April 5, 2006

"Citizens, business and local government; a community commitment to our future."

Snohomish County Special Hearing Examiner
Snohomish County Planning and Development Services
County Administration Building East
3000 Rockefeller Avenue
Mail Stop 604
Everett, WA 98201

and

King County
Attn: Michael Popiwny (King County Brightwater Group)
22509 Route 9 SE
Woodinville, WA 98072

Re: File No. 04-109621BG
Brightwater Memorandum(s)
Phase/Task III; Permitting – Binding Site Plan (3.18.05) (File Number 04-109621-BG)

Purpose: To provide an overview of the binding site plan issues that are of concern to the City of Woodinville. The format is to identify the source of Brightwater information and compare that information to current regulatory code models and or to specific needs the City desires in the binding site plan agreement.

Noise in this commentary is viewed as a short and long-term impact on the adjacent properties.

Technical Memorandum dated October 26, 2005
Phase/Task III: Permitting - Binding Site Plan (3.18.05)
Subject: Noise Model

Page 4, last paragraph, "However, without a variance, noise exposure levels from the plant are required to comply with permissible code limits".

Page 5, Noise Model bullets
Bullet 4, Regardless of current design status, "Reclaimed Water Pump Station (999) has not been designed yet, and therefore this facility element has been ignored in the current noise model".

Comment: Should be included with the final design, and the entire plant still must comply with noise limits in Snohomish County Code Section 10.01, but not be allowed the exemptions provided in Code Section 10.01.

Page 5, Noise Model bullets
Bullet 12, "Energy building (750) no longer has co-generation component. Standby generator will be 600kW. The building will also contain the Digester boilers."

Comment: This statement seems to be inconsistent with information provided in the Treatment Plant Approach to Seismic Design Phase/Task III Memorandum dated October 26, 2005.

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Snohomish County Code, Title 10 Public Peace, Safety and Morals
Chapter 10.01 Noise Control

"Section 10.01.050 Exemptions
(1) Sounds Exempt at All Times. The following sounds are exempt, at all times, from the maximum permissible sound levels established in SCC 10.01.030{2} and 10.01.030(3), except that such sounds produced by operations or activities requiring the issuance of a Conditional Use Permit or a SEPA determination shall only be exempt in so far as the conditions of the Conditional Use Permit or SEPA determination are being complied with.

(f) Sounds created by warning devices, excluding back–up beepers, provided the devices do not operate continuously for more than five minutes per incident.
(o) Sounds created by construction equipment, including special construction vehicles, at temporary construction sites, provided the receiving property is located in a commercial or industrial district.
(q) Sounds created by back-up beepers, provided that at night these sounds shall not be allowed to exceed the noise level necessary to comply with WAC 296."

Comment: Although this is not a Conditional Use Permit, the binding site plan should condition the operating plant protocols for indefinite periods of time. Rural and residential zoning are in close proximity. Conditioning the site operations to regular day time and night time industrial noise transfer to adjacent receiving properties would be appropriate.

"(2) Sounds Exempt During Daytime Hours. The following sounds are exempt, during daytime hours, from the maximum permissible sound levels established in SCC 10.01.030(2) and 10.01.030(3) except that such sounds produced by operations or activities requiring the issuance of a Conditional Use Permit or a SEPA determination shall only be exempt in so far as the conditions regarding noise of the Conditional Use Permit or SEPA determination are being complied with.

(a) Sounds created by construction equipment, including special construction vehicles, at temporary construction sites.
(d) Sounds created by the installation or repair of essential utility services."

"(4) Exemptions from the Reduction for Periodic, Pure Tone and Impulsive Sound. The following sounds are exempt from the reduction for periodic, pure tone and impulsive sound provided in SCC 10.01.030 (3) © except that such sounds produced by operations or activities requiring the issuance of a Conditional Use Permit or a SEPA determination shall only be exempt insofar as the conditions regarding noise of the Conditional Use Permit or SEPA determination are being complied with:

(b) Sounds created by existing stationary equipment used in the conveyance of water by a utility.
(c) Sounds created by existing industrial activities; provided, that such exemption shall pertain only to the additional 5dB(A) nighttime component of the reduction for periodic, pure tone and impusive sound, and provided further that such exemption shall only extend to three years after the effective date of this chapter."

Comment: Sound created during the construction of this plant, (It will take years to complete this project) should be conditioned to not exceed other limits in the area.)

Sounds created during normal plant operations should be limited to not exceed other limits in the area. Because this is an essential facility is not justification for noise transfer above other business or residential limits

Comment: The permissible code limits In Snohomish County Code Section 10.01 allow a wide margin of noise production for essential facilities. This facility should be required to comply with noise production similar or identical to any other commercial or industrial

facility, it should not be granted any variances, modified standards permit (SCC Section 10.01.060), or exemptions, either during construction or during normal plant operation.

References to Washington State Building Code in several locations of presented documents stating the design is to follow the Washington State Building Code IBC 2003.

Comment: It is our understanding that Binding Site Plans cannot bind State laws. The State Building Code generally is readopted in three year cycles. (Therefore, every three years the State codes are updated, the next code cycle is near, and could occur early next year). The correct presentation in documents representing the project design should be "When construction permits are applied for, the State Construction Code which is adopted and in force at that time will be followed. It is quite possible that some structures could be issued permits in the 2003 IBC and other structures in the 2006 or 2009 codes.

Memorandum dated October 26, 2005
Phase/Task III: Permitting - Binding Site Plan (3.18.05)
Subject: Treatment Plant Emergency Spill Containment

Page 4; "Detention ponds that would receive the bulk of the spillage {*if the tank failure or ruptures*] from the processing tankage or chemical area containment areas (ponds A,B,and D) will contain a shut off valve or gate to allow isolation of the contents in the ponds and prevent discharge to Little Bear Creek."

Comment: Isolation is needed to protect the stream corridor. Please also apply this same level of control to the site under drain system.

Page 5, Plant Underdrain System.
"Areas beneath the liquids and solids processing facilities will be provided with a passive underdrain system that is designed to assure groundwater will not apply uplift or lateral pressure on the facilities. .....Manholes will be installed alongside the treatment plant roads to collect the under drain water from beneath the tankage and convey it through non-perforated pipe to the western boundary of the site for discharge. The system is considered passive in that it will operate by gravity, with no pumps required."

"The underdrain system manholes will allow access for sampling and testing to determine if leakage is occurring following an earthquake. In the highly unlikely scenario of a major event that would cause damage to the process tankage, the manholes provide access and a location for manually plugging the under drains to prevent discharge of spilled contents to Little Bear Creek."

Comment:
Plant underdrain system discharges on the western boundary of the site (i.e., Brightwater spill containment documents). This discharge is from natural ground water dewatering around deep concrete structures. The estimated discharge is 110 to 350 gallons a minute under normal conditions. Depending on which document is read, this estimated amount changes. In fact, the amount is really unknown until the construction work is well underway. If damage occurs to processing structures above these drains (cracks leaking waste product), these drains would carry waste products to the discharge point on the western edge of the processing plant site.

It is not clear where the discharge point is. One must assume that discharge of this ground water is to a natural secondary drainage course which is tributary to Little Bear Creek. If contaminated discharge exits the site, it will enter the Bear Creek basin untreated.

Recommendation: At a minimum, underdrain discharge water should enter a system where control over the down stream flow is possible and quickly changed. Why isn't this discharge also passing through a gate valve system where manual control is efficient and quick? This control system should not be different than ground water contamination management. Planning for larger contaminated and contained volumes should be planned.

Brightwater Regional Wastewater Treatment Plant Final Design Geotechnical Recommendations Report

Reference: Brightwater regional Wastewater Treatment Plant
Final Design Geotechnical Recommendations Report
Final Design Geotechnical Data Report
Date March 2005

Page 3.2; Item 3.2 Site-Specific Seismic Design Parameters.
"The spectral accelerations for soft rock conditions (Site Class B) at the Route 9 site from the Shannon and Wilson PSHA, including near fault directivity adjustments, are as follows:

- Peak ground acceleration { PGA} 0.65g
- Spectral acceleration of a period of 0.2 sec. [Ss] 1.50g
- Spectral acceleration at period of 1.0 sec. [S1] 0.78g

The ground motions at the site will be a function of both the soft rock seismic acceleration and the soil response. Soils at the Route 9 site are Site Class C. The Site Class is determined from the weighted average characteristics of the upper 100 feet of soil at the site. Site Class C is defined as a very dense soil and soft rock with a shear wave velocity between 1,200 ft/sec. and 2,500 ft/sec. or with a weighted standard penetration resistance [ASTM D1586] N value greater than 50 blows/foot."

Comment:
Reference 2003 IBC Chapter 16;
Section 1615.2 Site-specific procedure for determining ground motion accelerations.

"A site-specific study shall account for the regional seismicity and geology; the expected recurrence rates and maximum magnitudes of events on known faults and source zones; the location of the site with respect to these; near source effects if any and the characteristics of subsurface site conditions."

Table 1615.1.1 Site Class definitions
First paragraph, last sentence: "Where the site–specific data are not available to a depth of 100', appropriate soil properties are permitted to be estimated by the registered design professional preparing the report based on known geological conditions."
Second paragraph: "When the soil properties are not known in sufficient detail to determine the site class, Site Class D shall be used unless the building official determines that a Site Class E or F soil is likely to be present at the site."

Classification of a specific site characteristics and qualification into a design site/category, expects that soil logs are taken or knowledge of the site is expected to 100' depth. Note IBC table 1615.1.1.

None of the soil borings provided in the referenced geotechnical final report, were taken to 100'depth. The shallowest boring was 16.3' and deepest 90.3'. The average test log bored depth was 50'. Many of the bored holes had problems with collapsed sidewalls.

There appears to be no information provided below the 50' soil logs. These borings were conducted for construction feasibility but not deep enough to provide data to classify the design classification of the site.

Considering the critical and essential nature of this project, and the fact that the main buildings do lay between two linements of faults on the same site and one existing building lays over an active fault, additional boring depths to 100' feet might have added additional information, and might have left this site as a site class D2.

It should be noted that Mapped seismic figures 1615[1] and 1615[2] qualify the Puget Sound region generally in a D2 classification for all land surfaces. To secure a different classification, it is necessary to prove without any question that the site would qualify differently.

If the site is a Class "D" instead of "C", the spectral acceleration at period of 1.sec [S1] @ .78g is higher than allowed. [Note at the top of this section and contained in the geotechnical study] IBC Tables 1616.3.1 and 3.2 foot note "a", both declare if S1 exceeds .75g on a classified D site, the design classification then turns to an E or F.

Again, referencing IBC table 1616.3.[1] &[2] "Seismic Use Group I and II structures located on sites with mapped maximum considered earthquake spectral response acceleration at 1-second period, S1, equal to or greater than 0.75g shall be assigned to Seismic Design Category E, and Seismic Use Group III structures located on such sites shall be assigned to Seismic Design Category F."

Referencing IBC Section 1616.3.1 Site Limitation for Seismic Design Category E or F. "A structure assigned to Seismic Design Category E or F shall not be sited over an identified active fault trace."

Comment: The beginning assumption must be that this site is currently listed as a D2 design classification, as most of the mapped Puget Sound area is. If this classification is not going to be used, all the criteria necessary to reclassify the site, i.e. "site specific" must be presented and approved by the Snohomish County Building Official.

Using D, E, or F classifications might require strength design factors of 1.7 or higher if no reductions for other factors are allowed.

Other missing information but not inclusive of what might be missing.
Provide subsurface data to 100'; soil shear strength category for IBC Table 1615.1.1.
The geotechnical report should show categorically that this site is correctly placed in the site design IBC category.

Memorandum dated October 26, 2005
Phase/Task III: Permitting - Binding Site Plan (3.18.05)
Subject: Treatment Plant Approach to Seismic Design

Page 3, International Building Code 2003, Seismic Provisions of IBC 2003 (State Building Code)

Comment Point 1: Essential structure designation and design are part of the State Building Code. Enforcement and decisions of the State Code are part of the duties of the County Building Official. (International Building Code 2003 Code Section 104). Because State law cannot be bound by binding site plans, the code which is enforced at the time construction permits are applied for is then used by the County Building Official to determine which structures should be considered essential and must be strengthened for public safety and continuation of essential functions. We do not believe that the binding site plan is the tool or forum to determine the "essential" status of specific sections of this plant and various structures.

Comment Point 2: If the binding site plan is still intended to be used to condition the seismic design, then the following should also be considered when making this decision[s].

A. Page 5, Table 1, Heading:
   Seismic Use Groups for Brightwater facilities are listed as specific in *IBC 2003*:

   1. The Brightwater structure list is extrapolated general information gathered from IBC Table 1604.5 page 272. There isn't a specific structure list provide by IBC that is as specific as the Brightwater Table 1, Page 5; and
   2. Brightwater Table 1 page 5 is confusing to the reader unless it shows seismic required construction strength factors. A note should be included, stating that most buildings under normal circumstances are built to strength category 1.0 unless circumstances required different strength requirements, and Buildings shown in category II should be listed as being built to strength 1.25; Buildings shown in category III must be built to strength 1.50.

   Also, note that power generation stations and other public utility facilities that are required as emergency backup become "essential" facilities for emergency response and operation, and, therefore, must be built to strength 1.50, but are listed as strength 1.25.

   These back up generation systems are called out as "essential" in other previous Brightwater documents for review by the binding site plan.

B. Reference Brightwater Facilities Plan dated May 2005
   Page 5-13, Item 5.3.11.1
   Plant Operations building, [converted stock pot soup structure]
   Consolidated summary of activities occurring in this building
   - Administrative offices
   - Library
   - Conference room
   - Operations and Process Control Center "essential"?
   - Restrooms, lockers, Lunch room
   - Visitor receptions,
   - Archive

Comment: The amount of on site stored fuel to operate the plant in emergency should be qualified. Why was forty eight hours selected as a target period of time to generate emergency power? We have not found documentation that justifies a shorter or longer temporary power generation period. Given that all other emergency services in the area are advertising 72 hour self maintenance, and this plant is an essential facility, what would be justification for shorter operating periods?

Page 9, last sentence, "King County can provide portable generators from other locations".

Comment: If they are available. What if the additional generators cannot be transported to this site? If the 9 megawatt or the 650kW generator is capable of supporting emergency operation, then what benefit would additional generators be? If the planned generation is not capable of handling lengthy operation period without backup, then this might be something to consider conditioning in the agreement.

It is our recommendation that the plant be set up to run on emergency power for 120 hours, without connection to a public utility power grid. Admitting that is only a guess on our part as well, but it provides more assurance that time is available for improvising in emergencies. And it should be much more clear what emergency operations would be supported by on-site power generation, perhaps in a matrix showing variable scenarios.

Odor Control

It is not clear that the Facilities Plan dated May of 2005 is part of the document review included in the binding site plan.

Therefore, reference:

1. Facilities Plan Chapter 4.4, page 4-53. Treatment process odor control evaluation: "King County has established a goal of preventing and controlling odors so there are no perceptible odors offsite."

2. Online Key points:
   A. King County has agreed to "no detectable odor' at or beyond its borders.
   B. Snohomish County established strict limits on air emissions of:
      8ppb of hydrogen sulfide
      2800ppb of ammonia
   C. King County must design its odor control system to the best available control technology
      (preferred alternative design 165E)
   D. Established an Air Quality Board which is appointed jointly by King and Snohomish Counties to over see long-term odor control issues.
   E. Requires a $3 million odor reserve fund *available* to the Air Quality Board study odor problems and solutions to monitor King County's performance meeting the odor control standards and to advise King County if, and when, to utilize the odor reserve fund.
   F. No limit on how much King County must expend to stay in compliance with odor guarantees.
   G. Snohomish County must approve its odor monitoring plan.
   H. Correction, this must be added: ***Air Quality Board is operational for the life of the treatment plant.***

Any review suggestions forthcoming will be consistent with the regulatory codes as adopted by the City of Woodinville and not necessarily in line with the regulatory codes adopted by Snohomish County.

This review is cursory in nature and as agreed is not intended as a full or complete review as required by the INTERLOCAL AGREEMENT BETWEEN THE CITY OF WOODINVILLE AND WOODINVILLE FIRE AND LIFE SAFETY DISTRICT (WFLSD). WFLSD does not claim that the notes below hold any legal validity for the purposes of a site plan review.

Technical Memorandum dated October 26, 2005
Phase/Task III: Permitting - Binding Site Plan
Subject: Treatment Plant Emergency Spill Containment

Page 3, "Design of the chemical storage, handling, and distribution facilities will be in compliance with federal, state, and local codes and guidelines and industry standards, including ..... the International Fire Code (IFC) (International Code Council, 2003b),"

Comment: It is our understanding that Binding Site Plans cannot bind State laws. The State Fire Code is readopted in three year cycles. The correct presentation in documents representing the project design should be "When construction permits are applied for, the State Fire Code which is adopted and in force at that time will be followed." Page 6 References should also note this issue in the proper manner for future construction.

Technical Memorandum dated October 24, 2005
105 Gallery
Subject: Building Fire Ratings

Page 1 of 6 under "Special Requirement" Sprinkler System should note that an approved fire sprinkler system is required in all occupancies over 5,000 sq. ft. in area in accordance with Title 15 of the Woodinville Municipal Code, Chapter 15 Fire Code.

Page 3 of 6 under "Protection Systems" Sprinkler exempt locations # 2 states "Where the nature of the contents makes sprinklers undesirable, as approved by the Building Official."

Comment: The International Fire Code as adopted by the State of Washington and the City of Woodinville states that the approval is allowed by the "Fire Code Official". As the fire department is responsible for emergency response it is necessary that any complications as a result of a non-sprinklered room or area be considered by the fire department for approval of exemptions to the fire sprinkler requirements. This comment applies throughout this Technical Memorandum when reference is made to this section of the International Fire Code.

Technical Memorandum dated October 24, 2005
Membrane Basins
Subject: Building Fire Ratings

Page 2 of 6 notes that sprinklers are provided but not required.

Comment: Woodinville Municipal Code Title 15 does require fire sprinkler systems in any building over 5,000 sq. ft. in area.

This same comment applies for the Solids Building and other buildings as appropriate for this site.

Memorandum dated October 26, 2005
Brightwater Treatment Plant
Subject: Fire Flow Requirements

CH2M Hill claims a 25% reduction in flow rate and duration for facilities located in a rural area and a 25 % reduction in flow rate and duration because a Fire Detection and Alarm System will be provided on all buildings.

Comment: These reductions are not allowed by Woodinville Municipal Code Title 15, Chapter 15, Fire Code and substantially reduce the potential fire flow available to responding emergency crews. Recommendation is that a reduction in fire flow not be allowed.

Also, it should be noted that the City of Woodinville does applied Appendix C of the IFC for the locations and distribution of fire hydrants. The number and separation distance of fire hydrants is determined by the initial fire flow requirement and not any fire flow requirement established by allowed reductions. *Example: In the case of the largest building of 100,000 square feet or larger the requirement would be based on 8,000 GPM at 20 psi residual fire flow. This means that 8 or more fire hydrants would be required with the spacing requirements for that number of hydrants.*

Binding Site Plan
Brightwater Site Roll Plot
Plotted 11/02/05

The Binding site plans shows fire emergency access roads to the site at a width of 20 - 22 feet. City of Woodinville Municipal Code Title 15, Chapter 15, Fire code adopts Appendix D of the IFC which requires that any building over 30 feet in height above the lowest level of fire department vehicle access shall be provided with approved fire apparatus access roads capable of accommodating fire department aerial apparatus (defined as 26 feet wide roadways, unobstructed). Should any buildings on site apply to these standards then all emergency access roads to those buildings should meet the requirements of Appendix D of the IFC.

Other Comments

Comment – Permit Center:

1. Future reuse of the water piping system—is this included in this Binding Site Plan?
2. Address if any or quantify to what extent existing fish spawning areas in Little Bear Creek that might be lost by 3 percent decline in storm water during a 100 year peak storm event.

Comment – Public Works

1. Recommend daily inspection of all Temporary Erosion, Sedimentation, and Control Measures prior to beginning any construction activity. Repair/replace any measure

that is not functioning properly. Proper TESC maintenance can decrease impacts to Little Bear Creek.

2. Post construction monitoring of landscape/mitigation areas will also be important, ensuring that the site is properly stabilized.

Sincerely,

CITY OF WOODINVILLE

Donald D Rose

Donald D. Rose
City Manager