B. Proposal's Impact on Safety, Health, Peace and Nature of Character of Surrounding Neighborhood

i) Impact on Critical Areas

1. Wetland:

It is the findings of The Wetland Corps, that no jurisdictional wetlands exist on the subject parcels as outlined in this report. Although there is some small amount of hydrophytic vegetation present scattered and intermixed on portions of the project site, other wetland indicators such as hydric soil and system hydrology are simply not present.

2. Areas with a critical recharging effect on aquifers used for potable water:

Kittitas County code states: 17A.08.010 Designation of aquifer recharge areas.

"No critical aquifer recharge locations have been identified in Kittitas County."

3. Wildlife habitat conservation areas:

Many species that were once listed either at the federal or state level have been delisted in the recent past, due to conservation and recovery efforts. The species listed above are the main species that are listed as endangered or threatened in Washington state that have are the most likely to be found in Eastern Washington. Although the habitat in the Cle Elum area has some similar characteristics to some of the habitat these species may be found in, they are just not common to the area. There is currently no recovery work in the immediate area of the proposed project site. Most of these species are found in very select habitats such as the pygmy rabbit and sharp-tailed grouse. No priority nesting grounds or rookeries are in the area of the project site. Many of these species are only found North in the states wilderness areas. The project site is a long way from the shoreline of the Yakima River and has contingency planning for stormwater recovery and treatment.
Based on the site specific circumstances of the project site, lack of suitable habitat for the above referenced listed species, it is the finding of The Wetland Corps, that the proposed project will have ***"NO EFFECT"*** on federal or state listed species.

4. Frequently flooded areas:

Flooding does not occur on the site.

5. Geologically hazardous areas:

PacifiClean Elk Heights has purchased land surrounding the site that has steep slopes but these will only serve as buffer. The 83.4-acres to be used for the project is an existing farm field with the steepest slopes approximately 20%. Therefore no geologic hazards exist due to slopes. The Supplemental Geologic Report prepared August 7, 2012 addressed the landslide

potential or liquefaction potential. The report states "Free groundwater at the site is not encountered until approximately 300 feet below the ground surface according to the log of a well on the premises, so liquefaction is not a factor". The report also states "This location has no history of liquefaction" therefore landslides are not a potential risk. The Geotechnical Report is presented as Appendix M.

ii) Noise

A comprehensive analysis of environmental noise due to equipment associated with operations at the proposed PacifiClean Organics Processing Facility was conducted to determine the impact of the facility on neighboring properties. This analysis includes a comparison of code limits as well as existing noise levels in the vicinity of the site to predicted sound levels based on manufacturer-provided noise emissions for the equipment proposed on site.

Based on the noise levels for the anticipated equipment on site and the operational limitations of the equipment, the worst-case environmental noise impact to the neighboring property lines of the PacifiClean site has been predicted. Noise levels have also been predicted to the nearest existing residential properties. These predictions indicate compliance with the Washington Administrative Code requirements at the property line, and no impact on existing noise levels at the closest residential receivers per EPA guidelines. Truck traffic on site has also been analyzed and is predicted to be below code limits and existing ambient levels.

To minimize noise impact PacifiClean is taking the following measures:

Use of conveyors to minimize the use of diesel powered loaders.

Grinding, mixing and handling of feedstocks will take place in a building with concrete walls.

Electric power rather than diesel will be used to grind, shred and mix incoming feedstock.

Product screening may take place with an electric rather than a diesel screener.

Placement and operation of equipment on site will occur with consideration of noise.

Changes in operation that result in deviation from a plan recommended by the noise consultant will be done with follow-up noise measurements to be sure the 50 dBA night time and 60 dBA day time noise levels are achievable.

See Appendix O.

iii) Traffic

The plant will operate 24 hours per day, 7 days a week (approximately 350 days per year) for delivery of and process of organic waste material. Trucks delivering organic material to the facility are estimated to contain 17 tons of material per load and will arrive at the site at a constant rate of 54 trucks per day at full buildout. It is estimated that most export will be between 8am and 6pm, 6 days per week. However, it is important to note that the material is expected to be purchased and hauled only during spring and fall periods, 3-month duration for each season. Thus, it is estimated that the export haul will occur for approximately 157 days per year. Trucks hauling organic topsoil compost to surrounding agricultural area are assumed to average 17 tons of material per load. It is estimated there would be 48 trucks per day hauling material at full build-out during peak months.

The final component of estimated vehicular traffic will be staff. It is assumed that 11 staff will be on-site during the Initial Phase and 18 staff after full build-out. Staff will include multiple shifts throughout the 24 hour period 7 days a week depending on seasonal volumes. Generally spring and fall are busier than winter months.

Based on staffing and plant activity, it is estimated that PacifiClean Elk Heights would generate 124 daily and 14 peak hour trips during the Initial Phase of development, and 240 daily and 25 peak hour trips after full build-out. These volumes reflect peak seasonal conditions for spring and fall, Monday thru Saturday. Approximately 80% of these site trips will be truck trips.

The orientation of project trips will be predominantly to the southeast on Thorp Prairie Rd to the Interstate - 90/Elk Heights Interchange, approximately 90% to 95% of all site trips. All of the delivery trucks will be to and from the west at this interchange. Approximately 5% to 10% of haul trucks and staff are estimated to be west on Thorp Prairie Road. Approximately 75 of haul trucks and staff will be to and from the east to Ellensburg, Yakima, and other neighboring counties.

The full Trip Generation Analysis is presented in the Appendix P.

iv) Thorp-Prairie Road Access Suitability

A two mile section of the Thorp Prairie Road between the site and 1-90 Elk Heights Exit will be the access route for both feedstock delivery and product distribution. This section of road has been tested, November 2012, using a Falling Weight Deflectometer device and road corings have been collected. These test results are being reviewed by Engineers at HWA GeoSciences who will provide their opinion on needed road improvements.

v) Archaeological

PacifiClean has purchased approximately 193 acres of which 45, located near the center of the parcels, will be used for the development of the facility. The remaining land will remain as a buffer for the facility. During October, 2012, Central Washington University prepared a document referred to as the Central Washington Archaeological Study (CWAS).

Archaeologists conducted pedestrian survey and limited sub-surface reconnaissance of 240 acres in Kittitas County, Washington.

Pedestrian survey was conducted in 20 meter intervals and covered the entirety of the project area. Pedestrian survey identified two previously undocumented historic-era archaeological sites (45KT03517, 45KT03518). Sub-surface reconnaissance was conducted via eleven STP units, none of which recovered any cultural materials. All identified archaeological resources associated with this project will not be physically impacted by its implementation.

CWAS recommends that this project proceed with the guidelines put forth in the Conclusions and Recommendations section.

A. All of the archaeological sites documented by CWAS personnel should be considered potentially eligible for the National Register of Historic Places pending a formal evaluation.

B. In addition to Recommendation A, any ground disturbing activities in the vicinity of an archaeological site should be monitored by a qualified archaeological professional in order to avoid adversely impacting the resource(s).

C. In the event that previously unknown cultural resources are encountered during the implementation of the project work in the vicinity of the discovery should halt and a professional archaeologist and the Washington State DAHP and the Confederated Tribes and Bands of the Yakama Nation should be consulted before proceeding.

D. In the event that any human remains are encountered during the implementation of the project all work in the vicinity must immediately cease and the Washington State protocols for dealing with human remains must be followed.

http://www.dahp.wa.gov/programs/human-remains-program/what-do-i-do

The full report is presented as Appendix Q.

vi) Surface Water Management

The total footprint of the developed site, 83.4-acres at final build-out (Phase 2 of construction). This will be surrounded by purchased land totaling 193 acres. Within this 83.4-acres will be a 45-acres surface that will collect rainfall and snow. Average precipitation will be 22.5 inches per year based on annual precipitation isopleths in the Eastern Washington Stormwater Manual.

A Stormwater Management Plan is being prepared by Kennedy/Jenks Engineers for the site construction and site operation. Initially the Stormwater Plan will be for the first half of site operation, Phase I. Experience gained in operation of Phase I will determine containment and controls necessary for the full Phase II of construction. The site will be designed to have

distinct and separate water collection areas. The surface elevations will engineered to direct water flow. The different water collection areas will be:

Stormwater Management Plan will be prepared by Engineers at Kennedy/Jenks for the site construction and site operation. Initially the Stormwater Plan will be for the first half of site operation, Phase I. Experience gained in operation of Phase I will determine containment and controls necessary for the full Phase II of construction.
The site will be designed to have distinct and separate water collection areas of the biosolids area and non-biosolids areas. The surface elevations will be engineered to direct water flow. The different water collection areas on each process side will be:

Surface 1. Leachate Collection Area
Area below the Gore covered compost piles.
Area inside the building
Areas outside the building where green feedstock, biosolids, food waste and mixed feedstock might be placed.

Surface 2. Clean Snow Removal Areas
Access Roads
Parking Lots

Surface 3. Clean Runoff Areas
Upgradient Water
Roof Areas
Bare Surface Not in Use

Surface 4. Stormwater or Stormwater Snowmelt Areas
Trailer Transfer Areas
Heavy Loader Activity Areas
Phase 1 Compost Piles
Phase 2 Piles
Phase 3 Product Piles
Surface of Stormwater Ponds

Surface 5. Surface of Uncovered Compost Product Piles
These are piles of product which has been composted and cured.

Surface 1 will be directed to one of two 40,000 gallon leachate tanks and reused in the initial construction of the feedstock piles in the process. Any water that comes in contact with feedstock (not bulking material), composting feedstock, and curing compost must be utilized in the composting process prior to reaching the Process to Further Reduce Pathogens (PFRP) stage which is treatment at 131 F for 3 days and the biosolids must also meet *Vector* Attraction Reduction (VAR) as specified in Washington State Regulations (WAC-173-308-180) .

Surface 2 will be clean snow and this snow will be piled to melt and drain off site or infiltrate into the soil. This water will not be considered stormwater or leachate.

Surface 3 will generate water not considered stormwater or leachate. This water will be directed around or off the site.

Surface 4 will generate water that will contain suspended solids, low BOD and some color. This water will be directed to one of two stormwater ponds at the east edge of the site. These ponds will be constructed with a liner and volume to hold the water collected during late fall through early spring. This water will be used in the process to add moisture, used for dust control, for cleanup, and used to irrigate 10 acres of land owned by PacifiClean Elk Heights.

Surface 5 water will be absorbed by the piles with open surfaces. Some of this absorbed water will remain with the compost, and some will be evaporated. What flows through the pile to the site surface will be directed to the stormwater ponds.

The stormwater management system will be designed for collection of any water containing contaminants, bypassing upgradient water, and utilization, including irrigation, so no discharge of stormwater or leachate will take place. No NPDES Permit for operation should be necessary because the site will not discharge stormwater.

vii) Landscape View

The PacifiClean Elk Heights process will be constructed and operated on the east side of the Thorp Prairie Road. The natural grade of the property slopes away from the road to the east approximately 80 from the west side of the site to the east edge. The process will need a generally flat site requiring grade and fill prior to construction. The average elevation of the site where processing will occur and the tipping building will be constructed will be 40 ft below the entrance elevation. The tallest structure will be the tipping building and this will have a maximum height of approximately 35 ft.

Therefore all processing and the tallest structure will be below horizontal as viewed from the Thorp Prairie Road and at least 300 ft from the road. The tipping building will be 700 ft off the road.

The project will have a small (40 ft X 24 ft) single story office building and a 33,000 gallon water tank about 20 ft in height. Both of these will be 200 ft off the Thorp Prairie Road and a minimal obstruction to any view. Also to be constructed is a 100 X 60 ft maintenance building which will be 1000 ft from the property boundary and the base at least 40 ft below the elevation of the west perimeter.

See the Landscape View section in the Appendix.

viii) Odor

Odor Management Introduction

The Odor Management System/Plan would be a combination of all facility components to minimize odors while being able to meet and/or exceed odor requirements at the property line. The following presents a description of the odors management systems.

1. Meteorological Station

A meteorological station owned and operated by the Washington State DOT is near the site. Weather data from this site will be used to record information if this is acceptable to the Health Department. If this data is not acceptable PacifiClean will establish their own station on the site. Data collected will include wind direction, wind speed and other local climatic conditions. This will support investigation of odor complaints in the surrounding neighborhoods.

2. Odor Complaint Records and Response

Odor complaints are logged in a master record file that is maintained in the facility office. These complaints can be from individuals or relayed to us from a regulatory agency. At the end of the month this record is tabulated and analyzed in comparison to meteorological data that is automatically recorded at the facility.

PacifiCiean Elk Heights will establish a system to respond to complaints that consider operational information and weather information.

- All complaint calls will be recorded, analyzed, and placed in facility operating records.
- PacifiClean Elk Heights will:
    - Take immediate action to identify and correct an odor source if possible.
    - Notify both the Kittitas Health Department (KHD) inspector if 10 calls have been verified within the previous seven days to be attributable to operational activities.
    - Generate a written analysis explaining the suspected cause and corrective actions taken and placed in the facility operation records.
- If there is an upset in the process and PacifiClean Elk Heights believes complaints are related to the upset, then PacifiClean Elk Heights will:
    - Take immediate action to mitigate the upset.
    - Notify the KHD and Dept of Ecology Central Region.
    - Generate a written report explaining the suspected cause, and corrective actions taken, and place the information in the facility operation records.

At least once per year, PacifiClean Elk Heights will update neighbors and individuals who have expressed an interest in understanding the operations. This will be done through meetings and/or newsletters. Agency involvement will be encouraged.

This response system is designed to insure that PacifiClean Elk Heights is listening to the surrounding community. It will also serve to inform the community of PacifiClean Elk Heights' steps taken to resolve an incident or concern at the site.

3. Documentation:

Monitoring, inspections, and audits of the equipment and operations are documented along with the corrective actions taken.

All environmental management procedures are included in the site Operations Plan. These will be updated based upon periodic and annual review. Reporting forms outline the information to be recorded and responsible person. The Facility Operations Manager will approve all changes to the forms and the Operations Plan. Current versions of the forms will be available in the Records File in the main office. Obsolete forms will be removed and replaced with the newest version. Completed forms will be kept for 5 years.

4. Document Control:

Completed forms will be maintained at the facility in the Records File in the main office. Copies of the completed forms will be distributed to the appropriate company personnel. The Facility Operation Manager will be responsible for the integrity of the filing system.

5. The GORE® Cover System

The GORE® Cover System is a proven composting solution for site odor emissions, providing stabilized compost while controlling odors and emissions. There are many examples worldwide where the GORE® Cover System meets and/or exceeds the local regulatory requirements for odors and emission control. The GORE ® Cover System odor and emission reduction efficiency is achieved by the well-balanced interaction of all the system elements, and not only by a single component. Effective odor and emission reduction is achieved by:

- Retention by the micro-porous structure of the GORE® membrane. Germ reduction of > 99% has been proven in several microbiological tests. Occupational safety and safety of nearby residents is thus ensured.
- The thermal insulation of the GORE ® Cover System enclosure and the temperature-distribution within the system, the temperature required for pathogen destruction can be ensured throughout the entire heap even during winter months or cold periods.
- Directly retaining 98% of the odorous compounds from passing through the GORE® Cover.
- The GORE® Cover System's laminate works against gaseous substances that escape from the composting material by acting as a diffusion barrier. A fine film of condensate on the inner side of the GORE® Cover develops during composting that retains odors and other gaseous substances. These gases dissolve in the water film, drip back into the pile, and continue to be broken down by the composting process. This results in a reduction of the overall emission.
- Minimization of odor formation by achieving optimal process conditions.
- The choice of membrane influences the moisture discharge during the composting

process. Excessive moisture results in the formation of odor forming anaerobic zones and lack of moisture halts adequate decomposition of organic materials. The cover serves to homogenize and distribute moisture evenly throughout the heap. The membrane also confines air permeation leading to even air distribution and avoids channeling effects which would otherwise create dry and wet zones within the organic stock.

For additional information, please see the BioCycie April 2009 article "Composting Trials Evaluate VOC Emissions Control".

6. Tipping Building

To reduce odor and VOC site emissions from the incoming feedstock and feedstock preparation all high nitrogen organic and biosolid feedstock will be managed inside a Tipping Building. The Building will be 120 ft X 180 ft and under evacuation whenever these non-bulking feedstocks are present. Air evacuation will take place using four blowers each removing from four quadrants in the building. Removed air will be pushed through a Bohn biofilter with 99% - 95% odor removal efficiency. In addition to receiving material this building will house the mixing, shredding and grinding or these green and biosolids feedstocks. This will greatly reduce odor emissions from this facility.

Openings in the buildings including mobile equipment access doors and tipping openings will be kept closed except when delivering material or otherwise in use.

7. Aeration of Leachate Tanks and Stormwater Ponds

The site will have two stormwater ponds and two leachate tanks. In order to prevent the release of sulfides or reduced sulfur compounds and reduced nitrogen compounds, aeration will be installed and used. Experience has shown that 5 Hp of surface aeration in each unit should be sufficient to prevent odor from these ponds and tanks. It is not expected that Biological Oxygen Demand (BOD) will be more than typical but these ponds and tanks will be part of a regular inspection. More aeration can be easily added if this is determined to be necessary.

ix) Dust

Compost is a material that can have small particle sizes and low density. It can be a cause of dust especially in an area with frequent wind. To decrease the opportunity for dust PacifiCiean Elk Heights will take the following measures:

- Trucks entering or leaving the site will always travel on asphalt surfaces. Trucks will be routed around the perimeter of the process area and not through areas with accumulations of compost feedstock or product on the surface. PacifiClean Elk Heights will own and operate sweeping equipment and a water tank truck with a spray apparatus. All travel surfaces from the entrance to the receiving building and product pickup will be swept or washed at a frequency necessary to prevent dust.

- Site surfaces used by loaders to handle feedstock and product will be swept to prevent the accumulation and drying of spilled compost material.

- Piles of compost without a cover will be kept at a moisture content high enough to prevent the emission of dust.

- The compost process piles in Phase I will be covered by a GORE ® Cover System. This will prevent any chance of dust release from the active composting piles and keep the compost moist enough to reduce dust emissions during transfer.

- Screening will take place on product with sufficient moisture content to prevent dust. If the product dries sprinklers will be used to moisten the material before screening or sprinklers will be used directly on the screening equipment to prevent the release of dust.

- Finish product piles will be covered or kept moist on the surface after the pile is built. Specific piles may be kept covered to keep the product dry to facilitate sales.

x) Site and Operational Safety

1. Staff Training and Safety Meeting

Staff will be trained on;

- Machine safety for each piece of heavy equipment,
- Material handling safety,
- Personal protective equipment, and
- Hearing protection
- Misc safety procedures

All site personnel must pass a certified first aid course as a condition of employment. Staff will be required to attend at least one operations and safety training session each year, along with a first aid refresher course. Site safety meetings will be held on a regular basis.

In addition to training about job safety and first aid, the PacifiClean Elk Heights will implement an employee awareness program to inform personnel of the facilities goals and components including, odor reduction, housekeeping, PPE use, hygiene, heavy equipment operation, leachate management, etc. Employee safety awareness will be encouraged by giving presentations at safety meetings, posting signs, placing safety information on the web site, and tracking safety performance.

2. Emergency Response

In the event of a serious injury or other emergency, phone 911 immediately. A fully stocked first aid kit will be kept on-site at all times accessible to all personnel

Bodily Injury In the event that anyone on-site is injured, for any reason, an appropriate level of first aid should be applied immediately. In the event of life threatening injury, the injured person shall be treated using appropriate first aid techniques, including treatment for shock, phone 911 immediately.

Each injury requiring first aid must be reported to Monitoring, inspections, and audits of the equipment and operations are documented along with the corrective actions taken. site manager as soon as possible. All work related injuries will be reported using all appropriate forms and other methods of notification.

3. Fire

Access roads leading to the site will be at least 20-feet wide, or a suitable width as determined by the local fire department. All stockpiles, including unprocessed and processed wood materials, will have minimum 20-feet access. All rows will be accessible by front loader or track hoe. Fire extinguishers will be kept on each piece of equipment, and each site vehicle. Non-wood fires will be put out immediately. In the event of a smoldering wood fire, the burning area shall be separated from the main pile using heavy construction equipment such as a front-end loader. Spread the materials in a thin layer to enable extinguishing fluids to contact burning materials. Once separated, the burning materials will be extinguished. In the event of a hot fire, the area will be cordoned off and the fire department will be notified by calling 911. Site personnel will move all equipment, fuel and other flammable materials away from the burning area. Site personnel with construction equipment will remain on-site to assist with extinguishing the fire, as directed by the fire department crew chief. After the fire has been extinguished, the source or cause of the fire will be determined and appropriate action will be taken to prevent a repeat fire. The fire and actions to prevent future fires will be discussed at a minimum at the next Health and Safety meeting.

4. Personal Protective Equipment

Staff are required to wear the following personal protective equipment, as

appropriate, to their job:

- Hard hats
- Steel toed protective
- Work gloves
- Eye and ear protection
- Orange vests
- Dust Masks

With hazards in mind, facility operators should wear eye protection and gloves for protection
against sharp objects. The operator should also wash hands before using the restroom, and should always wash hands and face before eating or smoking to avoid hand to mouth contamination

Exposure to dust from compost can cause health problems, particularly if a person has a history of respiratory illness. Dust may contain fungi, bacteria and other irritants. The facility operator should use an approved dust mask and safety goggles for protection during dusty operations. Most work is completed within equipment cabs to reduce or eliminate the need for safety equipment.

5. Phone Numbers and Contact Information

Kittitas County Health District will be notified of fire or serious injury by 12:00 PM (Noon) the next
business day by phone. Phone No. ___ _

Emergency Contact Information:

Emergency Phone No: Call 911
Emergency Medical Center:
The nearest emergency medical help:
Kittitas Valley Community Hospital
603 S, Chestnut Street, Ellensburg, WA,

PacifiClean Elk Heights Manager Phone Number ___
_
PacifiClean Elk Heights Supervisor Phone Number __
_
Department of Ecology Air Phone Number _____
Department of Ecology Surface Water Phone Number _ ____
Department of Transportation Phone Number _____ _

6. Confined Space Procedures

- **First, it should be stated that tank entry should only take place when absolutely necessary. PacifiClean Elk Heights staff should perform work from outside the tank or confined space as much as possible.**
- Training personnel thoroughly prior to planning a confined space entry is essential to safely completing confined space tank entry. The confined space team must include both entrants and rescue services personnel. Designated rescuers must be able to respond in a timely manner to any emergency. Rescuers must also be provided with training and proper equipment.
- Remove recoverable products from the tank through fixed piping and connections.
- Isolate the tank from all potential releases of energy or product. These must be locked out prior to entry. The entry supervisor must verify completion of tasks prior to signing off on a confined space entry permit.
- Degassing of the tank can be done by ventilation using a blower or similar air moving equipment. The exact degassing procedure will depend on the atmospheric environment in the tank. The entry supervisor determines the procedure.
- Air monitoring will be conducted prior to entry to determine levels of the below gases. Entry will not be allowed until the concentrations of hazardous gasses are below the following levels and sufficient oxygen is present.
- Entry is not allowed if the following conditions exist

Oxygen	< 19.5
Carbon Monoxide	>25 ppm
Hydrogen Sulfide	>10 ppm
LEL	>10

- If any chance exists that other hazardous gasses are present, monitor for these gasses also.
- Monitoring will be done by a calibrated and accurate gas monitoring device. Measurements will be taken while standing outside the tank in several locations inside the tank. Be aware that gases may be higher in concentration in the lower part of the tank.
- Perform the needed work inside the tank with outside rescue support present and in contact at all times.
- De-isolate and return the tank to service following specific procedures set forth for the equipment. This step includes tank inspection and preparation for returning the tank to service.

Conduct a thorough safety check inside and outside of the tank before re-commissioning the tank. Procedures should address refilling, atmospheric hazards, static hazards, and any precautions and requirements necessary.