



INSIGHT ENGINEERING CO.

11c-316.2

STORMWATER SITE PLAN
For
STILLY CLINIC

Prepared for
City of Arlington
1812 Main Street, PO Box 257
Lake Stevens, WA 98258-0257
425-377-3222

Applicant/Owner:
Stillaguamish Tribe of Indians
3310 Smokey Point Drive
Arlington, WA-98223

Contact:
Adam Clark
2812 Architecture
Everett, WA-98201
425-252-2153

Project Site Location:
2125 Smokey Point Blvd
Arlington, Washington
IECO Project: 10-0537

Certified Erosion and Sedimentation Control Lead:
To be named by the contractor

Stormwater Site Plan Prepared By:
Santhosh. J. Moolayil, BSCE

Stormwater Site Plan Preparation Date:
January 31, 2012

Approximate Construction Date:
May 1, 2012



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SECTION I: PROJECT OVERVIEW

The proposed project, *Stilly Clinic*, is located at 2125, Smokey Point Blvd. in the City of Arlington, Washington. More generally, the site is located in Section 8, Township 31 North, and Range 5 East of the Willamette Meridian in Snohomish County, Washington. Please refer to the Vicinity Map attached in the next page for more details.

The project site is fully developed with four buildings and asphalt pavement. The majority of the site is generally flat. Per SCC survey of Snohomish County, the project site contains Puget silty clay loam. Please refer to the soils map and descriptions attached later in this report for more details.

The project development area contains approximately 1.66 Acres. There are no critical areas located within the site. The proposal is to construct an addition to the existing building located at the central west portion of the site, add sidewalk around the existing building, extend sewer to connect to the proposed building and stripe parking spaces. The access to the site will be from Old HWY. 99.

The project is a redevelopment project and page 2-10 of the 2005 DOE shows the flow chart (Fig 2.3, attached later in this section) for determining requirements for redevelopment under Volume-1 Minimum Technical requirements. Based on that, the project does not require any additional requirements other than Minimum Requirements #1 through #5 since the value of the proposed improvements do not exceed 50% of the assessed value of the existing improvements and the total new plus replaced impervious surface is more than 5,000 square feet.

The project is exempt for detention and water quality since no additional requirements required for this proposal.

Area Calculations:

New impervious surface area	= 1,188 SF
Replaced Impervious Surface Area	= 8,020 SF
Total Impervious Area	= 9,208 SF (proposed and replaced)

VICINITY MAP

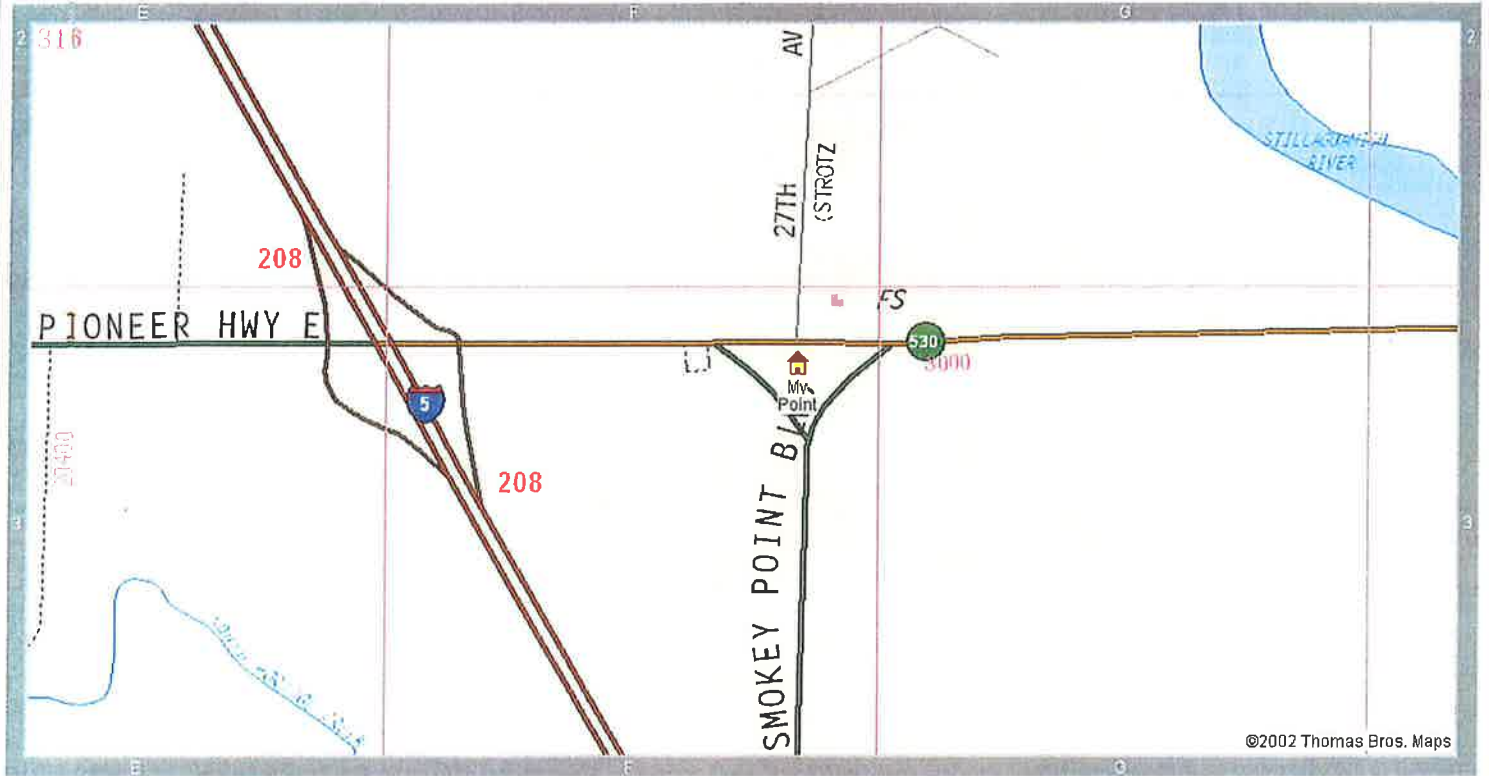


PHOTO TAKEN FROM THE 2002 THOMAS BROTHERS® GUIDE CD-ROM



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FIGURE 1. VICINITY MAP
 Stilly Clinic
 Arlington, Washington

SCALE: 1" = 1,222'	DATE: 2/1/12	JOB #: 10-0537
BY: SJM	FILE NAME: 10-0537/doc/	

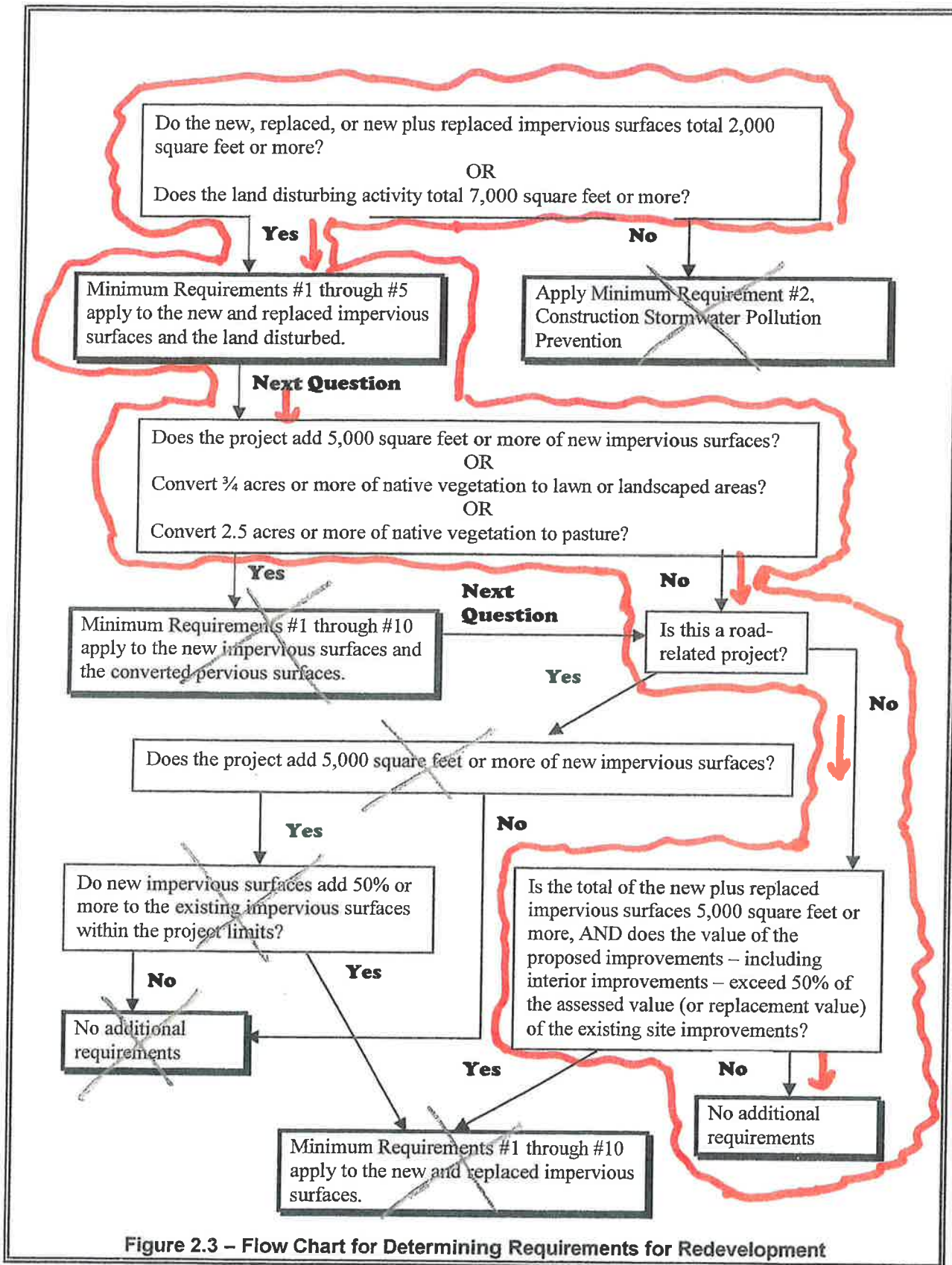


Figure 2.3 – Flow Chart for Determining Requirements for Redevelopment

SOIL MAP



SOILS LEGEND

55 – Puget silty clay loam



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SOIL MAP
Stilly Clinic
Arlington, WA

SCALE: NONE	DATE: 2/1/12	JOB #: 10-0317
BY: SJM	FILE NAME: 10-0537\docs\	

Snohomish County Area, Washington

55—Puget silty clay loam

Map Unit Setting

Elevation: 10 to 650 feet

Mean annual precipitation: 35 to 55 inches

Mean annual air temperature: 48 to 50 degrees F

Frost-free period: 160 to 180 days

Map Unit Composition

Puget, drained, and similar soils: 85 percent

Minor components: 6 percent

Description of Puget, Drained

Setting

Landform: Flood plains

Parent material: Alluvium

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water

(Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 24 to 48 inches

Frequency of flooding: Rare

Frequency of ponding: None

Available water capacity: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 3w

Land capability (nonirrigated): 3w

Typical profile

0 to 9 inches: Silty clay loam

9 to 38 inches: Silty clay loam

38 to 60 inches: Silty clay loam

Minor Components

Snohomish

Percent of map unit: 3 percent

Landform: Flood plains

Sumas

Percent of map unit: 3 percent

Landform: Flood plains

SECTION II: MINIMUM REQUIREMENTS SUMMARY: #1
THROUGH #5

MR : Minimum Requirement

SWPPP: Stormwater Pollution Prevention Plan

MR #1 Stormwater Site Plan: The Stormwater Site Plan preparation follows the City of Arlington requirements and in accordance with the 2005 DOE Manual. Refer to Section-1, Project Overview.

MR #2 SWPPP: The twelve applicable SWPPP elements have been described in the TESC and Grading Plan. Refer to Section IV for SWPPP narrative.

MR #3 Source control of Pollution: Onsite BMP's will be used to minimize the source of sediment.

MR #4 Preservation of Natural Drainage Systems and outfalls: Currently no drainage is leaving the site as it infiltrates.

MR #5 Onsite Stormwater Management: Drainage from the developed site will be collected by existing catch basins and directed to the existing retention facility located at the north east corner of the project site.

SECTION III: OFFSITE ANALYSIS

A site reconnaissance was performed by Brian R. Kalab, PE, on January 16, 2012, to verify the downstream flow paths and observe any drainage problems downstream of the site. The weather was cloudy and overcast with a temperature of around 42 degrees.

The project site is fully developed with four buildings and asphalt pavement. The majority of the site is generally flat. There is a retention facility located at the northeast corner of the site. No visible on-site drainage problems were observed at the time of field investigations.

Upstream Analysis

Based on the site reconnaissance and the topographic survey of the area, the upstream flows entering the property are very minimal.

Downstream Analysis

No drainage leaves the site currently as it infiltrates. The roof drains etc from the existing buildings are collected and discharged to the retention facility via a closed pipe system. No existing problems were observed, and no potential problems could be deduced at the time of the site visit.

SECTION IV: SWPPP

This Stormwater Pollution Prevention Plan (SWPPP) has been prepared as part of the Construction stormwater permit requirements for the Stilly Clinic project in Arlington, Washington. It is located at 2125, Smokey Point Blvd. in the City of Arlington, Washington. More generally, the site is located in Section 8, Township 31 North, and Range 5 East of the Willamette Meridian in Snohomish County, Washington. The project site is fully developed with four buildings and asphalt pavement. The majority of the site is generally flat. Per SCC survey of Snohomish County, the project site contains Puget silty clay loam. Please refer to the soils map and descriptions attached later in this report for more details. The project development area contains approximately 1.66 Acres. There are no critical areas located within the site. The proposal is to construct an addition to the existing building located at the central west portion of the site, add sidewalk around the existing building, extend sewer to connect to the proposed building and stripe parking spaces. The access to the site will be from Old HWY. 99.

The purpose of this SWPPP is to describe the proposed construction activities and all temporary and permanent erosion and sediment control (TESC) measures, pollution prevention measures, inspection/monitoring activities, and recordkeeping that will be implemented during the proposed construction project. The objectives of the SWPPP are to:

1. Implement Best Management Practices (BMPs) to prevent erosion and sedimentation, and to identify, reduce, eliminate or prevent stormwater contamination and water pollution from construction activity.
2. Prevent violations of surface water quality, ground water quality, or sediment management standards.
3. Prevent, during the construction phase, adverse water quality impacts including impacts on beneficial uses of the receiving water by controlling peak flow rates and volumes of stormwater runoff at the Permittee's outfalls and downstream of the outfalls.

This SWPPP was prepared using the Ecology SWPPP Template downloaded from the Ecology website on February 19, 2007. This SWPPP was prepared based on the requirements set forth in the Construction Stormwater General Permit and in the Stormwater Management Manual for Western Washington (SWMMWW 2005).

The 12 BMP Elements

Element #1 – Mark Clearing Limits

To protect adjacent properties and to reduce the area of soil exposed to construction, the limits of construction will be clearly marked before land-disturbing activities begin.

Element #2 – Establish Construction Access

Construction access or activities occurring on unpaved areas shall be minimized, yet where necessary, access points shall be stabilized to minimize the tracking of sediment onto public roads, and wheel washing, street sweeping, and street cleaning shall be employed to prevent sediment from entering state waters.

Install the temporary construction entrance, according to the approved construction plans, prior to any clearing or grading activities. Maintain until the access road is paved.

Element #3 – Control Flow Rates

In order to protect the properties and waterways downstream of the project site, stormwater discharges from the site will be controlled. In general, discharge rates of stormwater from the site will be controlled where increases in impervious area or soil compaction during construction could lead to downstream erosion, or where necessary to meet local agency stormwater discharge requirements. No water currently leaves the site because of infiltration.

Element #4 – Install Sediment Controls

Install silt fencing, according to the approved plans, prior to any clearing or grading activities. Maintain until all construction activities are completed.

Install catch basin filters, according to the approved construction plans, as catch basins become operable. Maintain until all construction activities are completed.

Element #5 – Stabilize Soils

Exposed and un-worked soils shall be stabilized with the application of effective BMPs to prevent erosion throughout the life of the project.

Apply temporary hydro-seed to exposed and un-worked soils, according to the approved construction plans, as needed to prevent erosion during site grading. Apply permanent hydro-seed to areas at final grade as site grading is completed.

Apply mulching to exposed and un-worked soils, according to the approved construction plans, as needed to prevent erosion during site grading. Maintain until site grading is completed and permanent hydro-seed is applied.

Cover stockpiles with plastic sheeting, according to the approved construction plans, as needed to prevent erosion during site grading. Maintain until stockpiles are removed from site.

Element #6 – Protect Slopes

All cut and fill slopes will be designed, constructed, and protected in a manner that minimizes erosion. The following specific BMPs will be used to protect slopes for this project.

Element #7 – Protect Drain Inlets

All storm drain inlets and culverts made operable during construction shall be protected to prevent unfiltered or untreated water from entering the drainage conveyance system. However, the first priority is to keep all access roads clean of sediment and keep street wash water separate from entering storm drains until treatment can be provided.

Element #9 – Control Pollutants

All pollutants, including waste materials and demolition debris, that occur onsite shall be handled and disposed of in a manner that does not cause contamination of stormwater. Good housekeeping and preventative measures will be taken to ensure that the site will be kept clean, well organized, and free of debris.

Element #10 – Control Dewatering

There will be no dewatering expected as part of this proposal. If it occurs, Baker tanks will be used for dewatering.

Element #11 – Maintain BMPs

All temporary and permanent erosion and sediment control BMPs shall be maintained and repaired as needed to assure continued performance of their intended function. Maintenance and repair shall be conducted in accordance with each particular BMP's specifications. Visual monitoring of the BMPs will be conducted at least once every calendar week and within 24 hours of any rainfall event that causes a discharge from the site. If the site becomes inactive, and is temporarily stabilized, the inspection frequency will be reduced to once every month. All temporary erosion and sediment control BMPs shall be removed within 30 days after the final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment shall be removed or stabilized on site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

Element #12 – Manage the Project

Erosion and sediment control BMPs for this project have been designed based on the following principles:

Design the project to fit the existing topography, soils, and drainage patterns; Emphasize erosion control rather than sediment control; Minimize the extent and duration of the area exposed; Keep runoff velocities low; Retain sediment on site; Thoroughly monitor site and maintain all ESC measures and Schedule major earthwork during the dry season. The SWPPP shall be modified as necessary to include additional or modified BMPs designed to correct problems identified. Revisions to the SWPPP shall be completed within seven (7) days following the inspection.