CITY OF KIRKLAND
Planning and Community Development Department
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ADVISORY REPORT
FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

To: Eric R. Shields, AICP, Planning Director

From: _____ Tony Leavitt, Associate Planner

_____ Eric R. Shields, AICP, Planning Director

Date: November 25, 2008

File: PUGET SOUND ENERGY JUANITA SUBSTATION REBUILD AND VARIANCE (ZON08-00010) AND SEPA APPEAL (APL08-00010)

Hearing Date and Place: December 4, 2008
City Hall Council Chamber
123 Fifth Avenue, Kirkland

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I. INTRODUCTION

A. APPLICATION

1. Applicant: Roque Bamba of Puget Sound Energy
2. Site Location: 10910 NE 132nd Street (see Attachment 1)
3. Request: Puget Sound Energy proposes to expand and rebuild the existing PSE Juanita electric distribution substation on the subject property near NE 132nd Street. The existing substation is located at the southern end of the subject property near NE 128th Street. The expanded and rebuilt substation will be located within the northern portion of the subject property near the NE 132nd Street right-of-way. As part of the zoning and variance permit application, the applicant is proposing to reduce the required east and west side yard setbacks from the required 20 feet to 13 feet, reduce the required east and west landscape buffers from 15 feet to 13 feet, and exceed the maximum allowable height of 30 feet by 5 feet to accommodate termination structures (see Attachment 2).
4. Review Process:
   a. Zoning Permit and Variance: Process IIA, Hearing Examiner conducts public hearing and makes final decision.
   b. SEPA Appeal: Pursuant to Kirkland Municipal Code Section 24.02.105 the SEPA appeal hearing will be conducted by the Hearing Examiner and combined with the public hearing for the Process IIA variance and zoning permit. The Hearing Examiner will make the final decision on the SEPA appeal.
5. Summary of Key Issues:
   - SEPA Determination of Nonsignificance Appeal Consideration (see Section II.D).
   - Compliance with Process IIA Zoning Permit Approval Criteria (see Section II.E.1)
   - Compliance with Variance Approval Criteria (see Section II.E.2)

B. RECOMMENDATIONS

Based on Statements of Fact and Conclusions (Section II), and Attachments in this report we recommend approval of this application subject to the following conditions:

1. This application is subject to the applicable requirements contained in the Kirkland Municipal Code, Zoning Code, and Building and Fire Code. It is the responsibility of the applicant to ensure compliance with the various provisions contained in these ordinances. Attachment 5, Development Standards, is provided in this report to familiarize the applicant with some of the additional development regulations. This attachment does not include all of the additional regulations. When a condition of approval conflicts with a development regulation in Attachment 5, the condition of approval shall be followed.
2. As part of the building permit application, the applicant shall:
   a. Submit a final tree retention plan that incorporates the recommendations of the City's Urban Forester and the applicant's Arborist (see Conclusion II.F.2).
   b. Provide a lighting plan showing the location, height, fixture type and wattage of all proposed exterior lights. The lighting plan shall be consistent with the requirements in KZC Section 115.85 (see Conclusion II.F.3).

3. Prior to final inspection of the building permit, the applicant shall

   a. Provide a final as-built landscape plan and an agreement to maintain and replace all landscaping that is required by the City (see Conclusion II.F.1).

   b. Provide certification from a qualified acoustical consultant that the facility complies with the noise regulations of KZC Section 115.95 (see Conclusion II.F.4).

II. FINDINGS OF FACT AND CONCLUSIONS

A. SITE DESCRIPTION

1. Site Development and Zoning:

   a. Facts:

      (1) Size: 2.61 acres. Property is approximately 89 feet wide by 1270 feet long.

      (2) Land Use: The subject property contains the existing PSE Juanita Substation on the southern portion of the property near NE 128th Street.

      (3) Zoning: The subject property is zoned RSX 7.2 (Residential Single-family). A Public Utility Use is an allowed use within this zone, subject to approval of a Process IIA Zoning Permit (see Attachment 15).

      (4) Terrain: The subject property is relatively flat on the northern portion of the lot and slopes down significantly on the southern portion near NE 128th Street.

      (5) Vegetation: The subject property contains numerous significant trees. The applicant's arborist identified a total of 10 trees on the site and 11 offsite trees that could potentially be impacted by the proposed redevelopment (see Section II.F.2).

   b. Conclusions:

      (1) Size and land use are not relevant factors in the review of this application. However, the width of the property is a factor in the review of this application.

      (2) The terrain of the property is a relevant factor in the review of this application. The proposed substation is being relocated from steeper southern portion to the flatter northern portion to allow for expansion (see Section II.E.2.d).

      (3) Zoning is a relevant factor in the review of this application, due to the fact that a Public Utility Use in a RSX 7.2 Zone must be approved through a Process IIA Review Process (see Section II.E.1).

      (4) Tree protection is a factor in the review of the proposed development (see Section II.F.2).

2. Neighboring Development and Zoning:

   a. Facts: The neighboring properties are zoned as follows and contain the following uses:

      North: Zoned R6 (located in Unincorporated King County). Developed with single-family residences

      West and East: Zoned RSX 7.2. Developed with single-family residences

      South: Zoned RM 3.6 (Residential Multi-family). Developed with duplex units.

b. Conclusion: The neighboring development and zoning are factors in the review of the application.

B. HISTORY

1. Facts:

   a. The existing PSE Substation, located on the southern portion of the property near NE 128th Street, was constructed in 1958.

   b. The existing substation does not comply with current zoning regulations for setbacks, landscape buffering, and maximum height.

2. Conclusion: The history of the site is a relevant factor in the review of the application.

C. PUBLIC COMMENT

1. Facts: The initial public comment period ran from July 25 to August 22, 2008. The Planning Department received a total of 10 comment emails and letters (see Attachment 8) during this comment period. The issues raised in the letters along with staff responses are below. Additionally, the applicant responded to these comment letters with a response letter (see Attachment 9).

   - Tree Impacts

     Multiple neighbors are concerned about the impacts to their trees and the removal of trees on the subject property.

     Staff Response: Tree Retention requirements are discussed in Section II.F.2.

   - Zoning

     Some of the neighbors expressed concerns that the proposed substation is not allowed on the subject property and a rezone if being requested.

     Staff Response: A Public Utility Use is an allowed use in the RSX 7.2 Zone. Approval of a new facility does require approval of a Process IIA Zoning Permit, but a rezone is not being requested.

   - Proposed Location and Size

     Many of the letters expressed an objection to the relocation of the substation from the south portion of the property to the north and the overall size of the facility.

     Staff Response: The applicant addresses these issues in their approval criteria response (see Attachments 3 & 4) and response letter. Staff addresses this issue in Section II.E.2.d.

   - Landscape Maintenance

     One letter expressed concern about the long term maintenance of the proposed landscaping.

     Staff Response: The applicant will be required to submit a perpetual landscape maintenance agreement that will require maintenance of all onsite landscaping for the life of the facility. See Section II.F.1 for additional discussion.

   - Noise Impacts

     One neighbor is concerned about potential noise impacts from the facility.

     Staff Response: The applicant is proposing the installation of sound walls to mitigate potential noise impacts from the facility. See Section II.F.4 for additional discussion.

- Electric and Magnetic Fields (EMF) Impacts

  Multiple neighbors are concerned about potential impacts from electric and magnetic fields associated with the power substation.

  Staff Response: The applicant states in their Environmental Checklist and project proposal that "substations are not a predominant source of magnetic fields for surrounding properties". Staff reviewed current regulations and found no federal, state, or local regulations regarding exposure to electric and magnetic fields.

- Driveway Access

  One neighbor was concerned about allowing a second driveway access from NE 132nd Street and that City codes do not allow a second access.

  Staff Response: The Public Works Department has reviewed the proposed access from NE 132nd Street and found no issues with the proposed design. Additionally the Public Works Department found no issues with keeping access driveway from NE 128th Street.

  The Kirkland Zoning Code does not restrict a property from having two access driveways. KZC Section 105.35 states that the City may restrict the location of driveways along the frontage of the subject property to improve vehicle circulation, public safety, or to enhance pedestrian movement.

D. STATE ENVIRONMENTAL POLICY ACT (SEPA)

1. SEPA THRESHOLD DETERMINATION

   a. Facts:

      (1) A Determination of Nonsignificance (DNS) was issued on October 2, 2008. The Environmental Checklist, Determination, and additional environmental information are included as Attachment 6.

      (2) A timely appeal of the SEPA Determination was filed on October 16, 2008 by the Troy Freeman (see Attachment 7).

      (3) The Hearing Examiner will conduct a public hearing on the SEPA appeal concurrently with the public hearing for this permit application on December 4, 2008.

      (4) The Hearing Examiner will consider the appeal and the testimony received during the public hearing in making her decision to either: affirm the decision being appealed; reverse the decision being appealed; or modify the decision being appealed. Within eight calendar days after the public hearing, the Hearing Examiner will issue a written decision on the appeal.

   b. Conclusion: The procedural requirements of SEPA are being met.

2. SEPA APPEAL

a. Facts:

(1) KMC Section 24.02.105.b establishes the following parties as able to appeal the SEPA determination: The applicant or proponent; any agency with jurisdiction, any individual or other entity who is specifically and directly affected by the proposed action.

(2) KMC Section 24.02.105.g.2 states that only those persons entitled to appeal the threshold determination may participate in the appeal.

(3) KMC Section 24.02.105.i of the Kirkland Municipal Code relating to SEPA states that:

- The matters to be considered and decided upon in the appeal are limited to the matters raised in the notice of appeal.
- The decision of the responsible official shall be accorded substantial weight.
- All testimony will be taken under oath.
- The decision of the hearing body hearing the appeal shall be the final decision on any appeal of a threshold determination including a Determination of Nonsignificance.

(4) The appellant claims in his letter of appeal that the SEPA Determination did not give adequate consideration to the effects and potential destruction of trees on the appellant's property as a result of the project.

(5) State law specifies that this environmental review under the State Environmental Policy Act (SEPA) is to focus only on potential significant impacts to the environment that could not be adequately mitigated through the Kirkland regulations and Comprehensive Plan.

(6) KZC Chapter 95 contains the Tree Management requirements for the City of Kirkland (see Section II.F.2).

(7) The applicant submitted the required Tree Plan II and, as conditioned, will meet the requirements of KZC Section 95.35 (see Section II.F.2).

(8) The Tree Plan II addressed potential impacts to offsite trees and recommendations are identified in the applicant's arborist report and the City's Urban Forester comments.

b. Conclusions:

(1) State law does not allow the City to impose SEPA requirements when there are city codes in place that guide the decision maker in approving or denying a proposal. In this case, Chapter 95 regulates tree retention and protection in the City.

(2) Staff recommends that the SEPA determination be affirmed and that the Determination of Nonsignificance (DNS) be upheld.

E. APPROVAL CRITERIA

1. PROCESS IIA ZONING PERMIT

a. Facts:

(1) Zoning Code section 150.65.3 states that a Process IIA application may be approved if:

- It is consistent with all applicable development regulations and, to the extent there is no applicable development regulation, the Comprehensive Plan; and
- It is consistent with the public health, safety, and welfare.

(2) KZC Section 17.10.070 Special Regulation 1 states that the "site design must minimize adverse impacts on surrounding residential neighborhoods".

(3) The applicant's response to these criteria can be found in Attachment 3.

(4) The proposed substation will replace an existing substation and add an additional transformer that will create a "looped" configuration. A "looped" configuration will allow the substation to continue operating even if a transmission line to the north or south is disrupted. Additionally, the substation is needed to meet the increased demand in the Totem Lake and Juanita areas.

(5) The subject property is bordered by single-family residences to the east and west. Potential impacts to the neighboring properties from the proposed substation include noise impacts, aesthetic/visual impacts, and access to the site.

(6) To mitigate potential noise impacts consistent with Zoning Code standards, the applicant is proposing the installation of sound walls adjacent to the east and west landscape buffers.

(7) To mitigate potential aesthetic/ visual impacts of the proposed substation, the proposed sound walls will be textured to resemble bricks or rocks. Additionally the applicant will be installing a required landscape buffer to screen the visibility of the facility from adjoining properties.

(8) The PSE substation is an unstaffed facility so access to the site will be limited. Additionally, the Public Works Department found no issues with the proposed access driveways from NE 128TH and NE 132ND Streets.

b. Conclusion:

(1) The proposal complies with the Process IIA Zoning Permit Approval criteria in KZC Sections 150.65.3. It is consistent with all applicable development regulations (see Sections II.E & II.F) and the Comprehensive Plan (see Section II.G).

(2) In addition, it is consistent with the public health, safety, and welfare because it will allow a Public Utility Use to replace an existing substation with a new substation that will increase electrical service capacity and improve reliability, benefiting property owners and electrical customers.

(3) The proposed substation site design, including the textured sound walls and required landscaping, will help to minimize adverse impacts on surrounding residential neighborhoods.

2. VARIANCE PERMIT

a. Proposed Variances

(1) Setbacks

(a) KZC Section 17.10.070 requires a 20 foot setback yard for a Public Utility Use.

(b) The applicant proposes to reduce the requirement setback yard from the east and west property lines from 20 feet to 13 feet to accommodate the substation (see Attachment 2).

(2) Landscape Buffer

(a) KZC Section 17.10.070 Special Regulation 3 requires a Public Utility Use to comply with Landscape Category A.

(b) KZC Section 95.40.4 requires a landscape buffer for a use adjoining low density residential uses to comply with KZC Section 95.40.6.a.

(c) KZC Section 95.40.6.a (Buffering Standard 1) requires a 15 foot wide landscape strip along the east and west property lines.

(d) The applicant is proposing to install a 13 foot wide landscape buffer along the east and west side of the proposed substation (see Attachment 2, Page 2).

(3) Height Variance

(a) KZC Section 17.10.070 allows a maximum height of 30 feet above average building elevation.

(b) KZC Section 115.60 does not exempt utility structures from applicable height requirements.

(c) At the north and south ends of the substation enclosure, termination structures will extend approximately 35 feet above ground elevation (see Attachment 2, Page 5).

b. KZC Chapter 120 Requirements

(1) Facts:

(a) Zoning Code Chapter 120 sets forth the mechanism whereby a provision of the Code may be varied on a case-by-case basis if the application of the provision would result in an unusual and unreasonable hardship.

(b) Zoning Code section 120.20 establishes three decisional criteria with which a variance request must comply in order to be granted.

(c) The applicant's response to these criteria can be found in Attachment 4. Sections II.D.2.c through II.D.2.e contain the staff's findings of fact and conclusions based on these three criteria.

(2) Conclusions: Based on the following analysis, the application meets the established criteria for a variance.

c. Variance Criterion 1: The variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City, in part or as a whole.

(1) Facts:

(a) As noted above the applicant is proposing to reduce the required east and west setbacks, reduce the required landscape buffer, and increase the allowable height to accommodate termination structures.

(b) Potential adverse impacts associated with the proposed variances include visuals impacts to neighboring properties, the reduction of a "buffer zone" between the proposed substation and neighboring properties, a reduction in the amount of vegetation within the landscape buffer, and structures that are out of scale with the neighboring properties.

(c) The applicant prepared graphics that compare the proposed substation enclosure with a building that could be constructed on the subject property without variances (see Attachment 4, Figure 1). The applicant concludes that the proposed substation will have less visual impact on neighboring properties when compared to what could be built on the subject property. Additionally, the sound walls will be textured to resemble brick walls to help mitigate visual impacts.

(d) According to the applicant, due to the nature of this project, the setback variance will not impair setback functions of preserving privacy from neighboring uses and reducing impacts of noise and activity on adjoining properties. The PSE substation is an unstaffed facility; there are no potential impacts on privacy which might occur if a staffed facility was proposed here. Also, no activity will take place within the side yard setbacks, such as driveways or parking. The setback areas will be used only as landscaped buffer areas.

(e) KZC Section 95.40.6.a requires that the landscape buffer be planted with a mixture of trees, shrubs, and ground cover. Trees are to be planted 1 tree per 20 linear feet of landscape buffer. The applicant is proposing to comply with the planting requirements of this section.

(f) The proposed termination structures will be 35 feet above average building elevation and located on the north and south edges of the substation. The structures will be located mid-way between the side property lines of the subject property and will consist of steel support with cross-arms.

(g) The applicant is proposing to removal of all the above-ground distribution poles and distribution wires from the substation property. The existing transmission poles and transmission wires will remain at their current heights, as they are necessary to serve the substation, and electrical safety codes require greater ground clearance for the high-voltage transmission lines.

(2) Conclusions:

(a) The project site design (including the proposed sound walls, proposed landscaping, placement of the termination structures) will help to mitigate the potential adverse impacts of the project.

(b) Staff concludes that the proposed variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City, in part or as a whole.

d. Variance Criterion 2: The variance is necessary because of special circumstances regarding the size, shape, topography, or location of the subject property, or the location of preexisting improvements on the subject property that conformed to the Zoning Code in effect when the improvement was constructed.

(1) Facts:

(a) The subject property is approximately 89 feet wide along the north property line, adjacent to NE 132nd Street. The property gradually narrows down to a width of 80 feet along the south property line. The rebuilt substation is being located in the wider northern portion of the property.

(b) According to the applicant, given the size of the necessary electrical equipment, and minimum electrical clearance requirements established in the National Electric Safety Code (NESC) and PSE Design Standards, 60-feet is the minimum width necessary between the sound walls to provide clearance for equipment and driveway access required for the crane used in installation and maintenance activities. Each of the proposed sound walls will be approximately 1 foot in width, so the total width of the new facility will be 62 feet.

(c) As noted previously, the existing substation is located near the southern property line and does not conform to current zoning regulations including required setbacks, landscape buffering, and maximum allowable height.

(d) The applicant states that reconstruction of the substation at its current location is not feasible due to the existing topography and the location of existing high voltage transmission lines (see Attachment 3, Page 4).

(e) According to the applicant, existing electrical safety codes require the termination structures to be at a greater height than the ones constructed for the existing substation. Electrical safely codes also require that the existing transmission poles and lines, currently nonconforming as to height, remain at their present heights.

(2) Conclusion:

(a) Based on the information provided by the applicant in regards to the required width of the facility, any substation redevelopment proposal for the site would require a variance from setback and landscape buffer requirements.

(b) Staff concludes that the setback and landscape buffer variances are necessary because of special circumstances regarding the width, or shape, of the subject property and the location of preexisting improvements.

(c) Staff concludes that the height variance is necessary because of a special circumstance regarding the location of preexisting improvements, specifically the transmission lines that serve the

facility. Additionally the requirements of the current electrical safety codes are a relevant factor in the review of this variance request.

e. Variance Criterion 3: The variance would not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this Code allows for other properties in the same area and zone as the subject property.

(1) Facts:

(a) As noted previously, the existing substation does not comply with current zoning regulations for setbacks, landscape buffering, and maximum height.

(b) The applicant states that the proposed substation is the minimum size necessary to meet growing demand for electricity within its service area.

(c) The subject property is a relatively narrow property and any expansion or rebuild of the existing facility would require a variance from applicable requirements.

(2) Conclusion: The granting of this variance would not constitute a special privilege to the subject property. As noted in Criteria 1 and 2, the variance is responding to unique site limitations and facility design requirements associated with this type of public utility use. The proposed variances are the minimum necessary to provide relief from zoning code requirements.

F. DEVELOPMENT REGULATIONS

1. Landscaping Requirements

a. Facts:

(1) KZC Section 17.10.070 requires a Public Utility Use in a RSX zone to comply with Landscape Category A.

(2) KZC Section 95.40.4 requires a landscape buffer for a use adjoining low density residential uses to comply with KZC Section 95.40.6.a.

(3) KZC Section 95.40.6.a (Buffering Standard 1) requires a 15 foot wide landscape buffer that is planted with a mixture of trees, shrubs, and ground cover. Trees are to be planted 1 tree per 20 linear feet of landscape buffer.

(4) KZC Section 95.40.6.d requires that the applicant provide the required buffer along the entire common border between the subject property and the adjoining property.

(5) The existing substation does not comply with these landscape buffer requirements.

(6) KZC Section 95.40.8.b states that landscape buffers must be brought into conformance with subsection (6) of section 95.40 in either of the following situations:

- An increase in gross floor area of any structure (the requirement to provide conforming buffers applies only where new gross floor area impacts adjoining property); or
- A change in use on the subject property and the new use requires larger buffer than the former use.

(7) The applicant is proposing to install a 13 foot wide landscape buffer between the substation and the neighboring properties to the east and west. The landscape buffer will also extend between the north edge of the substation and the NE 132nd Street right-of-way

(8) KZC Section 95.50.1 requires that all required trees and vegetation, fences, walls, and other landscape elements be considered as elements of the project in the same manner as parking, building materials, and other site details. The applicant, landowner, or successors in interest shall be responsible for the regular maintenance of required landscaping elements. Plants that die must be replaced in kind.

(9) KZC Section 95.50.2 states that all required landscaping shall be maintained throughout the life of the development.

b. Conclusions:

(1) Per KZC Section 95.40.8.b, the existing nonconforming landscape buffer is not required to come into conformance with the requirements of KZC Section 95.40.6.d. Requiring the installation of the landscape buffer south of the proposed substation is not necessary as this portion of the property will open space.

(2) The applicant is proposing to install a landscape buffer along the entire common border between the substation and the adjoining properties. This landscape buffer shall be subject to the requirements of KZC Section 95.40.

(3) Prior to final inspection of the building permit, the applicant should provide a final as-built landscape plan and an agreement to maintain and replace all landscaping that is required by the City (see Attachment 16).

2. Natural Features - Significant Vegetation

   a. Facts:

      (1) Pursuant to KZC Section 95.35.2.b.2, the applicant submitted a Tree Plan II for the subject property (see Attachments 10 and 11) that focused on trees on the subject property and on neighboring properties that could be potentially impacted by development activities.

      (2) The applicant's arborist identified 10 significant trees on the subject property and 11 significant trees on neighboring properties with canopies that overhang onto the subject property.

      (3) The applicant's arborist concluded that all but one onsite tree would be impacted by the proposed development and be required to be removed. A final determination will be made during the building permit review process.

      (4) KZC Section 95.35.2 requires that any trees with canopies that overhang the subject property to be included in the inventory, evaluation, and tree protection measures as part of the Tree Plan II.

      (5) According to the applicant's arborist, there are 3 trees east of the east property line and eight trees west of the west property line. All 11 trees can be adequately protected as described in the Tree Protection Measures section of his report. This will include tree protection fencing and 12 inches of wood chips to protect the critical root zone and allow equipment to travel over the roots during construction. Some tree pruning may be required to safely construct and install the elements of the substation. Those can be dealt with on a tree by tree basis once the project is under way.

      (6) The City's Urban Forester reviewed the Tree Plan II and submitted comments (see Attachment 12).

   b. Conclusions:

      (1) The applicant complied with the requirements of KZC Section 95.35.2.b.2.

      (2) As part of the building permit application, the applicant should submit a final tree retention plan that incorporates the recommendations of the City's Urban Forester and the applicant's Arborist.

3. Site Lighting

   a. Facts: KZC Section 115.85 requires that the applicant use energy efficient light sources, comply with the Washington Energy Code with respect to the selection and regulation of light sources, and select, place, and direct light sources both directable and nondirectable so that glare produced by any light source, to the maximum extent possible, does not extend to adjacent properties or to the right-of-way. The current submittal does not contain a detailed lighting plan that would show the location, height, fixture type, and wattage of proposed lights.

   b. Conclusion: As part of its building permit application, the applicant should provide a lighting plan showing the location, height, fixture type and wattage of all proposed exterior lights. The lighting plan shall be consistent with the requirements in KZC Section 115.85.

4. Noise Impacts

   a. Facts:

      (1) KZC Section 115.95 states that the maximum environmental noise levels in the City of Kirkland are established pursuant to the Noise Control Act of 1974 (WAC 173-60). WAC 173-60 states that no person shall cause or permit noise to intrude into the property of another person which noise exceeds the maximum permissible noise levels set forth in this section.

      (2) The applicant is proposing sound walls to mitigate potential noise impacts from the substation equipment (see Attachment 13).

   b. Conclusion: To ensure compliance with applicable regulations, prior to final inspection of the building permit, the applicant should provide certification from a qualified acoustical consultant that the facility complies with the noise regulations of KZC Section 115.95.

5. Horizontal Façade Requirement

   a. Facts:

      (1) KZC Section 17.08.02 requires that If any portion of a structure is adjoining a low density zone, then either the height of that portion of the structure shall not exceed 15 feet above average building elevation, or the horizontal length of any facade of that portion of the structure which is parallel to the boundary of the low density zone shall not exceed 50 feet (see Attachment 15).

      (2) KZC Section 115.30 regulates maximum horizontal façade. Maximum horizontal façade is defined as "the widest cross-section of the building in the area adjoining the low density zone or within 100 feet of the adjoining lot containing the detached dwelling unit or low density use. The cross-section width is measured parallel to the zone or lots".

      (3) The KZC defines a building as "a roofed structure used for or intended for human occupancy."

   b. Conclusion: KZC Section 17.08.02 does not apply to the proposed substation as the facility does not meet the KZC definition of a building.

G. COMPREHENSIVE PLAN

1. Facts:

   a. The subject property is located within the North Juanita Neighborhood. The North Juanita Neighborhood Land Use Map designates the subject property as a public facility use (see Attachment 18).

   b. The Comprehensive Plan states on Page XI.1 (see Attachment 19) that the primary focus of the City in the coming years will be to continue to update existing systems to increase efficiency and to avoid maintenance problems associated with older facilities.

   c. The Comprehensive Plan states in the Utilities Goals and Policies Section (see page XI.13) that the Kirkland is accustomed to a high level of utility services and these services accommodate the lifestyles of Kirkland residents and the success of Kirkland businesses. Kirkland must balance the quality of services provided with the costs and community impacts.

d. Policy U-1.4 (see page XI.14) states the following: Ensure environmentally sensitive, safe, and reliable utility service that is aesthetically compatible with the surrounding land uses and results in reasonable economic costs.

e. The applicants states that the proposed substation expansion/ rebuild will increase electrical service capacity and improve reliability.

2. Conclusion: The City should consider the balances as noted in the Comprehensive Plan. The proposed substation will provide a higher level of electricity service to the area by replacing an outdated power substation. At the same time, the design of the facility should be compatible with the existing neighborhood.

H. DEVELOPMENT STANDARDS

1. Fact: Additional comments and requirements placed on the project are found on the Development Standards, Attachment 5.

2. Conclusion: The applicant should follow the requirements set forth in Attachment 5.

III. SUBSEQUENT MODIFICATIONS

Modifications to the approval may be requested and reviewed pursuant to the applicable modification procedures and criteria in effect at the time of the requested modification.

IV. APPEALS AND JUDICIAL REVIEW

The following is a summary of the deadlines and procedures for appeals. Any person wishing to file or respond to an appeal should contact the Planning Department for further procedural information.

A. APPEALS

Appeal to City Council:

Section 150.80 of the Zoning Code allows the Hearing Examiner's decision to be appealed by the applicant and any person who submitted written or oral testimony or comments to the Hearing Examiner. A party who signed a petition may not appeal unless such party also submitted independent written comments or information. The appeal must be in writing and must be delivered, along with any fees set by ordinance, to the Planning Department by 5:00 p.m., _____ twenty-one (21) calendar days following the postmarked date of distribution of the Hearing Examiner's decision on the application.

B. JUDICIAL REVIEW

Section 150.130 of the Zoning Code allows the action of the City in granting or denying this zoning permit to be reviewed in King County Superior Court. The petition for review must be filed within 21 calendar days of the issuance of the final land use decision by the City.

V. LAPSE OF APPROVAL

Under Section 150.135 of the Zoning Code, the applicant must submit to the City a complete building permit application approved under Chapter 150, within four (4) years after the final approval on the matter, or the decision becomes void; provided, however, that in the event judicial review is initiated per Section 150.130, the running of the four years is tolled for any period of time during which a court order in said judicial review proceeding prohibits the required development activity, use of land, or other actions. Furthermore, the applicant must substantially complete construction approved under Chapter 150 and complete the applicable conditions listed on the Notice of Approval within six (6) years after the final approval on the matter, or the decision becomes void.

VI. APPENDICES

Attachments 1 through 19 are attached.

1. Vicinity Map
2. Development Plans
3. Applicant's Response to Process IIA Approval Criteria
4. Applicant's Response to Variance Approval Criteria
5. Development Standards
6. SEPA Determination, Memo, and Enclosures
7. SEPA Appeal Letter from Troy Freeman
8. Initial Public Comments
9. Applicant's Response to Initial Public Comments
10. Arborist Report prepared by Gilles Consulting dated October 7, 2008
11. Revised Tree Site Plan
12. Memo from Deborah Powers, City of Kirkland Urban Forester
13. Sound Analysis prepared by BRC Acoustics and Technology Consulting dated April 25, 2008
14. Geotechnical Engineering Services Report prepared by GeoEngineers Inc. dated February 29, 2007
15. RSX Use Zone Chart
16. Landscape Maintenance Agreement
17. Tree Plan II Requirements
18. North Juanita Neighborhood Land Use Map
19. City of Kirkland Comprehensive Plan Utilities Chapter (excluding non relevant maps)

VII. PARTIES OF RECORD

Applicant: Roque Bamba, Puget Sound Energy, 355 110th Avenue NE, EST 05-E, Bellevue, WA 98047
Party of Record: Michael Heslop, 13055 110th Avenue NE, Kirkland, WA 98034
Party of Record: Steve Ryan, 13044 109th Avenue NE, Kirkland, WA 98034
Party of Record: Barbara Ross, 13012 109th Avenue NE, Kirkland, WA 98034
Party of Record: Troy Freeman, 13045 110th Avenue NE, Kirkland, WA 98034
Party of Record: Carolina Ayala de Freeman, 13045 110th Avenue NE, Kirkland, WA 98034
Party of Record: James Herbold, 13043 109th Avenue NE, Kirkland, WA 98034
Party of Record: Kevin Corbett, 13036 109th Avenue NE , Kirkland, WA 98034
Party of Record: Peg Corbett, 13036 109th Avenue NE, Kirkland, WA 98034
Party of Record: Nora Ryan, 13044 109th Avenue NE, Kirkland, WA 98034
Party of Record: Stephen and Denise Lybeck, 13052 109th Avenue NE, Kirkland, WA 98034
Department of Planning and Community Development
Department of Public Works
Department of Building and Fire Services

A written decision will be issued by the Hearing Examiner within eight calendar days of the date of the open record hearing.

PSE Juanita Substation Rebuild
ZON08-00010

NOTES

1. PURPOSE OF THIS SURVEY THIS BOUNDARY AND TOPOGRAPHIC SURVEY WAS PERFORMED DURING APRIL, 2007 IN SUPPORT OF A PUGET SOUND ENERGY SUBSTATION IMPROVEMENT PROJECT AND WAS INTENDED TO 1.) DETERMINE AND STAKE THE FOUR PROPERTY CORNERS, 2.) DETERMINE THE LOCATION OF PHYSICAL FEATURES ON OR NEAR SAID PROPERTY LINES AND 3.) PERFORM TOPOGRAPHIC MAPPING OF THE SUBJECT PARCEL AND ADJOINING ROADWAYS.

2 BASIS OF BEARING WASHINGTON COORDINATE SYSTEM, NORTH ZONE, NAD-83/91. NOTE: DISTANCES SHOWN HEREON ARE STATE PLANE GRID DISTANCES BASED ON A COMBINED SCALE FACTOR OF 0.999959. TO CONVERT GRID DISTANCES TO GROUND VALUES, MULTIPLY DISTANCES SHOWN BY 1.000041.

3. VERTICAL DATUM NAVD 88
NOTE: NGVD 29 - NAVD 88 MINUS 3.61'. SOURCE - CORPSCON FOR WINDOWS CONVERSION SOFTWARE VER 5.11.08

4. METHODOLOGY FIELD MEASUREMENT FOR THIS SURVEY WERE PERFORMED USING A LEICA TCRP 1201. THIS SURVEY COMPLIES WITH THE MINIMUM REQUIRED ERROR OF CLOSURE OF 1:10,000 FOR WASHINGTON STATE PLANE COORDINATES AS SET FORTH PER W.A.C. 332-130-090 (AND POSITIONAL TOLERANCE LEVELS OF LESS THAN 0.011 METERS)

5. PROPERTY LINES SHOWN HEREON ARE BASED ON FIELD LOCATED SURVEY MONUMENTS AND PUBLIC RECORDS. SEE SHEET 2 OF 2 FOR SECTION BREAKDOWN AND PROPERTY DETAILS.

PROPERTY CORNERS WERE STAKED IN CONJUNCTION WITH THIS SURVEY.

6. MONUMENTATION VISITATION ALL SURVEY MONUMENTS AND OTHER SURVEY MARKERS SHOWN HEREON WERE VISITED DURING APRIL, 2007 UNLESS OTHERWISE INDICATED.

7. ENCUMBRANCES PACIFIC NORTHWEST TITLE COMPANY OF WASHINGTON INC. TITLE ORDER NO. 651223, DATED APRIL 12, 2007 USED FOR LAND DESCRIPTION AND EASEMENTS OF RECORD. NO FURTHER SEARCH INTO THE RECORD WAS REQUESTED OR PERFORMED. NOTE: SAID TITLE REPORT REVEALED SEVERAL SLOPE EASEMENTS THAT CONTAINED DESCRIPTIONS THAT WERE INSUFFICIENT TO DETERMINE THE LOCATION OF SAID EASEMENTS. OTHER ENCUMBRANCES LISTED IN SAID TITLE REPORT RELATE TO TAXES AND MORTGAGE TERMS AND CONDITIONS, NONE OF WHICH PERTAIN TO MATTERS DISCLOSED BY THIS SURVEY.

8. UNDERGROUND UTILITIES SHOWN REPRESENT FIELD SURVEYED PAINT MARKS AS PLACED ON THE GROUND BY A UTILITY LOCATE SERVICE. NO GUARANTEE IS MADE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED OR THAT THE UNDERGROUND UTILITIES ARE SHOWN IN THEIR EXACT LOCATION. THE UTILITIES ARE SHOWN AS ACCURATELY AS POSSIBLE FROM AVAILABLE INFORMATION.

9. CONTOUR INTERVAL 2 FOOT

10. SUBSURFACE CONDITIONS WERE NOT EXAMINED OR CONSIDERED AS PART OF THIS SURVEY.

11. LOCATIONS OF HOUSES SHOWN HEREON WERE DERIVED FROM AERIAL PHOTOGRAMMETRY AND ARE RELIABLE TO PLUS OR MINUS 5 FEET.

12. 1-800-424-5555 MUST BE CALLED NOT LESS THAN 48 HOURS BEFORE BEGINNING EXCAVATION WHERE ANY UNDERGROUND UTILITIES MAY BE LOCATED. FAILURE TO DO SO COULD MEAN BEARING SUBSTANTIAL REPAIR COSTS. (UP TO THREE TIMES THE COST OF REPAIRS TO THE SERVICE).

BENCH MARKS

1. PROJECT BM POINT DESIGNATION DEA #2003 A COPPER PIN IN SQUARE CONCRETE MONUMENT LOCATED AT SOUTH QUARTER CORNER 29 AND AS SHOWN HEREON - ELEV - 256.520 FEET (NAVD 88)

2 TEMPORARY SITE BM'S POINT DESIGNATION DEA #6 A 1/2" IRON WITH "DEA CONTROL" CAP AND AS SHOWN HEREON - ELEV - 179.74 FEET (NAVD 88)

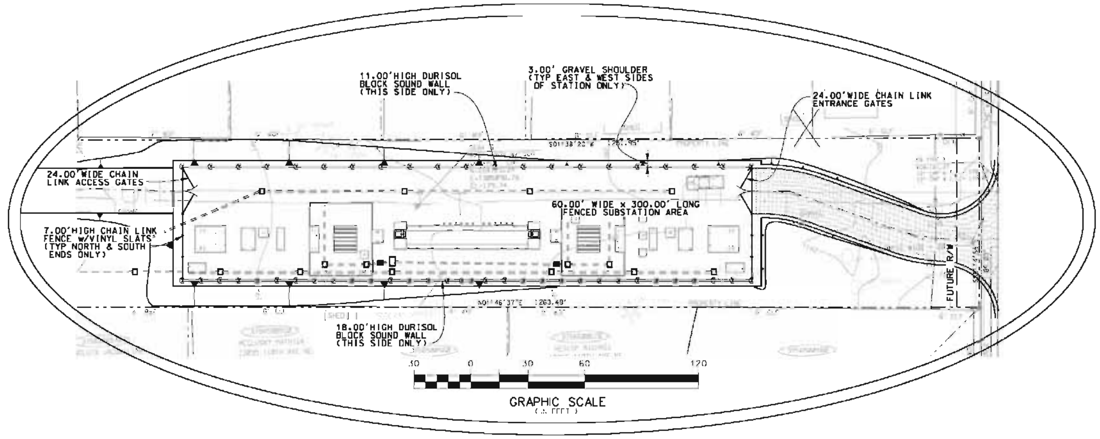
POINT DESIGNATION DEA #7 A 1/2" IRON WITH "DEA CONTROL" CAP AND AS SHOWN HEREON - ELEV - 165.50 FEET (NAVD 88)

LEGAL DESCRIPTION

PER PACIFIC NORTHWEST TITLE COMPANY OF WASHINGTON INC., TITLE ORDER NO. 651223, DATED APRIL 12, 2007

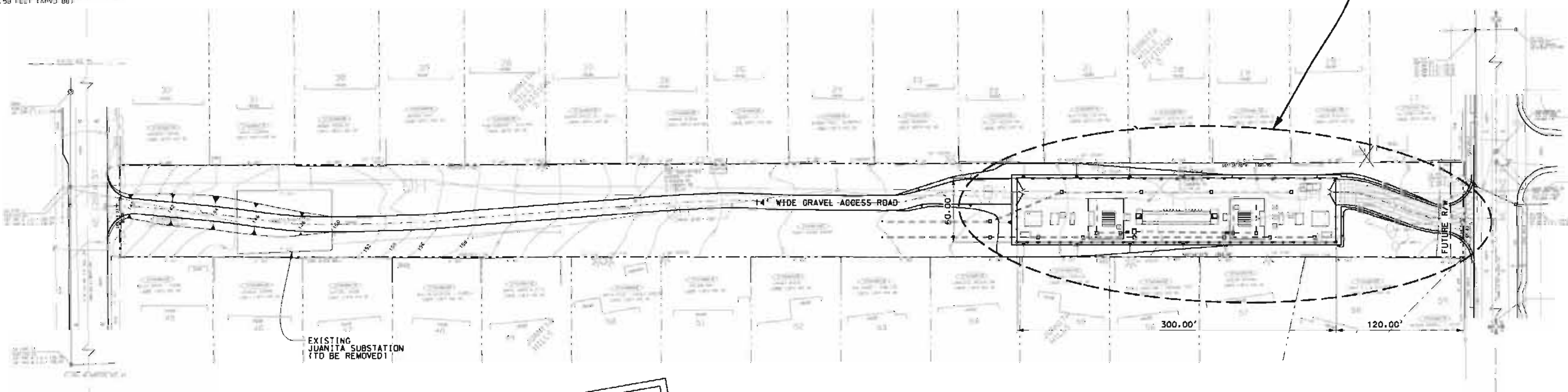
THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 29, TOWNSHIP 26 NORTH, RANGE 5 EAST, W.M., IN KING COUNTY, WASHINGTON;
EXCEPT THE WEST QUARTER;
EXCEPT THE EAST 400 FEET THEREOF;
EXCEPT THE NORTH 30 FEET THEREOF CONVEYED TO KING COUNTY FOR NORTHEAST 132ND STREET BY RECORDING NUMBER 2125699;
AND ALSO EXCEPT THE SOUTH 30 FEET THEREOF CONVEYED TO KING COUNTY FOR NORTHEAST 128TH STREET BY RECORDING NUMBER 5584777.

ADDRESS:
10510 NE 132nd ST.
KIRKLAND, WA.



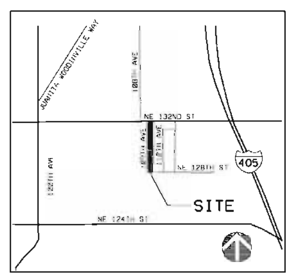
STATION DETAIL
SCALE: 1"=30'

NW 1/4, NE 1/4, SEC. 29, TWP 26N., RNG. 5E., W.M.



PRELIMINARY ONLY
NOT FOR CONSTRUCTION

50 0 50 100 200
GRAPHIC SCALE



VICINITY MAP
NO SCALE

EXPIRES: Jan. 27,

CALL BEFORE YOU DIG
Call: TOLL FREE
1-800-CUT-SRVC

REFERENCE DRAWINGS:

- D-14342 EROSION AND SEDIMENT CONTROL PLAN
- D-14343 GRADING AND FENCING PLAN
- D-14344 DRAINAGE PLAN
- D-14345 FOUNDATION PLAN
- D-14346 LANDSCAPE PLAN
- D-14347 STRUCTURAL PLAN (REF ONLY)

PSE ENGINEERING CONTACTS
355 N. 110TH AVE NE. BELLEVUE WA. 98009-0868

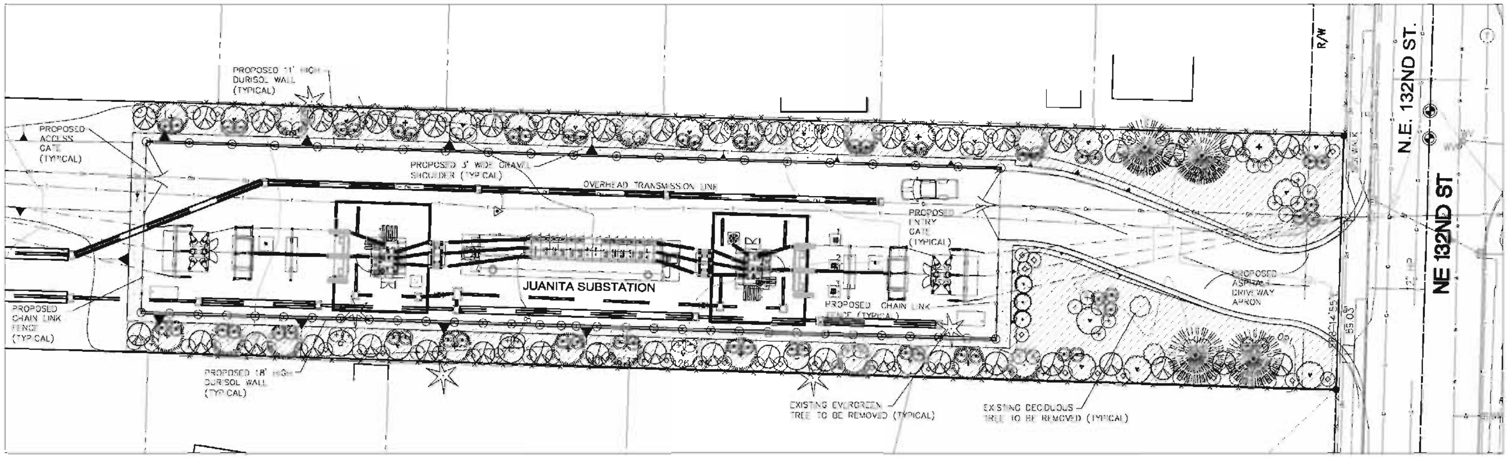
GROUP	NAME	PHONE
PROJECT MANAGEMENT	R. BAMBA	425-462-3774
CIVIL	J. RORABACHER	425-456-2446
ELECTRICAL	J. NEDRUD	425-462-3818
CONSTRUCTION MANAGEMENT	D. MOHN	425 456 2830
PERMITTING	A. MARKOS	253-476-6295

REVISION DESCRIPTION:
ISSUED FOR PERMITTING

	APPROVAL	DATE (M/D/Y)
CADD	M TURNER	4 / 30 / 08
		/ /
CIVIL ENGR		/ /
		/ /
REVIEW		/ /
		/ /

SITE PLAN
JUANITA SUBSTATION

PUGET SOUND ENERGY
SUBSTATION ENGINEERING DEPARTMENT
DRAWING NO D-14341 REV NO 0
SHEET OF
SCALE: 1"=50'-0" CLASS: SITE
CADD NO: ...\D14341 SITE.DGN
FILE NO



CALL BEFORE YOU DIG
Call: TOLL FREE
1-800-424-5555

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	QNTY	SIZE	REMARKS
TREES					
	ACER CIRCINATUM	VINE MAPLE	17	5'-6' HT.	B&B MULTI-STEMMED
	CALOCEDRUS DECURRENS	INCENSE CEDAR	11	6'-8' HT	B&B, SPACED PER PLAN
	PINUS NIGRA	AUSTRIAN BLACK PINE	4	6'-8 HT	B&B, WELL-BRANCHED FROM ROOT CROWN TO TOP
	THUJA PLICATA 'ATROVIRENS'	WESTERN RED CEDAR	9	6'-8 HT	B&B, SPACED PER PLAN
	RHAMNUS PURSHIANA	CASCARA	3	6'-8 HT	B&B, WELL-BRANCHED FROM ROOT CROWN TO TOP
	THUJA OCCIDENTALIS 'FASTIGIATA'	AMERICAN ARBORVITAE	3	6'-8 HT	B&B, SPACED PER PLAN
SHRUBS					
	AMELANCHIER ALNIFOLIA	SERVICEBERRY	42	5 GAL.	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	54	5 GAL.	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	60	5 GAL.	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	SYMPHORICARPOS ALBUS	SNOWBERRY	70	5 GAL.	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
SURFACE MATERIALS					
	MEDIUM BARK MULCH	MEDIUM BARK MULCH	125 CY		3" DEPTH – CONTRACTOR TO VERIFY QUANTITY

LANDSCAPE NOTES

GENERAL

1. ALL WORK SHALL BE DONE AS SHOWN IN THE DRAWINGS AND IN CONFORMANCE WITH THE PUGET SOUND ENERGY (PSE) PROJECT GENERAL PROVISIONS AND SPECIFICATIONS FOR THIS PROJECT. THE DRAWINGS SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS SHOULD THERE BE ANY CONFLICT.

2. SITE BASE INFORMATION PROVIDED BY BOUNDARY AND TOPOGRAPHIC SURVEY, JUANITA SUBSTATION, (DAVID EVANS AND ASSOCIATES, INC. (DEA)), MAY 8, 2007.

SITE PREPARATION

1. CLEAR AND GRUB EXISTING VEGETATION IN AREAS TO BE PLANTED.

PLANTING

1. ALL TREES, SHRUBS AND SEEDING SHALL BE INSTALLED PER THE LANDSCAPE PLAN AND AS SHOWN IN THE PLANTING DETAILS.

2. PLANTING BED SHALL BE AMENDED WITH 4" CEDAR GROVE 2-WAY TOPSOIL (OR APPROVED EQUIVALENT) ROTOTILLED INTO 12" OF EXISTING SOIL.

3. PLANT PIT BACKFILL SHALL BE CEDAR GROVE 2-WAY TOPSOIL (OR APPROVED EQUIVALENT)

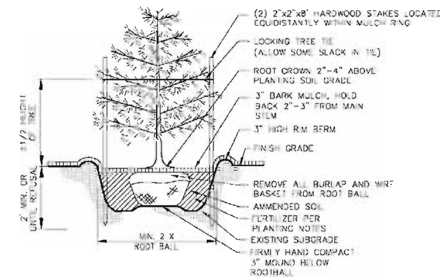
4. IMMEDIATELY AFTER PLANTING, PLACE MEDIUM BARK MULCH TO A UNIFORM 3" DEPTH THROUGHOUT PLANTING AREAS.

5. CONTRACTOR SHALL APPLY TIME RELEASE FERTILIZER TO PLANT PITS (OSMOCOTE TM OR APPROVED EQIVALENT) PER MANUFACTURER'S INSTRUCTIONS.

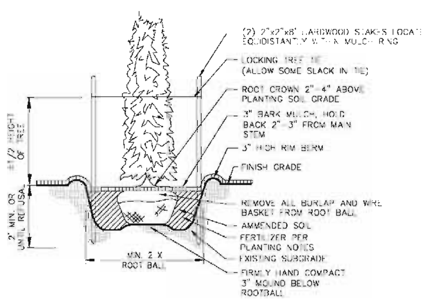
6. AFTER INSTALLATION APPLY SNAPSHOT PRE-EMERGENT HERBICIDE (OR APPROVED EQUIVALENT) FOR WEED CONTROL PER MANUFACTURER'S RECOMMENDATIONS.

7. ALL PLANT MATERIALS SHALL BE IRRIGATED BY THE CONTRACTOR THOROUGHLY WHEN PLANTED AND UP TO FINAL ACCEPTANCE. PLANTING AREAS SHALL RECEIVE 1" OF WATER PER WEEK DURING MAY 15–OCTOBER 15 EXCLUDING MAJOR STORM EVENTS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR IRRIGATION DURING THE WARRANTY PERIOD.

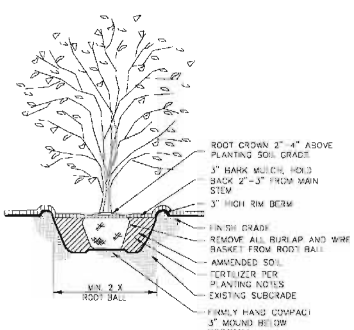
8. PERMANENT IRRIGATION SYSTEM SHALL BE INSTALLED PER THE IRRIGATION PLAN AND MAINTAINED BY THE CONTRACTOR DURING THE WARRANTY PERIOD.



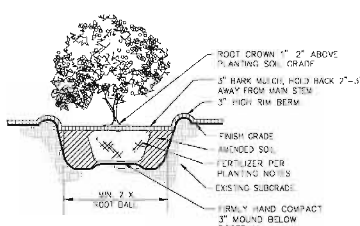
ORNAMENTAL EVERGREEN TREE PLANTING
NOT TO SCALE



COLUMNAR EVERGREEN TREE PLANTING
NOT TO SCALE



DECIDUOUS MULTI- STEM TREE PLANTING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE

0 20 40 60
SCALE: 1"=20

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
JONATHAN C. GAGE CERTIFICATE NO. 832

DAVID EVANS AND ASSOCIATES INC.
415 - 118th Avenue SE
Bellevue Washington 98005-3518
Phone: 425.519.6500

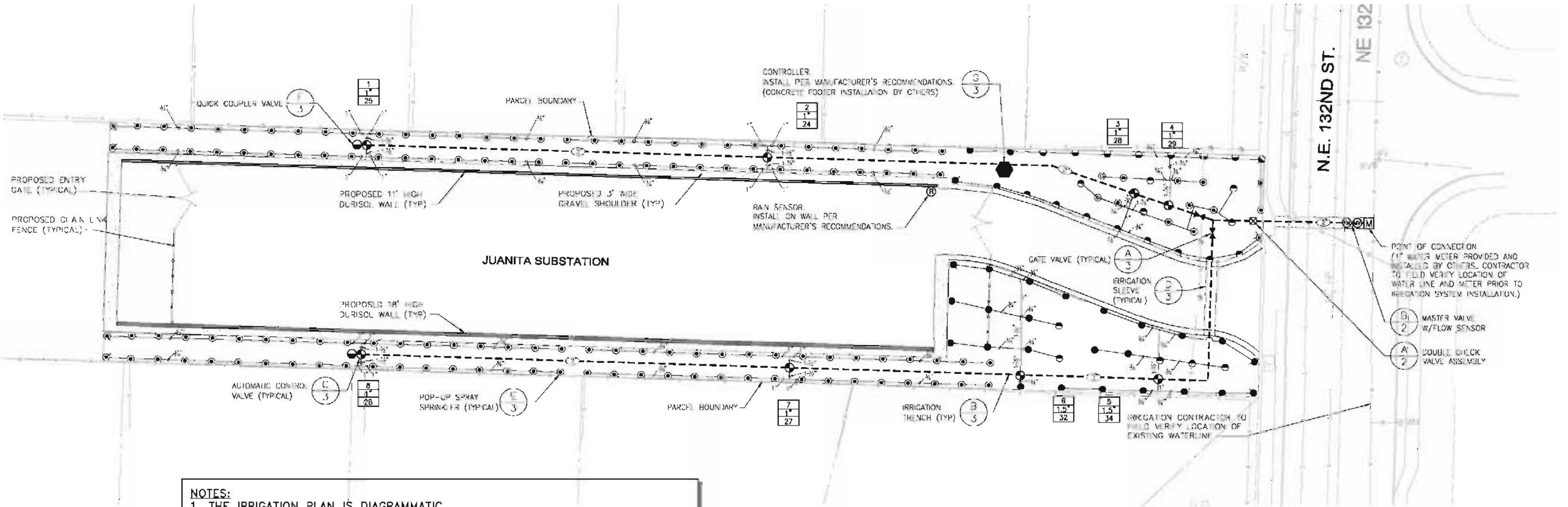
PRELIMINARY- NOT FOR CONSTRUCTION

REVISION DESCRIPTION	APPROVAL	DATE (M/D/Y)
ORIGINAL ISSUE		
CADD	CBK	5 / 18 / 08
		/ /
LAND ARCH	JCGA	5 / 18 / 08
		/ /
REVIEW		/ /
LOG OUT		/ /

JUANITA SUBSTATION
LANDSCAPE PLAN

PUGET SOUND ENERGY
SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO D-14346 REV NO 1
SHEET 1 OF 5
SCALE: 1" = 20'- 0" CLASS: SITE SCANNED FILE NO
CADD NO: D 14346 01_ L1.DWG



NOTES:
1. THE IRRIGATION PLAN IS DIAGRAMMATIC.

2. SEE SHEET 3 FOR IRRIGATION NOTES AND DETAILS. INSTALL MAINLINE, VALVES, PIPE, AND ASSOCIATED EQUIPMENT IN PLANTER BEDS OR GRASS AREAS.

IRRIGATION EQUIPMENT LEGEND

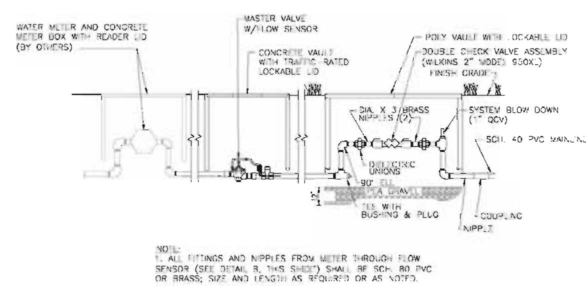
- RAIN BIRD FS-200-B FLOW SENSOR
- RAIN BIRD MASTER VALVE PEB SERIES
- GATE VALVE
- RAIN BIRD AUTOMATIC CONTROL VALVE PEB SERIES
- RAIN BIRD QUICK COUPLING VALVE #44 RC
- RAIN BIRD RAIN SENSOR RSD CEx
- DCVA ASSEMBLY
- WATER METER (SUPPLIED AND INSTALLED BY OTHERS)
- RAIN BIRD ESP-LX MODULAR OUTDOOR 12-STATION ELECTRONIC CONTROLLER (INSTALL IN VYNCKIER POLYSAFE MODEL PS3020A ENCLOSURE. CONCRETE FOOTER FOR PEDESTAL BY OTHERS)

VALVE LEGEND

- STATION NUMBER / VALVE SIZE / GALLONS PER MINUTE
- SCHEDULE 40 PVC MAINLINE (SIZED AS SHOWN ON PLANS) (MINIMUM 18" BURY)
- SCHEDULE 40 PVC LATERAL (1" SIZE UNLESS SHOWN OTHERWISE ON PLANS)
- SCHEDULE 40 PVC SLEEVES (SIZED AT DOUBLE WORKING PIPE DIAMETER)

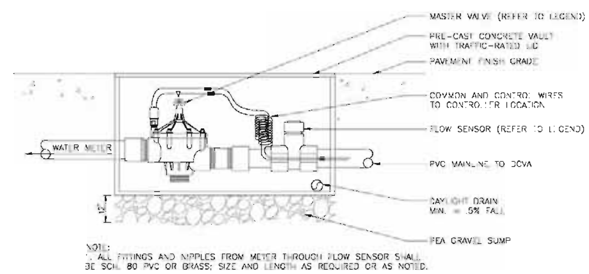
IRRIGATION EQUIPMENT LEGEND

Q T H F	NOZ.	MANF.	MODEL NO.	RAD.	PATTERN	PSI	FLOW				
	8'	RAINBIRD	1806-SAM-PRS	8'	QTR, THRD, HLF, FULL	30	.26	.35	.52	1.05	VAR
	10'	RAINBIRD	1806-SAM-PRS	10'	QTR, THRD, HLF, FULL	30	.39	.53	.79	1.58	VAR
	12'	RAINBIRD	1806-SAM-PRS	12'	QTR, THRD, HLF, FULL	30	.65	.87	1.3	2.60	VAR



NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR (SEE DETAIL B, THIS SHEET) SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

(A) DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE



NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

(B) MASTER VALVE WITH FLOW SENSOR
NOT TO SCALE

0 20 40 60
SCALE: 1"=20

DAVID EVANS AND ASSOCIATES INC.
415 - 118th Avenue SE
Bellevue Washington 98005-3518
Phone: 425.519.6500

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT
JONATHAN C. GAGE

PRELIMINARY- NOT FOR CONSTRUCTION

REVISION DESCRIPTION: ORIGINAL ISSUE		
	APPROVAL	DATE (M/D/Y)
CADD	CCK	5 / 18 / 08
		/ /
LAND ARCH	JCGA	5 / 18 / 08
		/ /
REVIEW		/ /
LOG OUT		/ /

JUANITA SUBSTATION
IRRIGATION PLAN

PUGET SOUND ENERGY — SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO D-14346 | REV NO 0 | SHEET 2 OF 5
SCALE: 1" = 20'- 0" | CLASS: SITE | SCANNED | FILE NO
CADD NO: D-14346 02_IRI.DWG

IRRIGATION NOTES

1. ALL NEW LANDSCAPE AREAS SHALL HAVE AN AUTOMATICALLY CONTROLLED IRRIGATION SYSTEM. SYSTEM SHALL BE DESIGNED TO CONSERVE WATER AND MINIMIZE OVERSPRAY ON WALKS, VEHICLES AND OTHER SURFACES. IRRIGATION SYSTEM WORK INCLUDES EXCAVATING, BACKFILLING, SUPPLYING AND INSTALLING VALVES AND FITTINGS, PIPING AND FITTINGS, QUICK COUPLER VALVES, VALVE BOXES, AND ACCESSORIES, TESTING, AND WINTERIZING AND SPRING START UP.

2. THE IRRIGATION SYSTEM HAS BEEN DESIGNED FOR A MAXIMUM FLOW OF 35 GPM AT A STATIC PRESSURE OF 88 PSI. IF AVAILABLE PSI IS SIGNIFICANTLY (OVER THAN 88 PSI, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION FOR SYSTEM DESIGN ADJUSTMENT.

3. THE IRRIGATION PLAN IS DIAGRAMMATIC. INSTALL MAINLINE, VALVES, PIPE, AND ASSOCIATED EQUIPMENT IN PLANTER BEDS.

4. LOCATE ALL ABOVE AND BELOW GROUND UTILITIES AND PROTECT THEM FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INCURRED DURING OR AS A RESULT OF, CONSTRUCTION OF IRRIGATION SYSTEM.

5. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO COORDINATE INSTALLATION OF IRRIGATION SLEEVES WITH THE GENERAL CONTRACTOR.

6. INSTALL SYSTEM TO MEET ALL APPLICABLE CODES AND INSPECTIONS AND OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.

7. INSTALL ALL MATERIALS AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS.

8. PROVIDE ONLY NEW MATERIALS, WITHOUT FLAWS OR DEFECTS AND OF THE HIGHEST QUALITY OF THEIR SPECIFIED CLASS AND KIND FOR COMMERCIAL USE.

A. PVC MAINLINE AND LATERAL PIPE SHALL BE CONSTRUCTED OF SCH. 40 PVC. ALL PIPES SHALL BE PERMANENTLY PRINTED WITH STANDARD PRINTING INFORMATION.

B. PVC FITTINGS SHALL BE SCHEDULE 80 RATED FOR MAINLINE AND SCHEDULE 40 RATED FOR LATERALS AND MEET ASTM D2466 STANDARDS AND SPECIFICATIONS.

C. PVC NIPPLES SHALL BE SCHEDULE 80 RATED AND MEET ASTM D1785 REQUIREMENTS AND SPECIFICATIONS. ALL NIPPLES WILL HAVE TAPERED THREADS.

D. JOINING MATERIALS USED SHALL BE MANUFACTURED BY LP.S. OR APPROVED EQUIVALENT, AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS AND SAFETY RECOMMENDATIONS.

E. THREADED CONNECTIONS (PVC) SHALL BE SEALED WITH TEFLON TAPE OR TEFLON PASTE.

F. IRRIGATION SLEEVES SHALL BE SCHEDULE 40 PVC AND SIZED DOUBLE THE DIAMETER OF THE PIPE RUNNING THROUGH IT.

G. CONTROLLER SHALL BE RAINBIRD ESP-8X MODULAR OUTDOOR 12-STATION OR APPROVED EQUIVALENT AND CABINET-MOUNTED IN A WYNCKIER POLYSAFE MODEL PS3020A ENCLOSURE OR APPROVED EQUIVALENT AS SHOWN ON PLANS. INSTALLATION SHALL BE ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE LOCATION WITH OWNER.

H. ALL IRRIGATION WIRING TO BE "MULTISTRAND" WIRING.

I. INSTALL A RAINBIRD PER SERIES MASTER VALVE AT THE WATER METER. COORDINATE WITH OWNER.

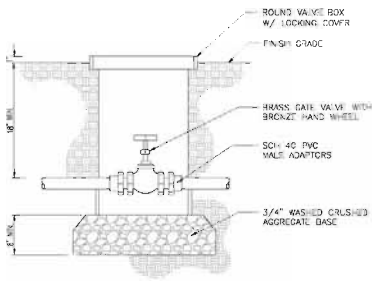
J. INSTALL A RAINBIRD FLOW SENSOR, MODEL FS-200-B, FLOW SENSOR DOWNSTREAM FROM MASTER VALVE.

9. CONTRACTOR SHALL PROVIDE IRRIGATION SYSTEM RECORD DRAWINGS LEGIBLY MARKED TO RECORD ACTUAL INSTALLATION. DRAWINGS SHALL INDICATE HORIZONTAL AND VERTICAL LOCATIONS, REFERENCED TO PERMANENT SURFACE IMPROVEMENTS. IDENTIFY FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING CHANGES MADE BY CHANGE ORDER. AN 11"X17" PLAN SHALL BE LAMINATED AND PLACED AT THE CONTROLLER LOCATION LEGIBLY SHOWING COLOR-CODED ZONES.

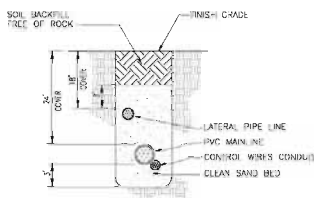
10. CONTRACTOR SHALL REVIEW ENTIRE SYSTEM WITH OWNER'S REPRESENTATIVE AND SUPPLY OPERATIONS MANUAL AND WARRANTIES.

11. WINTERIZATION: CONTRACTOR SHALL INSPECT SYSTEM, SHUT-OFF, AND DRAIN PIPE BETWEEN SHUT-OFFS AND DOUBLE-CHECK VALVE AND BLOW OUT SYSTEM COMPLETELY BETWEEN OCTOBER 1 AND OCTOBER 15 DURING THE WARRANTY PERIOD FOR WINTERIZATION.

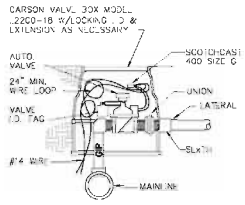
12. SPRING START-UP: CONTRACTOR SHALL INSPECT, PRESSURIZE SYSTEM, REPAIR LEAKS AND ANY FAULTY WORK, ADJUST AND PROGRAM CONTROLLERS AS NECESSARY DURING MARCH - 31 FOR SPRING START-UP.



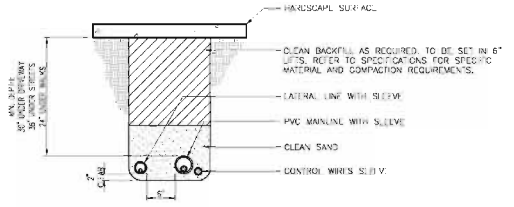
A GATE VALVE
NOT TO SCALE



B TRENCH DETAIL
NOT TO SCALE

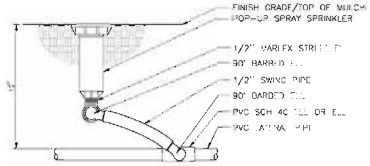


C AUTOMATIC CONTROL VALVE
NOT TO SCALE

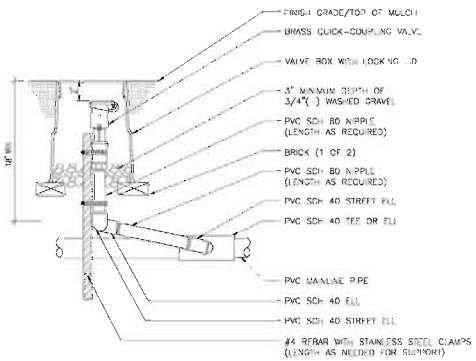


NOTES:
1. ALL SLEEVES TO BE PVC, SCH 40 AND TWICE THE DIAMETER OF THE WORKING PIPE.
2. ALL SLEEVES TO RUN A MIN. OF 12" BEYOND HARDSCAPE EDGES.
3. CLEAN BACKFILL MAY BE SUBSTITUTED FOR SAND UNDER WALKS AND DRIVES.

D IRRIGATION SLEEVING
NOT TO SCALE

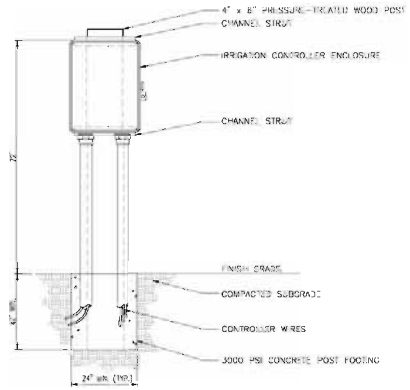


E POP-UP SPRAY SPRINKLER
NOT TO SCALE



NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

F QUICK COUPLER VALVE
NOT TO SCALE



G CONTROLLER INSTALLATION
NOT TO SCALE

STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT
JONATHAN G. BAGE
CERTIFICATE NO. 3102

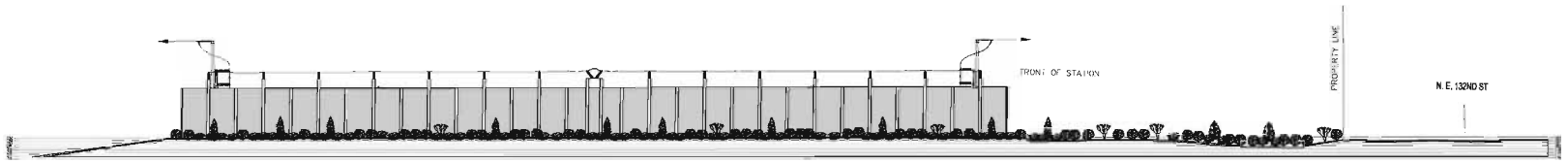
DAVID EVANS AND ASSOCIATES INC.
415 - 118th Avenue SE
Bellevue Washington 98005-3518
Phone: 425.519.8500

PRELIMINARY- NOT FOR CONSTRUCTION

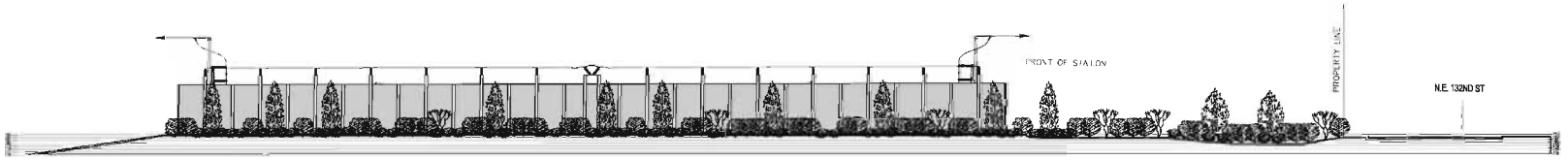
REVISION DESCRIPTION: ORIGINAL ISSUE			JUANITA SUBSTATION IRRIGATION NOTES & DETAILS		
	APPROVAL	DATE (M/D/Y)			
CADD	CCK	5 / 18 / 08			
		/ /			
LAND ARCH	JCGA	5 / 18 / 08			
		/ /			
REVIEW		/ /	SCALE:	CLASS: SITE	
LOG OUT		/ /	CADD NO: D 14346 B2_ IRI_ .DWG		

PUGET SOUND ENERGY — SUBSTATION ENGINEERING DEPARTMENT

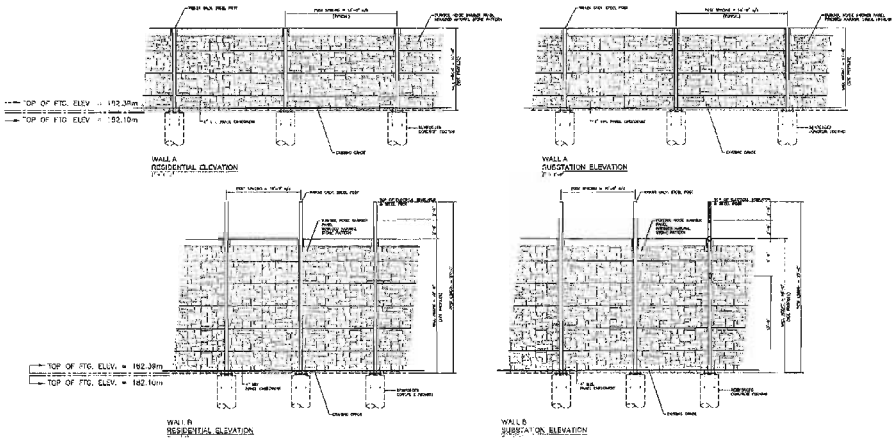
DRAWING NO D-14346 | REV NO 0 | SHEET 3 OF 5 | SCANNED | FILE NO

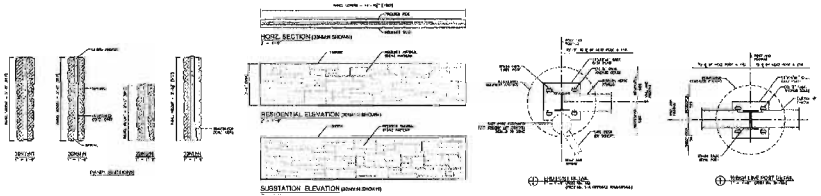


PLANT SIZE AT INSTALLATION
EAST ELEVATION



PLANT SIZE AT 10 YEARS GROWTH
EAST ELEVATION





ELEVATION &
TYPICAL DETAILS

0 20 40 60
SCALE: 1"=20'

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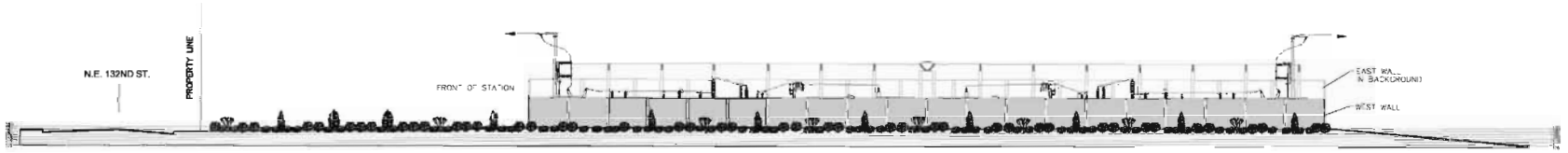
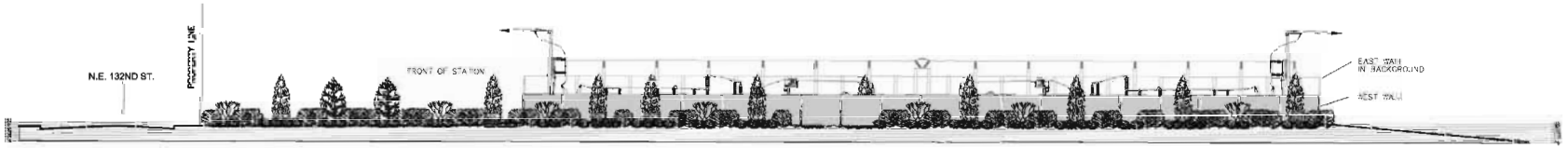
REVISION DESCRIPTION: ORIGINAL ISSUE			JUANITA SUBSTATION EAST LANDSCAPE ELEVATION		
	APPROVAL	DATE (M/D/Y)			
CADD	GBK	5 / 18 / 08			
		/ /			
LAND ARCH	JCGA	5 / 18 / 08			
		/ /			
REVIEW		/ /	SCALE:	CLASS: SITE	
LOG OUT		/ /	CADD NO: D 14346 04_ELI.DWG		

PUGET SOUND ENERGY — SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO D-14346 | REV NO 0
SHEET 4 OF 5
SCANNED | FILE NO



PLANT SIZE AT INSTALLATION
WEST ELEVATION



PLANT SIZE AT 10 YEARS GROWTH
WEST ELEVATION

DAVID EVANS
AND ASSOCIATES INC.
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Bellevue Washington 98005-3518
Phone: 425.519.6500

0 20 40 60
SCALE: 1"=20'

REVISION DESCRIPTION: ORIGINAL ISSUE		
	APPROVAL	DATE (M/D/Y)
CADD	GBK	5 / 18 / 08
		/ /
LAND ARCH	JCCA	5 / 18 / 08
		/ /
REVIEW		/ /
LOG OUT		/ /

JUANITA SUBSTATION
WEST LANDSCAPE ELEVATION

PUGET SOUND ENERGY
SUBSTATION ENGINEERING DEPARTMENT

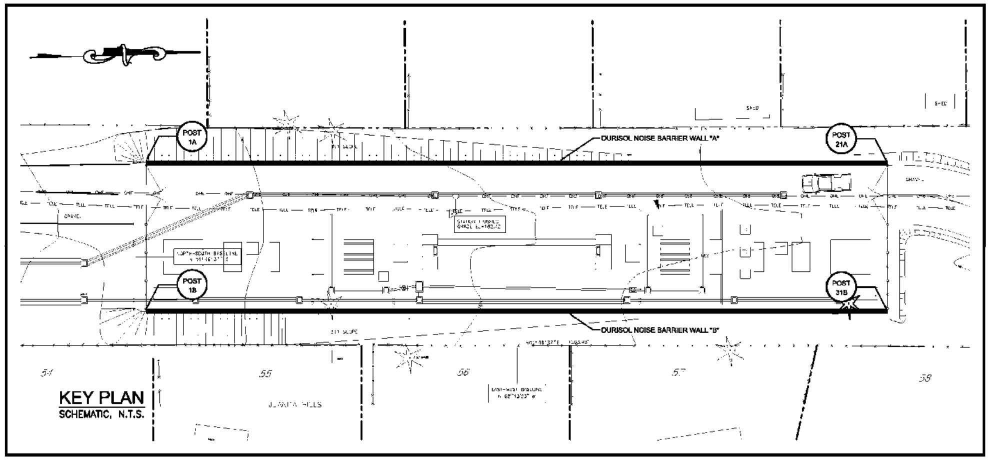
DRAWING NO	REV NO
D-14346	0
SHEET 5 OF 5	

SCALE: | CLASS: SITE | SCANNED | FILE NO
CADD NO: D 14346 05_ EL2.DWG

Durisol® NOISE BARRIER WALL SYSTEM

JUANITA SUBSTATION

WASHINGTON STATE



KEY PLAN
SCHEMATIC, N.T.S.

GENERAL NOTES

1. DESIGN

1.1 The structure and its components have been designed in accordance with the following:
AISC Manual of Steel Construction - LRFD 2001.
AASHTO - LRFD Bridge Design Specifications- Latest Edition
AASHTO - Guide Specifications for Structural Design of Sound Barriers, 1989
1992 Revisions - 2002 interims
BOCA - 1999

1.2 All dimensions and sizes are given in feet and inches unless noted otherwise

2. LOADING

2.1 Design Wind Pressure = 25.0 psf

3. CONCRETE

3.1 All concrete work shall conform to ACI 318.
3.2 Concrete cylinder strength at 28 days shall not be less than:
Durisol Panels (Core)..........5000 psi
Non-shrink Grout (by others)..........5000 psi
Concrete in Footing (by others)..........4350 psi

4. FOUNDATIONS

4.1 Foundation design based on geotechnical information provided by GeoEngineers Inc., prepared for Puget Sound Energy, report File No. 0186-760-00
4.2 Footing concrete to be cast entirely against undisturbed soil, compacted soil to 95% Standard proctor Density, or rock.

5. REINFORCING STEEL

5.1 All reinforcing steel shall be deformed bars and have a minimum yield strength of 60 ksi conforming to ASTM A615.
5.2 Welded wire reinforcement shall conform to ASTM A185.
5.3 Post and Panel steel to be Hot Dip Galvanized.

6. STRUCTURAL STEEL

6.1 All structural steel work to comply with AASHTO M270 (ASTM A709), grade 345 W (50 ksi).
6.2 All plates shall conform to AASHTO M270 (ASTM A709) Minimum yield strength = 345 MPa (50 ksi)
6.3 All fasteners/Anchor Bolts to be hot-dip galvanized to comply with ASTM A449. Minimum ultimate strength = 725 MPa (105 ksi).
6.4 All components shall be hot dip galvanized after fabrication and comply with ASTM A123.
6.5 Galvanized surfaces which are abraded shall be cleaned and painted with two coats of zinc-rich paint.

7. WELDING

7.1 All welding and the preparation and assembly of materials for welding shall conform to the Standard Specifications for Highway and Bridge Welding Code (ANSI / AASHTO / AWSD1.5) and all interim revisions published by AASHTO as of 2000.

8. ACOUSTIC PROPERTIES

8.1 Noise Reduction Coefficient (NRC)
8.1.1 Minimum NRC for Absorptive Classification ⩾ 0.70.
8.1.2 Durisol panels when tested in accordance with ASTM Standard C423-81, free standing, in accordance with ASTM Standard E795-81, record a minimum NRC ⩾ 0.70 (both faces).
8.2 Sound Transmission Coefficient (STC)
8.2.1 The Durisol wall meets the minimum STC ⩾ 42 when measured in accordance with ASTM Standard E90-75.

9. INSTALLATION

9.1 Posts identified by numbers shown on elevation drawings.
9.1.1 Posts shall be installed plumb to within a tolerance of ± 1/4" in 10'-0" and on lines and spacings specified within ± 3/8", or as per contract.
9.2 Bay of panels identified by post number to left of bay.
9.3 Each panel in bay identified by code showing type, size and orientation.
9.4 All panels to be level horizontally unless noted otherwise.
9.5 The Contractor shall verify all dimensions on site and correlate with construction drawings. The Engineer shall be notified of any discrepancies prior to commencing with construction.

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(000.00) = TOP OF CONCRETE FOUNDATION ELEVATION (ft)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

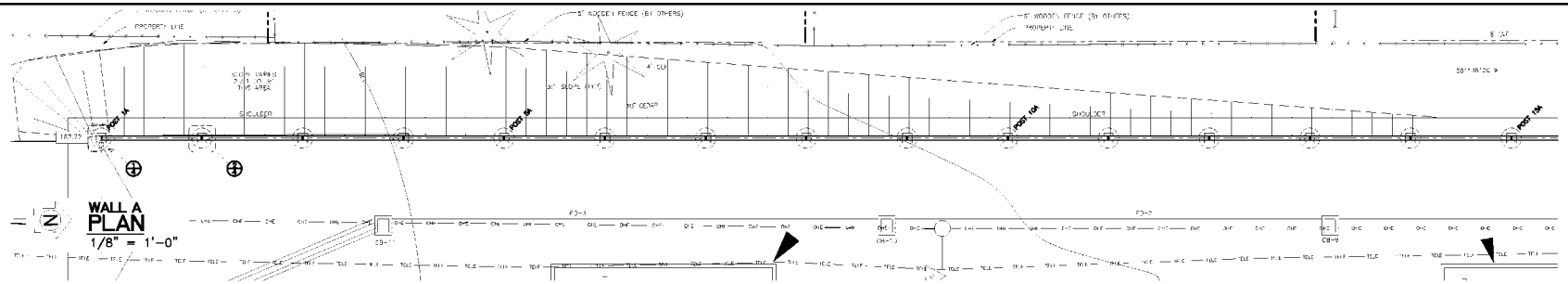
LOCATION:
WASHINGTON, USA

DRAWING TITLE:
TITLE SHEET

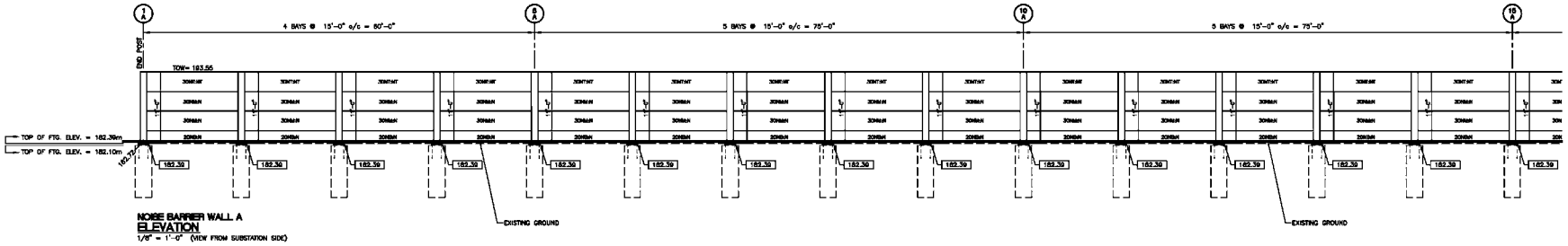
FEDERAL PROJECT No:

STATE PROJECT No:

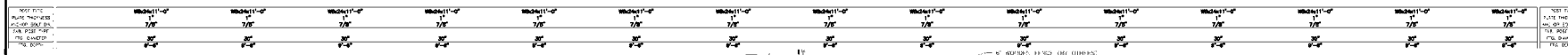
SCALE: NOTED	ACAD FILE: 08rc025-01.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 1 of 6
DATE of PRINT: MAY 9, 2008	

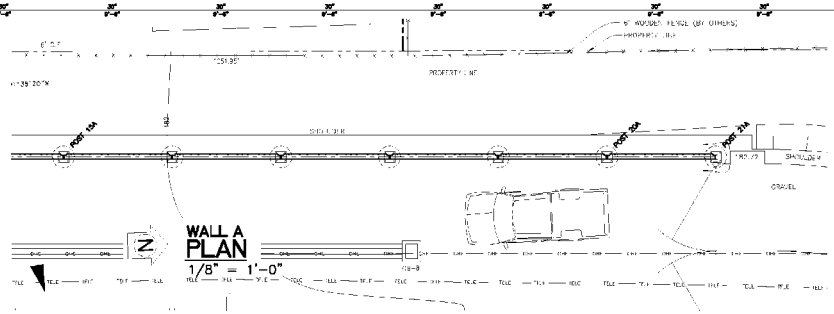


WALL A
PLAN
1/8" = 1'-0"

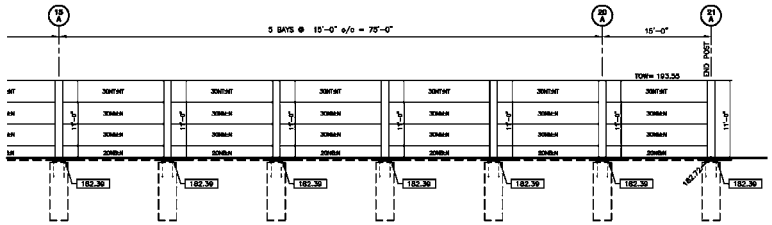


NOISE BARRIER WALL A
ELEVATION
1/8" = 1'-0" (VIEW FROM SUBSTATION SIDE)

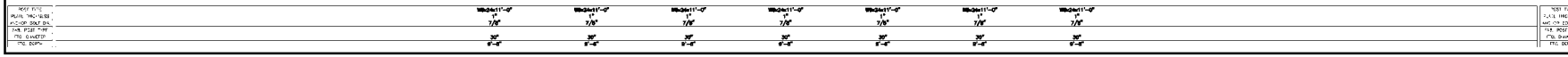




WALL A
PLAN
1/8" = 1'-0"



NOISE BARRIER WALL A
ELEVATION
1/8" = 1'-0" (VIEW FROM SUBSTATION SIDE)
(CONTINUED...)



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(000.00) = TOP OF CONCRETE FOUNDATION ELEVATION (m)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA
SUBSTATION

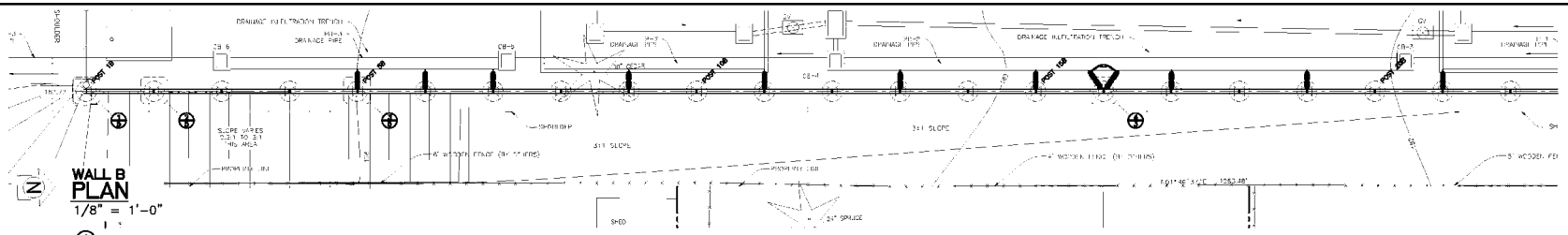
LOCATION:
WASHINGTON, USA

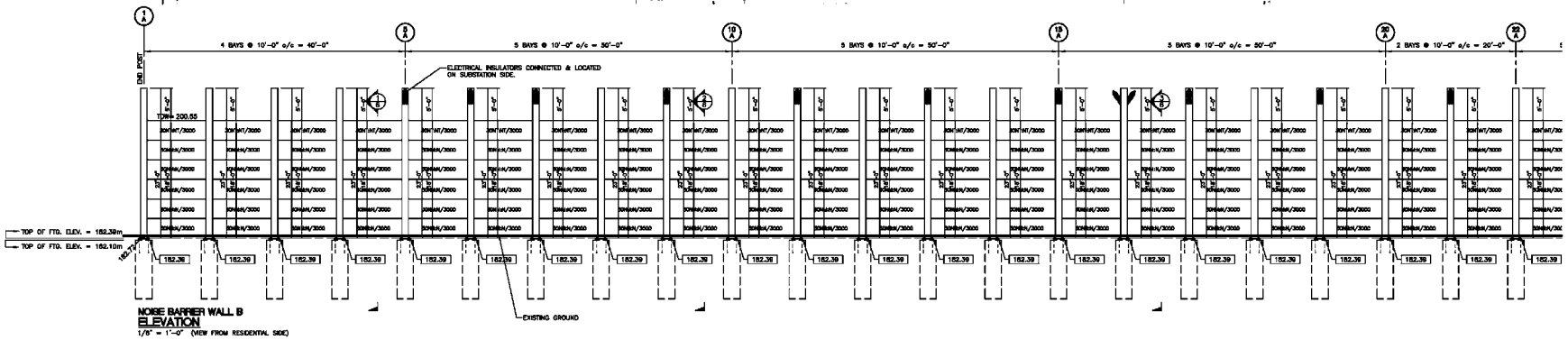
DRAWING TITLE:
WALL A
PLAN & PROFILE

FEDERAL PROJECT No:

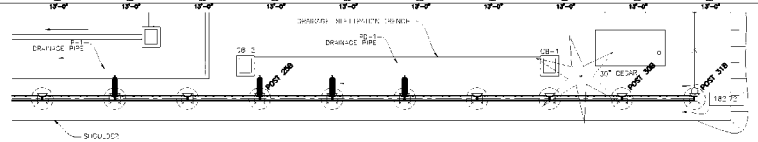
STATE PROJECT No:

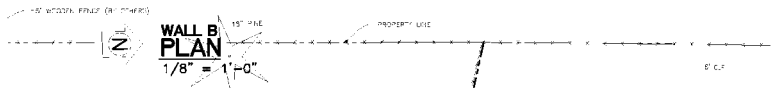
SCALE: NOTED	ACAD FILE: 08rc025-02.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 2 of 26
DATE of PRINT: MAY 9, 2008	

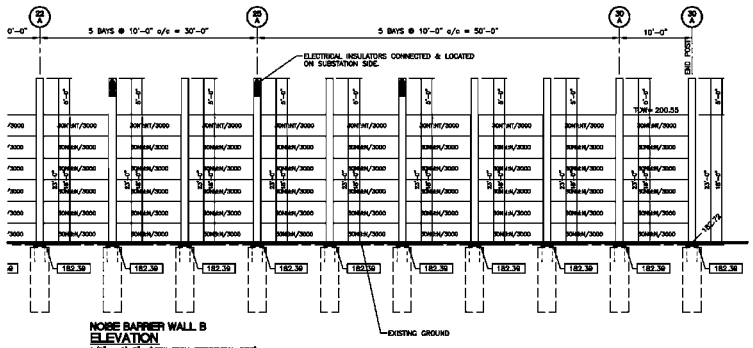




NOISE BARRIER WALL B
ELEVATION
1/8" = 1'-0" (VIEW FROM RESIDENTIAL SIDE)







NOISE BARRIER WALL B
ELEVATION
1/8" = 1'-0" (VIEW FROM RESIDENTIAL SIDE)

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(000.00) = TOP OF CONCRETE FOUNDATION ELEVATION (m)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.06	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA
SUBSTATION

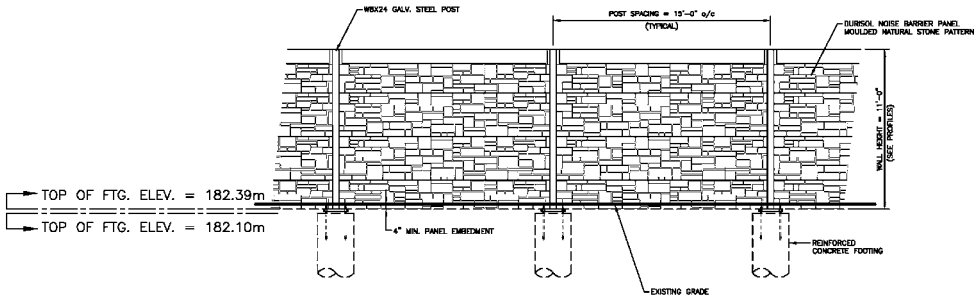
LOCATION:
WASHINGTON, USA

DRAWING TITLE:
WALL B
PLAN & PROFILE

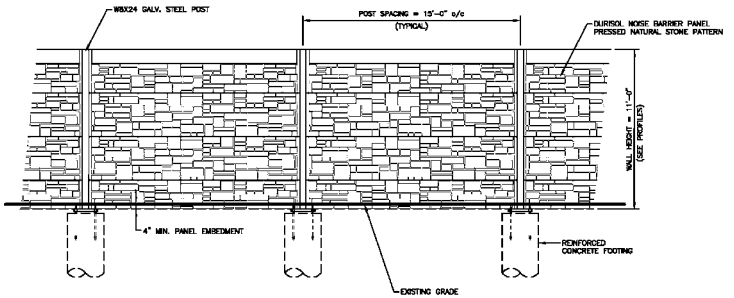
FEDERAL PROJECT No:

STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025-03.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2006	SHEET No: 3 of 6
DATE of PRINT: MAY 9, 2006	27



WALL A
RESIDENTIAL ELEVATION
3/8" = 1'-0"



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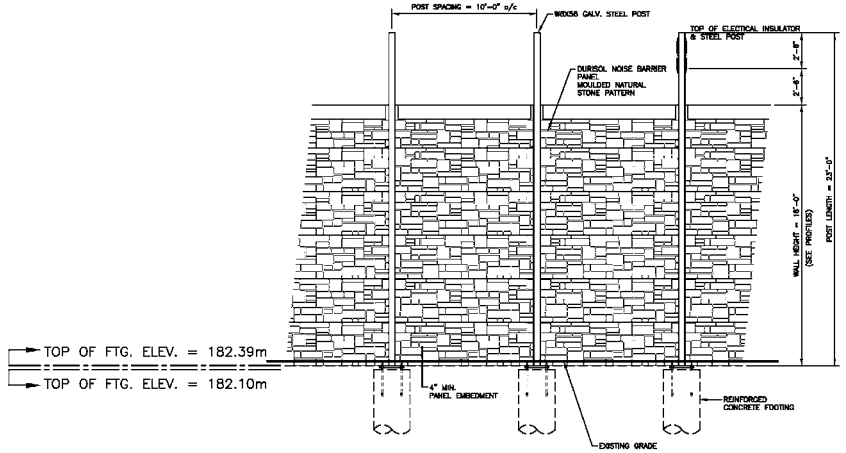
SUBSTATION ELEVATION
3/8" = 1'-0"



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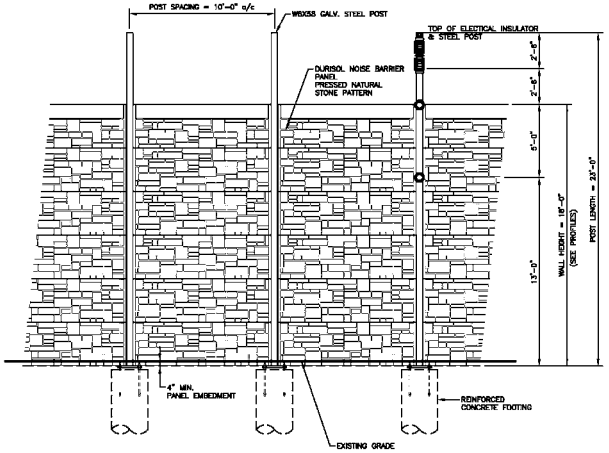
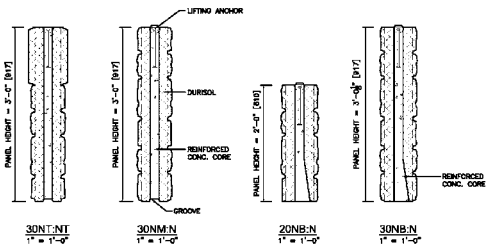
RESIDENTIAL ELEVATION
3/8" = 1'-0"



WALL B
SUBSTATION ELEVATION
3/8" = 1'-0"



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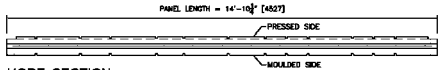

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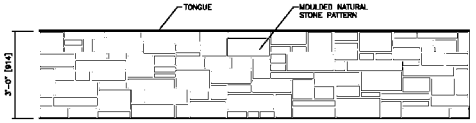
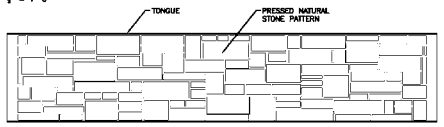


RESIDENTIAL ELEVATION (30NM:N SHOWN)
3/8" = 1'-0"



SUBSTATION ELEVATION (30NM:N SHOWN)
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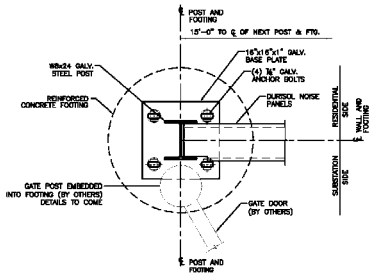

END POST DETAIL
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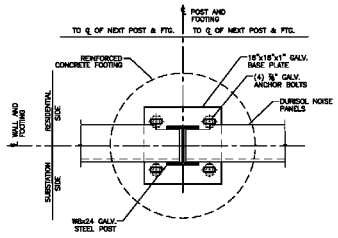
(POST No. 21A OPPOSITE SYMMETRICAL)



WBx24 LINE POST DETAIL
1" = 1'-0" (POST No. 2A-20A)

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(XXX.XX) = TOP OF CONCRETE FOUNDATION ELEVATION (ft)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

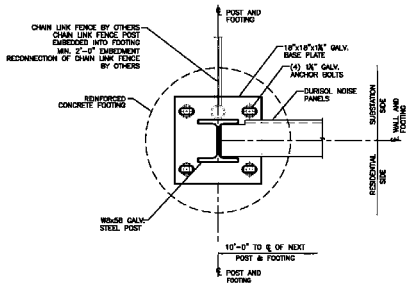
PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

DRAWING TITLE:
ELEVATION & TYPICAL DETAILS

FEDERAL PROJECT No:
STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025-04.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 4 of 6
DATE OF PRINT: MAY 9, 2008	



1/5 END POST DETAIL
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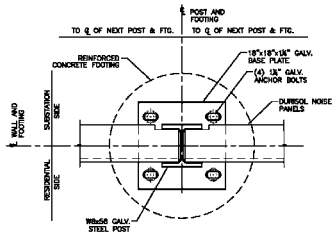
(POST No. 31B OPPOSITE SYMMETRICAL)



2/5 W8x58 LINE POST DETAIL
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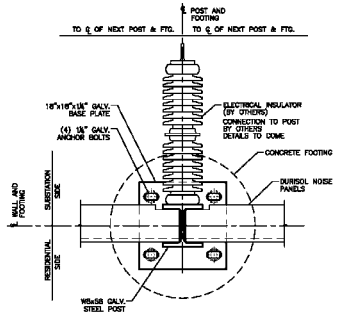
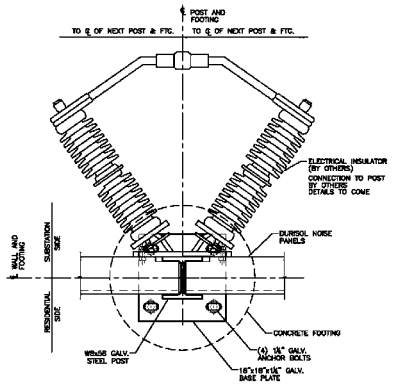


3/5 LINE POST DETAIL
1" = 1'-0"



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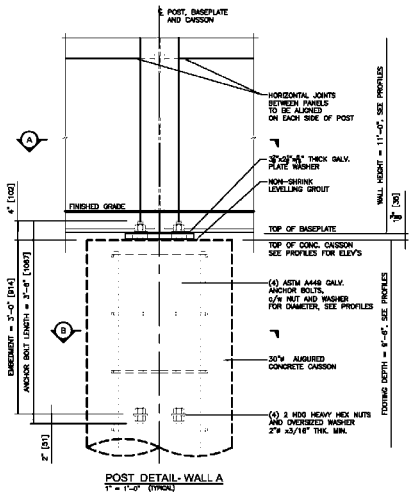

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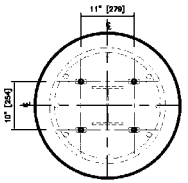
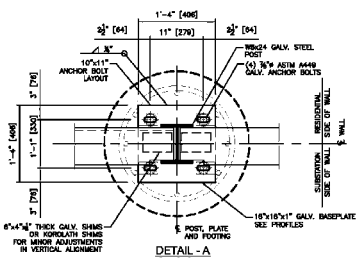


ANCHOR BOLT TEMPLATE DETAIL
1" = 1'-0"



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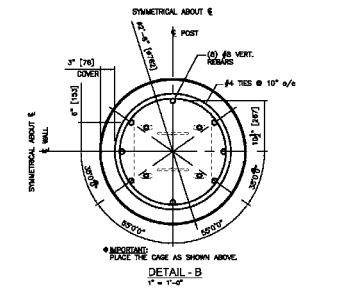

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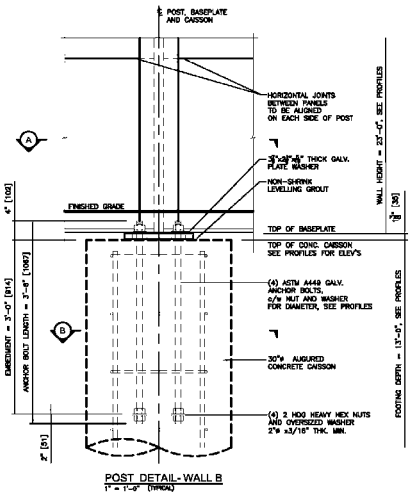

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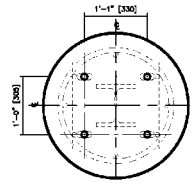

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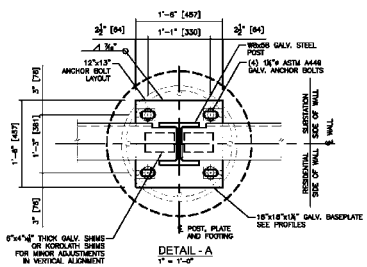

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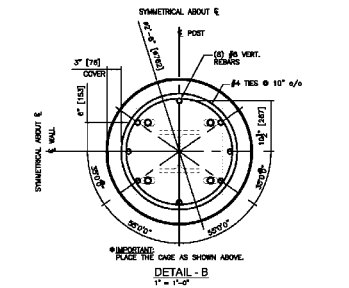

DETAIL - B
1" = 1'-0"

Durisol®
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(XXX.XX) = TOP OF CONCRETE FOUNDATION ELEVATION (ft)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

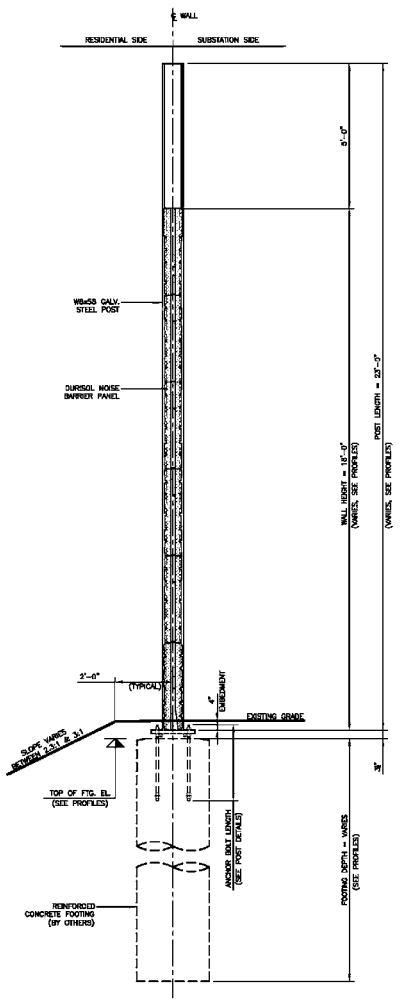
LOCATION:
WASHINGTON, USA

DRAWING TITLE:
TYPICAL DETAILS

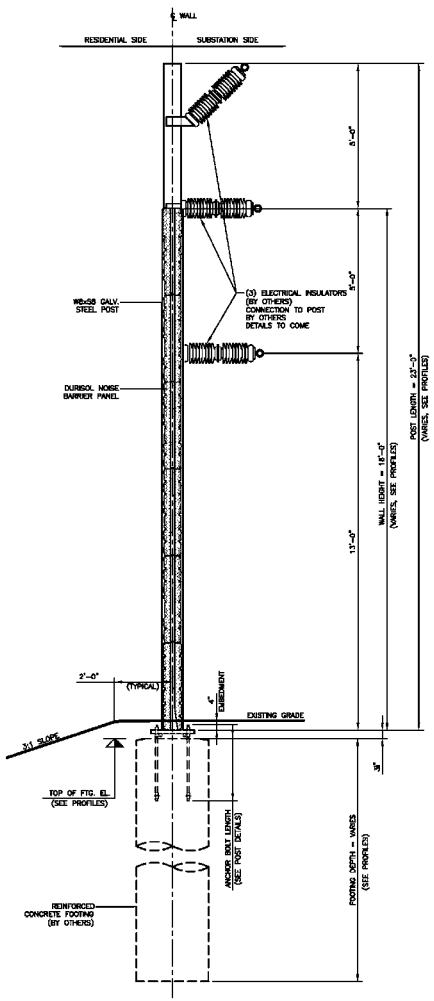
FEDERAL PROJECT No:

STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025-05.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY. 5, 2008	SHEET No: 5 of 6
DATE OF PRINT: MAY 9, 2008	



1/6 SECTION "WALL B"
1/2" = 1'-0"



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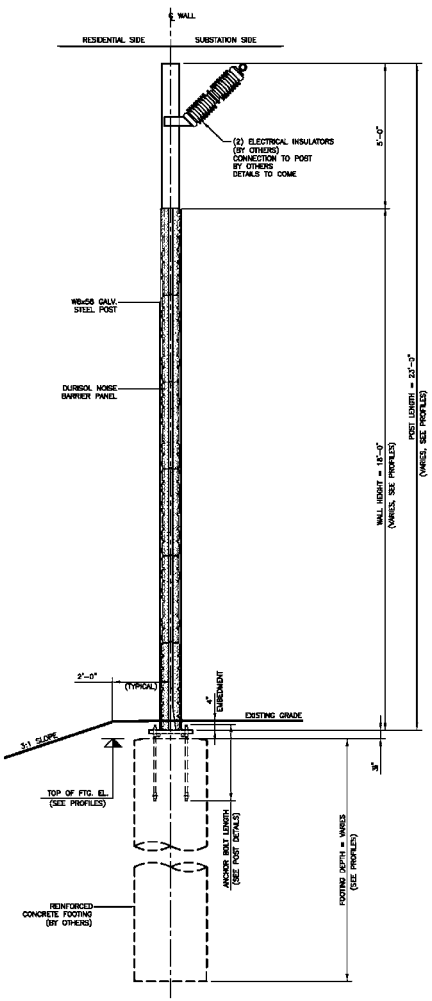
1/2" = 1'-0"



3/6 SECTION "WALL B"
1/2" = 1'-0"

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(XXX.XX) = TOP OF CONCRETE FOUNDATION ELEVATION (ft)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

DRAWING TITLE:
SECTIONS

FEDERAL PROJECT No:

STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025-06.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 6 of 30
DATE of PRINT: MAY 9, 2008	

RESPONSE TO CITY OF KIRKLAND TYPE IIA DECISION CRITERIA
PSE – JUANITA SUBSTATION

City of Kirkland Zoning Code 17.10.070 Public Utility Special Regulations:

- *Site design must minimize adverse impacts on surrounding residential neighborhoods.*

  The PSE utility corridor is bordered by single family development for the length of corridor. Potential impacts to residences adjacent to that portion of the corridor containing the rebuilt and expanded substation include operational noise impacts, aesthetic/visual impacts and impacts from electric and magnetic fields (EMF).

  Noise. A Sound Analysis was prepared for this project in order to evaluate future sound levels from the new electrical transformers proposed for this substation on the adjacent residential properties. Existing City of Kirkland/State of Washington noise regulations limit sound levels produced at the substation and received at nearby residences to 55 dBA during all hours. Most residential properties are subject to a nighttime noise limitation of 45 dBA; substations are exempt from this standard (WAC 173-60).

  The Sound Analysis concluded that, without mitigation, "*...A-weighted sound levels produced by the proposed transformers would meet the State of Washington daytime and nighttime noise limit of 55 dBA at all Analysis Locations.*" The analysis also concluded that at the property-line locations closest to the two transformers, "*...the predicted sound levels are higher than existing nighttime sound levels by 5 to 9 dBA. These sound-level increases would be considered a significant noise impact according to EPA guidelines, and would be noticeable.*"

  To address this noticeable increase, 300-foot long Durisol sound walls have been added to the east and west sides of the substation. With the addition of these sound walls (18 feet and 11 feet in height, respectively), the sound levels produced by the transformers "*...would be in the range of or lower than existing nighttime sound levels at the nearest Monitoring Locations, and would be below the nighttime noise limit of 45 dBA...*" that would apply to residential receiver properties if the substation was not exempt. Details regarding the specifications for the sound walls are contained in the attached Sound Analysis.

  It should also be noted that because the substation is an unoccupied structure, the substation will not generate the noise and activity typically associated with occupied structures.

  Aesthetics/Visual Impact. Both the east and west side yards of the rebuilt substation will abut the rear yards of adjacent residences. Potential visual impacts will be minimized by the presence of the two sound walls and 13-foot landscape buffers located between the sound walls and the side property lines.

  That side of the sound wall facing residential lots will be textured, similar to brick or rocks. Periodic columns will divide the horizontal space; smooth vertical accents will also be

located between columns. PSE will consult with adjoining property owners regarding the color of the walls.

The adjoining 13-foot wide landscape buffers will include a total of 45 evergreen and deciduous shrubs trees, 5 to 8- feet in height at initial installation, and shrubs.

Two termination structures (pole with cross-arms), that have a small foot print and are located at the far north and far south ends of the substation, will extend to a height of thirty five (35) feet. The Durisol sound walls at eleven (11) feet and eighteen (18) feet in height are the tallest solid structures on the site. Some electrical equipment mounted on the inside of the eighteen foot Durisol sound wall will extend approximately six feet above that wall. For purposes of comparison, existing zoning regulations allow a solid structure 30-feet in height to be located 20-feet back from the side lot line.

Four existing electrical distribution poles, approximately forth-five (45) feet in height, will be removed, and all above-ground distribution lines will be removed, as part of the substation rebuild project.

EMF. The project will not create any known environmental health hazards. PSE's substations, transmission and distribution facilities are designed, constructed, and operated in accordance with all applicable federal, state, and local regulations and safety codes.

Electrical transmission lines, distribution lines, and substations create electric and magnetic fields (EMF). EMF also exists in nature and around all types of electrical devices and appliances. Electric fields are produced by the presence of electrical charges (voltage); the movement of these charges (current) produces magnetic fields. The electrical and magnetic fields around electrical appliances and utility facilities are referred to as extremely low frequency EMF. They have a significantly lower frequency (60 cycles per second, or Hz), than radio broadcast waves (0.5 to 100 million cycles per second) or electromagnetic energy from sunshine (1,000 trillion cycles per second). Extremely low frequency EMF does not have sufficient energy to break molecular bonds or damage DNA.

Substations are not a predominant source of magnetic fields for surrounding properties. The incoming transmission lines and the outgoing distribution lines mostly influence the magnetic fields associated with substations. These power lines exist and are located throughout the region and pass through the neighborhoods that the substation serves. The construction of the Juanita Substation will not significantly change the existing EMF conditions at the project site or the surrounding properties. The substation will be located adjacent to the existing transmission line already located on the property.

PSE relies on the independent scientific research community for information regarding EMF and potential health effects. The consensus of the scientific community is described in a number of reports that have been released by respected independent scientific groups representing a variety of disciplines including physics, epidemiology, and cellular biology. A review of these sources has found no causal relationship between exposure to extremely low frequency EMF associated with 60 Hz electrical facilities and adverse effects to human

health. Currently the EPA or any other health agency of the state or federal government does not regulate electric and magnetic fields. This is consistent with the consensus of the scientific community that there is no basis from which to conclude the exposures to EMF cause adverse health effects.

150.65 3. Hearing Examiner Decisional Criteria:

a. It is consistent with all applicable development regulations and, to the extent there is no applicable development regulation, the Comprehensive Plan; and

Consistency with all Applicable Development Regulations. The proposal is consistent with development regulations, either as permitted outright or in compliance with all criteria for variance from development regulations, as set forth in Section 120.20 of the Kirkland Zoning Code. Variance from development standards is justified based on the property's shape and its current location as a utility substation served by existing transmission lines that are part of the community's overall electrical service grid.

Consistency with Comprehensive Plan. Rebuilding the Juanita Substation is consistent with and anticipated by the City of Kirkland Comprehensive Plan. The proposed substation expansion will increase electrical service capacity and improve reliability, consistent with the level of urban growth proposed in the Plan, and utility objectives. Section XI, Utilities of the Comprehensive Plan states:
"*The primary focus of the City in the coming years will be to continue to increase efficiency and to avoid maintenance problems associated with older facilities."*

Further, as also noted in the *Comprehensive Plan:* "*PSE's long-range plans through the year 2022 indicate the need for three new distribution substations in Kirkland and a new 115 kV line along the eastern and northern City boundaries to connect to the Sammamish substation in Redmond.*"

The expansion of the Juanita substation may delay the need for one of the three new substations.

b. *It is consistent with the public health, safety and welfare.*

Rebuilding and expanding the Juanita substation is consistent with the public health, safety and welfare. Expansion of the substation is required to meet the increased demand for electricity in the Juanita/Totem Lake area and to increase the reliability of the electrical system in the immediate service area. After the rebuild is complete, the substation will have a "looped" configuration due to the addition of a second transformer. This means that the substation can continue to function even if a transmission line to the north or to the south of the substation is disrupted. Rebuilding and expanding the substation will benefit persons and properties using electrical power in the community.

RESPONSE TO CITY OF KIRKLAND VARIANCE CRITERIA
PSE—JUANITA SUBSTATION

Requested Variances

Side Yard Setback Variance:

- For a distance of approximately 300 feet along the 1270 foot length of the parcel, side yard setbacks for the substation structure are proposed to be 13-feet each, rather than 20-feet each as specified in KZC 17.10.070. The setback area will be occupied by landscape plantings, including trees and shrubs, and sound walls will be placed at the inner edge of the setback areas, 13 feet from the side lot lines. The remaining 970 foot length of the parcel is largely undeveloped, and does not require a side yard variance.

Landscape Buffer Variance:

- Related to the distance from the substation to the side property lines, a variance is requested for reduction of the landscape buffer requirement (KZC 95.40(6)(a), Buffering Standard 1), from 15-feet to 13-feet along the east and west side yards of the substation.

Height Variance:

- At the north and south ends of the substation enclosure, termination structures, consisting of a steel support with cross-arms, will extend approximately 35 feet above ground elevation. A variance to KZC 17.10.070 (height limit of 30 feet above average building elevation) will be required for these two termination structures. No other element of the proposed substation structure exceeds the 30 foot height limit. Existing transmission poles and distribution poles between 128th St. and the new substation location currently exceed 30 feet in height and are legally nonconforming. The existing transmission poles and transmission lines (poles approximately 70 feet in height and lines between approximately 50 to 65 feet in height) will remain in place to serve the new substation location, but four (4) existing distribution poles, approximately forty-five (45) feet in height, will be removed, and all above-ground distribution lines will be removed. New transmission poles exceeding 30 feet in height will be installed between the substation and 132nd Street when a Juanita to Redmond transmission line is constructed at some time in the future.

Background:

The requested variances are essential for expansion of the existing Juanita electrical substation within the existing PSE-owned utility corridor. The substation serves a critical function at this location in the area's electrical power grid, transforming power from the higher voltage transmission lines to the lower voltage distribution lines that serve the community.

For the area served by Juanita substation and the City as a whole, the substation rebuild will increase electrical service capacity and improve reliability, benefiting property owners and electrical customers. In the current condition, a break in any transmission line serving the

substation, as sometimes occurs during severe weather, results in an electrical outage to all customers served by the substation. After the rebuild is complete, the substation will have a "looped" configuration, meaning that the substation can continue to function even if a transmission line to the north or to the south of the substation is disrupted. The proposed substation rebuild project is consistent with the City's Comprehensive Plan. Section XI, Utilities, in the Kirkland Comprehensive Plan states that "The primary focus of the City in the coming years will be to continue to increase efficiency and to avoid maintenance problems associated with older facilities."

Existing Nonconformities:

The current substation is legally nonconforming as to setback and landscape buffer requirements, as it was developed under prior code provisions. The current substation is set back by only about 4 feet from the east property boundary, and no landscape buffer is provided. Outside the substation itself, a number of power poles supporting distribution lines and transmission lines currently exceed the 30 foot height limit.

Substation Design:

Variances are required because electrical safety code standards require certain vertical and horizontal separation distances between the electrical components within the substation in order to provide for proper operation of the equipment and for worker safety. The narrow site, which varies from approximately 80 to 89 feet in width, does not allow the required separation distances between electrical components if 20 foot side yards are provided. Also, electrical safety code standards cannot be met if the poles and termination structures are limited to 30 feet in height.

The rebuilt substation will be centered within the utility corridor, on the widest portion of the corridor. The substation will be bordered by sound walls (i.e., noise mitigation walls) on both the east and west sides, with substantial landscape plantings facing the adjoining residential properties in order to minimize potential impacts. The 13-foot wide landscape plantings , located in both side yards, will include a total of 45 evergreen and deciduous trees (Vine Maple, Incense Cedar, Austrian Black Pine, Western Red Cedar, Cascara, and American Aborvitae) 5- to 8-feet in height at initial installation, and shrubs (Serviceberry, Pacific Wax Myrtle, Tall Oregon Grape, and Snowberry). A landscape plan is attached to this application.

Noise Mitigation:

A Sound Analysis was prepared for this project by BRC Acoustics & Technology Consulting, in order to evaluate future sound levels from the new electrical transformers on adjacent residential properties. Existing City of Kirkland/State of Washington noise regulations limit sound levels produced at the substation and received at nearby residences to 55 dBA during all hours. This analysis concluded that, without mitigation, the sound levels produced by the proposed transformers would meet the State of Washington daytime and nighttime noise limit of 55 dBA at all the Analysis Locations in the report. However, the analysis also concluded that, without mitigation, the predicted sound levels at the property line locations closest to the two

transformers would be higher than existing nighttime sound levels by 5 to 9 dBA, which would be a noticeable increase.

To address this, Durisol sound walls, 300 feet in length, have been added to the east and west sides of the substation, as recommended in the Sound Analysis report. Both the east and west sound walls will be constructed without gaps, including along the ground. A photograph of a similar sound wall is attached to this application. PSE will consult with the adjacent property owners regarding the color of the sound walls.

With the addition of these sound walls (18-feet and 11-feet in height, respectively), the Sound Analysis report concluded that the sound levels produced by the transformers would be in the range of or lower than existing nighttime sound levels at the nearest Monitoring Locations. The mitigated sound levels would also be below the nighttime noise limit of 45 dBA that would apply to residential receiver properties if utility substations were not an exempted noise source. Specifications for the sound walls are contained in the attached Sound Analysis report.

Variance Analysis:

For SIDE YARD SETBACK VARIANCE; compliance with variance criteria:

1. *The variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City in part or as a whole.*

To better understand the effect of the requested variances, the substation proposal, with variances, can be compared to the bulk and scale of a structure that would be permitted outright on this site, without variances. A solid structure thirty (30) feet in height could be located 20 feet from the side property lines without variances. However, for the proposed substation, the highest solid structures are considerably lower. The substation sound walls are 11 feet in height for the westerly wall and 18 feet in height for the easterly wall, and except for termination structure poles at the far north and south ends, the equipment within the substation does not exceed 24 feet in height. Although the termination structure poles are slightly higher than 30 feet, they do not have the bulk or scale of solid structures, and occupy only a small footprint at the extreme north and south ends of the substation enclosure.

Also, as shown in the graphic attached as Figure 1, the viewing angles from the adjacent property line demonstrate less apparent bulk and scale impact from that location than would result from a building 30 feet in height constructed without variances, i.e., with setbacks of twenty (20) feet from the side property lines.

In addition, other characteristics of this project further demonstrate that the requested setback variances do not cause material detriment to neighboring properties. Due to the nature of this project, the setback variances do not impair setback functions of preserving privacy from neighboring uses and reducing impacts of noise and activity on adjoining properties. The PSE substation is an unstaffed facility; there are no potential impacts on privacy which might occur if a staffed facility was proposed here. Also, no activity will take place within the side yard setbacks, such as driveways or parking. The setback areas will be used only as landscaped buffer areas.

The reduced setback areas do not impair PSE's ability to install landscaping to mitigate the visual impact of the substation. The 13-foot depth of the setback is sufficient to install a large number of trees and shrubs between the property lines and the substation sound walls, and does not affect the spacing between the landscape elements as they are viewed from the adjoining residential properties.

Also, the side yard setback of the substation is adjacent to the rear yards, not the side yards of the adjoining residences. This is different from the usual land use pattern where the side yard of one property abuts the side yard of the adjoining property. A typical residential side yard is only 5 feet, and in that situation a 20-foot side yard for a utility use is more important to buffer a neighboring residence from the noise and activity of a utility use. In this situation, however, the utility's side yard abuts the residential rear yards and the residences themselves are much further than 5 feet from the utility's property lines. This, together with the fact that the substation, as mitigated, adds no noticeable noise or activity, contributes to the lack of material detriment for the requested setback variance.

Many of the properties that border the substation site have hedges, trees, and/or fences that will block, to varying extents, the views of the substation from those properties. Also, removal of all the above-ground distribution poles and distribution wires from the substation property will mitigate visual impact of the substation project. Four distribution poles will be removed, as well as two sets of triple distribution wires, now arrayed vertically on the existing transmission poles below the transmission wires. Although the existing transmission poles and transmission wires will remain, the removal of the distribution poles and distribution wires will reduce visual clutter in the area above thirty feet in height, which is more visible from adjoining properties.

2. *The variance is necessary because of special circumstances regarding the size, shape, topography, or location of the subject property, or the location of a pre-existing improvement on the subject property that conformed to the Zoning Code in effect when the improvement was constructed.*

The long, narrow configuration of the property parcel and the physical requirements of electrical substation equipment are special circumstances which necessitate the variance to side yard setback and land use buffer requirements.

The existing PSE utility corridor is only 80-feet in width at the southern end, adjacent to NE 128th Street (the area of the existing substation), and approximately 89-feet in width at the northern end, adjacent to NE 132nd Street. The existing substation, a legal use constructed in 1958, prior to current side yard setback and buffer requirements, is a single-bank (one transformer) substation located within a PSE owned utility corridor. Although new PSE substations are now designed as double-bank substations so that a second transformer can be added when warranted by demand, the existing substation, due to its age, was not designed to accommodate a second transformer.

Reconstruction of the substation at its current location at the southern (narrowest) end of the corridor would not only require additional variances, but is infeasible due to existing topography. The rebuilt substation at the south end of the parcel would still be 60-feet in width (62 feet including sound walls) and 300-feet in length, and would still border residential uses. While the

northern portion of the utility corridor is flat, the southern portion of the corridor is not; NE 128th Street is 12-feet lower than the existing substation. This grade differential would require that the existing substation be rebuilt as a tiered substation, with retaining walls in excess of 6-feet. The driveway slope would be approximately 12 percent, (vs. a standard maximum slope of 5 – 6 percent), compromising access for semi-trailers delivering equipment required for maintenance and operation. A tiered substation is also considered a potential safety concern for crews working to restore power during a storm.

The rebuilt substation is being located in the northern portion of the corridor, at the widest point of the substation parcel, and has been designed to be the minimum possible substation width, but still requires a variance to side yard setback and land use buffer requirements. The substation width cannot be reduced below 60-feet due to electrical safety code requirements. Given the size of the necessary electrical equipment, and minimum electrical clearance requirements established in the National Electric Safety Code (NESC) and PSE Design Standards, 60-feet is the minimum width necessary between the sound walls to provide clearance for equipment and driveway access required for the crane used in installation and maintenance activities.

A variance from the 20-foot side yard and 15-foot land use buffer requirements would be necessary in order to rebuild a substation anywhere within this utility corridor. Locating the substation at the north end of the corridor, which is four feet wider than the south end, allows the substation to be set back the farthest from adjacent residential properties, and does not increase the number of residential properties that would be adjacent to a rebuilt substation anywhere within substation parcel.

Another important special circumstance of the property location is that it is already served by existing high-voltage transmission lines. These transmission lines, which bring electrical power into the existing substation at 115,000 volts, cannot readily be relocated. Existing transmission lines are a key determinant of substation location, and are therefore a special circumstance of the property location that justifies issuance of variances that are necessary for the property to continue operating effectively as part of the area's electrical power grid.

3. *The variance will not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this code allows to other property in the same area and zone as the subject property.*

PSE is obligated to provide reliable electrical service to its customers and respond to a growing demand for electricity resulting from growth within its service area. This growth is planned for by both by the City of Kirkland and King County through their adopted Comprehensive Plans. This planned growth assumes a concomitant increase in necessary infrastructure.

The Juanita substation is part of an interconnected transmission and distribution network. In responding to the increased demand for service, PSE attempts to fully utilize existing facilities and properties before locating new facilities on new sites. This approach minimizes reconstruction and relocation of the transmission lines serving the substations. The existing substation and utility corridor at this location were legally established in 1958, prior to adoption of current zoning regulations.

Other property owners within the RSX 7.2 zoning district are not in a similar position of being required to expand their use over time in response to growth. Other properties are also not part of an interconnected utility system. Thus, approval of the requested variances is not a grant of special privileges inconsistent with the general rights allowed to other properties in the area and zone under the Kirkland Zoning Code.

For LANDSCAPE BUFFER VARIANCE; Compliance with Variance Criteria:

1. *The variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City in part or as a whole.*

See the Response to this criteria for the Side Yard Setback Variance as set forth above.

Most of the compliance analysis set forth above for the setback variance also applies to the requested variance to the 15-foot landscape buffer (13-foot landscape buffers proposed):

- Since bulk and scale of the substation is much below that permitted outright by the Zoning Code, the minor reduction proposed in the landscape buffer depth does not cause material detriment.

- Substation is an unstaffed facility with noise mitigated below existing levels.

- Reduced landscape buffer depth will not impair ability to install large number of trees and shrubs.

- Substation adjoins rear yards of neighboring properties, not narrow side yards, and is therefore further from the adjoining residences.

- For many adjoining properties, their rear yard property line is already heavily vegetated.

- Visible façade of Durisol noise walls has a better finish quality than plain block walls, and PSE will consult with adjoining owners regarding wall color.

2. *The variance is necessary because of special circumstances regarding the size, shape, topography, or location of the subject property, or the location of a pre-existing improvement on the subject property that conformed to the Zoning Code in effect when the improvement was constructed.*

See the Response to this criteria for the Side Yard Setback Variance as set forth above. (As with the requested side yard variance, the long, narrow configuration of the property parcel and the physical requirements of electrical substation equipment are special circumstances which necessitate the variance to landscape buffer requirements.)

3. *The variance will not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this code allows to other property in the same area and zone as the subject property.*

See the Response to this criteria for the Side Yard Setback Variance as set forth above.

For HEIGHT VARIANCE; compliance with variance criteria:

1. *The variance will not be materially detrimental to the property or improvements in the area of the subject property or to the City in part or as a whole.*

As shown in the Project Elevation drawing (Exhibit A, attached), the two termination structures (consisting of a steel support with cross-arms) at the extreme north and south ends of the substation are the only new elements above 30 feet, and they exceed the height limit by only about 5 feet. These termination structures comprise only a small fraction of the 300-foot length of the substation, and an even smaller fraction of the 1,270-foot length of the property parcel. All other new construction for the substation rebuild well below the 30-foot height limit that is permitted outright.

Also, these termination structures are located at approximately the midpoint of the property width, which is the point furthest from adjoining residences to the east and west. Another mitigating aspect of the project is the removal of all the above-ground distribution poles and distribution wires from the substation property. As described above, four distribution poles will be removed, as well as two sets of triple distribution wires, now arrayed vertically on the existing transmission poles below the transmission wires.

The existing transmission poles and transmission wires will remain at their current heights, as they are necessary to serve the substation, and electrical safety codes require greater ground clearance for the high-voltage transmission lines. However, the removal of the distribution poles and distribution wires will reduce visual clutter in the area above thirty feet in height, which is more visible from adjoining properties.

The placement of the new termination structures, their minimal bulk, and the small increment over the height allowed outright, results in lack of material detriment to area properties or to the City in part or as a whole.

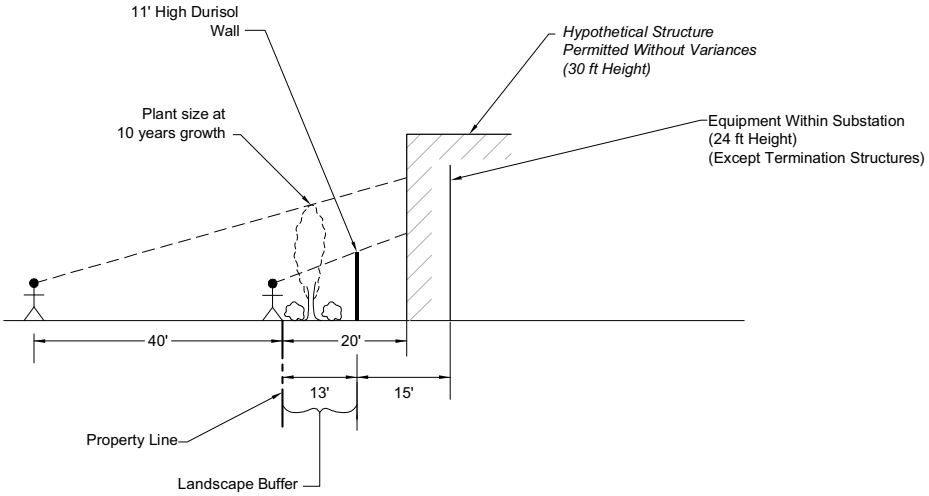
2. *The variance is necessary because of special circumstances regarding the size, shape, topography, or location of the subject property, or the location of a pre-existing improvement on the subject property that conformed to the Zoning Code in effect when the improvement was constructed.*

As explained in the Background statement and in the preceding variance criteria analysis, this property is already developed with a utility substation that is an essential component of the area's electrical power grid at this location. Due to change in electrical safety code requirements, an essential rebuild to this facility requires the substation's termination structure poles to be installed at a greater height than the similar structures on the current substation, which was developed under prior electrical safety codes as well as prior zoning codes. Electrical safely code requirements also require that the existing transmission poles and lines, currently nonconforming as to height, remain at their present heights.

3. *The variance will not constitute a grant of special privilege to the subject property which is inconsistent with the general rights that this code allows to other property in the same area and zone as the subject property.*

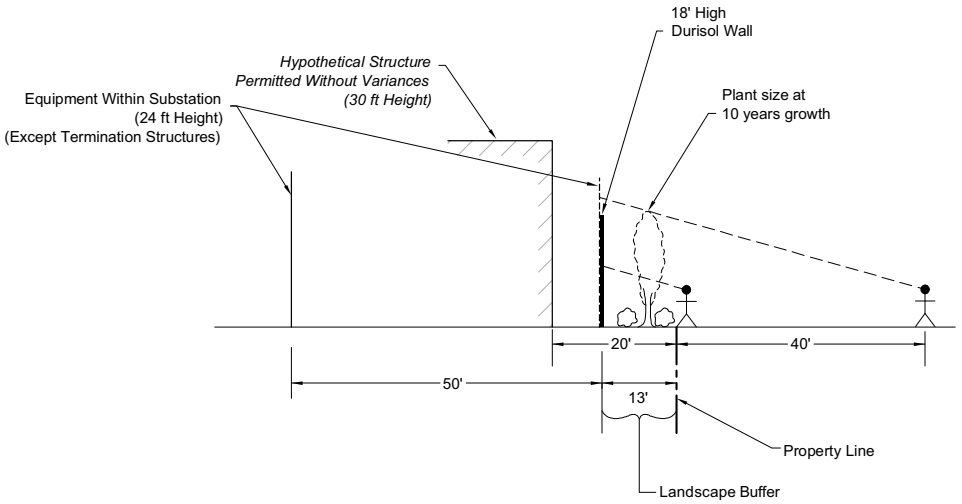
See the Response to this criteria for the Side Yard Setback Variance as set forth above.

CROSS - SECTION AT WEST PROPERTY LINE
COMPARING FACILITY AS PROPOSED TO
HYPOTHETICAL STRUCTURE PERMITTED
WITHOUT VARIANCES



WEST SIDE VARIANCE

CROSS - SECTION AT EAST PROPERTY LINE
COMPARING FACILITY AS PROPOSED TO
HYPOTHETICAL STRUCTURE PERMITTED
WITHOUT VARIANCES



EAST SIDE VARIANCE

EXAMPLE OF DURISOL SOUND WALL

20 0 20
FEET

Profile
Illustration of Side Yard Variance Request

Juanita Substation Rebuild
Kirkland, Washington

GeoEngineers

Figure 1
5/28/08

W:\SEATTLE\PROJECTS\01\0186767\00\CAD\0186767F00FI.DWG\TAB:FI MODIFIED BY SSIMMONS ON MAY 28, 2008 - 12:03

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.ci.kirkland.wa.us

DEVELOPMENT STANDARDS LIST
FILE: PSE SUBSTATION REBUILD AND VARIANCE (ZON08-00010)

ZONING CODE STANDARDS

85.25.1 Geotechnical Report Recommendations. The geotechnical recommendations contained in the report by GeoEngineers dated February 29, 2007 shall be implemented.

85.25.3 Geotechnical Professional On-Site. A qualified geotechnical professional shall be present on site during land surface modification and foundation installation activities.

95.50.2.a Required Landscaping. All required landscaping shall be maintained throughout the life of the development. The applicant shall submit an agreement to the city to be recorded with King County which will perpetually maintain required landscaping. Prior to issuance of a certificate of occupancy, the proponent shall provide a final as-built landscape plan and an agreement to maintain and replace all landscaping that is required by the City.

95.45 Tree Installation Standards. All supplemental trees to be planted shall conform to the Kirkland Plant List. All installation standards shall conform to Kirkland Zoning Code Section 95.45.

95.52 Prohibited Vegetation. Plants listed as prohibited in the Kirkland Plant List shall not be planted in the City.

110.60.5 Street Trees. All trees planted in the right-of-way must be approved as to species by the City. All trees must be two inches in diameter at the time of planting as measured using the standards of the American Association of Nurserymen with a canopy that starts at least six feet above finished grade and does not obstruct any adjoining sidewalks or driving lanes.

115.25 Work Hours. It is a violation of this Code to engage in any development activity or to operate any heavy equipment before 7:00 am. or after 8:00 pm Monday through Friday, or before 9:00 am or after 6:00 pm Saturday. No development activity or use of heavy equipment may occur on Sundays or on the following holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas Day. The applicant will be required to comply with these regulations and any violation of this section will result in enforcement action, unless written permission is obtained from the Planning official.

115.75.2 Fill Material. All materials used as fill must be non-dissolving and non-decomposing. Fill material must not contain organic or inorganic material that would be detrimental to the water quality, or existing habitat, or create any other significant adverse impacts to the environment.

115.90 Calculating Lot Coverage. The total area of all structures and pavement and any other impervious surface on the subject property is limited to a maximum percentage of total lot area. See the Use Zone charts for maximum lot coverage percentages allowed. Section 115.90 lists exceptions to total lot coverage calculations See Section 115.90 for a more detailed explanation of these exceptions.

115.95 Noise Standards. The City of Kirkland adopts by reference the Maximum Environmental Noise Levels established pursuant to the Noise Control Act of 1974, RCW 70.107. See Chapter 173-60 WAC. Any noise, which injures, endangers the comfort, repose, health or safety of persons, or in any way renders persons insecure in life, or in the use of property is a violation of this Code.

115.115 Required Setback Yards. This section establishes what structures, improvements and activities may be within required setback yards as established for each use in each zone.

115.115.d Driveway Setbacks. Parking areas and driveways for uses other than detached dwelling units, attached and stacked dwelling units in residential zones, or schools and day-cares with more than 12 students, may be located within required setback yards, but, except for the portion of any driveway which connects with an adjacent

street, not closer than 5 feet to any property line.

115.135 Sight Distance at Intersection. Areas around all intersections, including the entrance of driveways onto streets, must be kept clear of sight obstruction as described in this section.

150.22.2 Public Notice Signs. Within seven (7) calendar days after the end of the 21-day period following the City's final decision on the permit, the applicant shall remove all public notice signs.

Prior to issuance of a grading or building permit:

85.25.1 Geotechnical Report Recommendations. A written acknowledgment must be added to the face of the plans signed by the architect, engineer, and/or designer that he/she has reviewed the geotechnical recommendations and incorporated these recommendations into the plans.

95.35.2.b.(3)(b)i Tree Protection Techniques. A description and location of tree protection measures during construction for trees to be retained must be shown on demolition and grading plans.

95.35.6 Tree Protection. Prior to development activity or initiating tree removal on the site, vegetated areas and individual trees to be preserved shall be protected from potentially damaging activities. Protection measures for trees to be retained shall include (1) placing no construction material or equipment within the protected area of any tree to be retained; (2) providing a visible temporary protective chain link fence at least 4 feet in height around the protected area of retained trees or groups of trees until the Planning Official authorizes their removal; (3) installing visible signs spaced no further apart than 15 feet along the protective fence stating "Tree Protection Area, Entrance Prohibited" with the City code enforcement phone number; (4) prohibiting excavation or compaction of earth or other damaging activities within the barriers unless approved by the Planning Official and supervised by a qualified professional; and (5) ensuring that approved landscaping in a protected zone shall be done with light machinery or by hand.

Prior to occupancy:

95.50.2.a Required Landscaping. All required landscaping shall be maintained throughout the life of the development. The applicant shall submit an agreement to the city to be recorded with King County which will perpetually maintain required landscaping. Prior to issuance of a certificate of occupancy, the proponent shall provide a final as-built landscape plan and an agreement to maintain and replace all landscaping that is required by the City

CITY OF KIRKLAND
123 FIFTH AVENUE, KIRKLAND, WASHINGTON 98033-6189 (425) 587-3225

Date: 11/5/2008

DEVELOPMENT STANDARDS
CASE NO.: ZON08-00010
PCD FILE NO.:ZON08-00010

FIRE DEPARTMENT CONDITIONS
The Fire Department has no specific comments on this project.

You can review your permit status and conditions at www.kirklandpermits.net

PUBLIC WORKS CONDITIONS

Permit #: ZON08-00010
Project Name: PSE Juanita Sub Station
Project Address: 10910 NE 132nd St
Date: July 10, 2008

Public Works Staff Contacts
Land Use and Pre-Submittal Process:
Rob Jammerman, Development Engineering Manager
Phone: 425-587-3845 Fax: 425-587-3807
E-mail: rjammer@ci.kirkland.wa.us

Building and Land Surface Modification (Grading) Permit Process:
Philip Vartanian, Development Engineer
Phone: 425-587-3853 Fax: 425-587-3807
E-mail: pvartanian@ci.kirkland.wa.us

General Conditions:

1. All public improvements associated with this project including street and utility improvements, must meet the City of Kirkland Public Works Pre-Approved Plans and Policies Manual. A Public Works Pre-Approved Plans and Policies manual can be purchased from the Public Works Department, or it may be retrieved from the Public Works Department's page at the City of Kirkland's web site at www.ci.kirkland.wa.us.

2. This project will be subject to Public Works Permit and Connection Fees. At the pre-application stage, the fees can only be estimated. It is the applicant's responsibility to contact the Public Works Department by phone or in person to determine the fees. The fees can also be review the City of Kirkland web site at www.ci.kirkland.wa.us. The applicant should anticipate the following fees:
- o Surface Water Connection fees (paid with the issuance of a Building Permit)
- o Right-of-way Fee
- o Review and Inspection Fee (for utilities and street improvements).
- o Traffic Impact Fee - if necessary (paid with the issuance of Building Permit).

3. This project is exempt from concurrency review.

4. All civil engineering plans which are submitted in conjunction with a building, grading, or

right-of-way permit must conform to the Public Works Policy titled ENGINEERING PLAN REQUIREMENTS. This policy is contained in the Public Works Pre-Approved Plans and Policies manual.

5. All street improvements and underground utility improvements (storm, sewer, and water) must be designed by a Washington State Licensed Engineer; all drawings shall bear the engineers stamp.

6. All plans submitted in conjunction with a building, grading or right-of-way permit must have elevations which are based on the King County datum only (NAVD 88).

7. A completeness check meeting is required prior to submittal of any Building Permit applications.

8. The required tree plan shall include any significant tree in the public right-of-way along the property frontage.

Sanitary Sewer and Water Conditions:

1. Northshore Utility District approval required for water and/or sewer service.

Surface Water Conditions:

1. Provide temporary and permanent storm water control per the 1998 King County Surface Water Design Manual. Contact City of Kirkland Surface Water Staff at (425) 587-3800 for help in determining drainage review requirements.

Small Site Drainage Review
The drainage design for projects that create less than 5,000 square feet of new impervious surface area and clear less than 2 acres or 35% of the site, whichever is greater, should follow Policy D-3 of the Department of Public Works Pre-Approved Plans. Projects this size may require Targeted Drainage Review per Section 1.1.2 of the 1998 King County Surface Water Design Manual, depending on site conditions.

2. The gravel access road and gravel within the substation facility shall be considered in the impervious area calculations. The final drainage system shall insure that none of the gravel areas drain onto adjacent property.

3. It doesn't appear that any work within an existing ditch will be required, however the developer has been given notice that the Army Corps of Engineers (COE) has asserted jurisdiction over upland ditches draining to streams. Either an existing Nationwide COE permit or an Individual COE permit may be necessary for work within ditches, depending on the project activities.
Applicants should obtain the applicable COE permit; information about COE permits can be found at:
U.S. Army Corps of Engineers, Seattle District Regulatory Branch
http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_NWPs
Specific questions can be directed to: Seattle District, Corps of Engineers, Regulatory Branch, CENWS-OD-RG, Post Office Box 3755, Seattle, WA 98124-3755, Phone: (206) 764-3495

4. If this project disturbs greater than one acre, the applicant is responsible to apply for a Construction Stormwater General Permit from Washington State Dept. of Ecology. Specific permit information can be found at the following website:
http://www.ecy.wa.gov/programs/wq/stormwater/construction/
Among other requirements, this permit requires the applicant to prepare a Storm Water Pollution Prevention Plan (SWPPP) and identify a Certified Erosion and Sediment Control Lead (CESCL) prior to the start of construction. The CESCL shall attend the City of Kirkland Public Works Department pre-construction meeting with a completed SWPPP.

5. Provide an erosion control plan with Building or Land Surface Modification Permit application. The plan shall be in accordance with the 1998 King County Surface Water Design Manual.

6. Construction drainage control shall be maintained by the contractor and will be subject to periodic inspections. During the period from April 1 to October 31, all denuded soils must be covered within 15 days; between November 1 and March 31, all denuded soils must be covered within 12 hours. If an erosion problem already exists on the site, other cover protection and erosion control will be required.

Street and Pedestrian Improvement Conditions:

1. The subject property abuts NE 132nd Street (an Arterial type street under King County jurisdiction) and NE 128th St (a neighborhood access type street). Zoning Code sections 110.10 and 110.25 require the applicant to make half-street improvements in rights-of-way abutting the subject property. Section 110.30-110.50 establishes that this street must be improved with the following:

NE 132nd St.
A. Remove and replace any cracked sidewalk or curb and gutter and install a new driveway apron if necessary.
B. Dedicate 12 ft of property for future widening of NE 132nd Street by the City.
C. Any work in this right-of-way will require a Street Use Permit from King County.

NE 128th Ave. NE
No street improvements are required along NE 128th Street due to the following reasons:
" Because the project is being constructed near the NE 132nd St right-of-way frontage on the uniquely sized property (1270 ft in length by 90 ft in width)
" The existing street improvements are adequate and any new or additional improvements would not match the adjacent street improvements. This waiver and/or modification is allowed per KZC 110.70.3.c and 110.70.5.d

2. A 2-inch asphalt street overlay will be required where three or more utility trench crossings occur within 150 lineal ft. of street length or where utility trenches parallel the street centerline. Grinding of the existing asphalt to blend in the overlay will be required along all match lines.

3. It shall be the responsibility of the applicant to relocate any above-ground or below-ground utilities which conflict with the project associated street or utility improvements.

4. Zoning Code Section 110.60.9 establishes the requirement that existing utility and transmission (power, telephone, etc.) lines on-site and in rights-of-way adjacent to the site must be underground. The Public Works Director may determine if undergrounding transmission lines in the adjacent right-of-way is not feasible and defer the undergrounding by signing an agreement to participate in an undergrounding project, if one is ever proposed. In this case, the Public Works Director has determined that undergrounding of existing overhead utility on the NE 132nd St and NE 128th St. frontages is not feasible at this time and the undergrounding of off-site/frontage transmission lines should be deferred with a Local Improvement District (LID) No Protest Agreement. The final recorded subdivision mylar shall include a condition requiring all associated lots to sign a LID No Protest Agreement prior to the issuance of a building permit for said lot. In addition, if a house is to be saved on one of the lots within the subdivision, a LID No Protest Agreement shall be recorded against this lot at the time of subdivision recording.

BUILDING DEPARTMENT CONDITIONS

Buildings must comply with current editions of the International Building, Mechanical and Fire Codes and the Uniform Plumbing Code as adopted and amended by the State of Washington and the City of Kirkland.

Structures must be designed for seismic design category D, wind speed of 85 miles per hour and exposure B. Provide details and calculations for Durisol walls stamped by a structural engineer registered in WA state.

CITY OF KIRKLAND
123 FIFTH AVENUE, KIRKLAND, WASHINGTON 98033-6189
(425) 587-3225

DETERMINATION OF NONSIGNIFICANCE (DNS) .

CASE #: SEP08-00025 DATE ISSUED: 10/2/2008

DESCRIPTION OF PROPOSAL

Puget Sound Energy proposes to expand and rebuild the existing PSE Juanita electric distribution substation on the subject property. The existing substation is located at the southern end of the existing utility corridor (subject property) near NE 128th Street. The expanded and rebuilt substation will be located in the northern 400 feet of the corridor near the NE 132nd Street right-of-way. As part of the zoning and variance permit application, the applicant is proposing to reduce the required east and west side yard setbacks, reduce the required east and west landscape buffers, and exceed the maximum allowable height to accommodate termination structures.

PROPONENT:

LOCATION OF PROPOSAL

10910 NE 132ND AVENUE NE

LEAD AGENCY IS THE CITY OF KIRKLAND

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21.030 (2) (c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

Responsible official: 10/1/08

Eric Shields, Director Date
Department of Planning and Community Development
425-587-3225

Address: City of Kirkland
123 Fifth Avenue
Kirkland, WA 98033-6189

You may appeal this determination to the Planning Department at Kirkland City Hall, 123 Fifth Avenue, Kirkland, WA 98033 no later than 5:00 p.m., October 16, 2008 by WRITTEN NOTICE OF APPEAL.

CITY OF KIRKLAND
Planning and Community Development Department
123 Fifth Avenue, Kirkland, WA 98033 425.587-3225
www.ci.kirkland.wa.us

MEMORANDUM

To: Eric R. Shields, AICP, Planning Director

From: Tony Leavitt, Associate Planner

Date: September 30, 2008

File: ZON08-00010, SEP08-00025

Subject: **ENVIRONMENTAL DETERMINATION FOR PUGET SOUND ENEGRY (PSE) JUANITA SUBSTATION REBUILD PROJECT**

PROPOSAL

Puget Sound Energy proposes to expand and rebuild the existing PSE Juanita electric distribution substation on the subject property located 10910 NE 132nd Street (see Enclosure 1). The existing substation is located at the southern end of the existing utility corridor (subject property) near NE 128th Street. The expanded and rebuilt substation will be located in the northern 400 feet of the corridor near the NE 132nd Street right-of-way. As part of the zoning and variance permit application, the applicant is proposing to reduce the required east and west side yard setbacks from the required 20 feet to 13 feet, reduce the required east and west landscape buffers from 15 feet to 13 feet, and exceed the maximum allowable height of 30 feet by 5 feet to accommodate termination structures (see Enclosure 2).

ENVIRONMENTAL ISSUES

I have had an opportunity to visit the site and review the environmental checklist (Enclosure 3) and the following reports:

- Geotechnical Engineering Services Report prepared by GeoEngineers Inc. dated February 29, 2007 (Enclosure 4)
- Sound Analysis prepared by BRC Acoustics and Technology Consulting dated April 25, 2008 (Enclosure 5)

Based on a review of these materials, the main environmental issues related to the development of this project are potential soil and noise impacts. Additionally, during the initial comment period for the zoning and variance permit application, the City received a total of 10 letters from neighboring property owners (see Enclosure 6). Most of the issues raised in the comment letters (including size of facility, land use, trees, etc.) will be addressed during Staff's review of the zoning and variance permit application. Concerns regarding potential noise impacts and exposure to electric and magnetic fields (EMF) were expressed in some of the letters.

Soil Impacts

The Geotechnical Evaluation prepared by GeoEngineers Inc concludes that the project is "geotechnically viable" when constructed in accordance with the recommendations of the evaluation. The City has the authority (per Kirkland Zoning Code Chapter 85) to require, as part of any development permit for the project, that the development plans be reviewed by the geotechnical engineer to ensure compliance with all recommendations. This requirement will be addressed as part of Staff's review of the zoning and variance permit application.

Noise Impacts

The Sound Analysis prepared by BRC Acoustics and Technology Consulting concludes that the proposed substation transformers will exceed City of Kirkland Noise Regulations. To mitigate potential noise impacts, the report recommends construction of the sound walls that Puget Sound Energy is proposing. This requirement will be addressed as part of Staff's review of the zoning and variance permit application.

Electric and Magnetic Fields (EMF) Impacts

The applicant states in their Environmental Checklist that the "substations are not a predominant source of magnetic fields for surrounding properties". Staff reviewed current regulations and found no federal, state, or local regulations regarding exposure to electric and magnetic fields.

CONCLUSIONS AND RECOMMENDATION

It will be necessary to further analyze certain aspects of the proposal to determine if the project complies with all the applicable City codes and policies. That analysis is most appropriately addressed within the review of the zoning and variance permit application. In contrast, State law specifies that this environmental review under the State Environmental Policy Act (SEPA) is to focus only on potential significant impacts to the environment that could not be adequately mitigated through the Kirkland regulations and Comprehensive Plan.[1]

Based on my review of all available information, I have not identified any significant adverse environmental impacts. Therefore, I recommend that a Determination of Non-Significance be issued for this proposed action.

SEPA ENCLOSURES

1. Vicinity Map
2. Development Plans
3. Environmental Checklist
4. Geotechnical Engineering Services Report prepared by GeoEngineers Inc. dated February 29, 2007
5. Sound Analysis prepared by BRC Acoustics and Technology Consulting dated April 25, 2008
6. Initial Public Comment Letters

[1] ESHB 1724, adopted April 23, 1995

Review by Responsible Official:

I concur

I do not concur

Comments:

Eric R. Shields, AICP
Planning Director

Date

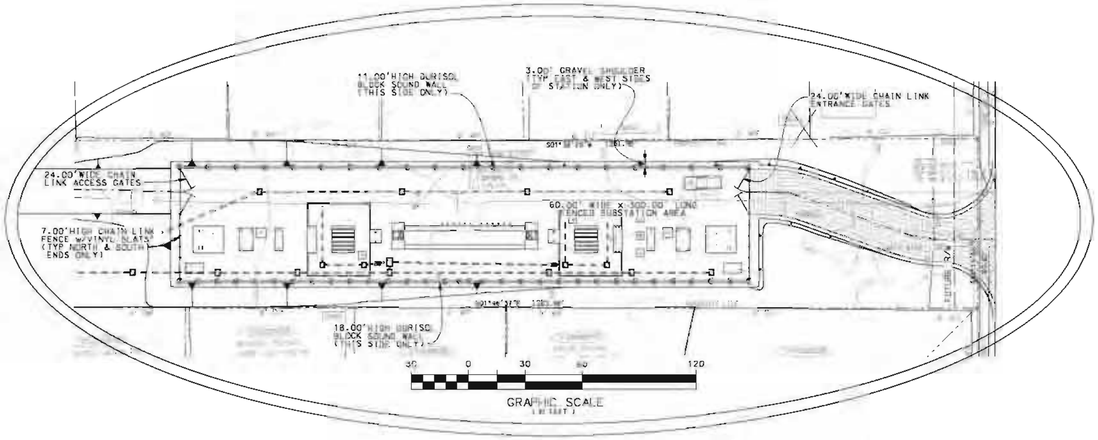
PSE Juanita Substation Rebuild
ZON08-00010

SEP08-00025 Memo
Enclosure 2

NOTES

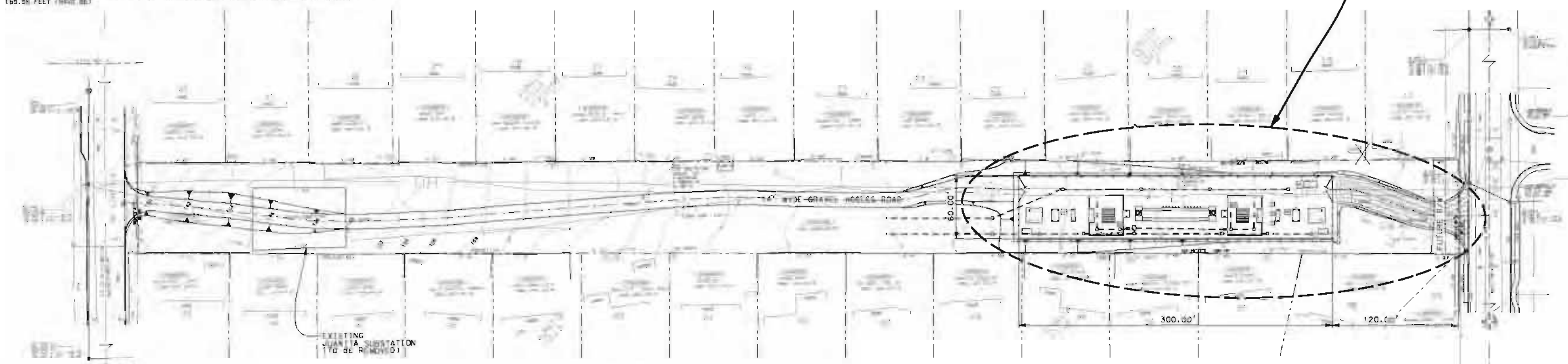
LEGAL DESCRIPTION

BENCH MARKS



STATION DETAIL
SCALE: 1"=30'

NW 1/4, NE 1/4, SEC. 29, TWP 26N., RNG. 5E., W.M.



PRELIMINARY ONLY
NOT FOR CONSTRUCTION

50 0 50 100 200
GRAPHIC SCALE

VICINITY MAP
NO SCALE

CALL BEFORE YOU DIG
Call: TOLL FREE
1-800-CUT-SRVC

REFERENCE DRAWINGS:

D-14342	EROSION AND SEDIMENT CONTROL PLAN
D-14343	GRADING AND FENCING PLAN
D-14344	DRAINAGE PLAN
D-14345	FOUNDATION PLAN
D-14346	LANDSCAPE PLAN
D-14347	STRUCTURAL PLAN (REF ONLY)

PSE ENGINEERING CONTACTS
355 NE 110TH AVE NE. BELLEVUE WA. 98009-0868

GROUP	NAME	PHONE
PROJECT MANAGEMENT	R. BANBA	425-462-3774
CIVIL	J. RORABACHER	425-456-2446
ELECTRICAL	J. AEDRUD	425-462-3818
CONSTRUCTION MANAGEMENT	D. MOHR	425-456-2830
PERMITTING	A. NARKUS	253-476-6298

JOHN D. RORABACHER
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
EXPIRES: Jan. 27.

ISSUED FOR PERMITTING

	APPROVAL	DATE (M/D/Y)
CADD		/ 30 /08
CIVIL ENGR		/ /
REVIEW		/ /

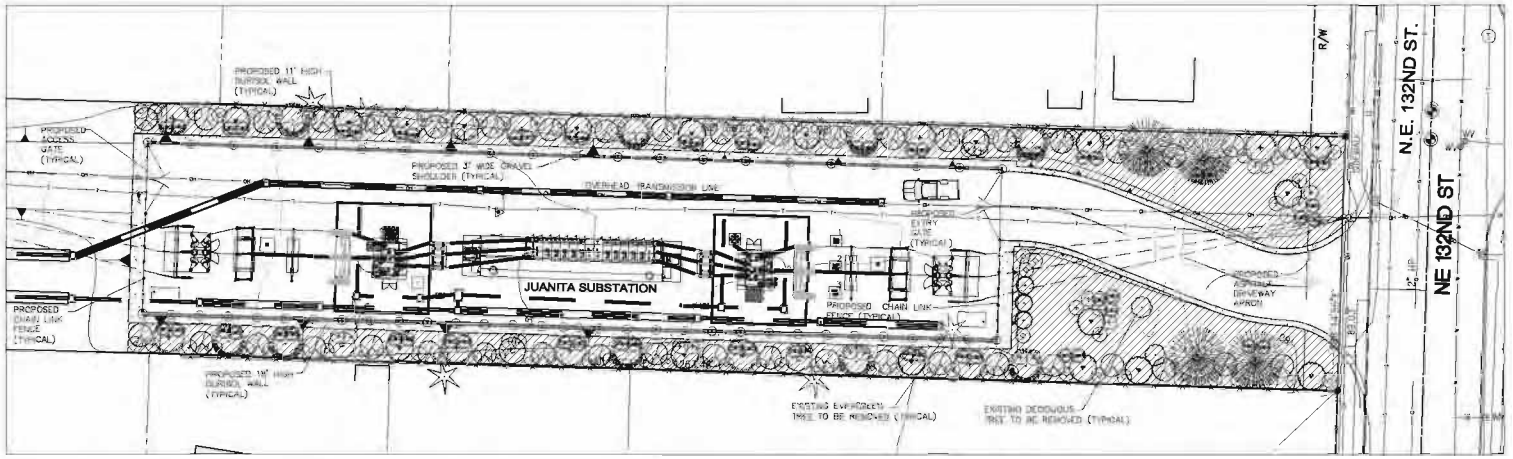
SITE PLAN
JUANITA SUBSTATION

PUGET SOUND ENERGY — SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO: D-14341 — REV NO: 0

SCALE: 1" = 50'-0" — CLASS: SITE

5/20/2008



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1-800-424-5555

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	QNTY	SIZE	REMARKS
TREES					
	ACER CIRCINATUM	VINE MAPLE	17	5'-6' HT	B&B MULTI-STEMMED
	CALOCEDRUS DECURRENTS	INCENSE CEDAR	11	6'-8' HT	B&B, SPACED PER PLAN
	PINUS NIGRA	AUSTRIAN BLACK PINE	4	6'-8' HT	B&B WELL-BRANCHED FROM ROOT CROWN TO TOP
	THUJA PLICATA 'ATROVIRENS'	MEDIUM PRE CEDAR	9	6'-8' HT	B& B SPACED PER PLAN
	PRUNUS PUNSHANA	CHERRY	3	6'-8' HT	B&B WELL-BRANCHED FROM ROOT CROWN TO TOP
	THUJA OCCIDENTALIS 'FASTIGIATA'	AMERICAN ARBORVITAE	3	6'-8' HT	B&B, SPACED PER PLAN
SHRUBS					
	AMELANCHIER ALNIFOLIA	SERVICEBERRY	42	5 GAL	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	54	5 GAL	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	60	5 GAL	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
	SYMPHORICARPOS ALBUS	SNOWBERRY	70	5 GAL	CONTAINER, FULL, WELL BRANCHED, SPACED PER PLAN
SURFACE MATERIALS					
	MEDIUM BARK MULCH	MEDIUM BARK MULCH	125 CY		3" DEPTH – CONTRACTOR TO VERIFY QUANTITY

LANDSCAPE NOTES

GENERAL

1. ALL WORK SHALL BE DONE AS SHOWN IN THE DRAWINGS AND IN CONFORMANCE WITH THE PUGET SOUND ENERGY (PSE) PROJECT GENERAL PROVISIONS AND SPECIFICATIONS FOR THIS PROJECT. THE DRAWINGS SHALL TAKE PRECEDENCE OVER THE SPECIFICATIONS SHOULD THERE BE ANY CONFLICT.

2. SITE BASE INFORMATION PROVIDED BY BOUNDARY AND TOPOGRAPHIC SURVEY, JUANITA SUBSTATION, (DAVID EVANS AND ASSOCIATES, INC. (DEA)), MAY 8, 2007.

SITE PREPARATION

1. CLEAR AND GRUB EXISTING VEGETATION IN AREAS TO BE PLANTED.

PLANTING

1. ALL TREES, SHRUBS AND SEEDING SHALL BE INSTALLED PER THE LANDSCAPE PLAN AND AS SHOWN IN THE PLANTING DETAILS.

2. PLANTING BED SHALL BE AMENDED WITH 4" CEDAR GROVE 2-WAY TOPSOIL (OR APPROVED EQUIVALENT) ROTOTILLED INTO 12" OF EXISTING SOIL.

3. PLANT PIT BACKFILL SHALL BE CEDAR GROVE 2-WAY TOPSOIL (OR APPROVED EQUIVALENT)

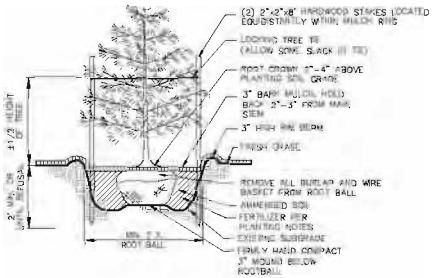
4. IMMEDIATELY AFTER PLANTING, PLACE MEDIUM BARK MULCH TO A UNIFORM 3" DEPTH THROUGHOUT PLANTING AREAS.

5. CONTRACTOR SHALL APPLY TIME RELEASE FERTILIZER TO PLANT PITS (OSMOCOTE TM OR APPROVED EQUIVALENT) PER MANUFACTURER'S INSTRUCTIONS.

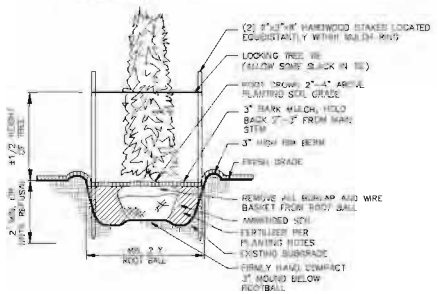
6. AFTER INSTALLATION APPLY SNAPSHOT PRE-EMERGENT HERBICIDE (OR APPROVED EQUIVALENT) FOR WEED CONTROL PER MANUFACTURER'S RECOMMENDATIONS.

7. ALL PLANT MATERIALS SHALL BE IRRIGATED BY THE CONTRACTOR THOROUGHLY WHEN PLANTED AND UP TO FINAL ACCEPTANCE. PLANTING AREAS SHALL RECEIVE 1" OF WATER PER WEEK DURING MAY 15–OCTOBER 15 EXCLUDING MAJOR STORM EVENTS. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR IRRIGATION DURING THE WARRANTY PERIOD.

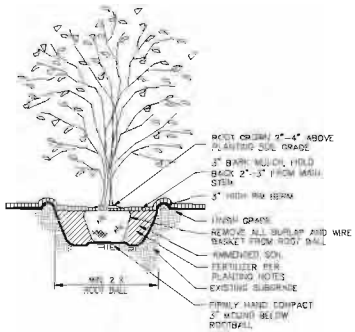
8. PERMANENT IRRIGATION SYSTEM SHALL BE INSTALLED PER THE IRRIGATION PLAN AND MAINTAINED BY THE CONTRACTOR DURING THE WARRANTY PERIOD.



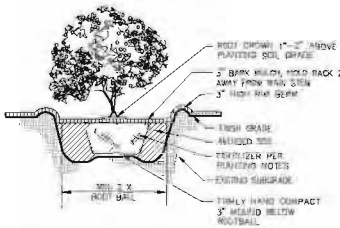
ORNAMENTAL EVERGREEN TREE PLANTING
NOT TO SCALE



COLUMNAR EVERGREEN TREE PLANTING
NOT TO SCALE



DECIDUOUS MULTI- STEM TREE PLANTING
NOT TO SCALE



SHRUB PLANTING
NOT TO SCALE

0 20 40 60
SCALE: 1"=20

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JUANITA SUBSTATION
LANDSCAPE PLAN

PUGET SOUND ENERGY — SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO D-14346 REV NO 1
SHEET OF
SCALE: 1" = 20'-0" CLASS: SITE
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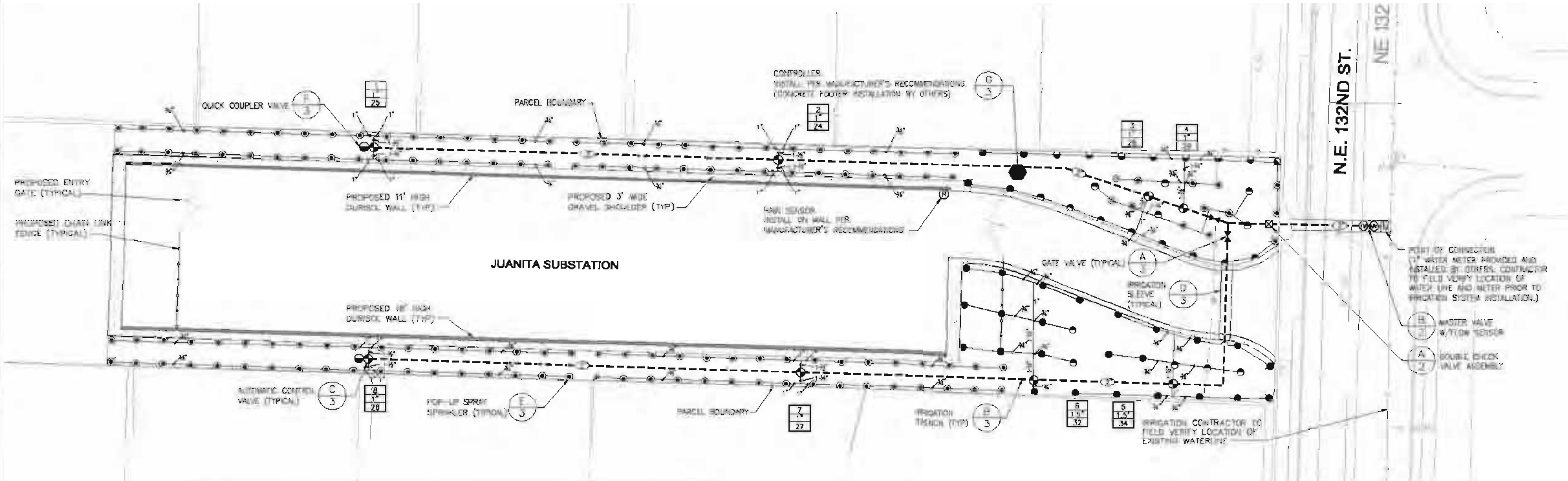


NOTES:
1. THE IRRIGATION PLAN IS DIAGRAMMATIC.

2. SEE SHEET 3 FOR IRRIGATION NOTES AND DETAILS. INSTALL MAINLINE, VALVES, PIPE, AND ASSOCIATED EQUIPMENT IN PLANTER BEDS OR GRASS AREAS.

IRRIGATION EQUIPMENT LEGEND

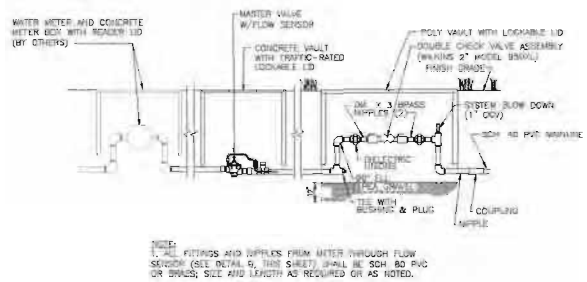
- RAIN BIRD FS-200-B FLOW SENSOR
- RAIN BIRD MASTER VALVE PEB SERIES
- GATE VALVE
- RAIN BIRD AUTOMATIC CONTROL VALVE PEB SERIES
- RAIN BIRD QUICK COUPLING VALVE #44LRC
- RAIN BIRD RAIN SENSOR RSD-CEx
- DCVA ASSEMBLY
- WATER METER (SUPPLIED AND INSTALLED BY OTHERS)
- RAIN BIRD ESP-LX MODULAR OUTDOOR 12-STATION ELECTRONIC CONTROLLER (INSTALL IN VYNCKIER POLYSAFE MODEL PS2020A ENCLOSURE. CONCRETE FOOTER FOR PEDESTAL BY OTHERS)

VALVE LEGEND

- STATION NUMBER / VALVE SIZE / GALLONS PER MINUTE
- SCHEDULE 40 PVC MAINLINE (SIZED AS SHOWN ON PLANS) (MINIMUM 18" BURY)
- SCHEDULE 40 PVC LATERAL (1" SIZE UNLESS SHOWN OTHERWISE ON PLANS)
- SCHEDULE 40 PVC SLEEVES (SIZED AT DOUBLE WORKING PIPE DIAMETER)

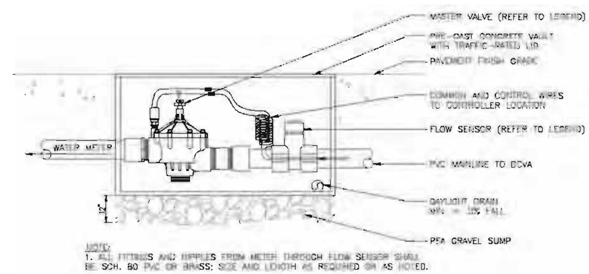
IRRIGATION EQUIPMENT LEGEND

Q T H F	NOZ.	MANF.	MODEL NO.	RAD.	PATTERN	PSI	FLOW				
	8'	RAINBIRD	1806-SAM-PRS	8'	QTR, THIRD, HLF, FULL	30	[illegible]	[illegible]	[illegible]	[illegible]	VAR
	10'	RAINBIRD	1806-SAM-PRS	10'	QTR, THIRD, HLF, FULL	30	.39	.53	.79	1.58	VAR
	12'	RAINBIRD	1806-SAM-PRS	12'	QTR, THIRD, HLF, FULL	30	[illegible]	[illegible]	1.3	2.60	VAR



NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR (SEE DETAIL B, THIS SHEET) SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

(A) DOUBLE CHECK VALVE ASSEMBLY
NOT TO SCALE



NOTE:
1. ALL FITTINGS AND NIPPLES FROM METER THROUGH FLOW SENSOR SHALL BE SCH. 80 PVC OR BRASS; SIZE AND LENGTH AS REQUIRED OR AS NOTED.

(B) MASTER VALVE WITH FLOW SENSOR
NOT TO SCALE

0 20 40 60
SCALE: 1"=20

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JUANITA SUBSTATION
IRRIGATION PLAN

PUGET SOUND ENERGY
SUBSTATION ENGINEERING DEPARTMENT

D-14346 0

IRRIGATION NOTES

1. ALL NEW LANDSCAPE AREAS SHALL HAVE AN AUTOMATICALLY CONTROLLED IRRIGATION SYSTEM. SYSTEM SHALL BE DESIGNED TO CONSERVE WATER AND MINIMIZE OVERSPRAY ON WALKS, VEHICLES AND OTHER SURFACES. IRRIGATION SYSTEM WORK INCLUDES EXCAVATING, BACKFILLING, SUPPLYING AND INSTALLING VALVES AND FITTINGS, PIPING AND FITTINGS, QUICK COUPLER VALVES, VALVE BOXES, AND ACCESSORIES, TESTING, AND WINTERIZING AND SPRING START UP.

2. THE IRRIGATION SYSTEM HAS BEEN DESIGNED FOR A MAXIMUM FLOW OF 35 GPM AT A STATIC PRESSURE OF 66 PSI. IF AVAILABLE PSI IS SIGNIFICANTLY LOWER THAN 66 PSI, CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION FOR SYSTEM DESIGN ADJUSTMENT.

3. THE IRRIGATION PLAN IS DIAGRAMMATIC. INSTALL MAINLINE, VALVES, PIPE, AND ASSOCIATED EQUIPMENT IN PLANTER BEDS.

4. LOCATE ALL ABOVE AND BELOW GROUND UTILITIES AND PROTECT THEM FROM DAMAGE DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INCURRED DURING OR AS A RESULT OF, CONSTRUCTION OF IRRIGATION SYSTEM.

5. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO COORDINATE INSTALLATION OF IRRIGATION SLEEVES WITH THE GENERAL CONTRACTOR.

6. INSTALL SYSTEM TO MEET ALL APPLICABLE CODES AND INSPECTIONS AND OBTAIN ALL REQUIRED PERMITS PRIOR TO CONSTRUCTION.

7. INSTALL ALL MATERIALS AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S WRITTEN SPECIFICATIONS AND RECOMMENDATIONS.

8. PROVIDE ONLY NEW MATERIALS, WITHOUT FLAWS OR DEFECTS AND OF THE HIGHEST QUALITY OF THEIR SPECIFIED CLASS AND KIND FOR COMMERCIAL USE.

   A. PVC MAINLINE AND LATERAL PIPE SHALL BE CONSTRUCTED OF SCH. 40 PVC. ALL PIPES SHALL BE PERMANENTLY PRINTED WITH STANDARD PERTINENT INFORMATION.

   B. PVC FITTINGS SHALL BE SCHEDULE 80 RATED FOR MAINLINE AND SCHEDULE 40 RATED FOR LATERALS AND MEET ASTM D2466 STANDARDS AND SPECIFICATIONS.

   C. PVC NIPPLES SHALL BE SCHEDULE 80 RATED AND MEET ASTM D1785 REQUIREMENTS AND SPECIFICATIONS. ALL NIPPLES WILL HAVE TAPERED THREADS.

   D. JOINING MATERIALS USED SHALL BE MANUFACTURED BY I.P.S. OR APPROVED EQUIVALENT, AND SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS AND SAFETY RECOMMENDATIONS.

   E. THREADED CONNECTIONS (PVC) SHALL BE SEALED WITH TEFLON TAPE OR TEFLON PASTE.

   F. IRRIGATION SLEEVES SHALL BE SCHEDULE 40 PVC AND SIZED DOUBLE THE DIAMETER OF THE PIPE RUNNING THROUGH IT.

   G. CONTROLLER SHALL BE RAINBIRD ESP-LX MODULAR OUTDOOR 12-STATION OR APPROVED EQUIVALENT AND CABINET-MOUNTED IN A V.I.T. POLYSAFE MODEL PSJ020A ENCLOSURE OR APPROVED EQUIVALENT AS SHOWN ON PLANS. INSTALLATION SHALL BE ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE LOCATION WITH OWNER.

   H. ALL IRRIGATION WIRING TO BE "MULTISTRAND" WIRING.

   I. INSTALL A RAINBIRD PEB-SERIES MASTER VALVE AT THE WATER METER. COORDINATE WITH OWNER.

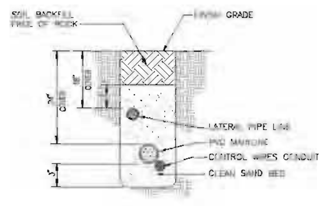
   J. INSTALL A RAINBIRD FLOW SENSOR, MODEL FS-200-B, FLOW SENSOR DOWNSTREAM FROM MASTER VALVE.

9. CONTRACTOR SHALL PROVIDE IRRIGATION SYSTEM RECORD DRAWINGS LEGIBLY MARKED TO RECORD ACTUAL INSTALLATION. DRAWINGS SHALL INDICATE HORIZONTAL AND VERTICAL LOCATIONS, REFERENCED TO PERMANENT SURFACE IMPROVEMENTS. IDENTIFY FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING CHANGES MADE BY CHANGE ORDER. AN 11"X17" PLAN SHALL BE LAMINATED AND PLACED AT THE CONTROLLER LOCATION LEGIBLY SHOWING COLOR-CODED ZONES.

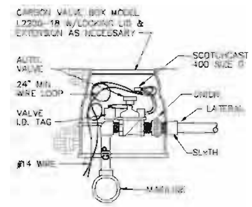
10. CONTRACTOR SHALL REVIEW ENTIRE SYSTEM WITH OWNER'S REPRESENTATIVE AND SUPPLY OPERATIONS MANUAL AND WARRANTIES.

11. WINTERIZATION: CONTRACTOR SHALL INSPECT SYSTEM, SHUTOFF AND DRAIN PIPE BETWEEN SHUTOFFS AND DOUBLE-CHECK VALVE AND BLOW OUT SYSTEM COMPLETELY BETWEEN OCTOBER 1 AND OCTOBER 15 DURING THE WARRANTY PERIOD FOR WINTERIZATION.

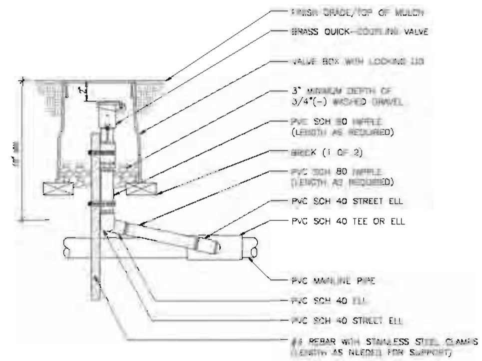
12. SPRING STARTUP: CONTRACTOR SHALL INSPECT, PRESSURIZE SYSTEM, REPAIR LEAKS AND ANY FAULTY WORK, ADJUST AND PROGRAM CONTROLLERS AS NECESSARY BEFORE MARCH 31 FOR SPRING STARTUP.



B TRENCH DETAIL
NOT TO SCALE

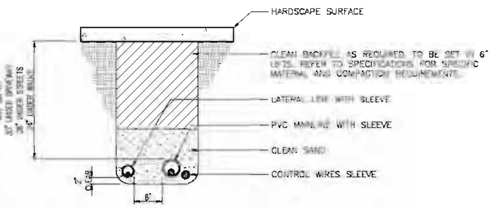


C AUTOMATIC CONTROL VALVE
NOT TO SCALE



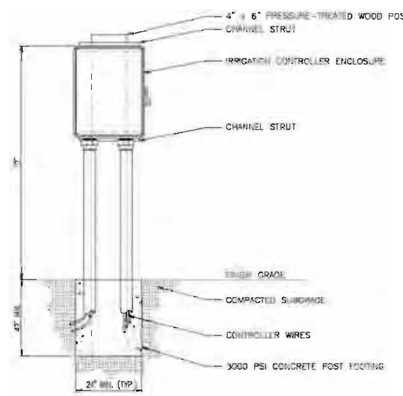
NOTE:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

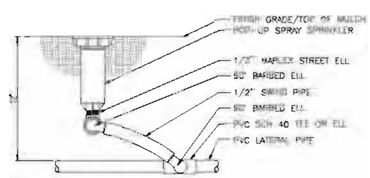
F QUICK COUPLER VALVE
NOT TO SCALE



NOTES:
1. ALL SLEEVES TO BE PVC. SCH. 40 AND TWICE THE DIAMETER OF THE WORKING PIPE.
2. ALL SLEEVES TO RUN A MIN. OF 12" BEYOND HARDSCAPE EDGES.
3. CLEAN BACKFILL MAY BE SUBSTITUTED FOR SAND UNDER WALKS AND DRIVES.

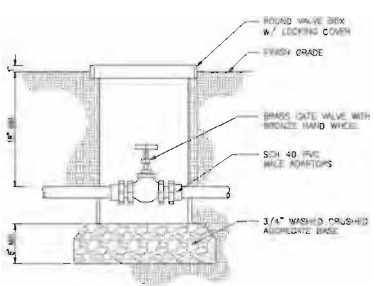
D IRRIGATION SLEEVING
NOT TO SCALE





E POP-UP SPRAY SPRINKLER
NOT TO SCALE

G CONTROLLER INSTALLATION
NOT TO SCALE



A GATE VALVE
NOT TO SCALE

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JUANITA SUBSTATION
IRRIGATION NOTES & DETAILS

PUGET SOUND ENERGY
SUBSTATION ENGINEERING DEPARTMENT

DRAWING NO. D-14346 | REV NO 0
SHEET 3 OF 5
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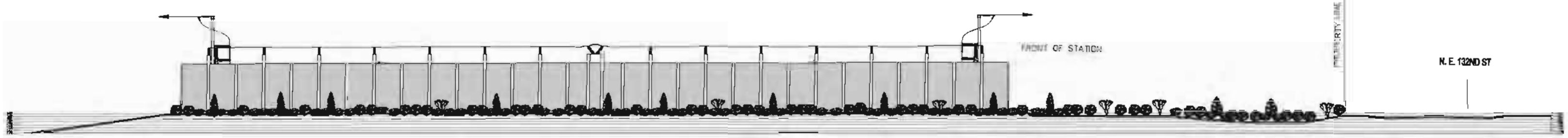
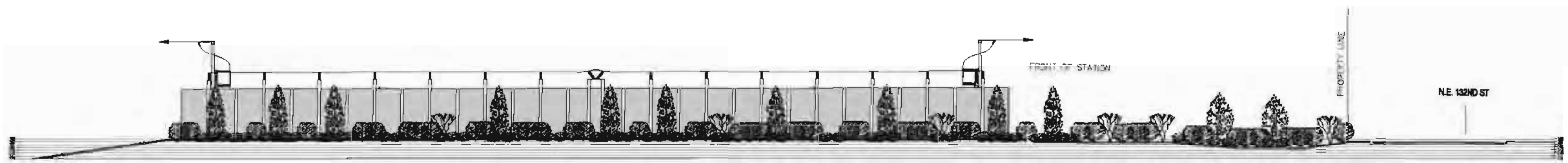
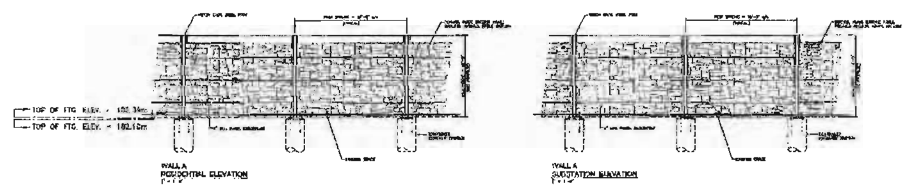
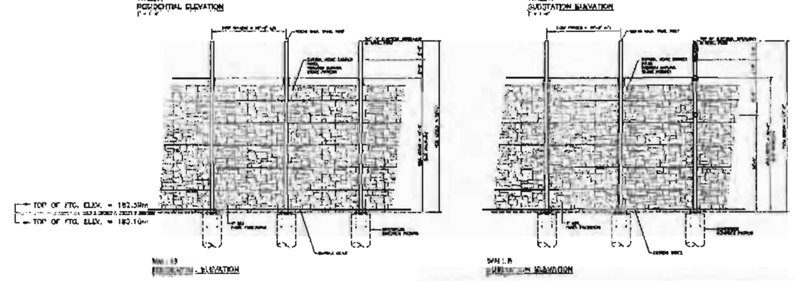


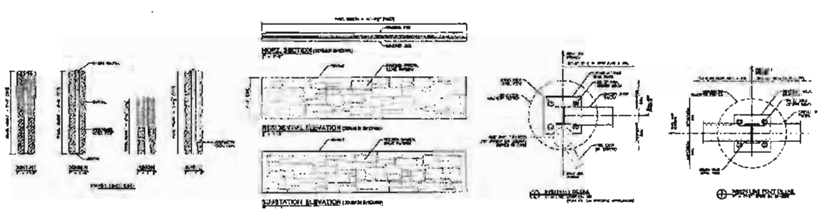
PLANT SIZE AT INSTALLATION
EAST ELEVATION



PLANT SIZE AT 10 YEARS GROWTH
EAST ELEVATION







ELEVATION &
TYPICAL DETAILS

0 20 40 60
SCALE: 1"=20'

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JUANITA SUBSTATION
EAST LANDSCAPE ELEVATION

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SUBSTATION ENGINEERING DEPARTMENT
DRAWING NO D-14346
REV NO 0
SCALE:
CLASS: SITE
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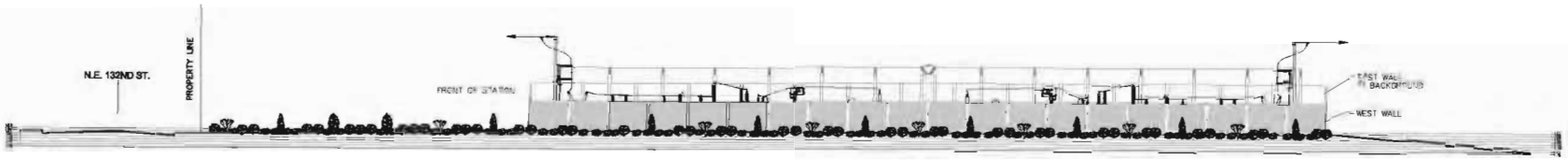
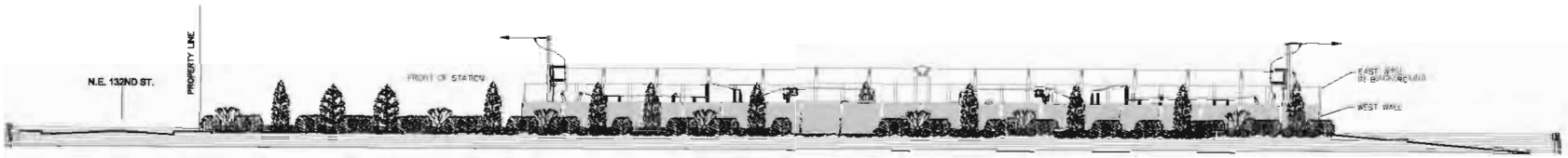


PLANT SIZE AT INSTALLATION
WEST ELEVATION



PLANT SIZE AT 10 YEARS GROWTH
WEST ELEVATION

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0 20 40 60
SCALE: 1" = 20'

JUANITA SUBSTATION
WEST LANDSCAPE ELEVATION

PUGET SOUND ENERGY

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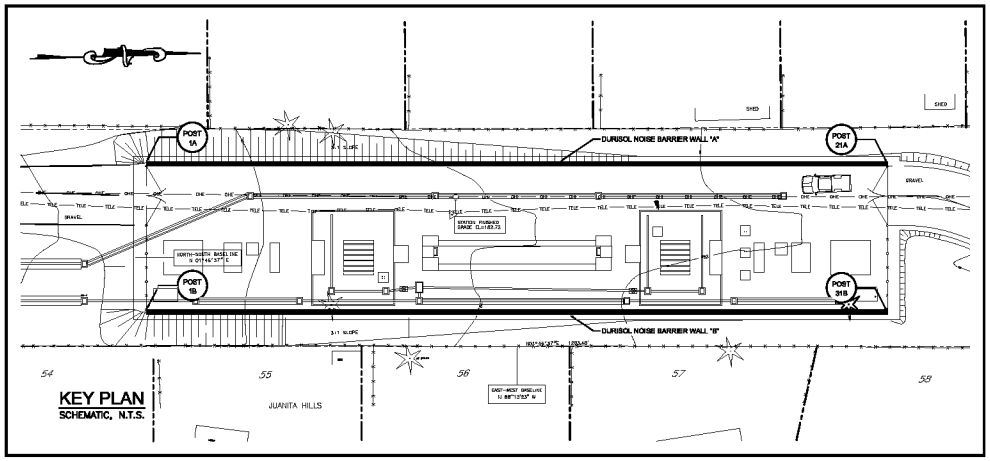
Durisol. NOISE BARRIER WALL SYSTEM

JUANITA SUBSTATION

WASHINGTON STATE



KEY PLAN
SCHEMATIC, N.T.S.

GENERAL NOTES

1. DESIGN

1.1 The structure and its components have been designed in accordance with the following:
AISC Manual of Steel Construction - LRFD 2001.
AASHTO - LRFD Bridge Design Specifications- Latest Edition
AASHTO - Guide Specifications for Structural Design of Sound Barriers, 1989
1992 Revisions - 2002 Interims
BOCA - 1999

1.2 All dimensions and sizes are given in feet and inches unless noted otherwise

2. LOADING

2.1 Design Wind Pressure = 25.0 psf

3. CONCRETE

3.1 All concrete work shall conform to ACI 318.
3.2 Concrete cylinder strength at 28 days shall not be less than:
Durisol Panels (Core).....6000 psi
Non-shrink Grout (by others).....5000 psi
Concrete in Footing (by others).....4350 psi

4. FOUNDATIONS

4.1 Foundation design based on geotechnical information provided by GeoEngineers Inc., prepared for Puget Sound Energy, report File No. 0158-780-00
4.2 Footing concrete to be cast entirely against undisturbed soil, compacted soil to 95% Standard proctor Density, or rock.

5. REINFORCING STEEL

5.1 All reinforcing steel shall be deformed bars and have a minimum yield strength of 60 ksi conforming to ASTM A615.
5.2 Welded wire reinforcement shall conform to ASTM A185.
5.3 Post and Panel steel to be Hot Dip Galvanized.

6. STRUCTURAL STEEL

6.1 All structural steel work to comply with AASHTO M270 (ASTM A709), grade 345 W (50 ksi).
6.2 All plates shall conform to AAS-HTO M270 (ASTM A709)
Minimum yield strength = 345 MPa (50 ksi)
6.3 All fasteners/Anchor Bolts to be hot-dip galvanized to comply with ASTM A449.
Minimum ultimate strength = 725 MPa (105 ksi).
6.4 All components shall be hot dip galvanized after fabrication and comply with ASTM A123.
6.5 Galvanized surfaces which are abraded shall be cleaned and painted with two coats of zinc-rich paint.

7. WELDING

7.1 All welding and the preparation and assembly of materials for welding shall conform to the Standard Specifications for Highway and Bridge Welding Code (ANSI / AASHTO / AWS D1.5) and all interim revisions published by AASHTO as of 2000.

8. ACOUSTIC PROPERTIES

8.1 Noise Reduction Coefficient (NRC)
8.1.1 Minimum NRC for Absorptive Classification ≥ 0.70.
8.1.2 Durisol panels when tested in accordance with ASTM Standard C423-01, free standing, in accordance with ASTM Standard E795-01, record a minimum NRC ≥ 0.70 (both faces).
8.2 Sound Transmission Coefficient (STC)
8.2.1 The Durisol wall meets the minimum STC ≥ 42 when measured in accordance with ASTM Standard E90-76.

9. INSTALLATION

9.1 Posts identified by numbers shown on elevation drawings.
9.1.1 Posts shall be installed plumb to within a tolerance of ± 1/4" in 10'-0" and on lines and spacings specified within ± 3/8", or as per contract.
9.2 Bay of panels identified by post number to left of bay.
9.3 Each panel in bay identified by code showing type, size and orientation.
9.4 All panels to be level horizontally unless noted otherwise.
9.5 The Contractor shall verify all dimensions on site and correlate with construction drawings. The Engineer shall be notified of any discrepancies prior to commencing with construction.

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McLean, Virginia, U.S.A. 22102
Phone: 888-801-0999 * Fax: 877-285-8613

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LOCATION:
WASHINGTON, USA

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STATE PROJECT No:

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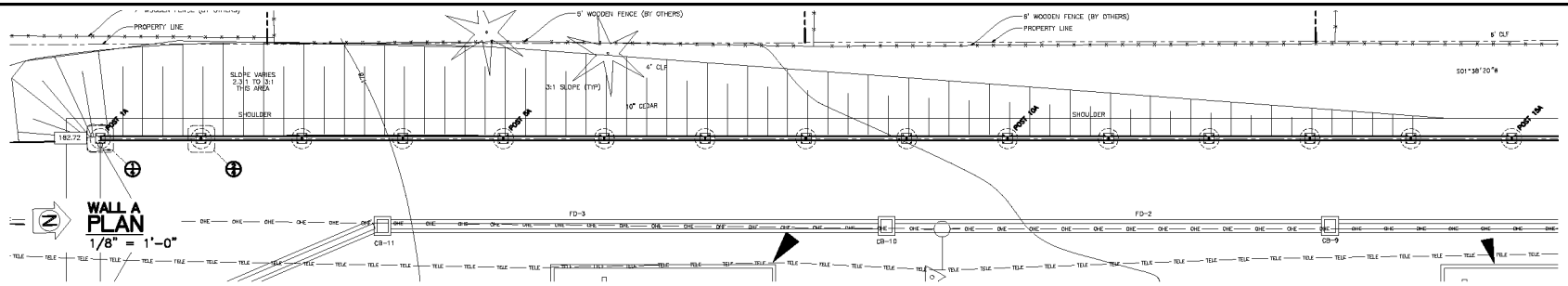
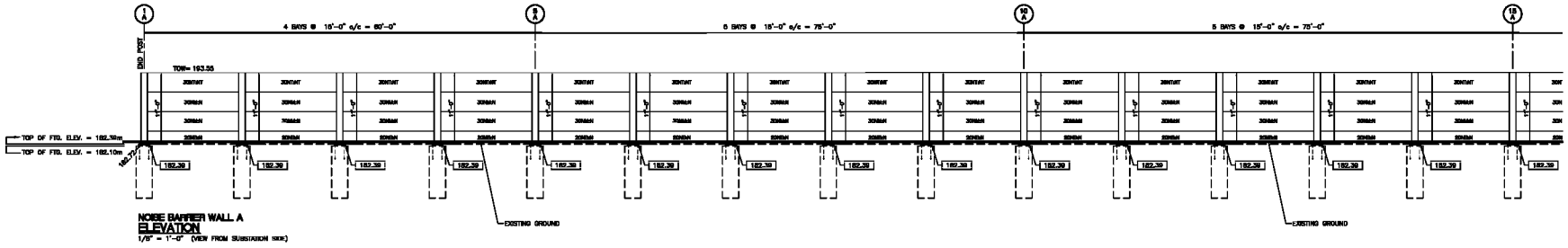
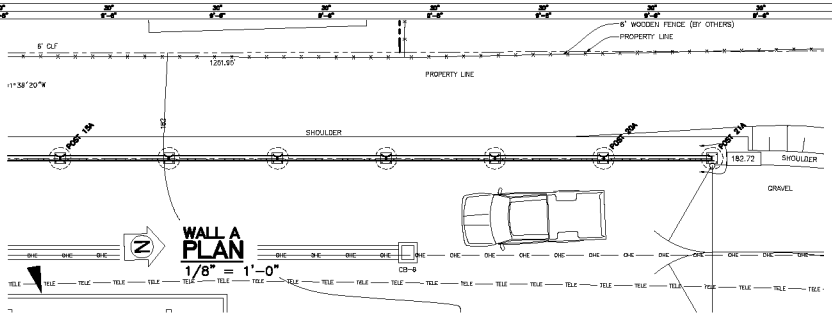
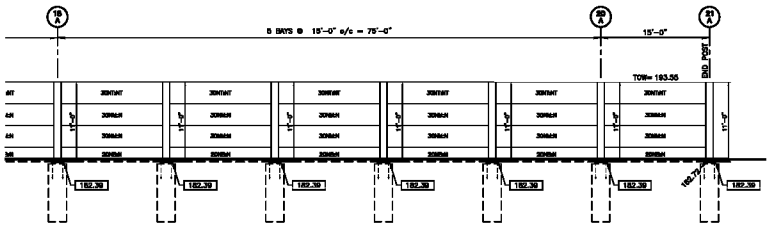
DATE of PRINT: MAY 5, 2008	









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Phone: 866-801-0999 * Fax: 877-265-8613

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REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

DRAWING TITLE:
WALL A
PLAN & PROFILE

FEDERAL PROJECT No:

STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025--02.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2006	SHEET No: 2 of 6
DATE of PRINT: MAY 5, 2006	

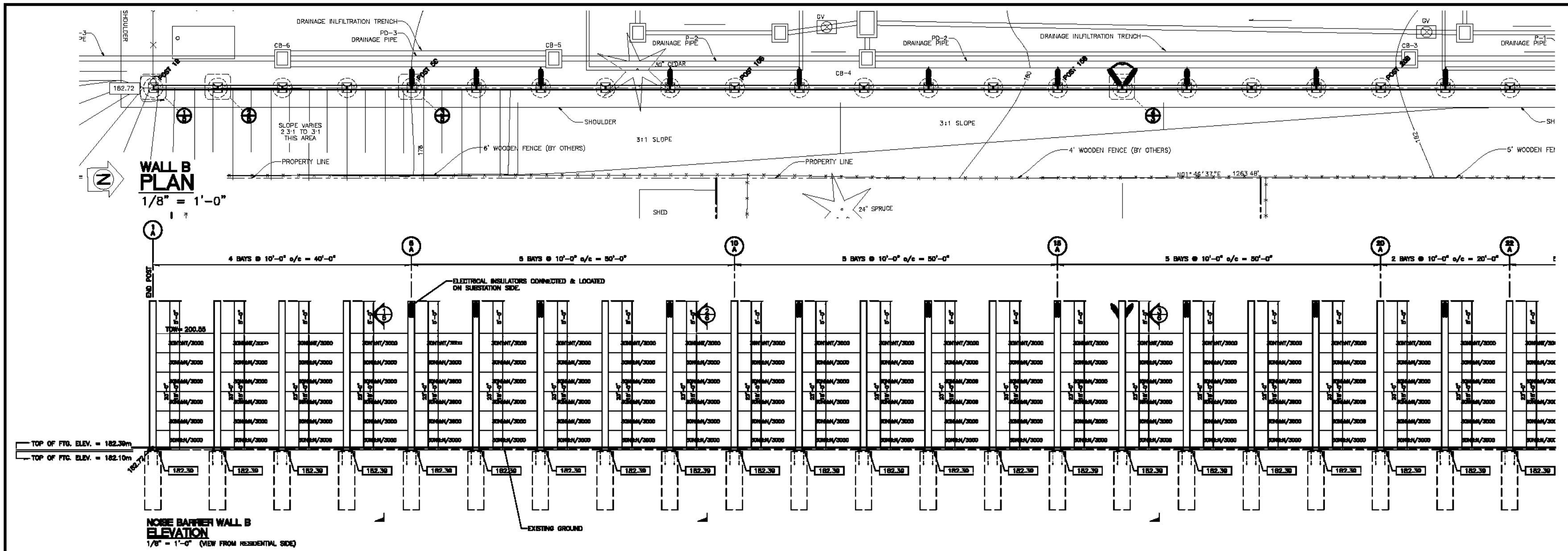

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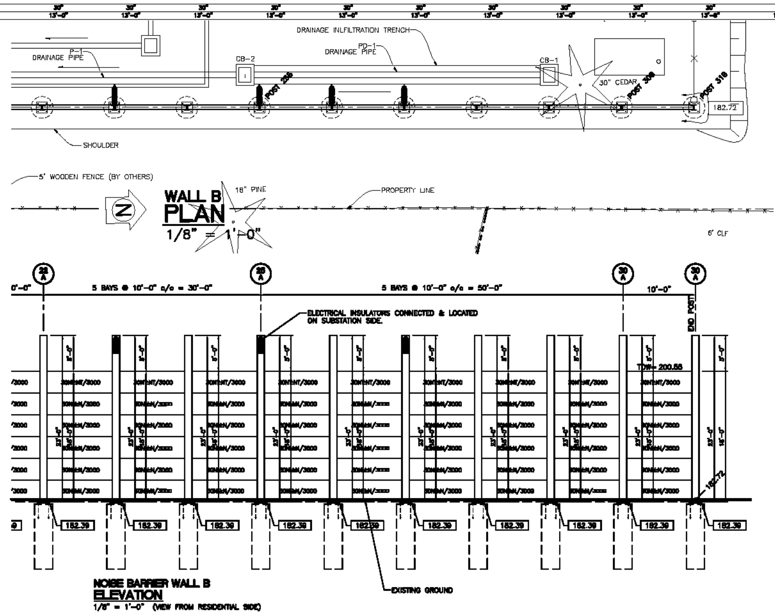
PLATE THICKNESS	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	PLATE THICKNESS
ANCHOR BOLT DIA.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	ANCHOR BOLT DIA.
FAB. POST TYPE																							FAB. POST TYPE
FTG. DIAMETER	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	FTG. DIAMETER
FTG DEPTH	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	FTG DEPTH



POST TYPE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	POST TYPE
PLATE THICKNESS	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	PLATE THICKNESS
ANCHOR BOLT DIA.	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	ANCHOR BOLT DIA.
FAB. POST TYPE											FAB. POST TYPE
FTG. DIAMETER	30"	30"	30"	30"	30"	30"	30"	30"	30"	30"	FTG. DIAMETER
FTG DEPTH	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	13'-0"	FTG DEPTH

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DURISOL INC.
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UNITED STATES OFFICE
Durisol USA Inc. 8270 Greensboro Drive, Suite 630
McLean, Virginia, U.S.A. 22102
Phone: 866-801-0999 * Fax: 877-266-8813

(000.00) = TOP OF CONCRETE FOUNDATION ELEVATION (ft)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

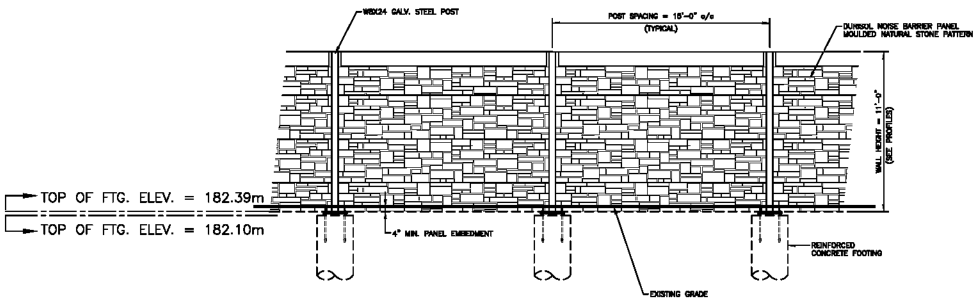
PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

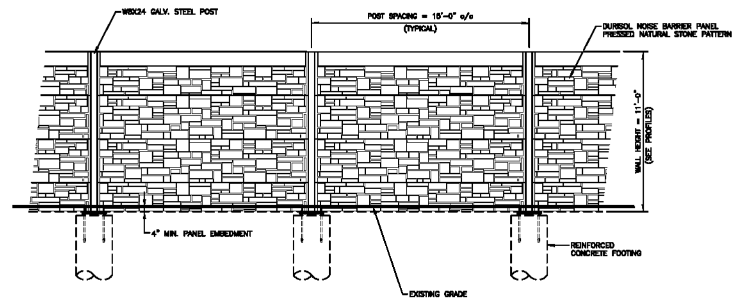
DRAWING TITLE:
WALL B
PLAN & PROFILE

FEDERAL PROJECT No:
STATE PROJECT No:

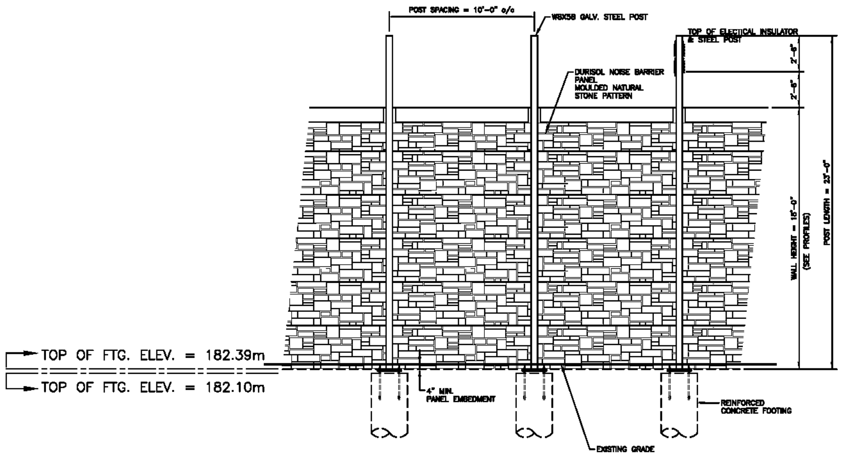
SCALE: NOTED	ACAD FILE: 08rc025-03.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 3 of 6
DATE of PRINT: MAY 9, 2008	



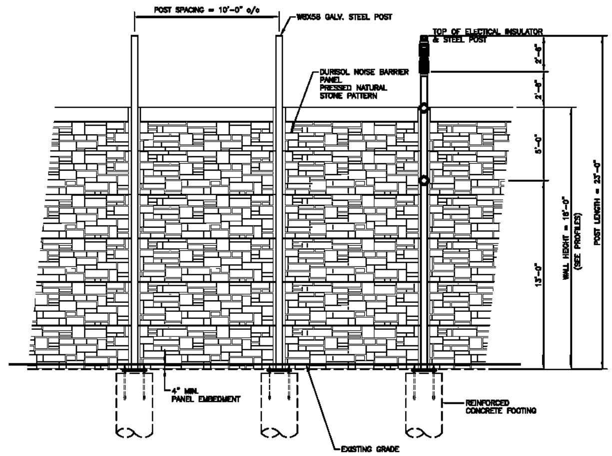
WALL A
RESIDENTIAL ELEVATION
¼" = 1'-0"



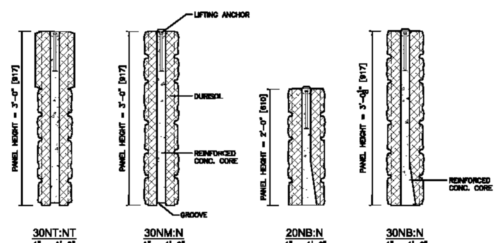
WALL A
SUBSTATION ELEVATION
¼" = 1'-0"



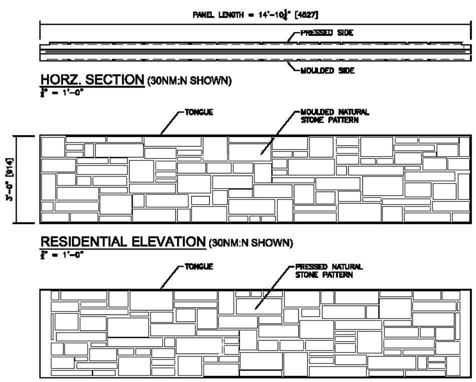
WALL B
RESIDENTIAL ELEVATION
⅛" = 1'-0"



WALL B
SUBSTATION ELEVATION
⅛" = 1'-0"



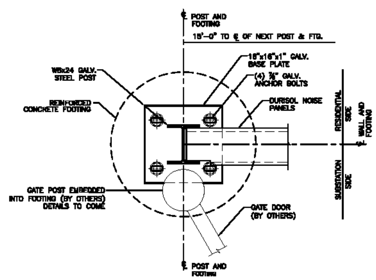
PANEL SECTIONS



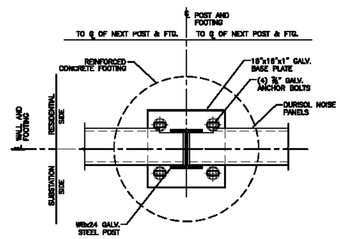
HORZ. SECTION (30NM:N SHOWN)
¾" = 1'-0"

RESIDENTIAL ELEVATION (30NM:N SHOWN)
¾" = 1'-0"

SUBSTATION ELEVATION (30NM:N SHOWN)
¾" = 1'-0"



END POST DETAIL
1" = 1'-0" (POST No. 1A)
(POST No. 21A OPPOSITE SYMMETRICAL)



W8x24 LINE POST DETAIL
1" = 1'-0" (POST No. 2A–20A)

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Phone: 866-801-0999 * Fax: 877-268-8613

(000.00) = TOP OF CONCRETE FOUNDATION ELEVATION (m)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

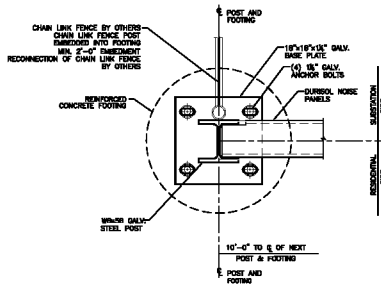
LOCATION:
WASHINGTON, USA

DRAWING TITLE:
ELEVATION & TYPICAL DETAILS

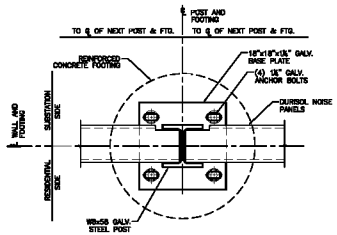
FEDERAL PROJECT No:

STATE PROJECT No:

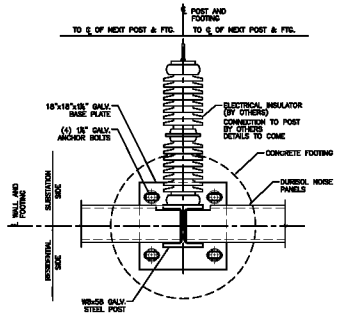
SCALE: NOTED	ACAD FILE: 08rc025–04.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 4 of 6
DATE of PRINT: MAY 9, 2008	



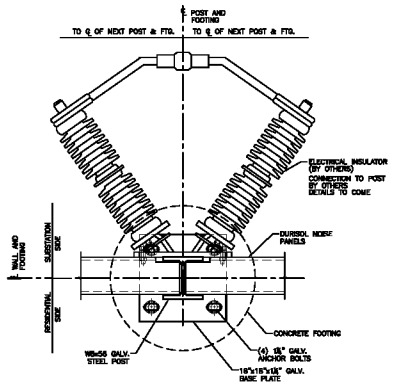
1 END POST DETAIL
1" = 1'-0"
(POST No. 1B)
(POST No. 31B OPPOSITE SYMMETRICAL)



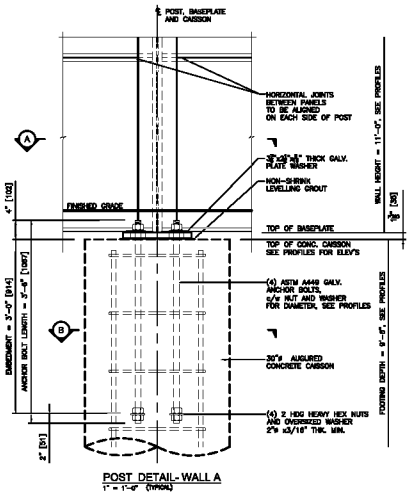
2 W8x58 LINE POST DETAIL
1" = 1'-0"
(POST No. 2B–4B, 6B, 10B, 12B, 14B, 18B, 20B, 22B, 24B, 26B–31B)



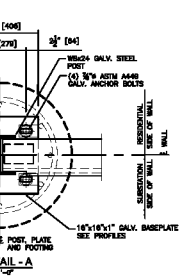
3 LINE POST DETAIL
1" = 1'-0"



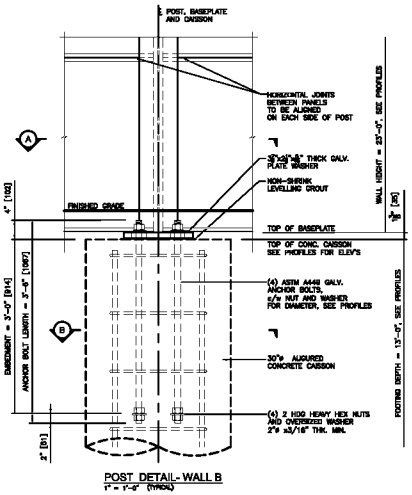
4 LINE POST DETAIL
1" = 1'-0"



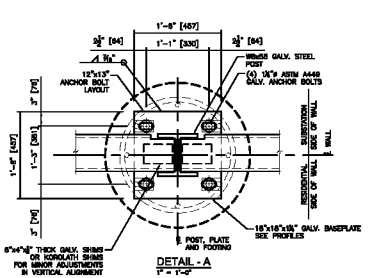
5 POST DETAIL- WALL A
1" = 1'-0"
(TYPICAL)



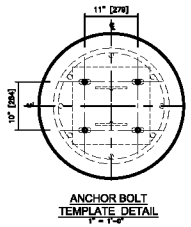
6 DETAIL - A
1" = 1'-0"



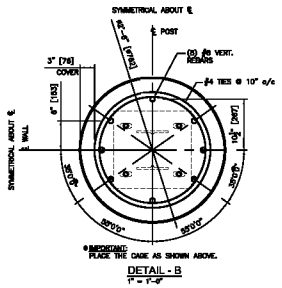
7 POST DETAIL- WALL B
1" = 1'-0"
(TYPICAL)



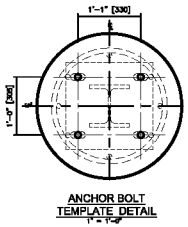
8 DETAIL - A
1" = 1'-0"



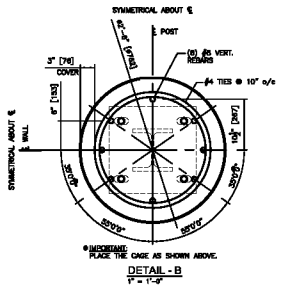
9 ANCHOR BOLT TEMPLATE DETAIL
1" = 1'-0"



10 DETAIL - B
1" = 1'-0"



11 ANCHOR BOLT TEMPLATE DETAIL
1" = 1'-0"



12 DETAIL - B
1" = 1'-0"

Durisol®
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Phone: 888-801-0999 * Fax: 877-285-8513

XXX.XX = TOP OF CONCRETE FOUNDATION ELEVATION (FT)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

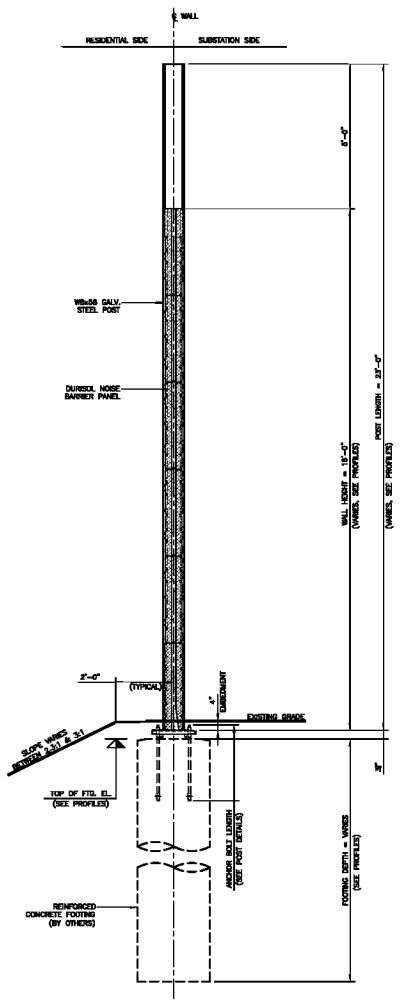
PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

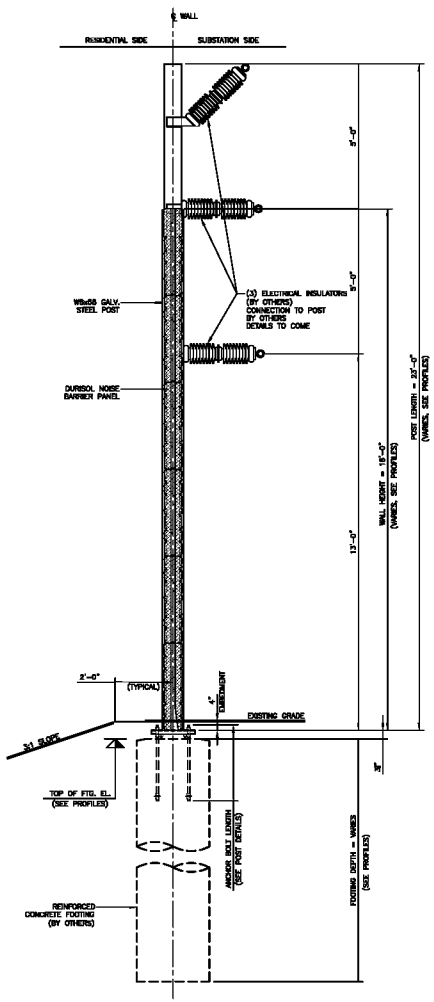
DRAWING TITLE:
TYPICAL DETAILS

FEDERAL PROJECT No:
STATE PROJECT No:

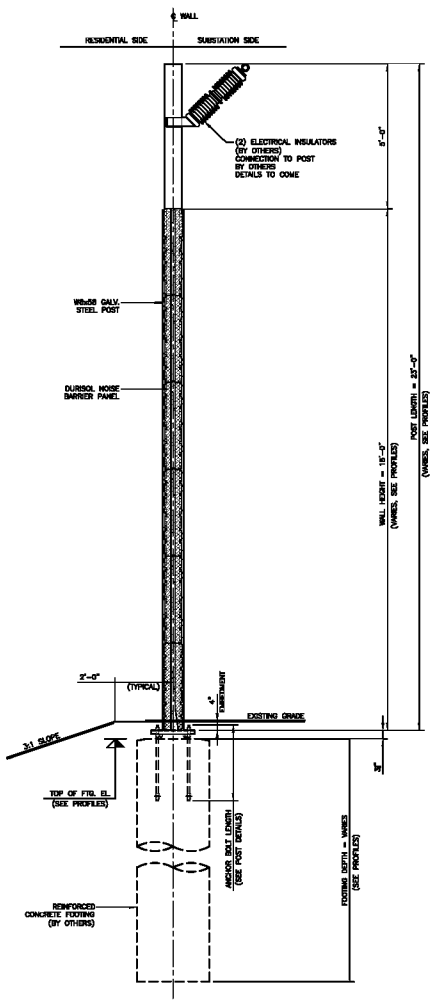
SCALE: NOTED	ACAD FILE: 08rc025--05.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	SHEET No: 5 of 6
DATE: MAY 5, 2008	
DATE of PRINT: MAY 5, 2008	



1/6 SECTION "WALL B"
1/2" = 1'-0"



2/6 SECTION "WALL B"
1/2" = 1'-0"



3/6 SECTION "WALL B"
1/2" = 1'-0"

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XXX.XX = TOP OF CONCRETE FOUNDATION ELEVATION (FE)

No.	DATE:	BY:	DESCRIPTION:
1	05.09.08	CLG	ISSUED FOR APPROVAL

REVISIONS

PROJECT TITLE:
JUANITA SUBSTATION

LOCATION:
WASHINGTON, USA

DRAWING TITLE:
SECTIONS

FEDERAL PROJECT No:

STATE PROJECT No:

SCALE: NOTED	ACAD FILE: 08rc025-06.dwg
DRAWN BY: CLG	DURISOL PROJECT No: 08RC25
CHECKED BY: GJS	
DATE: MAY 5, 2008	SHEET No: 6 of 6
DATE of PRINT: MAY 5, 2008	