EXHIBIT LIST

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Exhibit 2  Conditional Use Permit Application Form
Exhibit 3  Property Owner’s Consent for Authorized Agent
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Exhibit 5  Letter from David Evans and Associates, Inc. dated January 23, 2014 (Lighting)
Exhibit 6  Stormwater Pollution Prevention Plan
Exhibit 7  Letter from SHN Consulting Engineers & Geologists, Inc. dated June 25, 2015 (Stormwater)
Exhibit 8  Addendum to Jordan Cove Energy Project Transportation Impact Analysis dated August 19, 2013

Exhibit 9  Letter from David Evans and Associates, Inc. dated June 24, 2015 (Traffic)

Exhibit 10  Letter from Daly Standlee & Associates, Inc. dated February 7, 2014 (Noise)
Exhibit 1
EXPLANATION

PROJECT BOUNDARY

APPROXIMATE PROPERTY LINES

NORTH

SOUTH

WEST

EAST

MAXIMUM STRUCTURE HEIGHT = 20'

MAXIMUM STRUCTURE HEIGHT = 35'

PROPOSED STRUCTURE HEIGHT = 20'

PROPOSED STRUCTURE HEIGHT = 35'

SECTION A-A

SCALE 1" = 100'

SECTION B-B

SCALE 1" = 100'

Proposed Profile
Sheet 5
North Point Workforce Housing Project
Proposed Profile
Sheet 6
North Point Workforce Housing Project

SECTION C-C

SECTION D-D
NOTE:

1. BASIS OF DESIGN FOR ROADWAYS AND INTERSECTIONS CONSIDERS SUPPORT WEIGHT AND TURNING RADII NECESSARY FOR NORTH BEND FIRE DEPARTMENT EMERGENCY VEHICLE OPERATIONS.

2. ALL ROADS IN HOUSING AREA ARE 26 FT WIDE AND SHALL MAINTAIN A 20' WIDE, UNIMPEDED FIRE LANE AT ALL TIMES.

3. ALL SECURITY GATES WILL ACCOMMODATE 24 HOUR ACCESS TO EMERGENCY SERVICE VEHICLES.

4. ALL BUILDINGS TO BE INDIVIDUALLY IDENTIFIED AND CLEARLY MARKED ON THE EXTERIOR FOR QUICK LOCATION BY EMERGENCY SERVICES.
TYPICAL HOUSING UNIT FLOOR PLAN
Exhibit 2
The NB Planning Commission strongly recommends that applicants attend all meetings/hearings that are held to consider your application. Meetings are held the third Monday of each month, 7:00 p.m., Council Chambers, City Hall, 835 California Av., North Bend.

APPLICATION/FEE RECEIVED: ___________________________ FEE: $250.00

1. Current property owner: APCO Coos Properties, LLC

2. Owner’s address: P.O. Box 300, Coos Bay, OR 97420 Phone: 541.267.4133

3. Legal Description of property: Township 25S, Range 13W, Section 10, Tax Lots 1000 and 1100

4. Street Address of property: N/A

5. Applicant’s name: Jordan Cove Energy Project, L.P.

6. Applicant’s address: 125 Central Avenue, Suite 380, Coos Bay, OR 97420

7. Applicant’s phone no. 541.266.7510

8. Relationship to owner: Agent


Please answer the following questions in detail. This information will be used to evaluate whether your request complies with the criteria for a conditional use permit.
1. Describe the zoning and use of properties within 100' of this site.

SEE ATTACHED NARRATIVE.

2. Explain how you will make use of this property. Include size of building, hours of operation, number of employees, and type of equipment.

SEE ATTACHED NARRATIVE.

3. Describe how customer parking will be accommodated, anticipated number of clients/customer per day and existing or proposed landscaping.

SEE ATTACHED NARRATIVE.

4. What are the widths and condition of streets and highways that serve the property? Is there any on street parking available?

SEE ATTACHED NARRATIVE.

5. What changes in nearby property may result from your development?

SEE ATTACHED NARRATIVE.

6. Indicate any allowances you have made to minimize any negative impacts (such as landscaping or buffering, limiting vehicular access, signs, lighting, locating vehicular access to promote public safety).
ADDITIONAL REQUIREMENTS:

A. Attach a plot plan drawn to scale showing existing and proposed structures, dimensions of existing and proposed structures and the distance from the structures to the property line.

B. Provide a list of the names and addresses of all property owners within 100’ of the exterior boundaries of the subject property.

C. Provide evidence you are the owner or purchaser of the property or have written consent from the property owner to make application for a conditional use permit.

D. Enclose the filing fee/deposit of $250. Actual charges may increase/decrease your fee.

The above and attached statements are true to the best of my belief and knowledge. I understand this application must be complete and accurate before a hearing can be scheduled and that only those items specifically mentioned in the application can be considered and acted upon at the hearing.

[Signature]
Applicant's signature

[Date]
Date
Exhibit 3
CONSENT FOR AUTHORIZED AGENT

On this 4th day of May, 2015, I, Joseph I. McKeown, the Manager of APCO Coos Properties, LLC ("APCO"), the owner of the real property described as Township 25S, Range 13W, Section 10, Tax Lots 1000 and 1100 ("Property") hereby grant permission to Jordan Cove Energy Project, L.P. to act as APCO's agent in applying to the City of North Bend for such land use applications as are needed to authorize the Property for use as temporary workforce housing.

Signature: [Signature]
Exhibit 5
January 23, 2014

Mark D. Whitlow  
Perkins Coie LLP  
1120 NW Couch Street, 10th Floor  
Portland, OR 97209

SUBJECT: Proposed Workforce Housing Project – Conditional Use Application

Dear Mr. Whitlow:

I am a licensed engineer currently employed at David Evans & Associates, Inc. (DEA). I have been employed at DEA in that capacity for the past six years. My training and experience as a licensed engineer provides expertise with respect to the type of lighting and lighting fixtures required for various developments and, further, how to select, locate and provide shielding to reflect light away from sensitive areas.

This letter is written in support of the application filed by Jordan Cove Energy Project, L.P., for a conditional use application to allow a proposed workforce housing project in the MH zone in the City of North Bend, Oregon, on a development site covered by the City of North Bend’s Airport Overlay zoning district set forth in Chapter 18.56 of the North Bend City Code (Code). Specifically, this letter will provide evidence regarding the applicant’s ability to satisfy the land use compatibility requirements of the Code regarding outdoor lighting and glare.

With respect to the relevant provisions of the Code, please accept the following evidence in satisfaction of the related provisions of Code Section 18.56.080:

(2) Outdoor Lighting.

The lighting selected for the proposed workforce housing project will not project lighting directly onto an existing runway or taxiway or into existing airport approach surfaces. Lighting for the project will be full cutoff fixtures. Full cutoff fixtures aim light downward and have no up-light. The lens is contained fully within the fixture housing. The Illuminating Engineering Society (IES) has developed a rating system for Backlight, Uplight, and Glare (BUG). The rating system evaluates each fixture for backlight, uplight, and glare. All fixtures for the workforce housing site will have an uplight rating of zero. By using full cutoff fixtures with uplight ratings of zero, all light will be projected below the horizontal plane of the fixture.

Additional external shielding was not assumed at this point but could be provided if necessary. The lighting selected for the proposed workforce housing project has been selected to avoid lighting which imitates airport lighting or which impedes the ability of pilots to distinguish between airport lighting and other lighting.
A preliminary lighting analysis was performed using AGi32, a lighting analysis software, to evaluate the impacts of lighting from the workforce housing. Because this analysis assumes that all buildings are constructed and in place, this analysis captured the maximum amount of light the housing would produce. This analysis measured full cutoff 150 watt High Pressure Sodium (HPS) light fixtures mounted on 20 foot tall light poles as shown on the conceptual plans developed by SHN. The analysis also measured, a 100 watt high pressure sodium light fixture mounted at 15 feet above every entrance/exit to each module. The use of full cutoff fixtures will result in no direct light being projected onto the existing airport approach surfaces. The results of the analysis showed no additional visible light would be expected to reach the airport runway or taxiways. All calculation points on the airport property returned a reading of less than 0.001 foot-candles from the workforce housing, which is an amount not visible to the human eye. For comparison purposes, a typical collector roadway will have an average illuminance of 0.9 foot-candles.

(3) Glare.

The materials used for the workforce housing project will be selected to avoid glare from the exterior of buildings located within an approach surface or on nearby lands where glare could impede a pilot's vision. The current plan calls for 100 watt HPS above every entrance/exit within the workforce housing. The number of fixtures needed and/or the type of fixture will be modified to further reduce light levels as the project enters final design. Luminaires near the waterline will be directed away from the bay and could have bay side shields installed to further reduce the light reflecting off the bay. The parking lot and pedestrian walkways will be designed to meet IES guidelines.

Thank you for the opportunity to provide evidence in support of the application regarding lighting and glare. I am available to provide additional information upon your request. You are authorized to submit this letter into the record in support of the applicant's conditional use application in the City of North Bend.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Cameron Grile, PE, PTOE
Transportation Engineer

Initials: CMG
File Name: P:\JCEP00000004\06000\INFO\TT\LTR_Workforce_Housing_Illumination_2014-01-23.docx
Project Number: JCEP0000-0004
Stormwater Pollution Prevention Plan

North Point Workforce Housing

Prepared for:

Jordan Cove Energy Project, L.P.
Reference:  614029.151

June 25, 2015

Mr. Wes Hill
Jordan Cove Energy Project
125 W. Central Avenue, Suite 250
Coos Bay, OR  97420

Subject:  Stormwater Pollution Prevention Plan, North Point Workforce Housing, Jordan Cove Energy Project

Dear Mr. Hill:

This Stormwater Pollution Prevention Plan (SWPPP) addresses concerns about potential pollutants at the North Point Workforce Housing facility (NPWH). Potential sources of pollutants include vehicles parked at the facility, busses used to transport workers, and impermeable surfaces associated with buildings and travel ways. In almost all cases, rainwater will be percolated into the sandy soils where filtration and sorption will capture pollutants of concern. The system of best management practices (BMPs) proposed easily accommodates the current 1,898 vehicle parking facility layout but could be expanded to accommodate 2,100 or greater vehicles.

The SWPPP is intended for use by the operator of NPWH. At this time, Jordan Cove Energy Project (JCEP) has not identified the contractor for NPWH; therefore the responsible party and the stormwater pollution prevention team have not been determined. As lessee for the property, it will be important for JCEP to see that BMPs are constructed properly. Once the NPWH contractor is contracted, they should be required to implement, operate, and maintain the SWPPP.

Please feel free to contact me at 541-266-9890 if you have any questions.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Steven K. Donovan, PE
Principal Engineer

SKD:dkl

Enclosure:  Stormwater Pollution Prevention Plan
Stormwater Pollution Prevention Plan

North Point Workforce Housing

Prepared for:

Jordan Cove Energy Project, L.P.
125 W. Central Avenue, Suite 250
Coos Bay, OR  97420

Prepared by:

Consulting Engineers & Geologists, Inc.
275 Market Avenue
Coos Bay, OR  97420-2228
541-266-9890

June 2015

QA/QC: SKD
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### Acronyms and Abbreviations

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1.0 Facility Description and Contact Information

1.1 Facility Information

Site Name: North Point Workforce Housing Facility

Lessee: Jordan Cove Energy Project, L.P.

Property Owner: Al Pierce, Co., LLC

Name of Preparer of SWPPP: SHN Consulting Engineers & Geologists, Inc.

Physical Address: Chapelle Parkway
North Bend, OR 97459
Coos County

1.2 Contact Information/Responsible Parties

Contact Person’s Name and Phone Number: __________________________

Mailing Address: __________________________________________

1.3 Stormwater Pollution Prevention Team

Jordan Cove Energy Project __________________________

SHN Consulting Engineers & Geologists, Inc. __________________________

Kiewitt Black & Veach __________________________

Housing Camp Operator __________________________

1.4 Activities at the Facility

The North Point Workforce Housing (NPWH) will provide worker housing during the construction of the Jordan Cove Energy Project. The NPWH will consist of a parking area on the eastern mainland and housing areas on the mainland and western island.

The parking area will have approximately 1,898 spaces for construction workers to park their personal vehicles. Parking areas will be paved with pervious asphaltic concrete pavement.

The housing area will have dormitory style housing units along with associated cafeteria/laundry/recreational and meeting hall (convenience center) facilities. In general, a
convenience center will be provided for each 1,000 worker occupants. Housing units will contain multiple dorms and may even be constructed with multiple stories (up to 3 stories maximum). A bridge will connect the island with the mainland. Limited traffic will be allowed in the housing area as described in Section 2.1. Roadways in the housing area will be compacted rock. The housing units and associated structures will be placed directly on compacted sand. Areas between the buildings will be either uncompacted sand or drain rock gravel.

Additional storm water management features are described in Section 3.6.

1.5 General Location Map

A general location map is presented in Figure 1.

1.6 General Site Map

A site map showing the North Point Workforce Housing (NPWH) is presented in Figure 2.

2.0 Potential Pollutant Sources

2.1 Industrial Activities

The purpose of the NPWH is to provide worker housing during construction of the Jordan Cove Liquid Natural Gas (LNG) facility. The NPWH construction will be undertaken in phases to meet the anticipated number of workers requiring housing for the JCEP construction. The NPWH will be in operation for approximately four years, after which time all temporary housing and associated support structures will be removed from the site. All underground infrastructure will remain in place to be available for potential uses by others in the future.

As currently proposed, the housing area consists of the following structures which will be erected on site:

- Temporary housing units
- Convenience centers (2; 1 per 1,000 occupants)
  - Cafeterias
  - Recreation Rooms
  - Laundry Facilities

In the housing area, vehicle traffic will be limited to delivery (food, supplies, etc.), collection (trash), housing assembly, maintenance, and emergency vehicles. Personal vehicles will be parked in the housing parking areas. Trash bins will be placed around the site in covered areas to prevent litter and related storm water exposure. Maintenance personnel will keep the landscaping watered and litter picked up.

The parking area will consist of a paved area for approximately 1,898 parking spaces where workers will park their personal vehicles. There will also be parking for buses used for daily
Location Map

Figure 1

North Point Workforce Housing Project

Source: Black & Veatch

Scale: 1"=2000'

Created by:

4/29/2015
transport of workers to the JCEP jobsite. Housing unit maintenance and operational staff may reside in the camp or come from the local community. Bus maintenance will occur elsewhere.

2.2 Associated Pollutants

The potential industrial pollutants associated with the housing area include the following:

- Loose trash
- Spills from trash bins and collection vehicles
- Hydraulic fluids from housing assembly equipment
- Oil, grease, and fuel from delivery vehicles
- Heavy metals associated with brake dust
- Kitchen area wastes and grease

The potential industrial pollutants associated with the parking area include the following:

- Oil, grease, and fuel from parked vehicles
- Heavy metals associated with brake dust washed from parked cars

3.0 Stormwater Control Measures

3.1 Minimize Exposure

Contamination of storm water from trash bins will be minimized by utilizing covered bins and/or locating the bins under roofed structures. The use of covered trash bins will help control nuisance bird species, such as crows and jays.

Service vehicles will deliver to designated areas where concrete pads will be constructed for loading and unloading purposes. Loading areas will be equipped with absorbent booms, hose down equipment, and emergency spill kits appropriate for the delivery vehicles.

Staff responsible for maintaining the NPWH will regularly inspect trash bins to ensure that covers are in working order. Loading and unloading for delivery trucks will be manned during actual deliveries. Workers will be trained in appropriate spill response measures. Unloading ramps will be routinely swept as part of the site maintenance.

3.2 Good Housekeeping

Good housekeeping practices will be conducted by all workers on site. Cleaning chemicals will be stored indoors and any minor spills promptly cleaned up.

3.3 Maintenance

It is anticipated that the majority of the personal vehicles parked in the parking area will not be moved much during the period of time the respective construction workers who own the vehicles
are on site. Many of the workers will be on site for several weeks at a time before having an extended break.

3.4 Spill Prevention and Response

There are no stored industrial chemicals on site, except for small quantities of typical household cleaning chemical. These chemicals will be stored indoors in cabinets to prevent spills. Household and commercial cleaning chemical cabinets will be located in each housing unit and at convenience centers respectively.

Other sources of spills include spills from trash collection and oils/grease/fuel spills from parked vehicles. Good housekeeping and regular inspection activities will be utilized to prevent and monitor for spills. Vehicle motor maintenance while parked will be prohibited (no oil changes or major mechanical work).

In the event of excessive spills, maintenance staff will be alerted. The response will include cleanup of any spilled liquids using commercially available absorbent materials (paper towels, terry cloths, mops, absorbent booms, etc., as appropriate). The items used to wipe up any spills will be properly disposed of in trash bins and liquids dumped to sanitary drains.

Parking lot areas should contain potential fuels or oil leaked into paved surfaces. Spill response kits with absorbent booms, clays, and rags will be located at the bus station and at the security entrance.

3.5 Erosion and Sediment Controls

The housing area will be graded and seeded to minimize erosion. Further, the outside perimeter road will be constructed using a rock roadway section specifically directed to collect storm water runoff on site for infiltration as described in the following section.

Also, in the parking area, a rock perimeter road will be installed to capture stormwater runoff not infiltrated through the permeable pavement. The 50 foot conservation shoreland zoning strip will be maintained clear of noxious weeds with beach grasses and salt marsh vegetation providing a vegetative buffer strip between the parked vehicles and the estuary. While not necessarily designed as a biofilter, this riparian area will naturally provide filtering of any surface runoff.

3.6 Management of Runoff

3.6.1 Overview

Infiltration testing revealed a design infiltration rate of 6.4 inches/hour for the NPWH area (see Appendix for report). This infiltration rate is very conducive to using infiltration for management of storm water. Infiltration is a common method for managing storm water for both quantity and quality. For the NPWH, water quality is important because of the number of vehicles in close proximity to the estuary. Stormwater infiltrated into the underlying sand will be subjected to filtration which will remove hydrocarbons and dust washed from parked vehicles.
A variety of Best Management Practices (BMPs) will be implemented at the NPWH as shown in Table 1 on the following page, and on Figures 2 and 3. The following sections describe each of the BMPs and their applicability to the NPWH.

| Table 1 |
|-----------------|-----------------|------------------|
| **Summary of Storm Water BMPs Design Requirements** | **Stormwater Technology** | **Location** |
| **Design Capacity** | **Infiltration Trenches** | 10 year | Housing Area |
| **Pervious Pavement** | 100 year | Parking |
| **Rock Road** | 100 year | Housing, Parking, Perimeter |
| **Infiltration Swale** | 2 year | Entrance Road |
| **Retention Pond** | 2 year | Bus Station, Electrical substation |
| **Oil Water Separators** | 10 year | Bus Station, Electrical substation |

### 3.6.2 BMP: Infiltration Trenches

Infiltration trenches consist of an excavated trench covered with a non-woven filter fabric. The trench is filled with open graded drain rock. The trenches are sized to provide sufficient storage of runoff while the water infiltrates. Roof runoff is directed to the trenches, which are located in non-traffic areas. At the NPWH, the trenches will be located between the housing units. Drain rock brought to the surface would also act as a trail keeping pedestrian traffic off of dune grass and vegetated surfacing. A detail of the infiltration trench used for the housing area is shown in Figure 3.

### 3.6.3 BMP: Pervious Pavement

Pervious pavement consists of asphaltic concrete that is open graded to allow for storm water to pass through the porous AC and base materials. The pavement is able to handle traffic loads but it ideal for parking lots where vehicles will be infrequently moved. At the NPWH, all parking areas except the bus depot will be constructed with pervious pavement. Open graded rock is typically placed beneath the pavement to allow for storage of stormwater within the large pore space. In the case of the parking area at the NPWH, no storage is needed with an infiltration rate of 6.4 inches per hour, so only a minimal layer (approximately six to eight inches in thickness) of open graded base rock will be installed. This layer will enhance even distribution of storm water across the sandy subsoil. Sub base material should be scarified before placement of base rock.

### 3.6.4 BMP: Rock Road

Rock roads will be used at the NPWH for the perimeter roads in both the parking and housing areas as well as the interior roads in the housing area. Rock roads for the applications at the NPWH are considered pervious and will infiltrate rainfall. Rock roads must first be designed for fire
vehicles passage per the uniform fire code. For design purposes, a WB-50 vehicle is the desired city vehicle.

3.6.5 BMP: Infiltration Swale

Like an infiltration trench, an infiltration swale collects and stores runoff while it infiltrates into the bottom sands. The swale is at the surface and essentially appears as a wide ditch with a flat bottom and 3H:1V side slopes. Check dams are located periodically to slow the flow of water in the swale, provide sediment capture in the rock and settling pool, and to create as much storage volume as possible. At the NPWH parking area, this BMP will treat runoff from the entrance road. Runoff will be directed to the swale through grading. An infiltration swale will be designed to infiltrate up to the 2-year event with excess runoff flowing to the Coos Bay estuary. The infiltration swale will be landscaped with bunch grasses that create a thatch that filters particulates from the runoff. Routine maintenance will include landscaping, trimming, and periodically taking off the surface of the swale.

3.6.7 BMP: Retention Pond

Two retention ponds will be located in the NPWH parking area (see Figure 2). One will be located at the northeast corner and will receive runoff from the bus depot area. The other pond will be located at the south end and will receive runoff from the electrical substation and excess runoff, if any, from the parking area. These ponds will be designed to retain and infiltrate runoff from at least the two-year, 24-hour storm event. Excess flows not retained will discharge to existing drainage swale leading to the Coos Bay estuary. The ponds will be maintained by periodically raking the surface with a rake or disking the surface to expose the underlying sand.

3.6.8 BMP: Oil Water Separators

Coalescing plate oil-water separators will be installed in the bus depot area and the electrical substation to capture oils and grease in runoff from the buses and electrical equipment (in case of spills). Oil water separator units will be kept cleaned pursuant to manufacturer recommendations.

3.7 Employee Training

All resident workers will receive a list of good housekeeping procedures appropriate for the facility at check-in. The list of procedures will include the following reminders:

- Place trash in appropriate receptacles.
- Check your vehicle on a regular basis for oil/grease/fuel leaks.
- Report any spills immediately to the maintenance staff.

3.8 Waste, Garbage and Floatable Debris

Sufficient numbers of trash bins will be located throughout the housing area to encourage proper disposal of trash. Facilities maintenance staff will collect any observed trash that has been improperly disposed of.
4.0 Sampling

Storm water sampling will be conducted during rainfall events with measureable runoff according to the protocol described in this section. At least two samples will be taken each rainy season between the months of December and February. The samples will be taken from the end of the pipe discharging runoff from the two retention ponds to the existing drainage swales. It is not anticipated that storm event will exceed the initial infiltration capacity of the bottom of the ponds. Under these circumstances run off from the pond will not occur, therefore it will not be necessary to sample stormwater from the pond outlets. Compliance points should only be sampled during a discharge to surface water.

Successive samples must be taken at least 14 days apart in order to evaluate the effectiveness of the storm water management system during independent storm events. The constituents to be measured are the following:

- Total Copper
- Total Lead
- Total Zinc
- pH
- Total Suspended Solids

Sampling results will be kept on file on site and will be available upon request.

The benchmarks for the sampled constituents are as follows:

- Total Copper: 0.020 mg/L
- Total Lead: 0.040 mg/L
- Total Zinc: 0.12 mg/L
- pH: 5.5-9.0 SU
- Total Suspended Solids: 100 mg/L

This SWPPP will be modified should sampling indicate benchmarks for constituents of concern are being exceeded.
Appendix A

Stormwater Infiltration Testing
Mr. Mark Chaney  
SHN Consulting Engineers & Geologists  
350 Hartnell Avenue, Suite B  
Redding, CA 95501-2138

Subject: North Point Work Force Housing, Storm Water Infiltration Testing

Dear Mark:

SHN Consulting Engineers & Geologists (SHN) conducted a large-scale Pilot Infiltration Test (PIT) on the property proposed for worker housing on the North Point Property for Jordan Cover Energy Project (JCEP) in order to determine a vertical infiltration design rate for storm water facility design. We understand the project will likely include onsite storm water infiltration facilities in the form of bioswales, or potentially a pond, to limit the amount of water that is discharged off site. The site location is shown on Figure 1 and the test location is shown on Figure 2, Site Plan.

A PIT is considered the state of the practice used to estimate the vertical hydraulic conductivity of the soil profile beneath the proposed, onsite, storm water infiltration facilities. The PIT reduces some of the small scale errors associated with the relatively small scale, i.e. double ring infiltrometer infiltration test, previously conducted to determine infiltration rates. A PIT test is more likely to take into account larger features of the geology or soil structure (e.g. sand or clay seams, desiccation cracks, or deeper roots penetrations). The test conducted was a large-scale PIT due to the size of the proposed facility and that a single test being conducted for the entire project.

Subsurface Conditions

The eastern half of the site was relatively flat, where the PIT was conducted, and the test location was at approximately elevation 25 feet. We understand the area was filled with dredge spoils from dredging the channel years ago. Subsequently, the area was used as a log deck. The soil profile exposed in the PIT excavation was approximately 11 inches of organic, sandy silt (log deck debris) over poorly-graded, fine sand with silt, intermixed with a considerable amount of shells (dredge spoils). Based upon hand probing, the material appeared to be medium dense, but likely on the lower end of the scale as the placement process likely did not include any compactive effort, however the log deck operations may have provided some static overburden loading from the logs and dynamic loading from the vehicle traffic.

Pilot Infiltration Test Procedures and Results

The large-scale PIT was conducted by excavating a pit into the soil stratum intended for storm water infiltration. The bottom of the pit was 9’-2” by 9’-6” or approximately 87 square feet and 26 inches deep. The bottom of the test pit was scraped clean with a smooth-edge bucket on the trackhoe. A measuring gauge was installed in the pit for easy reading without disturbing the bottom of the exposed soil stratum.
A water truck was used to gently fill the pit with water at a rate of filling of approximately 30 gallons per minute, based on timing of filling a 5-gallon bucket. It was estimated that approximately 2,500 to 3,000 gallons of water was used during the entire test.

The pit was filled with water and an initial rate of infiltration observed over a water level drop of over 7 inches. The pit was then partially refilled to keep water infiltrating into the soils while the water truck refilled. Again the rate of infiltration was monitored after the second refilling and the infiltration rate of the second test matched the first preliminary test. This indicated that the rate of infiltration had reached a steady-state condition. The pit was then refilled to a depth of 18.5 inches and the final test begun. The depth of water was recorded every 5 minutes over a total of 80 minutes and a water level drop of 14 inches.

Figure 1 below show a graph of the rate of infiltration readings recorded during the test and the trend line showing the average the rate of infiltration. The trend line stabilized at an infiltration rate of 10.5 inches per hour.

This is the initial infiltration rate and several correction factors must be applied in order to obtain the design rate of infiltration\textsuperscript{1}. They are the site variability factor, the test method factor and the siltation and bio-build-up factor. The following factors were applied to the initial infiltration rate:

Site variability:  The site soils are considered to be relatively consistent as they are placed sandy dredge spoils. Use a factor of $CF_v = 0.9$.

\textsuperscript{1} Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2012
Test Method: For a large-scale PIT use a factor of $CF_t = 0.75$.

Siltation and bio-buildup: In all cases, use a default factor of $CF_m = 0.9$.

The final design rate of infiltration is calculated as:

$$K_{sat\ design} = 10.5 \text{ inches per hour} \times 0.9 \times 0.75 \times 0.9$$

$$K_{sat\ design} = 6.4 \text{ inches per hour}$$

Limitations

The geotechnical conclusions and recommendations presented in this report are only intended for determining a vertical infiltration rate for design of storm water infiltration facilities. The recommended design infiltration rate presented in this report is based upon interpretation of data obtained from the field test located as shown on Figure 2. Subsurface conditions may, and usually do, vary across a site. Any person associated with this project who observes conditions or features of the site or its surrounding areas that are different from those described in the report should report them immediately to SHN for evaluation.

These recommendations have been prepared in accordance with the generally accepted standards of geotechnical engineering practice in Coos County at the time this report was written. No other warranty, express or implied, is made. It is the owner’s responsibility to see that all parties to the project, including the designers, contractors, and subcontractors, are made aware of this report in its entirety.

It should be noted that changes in the standards of practice in the field of geotechnical engineering, changes in site conditions are grounds for this report to be professionally reviewed. In light of this, there is a practical limit to the usefulness of this report without critical professional review. It is suggested that two years be considered a reasonable time for the usefulness of this report.

Please call our Coos Bay office at 541-266-9890, or on my cell at 944-6532, if you have any questions.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Mark J. Amrhein, PE, GE
Geotechnical & Environmental Engineer

MJA:dkl

Attachment: Figure 1 – Site Location
            Figure 2 – Site Plan
Aerial image: Google Earth

**LEGEND:**

- **PIT-1** = Pilot Infiltration Test Location
Exhibit 7
June 25, 2015

Mr. David Voss, City Planner
City of North Bend
PO Box “B”
North Bend, OR 97459

Subject: Conditional Use Permit Application for Temporary Workforce Housing, City of North Bend, Feasibility of Compliance with City Stormwater Management Standards

Dear David:

This letter is written on behalf of Jordan Cove Energy Project, L.P. ("JCEP"), the applicant requesting approval of a conditional use permit application for temporary workforce housing on the North Point ("Project"). The purpose of this letter is to explain that it is feasible for JCEP to comply with City of North Bend ("City") stormwater management standards applicable to vehicular parking areas at the Project. Please include a copy of this letter in the official City record for the Project, and please consider it before making a recommendation on the application.

I am a registered and certified professional civil and environmental engineer in the State of Oregon, with 24 years experience in the planning design, construction, and operation of stormwater management systems. This experience includes but is not limited to:

- Phase II NPDES Planning for Clean Water Services in Washington County, Oregon
- Stormwater Pollution Prevention Planning for over a dozen Oregon industries and public facilities
- Stormwater Master Planning for small municipalities throughout western Oregon
- Spill Prevention and Response Planning for North Bend and Coos County industries
- Stormwater Pollution Prevention designs throughout the Pacific Northwest.

SHN has previously prepared stormwater management projects in the City, which has included:

- The City of North Bend’s Stormwater Utility Capital Improvement Plan
- Storm drainage outfall design for Airport Heights
- City of North Bend storm sewer trunk link design for Pony Village Mall
- Various storm sewer replacement project for the City of North Bend
- The US Coast Guard Air Station AST/ENG Facility North Bend, Oregon
  - Stormwater Pollution Prevention Plan,
  - Stormwater Pollution Control Plan Erosion and Sediment Control, and
  - LEED Site Civil – US Coast Guard Group Air Station North Bend.

I am professionally qualified and my firm has been accepted by the City to prepare such plans.
North Bend City Code ("NBCC") 18.68.060(6)(b) requires JCEP to develop its off-street vehicular parking areas to provide for on-site collection of stormwater in order to eliminate sheet flow of stormwater from parking areas onto sidewalks, public rights-of-way, and abutting private property.

After reviewing and analyzing this code section, the subject property and surrounding areas, and JCEP's proposed Project, I have prepared the "Stormwater Pollution Prevention Plan for North Point Workforce Housing" dated May 2015 ("SWPPP"), which has been submitted into the record for the Project. Based upon my education and experience, and in my best professional judgment, it is feasible for: (1) JCEP to comply with NBCC 18.68.060(6)(b) by complying with the terms of the SWPPP; and (2) JCEP to comply with the terms of the SWPPP.

I will attend the Planning Commission public hearing in this matter, and I am happy to address this matter at that time. I am also happy to answer any of your questions in the meantime. Thank you for your consideration of this letter and the SWPPP.

Please feel free to contact me at 541-266-9890 if you have any questions.

Sincerely,

SHN Consulting Engineers & Geologists, Inc.

Steven K. Donovan, PE
Principal Engineer

SKD:dkl
Exhibit 8
MEMORANDUM

DATE: August 19, 2013
TO: Ron Hughes, Oregon Department of Transportation
     John Rowe, Coos County, Oregon
     Bob Dillard, City of North Bend, Oregon
AUTHOR: Josh Anderson, PE, PTOE
SUBJECT: Addendum to Jordan Cove Energy Project Transportation Impact Analysis
         Regarding the North Point Workforce Housing (NPWH) Project
PROJECT: Jordan Cove Energy Project – JCEP0000-0004
COPIES TO: Greg Blackard (Kiewit), Bob Braddock (Jordan Cove Energy Project)

This memorandum serves as an addendum to the Jordan Cove Energy Project Transportation Impact Analysis (TIA), dated July 2012. The intent is to address concerns raised after the submittal of the TIA around the transportation impacts of construction workforce housing. As demonstrated in this memorandum, if the North Point site in North Bend were to be used for Temporary Workforce Housing in support of the Jordan Cove Energy Project, nearby intersections would not fail to meet applicable transportation operations standards set forth by the Oregon Department of Transportation (ODOT) or the City of North Bend (City).

After submittal of the TIA, Jordan Cove Energy Project has further refined plans for the construction of the project. The maximum assumed number of construction workers on site has dropped from a peak of 2,612 workers to 2,100 workers. The peak month of construction has shifted from February of 2016 to July of 2017. The single largest change in assumptions from the July 2012 TIA to this addendum is that the contractor who has been hired to construct the project is now planning on using temporary workforce housing to accommodate the expected non-local workforce. School type busses are planned to be used to transport workers between the camp and the construction site. Workers will not be allowed to use personal vehicles. The housing site is proposed to be located on the North Point Site to the west of US 101 on the south bank of Coos Bay, as shown in Figure 1 (on the following page) and will be referred to as North Point Workforce Housing (NPWH).

The methodology used in the following analysis is unchanged from that of the TIA. The following assumptions were agreed upon at a pre-application meeting, held at the City of North Bend on June 26, 2013 at 1:00 PM in the City Council Chambers;

- Analysis will be focused on the PM peak hour only.
- Analysis will focus on the intersection of US 101 at Ferry Road.
  - Follow up communications with Mr. Windham (North Bend) lead to an expansion of the study area to include the intersection of Ferry Road at Chappell Parkway.
- Counts from June 26, 2013 will be acceptable for summer weekday traffic conditions.
- Methodology will be consistent with that of the 2012 TIA.
Trip generation and distribution for the NPWH project will be based on 24 busses making
two round trips during the PM peak as well as 200 single occupancy vehicles (primarily
supervisors and senior staff level employees) returning to the NPWH site in the PM peak.
- To be conservative all 296 trips will be assumed to happen during the PM peak hour
even though they will likely occur over roughly a two hour period due to the
staggering of shifts.
- For analysis purposes, the busses will be assumed to be heavy vehicles.

The following mobility targets will govern the analysis:
- City of North Bend – Peak hour LOS D based on HCM compliant delay calculations.
- ODOT – Peak hour v/c target of 0.85 assuming a freight route on a statewide highway.

The project has been developed to a point where the following information has been refined and
has been incorporated into this analysis:
- Peak construction activity of 2,100 workers will occur in July of 2017.
- The workforce will be split into two shifts staggered by 45 minutes.
- A standard work week will consist of five days (Monday to Friday) with 10-hour
workdays. The beginning of the workday is assumed to occur before the AM peak hour of
travel on US101. The end of the workday is assumed to coincide with the PM peak hour of
travel on US 101.
Addendum to Jordan Cove Energy Project Transportation Impact Analysis
August 19, 2013
Page 3

Existing Conditions

Manual traffic counts were conducted at the two study area intersections on June 26th between 4:30 and 5:30 PM. The volume development worksheet and the raw turn movement count are attached in Appendix A.

Existing turn movement volumes and lane configurations are shown in Figure 2. Existing traffic operations are shown in Figure 3. Today, no movements are exceeding the applicable standards at either intersection in the study area. While v/c ratios are calculated for all movements, delays and LOS can only be calculated for traffic that stops or yields to other traffic movements; otherwise the information is not available (n/a).

Summer 2017 Background Conditions WITHOUT the Project

Existing summer 2013 counts were grown at a rate of 0.8 percent per year for four years to estimate year 2017 volumes without construction activity. The resulting volumes were rounded to the nearest five. Year 2017 turn movement volumes are shown in Figure 4 below. Future background traffic operations are shown below in Figure 5. No movements are expected to exceed the applicable standards at either intersection in the study area by the year 2017.
Summer 2017 Build Conditions WITH the Project

For this scenario, the 48 bus trips (both inbound and outbound) and the 200 single occupancy trips (inbound) were added to the year 2017 turn movement volumes to create a WITH the project conditions. The resulting turn movement volumes are shown in Figure 6 below. Future traffic operations WITH the project are shown below in Figure 7. With the addition of the workforce vehicles, the westbound approach of Ferry Road to US 101 is expected to exceed the City of North Bend level of service standard of D.

Summer 2017 Mitigated Conditions WITH the Project

Installation of a temporary traffic signal at the intersection of US 101 at Ferry Road could alleviate the substandard operations found in the Build conditions scenario. Figures 8 and 9 below summarize turning movement volumes as well as operation. Without the installation of the traffic signal, the westbound approach would be expected to operate at LOS E. After the installation of the signal, all movements are expected to operate at LOS C or better with all v/c ratios below 0.80.

Synchro output summaries for all three scenarios can be found in Appendix B.
Goal 12 (Transportation Planning Rule) Compliance

The North Point Workforce Housing (NPWH) Project is proposed to occupy approximately 49 acres of land within the City of North Bend that is currently zoned as heavy industrial (M-H). The NPWH project would generate 296 PM peak hour trips. This results in a trip rate of 6.04 trips per acre. Industrial trip rates (ITE based 9th edition) generate between 2.16 and 8.69 PM peak hour trips per acre with an average of 6.43 trips per acre.

Since development under the proposed conditional use permit would generate less traffic than development allowed under the existing zoning, the proposed use cannot significantly affect nearby transportation facilities and the TPR criteria are, therefore, met.

This approach has been confirmed through the judicial system in the following three cases:

- ODOT v. Clackamas County, 27 OR LUBA 141(1994)
- Friends of Marion County v. City of Keizer, 45 OR LUBA 236 (2003)
- Mason v. City of Corvallis, 49 OR LUBA 199 (2005)

Conclusions and Recommendations

With the installation of a temporary traffic signal at the intersection of US 101 at Ferry Road, the PM peak hour impacts due to the additional vehicle trips associated with the NPWH project will be mitigated. Drivers entering and exiting Ferry Road will be able to safely and efficiently gain access to US 101.
### APPENDIX A
Traffic Volumes and Development

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Manual turn movement counts were conducted on 06-26-2013 by Josh Anderson, PE, PTOE

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APPENDIX B

Synchro Output Summaries
Synchro Output Data available upon request.
Exhibit 9
June 24th, 2015

Bob Dillard and David Voss
City of North Bend, Oregon

Subject: North Point Workforce Housing Project Conditional Use Application

Dear Bob Dillard and David Voss,

A conditional use application for the North Point Workforce Housing Project was heard by the City of North Bend Planning Commission on March 17th of 2014. A memorandum dated August 19, 2013 with the subject Addendum to Jordan Cove Energy Project Transportation Impact Analysis Regarding the North Point Workforce Housing (NPWH) Project accompanied the conditional use application (and is attached to this letter). The memorandum was an addendum to the Jordan Cove Energy Project Transportation Impact Analysis (JCEPTIA) that expanded the study area of the JCEPTIA to capture the impacts associated with the proposed workforce camp located on the North Point industrial site within the City of North Bend.

Less than two years have passed since the memorandum was created. In those two years, there have been no large changes in population or employment in the immediate area. This translates into traffic volumes that have remained relatively constant on US 101 just north of the City of North Bend. No changes in the total number of workers, number of work shifts, start or end times of work shifts, or traffic circulation patterns have occurred. As such, it is my professional opinion that the findings of the attached memorandum are still valid and can be relied upon to demonstrate that the project complies with the applicable transportation standards.

There are a few sections of the North Bend City Code that specifically apply to project: 10.12.050, 10.12.060, 10.12.070, and 18.60.010(3). I have addressed these sections below:

10.12.050 Purpose.

If a proposed development will generate 500 or more daily trip ends, then a transportation impact study (TIS) shall be required. The TIS shall be prepared by a qualified transportation engineer to determine access, circulation and other transportation requirements. The scope of a TIS shall be established by the city engineer. Projects that generate less than 500 daily trip ends may also be required to provide traffic analysis when, in the opinion of the city engineer, a capacity problem and/or safety concern is caused and/or is adversely impacted by the development. The city engineer, at his/her discretion, shall determine the scope of this special analysis. Trip ends shall be defined by the Institute of Transportation Engineers (ITE), Trip Generation Manual, 6th Edition (or subsequent document updates), or trip generation studies of comparable uses prepared.
by an engineer and approved by the city engineer. Trip ends are trips that either begin or end at
the proposed use.

The attached memorandum complies with this section as the memorandum is a completed Traffic
Impact Study. The temporary use would generate over 500 daily trip ends, the TIS was created by a
professional engineer registered in the state of Oregon, and the scope of the study was developed in
conjunction with City of North Bend, Coos County, and Oregon DOT staff. The changes to the proposed
conditional use application do not change the results of this memorandum.

10.12.060 LEVEL OF SERVICE (LOS).

The level of service standard to determine what is acceptable or unacceptable traffic flow on
streets shall be based on a volume to capacity ratio. City streets shall maintain a LOS of “D,” as
defined by the Highway Capacity Manual (2000 Edition), during the p.m. peak hour of the day. A
lesser standard may be accepted for local street intersections or driveway access points that
intersect with collector or arterial streets, if alternative signalized access is available and these
intersections are found to operate safely.

The analysis stated that the development would cause the intersection of US 101 at Ferry Road to fail to
meet the City LOS standard. As a result, intersection capacity improvements (in the terms of an
additional southbound left-turn lane, and a temporary traffic signal) were proposed. The changes to the
proposed conditional use application do not change the LOS results of this memorandum because the
application changes do not change the number of workers, number of work shifts, start or end times of
the work shifts, or the traffic circulation patterns.

10.12.070 MITIGATION.

Where a development causes traffic impacts that bring a street below acceptable levels of service,
or impacts a street that is already operating below acceptable levels of service, or impacts a street
that has a documented safety problem, the TIS shall identify traffic impacts attributable to the
development and appropriate mitigation measures. The applicant will be required to implement
appropriate mitigation measures approved by the city engineer as a condition of approval of the
development. Traffic signals shall be required with development when traffic Signal
warrants are
met, in conformance with the Highway Capacity Manual and the Manual of Uniform Traffic
Control Devices.

As stated in the previous section, mitigations are proposed to prevent the intersection from operating at
a LOS below the City threshold defined in City Code Section 10.12.060. The proposed mitigations include
the addition of a southbound left-turn lane, and a temporary traffic signal. These proposed mitigation
measures should be conditions of approval of the conditional use application. The changes to the
proposed conditional use application do not change the mitigation needed in the attached
memorandum because the application changes do not change the number of workers, number of work
shifts, start or end times of the work shifts, or the traffic circulation patterns.

18.60.010 AUTHORIZATION TO GRANT OR DENY CONDITIONAL USES.

Uses designated in this title as conditional uses may be permitted, enlarged, or otherwise altered
upon authorization by the planning commission in accordance with the standards and procedures
set forth in this chapter. Conditional uses are those which may be found appropriate, desirable.
Convenient, or necessary in the applicable district subject to the following standards: [...] (3) The use will not have a significant traffic impact compared to existing adjacent uses or other uses allowed outright in the same zone district, and...

As the mitigations discussed in the previous section will alleviate the substandard operations of the intersection of US 101 at Ferry Road, the proposed development would not trigger a significant traffic impact when compared to the existing conditions (where no other development is assumed in the same zone district).

Additionally, in the PM peak hour the proposed temporary use is expected to generate 6.04 trips per acre. Industrial uses allowed outright in this zone would be expected to generate between 2.16 and 8.69 trips per acre with an average of 6.43 trips per acre. The proposed temporary use would create fewer PM peak hour trips than the average industrial use and should therefore been seen as appropriate.

CONCLUSION
In my professional opinion, the findings of the attached memorandum are still valid and relevant and the application complies with the following North Bend City Code Sections: 10.12.050, 10.12.060, 10.12.070, and 18.60.010(3).

Strictly with regards to the traffic analysis, the conditional use application should be approved with conditions that require the construction of a dedicated southbound left-turn lane as well as installation of a temporary traffic signal at the intersection of US 101 and Ferry Road.

Sincerely,

DAVID EVANS AND ASSOCIATES, INC.

Josh Anderson, PE, PTOE
Senior Traffic Engineer
Exhibit 10
February 7, 2014

SHN Consulting Engineers & Geologists, Inc.
275 Market Ave.
Coos Bay, OR 97420

Attn: Steven K. Donovan, PE

From: Daly-Standlee & Associates, Inc.

Mike Raley, Acoustical Consultant
Kerrie G. Standlee P.E., Principal

Re: Jordan Cove Energy Project
Project #: 102141

Introduction

Daly-Standlee and Associates (DSA) was asked to determine if the proposed workforce housing facility for the Jordan Cove Energy Project (JCEP) will comply with the noise regulations outlined in Section 18.56.080 (1) of the North Bend City Code (NBCC). The following sections of this letter discuss the noise criteria set forth in the NBCC, the aircraft noise levels on the site shown in the North Bend Municipal Airport Land Use Plan, the housing facility design analyzed by DSA, and DSA’s determination of compliance with the NBCC criteria.

Noise Criteria

Section 18.56.080 (1) of the NBCC states that “Within airport noise impact boundaries, land uses shall be established consistent with the levels identified in OAR 660, Division 13, Exhibit 5.” The airport noise impact boundary is defined in Section 18.56 of the code as “areas located within 1,500 feet of an airport runway or within the most current, established noise contour boundaries exceeding 55 Ldn” (NBCC 18.56.030 (5)). Exhibit 5 of OAR 660, Division 13 says residential land use and development are compatible, without restriction, in areas where the yearly average day-night noise levels (DNL) is less than 65 dBA. However, Section 18.56.080 (1) of the NBCC states that, in North Bend, “...the permit applicant shall be required to demonstrate that a noise abatement strategy will be incorporated into the building design that will achieve an indoor noise level equal to or less than 55 Ldn” within those developments located within the airport noise impact boundary. Please note that DNL and Ldn denote the same noise metric, typically measured in dBA.
Aircraft Noise Levels at Proposed JCEP Workforce Housing Site

According to information in the 2002 Port of Coos Bay, North Bend Municipal Airport Master Plan, the northwest portion of the proposed JCEP workforce housing facility will be constructed between the DNL 55 dBA and DNL 60 dBA noise contour lines on the airport noise contour map. In order to provide a conservative analysis of the noise levels expected inside the housing units at the facility, DSA has assumed that aircraft noise exposure levels outside the structures would be at a DNL 60 dBA level.

Proposed Workforce Housing Facility Design

Construction details included in DSA’s analysis are based on information obtained through conversations with Mr. Steven Donovan of SHN Consulting Engineers & Geologist, Inc. and Dan McGinnis, a representative of ATCO, a modular housing manufacturer. Based on the information provided to DSA, the workforce housing unit construction is proposed, as a minimum, to include the design and materials described below:

- Basic Layout
  - The housing buildings will consist of two “dormitory” type modules placed, facing one another, approximately five feet apart and connected by an open exterior walkway.
  - A module will consist of individual rooms constructed side-by-side that have at least two walls exposed to directly to exterior noise and in some instances three walls exposed to exterior noise (the end rooms of the module).
  - Each room will have a door which opens to the exterior walkway located between modules, and a window and a through-the-wall air-conditioning unit in the exterior wall located opposite the door.

- Walls – elements listed from exterior to interior
  - 29ga steel siding
  - 3/8” oriented strand board (OSB) sheathing
  - 2x6 wood studs at 16” O.C.
  - R-21 batt insulation
  - ½” type “x” gypsum wallboard

- Roof – elements listed from exterior to interior
  - 0.045 EPDM over 15/32” OSB
  - 2x10 joists at 16” O.C.
  - Double layer R-21 batt insulation
  - 5/8” type “X” VCG (vinyl coated gypsum board)
Windows
- 4' x 3.5” in size
- 1/8” glass - 1/4” air space - 1/8” glass
- Vinyl, low-E, horizontal sliding

Doors
- 32” x 80” in size
- Insulated steel

HVAC
- Through-the-wall PTAC type unit

Analysis

DSA predicted interior noise exposure levels using the method outlined in Controlling Sound Transmission into Buildings by J.D. Quirt published by the National Research Council Canada. This is the same method used by DSA to analyze structures being proposed within the City of Portland, Portland International Airport Noise Overlay Zone. Noise reduction properties for the construction materials included in the structures was taken from reference texts and data retained in DSA files from past projects.

With the building construction described above and an exterior DNL noise exposure level of 60 dBA DSA predicts an interior DNL noise exposure level of 46 dBA within the residential rooms of a module that have three exterior walls (two end rooms of a module). As stated above, all other rooms within the module will have only two exterior walls exposed directly to aircraft noise; the window wall and exterior walkway wall. Thus the noise level in those rooms will be slightly lower than DNL 46 dBA. In either case, the predicted interior noise exposure level is well below the maximum level of 55 dBA required in the NBCC.

DSA would like to point out that, at this time, the construction details for the housing modules have not been finalized. It is possible that the units could have construction details that provide more sound isolation than the minimum discussed above. In those cases, increasing the thickness of wall layers, roof layers or window glazing above that included in the analysis will increase the sound transmission loss of the structure and further reduce the interior noise levels.

Conclusion

Based on the results of our analysis, DSA concludes that the proposed workforce housing for the Jordan Cove Energy Project will comply with the noise regulation requirements in Section 18.56.080 (1) of the North Bend City Code.