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DATA REQUEST RESPONSE

Responses to California Energy Commission Staff

Data Requests A73 through A85

In support of the

Application for Certification

For the

Stanton Energy Reliability Center

16-AFC-1

Prepared for

Stanton Energy Reliability Center, LLC

May 2018

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Contents

Acronyms and Abbreviations

AFC	Application for Certification
CAB	Crushed Aggregate Base
CEC	California Energy Commission
DR	Data Request
LORS	laws, ordinances, regulations, and standards
OCWR	Orange County Waste and Recycling
PSA	Preliminary Staff Assessment
SERC	Stanton Energy Reliability Center
SSPWC	Standard Specification of Public Works Construction

Introduction

Attached are Stanton Energy Reliability Center, LLC's (Applicant's) responses to California Energy Commission (CEC) Staff data requests (DRs) Set 4, numbers A73 through A85, for the Stanton Energy Reliability Center (SERC) (16-AFC-1). The CEC Staff served the data requests on May 3, 2018 in response to discussions during the Preliminary Staff Assessment Workshop (PSA).

The responses are grouped by individual discipline or topic area. Within each discipline area, the responses are presented in the same order as presented by CEC Staff, and are keyed to the Data Request numbers (A73, A74, etc.). New or revised graphics or tables are numbered in reference to the Data Request number. For example, the first table used in response to Data Request A73 would be numbered Table DRA73-1. The first figure used in response to Data Request A73 would be Figure DRA73-1, and so on.

Additional tables, figures, or documents submitted in response to a data request (supporting data, stand-alone documents such as plans, folding graphics, etc.) are found at the end of a discipline-specific section and are not sequentially page-numbered consistently with the remainder of the document, though they may have their own internal page numbering system.

5.15 Water Resources (A73-A77)

Restroom Facility Connection

A73. Please describe how and where the restroom facility would connect to an existing sewer line at the site. Include a description of the length of any new pipeline that would be required and where it would be located.

Response: The restroom facility will be in the warehouse building, located on the western end of SERC's Parcel 2. SERC's sewer service provider is the City of Stanton, through a connection to the City's manhole # J069. Manhole # J069 is just outside SERC's Pacific Street entrance, in the Pacific Street and Fern Avenue intersection. Total sewer line length from the restroom location on Parcel 2 to the J069 manhole is approximately 140 feet. The new sewer line will be located completely on SERC's Parcel 2 and within the City of Stanton Pacific Street right-of-way. See Figure DRA76-1 for additional details.

Water Use

A74. Please identify how much water would be used during operation of the facility during the project design life.

Response: The Application for Certification addresses SERC's projected water use as follows (Section 5.15.1.5.1):

> Under the peak operating scenario of 1,076 hours per year at full load, SERC will use approximately 34 acre-feet of water per year for all plant uses. Simple-cycle peakers in California larger than 50 megawatts, with which SERC may be generally compared, have historically averaged a 5 percent capacity factor, so the actual water use is anticipated to be less (approximately 13.4 acre-feet per year).

Although water consumption for the restrooms was not addressed in the AFC, when compared to those annual consumption amounts that were included, any restroom use of water will be *de minimis*. The following water use estimation disregards the project's planned mode of being remotely operated and monitored, under which staff is typically only expected to be present during weekly routine maintenance activities and infrequent receipt of deliveries. The following illustration instead assumes light staffing for 5 days a week, and 52 weeks a year. In that assumed case, this conservative estimate shows that the impact of restroom water use for toilets is very small, and can be illustrated as follows:

- 1.28 gallons/flush x 6 flushes/day x 5 days/week x 52 weeks/year = 1,997 gallons/year
- 1,997 gallons/year ÷ 325,851 gallons/acre-foot = 0.006 acre-feet/year
- 0.006 acre-feet/year ÷ 13.2 acre-feet of anticipated annual facility use = 0.045% of the facility's total annual anticipated water use to supply the restroom toilets

SERC is not proposing to use significantly greater quantities of water because of the added restrooms.

Excavations

A75. Please describe whether any new excavations would be required and identify how long and deep they would be.

Response: The current design for the warehouse and restroom sets the top of concrete at 70' above sea level (asl). As-built information from the City indicates that the City's sewer main exits manhole J069 at

61.5’ asl, and that the street-level elevation at the manhole is at 68’ asl. The proposed lowest elevation of the sewer line is approximately 61.5’ asl. As such, excavation dimensions for the restroom sewer line are estimated at 7.5’ deep (70’ TOC, 69’ adjacent rough grade, therefore 69’ asl minus 61.5’ asl = 7.5’) x 3’ wide x 140’ long. See Responses to Data Requests A73 and A76 for additional details.

Sanitary Sewer Interconnection

A76. Please include a figure showing the restroom facility and the pipeline alignment that would be connected to it.

Response: See attached Figure DRA76-1.

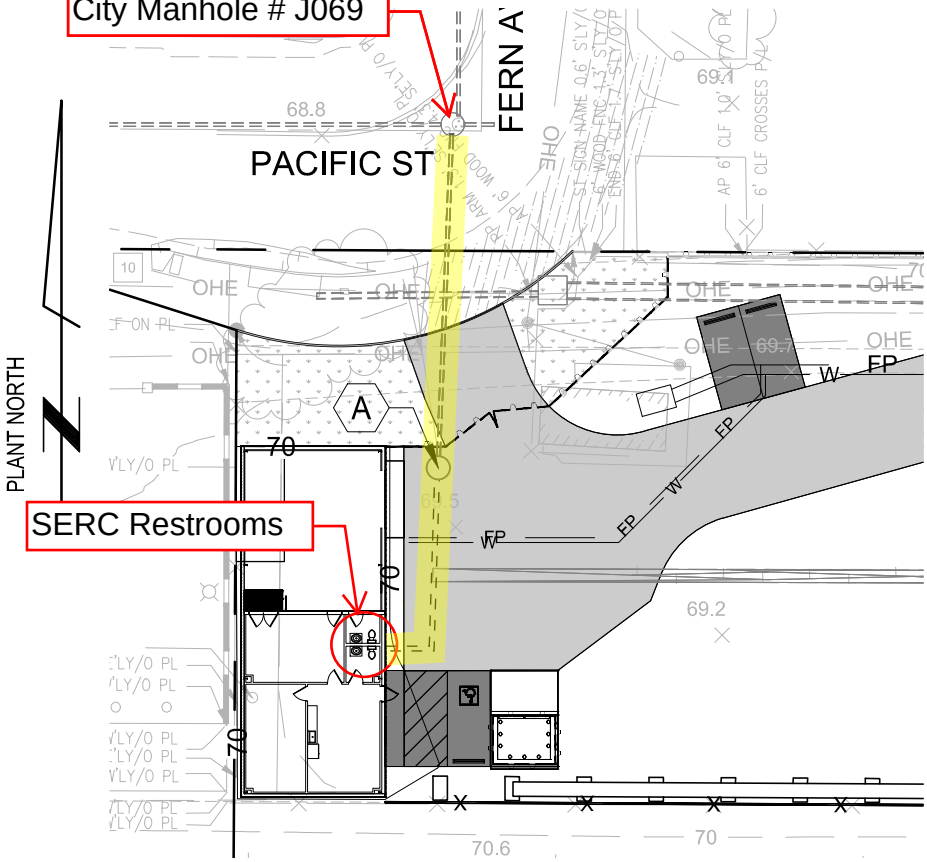
City Ordinance

A77. Please identify the ordinance the applicant would be required to comply with to connect to the city sewer system.

Response: As indicated by Mr. Allan Rigg, the City of Stanton’s Public Works Director, the applicable ordinance is:

> 13.04.020 Connection to available *sewer* required.
>
> No cesspools or other local means of sewage disposal shall be constructed if a public *sewer* system is available within six hundred feet from the property line of any parcel of property on which a building to be used by human beings is constructed. (Ord. 897 § 2, 2004).

Figure DR76-1
Sanitary Sewer Interconnection



WASTE WATER NETWORK

STRUCTURE (A)
N: 1605.05
E: 3440.16
INSTALL STD 4' DIA MANHOLE
TOP EL = 69.70'
FLOWLINE IN (S) = 62.51'
(INSTALL 6" DIA PVC PLUG UNTIL LINE IS CONSTRUCTED TO THIS POINT. SANITARY LINE SHALL BE 10' MIN CLEAR OF WATER LINES)
FLOWLINE OUT (N) = 62.26'
INSTALL 68 LF 8" DIA PVC PIPE @ 1.00% SL
TIE INTO EXISTING MANHOLE

WASTE WATER LINE

SCALE 1" = 40'

0 20 40 80 120 FEET

1" = 40'

LEGEND

- 71 — EXISTING CONTOUR
- X — EXISTING FENCE
- OHE — EXISTING OVERHEAD ELECTRIC
- PROPERTY LINE
- 72 — PROPOSED CONTOUR
- 72.75 — PROPOSED INTERMEDIATE CONTOUR
- X — PROPOSED FENCE
- FP — PROPOSED FIRE PROTECTION
- W — PROPOSED WATER
- PROPOSED PERIMETER WALL
- PROPOSED CONCRETE PAVEMENT
- PROPOSED 8" MINIMUM CRUSHED ROCK PAVEMENT
- LANDSCAPING

		DSGN	BHR	05/10/2018	STANTON ENERGY RELIABILITY CENTER
		DRN	BRG	05/10/2018	OVERALL SITE
		CKD	JKB	05/10/2018	WASTE WATER LINE
A	ISSUED FOR CEC DATA REQUEST	SCALE: 1" = 40'			JOB NUMBER 149368 / REV A
REFERENCE DRAWINGS		FOR 8.5x11 DWG ONLY			DRAWING NUMBER SK-C-01

POWER ENGINEERS

SK-C-01.dwg

5.11 Soil Resources (A78-A83)

Foundation Improvement Design

A78. Please provide a complete description of the foundation improvement design and the proposed site design elevation.

Response: Soils in structure foundation areas will be removed to a horizontal plane at a minimum depth of 3 feet below the bottom of the deepest foundation or 5 feet below existing grade, whichever is deeper, generally extending 5 feet laterally beyond the perimeter of foundations. The exposed soil surface will be scarified to a depth of 12 inches, moisture conditioned, and compacted to a minimum of 90 percent relative compaction (per ASTM D 1557) prior to placing any fill. A minimum of two layers of 12-inch-thick geogrid–wrapped crushed aggregate base (CAB), compacted to at least 95 percent relative compaction (per ASTM D 1557) will be placed at the bottom of the over-excavated area. The CAB will conform to the Standard Specification of Public Works Construction (SSPWC) Section 200-2.2 for CAB. The reinforcing geogrids will be Tensar TriAx T160 or equivalent, overlapped a minimum of 3 feet for the bottom layer and 1 foot for the two upper layers.

As described in Reponses to Data Requests A80 and A83 below, the soil disposal activities do not create a fill imbalance since most of the excess soils will be replaced with the geogrid and CAB stabilizing fill, and concrete footings.

Current site elevations on Parcel 1 range from approximately 70.7’ above sea level (asl) to 72.2’ asl. Current site elevations on Parcel 2 range from approximately 68.9’ asl to 70.4’ asl. Preliminary engineering designs set Top of Concrete for most of foundations at 72.5’ asl. The currently proposed site design elevations are indicated in the drawings that accompanied the stormwater calculations included in SERC’s April 26, 2018 Response to PSA Workshop Queries (TN#: 223281, p. 49/52). In general, except for the foundations’ Tops of Concrete and grading required by the storm drainage design, post-project elevations will change insignificantly when compared with pre-project elevations.

Foundation Profile Figure

A79. Please include a figure and cross-section showing the area of excavation, proposed depths, and foundation improvement design.

Response: See attached Figure DRA79-1.

Fill Balance

A80. Please describe how much loose unconsolidated material would be removed from the site and how the fill imbalance would be addressed.

Response: Current estimates by SERC’s design engineers indicate that approximately 7,100 cy of loose unconsolidated material (excess soils) will need to be removed from the site. However, as discussed in Response to Data Request A78, most of these excavated excess soils will then be replaced with CAB or concrete. The following table presents current engineering estimates of the various site balance materials. As indicated by this table, the materials balance is net positive, with more imports than exports. The net positive materials will be used in a variety of ways. For example, (this is not intended to be an all-inclusive list) net positive materials would include the portions of concrete foundations above grade (the reveal), concrete for facility flatwork on top of grade, crushed rock for finish grade on top of rough grade, and rough

and final grading to satisfy the drainage plan elevations. The estimated exports vs. imports materials is as follows:

Excess Soils Exports, cy	(7,062)
Clean Asphalt Exports, cy	(290)
Concrete Rubble Exports, cy	(30)
Crushed Aggregate Base (CAB) Imports, cy	4,920
Concrete Imports, cy	3,500
Net Imports/(Exports), cy	1,037

All exported materials are planned for tipping or disposal at Orange County Waste and Recycling's (OCWR's) Olinda Alpha Landfill, and will be subject to OCWR's testing requirements for contaminants prior to acceptance. All imported materials will be new and clean, as they will be procured from existing facilities or aggregate mines that are regulated and authorized to provide such imported materials, e.g. CAB and ready-mix concrete.

Concrete and Asphalt Removal

A81. Please describe how much concrete and asphalt rubble would be removed from the site.

Response: Concrete and asphalt rubble to be removed from the site is estimated to total approximately 320 cubic yards (30 cy concrete, 290 cy asphalt). These materials are located on the western portion of Parcel 2, and cover approximately 32,500 sf (0.746 acres) of land area.

Landfill Acceptance

A82. Please discuss the remaining capacity for disposal at the Olinda Alpha Landfill and whether operators have indicated they would accept the material.

Response: According to the OCWR website, the Olinda Alpha Landfill is permitted to accept up to 8,000 tons per day of refuse, but typically accepts about 7,000 tons per day. Current capacity projections suggest the landfill can remain in operation through 2030, and the landfill is able to bury refuse on 453 out of 565 acres.

On May 10, 2018, a SERC representative confirmed with Jeovany Gomez, a Customer Service Manager in OCWR's Soils Programs Department, that the Olinda Alpha Landfill can receive excess soils from the SERC project. For planning purposes, Mr. Gomez was asked to confirm that up to 8,000 cy of soil could be received by the landfill from the SERC project. According to Mr. Gomez, although SERC's estimate may seem like a large quantity of soils, OCWR's Soils Program recently approved soil disposal for another project with estimated soils exports of 22,000 cubic yards. The soils export quantities requested by SERC are acceptable to OCWR.

Imported Material

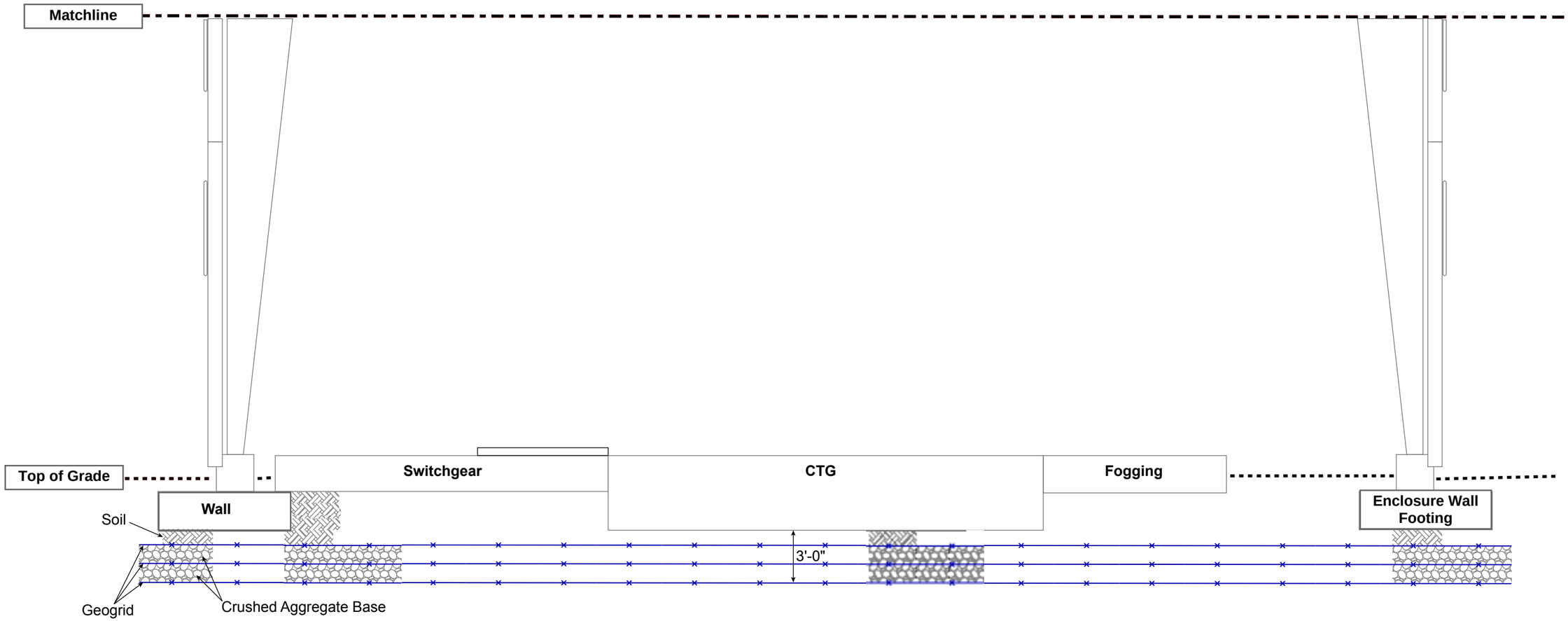
A83. If fill or other material would be imported to meet the imbalance please describe the source, type, and characteristics of the material and how it would be screened to insure there would be no impacts from it use.

Response: As described in the Response to Data Request A80, SERC will have net positive materials imports, and will not be lacking fill.

In addition to concrete for foundations, base material for roads, and gravel for surfacing throughout the site, the project will require the import of a large quantity of CAB because of SERC's selected method for ground improvement under structural foundations. The CAB will conform to the requirements of Standard

Specification of Public Works Construction (SSPWC) Section 200-2.2, with the CAB consisting entirely of crushed rock and rock dust. CAB does not include recycled materials. CAB is readily available from several sand and gravel supply companies in the greater project vicinity. All imported materials will be new and clean, as they will be procured from existing facilities or aggregate mines that are regulated and authorized to provide such imported materials, e.g. CAB and ready-mix concrete.

Figure DR79-1
Foundation Profile



LOOKING WEST

0 3 6

Approximate scale in feet

Figure DRA79-1
Stanton Energy Reliability Center
Foundation Profile
Stanton Energy Reliability Center AFC
Stanton, California

5.12 Traffic and Transportation (A84-A85)

Fill Truck Trip Generation

A84. If new fill would be imported to the site, approximately how many daily and peak hour truck trips would importation generate?

Response: As indicated by the estimated quantities in the table presented in the Response to Data Request A80, imported materials are expected to exceed exported materials. However, importation will not exceed either the daily or peak hour truck trips previously analyzed and presented in either AFC section 5.12.2.1.1 or applicant's initial comments on the PSA (TN #223179). Estimates from the earlier table are presented here to show Total Quantities Transported To/From SERC, i.e. an estimated total transport requirement of 15,802 cubic yards.

Excess Soils Exports, cy	(7,062)
Clean Asphalt Exports, cy	(290)
Concrete Rubble Exports, cy	(30)
Crushed Aggregate Base (CAB) Imports, cy	4,920
Concrete Imports, cy	3,500
Net Imports/(Exports), cy	1,037

Due to the relatively small area of the SERC site, construction sequencing and staging requirements will not allow any significant stockpiling of materials for export or materials from import. Instead, the practice will generally be to load excess soils directly into outgoing trucks, and to receive incoming fill materials directly into their place of use. This coordination effort will essentially make export activity days mutually exclusive from import activity days. In other words, for most of days, there will either be soils being exported or fill materials being imported, but not both.

It is expected that most of the export and import activities required to bring the project to rough grade with nearly all foundations installed will be completed in the first four months of project construction. Assuming only 3 of those months have active import/export activities, and assuming all 15,802 cy are moved during those three months, average daily quantities transported will be:

- 15,802 cy ÷ 3 months ÷ 4.3 weeks/month ÷ 5 days/week = 245 cy/day, or
- 245 cy/day ÷ 10 cy/truckload = 24.5 truckloads/day

Table DRA84-1 is based on AFC Traffic and Transportation Section Table 5.12-6 and calculates the maximum number of construction worker trips to and from the project site in the AM or PM peak hours during Month 4, including the additional import/export truck trips. The table compares the results of this calculation with the peak month traffic in Month 8 (when import export truck trips will not occur). The table demonstrates that the Month 4 traffic, with import/export trips included, is significantly less than the worst construction traffic case analyzed in the AFC for Month 8. Therefore, the addition of import/export truck traffic in months 1-4 would not cause project construction traffic to exceed that of Month 8 and the conclusions of the AFC (Section 5.12.2.1.1) do not change. See also the responses to Data Requests A80 and A83 and Applicant's initial comments on the PSA (TN #223179).

Table DRA84-1. Peak hour traffic in Month 4 with import/export trucks.

Trip Category	All Trips	AM or PM Peak-Hour Trips
Construction Worker Commuters:		
Workers commuting in Month 4 (per AFC Table 5.10-8)	47	
Worker trips in Month 4, with 16 pct carpooling		40
Delivery/Haul Trucks:		
Trucks per day	50	
Trucks per day in either AM or PM peak	4	
Trucks in AM or PM Peak * 1.5 Passenger Car Equivalent (PCE)		6
Soil and Materials Import/Export Trucks		
Average daily import/export trucks, months 1-4	25	
Average daily import/export trucks, months 1-4, PCE, AM or PM Peak	2	
Trucks in AM or PM Peak * 1.5 Passenger Car Equivalent (PCE)		3
Total traffic in AM or PM Peak in Month 4 with I/E trucks		49
Per AFC Table 5.12-6, highest peak hour traffic, Month 8		72
Difference (Month 8 minus Month 4 with I/E trucks)		-23

Duration and Timing of Fill Importation

A85. What would be the duration and timing of fill importation relative to the project's construction schedule?

Response: As discussed in Response to Data Request A84, most of the project's import activities would occur during the first four months of the project, and in general would not occur on days when export activities are conducted. Some portion of the import materials which exceed the exported soils will be utilized during final grading activities, which will occur over the remainder of the project timeline as construction activities conclude in various project areas, thereby allowing final grading to be completed. However, the quantities of materials for final grading will be limited, with import of these materials planned to take place during construction months 10-12, when overall construction traffic is greatly reduced. Therefore, the additional import trucks arriving during these months will not cause a traffic increase that would change the conclusions of the traffic analysis in AFC section 5.12.