

Ms. Karen McIntyre, Merit

Mr. Tim Murphy, Cardno ENTRIX

Ms. Rica Nitka, Dudek

Ms. Patricia J. Noblitt, KPG

Mr. John Porteous, Dudek

Mr. Joseph Rowley, Vice President, Sempra Generation

Mr. Jeff Safford, Nolte

Mr. Salvatore Veltri, SunCal Companies, South Coastal Division

## PUBLIC INTEREST GROUPS

Ms. Barbara Bauman Tyran, Director, Washington Relations, Electric Power Research Institute

Ms. Penny Anderson, Energy Program, Western Resources Advocates

Mr. Robert Balgenorth, President, State Building Construction Trades Council of California

Ms. Nicole Capretz, Director, Environmental Health Coalition

Ms. Cindy Chavez, Executive Officer, South Bay AFL-CIO Labor Council

Ms. Diane Conklin, Mussey Grade Road Alliance

Mr. Rae Cronmiller, Environmental Council, National Rural Electric Cooperative Association

Ms. Joy Ditto, Director of Legislative Affairs, American Public Power Association

Ms. Shannon Dougherty, Conservation Coordinator, San Diego Audubon Society

Mr. Nick Ervin, President of the Board of Directors, Desert Protective Council

Mr. Michael Fry, Director of Conservation Advocacy, American Bird Conservancy

Ms. Lorena Gonzalez, Secretary-Treasurer, CEO, San Diego and Imperial Counties Labor Council

Mr. David Hawkins, Director, Climate Programs, Washington Office, Natural Resources Defense Council

Mr. Wallace Hoskins, Border Power Plant Working Group

Ms. Elizabeth Klebaner, Attorney, Adams Boardwell Joseph and Cardozo (for IBEW)

Mr. Matt Kriz, San Diego Political Director, Painters and Allied Trades District Council 36

Mr. Michael Langford, National President, Utility Workers Union of America

Mr. Tom Lemmon, Business Manager, San Diego County Building and Construction Trades Council, AFL-CIO

Mr. Richard Liebert, Chairman, Citizens for Clean Energy, Inc.

Mr. Richard M. Loughery, Director, Environmental Activities, Edison Electric Institute

Mr. Raymond Lutz, Coordinator, Citizens' Oversight Project (COPs); Lutz for Assembly

Ms. Valentine Macedo, Business Manager, Laborer's International Union of North America Local 89, San Diego, California

Mr. Jim Mahler, President, American Federation of Teachers Guild, Local 1931

Mr. Micah Mitrosky, Environmental Organizer, International Brotherhood of Electrical Workers (IBEW) Local 569

Mr. Richard Moore, Executive Director, Southwest Network for Environmental and Economic Justice

Mr. Jose Luis Olmedo, Executive Director, Comite Civico del Valle

Mr. Bill Parsons, Planning Group

Mr. Bill Powers, Border Power Plant Working Group

Ms. Robyn Purchia, Adams Broadwell Joseph and Cardozo (for IBEW)

Mr. Aaron Quintanar, Border Power Plant Working Group

Mr. Terry Rich, National Coordinator, Partners in Flight

Mr. Alex Sanchez, Center for International Policy

Mr. John Shelk, President, CEO, Electric Power Supply Association

Ms. Kassie Siegel, Air Climate and Energy Director, Center for Biological Diversity

Mr. Frank M. Stewart, President, American Association of Blacks in Energy

Mr. Stephan Volker, Attorney (for Backcountry Against Dumps et al)

Ms. Corinne Wilson, Construction Careers Director, Center on Policy Initiatives

Mr. Joseph A. Zechman, Vice Chair, San Diego Chapter of the Sierra Club

## INDIVIDUALS

Mr. and Mrs. Charles Alley

Mr. Charles and Mrs. Laurie Baker

Mr. Dixon Barnett

Mr. Dennis Berglund, Sandy Creek Ranch

Mr. Richard and Mrs. Betty Blaisdell

Ms. Barbara Broz

Ms. Tammy Daubach

Ms. Edie Harmon

Mr. Gary Hoyt, Flying Cloud Ranch

Ms. Glenda Kimmerly

Ms. Cheryl Lenz

Mr. Jeffrey and Mrs. Laura McKernan

Mr. Mark and Mrs. Lorrie Ostrander

Mr. Denis Trafecanty

Mr. Gerald Yops

## PUBLIC LIBRARIES

Ms. Patricia Arce, Branch Manager, Campo-Morena Village Branch Library

Ms. Sherri Davis, Branch Manager, Jacumba Branch Library