MEMORANDUM OF AGREEMENT

AIR QUALITY MONITORING PROGRAM ACTIVITIES RELATING TO THE SEATTLE-TACOMA INTERNATIONAL AIRPORT VICINITY

Introduction

For a number of years, residents in the vicinity of Seattle-Tacoma International Airport (Sea-Tac) have expressed concerns over air pollution. Several studies and small-scale air pollutant sampling programs have been conducted by the Port of Seattle (Port), the State Department of Ecology (Ecology) and the Puget Sound Air Pollution Control Agency (PSAPCA). Because of ongoing concerns about air quality in the vicinity of Sea-Tac, the undersigned agencies have agreed to work together to gather additional air quality baseline data.

In April 1995, the Federal Aviation Administration (FAA) and the Port issued a joint Draft Environmental Impact Statement (EIS) for the proposed Master Plan Update Improvements at Seattle-Tacoma International Airport. In February, 1996 the FAA and Port issued the Final EIS, which incorporated a draft air quality conformity determination. These environmental documents address, among other issues, potential air quality impacts associated with various Master Plan Update improvement projects (facility developments and operational changes) to be phased-in between 1996 and 2020 as part of the long-range airport vision (Exhibit A, attached to this agreement).

The Final EIS considered the available Sea-Tac air quality information from previous studies, updated the baseline and projection year emission inventories for five "criteria" pollutants of concern, performed area-wide dispersion screening modeling for volatile organic compounds (VOC) and oxides of nitrogen (NOX) (both ozone precursors) and conducted localized traffic intersection modeling analyses for carbon monoxide (CO).

The Port and FAA have identified future project build-out and operational conditions that result in modeled exceedences of the federal standard for CO. However, no monitored air quality data for the Sea-Tac vicinity currently exists with which to interpret the FEIS' "worst case" modeling results, which may overstate actual future air quality problems. Also, because the Master Plan Update project phase(s) that cause the modeled CO exceedences do not occur until approximately 2010, the issue of specifying appropriate mitigation measures prematurely has been raised.

In comments submitted by PSAPCA, Ecology and the US Environmental Protection Agency-Region 10 (EPA) to the FAA on the FEIS draft conformity finding, it was noted that in order to demonstrate conformity with the Central Puget Sound State Implementation Plan (SIP), there must be firm commitments made at this time by the Port and FAA to either (1) mitigate the modeled standard exceedences for CO or (2) delay inclusion of certain projects until future environmental reviews are completed for those elements and firm commitments to new mitigation measures are made, if necessary. Several options for achieving this outcome were specified. The comments also recommended a funded 24-month Sea-Tac area air quality monitoring program to better determine baseline conditions at and around the Airport; to inform model interpretation; and to provide better ambient air quality information with which to respond to public air quality concerns.

As a result of these FEIS comments and related interagency discussions, the Port, FAA, Ecology, PSAPCA and the EPA all concur that a Sea-Tac air quality monitoring program be established, focused on the following concerns in priority order:

- Carbon monoxide (CO) concentrations, specifically at those roadway intersections modeled in the FEIS as creating future exceedences of the National Ambient Air Quality Standard for CO;
- Oxides of nitrogen (NOX) concentrations associated with aircraft departure backup queues;
- Ground-level residue deposition associated with aircraft fuel particle discharges;
- Ground level residue-related toxic substances; and
- "Fugitive dust " particulate matter concentrations associated with Sea-Tac construction activity sites and dirt haul routes.

The parties agree that this monitoring program is in support of quantifying pollutant levels and not for the purpose of supporting the proposed improvements at Sea-Tac Airport.

Sufficient funding totaling $195,000 already has been identified by the parties to this agreement to conduct special field monitoring activities for the first three items listed above (CO, NOX and fuel particle discharge-related residue) within the next 24 months. Whether or not to fund monitoring of toxic substances in the Sea-Tac vicinity will depend on the results from ground-level residue monitoring data collection and analysis. For purposes of fugitive dust emissions, the Sea-Tac vicinity monitoring program will rely on PSAPCA's existing regulatory, inspection and enforcement authority rather than formal in-field monitoring.

The initial CO saturation study monitoring will be conducted during the upcoming winter season (1996-97), with the ability to continue some CO measurements in winter 1997-98. The monitoring of NOX is projected to occur in summer/fall 1997, with fuel particle discharge residue measurements occurring seasonally between fall, 1996 and summer, 1997. All field monitoring activities and data analyses are scheduled for completion no later than June, 1998.

Public involvement from the surrounding community will be sought in the monitoring program to facilitate public understanding of the monitoring results and the implications for long-term Sea-Tac air quality monitoring. To this end, establishment of a special working group comprised of both agencies and community representatives is contained in the proposed program's scope (Exhibit B, attached to this agreement).

Purpose

This Memorandum of Agreement (MOA) establishes an air quality monitoring program in the Sea-Tac International Airport vicinity designed to achieve the following goals:

- Characterize actual monitored air quality conditions, via in-field measurements conducted by independent environmental agencies and their contractors, in the general vicinity of Sea-Tac International Airport;
- Utilize actual monitored air quality baseline information to improve future Sea-Tac vicinity modeling and monitoring efforts; and to help identify the need for and design of appropriate mitigation measures whenever criteria pollutant modeling forecasts, or as shown by actual measurements, exceed a National Ambient Air Quality Standard (NAAQS), e.g., for CO and/or particulate matter;

- Allow actual monitored air quality baseline information to be incorporated into future environmental reviews for Master Plan Update project elements projected to worsen air quality (listed in Exhibit A) and to enable making commitments to more specific long-term mitigation measures, if necessary;
- Enable agencies to reference actual monitored air quality baseline data for the Sea-Tac Airport vicinity when responding to future questions and information requests from the public;
- Secure funding commitments to complete Sea-Tac CO, NO_x and residue monitoring data collection and analysis within the next 24 months, by July 1, 1998; and
- Determine the scientific justification, if any, for Sea-Tac toxic emissions monitoring and secure appropriate funding commitments by fall, 1997.

The programmatic scope of the proposed air quality monitoring for the Sea-Tac Airport vicinity is contained in Exhibit B, attached to this agreement.

THEREFORE, THE UNDERSIGNED PARTIES AGREE:

1. Additional air monitoring in the vicinity of Seattle-Tacoma International Airport is desirable for purposes of more accurately describing existing air pollutant levels, interpreting modeled results, identifying longer range monitoring requirements, promoting appropriate mitigation measures to protect the NAAQS whenever necessary, and responding to public inquiries related to Sea-Tac vicinity air quality.
2. All parties will participate in the design, conduct and reporting of air quality measurement activities in the Sea-Tac area over the next 24 months according to an approved monitoring plan. It is specifically desired that Ecology, EPA and PSAPCA will provide independent expertise to the air quality monitoring and analysis activity, which can then be incorporated into project-level environmental reviews conducted under SEPA and NEPA by the Port and other initiating agencies. The participation commitments of each agency are enumerated below:
   - Ecology, as overall technical program coordinator, will in consultation with EPA and PSAPCA develop a detailed monitoring and analysis plan and participate in the funding, monitor siting, conduct, and analysis/review of the air measurements. Ecology also will provide a final summary report on monitoring and data analysis activities for agency and public distribution concerning the results of the air measurements and recommendations for future monitoring activities.
   - The EPA will assist with the plan scoping, funding, monitor siting, conduct and analysis and review of the air measurements;
   - PSAPCA will participate in the scoping of the air monitoring plan and analysis, including development of the monitoring framework, establishment of monitoring locations, coordination with transportation agencies, technical assistance regarding collected data, and tracking of regional surface travel growth and associated project-level modeling efforts;
   - The Port of Seattle will assist with funding for monitoring and will participate as an observer in the monitoring plan's design, implementation and outcomes reporting.
3. Ecology ($35K), EPA ($30K) and the Port ($130K) together will provide a total of $195,000.00 to complete field monitoring data collection and analysis for CO, NOX and aircraft fuel discharge residue. In addition, other in-kind (non-cash) contributions from PSAPCA and the other signatories to this agreement will be provided.
4. The Port agrees that it will not proceed with Master Plan Update elements which are projected to create future CO exceedences or further worsen projected CO levels until CO field monitoring data collection and analysis is completed and, if necessary, appropriate mitigation commitments are identified. The Port further agrees that new information on actual monitored CO and NO_x levels shall be incorporated into future Master Plan Update-related environmental reviews and

air quality conformity determinations. Construction-related dust prevention and management activities will be directed by the Port in accord with the protocol described in Exhibit C, attached to this agreement.

5. To the maximum extent possible, all new program, plan and project-level air quality analyses conducted in the Sea-Tac Airport vicinity will reference and/or incorporate data obtained from the actual field measurements, once they are available, to help refine modeling approaches and interpret new modeling results and to identify appropriate mitigation measures for identified NAAQS exceedence problems.
6. A decision by Ecology regarding whether a permanent CO monitor (or monitors) should be established near Sea-Tac as part of the permanent CO monitoring network will be made based on the data obtained from the CO saturation sampling. Funding of long-term monitoring for CO will be determined at the time permanent monitoring decisions are made.

This Memorandum of Agreement reflects agreement by the undersigned responsible officials:

Mic Dinsmore, Executive Director
Port of Seattle

Date

Win Granlund, Board Chair
Puget Sound Air Pollution Control Agency

10-1-96
Date

Mary Riveland, Director
Washington State Department of Ecology

9/27/96
Date

Chuck Clarke, Regional Administrator
US Environmental Protection Agency-Region X

10/4/96
Date

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Exhibit A

Seattle-Tacoma International Airport
Master Plan Update Improvements

The following airport improvement projects were identified by the Master Plan Update Final Environmental Impact Statement (Final EIS) to be phased in between 1996 and 2020. Based on the air quality analysis presented in the Final EIS, only the terminal and landside improvements planned to occur post 2010 could result in increasing the severity of exceedances of the NAAQS. As a result, before the Port could implement these project, additional analysis and requisite mitigation would be required. These projects were identified based on project purpose and need and are categorized by the four (A through D) purpose and needs. Based on the Final EIS, the following projects would not increase the severity or frequency of exceedances of the NAAQS:

A. New Parallel Runway and associated operational procedures and taxiways (1996-2000)

B. Clearing and Grading off each runway end for runway safety area compliance (1996-2000)

C Extension of Runway 34R (2011-2015)

D. Terminal and Landside Improvements

1996-2000

- New Parallel Runway and associated operational procedures and taxiways
- Clearing and Grading the requisite lengths off each runway end for runway safety area compliance
- Improvements to the Main Terminal roadway and recirculation roads
- Development of the Des Moines Creek Technology Campus
- Construction of the new air traffic control tower
- Expansion or redevelopment of the cargo facilities in the north cargo complex
- Development of a new snow equipment storage facility
- Expansion of Concourse A
- Development of on-airport hotel
- Expansion of the main parking garage
- Development of a new parking garage at the Doug Fox lot
- Site preparation at SASA site
- Overhaul and/or replacement of the STS

2001-2005

- Dual taxiway 34L
- Expansion of the Main Terminal to the South
- Improved access and circulation roadway improvements at the Main Terminal
- Additional expansion of the main parking garage
- Expansion of the existing north employee parking
- Further expansion of Concourse A
- Development of a new airport maintenance building
- Continued expansion of the north cargo facilities

2006-2010

- Expansion of the dual taxiways A and B
- Construct first phase parking structure north of SR 518
- Additional Expansion of north employee lot
- Further expansion or redevelopment of north cargo complex
- Upper roadway transit plaza at Main Terminal

Based on the Final EIS, the following terminal and landside projects could increase the severity or frequency of exceedances of the NAAQS. The primary improvement project that would alter surface transportation, and thus air quality, is the North Unit Terminal development and related projects. The North Unit Terminal is slated for construction between 2011 and 2015. However, several items that are related to this project would occur earlier, such as the relocation of the ARFF which is located on the future site of the new terminal. Therefore, to ensure that earlier projects do not prejudice the outcome of the North Unit Terminal, these projects are identified separately.

2006-2010

Construction of the North Unit Terminal and roadway system, including the main terminal by-pass roadway system
Relocate the ARFF for North Unit Terminal

2011-2020

Completion and further expansion of the North Unit Terminal, parking & roadways
Development of additional taxiway exits on 16L/34R
Expansion of north parking structure and north employee parking lot
Further development of cargo in SASA
Develop connections to the RTA system at the east side of the garage
Develop cargo/warehouse site north of SR518

EXHIBIT B

Programmatic Scope of Proposed Air Monitoring
Seattle-Tacoma International Airport

The parties agree that the following steps should be undertaken to scope a specific air pollutant monitoring plan to be undertaken in the vicinity of Seattle-Tacoma International Airport:

1. Establish the funding and staffing commitment levels available to conduct the air measurements. The air measurement plan should include the following:
   A. Development of an air monitoring work plan and definition of how the comparison of actual measurements to modeled data will be performed;
   B. Conduct of air measurements;
   C. Analysis of measurements;
   D. Conduct briefings for participating agencies; and
   E. Prepare a final report which responds to the goals of the effort.

2. The monitoring plan will be tailored such that it can be completed within the allocated funding and staffing levels and will reflect the following objectives:
   A. To interpret modeled data relative to measured data but not to conduct a model validation study;
   B. To use the measurements to improve:
      - Future modeling
      - Future monitoring
      - Mitigation of exceedances of the national ambient air quality standards
      - Responds to citizen comments and questions

3. The funding level will dictate the specifics of the air measurement plan. However, the following priorities will be placed on specific air measurements that can be achieved within the allocated resources (in order of highest to lowest priority):
   A. Carbon Monoxide - measurements at roadway intersections in the airport vicinity;
   B. Nitrogen Oxides - at ends of runways, near aircraft departure queues; IGNORES WIND DRIFT
   C. Engine Exhaust Residue - under flight paths of aircraft; IGNORES WIND DRIFT.
   D. If residue testing indicates that aircraft related emissions are a dominant source of collected residue, the parties will discuss and seek funding for the conduct of a air toxics measurements, which could include canister samples in the flight pattern;
   E. Fugitive Dust - at construction sites and near haul routes in the vicinity of construction. No funding has been allocated to this pollutant issue. Compliance with fugitive dust standards will rely on PSAPCA's existing regulatory, inspection, and enforcement authority.

4. Upon definition of the allocation of resources by the participating agencies, a working group will be established that includes representation from the participating agencies and the local community to monitor the progress of the air measurements The Washington Department of Ecology will take the lead in coordinating the meeting schedule and agenda and will serve as the chair of the working group. The working group is being formed for the sole purpose of facilitating public understanding of the air monitoring results. The working group will be disbanded by December 31, 1998 or within 2 months of completion of the air monitoring effort.

Exhibit C.

Port of Seattle Construction Dust Prevention and Management Protocol

RUNWAY 34R SAFETY AREA IMPOVEMENT
CONSTRUCTION MITIGATION PROJECT CONTROLS

DRAWINGS:

Drawing STIA-9602-C-2:

6. VEHICLES DELIVERING MATERIALS TO OR HAULING MATERIAL, EXCEPT FOR BLAST PAD PAVING, SHALL ACCESS THE SITE FROM S. 188TH ST. VIA THE CONTRACTOR'S ACCESS ROUTE AS INDICATED ON THE DRAWING. THE CONTRACTOR SHALL CONSTRUCT IMPROVEMENTS THAT PROVIDES ACCESS TO THE SITE FROM S. 188TH ST., SEE SHEET C-6 AND C-32. THE LOCATION OF THE GATE WILL BE DETERMINED BY THE ENGINEER. VEHICLES DELIVERING MATERIALS OR HAULING MATERIAL TO THE BLAST PAD PAVING SHALL ACCESS THE SITE FROM S. 188TH ST. THROUGH GATE E-5 VIA THE CONTRACTOR'S ACCESS ROUTE AS INDICATED ON THE DRAWING. ANY GATE THE CONTRACTOR USES SHALL BE LOCKED AFTER ENTERING OR EXITING. THE CONTRACTOR SHALL PROVIDE SECURITY GUARDS AT THE GATES WHENEVER ANY OF THE UNMANNED GATES ARE USED BY THE CONTRACTOR OR AS DIRECTED BY THE ENGINEER. AT NO TIME SHALL A GATE BE LEFT OPEN AND UNATTENDED. SEE SPECIFICATION SECTIONS 01110 AND 01540 FOR ESCORT REQUIREMENTS. THESE GATES WILL BE USED BY PORT OF SEATTLE AND FAA PERSONNEL/VEHICLES. GUARDS SHALL ALLOW ACCESS TO AND FROM THE AOA BY THESE PERSONS WITH THE APPROPRIATE ID/VEHICLE MARKINGS MEETING THE REQUIREMENTS OF SECTIONS 01110 & 01540 OF THE SPECIFICATIONS. SEE THE PHASING PLANS FOR COORDINATION AND SCHEDULING WITH OTHER CONTRACTORS CONCERNING ACCESS.

7. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN AN ACCESS ROUTE FROM S. 188TH ST. TO THE EXISTING AIPPORT PERIMETER ROAD SEE SHEET C-6. THE LOCATION OF THE ACCESS ROUTE WILL BE APPROVED BY THE ENGINEER. THE ROADS DESIGNATED AS CONTRACTOR ROUTES WILL BE USED BY OTHER AIRPORT VEHICLES, CONTRACTORS AND THE GENERAL PUBLIC (ALONG PUBLIC ROADS). THE CONTRACTOR SHALL NOT INTERFERE WITH OTHER VEHICLE TRAFFIC AND SHALL YIELD TO EMERGENCY VEHICLES ALONG ANY OF THE AIRPORT OR PUBLIC ROADS. THE CONTRACTOR SHALL PROVIDE ALL FLAGGING, SIGNING, LIGHTING, ETC. REQUIRED BY THE CITY OF SEATAC, KING COUNTY, THE STATE OR THE PORT OF SEATTLE TO PROVIDE ALL REASONABLE SAFETY MEASURES TO PROTECT ALL PERSONS UTILIZING THE AOA PERIMETER ROAD, THE HAUL ROAD OR ALL PUBLIC ROADS USED BY THE CONTRACTOR. THE CONTRACTOR SHALL OBEY ALL VEHICULAR WEIGHT AND SPEED LIMITS ESTABLISHED IN SPECIFICATION SECTION 01110 OR AS POSTED ON PORT PROPERTY OR PUBLIC STREETS.

THE CONTRACTOR SHALL CONTINUOUSLY SWEEP AND WASH DOWN ALL ACCESS ROUTES TO THE CONSTRUCTION AREAS AND EXISTING ADJACENT PAVED AREAS AND AOA PAVEMENTS. THESE AREAS SHALL BE KEPT FREE OF DEBRIS AT ALL TIMES.
ANY DAMAGE ALONG THE CONTRACTOR ACCESS/HAUL ROUTES DUE TO THE CONTRACTORS USE SHALL BE REPAIRED IMMEDIATELY. AT THE COMPLETION OF THE PROJECT, ALL PAVEMENTS AND SURFACES ALONG THE ACCESS

C-3738

ROUTES THAT WERE EXISTING AT THE START OF THE PROJECT SHALL BE RESTORED TO THEIR ORIGINAL CONDITION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE HAUL ROAD DUE TO THEIR OPERATIONS. THE CONTRACTOR SHALL COORDINATE AND MEET THE CLEANING AND REPAIR REQUIREMENTS SET BY OTHER PUBLIC AGENCIES FOR USE OF THEIR ROADS FOR CONSTRUCTION RELATED WORK.

9. THE CONTRACTOR SHALL KEEP A WATER TRUCK ON SITE AT ALL TIMES DURING WORKING AND NON-WORKING HOURS AND SHALL MAINTAIN THE SITE FREE FROM DUST AND OBJECTIONABLE DEBRIS. DURING THE PERIODS OF TIME THAT THERE IS NO CONSTRUCTION ACTIVITY (BETWEEN WORK SHIFTS), THE WATER TRUCK MUST BE READY WITH ON-SITE CONTRACTOR'S PERSONNEL AVAILABLE TO RESPOND IMMEDIATELY TO A DUST PROBLEM AS IDENTIFIED BY AIRPORT OPERATIONS STAFF OR THE ENGINEER. AT NO TIME SHALL THERE BE MORE THAN A 10 MINUTE RESPONSE TIME TO CALLS CONCERNING DUST/DEBRIS PROBLEMS DURING WORK HOURS AND A 90 MINUTE RESPONSE TIME AT ALL OTHER TIMES ON A 24HOUR PER DAY BASIS. THE CONTRACTOR SHALL PROVIDE WHATEVER MEANS ARE NECESSARY TO PREVENT FOREIGN OBJECT DEBRIS (FOD) IN AIRCRAFT MOVEMENT AREAS ON A 24 HOUR BASIS. TRUCKS AND EQUIPMENT SHALL HAVE ALL LOOSE DIRT, ROCKS AND OTHER MATERIALS REMOVED WHEN ACCESSING THE AOA OR WHEN LEAVING A WORK AREA. THIS WILL BE CONTINUOUSLY MONITORED BY THE PORT AND IF THE CONTRACTOR'S METHOD IS NOT REMOVING THE DEBRIS ADEQUATELY TO MEET SAFETY REQUIREMENTS, THE CONTRACTOR WILL BE REQUIRED TO IMPROVE THEIR METHOD OR UTILIZE A NEW METHOD AT NO ADDITIONAL COST TO THE PORT.

10. THE CONTRACTOR SHALL PROVIDE TRUCK WASHES, RUMBLE STRIPS, STABILIZED CONSTRUCTION ENTRANCES, SHAKERS, OR WHATEVER MEANS ARE NECESSARY TO PREVENT ANY FOREIGN MATERIAL FROM BEING DEPOSITED ON PUBLIC ROADS. SEE SHEETS C-7,C-8, AND C-9, TESC PLAN.

SPECIFICATIONS:

DIVISION 1 - GENERAL REQUIREMENTS

Section 01110 - Operational Safety on Airports During Construction

PART 1 - GENERAL

1.11 REQUIREMENTS AND REGULATIONS AFFECTING THE CONDUCT OF THE WORK:

E. Debris:

1. Debris Control: When Airport roadways and public highways are used in connection with construction under this contract, the Contractor shall remove all debris cluttering the surfaces of such roadways. Trucks and equipment shall have all accumulated dirt, mud, rocks, and debris removed before accessing the AOA and when leaving the work area. Loads shall be struck flush and secured to prohibit loss of material. If spillage occurs, such roadways shall be swept clean immediately after such spillage to allow for safe operation of vehicles as determined by the Engineer. If the Contractor is negligent in cleanup and Port forces are required to perform the work, the expense of said cleanup shall be paid by the Contractor.

2. No loose material or waste (FOD), capable of causing damage to aircraft or capable of being ingested into jet engines may be left in the working area on or next to runways, taxiways, ramps, or aprons. The Contractor shall direct special attention to all areas which are operational to aircraft during construction. These shall be kept clean and clear of all materials or debris at all time. Any food waste shall be promptly cleared to prevent attracting birds and animals.

F. Existing Airport Pavements and Facilities: The Contractor shall preserve and/or protect existing and new pavements and other facilities from damage due to construction operations. Existing pavements, facilities, utilities, or equipment which are damaged shall be replaced or reconstructed to original strength and appearance at the Contractor's expense. The Contractor shall take immediate action to replace any damaged facilities and equipment and reconstruct any damaged area which is to remain in service.

PART 3 - EXECUTION

3.02 NOISE CONTROLS:

A. At all times keep objectionable noise generation to a minimum by:

1. Equip air compressors with silencing packages.

2. Equip jackhammers with silencers on the air outlet.

3. Equipment that can be electrically driven instead of gas or diesel is preferred. If noise levels on equipment cannot reasonably be brought down to criteria, listed as follows, either the equipment will not be allowed on the job or use time will have to be scheduled subject to approval of the Engineer.

B. Objectionable noise received on neighboring (non-Port-owned) properties is defined as any noise exceeding the noise limits of State Regulations (WAC 173-60-040) or City ordinance, as stated below, or as any noise causing a

public nuisance in residential area. as determined by the Port and community representatives. or by the nuisance provisions of local ordinances.

1. The noise limitations established are as set forth in the following table after any applicable adjustments provided for herein are applied:

	RECEIVING PROPERTY		
Noise Source	Residential	Commercial	Industrial
Airport	50 dBA	65 dBA	70 dBA

2. Between the hours of 10:00 p.m. and 7:00 a.m. on weekdays and 10:00 p.m. and 9:00 a.m. on weekends the noise limitations above may be exceeded for any receiving property by no more than:

   a. Five dBA for a total of 15 minutes in any one hour period: or

   b. Ten dBA for a total if 5 minutes in any one hour period: or

   c. 15 dBA for a total of 1.5 minutes in any one hour period.

C. In addition to the noise controls specified: demolition and construction activities conducted within 1,000 feet of residential areas may have additional noise controls required.

D. The Contractor's operation shall at all times comply with all County and City requirements.

3.03 DUST CONTROL:

Due to the type of work involved in this project, dust control will be extremely critical and continuously monitored. The Contractor shall provide whatever means is necessary to keep dust to an absolute minimum during working hours, non-working hours, and any seasonal shut down time periods. The Contractor's method for dust control will be continuously monitored and if the method is not controlling the dust to the satisfaction of the Port, the Contractor will be required to improve the method or utilize a new method at no additional cost to the Port.

The Contractor shall keep a vacuum sweeper truck and water truck on-site at all times during working and non-working hours and shall maintain the site free from dust and objectionable debris. The Contractor's access route along the airport perimeter road shall be swept and cleaned continuously. During the periods of time that there is no construction activity (between workshifts), the vacuum sweeper truck and water truck must be ready with on-site Contractor's personnel available to respond immediately to a dust or debris problem as identified by Airport Operations staff or the Engineer. At no time shall there be more than a 10 minute response time to calls concerning dust/debris

problems during work hours and a 90 minute response time at all times on a 24 hour per day basis. The Contractor shall provide whatever means are necessary to prevent foreign object debris (FOD) in aircraft movement areas and provide construction area generated dust control on a 24 hour basis.

Trucks and equipment shall have all loose dirt, rocks and other materials removed when accessing the AOA or when leaving a work area. The Contractor shall be responsible for the prevention and control of Foreign Object Damage (FOD). The Contractor shall develop and submit to the Port for review a positive method to meet these requirements, i.e., truck wash, rumble strips, shakers, etc. The method instituted will be continuously monitored by the Port and if the Contractor's method is not removing the debris adequately and controlling FOD, the Contractor will be required to improve the method or utilize a new method at no additional cost to the Port.

3.04 POLLUTION CONTROL:

Prevent discharge of contaminated water from the site from any source, including runoff, from entering onto adjacent areas and properties.

3.05 WATER CONTROL:

A. Provide as necessary to meet all Federal, State and local authority requirements and regulations.

B. Existing materials throughout the project area are moisture-sensitive. Control of stormwater runoff during the Contractor's operations will be essential.

C. Refer to Sections 01300 and 01565 for submittals required for Temporary Erosion and Sedimentation Controls.

D. The Contractor shall install such temporary piping, connections, manholes, catch basins or other improvements as required to ensure drainage and erosion control of each work area during construction.

3.06 SAFETY PROVISIONS:

B. The Contractor shall furnish flagmen to protect the public outside of Port property. The actions, equipment and position of flagmen when required, shall be the sole responsibility of the Contractor.

3.08 TRAFFIC CONTROL:

A. Public Safety Convenience: The Contractor shall conduct all operations with the least possible obstruction and inconvenience to the Port, its tenants and the public. The Contractor shall have under construction no greater amount of work than can be prosecuted properly with due regard to the rights of the Port tenants and the public.

1. Permit traffic to pass through the work area with least possible inconvenience and delay.

2. Maintain existing roadways and traffic routes within, and adjacent to, the work area.

3. Keep existing traffic signals, signing and lighting systems in operation as the work proceeds.

4. Maintain access to entrances, driveways, loading docks, buildings, etc., along the line of work. Provide temporary approaches and/or bridge crossings as necessary to maintain access.

5. Minimize "drop-offs" and provide temporary ramping, if required.

6. Provide anchored, steel plate covers over trenches as required to maintain traffic flow

7. Provide and maintain all walkways, access ramps, entrances and related facilities to meet the requirements of the Americans with Disabilities Act (ADA) of 1990.

B. Contractor Responsibility: The Contractor shall be responsible for providing adequate safeguards, safety devices, protective equipment and all other actions as necessary to protect the life, health and safety of the tenants, public, Port employees and other users of the Port facility, and to protect property, in connection with the performance of work covered by the Contract.

C. Traffic Control Devices:

1. The Contractor shall provide and maintain flaggers, signs and other traffic control devices as required to warn and protect the public, tenants and Port employees from injury or damage as a result of the Contractor's operation.

2. No work shall be done on or adjacent to any vehicular or pedestrian roadway/walkway until all necessary signs and traffic control devices are in place.

D. Conformance to Established Standards:

1. Flagging, signs and all traffic control devices shall conform to WAC 296-155-300, -05, -310 and -315 and specific regulation or requirements of the City of SeaTac.

2. Flaggers must meet the requirements of the State of Washington, Department of Labor and Industries (WAC 296-155-305). All workers engaged in flagging or traffic control shall wear reflective vests and hard hats.

E. Responsible Representative: The Contractor shall appoint one employee as the responsible representative in charge of traffic control and safety. The appointed representative shall have authority to act on behalf of the Contractor and shall be available, on call, twenty-four

hours a day throughout the period of construction for the Contract. A twenty-four hour phone number shall be provided to the Engineer for use in case of an off-hour emergency. The Contractor shall provide immediate response to correct any and all deficiencies upon notification.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01565 - Temporary Erosion and Sedimentation Controls

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

A. This Section describes project required temporary erosion and sedimentation controls.

B. In order to comply with the requirements of this section, the Contractor shall:

1. Develop and submit for approval a Contractor Erosion Control Plan (CECP).

2. Designate a Sedimentation and Erosion Control Representative (SEC) responsible of insuring compliance with the requirements of this Section.

3. Coordinate and schedule the installation of the controls, features, and best management practices (BMPs) identified in the Contractor Erosion Control Plan. Coordinate the erosion and sedimentation control work with the other contract work in order to provide continuous erosion and sedimentation control and protection.

4. Maintain the installed BMPs and controls for the duration of the project or as indicated in the contract documents.

5. Provide periodic inspection and response to ensure that the installed BMPs function during any and all storm events. Contractor shall be responsible for erosion and sedimentation control 24 hours a day, seven days a week, including holidays.

6. Remove all temporary controls at the end of the project or when no longer needed as determined by the Engineer.

C. Conduct project operations in accordance with the State National Pollution Discharge Elimination System (NPDES) permit for storm water discharges associated with construction activity.

D. No on-site grading or earthwork shall proceed until the Engineer has reviewed the Contractor's Erosion and Control Plan (CECP) and the requirements for erosion and sedimentation control have been implemented.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions and General Requirements, apply to this work as if specified in this section. Work and requirements related to this section are described throughout the contract documents, and in:

A. Section 01300 - Submittals

B. Section 01500 - Temporary Facilities and Controls

C. Section 02201 - Excavation and Embankment (FAA)

D. Section 02721 - Pipe for Storm Drains and Culverts (FAA)

E. Section 02722 - Manholes, Catch Basins, Inlets and Inspection Holes (FAA)

1.03 REFERENCES

A. Storm Water Management Manual for the Puget Sound Basin (Volumes I and II). Washington State Department of Ecology, dated July 1992.

B. WAC 173-201A Water Quality Standards for Waters of the State of Washington.

C. NPDES and State Waste Discharge Baseline General Permit for Storm Water Discharges Associated with Industrial Activities, dated November 8, 1992.

D. Waste Disposal Methods & Erosion/Sedimentation Control Methods - AGC Water Quality Manual, published by Associated General Contractors of Washington, dated October 1990.

1.04 PERMITS:

Conduct project operations in accordance with applicable sections of the NPDES permit for Sea-Tac International Airport.

Construction activities shall be conducted in such a manner as to meet all NPDES or other applicable regulations.

1.05 SEDIMENTATION AND EROSION CONTROL REPRESENTATIVE (SEC):

A. Responsible Representative: The Contractor shall designate one employee as the responsible representative in charge or erosion and sedimentation control. The Sedimentation and Erosion Control Representative (SEC) shall have authority to act on behalf of the Contractor and shall be available, on call, 24 hours a day throughout the period of construction. A 24 hour phone number shall be provided

to the Engineer. The Contractor shall provide immediate response to correct all deficiencies.

B. Erosion Control Sediment: Within 30 days of the Notice of Award, the Contractor's Superintendent and Sedimentation and Erosion Control Representative shall attend a three (3) hour presentation on erosion and sediment control. Contact Scott Tobiason at 439-6618. The presentation will take place during normal business hours at Sea-Tac Airport.

1.06 SUBMITTALS.

A. Submit the name of the Sedimentation and Erosion Control Representative (SEC) per Section 01300 - Submittals.

B. Submit the Contractor Erosion Control Plan (CECP) in accordance with Section 01300 - Submittals.

C. Submit manufacturer's literature on all manufactured items incorporated in the Contractor Erosion Control Plan.

D. Submit material samples for the following products:

1. Oil absorbent pads.

2. Geotextile fabric.

3. Erosion control cover material.

E. Submit additional materials samples requested by the Engineer.

1.07 CONTRACTOR'S EROSION CONTROL PLAN (CECP) FORMAT:

A. Develop and submit a Contractor Erosion Control Plan (CECP). The CECP shall include all the erosion and sedimentation control features required by:

1. The project specifications.

2. The Temporary Erosion and Sedimentation Control Plan (TESCP) as shown on the contract documents.

3. Storm Water Management Manual for the Puget Sound Basin (Volumes I and II). Washington State Department of Ecology, dated July 1992.

4. Regulatory agencies and such additional controls made necessary by the Contractor's operation.

B. The Contractor Erosion Control Plan (CECP) shall consist of three parts:

1. Drawings—Showing the placement and phasing of the required and Contractor-selected controls. Phasing shall identify the erosion and sedimentation control methods during construction sequences.

2. A schedule—Coordinated with the required progress schedule, that details the installation of the controls.

3. A narrative description—Covering the implementation and maintenance of the erosion and sediment controls.

C. Select from the best management practices (BMPs) described in Volume II of Ecology's Storm Water Management Manual for the Puget Sound Basin, or other equivalent and appropriate BMPs to provide the protection required for the Contractor operations.

D. Detail maintenance and inspection procedures and schedules to be used of the life of the project in the CECP narrative.

E. The Contractor shall maintain a copy of the CECP and all references stated in Article 1.03 at the job site.

1.08 ADMINISTRATIVE REQUIREMENTS:

A. Applicability: The provisions of this section shall apply to Contractor, subcontractors at all tiers, suppliers, and all others who may have access to the work site by way of Contractor's activities.

B. Exclusion from Claims: Impacts caused by failure of Contractor, subcontractors and others on-site by way of Contractor's activities to comply, implement and maintain the provisions of this section shall not be cause for a claim of delay or increased costs to the Port.

PART 2 - PRODUCTS

2.01 GENERAL

All products used to construct the Contractor selected BMPs shall be suitable for such use and submitted to the Engineer for approval.

2.02 OIL ABSORBENT PADS:

Oil absorbent pads shall be 3M Brand Oil Sorbent as manufactured by Occupational Health and Safety Products Division/3M, St. Paul, Minnesota, or equal. The pads shall be sheets, approximately 18 inches by 18 inches thick, 3M Model No. T-156, or equal.

PART 3 - EXECUTION

3.01 GENERAL:

A. No grading or earthwork shall be started before the CECP is submitted and the Best Management Practice (BMPs) erosion and sedimentation control items are in place and functioning.

B. BMPs once installed shall be maintained for the life of the project or until their erosion and sediment control function has been completed.

C. BMPs shall be reviewed after each major storm event.

D. BMPs shall be maintained during all suspensions of work and all non-work periods.

3.02 CONTRACTOR EROSION AND SEDIMENTATION CONTROL REQUIREMENTS:

The Contractor shall ensure that the following requirements are satisfied:

A. Clearing and Easement Limits: Clearing limits, sensitive/critical areas and their buffers, trees, drainage courses, and wetland areas shall be clearly delineated in the field.

B. Protection of Adjacent Areas: Extreme care shall be taken to prevent sediment deposition or contamination of the golf course property, wetland areas, existing drainage courses, or public streets. In the event that these areas suffer degradation in the opinion of the Engineer, the Engineer may stop construction activities until the situation is rectified.

C. Timing and Stabilization of Sediment Trapping Measures: BMPs intended as sediment trapping measures shall be installed and functional before land disturbing activities take place.

D. Cut and Fill Slopes: Cut and fill slopes shall be constructed in a manner that will minimize erosion.

E. Controlling Off-Site Erosion: Properties and waterways downstream shall be protected from erosion due to increases in the volume, velocity and peak flow rate of storm water from the project site.

F. Stabilization of Temporary Conveyance Channels and Outlets: All temporary on-site conveyance channels shall be designed, constructed and stabilized to prevent erosion from the expected velocity of flow from a 2 year, 24 hour frequency storm for the developed condition.

G. Underground Utility Construction: The construction of underground utility lines shall be subject to the following criteria:

1. For any single trench excavation, no more than 500 feet of trench shall be opened at one time.

2. Where consistent with safety and space considerations, excavated material shall be placed on the uphill side of trenches.

3. Trench dewatering devices shall discharge into a sediment trap or sediment pond.

H. Construction Access Routes: Where construction vehicle access routes intersect paved roads, provisions shall be made to minimize the transport of sediments (mud or dust) onto the pave road. Where sediment has been transported onto a road surface the roads shall be cleaned thoroughly, and as a minimum, at the end of each day.

Sediment shall be removed from roads by shoveling or sweeping and be transported and place within the fill area. Coordinate the sediment disposal area with Engineer. Street washing shall be allowed only after sediment has been removed.

The Contractor's access route along the airport perimeter road shall be swept and cleaned continuously.

I. Removal of Temporary BMPs: All temporary erosion and sediment control BMPs shall be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Disturbed soil areas resulting from removal shall be permanently stabilized.

J Dewatering Construction Sites: Dewatering devices shall discharge into a sediment trap or sediment pond.

K. Control of Pollutants Other Than Sediment on Construction Sites:

1 All pollutants other than sediment that occur on-site during construction shall be handled and disposed of in a manner that does not contaminate storm water.

2. Fueling of Contractor's equipment: perform away from storm drain inlets in areas designated by the Contractor and reviewed by the Engineer.

3. Extreme care shall be taken to prevent fuel spills. Contractor's representative shall be present at all times when equipment is being fueled. In the event of a spill the Port of Seattle Fire Department shall be called by way of the Engineer.

4. Place oil absorbent pads and drip pans beneath the vehicle being fueled and under parked vehicles (overnight and otherwise).

5. Provide and maintain absorbent materials, shovels, and five gallon buckets at the fueling area for spill cleanup.

6. No vehicle maintenance other than emergency repair is to be performed on the project site. No engine fluids are to be stored on the project site.

L. Inspection and Maintenance: All temporary BMPs shall be inspected, maintained, and repaired as needed to ensure continued performance of their intended function. All maintenance and repair shall be conducted in accordance with the submitted plan. All on-site erosion and sediment control measures shall be inspected at least once every 7 days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24 hour period. An inspection report file shall be maintained.

M. BMPs identified in the CECP and the TESCP shall also apply to Contractor staging and equipment areas.

DIVISION 1 - GENERAL REQUIREMENTS

Section 01595 - Haul Routes and Disposal

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK:

The work of this section includes the requirements for the hauling and disposal of demolition debris, the hauling of Zone I, Zone II, and Zone III material to the project sit and the hauling of crushed aggregate, asphalt concrete pavement, and other construction materials to the project site.

1.02 RELATED WORK SPECIFIED ELSEWHERE:

The provisions and intent of the Contract, including the General Conditions, Supplementary Conditions and General Requirements, apply to this work as if specified in this section. Work related to this section is described in:

A. Section 02050 - Demolition

B. Section 02201 - Excavation and Embankment (FAA)

C. Section 02232 - Crushed Aggregate Base Course (FAA)

D. Section 02513 - Asphalt Concrete Pavement

1.03 QUALITY ASSURANCE AND THE HAUL ROUTE SUPERVISOR:

The work of this section shall be under the direction of a Haul Route Supervisor. The Haul Route Supervisor shall be a supervisory person well-trained and experienced in handling excavated materials both with "on-highway" and "off-highway" equipment. The Haul Route Supervisor shall be completely familiar with the approved haul routes. The Haul Route Supervisor shall document all activities and answer all complaints regarding spillage, traffic violations, property damage claims, safety, equipment breakdowns, and the terms and conditions of required bonds and permits. The Haul Route Supervisor need not be a full-time employee dedicated to this project. The responsibilities may be shared with other project personnel provided the above-stated qualifications are satisfied.

1.04 SUBMITTALS:

A. General: Submittals shall be in accordance with Section 01300 - Submittals.

B. - Haul Route Supervisor: Submit the name of the Haul Route Supervisor in accordance with Section 01300 - Submittals.

C. Project Record Submittals:

1. Fill Material Borrow Site and Haul Route: Before any material is loaded at the fill material source borrow site, the Contractor shall submit the following information:

   a. Haul Route to the site and return.

   b. Copies of permits, agreements, or letter of understanding from regulatory agencies, towns, cities, or other governmental entities.

   c. Description, owner, vehicle number, and license number of each hauling vehicle.

   d. Each vehicle operator's name and driver's license number.

2. Haul Route Activities: For all haul activities provide documentation as to the quantity, date and excavation location of the material on a daily basis. This shall be included in a "Job-Site Field Report" prepared by the Haul Route Supervisor and signed by the Engineer and the Contractor's superintendent.

3. Project Completion: At project completion, provide:

   a. Copies of test reports.

   b. Copies of permits.

   c. Copies of correspondence from regulatory agencies.

   d. Vehicle log book(s).

   e. All other submittals and documents as required by this section.

1.05 JOB CONDITIONS:

Once on the project site the vehicle operator shall conform to the agreed upon operational procedure established by the site operator and the Contractor. The procedure shall include but not be limited to, traffic control, turn-outs, turn-arounds, queue time, truck washing facilities, gate security, etc.

PART 2 - PRODUCTS - NOT USED

PART 3 - EXECUTION

3.01 BORROW SITE LOADING:

The material shall be loaded into the hauling vehicles under the direction of the Contractor's Haul Route Supervisor specified in Article 1.04 of this Section.

3.02 TRANSPORTATION OF WASTE MATERIALS:

The hauling vehicle shall proceed to the project site via the approved haul route. Any deviation from the approved haul route shall be approved by the Haul Route Supervisor.

3.03 PROJECT SITE UNLOADING:

Upon arriving at the project site, the operator shall conform to the operational procedures for unloading the material. After unloading the vehicle shall be washed, swept, or otherwise cleaned to the satisfaction of the Contractor and all regulatory agencies having jurisdiction. Refer to Section 01500 - Temporary Facilities and Controls and Section 01565 - Temporary Sedimentation and Erosion Control.

3.04 DOCUMENTATION:

Documentation of haul activity shall include, but not be limited to:

1. Documentation as to the quantity, date, and excavation location of the material.
2. Copies of test reports.
3. Copies of permits.
4. Copies of correspondence from regulatory agencies.
5. A daily "Job-Site Field Report" prepared by the Engineer and signed by both the Resident Engineer and the Contractor's Superintendent.

PROJECT DRAWINGS

A. **DELETE** Drawing STIA-9602-C-10 and
REPLACE with Drawing STIA-9602-C-10 REV. A

B. **REVISE** Note o on Drawing STIA-9602-C-1 to read as follows:

o. All construction traffic between the hours of 0700 and 1900, Monday through Saturday shall enter and exit the site from/to the west on S. 188th Street via the Contractors access as indicated on the drawing. The Contractor shall construct improvements that provide access to the site from S. 188th Street. See sheet C-6 and C-32. The exact location of the gate will be determined by the Engineer. Construction traffic for the blast pad paving shall access the site from S. 188th Street through Gate E-5 via the Contractors access route as indicated on the drawing. All traffic shall enter/exit the site from/to the west between 0700 and 1900 Monday through Saturday.

Any gate the Contractor uses shall be locked after entering or exiting or manned by a Port of Seattle gate guard. See Specification Sections 01110 and 01540 for specific requirements. These gates will be used by Port of Seattle and FAA