

**Appendix E**  
**Summary of Mitigation Measures**  
**and Construction Requirements**

**April 2008**



## Mitigation Measures and Construction Requirements

The following measures are intended to ensure that all potential impacts from the proposed Denny Middle School / Chief Sealth High School Project are minimized or eliminated:

### Erosion Control

Implementation of the following measures would reduce or control erosion caused by construction activities associated with the Denny/Sealth Project:

1. All Temporary Erosion and Sedimentation Control (TESC) measures for a given area to be graded or otherwise worked should be installed prior to commencement of construction activity within that area.
2. Surface runoff and discharge should be controlled during and following development. Under no circumstances should concentrated discharges be allowed to flow over significant slopes.
3. Soils that are to be reused around the site should be stored in such a manner as to reduce erosion from the stockpile. Protective measures may include covering with plastic sheeting, the use of low stockpiles in flat areas, or the use of straw bales/silt fences around pile perimeters. These measures are required for all earthwork taking place between October 1 and March 31.
4. During the wetter months of the year, or any time large storm events are predicted, each work area should be stabilized so that if showers occur, the work area can receive the rainfall without excessive erosion or sediment transport. During the winter months, areas that are to be left un-worked for more than two days should be mulched or covered with plastic. During the summer months, stabilization will usually consist of seal-rolling the subgrade. This stabilization process also includes establishing temporary storm water conveyance channels through work areas to route runoff to the approved treatment facilities.
5. Adequate ground-cover measures, access roads, and staging areas shall be provided on-site to minimize the transfer of soils during earthwork activities. A site maintenance plan should be in place in the event storm water turbidity measurements are greater than the Ecology standards.
6. All disturbed areas should be revegetated as soon as possible. If it is outside of the growing season, the disturbed areas should be covered with mulch, as recommended in the erosion control plan.

On-site erosion control inspections and turbidity monitoring, if required, should be performed in accordance with Ecology requirements. Temporary and permanent erosion control and drainage measures should be adjusted and maintained, as necessary, for the duration of construction.

## **Air Quality**

The contractor chosen for the proposed project would be required to comply with the Puget Sound Clean Air Agency (PSCAA) regulations. Regulations that apply to the proposed project include Regulation I, Section 9.11 prohibiting the emission of air contaminants that would or could be injurious to human health, plant or animal life, or property; and Regulation I, Section 9.15 prohibiting the emission of fugitive dust, unless reasonable precautions are employed to minimize the emissions.

Asbestos abatement required for the project will be accompanied by third party air monitoring and abatement oversight to ensure compliance with applicable standards.

Additional measures that could be incorporated to minimize impacts to air quality from construction activities include:

1. Watering temporary dirt driveway and construction surfaces to control dust, temporary ground covers, sprinkling the project site with approved dust palliatives, or use of temporary stabilization practices upon completion of grading.
2. Wheel-cleaning stations would be provided to ensure construction vehicle wheels and undercarriages do not carry excess dirt from the site onto adjacent roadways.
3. Streets would be regularly cleaned to conform to City of Seattle requirements to ensure excess dust and debris inadvertently transported from the construction site to adjacent roads are removed.

Construction would be planned to minimize exposing areas of earth for extended periods.

## **Water Quality**

During construction, BMPs would be implemented to ensure that sediment originating from disturbed soils would be retained within the limits of disturbance. BMPs may include installation of a rock construction entrance, catch basin filters, interceptor swales, hay bales, sediment traps, and other appropriate cover measures. BMPs specific to the site and project will be specified by the Seattle School District in the construction contract documents that the construction contractor will be required to implement.

## **Energy**

Some or all of the following energy conservation equipment may be utilized for operation of the Denny/Sealth project:

1. High efficiency condensing boilers and water heaters – equipment that operates with lower gas emissions and less fuel consumption than conventional boilers. It operates at a higher efficiency by recovering heat that would otherwise be lost up the flue (pipe that releases equipment exhaust).

2. Variable speed drives on water distribution pumps – saves energy by providing the ability to modulate the output of the water distribution pumps to satisfy changing hot water needs.
3. Radiant floor heating – a heating system that will result in energy savings from lower thermostat settings. Students, staff and visitors are likely to be comfortable at lower air temperatures because of the elevated mean radiant temperature, the lack of significant airflow, and the delivery of heat at floor level.
4. Natural instead of mechanical ventilation – reduces the overall use of electricity.

Demand based mechanical ventilation and variable speed drive on fans. This will help minimize ventilation loads and fan energy consumption.

## **Hazardous Materials**

All renovation and demolition work for the Denny/Sealth Project will comply with Puget Sound Clean Air Agency regulations (Regulation III, Article 4, Asbestos Control Standards), Department of Ecology standards (air quality standards per WAC 173-400 to 173-495 general occupational health standards per WAC 296-62) and Seattle Municipal Code requirements (SMC 21.36.028, Asbestos material and asbestos-containing waste material).

Demolition of the Denny Middle School structures will create approximately 400 cy of asbestos debris, which will be stored and disposed of separately from the rest of the demolition debris. In addition, a small portion of the grading activities may potentially consist of excavation and treatment of petroleum-contaminated soils associated with the heating oil tank to be removed at the Chief Sealth High School site, and will be handled and disposed of in accordance with all applicable regulations. All other construction proposed as part of the project will comply with applicable local, regional, state, and federal requirements for use of non-hazardous construction materials.

## **Noise**

The only new significant noise source resulting from the proposed project would be from temporary construction activities. Construction activities would be restricted to hours and levels designated by the Seattle Noise Control Ordinance (SMC 25.08.425). If construction activities exceed permitted noise levels, the District would instruct the contractor to implement measures to reduce noise impacts to comply with the Noise Ordinance, which may include additional muffling of equipment.

## **Lighting**

If the District chooses to illuminate the tennis courts and softball field at the Denny Middle School by installing light poles which exceed 30 feet in height, an engineer's report would be submitted to the City demonstrating compliance with Seattle standards on reducing light and glare impacts.

Existing and proposed landscaping along the boundaries of the site would screen much of the lighting from the surrounding neighborhood.

## **Cultural Resources**

In the event that archaeological resources are unexpectedly exposed during excavation or grading on the site, all construction would be temporarily halted in the immediate vicinity of activity and the City and the Washington State Department of Archaeology and Historic Preservation (DAHP) would be notified. Construction activity would not resume until the City, DAHP, and a professional archaeologist had been consulted.

## **Transportation**

Students in the existing programs at Chief Sealth High School would be relocated to the Boren Interim Site during the first two years of construction; therefore, there would be no school traffic at the Chief Sealth High School site during the initial phase of construction. Once the high school students return in 2010, construction access would be limited to SW Kenyon Street. A construction management plan (CMP) addressing traffic and pedestrian controls would be prepared. The CMP would address truck routes, lane closures, sidewalk closures, bus-stop relocations, parking disruptions, and site access, where required. To the extent possible, the CMP should direct trucks along the shortest route to arterials and away from residential streets to avoid unnecessary conflicts with resident and pedestrian activity.

Several measures have been incorporated into the project design to improve overall transportation, access, and/or parking conditions in the project site vicinity. The following measures address potential impacts associated with the proposed egress driveway onto SW Thistle Street (for bus use only) and the existing north driveway onto SW Kenyon Street:

1. To minimize/avoid driver confusion and prevent vehicles entering the wrong way on the bus exit lane, both driveways should be well marked and signed. "Do Not Enter" signs should be placed facing SW Thistle Street at the bus exit point. Parking entry signs and pavement parking should be included for the automobile entrance.
2. Work with Seattle Department of Transportation (SDOT) to control the SW Kenyon Street intersection with 26<sup>th</sup> Avenue SW and the north driveway. It is recommended that stop signs be placed on the northbound and southbound approaches to SW Kenyon Street.

The following mitigation measures are recommended to address potential impacts associated with increased traffic volumes generated by the project:

3. Encourage bus drivers to arrive at the site using SW Thistle Street, 27th Avenue SW, and SW Kenyon Street to minimize new impacts from bus traffic on local residential streets.
4. In the first year of operation, and each September thereafter, Seattle Public Schools should review on-site parking, site access, pick-up/drop-off activities, and bus loading

operations and determine if changes are desired. Changes that could be considered include:

- a. Notifying parents through school newsletters or other media about appropriate locations for student drop-off and pick-up. Parents should be reminded regularly not to park in bus loading areas or block crosswalks.
- b. Using school staff or volunteers in the parking lots during arrival and dismissal times to assist children and parents with arrival and departure, and to help reduce vehicular/pedestrian conflicts.

The following mitigation measures are recommended to address potential impacts associated with the increase in on-street parking demand:

5. Develop an agreement between Denny Middle School and Chief Sealth High School to avoid scheduling events with large attendance on the same day/evening. On days/evenings with large events, all on-site parking should be made available to attendees and participants.
6. For large events, provide signage or other notification that off-street parking is available in the large parking lot adjacent to the Southwest Sports Complex.

Redevelopment of the Denny Middle School site and relocation of 180 parking spaces from the Southwest Sports Complex parking lot to the northwest corner of the Denny Middle School site could result in increased use of on-street parking capacity during large events at the athletic complex.

7. Work with the Southwest Community Center to share parking during large events at the athletic complex. The proposed western lot may provide more reliable capacity for the community center during large events, while the eastern lot (currently used by the community center) could be better suited for the athletic facility. Signage and other notification could be used to direct drivers to the appropriate parking locations for each of the uses during events at the athletic complex, the community center, and the schools. Drivers could be encouraged, through District communications, to use the off-street lots instead of on-street parking in the residential neighborhood.

In addition, the portions of the Denny/Sealth Project that would not comply with the parking requirements outlined in the SMC will be required to follow the departure process.

## **Utilities**

The contractor would coordinate with utility purveyors to address all existing utilities prior to proceeding with construction activity. Any active underground pipes encountered would be protected. Should undocumented piping or other utilities be encountered, the utility purveyor would be immediately contacted prior to resuming construction activity near the utility. Storm drains would be maintained and protected as catch basins.