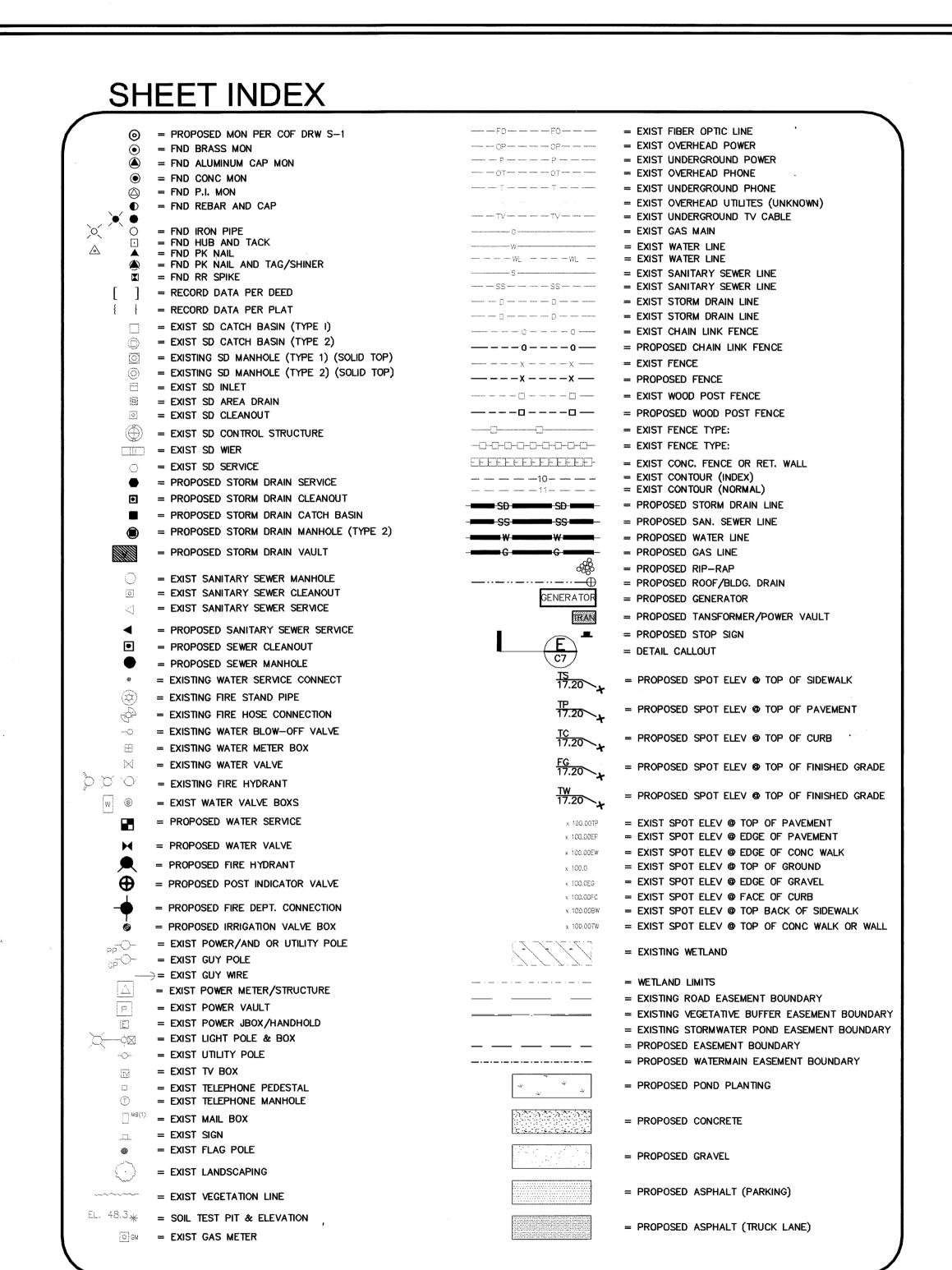
# SUPER FEET WORLD WIDE 1820 SCOUT PLACE

SITUATE IN A PORTION OF THE SE QUARTER OF SECTION 29, T.39 N., R. 02 E., W.M. CITY OF FERNDALE, WHATCOM COUNTY, WASHINGTON



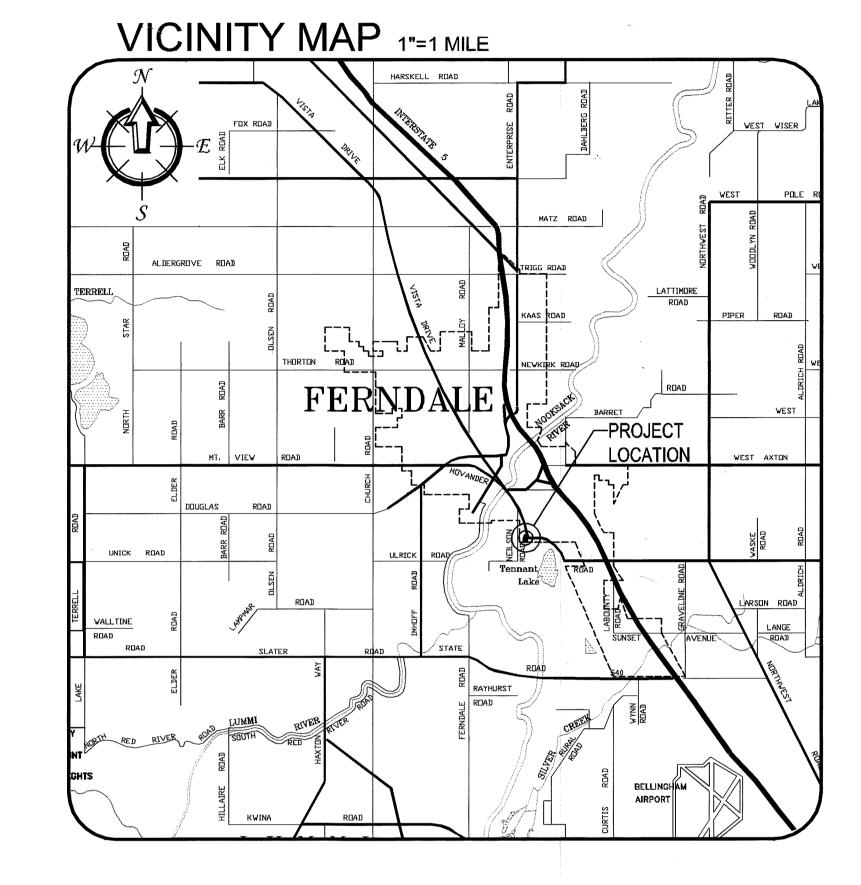
## SHEET INDEX **COVER SHEET C1**) **EXISTING CONDITION** TEMPORARY EROSION & SEDIMENTATION **CONSTROL PLAN TEMPORARY EROSION & SEDIMENTATION CONTROL DETAILS** STORMWATER POLLUTION PREVENTION PLAN SITE PLAN PAVING, GRADING & DRAINAGE PLAN **SANITARY SEWER & WATER DISTRIBUTION PLAN PAVING & DRAINAGE DETAILS PAVING & DRAINAGE DETAILS** STORMWATER DETAILS STORMWATER POND SECTIONS SANITARY SEWER DETAILS WATER DETAILS **WATER DETAILS GENERAL NOTES**

# ABBREVIATIONS

LANDSCAPE PLANS

LANDSCAPE PLANS

A,D,	= AVERAGE GRADE DIFFERENCE	K	= VERTICAL CURVE DESIGN VALUE
ADAPT	= ADAPTER	LF	= LINEAR FEET
AF NO.	= AUDITORS FILE NUMBER	LOC	= LOCATION
ALIGN	= ALIGNMENT	LT	= LEFT
APPROX	= APPROXIMATE	мВ	= MAIL BOX
во	= BLOWOFF ASSEMBLY	MJ	= MECHANICAL JOINT
CL	= CENTERLINE	PC	= POINT OF CURVE
COF	= CITY OF FERNDALE	PLNTR	= PLANTER
CONC	= CONCRETE	PT	= POINT OF TANGENCY
CPLG	= COUPLING	PVC	= POLY VINYL CHLORIDE
D.I.	= DUCTILE IRON	P.V.I.	= POINT OF VERTICAL INFLECTION
EG	= EXISTING GRADE	R	= RADIUS
EL, ELEV	= ELEVATION	REQ	= REQUIRED
EP, EOP	= EDGE OF PAVING	RT	= RIGHT
EX, EXST	= EXISTING	RW/ R/W	= RIGHT OF WAY
EXIST	= EXISTING	SSCO	= SANITARY SEWER CLEANOUT
FG	= FINISHED GRADE	SSMH	= SANITARY SEWER MANHOLE
FGE	= FINISHED GRADE ELEVATION	STA	= STATION
FH	= FIRE HYDRANT	TBC	= TOP BACK OF CURB
FF, FFE	= FINISH FLOOR ELEVATION	TP	= TOP OF PAVEMENT
FL	= FLANGE	TR	= TRACT EASEMENT LINE
FLD	= FIELD	TYP	= TYPICAL
HP	= HIGH POINT	UTIL	= UTILITY
ΙE	= INVERT ELEVATION	WL	= WATER LINE
INV	= INVERT	WLK	= WALKWAY
		•	



# PROJECT INFORMATION

### **OWNER** SUPER FEET WORLDWIDE, INC. 1419 WHITEHORN STREET FERNDALE, WA 98248 (360) 384-1820

#### CIVIL ENGINEER FREELAND & ASSOCIATES, INC. TONY FREELAND, PE 220 W. CHAMPION ST.

BELLINGHAM, WA 98225

(360) 650-1408

#### **SURVEYOR** SCOTT FERGUSEN, PLS CONSTRUCTION SURVEYORS NW 1500 I STREET BELLINGHAM, WA 98225

(360) 733-3383

## **ARCHITECT** TERRY BROWN, AIA

ZERVAS GROUP 209 PROSPECT STREET BELLINGHAM, WA 98225 (360) 734-4744

# CONTRACTOR

DAN COLACURCIO COLACURCIO BROTHERS 3287 H STREET ROAD BLAINE, WA 98230 (360) 332-4044

### <u>CESCL</u>

MIKE BRATT, P.E. FREELAND & ASSOCIATES 220 W. CHAMPION STREET BELLINGHAM, WA 98225 (360) 650-1408

DEC **24 2012** CITY OF FERNIDALE

ENGINEER'S CERTIFICATION: "I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE.'

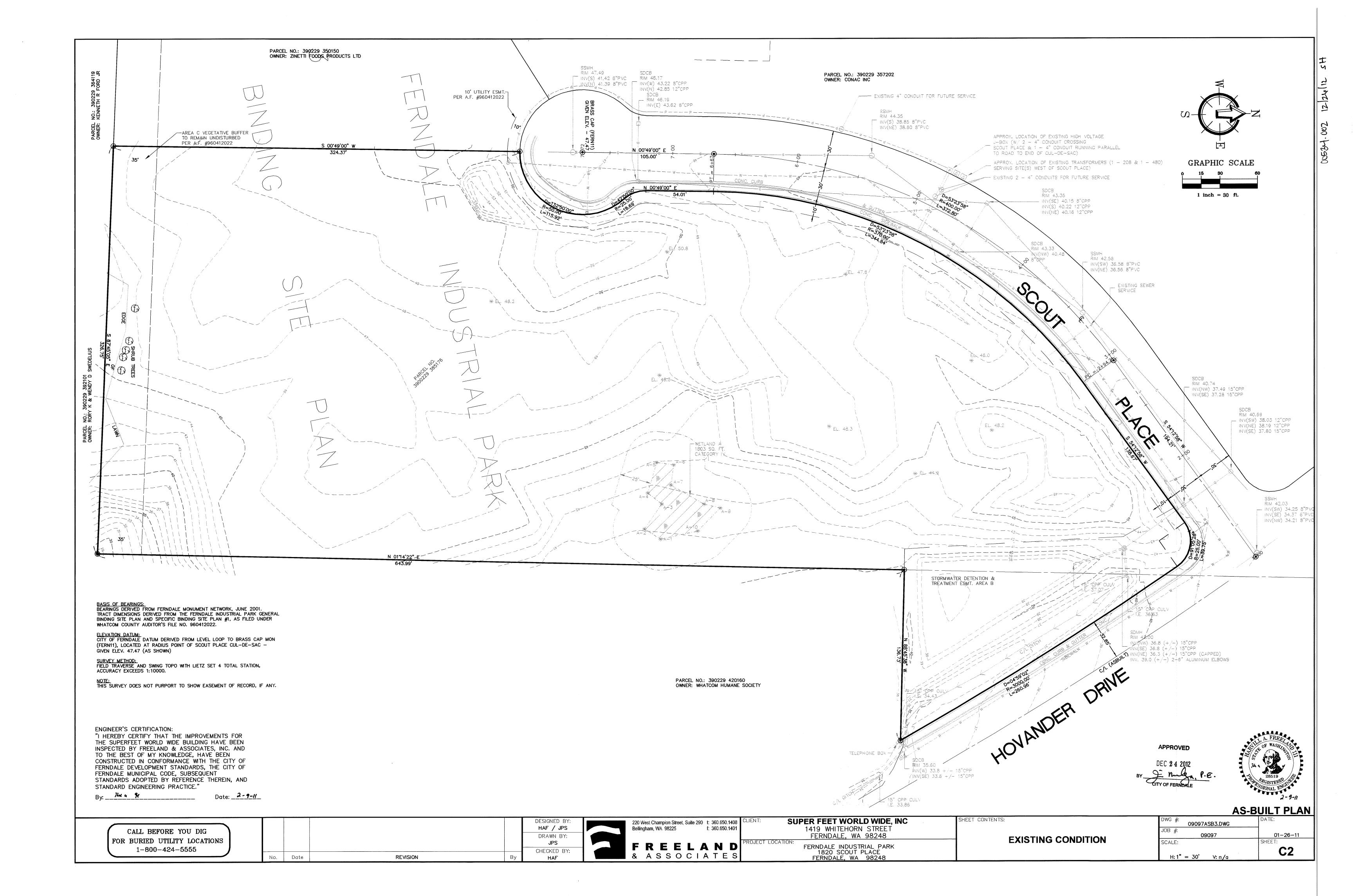
By: 1/4 4. Facht

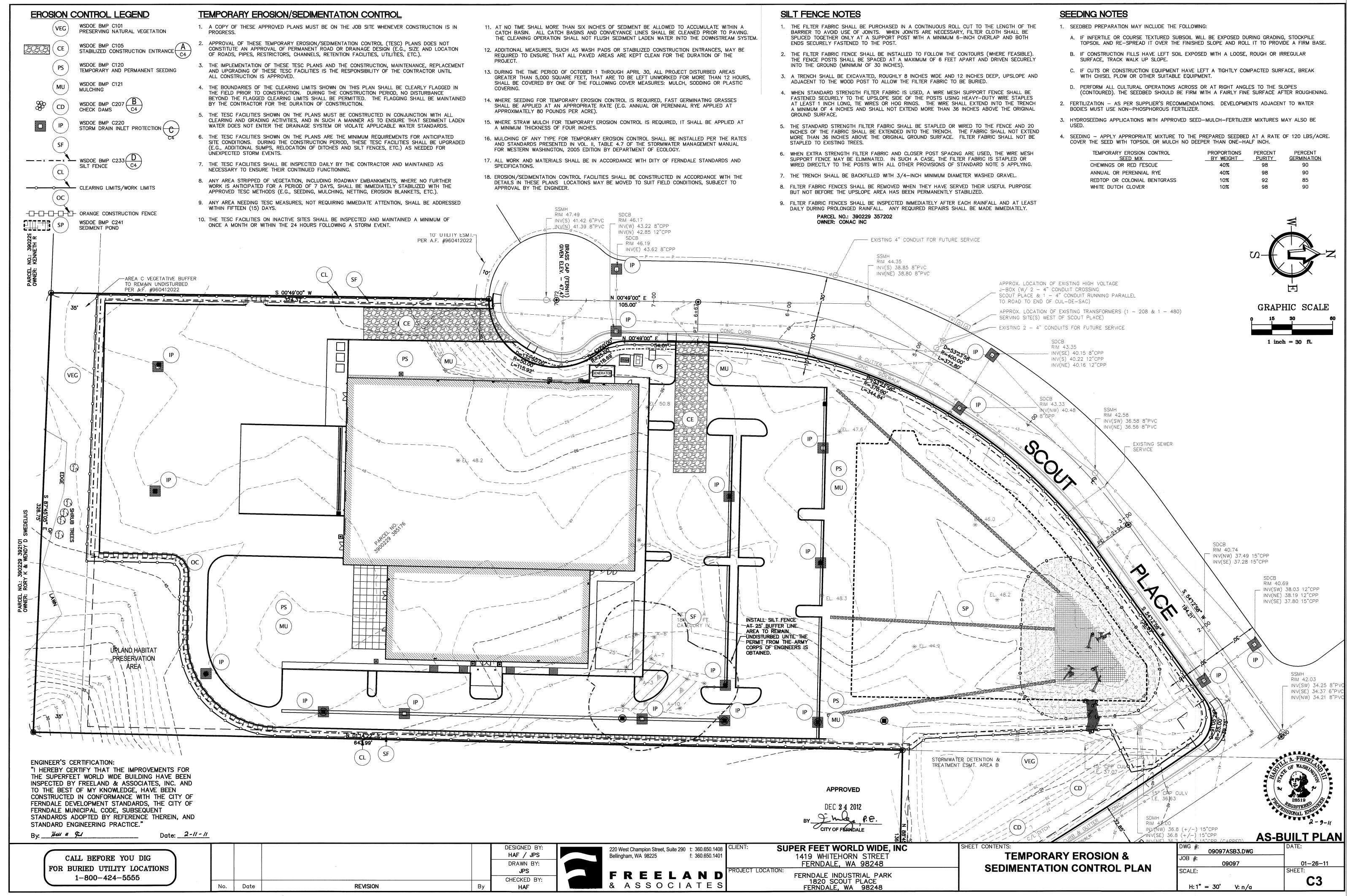
Date: 2 - 9 - 11

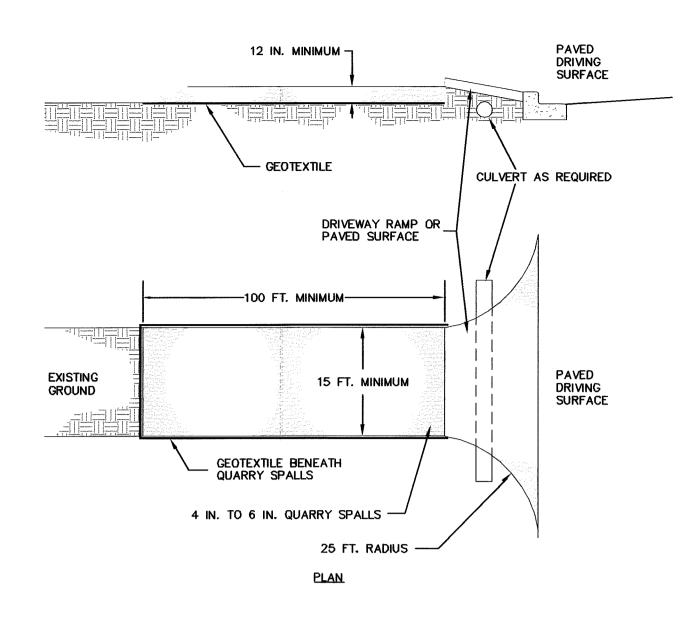
**AS-BUILT PLANS** Bellingham, WA 98225

09097ASB3.DWG 220 W. Champion Street, Suite 290 t: 360.650.1408 | DA 01-26-11 f: 360.650.1401 JOB #: **09097** FREELAND & ASSOCIATES

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

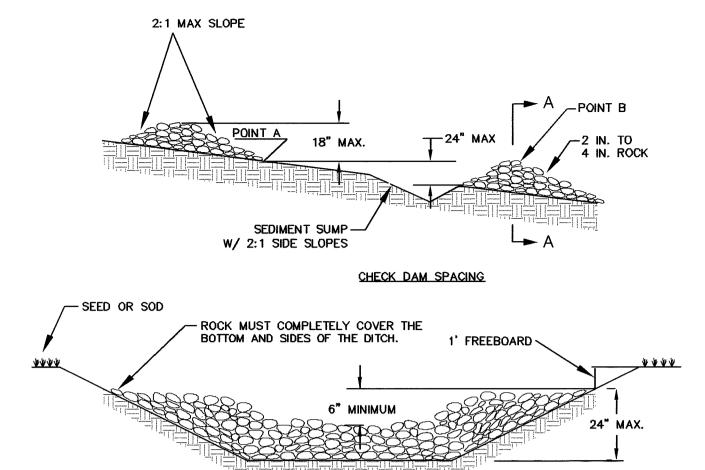






- 1. PAD SHALL BE REMOVED AND REPLACED WHEN SOIL IS EVIDENT ON THE SURFACE OF THE PAD OR AS DIRECTED BY THE CITY.
- 2. PAD SHALL BE INSTALLED IN PLANTING STRIP AS APPROPRIATE.
- 3. PAD THICKNESS SHALL BE INCREASED IF SOIL CONDITIONS DICTATE OR PER THE DIRECTION OF THE CITY.
- 4. MINIMUM DIMENSIONS MAY BE MODIFIED AS REQUIRED BY SITE CONDITIONS UPON APPROVAL OF THE CITY.



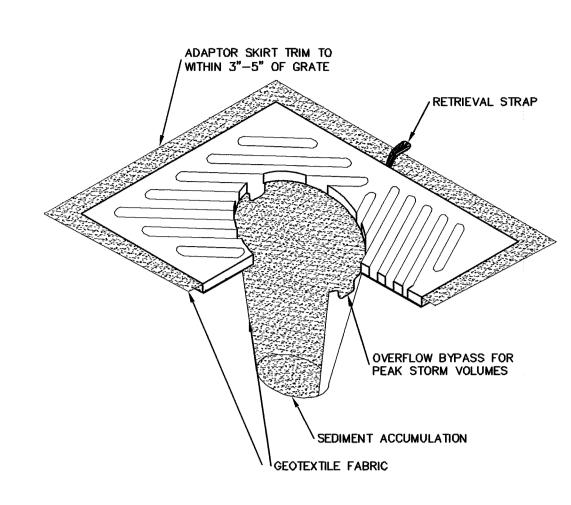


- 1. 50 FT MAXIMUM SPACING BETWEEN CHECK DAMS.
- 2. ANY SEDIMENT DEPOSITION OF MORE THAN 0.5 FT. IN DEPTH SHALL BE REMOVED SO THAT THE CHANNEL IS RESTORED TO ITS ORIGINAL DESIGN CAPACITY.

SECTION AA

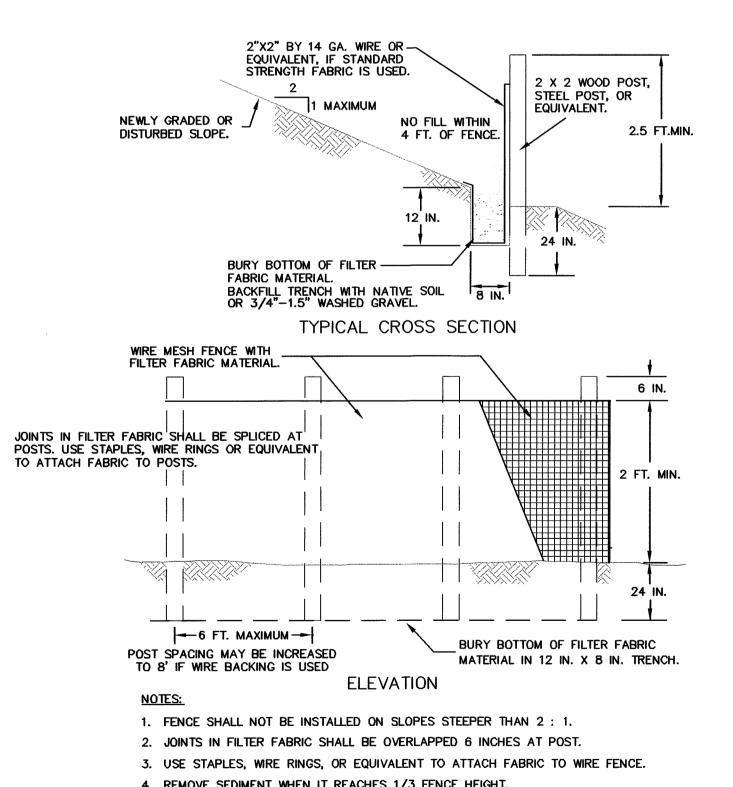
- 3. THE CHANNEL SHALL BE EXAMINED FOR SIGNS OF SCOURING AND EROSION OF THE BED AND BANKS. IF SCOURING OR EROSION HAS OCCURRED, AFFECTED AREAS SHALL BE PROTECTED BY RIP—RAP, AN EROSION CONTROL BLANKET, OR A NET.
- 4. A 6-INCH SUMP SHALL BE PROVIDED IMMEDIATELY UPSTREAM OF CHECK DAM.
- 5. CHECK DAMS SHALL BE CONSTRUCTED SO THAT POINTS A AND B ARE OF EQUAL ELEVATION.
- 6. SANDBAG CHECK DAMS MAY BE SUBSTITUTED FOR ROCK CHECK DAMS AS APPROVED BY THE CITY.





- INSERT SHALL BE INSTALLED PRIOR TO CLEARING AND GRADING ACTIVITY, OR UPON PLACEMENT OF A NEW CATCH BASIN.
- 2. SEDIMENT SHALL BE REMOVED FROM THE UNIT WHEN IT BECOMES HALF FULL.
- 3. SEDIMENT REMOVAL SHALL BE ACCOMPLISHED BY REMOVING THE INSERT, EMPTYING, AND RE-INSERTING IT INTO THE CATCH BASIN.





4. REMOVE SEDIMENT WHEN IT REACHES 1/3 FENCE HEIGHT.

SILT FENCE

No.

220 West Champion Street, Suite 290 t: 360.650.1408 Bellingham, WA 98225 f: 360.650.1401 FREELAND & ASSOCIATES

**SUPER FEET WORLD WIDE, INC** 1419 WHITEHORN STREET FERNDALE, WA 98248 ROJECT LOCATION:

FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

**TEMPORARY EROSION &** SEDIMENTATION CONTROL DETAILS

**AS-BUILT PLAN** 09097ASB3.DWG 01-26-11 SHEET:

Date: <u>2 - 9 -1/</u>

APPROVED

DEC 2 4 2012

CITY OF FERNDALE

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

Date REVISION

HAF / JPS DRAWN BY: JPS CHECKED BY:

By: 124 a 94

ENGINEER'S CERTIFICATION:

"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR

THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN

INSPECTED BY FREELAND & ASSOCIATES, INC. AND

CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF

STANDARDS ADOPTED BY REFERENCE THEREIN, AND

TO THE BEST OF MY KNOWLEDGE, HAVE BEEN

FERNDALE MUNICIPAL CODE, SUBSEQUENT

STANDARD ENGINEERING PRACTICE."

#### Stormwater Pollution Prevention Plan

Each of the following twelve elements were used to determine the BMPs that will mediate any limitations of the site.

#### Element #1: Mark Clearing Limits

Clearing limits, sensitive areas and their buffers, and trees to be preserved within the construction area will be clearly marked prior to beginning land disturbing activities, which includes clearing and grading. These areas will be clearly marked, both in the field and on site plans, to prevent damage and offsite impacts. Washington State Department of Ecology BMP's considered for Element #1 include:

•BMP C101: Preserving Natural Vegetation

•Housekeeping/Maintenance BMP: Daily Street Sweeping

BMP C103: High Visibility Plastic or Metal Fence

#### \*BMP C104: Stake and Wire Fence

#### Element #2: Establish Construction Access

Construction access will be limited to one route. Access points will be stabilized with guarry spalls and asphalt. Roads will be cleaned at the end of each day. Sediment transported to roads from the site will be swept and disposed of at a controlled sediment disposal area on site. If street washing is needed, it will only occur after sediment has been removed as described. The resulting wash wastewater would then be controlled by pumping it back on site. All construction access points will be restored to pre-construction condition. Washington State Department of Ecology BMPs considered for Element #2 include:

#### Element #3: Control Flow Rates

A detention facility will be used to detain on-site runoff and to protect downstream properties from erosion due to increases in the volume, velocity, and peak flow rate of stormwater runoff from the project site. The detention facility is designed and constructed as outlined in Volume III of the Stormwater Management Manual, Chapter 3 Section 3.2.1.

Stormwater detention facilities will be constructed as a first step in construction and will be functional prior to construction of site improvement (e.g. impervious surfaces).

Washington State Department of Ecology BMPs considered for Element #3 include: Stormwater Detention

#### Element #4: Install Sediment Controls

The duff layer, native topsoil, and natural vegetation will be retained in an undisturbed state to the maximum extent practicable. Element #1 of this plan including implementing BMP C101: Retaining Natural Vegetation will help retain some areas in an undisturbed state.

Stormwater runoff from disturbed areas will pass through sediment control devices prior to leaving the construction site. As identified in Element #3, detention facilities will be implemented as one of the sediment control measures.

Other sediment control measures that may be implemented on site include: •Use of straw bales below disturbed areas that may be subject to sheet erosion. If straw bales are used, they will be installed and maintained as outlined in BMP C230. In addition, they will be used in conjunction with other erosion control measures as identified throughout the Construction SWPPP.

•Construction of a gravel filter berms (BMP C232) to retain sediment from

rights—of—ways or construction traffic areas, if applicable.

Silt fences may be used to control transport of course sediment from the site. Installation of silt fences will be done as outlined in BMP C233 and will be used in combination with other erosion control methods.

•Vegetated strips will be used where appropriate. If vegetated strips are used as an erosion control measure, they will be implemented as outlined in BMP C234. •Straw wattles may also be considered as part of the erosion control measures for this site. If straw wattles are installed, they will be done as outlined in BMP

A combination of these BMPs will need to be in place to effectively manage the site for erosion control. Evaluation of BMP effectiveness and maintenance of the installed BMPs will continue throughout construction. Modifications to the combinations of BMPs may occur as a result of ongoing site evaluation. Washington State Department of Ecology BMPs considered for Element #4 include:

•BMP C230: Straw Bale Barrier

•BMP C232: Gravel Filter Berm

•BMP C233: Silt Fence

•BMP C234: Vegetated Strip •BMP C235: Straw Wattles

•BMP C241: Temporary Sediment Pond

### Element #5: Stabilize Soils

If construction occurs in the wet season (10/1) through 4/30 soils will not remain exposed and unworked for more than 2 days. When active grading is in progress, the deadline for soil stabilization may be extended upon determining that the likelihood of erosion impacts is low based on the type and amount of soil exposed, site topography, to potential for discharge to critical areas and lakes, and other factors. In addition, weather conditions will continually be monitored including before holidays and weekends for purposes of preparing the site for predicted weather conditions. BMPs that are effective in stabilizing soils and protecting them from exposure to rain and wind or other climatic conditions will be implemented throughout the project. Evaluation and monitoring of BMP effectiveness will occur on a daily basis. In addition, in the event of forecasted precipitation events, additional measures to stabilize soils will be taken. BMPs that will be considered throughout construction include but are not limited to temporary and permanent seeding, sodding, mulching, plastic covering, erosion

control fabrics and matting, the early application of gravel base on areas to be paved, and dust control.

Washington State Department of Ecology BMPs considered for Element #5 include:

•BMP C120: Temporary and Permanent Seeding •BMP C121: Mulching

BMP C124: Sodding

Date

\*BMP C131: Gradient Terraces

STANDARD ENGINEERING PRACTICE."

## Date: 2-9-//

#### INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN

•BMP C122: Nets and Blankets •BMP C123: Plastic Covering

•BMP C125: Topsoiling \*BMP C130: Surface Roughening

•BMP C140: Dust Control

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR

THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN

CONSTRUCTED IN CONFORMANCE WITH THE CITY OF

FERNDALE DEVELOPMENT STANDARDS. THE CITY OF

STANDARDS ADOPTED BY REFERENCE THEREIN. AND

FERNDALE MUNICIPAL CODE, SUBSEQUENT

**ENGINEER'S CERTIFICATION:** 

By: \_ 14 4 7

HAF / JPS DRAWN BY: JPS CHECKED BY: REVISION



of localized dewatering.

220 West Champion Street, Suite 290 t: 360.650.1408 CLIENT: f: 360.650.1401 FREELAND

Other disposal options, depending on site constraints, may include:

4. Sanitary sewer discharge with local sewer district approval, or

a manner that does not pollute state waters,

STORMWATER POLLUTION PREVENTION PLAN

Cut and fill slopes have been designed to a grade of 2:1 or flatter to minimize

erosion and to provide slope stability. Construction will be phased so that the

Slope runoff velocities will be reduced by having flatter cut slopes, roughening the

Washington State Department of Ecology BMPs considered for Element #6 include:

All storm drain inlets made operable during construction shall be protected so that

stormwater runoff shall not enter the conveyance system without first being filtered

construction area roads will be protected so that stormwater runoff does not enter

C220: Storm Drain Inlet Protection will be used to determine the most appropriate

Inlets will be inspected weekly at a minimum and daily during storm events. Inlet

protection devices should be cleaned or removed and replaced before six inches of

Construction access points and approaches will be monitored and swept to minimize

the potential of sediment transport. If street washing occurs, the wash wastewater

will be pumped back on site. Any storm water runoff that reaches the storm drain

for discharge will have received treatment through the BMPs identified in Elements 1,

Washington State Department of Ecology BMPs considered for Element #7 include:

Temporary on-site conveyance channels will be designed, constructed, and stabilized

to prevent erosion from the expected flow velocity of a 2-year, 24-hour frequency

storm. BMP C202: Channel Lining will be used to determine the most effective

channel design for the site (i.e. blankets versus riprap). The design, construction

Outlets of all conveyance systems will be protected and stabilized to prevent erosion

Outlet Protection that will be considered for purposes of designing and implementing

Waste materials generated on site will be handled and disposed of in a manner that

conducted to make sure that leaks or spills do not occur. Any leakage or spills will

be cleaned up immediately. A spill response kit that includes absorbent material will

Maintenance of heavy equipment involving oil changes, hydraulic system drain down,

discharge or spillage of pollutants to the ground or into stormwater runoff will be

on a temporary pad that can be used to capture large spills and the use of drip

conditions may result in a precipitation event prior to the repair being completed,

Discharges, spills, or leaks will be cleaned immediately. The notification procedure

•Notify key personnel - During construction, the project engineer will be providing project oversight and will be contacted in the event of a spill. The project engineer will contact the site owner and the Department of Ecology. Any spills

with potential to discharge to storm drains, sanitary sewer system, or surface

•All spills will be reported to the Department of Ecology, Spill Response Program

Washington State Department of Ecology BMPs considered for Element #9 include:

Foundation, vault, and trench de-watering water shall be discharged into a

controlled conveyance system prior to discharge to a sediment pond. Channels

Clean, non-turbid de-watering water, such as well-point ground water, can be

provided the de-watering flow does not cause erosion or flooding of receiving

Highly turbid or contaminated dewatering water from construction equipment

operation, concrete tremie pour, or work inside a cofferdam shall be handled

3. On-site treatment using chemical treatment or other suitable treatment

waters. These clean waters should not be routed through stormwater sediment

discharged to systems tributary to State surface waters, as specified in Element #8,

2. Transport off site in vehicle, such as a vacuum flush truck, for legal disposal in

5. Use of a sedimentation bag with outfall to a ditch or swale for small volumes

pans. In the event that emergency repairs need to be performed and climatic

the repair area, which includes the vehicle, will be covered with tarps or other

conducted with spill prevention measures in place, including conducting maintenance

does not cause contamination of stormwater; including covering dumpsters and

stockpiles. Routine inspections of the waste material storage areas will be

be available on site. Used absorbent material will be disposed of properly.

solvent and de-greasing cleaning and/or other activities that may result in

and stabilization of the conveyance channels will be consistent with the methods

of outlets and swales. There are a number of approaches outlined in BMP C209:

Washington State Department of Ecology BMPs considered for Element #8 include:

Operable storm drain inlets on the site and within 500 feet downstream of the

the conveyance system without filtration or other treatment for sediment. BMP

slopes can be stabilized immediately after their construction.

Stabilize soils on slopes, as specified in Element #5.

BMP C120: Temporary and Permanent Seeding

slopes after excavation, and immediate application of ground cover.

•BMP C208: Triangular Silt Dike (Geotextile-Encased Check Dam)

inlet protection design for the site and the downstream area.

Element #6: Protect Slopes

BMP C130: Surface Roughening

\*BMP C201: Grass-Lined Channels

•BMP C200: Interceptor Dike and Swale

•BMP C131: Gradient Terraces

•BMP C204: Pipe Slope Drains

BMP C205: Subsurface Drains

Element #7: Protect Drain Inlets

or treated to remove sediment.

sediment can accumulate.

outlined in BMP C202.

plastic sheeting.

(425) 649-7000.

BMP C202: Channel Lining

•BMP C209: Outlet Protection

Element #9: Control Pollutants

\*BMP C220: Storm Drain Inlet Protection

Element #8: Stabilize Channels and Outlets

the most effective outlet protection approach.

outlined in the permanent site SWPPP is as follows:

•Spill Cleanup and Response Practices

must be stabilized, as specified in Element #8.

Element #10: Control De-Watering

separately from stormwater.

1. Infiltration

waters will be reported to City of Bellingham Public Works.

2, 3, and 4.

BMP C206: Level Spreader BMP C207: Check Dams

> SUPER FEET WORLD WIDE, INC 1419 WHITEHORN STREET FERNDALE, WA 98248

ROJECT LOCATION: FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

Element #11: Maintain BMPs

All temporary and permanent erosion and sediment control BMPs will be inspected, maintained, and repaired to assure continued performance of their intended function. Maintenance and repair shall be conducted in accordance with the relevant BMP identified in Elements #1 through #10.

Temporary erosion and sediment controls identified above will be inspected daily during the wet season. Needed repairs and maintenance will occur as soon as practicable or, in the event of a forecast of inclement weather, repairs and maintenance will occur immediately.

Temporary erosion and sediment control BMPs will be removed within 30 days after final site stabilization is achieved or after the temporary BMPs are no longer needed. Trapped sediment will be removed or stabilized on site. Disturbed soil resulting from removal of BMPs or vegetation shall be permanently stabilized.

Element #12: Manage the Project

#### Phasing of Construction

To the extent practicable, site disturbance and construction will be phased where feasible. Revegetation of exposed areas and maintenance of that vegetation will occur as part of the clearing activities.

Clearing and grading activities will occur after the applicable permits have been obtained. When establishing clearing and grading areas, consideration will be given to minimizing removal of existing trees and minimizing disturbance and compaction of native soils except as needed for building purposes. Element #1 outlines BMPs that will effectively minimize removal and damage to native vegetation and protect these areas by being clearly delineated and marked. Seasonal Work Limitations

From October 1 through April 30, soil will not remain exposed and unworked for more than 2 days. In addition, weather conditions will continually be monitored including before holidays and weekends for purposes of preparing the site for predicted weather conditions. As discussed in Element #5, BMPs that are effective in stabilizing soils and protecting them from exposure to rain and wind or other climatic conditions will be implemented throughout the project. Inspection and evaluation of the effectiveness of the BMPs will occur on a daily basis. In addition, in the event of forecasted precipitation events, additional measures to stabilize soils will be taken.

Coordination with Utilities and Other Contractors The stormwater management requirements for all aspects of the construction

project, including utilities, were considered in preparing the Construction SWPPP. Inspection and Monitoring As previously mentioned, all BMPs will be inspected, maintained, and repaired as

needed to assure continued performance of their intended function. In the event that inspection and/or monitoring reveals that the BMPs identified in this Construction SWPPP are inadequate, due to the actual discharge of or potential to discharge a significant amount of any pollutant, this SWPPP shall be modified, as appropriate, in a timely manner.

STORMWATER POLLUTION

PREVENTION PLAN

DEC 24 2012

H: n/a



**AS-BUILT PLAN** 

09097ASB3.DWG JOB #: 09097 01-26-11 SCALE:

V: n/a

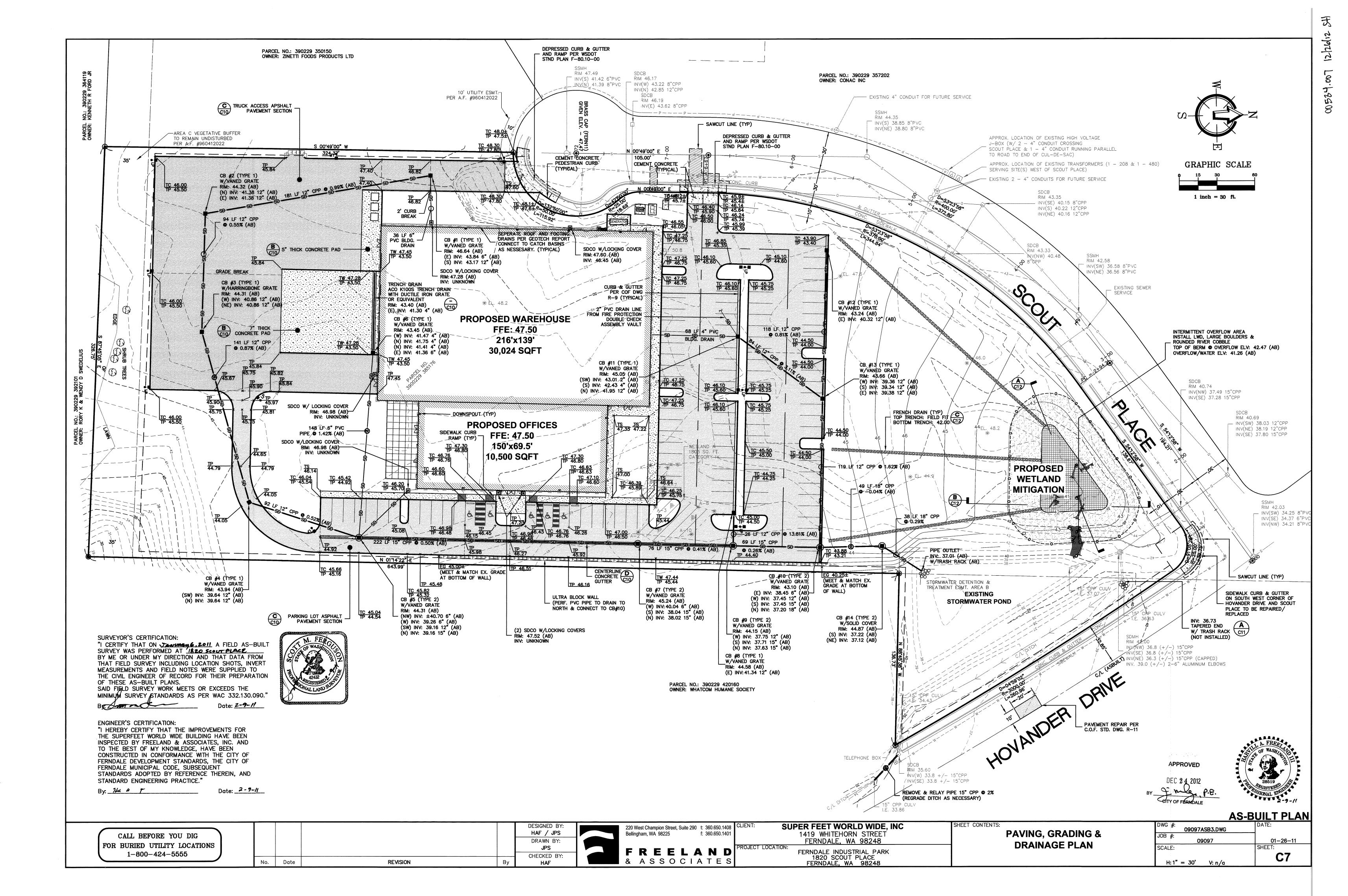
H: 1" = 30' V: n/a

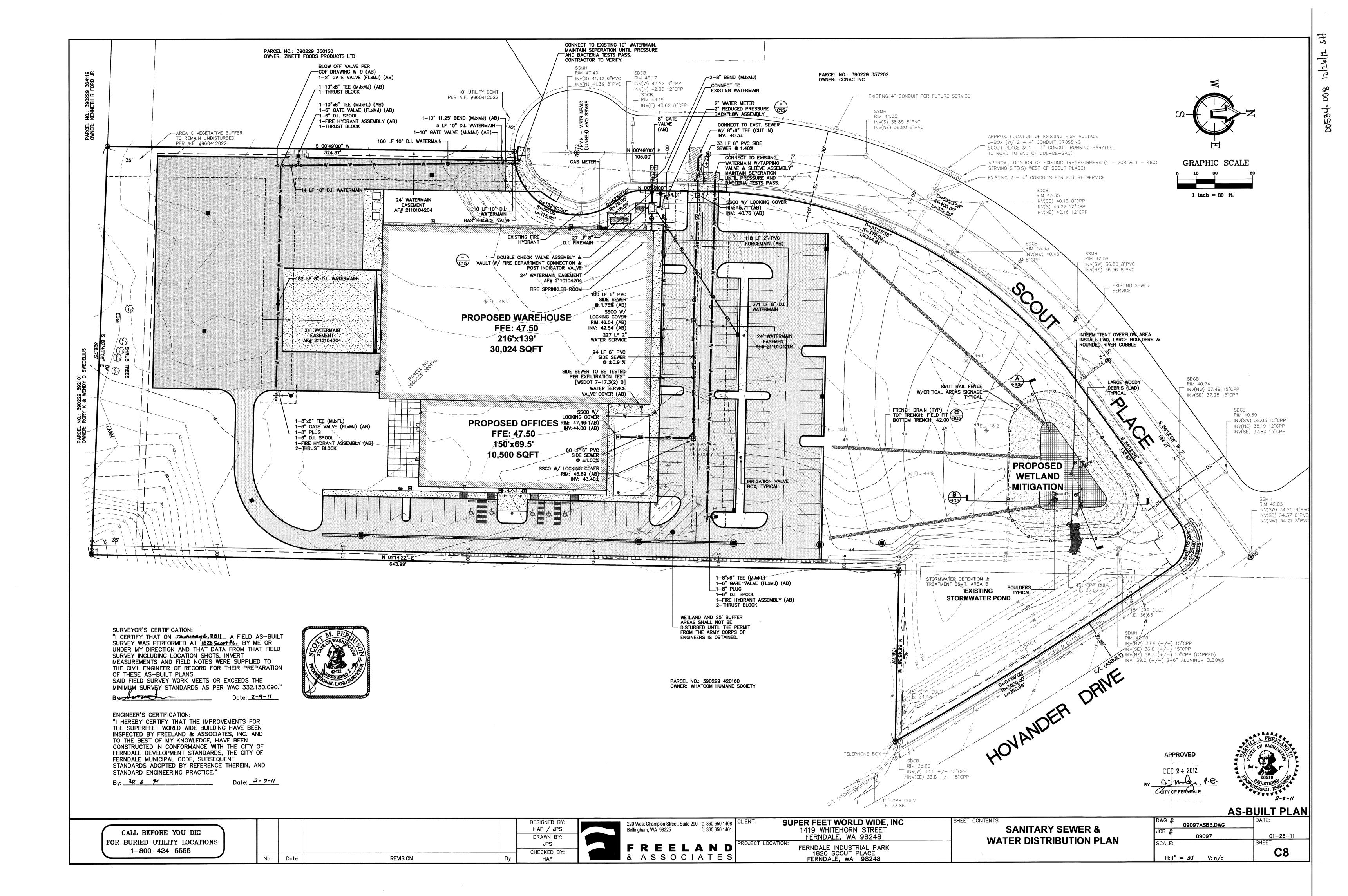
No.

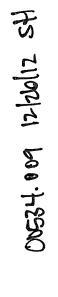
Date

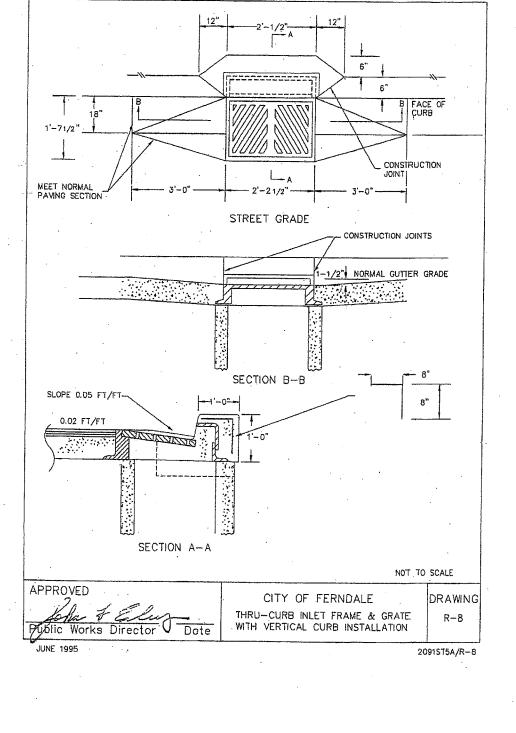
REVISION

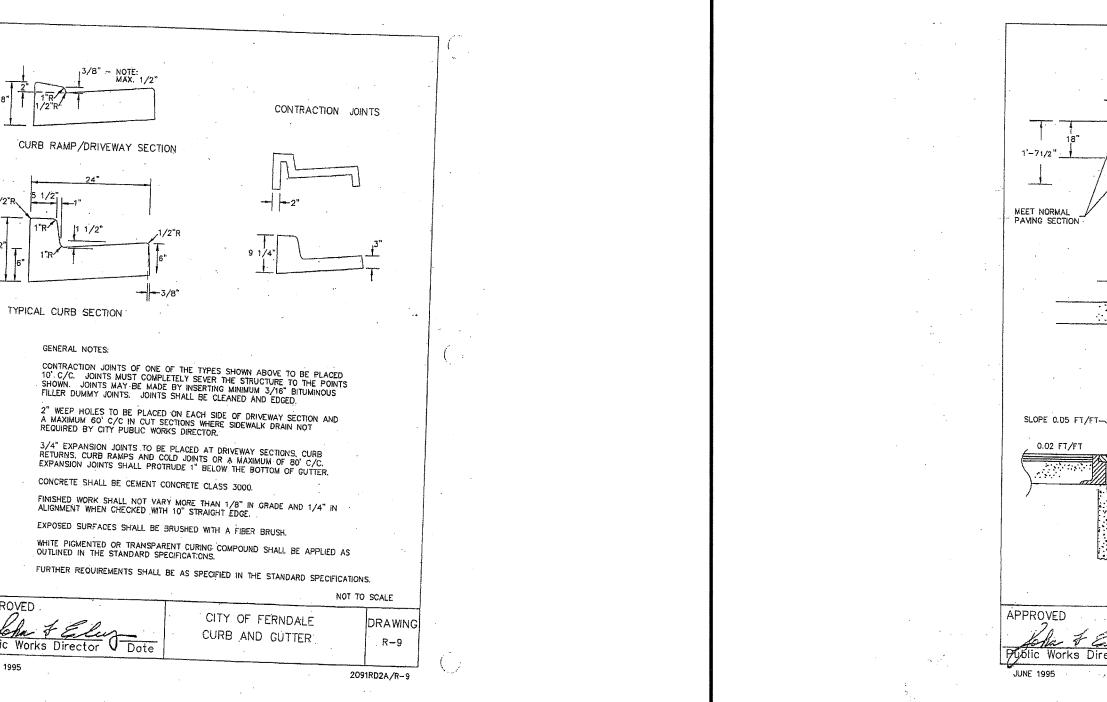
HAF

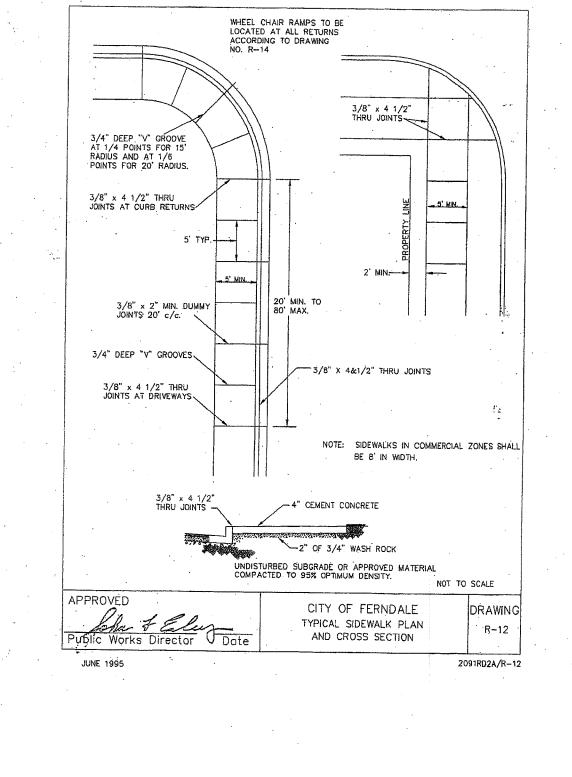


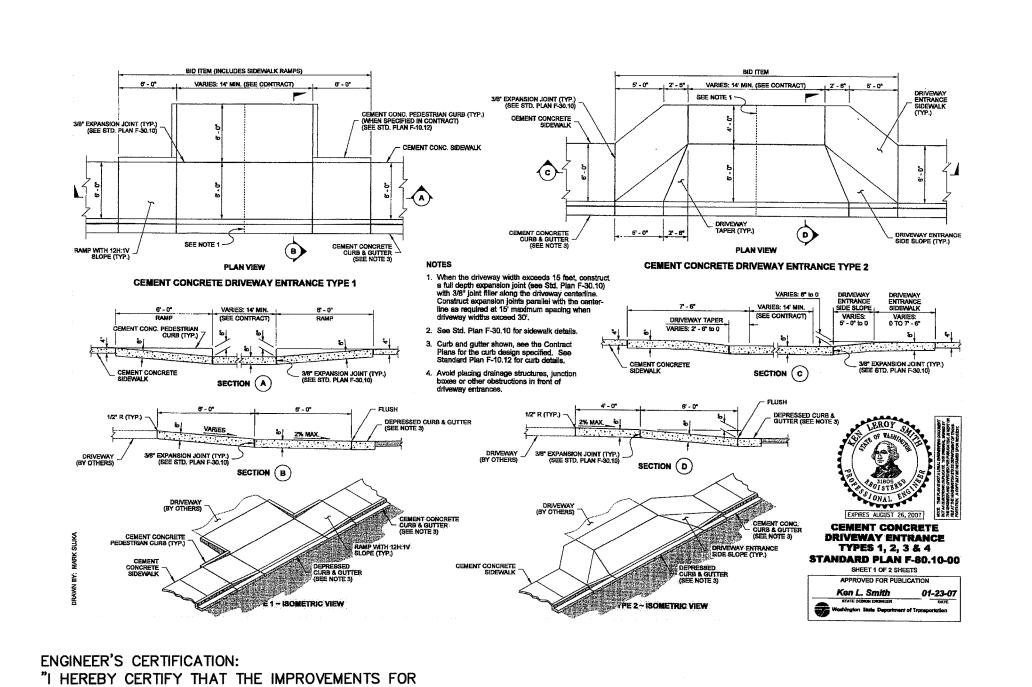


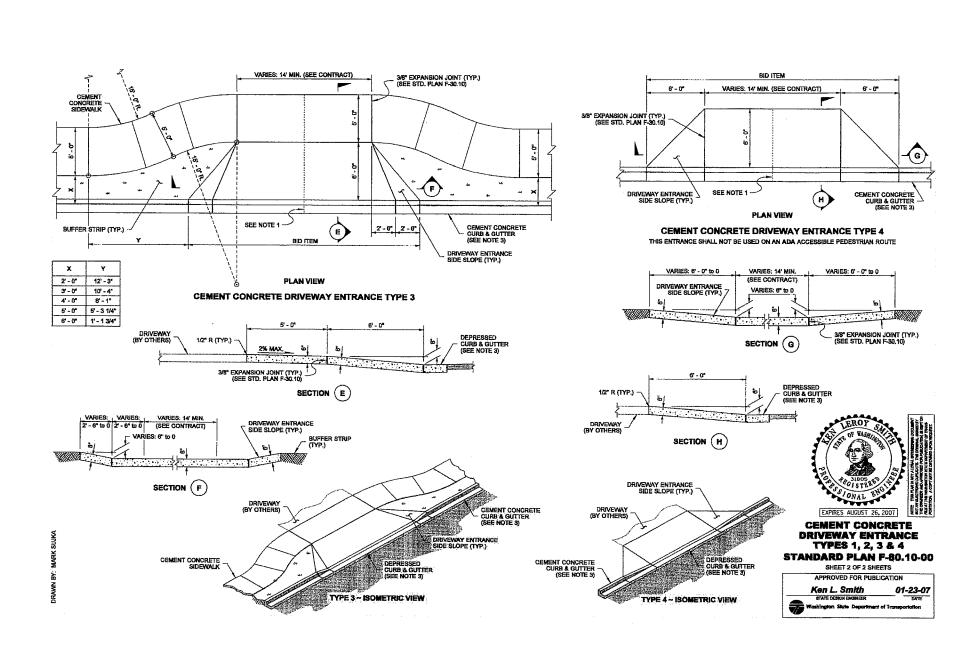


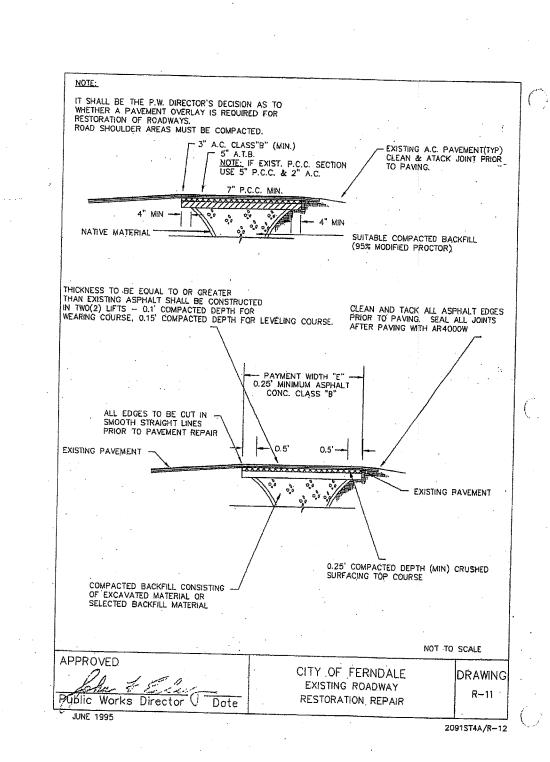












DEC 24 2012

CITY OF FERMINALE

A FREELAND WASHING TO THE CONTROL OF WASHING TO THE CONTROL OF WASHING TO THE WAS

BY CITY

AS-BUILT PLAN
DATE:

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF

FERNDALE DEVELOPMENT STANDARDS, THE CITY OF

STANDARDS ADOPTED BY REFERENCE THEREIN, AND

FERNDALE MUNICIPAL CODE, SUBSEQUENT

STANDARD ENGINEERING PRACTICE."

By: \_\_\_\_ Mu 4 y

No. Date REVISION

DESIGNED BY:
HAF / JPS
DRAWN BY:
JPS
CHECKED BY:
HAF

220 West of Bellingham

F R
& A

220 West Champion Street, Suite 290 t: 360.650.1408
Bellingham, WA 98225 f: 360.650.1401

FREELAND

ASSOCIATES

1419 WHITEHORN STREET
FERNDALE, WA 98248

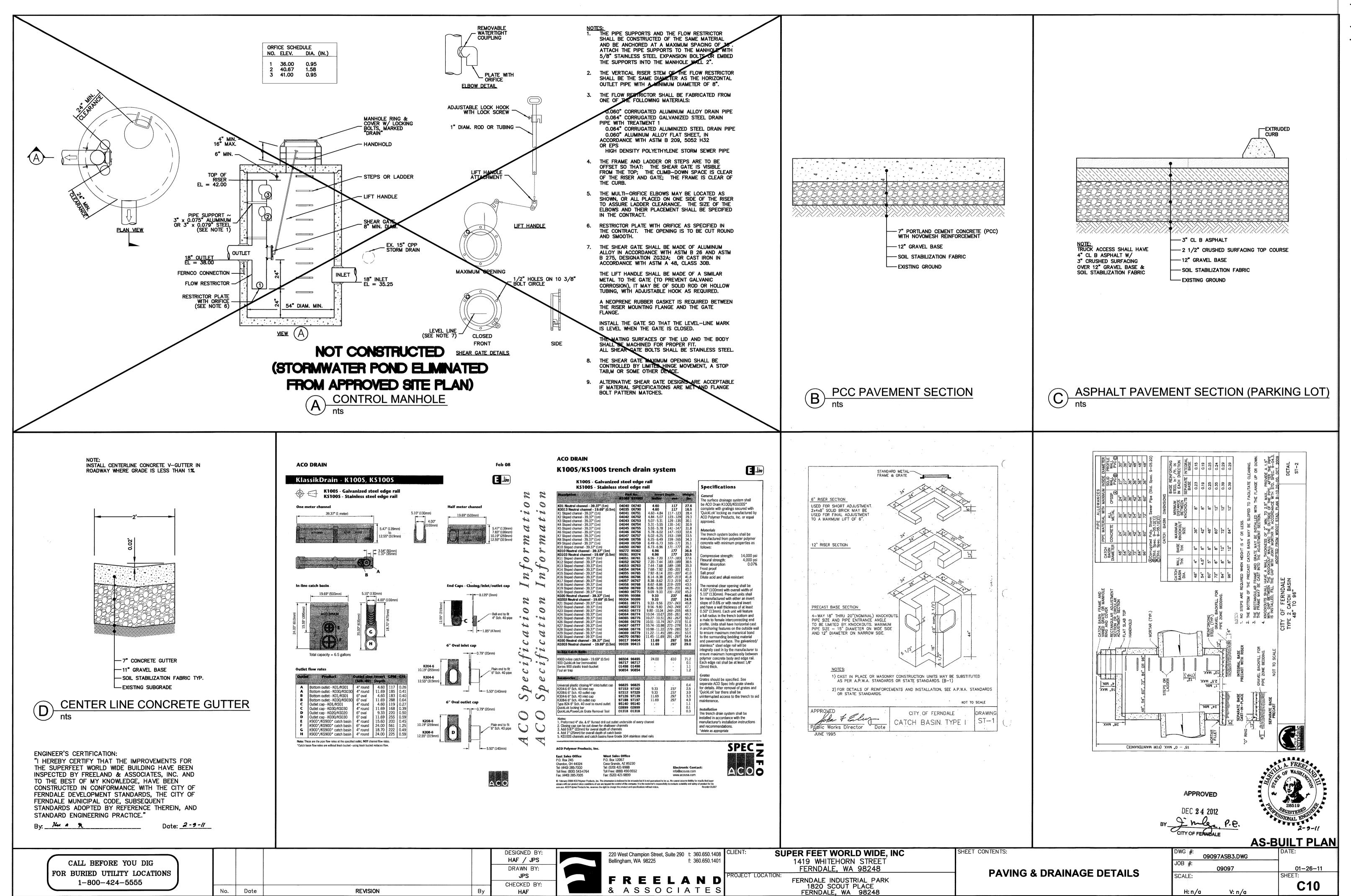
ROJECT LOCATION:
FERNDALE INDUSTRIAL PARK
1820 SCOUT PLACE
FERNDALE, WA 98248

SUPER FEET WORLD WIDE, INC

PAVING & DRAINAGE DETAILS

SHEET CONTENTS:

<u> </u>		AO-DOILI I LAI
WG #:	09097ASB3.DWG	DATE:
	09097A3D3.D116	****
DB #:	09097	01-26-11
CALE:		SHEET:
H: n/c	u V: n/a	C9



& ASSOCIATES

CHECKED BY:

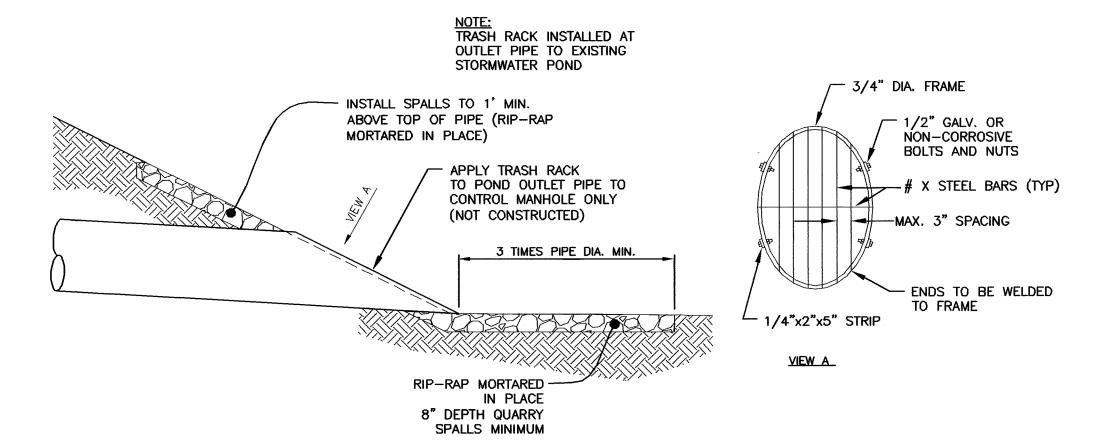
Date

REVISION

य विक्र 0053H.

H: n/a

V: n/a



A END OF PIPE / RIP-RAP DETAIL

NOT CONSTRUCTED
(STORMWATER POND ELIMINATED
FROM APPROVED SITE PLAN)

THE WEIR AS DESIGNED CAN PASS 12.71 CFS AT A HEIGHT OF 0.5'. THE 100 YR UNNITIGATED STORM EVENT FROM WWHM3 IS 3.74 CFS. THE 10' WEIR IS STATISFACTORY.

·-----<del>-</del>42.15

 $Q(100) = 3.21*(L*H^{(3)}+2.4*H^{(5)})$  L = 10' H = 0.5'

0.85'

ARMOR SURFACE WITH MORTARED RIP-RAP

B EMERGENCY OVERFLOW SPILLWAY nts

ENGINEER'S CERTIFICATION:
"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR
THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN
INSPECTED BY FREELAND & ASSOCIATES, INC. AND
TO THE BEST OF MY KNOWLEDGE, HAVE BEEN
CONSTRUCTED IN CONFORMANCE WITH THE CITY OF
FERNDALE DEVELOPMENT STANDARDS, THE CITY OF
FERNDALE MUNICIPAL CODE, SUBSEQUENT
STANDARDS ADOPTED BY REFERENCE THEREIN, AND
STANDARD ENGINEERING PRACTICE."

DEC 24 2012

BY CITY OF FERNINALE

A FREELAND OF WASHING 2  28519  PROBUTERED OF THE STONAL ENGLISHED OF THE STON
STONAL ENG
7_4 !!

			AŞ-BUILT PLAN
CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555  No. Date REVISION	DESIGNED BY: HAF / JPS DRAWN BY: JPS CHECKED BY: By  DESIGNED BY: HAF / JPS  CHECKED BY: BY  DESIGNED BY: HAF  220 West Champion Street, Suite 290 t: 360.650.1408 Bellingham, WA 98225 f: 360.650.1401  FREELAND  PROJECT LOCATION: FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248	SHEET CONTENTS:  STORMWATER DETAILS	DWG #:  09097ASB3.DWG  JOB #:  09097  SCALE:  H: n/a V: n/a

#### WETLAND/BUFFER SUBGRADE

WETLAND & BUFFER SUBGRADE SHALL BE NATIVE CONSOLIDATED SOIL FREE OF LOOSE SURFACE SOIL MATERIALS, ROOTS, AND OTHER ORGANIC DEBRIS. WETLAND SUBGRADE A DENSE, LOW PERMEABILITY SUBGRADE THAT CAN TOLERATE POST CONSTRUCTION SETTLEMENTS WITH A MINIMUM OF CRACKING. THE WETLAND SUBGRADE SHOULD BE STABLE AND COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DENSITY, 0.5" OF BENTONITE CLAY SHALL BE INSTALLED WITHIN WETLAND AREA AT 4 LBS./S.F. AND THEN SALVAGED SOILS FROM THE EXISTING WETLAND'S LOWER SOIL STRATA/COLUMN WILL BE PLACED OVER THE BENTONITE CLAY AND THEN COMPACTED WITH THE EXCAVATOR BUCKET.

#### PLANT SPECIFICATIONS

EMERGENT PLANTS SHALL BE 4" POT MINIMUM OR PLUGS IN CLUMPS OF 7 OR MORE. SHRUBS SHALL BE A MINIMUM OF 1 GALLON POTS OR 18" BARE ROOT. EMERGENT PLANTS (SEDGES, BURREED & BULRUSH) SHALL BE PLANTED IN LOW AREAS OF THE WETLAND. PLANT SHRUBS AROUND THE PERIMETER OF THE WETLAND IN GROUPS OF 5 OR MORE.

#### SOIL SPECIFICATIONS

WETLAND & BUFFER SOIL MIX TOPSOIL/MEDIA SHALL BE EQUAL TO CEDAR GROVE COMPOSTING — VEGETABLE GARDEN MIX, SOIL MIX/MEDIA SHALL HAVE A GRAVELY—SANDY LOAM TO LOAM TEXTURE PER USDA TEXTURAL TRIANGLE. MAXIMUM CLAY CONTENT IS <5%; SOIL MIXTURE SHALL BE 65% GRAVELY SAND (GRADATION PER ASTMD 422); 35% ORGANIC MATTER/COMPOST. THE SOIL SHALL BE A UNIFORM MIX, FREE OF STONES, STUMPS, ROOTS, OR OTHER SIMILAR OBJECTS LARGER THAN 2". THE PLANTING SOIL SHALL BE FREE OF ALL NOXIOUS WEEDS. THE TOPSOIL/MEDIA MIX SHALL HAVE A NEUTRAL PH RANGE 6.2 TO 7.0. COMPOST MATERIAL MUST BE IN COMPLIANCE WITH WAC CHAPTER 173-350 SECTION 220 AND MEET TYPE 1, 2, 3, OR 4 FEED STOCK.

### SOIL PLACEMENT:

PLACEMENT OF THE TOPSOIL/PLANTING MEDIA IN THE WETLAND & BUFFER AREA SHOULD BE IN LIFTS OF 12 TO 18 INCHES AND LIGHTLY COMPACTED. MINIMAL COMPACTION EFFORT CAN BE APPLIED TO THE SOIL BY TAMPING WITH A BUCKET FROM A DOZER OR BACKHOE FROM THE SIDE OF THE RAIN GARDEN ONLY - DRIVING OVER/ON RAIN GARDEN SOIL IS PROHIBITED.

#### MULCH/ORGANIC LAYER SPECIFICATIONS

WETLAND & BUFFER MULCH TEXTURE AND STRUCTURE: 2-3 INCH LAYER OF HARDWOOD MULCH (COARSE PARTICLE SIZE - 2"-3" LENGTH) IS REQUIRED. MULCH SHALL BE SPREAD BY HAND-TOOLS ONLY (NO HEAVY EQUIPMENT IS TO BE USED WITHIN THE WETLAND & BUFFER IN ORDER TO AVOID COMPACTION). THE MULCH/MATERIAL PROVIDES FOR THE DECOMPOSITION OF ORGANIC MATERIAL, AND ALSO PLAYS AN IMPORTANT ROLE IN THE REMOVAL OF METALS. SHREDDED HARDWOOD MULCH ALLOWS FOR MAXIMUM SURFACE AREA FOR BINDING AND RESISTS FLOTATION/WASHOUT. EACH SPRING, THE BUFFER & WETLAND SHALL BE RE-MULCHED WITH 2-3 INCHES OF HARDWOOD MULCH AFTER TWO GROWING SEASONS..

### WETLAND EMERGENT PLANT LEGEND

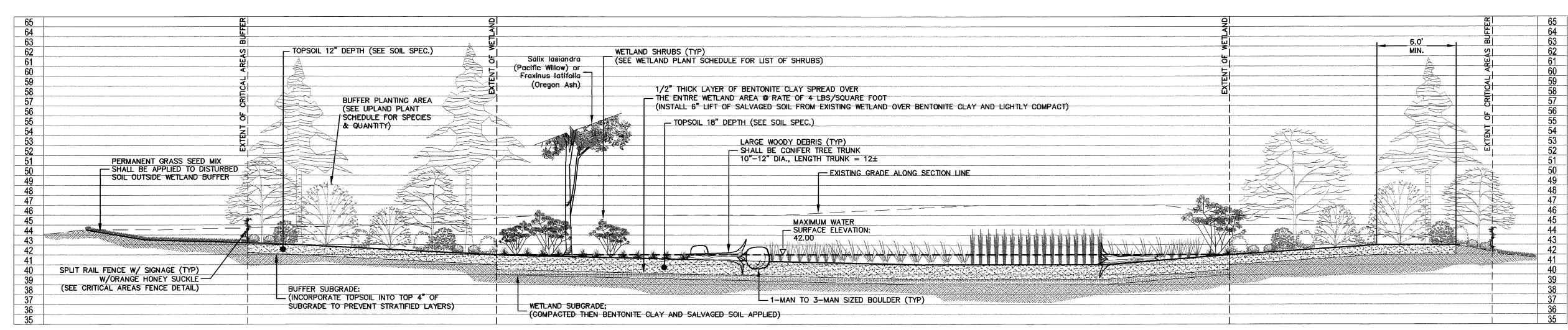
<u>PLANT NAME</u> —Scirpus acutus (Hardstem Bulrush)

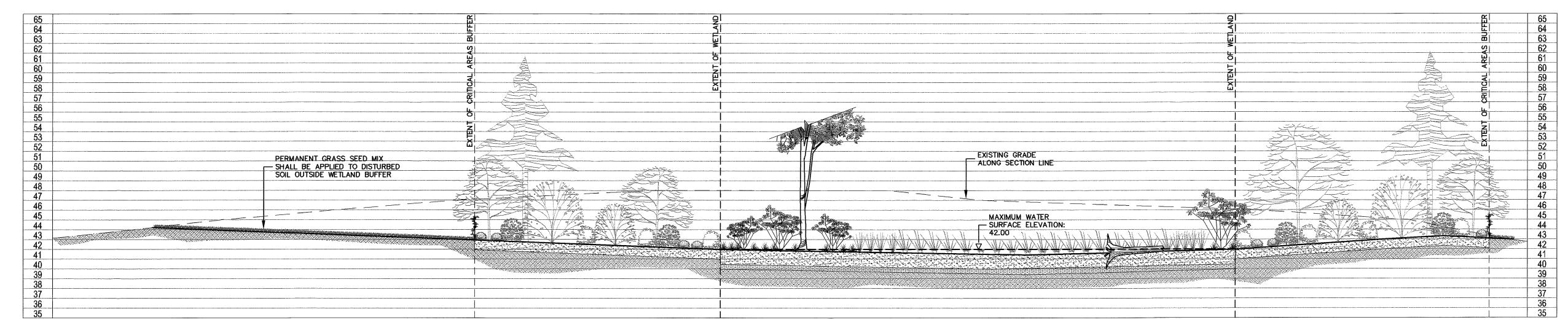
—Scirpus microcarpus (Small—fruited Bulrush)

——Sparganium minimum (Small Burreed)

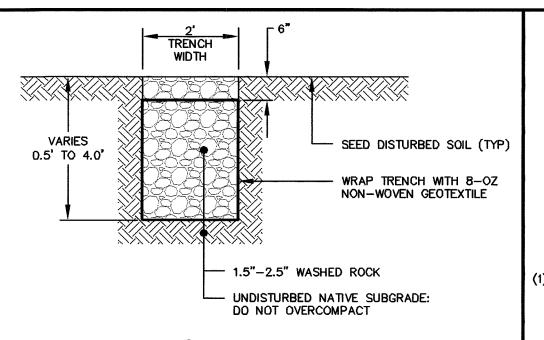
————Sparganium hyperboreum (Northern Burreed)

— Carex obnupta (Slough Sedge) or Carex stipata (Sawbeak Sedge)

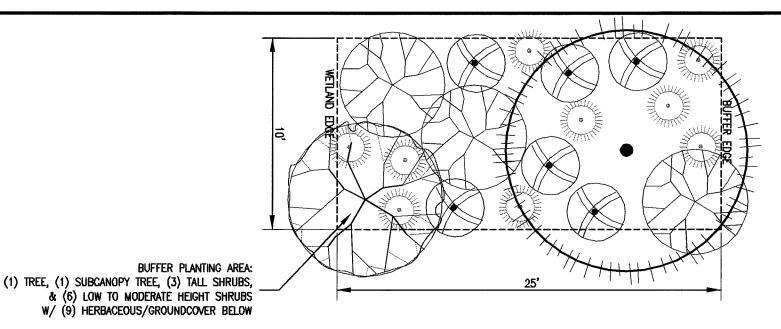




# (B) WETLAND SECTION



C FRENCH DRAIN DETAIL



### BUFFER INSTALLATION NOTES:

- 1. CIVIL ENGINEER SHALL BE CONTACTED 48 HRS. PRIOR TO PLANTING BUFFER & WETLAND PLANTS AND REPRESENTATIVE SHALL BE ONSITE DURING PLACING OF PLANTS.
- 2. IF BARE ROOT PLANTS TO BE INSTALLED INSTEAD OF CONTAINER PLANTS, THEN INCREASE TOTAL QUANTITY PER SPECIES BY 300%.

3. BARE ROOT PLANTS SHALL BE INSTALLED BETWEEN OCTOBER 30TH AFTER MARCH 15TH (I.E. WHEN AVAILABLE AT

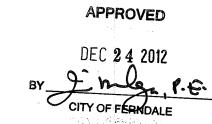
- BARE ROOT NURSERY.) 4. LARGE WOODY DEBRIS (LWD) SHALL BE INSTALLED IN LOCATIONS SHOWN ON PLAN. SHALL BE CONIFER TREES,
- WITH 12' LONG TRUNK ATTACHED TO ROOTWAD, DIAMETER OF LWD SHALL BE 10" TO 12". TOTAL NUMBER OF LWD TO BE INSTALLED IS NINE (9).
- 5. BOULDERS SHALL BE INSTALLED IN LOCATIONS SHOWN ON PLAN & SHALL BE 1-MAN TO 3-MAN SIZE. TOTAL NUMBER OF 1-MAN BOULDERS IS TEN (10), TOTAL NUMBER OF 2-MAN BOULDERS IS FIVE (5), TOTAL NUMBER OF 3-MAN BOULDERS IS FOUR (4).

GENUS SPECIES	COMMON NAME	QUANTITY	SIZE	SPACING
Trees:				
Acer macrophyllum	Big Leaf Maple	9	4-6' Ht.	20' o.c.
Pinus contorta var. contorta	Shore Pine	9	4-6' Ht. & 6-8' Ht.	8'-15' o.c.
Pseudotsuga menziesii	Douglas fir	10	4-6' Ht. & 6-8' Ht.	8'-15' o.c.
Sub-Canopy Trees & Tal	II Shrubs:			
Acer circinatum	Vine Maple	9	4-6' Ht. (Multi- trunk)	
Amelanchier alnifolia	Serviceberry	10	4-6' Ht. (Multi- trunk)	8' o.c.
Holodiscus discolor	Oceanspray	30	1 gal./18" bare root	6' o.c.
Oemleria cerasiformis	Indian Plum	12	1 gal./18" bare root	5' o.c.
Philadelphus lewisii	Mock Orange	21	1 gal./18" bare root	6' o.c.
Salix hookeriana	Hookers Willow	21	4-6' Ht./br.	10' o.c.
Sambucus racemosa	Red Elderberry	21	1 gal./18" bare root	8' o.c.
Low to Moderate Height	Shrubs:			
Gaultheria shallon	Salal	33	1 gal.	4' o.c.
Mahonia aquifolium	Tall Oregon Grape	33	1 gal.	5' o.c.
Polystichum munitum	Sword Fem	25	1 gal.	4' o.c.
Ribes sanguineum	Red Flowering Currant	33	1 gal./18" bare root	4' o.c.
Symphoricarpos albus	Snowberry	44	1 gal./18" br.	4' o.c.
Herbaceous/Groundcove	er:			
Achillea millefolium	Common Yarrow	42	4" pot/seed	1' o.c.
Anaphalis margaritacea	Pearly Everlasting	42	4" pot/seed	1.5' o.c.
Aquilegia vulgaris	Purple Columbine	21	4" pot/seed	1' o.c.
Arctostaphylos uva-ursi	Kinnikinnick	42	1 gal.	2' o.c.
Lonicera ciliosa	Orange Honeysuckle	15	1 gal./18" bare root	10' o.c.
Festuca idahoensis	Idaho Fescue	42	2.5" pot	1.5 o.c.
Fragaria virginana	Wild Strawberry	63	2.5" pot	1.5' o.c.

WETLAND	<b>PLANTING</b>	ARE

GENUS SPECIES	COMMON NAME	QUANTITY	SIZE	SPACING
Trees:	<u> </u>			
Fraxinus latifolia	Oregon Ash	5	2 gal./36" bare root	8'-20' o.c.
Salix lucida ssp. Lasiandra	Pacific Willow	4	2 gal./36" bare root	10'-20' o.c
Shrubs:				
Lonicera involucrata	Black Twinberry	9	1 gal	6' o.c.
Comus sericea	Red Osier Dogwood	15	1 gal.	5' o.c.
Rubus spectabilis	Salmonberry	15	1 gal./18" bare root	4' o.c.
Rosa nutkana	Nootka Rose	15	1 gal./18" bare root	4' o.c.
Vaccinium ovatum	Evergreen Huckleberry	12	1 gal.	5' o.c.
Herbaceous/Groundcove	er:			
Athyrium filix-femina	Lady Fem	250	4" pot	1.5' o.c.
Carex obnupta	Slough Sedge	250	1 gal./ plug	1' o.c.
Carex stipata	Sawbeak Sedge	250	1 gal./ plug	1' o.c.
Scirpus acutus	Hardstem Bulrush	250	1 gal./ plug	1.5 o.c.
Scirpus microcarpus	Small Fruited Bulrush	250	1 gal./ plug	1.5 o.c.
Sparganium hyperboreum	Northern Burreed	250	1 gal./ plug	1.5' o.c.
Sparganium minimum	Small Burreed	250	1 gal./ plug	1.5 o.c.

WETLAND & BUFFER PLANTING SCHEDULE



H:n/a



**AS-BUILT PLAN** 

1	CALL BEFORE YOU DIG
	FOR BURIED UTILITY LOCATIONS
	1-800-424-5555

Date: 2-9-11

"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR

THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN

INSPECTED BY FREELAND & ASSOCIATES, INC. AND

CONSTRUCTED IN CONFORMANCE WITH THE CITY OF

FERNDALE DEVELOPMENT STANDARDS, THE CITY OF

STANDARDS ADOPTED BY REFERENCE THEREIN, AND

TO THE BEST OF MY KNOWLEDGE, HAVE BEEN

FERNDALE MUNICIPAL CODE, SUBSEQUENT

STANDARD ENGINEERING PRACTICE."

**ENGINEER'S CERTIFICATION:** 

No. Date REVISION

HAF / JPS DRAWN BY: JPS CHECKED BY: HAF

220 West Champion Street, Suite 290 t: 360.650.1408 Bellingham, WA 98225 f: 360.650.1401 & ASSOCIATES

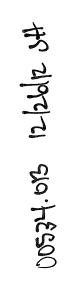
TYPICAL BUFFER PLANTING TEMPLATE

SUPER FEET WORLD WIDE, INC 1419 WHITEHORN STREET FERNDALE, WA 98248 ROJECT LOCATION: FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

**WETLAND MITIGATION PLAN** 

HEET CONTENTS:

		<del>(                                    </del>	## A
DWG #:		DATE:	
	09097ASB3.DWG		
JOB #:	•		
	09097	01-26-11	
SCALE:		SHEET:	
		C12	
Hun /a	\\\\ n \/ a	GIZ	

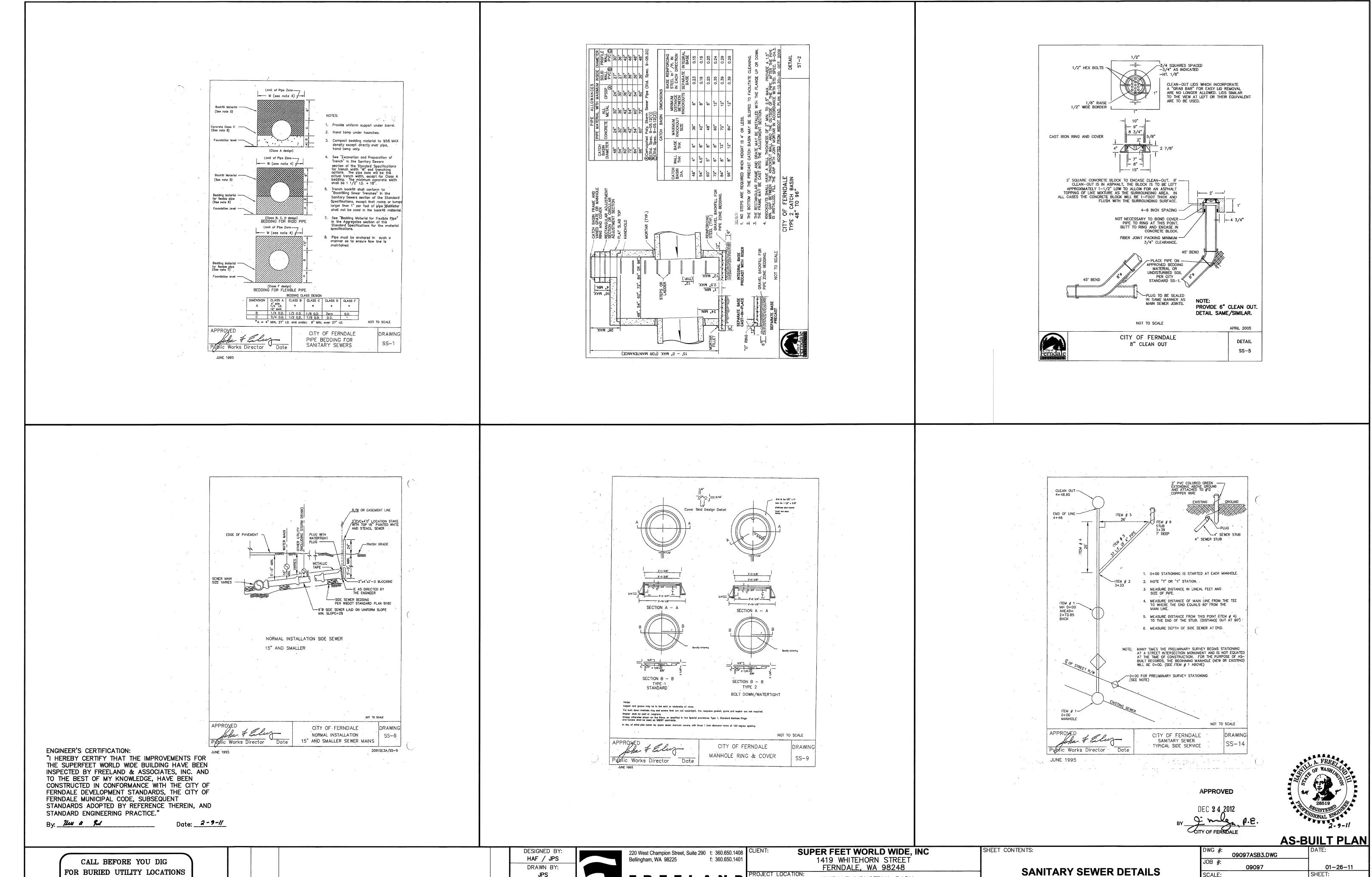


SCALE:

SHEET:

V: n/a

C13



& ASSOCIATES

JPS

CHECKED BY:

HAF

PROJECT LOCATION:

FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

FOR BURIED UTILITY LOCATIONS

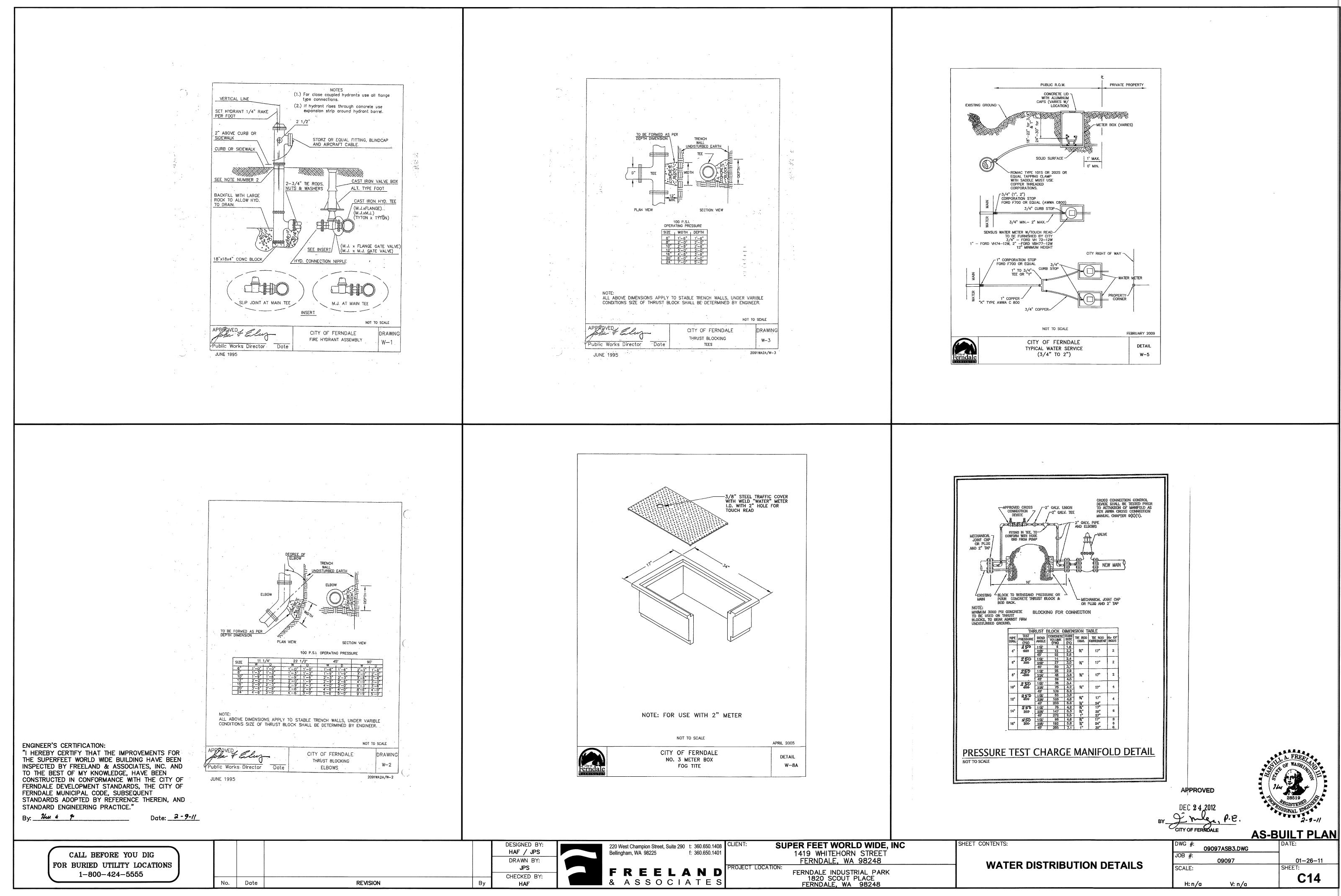
1-800-424-5555

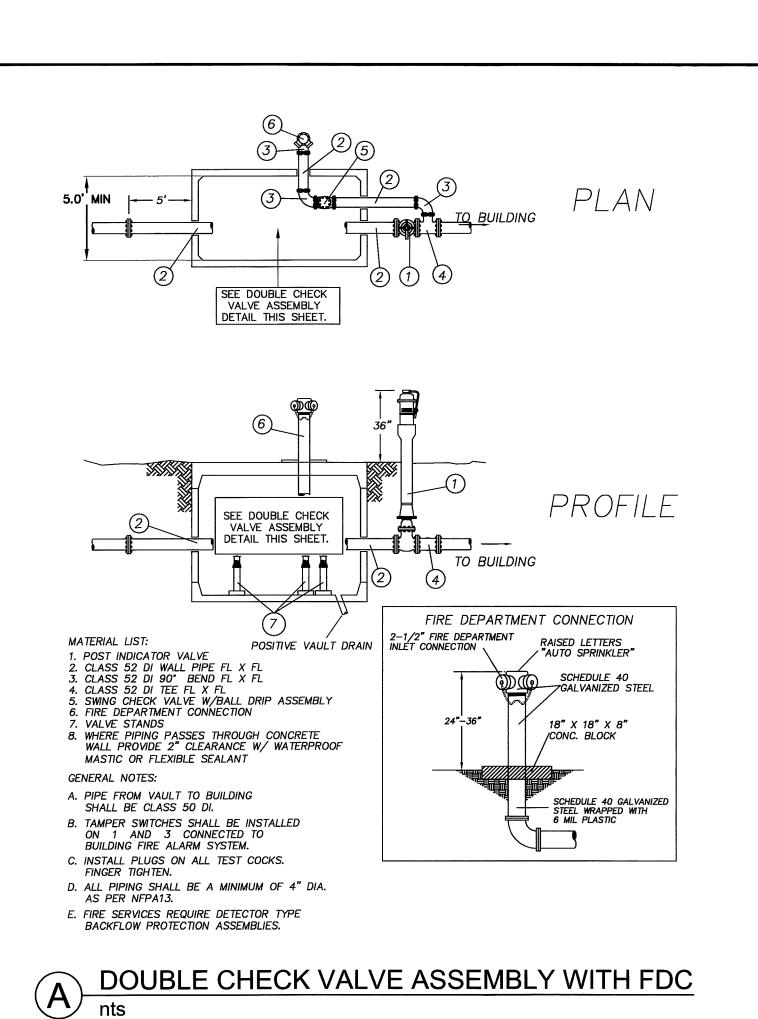
No.

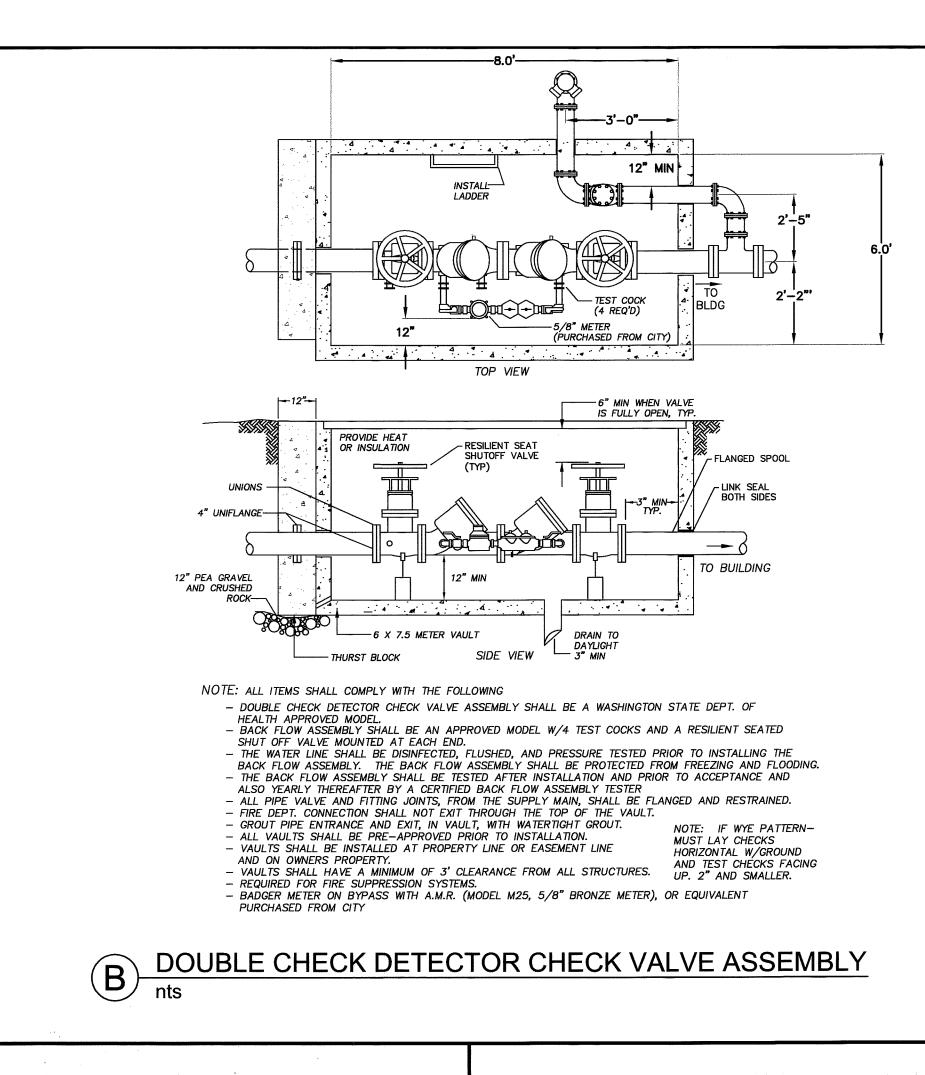
Date

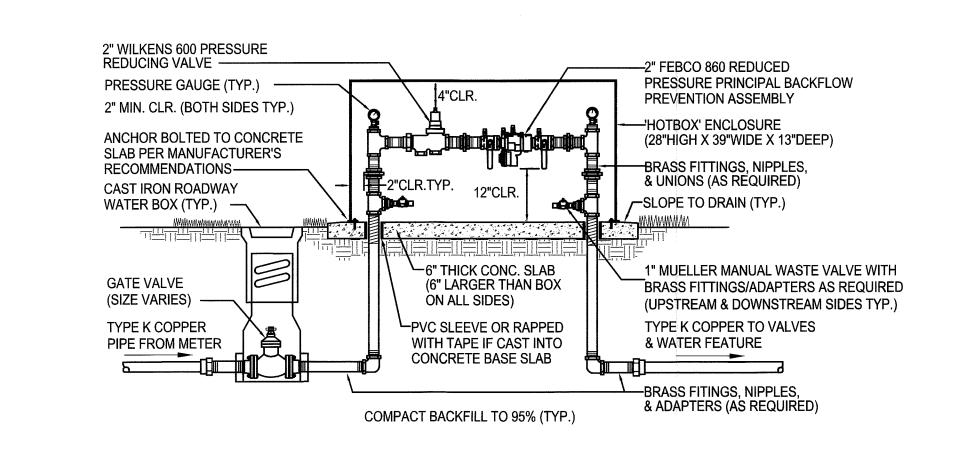
REVISION



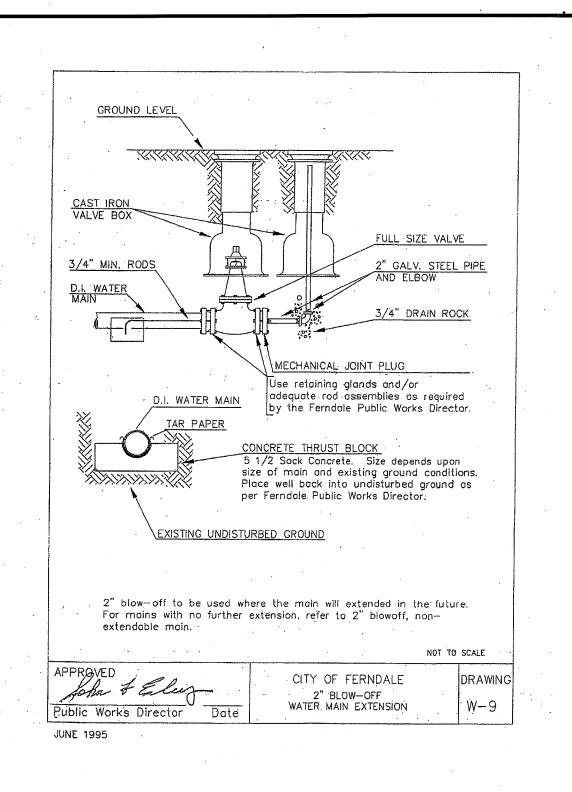




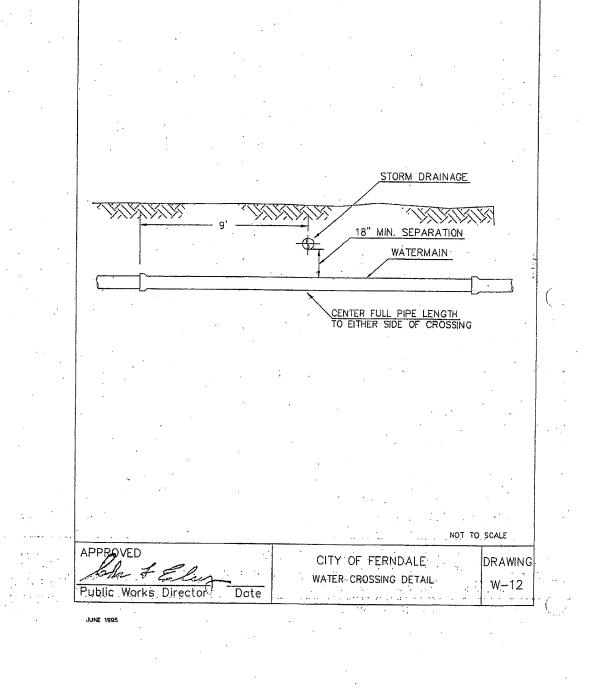


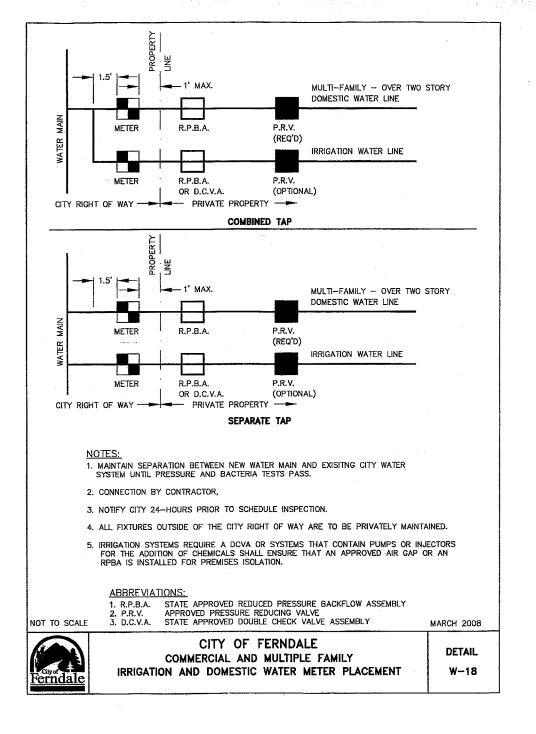


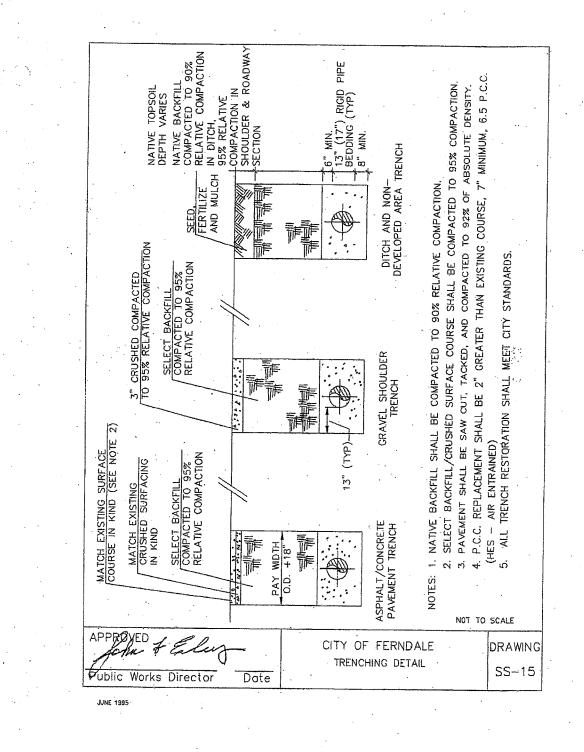
REDUCED PRESSURE BACKFLOW ASSEMBLY

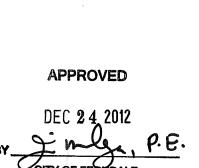


Date: 2-9-11









**AS-BUILT PLAN** 

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN

CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF

STANDARDS ADOPTED BY REFERENCE THEREIN, AND

FERNDALE MUNICIPAL CODE, SUBSEQUENT

STANDARD ENGINEERING PRACTICE.

By: 1/w 6 94

ENGINEER'S CERTIFICATION:

REVISION Date

HAF / JPS DRAWN BY: JPS CHECKED BY: HAF

220 West Champion Street, Suite 290 t: 360.650.1408 Bellingham, WA 98225 f: 360.650.1401 & ASSOCIATES

**SUPER FEET WORLD WIDE, INC** 1419 WHITEHORN STREET FERNDALE, WA 98248 ROJECT LOCATION: FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

WATER DISTRIBUTION DETAILS

SHEET CONTENTS:

DWG #: 09097ASB3.DWG JOB #: 01-26-11 SHEET: SCALE: C15 V: n/a

#### **GENERAL REQUIREMENTS:**

1. ALL WORK AND MATERIALS SHALL CONFORM TO THESE PLANS AND TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE "STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION 7 (WSDOT SPECS.). THE CITY OF FERNDALE DEVELOPMENT STANDARDS (COFDS) AND THE 2005 VERSION OF THE DEPARTMENT OF ECOLOGY STORM WATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON (DOE MANUAL). IN CASE OF A CONFLICT BETWEEN PLANS, REGULATORY STANDARDS OR SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL PREVAIL.

2. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER CONSTRUCTION DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES. THROUGHOUT THE PERIOD OF CONSTRUCTION, CONTRACTOR SHALL COMPLY WITH THE TERMS OF ALL PERMITS.

3. THE CONTRACTOR MUST HAVE A FULL SET OF CITY CONTRACT DOCUMENTS ON THE SITE WHENEVER CONSTRUCTION IS IN

4. CONSTRUCTION NOISE SHALL BE LIMITED TO BETWEEN 7 a.m. TO 8 p.m., MONDAY THROUGH SATURDAY.

5. THE CONTRACTOR SHALL CONTACT THE UTILITIES UNDERGROUND LOCATION CENTER AT LEAST 72 HOURS PRIOR TO STARTING CONSTRUCTION. PHONE: 1-800-424-5555. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ALL OF THE VARIOUS UTILITY COMPANIES TO ARRANGE FOR FIELD LOCATIONS OF ALL EXISTING UTILITY FACILITIES. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR COSTS INCURRED BECAUSE OF DAMAGE DONE TO EXISTING FACILITIES BY THE CONTRACTOR'S WORK FORCE, INCLUDING COSTS FOR REPAIRS, WHICH WILL BE CONTRACTOR'S SOLE RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE INTEGRITY OF ALL EXISTING UTILITIES AND TO NOTIFY THE ENGINEER PROMPTLY OF ANY CONFLICT BETWEEN THE APPROVED PLANS AND THE LOCATION OF ANY EXISTING UTILITIES.

6. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE RESULTING FROM THE WORK. CONTRACTOR SHALL RESTORE ALL PRIVATE AND PUBLIC PROPERTY DISRUPTED BY THE PROJECT IMMEDIATELY AFTER CONSTRUCTION.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING OR GRADING IN CONFORMANCE WITH THE EROSION & SEDIMENTATION CONTROL PLAN AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). THE SWPPP SHALL BE ONSITE AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.

8. SITE CLEARING SHALL INCLUDE THE LOCATION AND REMOVAL OF ALL ABOVE GROUND AND BURIED DEBRIS AND WASTE THAT MAY

9. THE CONTRACTOR SHALL OBTAIN REVOCABLE ENCROACHMENT PERMITS FROM THE CITY OF FERNDALE AND/OR WHATCOM COUNTY PRIOR TO COMMENCING WORK WITHIN THE PUBLIC RIGHT-OF-WAY.

10. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING WITH REPRESENTATIVES OF THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT AND THE PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION. THE CITY WILL SCHEDULE THE MEETING.

11. ALL WORK AND MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT, REPRESENTATIVES FROM THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT MUST INSPECT ALL WORK IDENTIFIED ON THE PLANS. BOTH PUBLIC AND PRIVATE. THE CONTRACTOR SHALL CALL AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE INSPECTIONS AS FOLLOW:

- A. PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES. B. CONSTRUCTION OF STORMWATER MANAGEMENT FACILITIES.
- C. PLACEMENT OF WATER MAIN AND BACKFILLING OF WATER MAIN TRENCH WITHIN ROAD RIGHTS OF WAY OR IN
- WATERLINE EASEMENT TO BE DEDICATED TO THE CITY OF FERNDALE.
- D. PLACING OR BACKFILLING OF UNDERGROUND UTILITIES, STORM SEWER AND SANITARY SEWER WITHIN ROAD RIGHTS-OF-WAY, IN EASEMENTS TO BE DEDICATED TO THE CITY OF FERNDALE, OR OTHER PUBLICLY SHARED FACILITIES.
- E. GRADING OF PUBLIC OR PRIVATE ROADWAY AT:

I. END OF MAINTENANCE PERIOD

- 1. COMPLETION OF EXCAVATION TO SUBGRADE.
- 2. COMPLETION OF BALLAST COURSE PLACEMENT
- 3. COMPLETION OF CRUSHED SURFACING COURSE PLACEMENT
- F. POURING OF CURB AND GUTTER AND SIDEWALK IN PUBLIC ROADWAY.
- G. ASPHALT PAVING IN PROGRESS IN PUBLIC ROADWAY. H. OVERALL INSPECTION FOR FINISHED SHOULDERS, DITCHES, PERMANENT SEEDING AND MONUMENT PLACEMENT.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE SAFEGUARDS, SAFETY DEVICES, PROTECTIVE EQUIPMENT FLAGGERS, AND ANY OTHER NEEDED ACTIONS TO PROTECT THE LIFE, HEALTH AND SAFETY OF THE PUBLIC, AND TO PROTECT PROPERTY IN CONNECTION WITH THE PERFORMANCE OF WORK COVERED BY THE CONTRACTOR, ANY WORK WITHIN THE TRAVELED RIGHT-OF-WAY THAT MAY INTERRUPT NORMAL TRAFFIC FLOW SHALL REQUIRE AT LEAST ONE FLAGGER FOR EACH LANE OF TRAFFIC AFFECTED. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO THE CITY FOR APPROVAL PRIOR TO PERFORMING THE WORK. ALL SECTIONS OF THE WSDOT STANDARD SPECIFICATIONS 1-07.23- TRAFFIC CONTROL, SHALL APPLY.

13. THE CONTRACTOR SHALL INFORM THE ENGINEER AND OBTAIN APPROVAL FROM THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF ANY PROPOSED DEVIATION FROM THE APPROVED PLANS PRIOR TO CONSTRUCTION OF THE REVISED IMPROVEMENTS. THE CONTRACTOR SHALL KEEP RECORDS OF ALL DEVIATIONS AND SHALL FORWARD THEM TO THE ENGINEER AND TO THE CITY OF FERNDALE PUBLIC WORKS DEPARTMENT.

14. AS-BUILT DATA SHALL BE PROVIDED TO THE CITY OF FERNDALE UPON COMPLETION OF CONSTRUCTION AND PROVIDED IN CITY OF FERNDALE DATUM - VERTICAL (NGVD 29) AND HORIZONTAL (NAVD 83/91). CONTACT THE CITY FOR MORE INFORMATION ON SUBMITTAL REQUIREMENTS.

### **UNDERGROUND UTILITIES CONSTRUCTION**

A. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH THE ENGINEER TO ASSURE ACCURATE AND TIMELY COLLECTION OF ALL REQUIRED AS-BUILT DATA. THIS DATA MUST ACCURATELY REFLECT THE LOCATIONS OF ALL UNDERGROUND UTILITIES. BOTTOM OF PIPE ELEVATIONS, INVERT ELEVATIONS, MANHOLE LOCATIONS, WATER SERVICE TAPS, BLOW-OFF LOCATIONS AND INVERTS OF SERVICE CONNECTIONS (BOTH AT PIPE AND AT PROPERTY LINE), VERTICAL AND HORIZONTAL BENDS, SERVICE BOXES AND METERS, VALVES AND HYDRANTS. CALL THE PROJECT ENGINEER AT LEAST 48-HOURS BEFORE BURYING UNDERGROUND PIPE TO ASSURE AND FACILITATE REQUIRED AS-BUILT SURVEY.

B. THE CONSTRUCTION OF UNDERGROUND UTILITY LINES SHALL BE SUBJECT TO THE FOLLOWING CRITERIA: i. NO MORE THAN 500 FEET OF TRENCH SHALL BE OPENED AT ONE TIME.

- ii. WHERE CONSISTENT WITH SAFETY AND SPACE CONSIDERATIONS, EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF
- iii. TRENCH DEWATERING DEVICES SHALL DISCHARGE INTO SEDIMENT TRAPS OR SEDIMENT PONDS. iv. WHERE PRACTICAL, INSTALL GRAVITY PIPE UTILITIES PRIOR TO INSTALLATION OF OTHER UTILITIES.

C. UTILITY CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS.

D. ALL UTILITY TRENCHES IN THE RIGHT OF WAY SHALL BE BACKFILLED WITH 3/4-INCH MINUS OR 5/8-INCH MINUS WELL GRADED CRUSHED ROCK.

E. TESTING OF NEW WATER LINES, STORM SEWER SYSTEMS SHALL NOT BE PERFORMED UNTIL ALL OTHER ADJACENT UTILITIES HAVE BEEN INSTALLED.

F, ALL UTILITY TRENCHES SHALL BE BACKFILLED AND COMPACTED TO 95% DENSITY IN LIFTS NOT TO EXCEED 24 INCHES WITH A "HOE PACK, OR 8 INCHES WITH HAND-OPERATED COMPACTION. 7

G. OPEN CUTTING OF EXISTING ROADWAYS IS ONLY ALLOWED AS APPROVED AND NOTED ON THESE APPROVED PLANS. ANY OPEN CUT SHALL BE RESTORED IN ACCORDANCE WITH THE FERNDALE STANDARD TRENCH DETAIL(S). ALL UTILITY TRENCHES UNDERNEATH AN EXISTING ROADWAY SHALL BE BACKFILLED WITH 150 PSI CONTROLLED DENSITY FILL.

H. NO PART OF THE DRAINAGE SYSTEM MAY BE COVERED, CONCEALED, OR PUT INTO USE UNTIL IT HAS BEEN INSPECTED, TESTED, AND ACCEPTED BY THE CITY INSPECTOR.

#### **EARTHWORK**

A. THE CONTRACTOR SHALL REMOVE AND REPLACE ALL EXISTING UN-COMPACTED OR POORLY COMPACTED FILL SOILS WITHIN THE ROAD PRISM AT THE DIRECTION OF THE ENGINEER.

B. THE CONTRACTOR SHALL EXCAVATE AND GRADE TO THE ALIGNMENT, GRADE AND CROSS-SECTIONS SHOWN IN THE PLANS OR ESTABLISHED BY THE ENGINEER.

C. UNSUITABLE MATERIAL FOUND AND NOT FIT FOR USE AS A SUB-GRADE SHALL BE EXCAVATED TO THE BOUNDARIES SET BY THE ENGINEER AND REPLACED WITH A SUITABLE BACKFILL MATERIAL.

D. THE ENGINEER IS REQUIRED TO CERTIFY SUBGRADE, IN WRITING, PRIOR TO PAVING.

#### **BASE COURSES & CRUSHED SURFACING**

- A. GRAVEL BASES AND BALLAST MATERIAL GRADATION SHALL MEET WSDOT STANDARD SPECIFICATIONS.
- B. BALLAST, GRAVEL BASE AND CRUSHED SURFACING SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DRY DENSITY.

C. THE GRADED AND COMPACTED SURFACE OF THE CRUSHED SURFACING TOP COURSE SHALL BE WITHIN ½ INCH OF FINISHED GRADE.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MATERIAL AND COMPACTION TESTING. PRIOR TO IMPORTING OF MATERIAL FOR BASE AND CRUSHED SURFACING TOP COURSE THE CONTRACTOR SHALL PROVIDE EVIDENCE OF SATISFACTORY PASSING GRADING AND DEGRADATION TEST RESULTS TO THE ENGINEER.

#### STORM DRAINAGE

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF STORM DRAIN IMPROVEMENTS:

CATCH BASINS TYPE 1, 1L OR 2 WSDOT STD. DETAILS B-5.20, B-5.40 OR B-10.20 COFSD ST-15 (CITY OF FERNDALE STD DETAIL) "RESIDENTIAL SERVICE LINE"

INLET & THRU CURB INLET COFSD ST-7 & ST-8

2. STORM SEWER PIPE HAVING DIAMETERS GREATER THAN 8" SHALL BE CORRUGATED POLYETHYLENE PIPE (CPEP), ALL OTHER STORM SEWER PIPE SHALL BE PVC.

3. ALL CATCH BASIN GRATES SHALL INCLUDE THE STAMPING "OUTFALL TO STREAM, DUMP NO POLLUTANTS".

4. CONTROL DENSITY FILL SHALL BE USED IN AREAS WHERE LESS THAN 18" OF COVER IS MAINTAINED OVER THE PROPOSED STORM PIPES (PIPE IS IN ROAD BASE SECTION), AS SHOWN IN THE PLANS. DUCTILE IRON PIPE MAY BE USED FOR STORM PIPES WITH LESS THAN 18" OF COVER IF APPROVED BY THE CITY.

5. COVER OVER PIPES SHALL BE MAINTAINED DURING CONSTRUCTION. DEPTH OF COVER REQUIRED SHALL CONFORM TO THE MANUFACTURER'S RECOMMENDATIONS AND WILL VARY WITH THE VEHICLE LOADS TRAVELING OVER THE PIPE. NO ADDITIONAL COMPENSATION SHALL BE PROVIDED FOR DAMAGE TO PIPE DURING CONSTRUCTION ACTIVITIES.

6. AT THE END OF ALL SITE CONSTRUCTION, THE CONTRACTOR SHALL CLEAN ALL DEBRIS FROM CATCH BASINS AND STORMWATER CONVEYANCES. DEBRIS SHALL NOT BE ALLOWED TO ENTER STREAMS OR OFF-SITE STORMWATER SYSTEMS.

#### WATER

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED IN CONSTRUCTING WATER SUPPLY SYSTEM IMPROVEMENTS:

PIPE BEDDING COFSD W-11 COFSD W-11 TRENCH BACKFILL FIRE HYDRANT ASSEMBLY COFSD W-1

THRUST BLOCKING COFSD W-2, W-3 & W-4 WATER SERVICE COFSD W-5

2. ALL WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY OF FERNDALE DEVELOPMENT STANDARDS, SECTIONS 702 AND 705 AND THE MOST RECENT VERSION OF WSDOT STANDARD SPECIFICATIONS.

3. ALL WATER MAIN PIPE SHALL BE DUCTILE IRON, MINIMUM THICKNESS CLASS 50, PER AWWA STANDARDS H3-71 AND C151-71, WITH CEMENT LINING PER AWWA STANDARD C104-71.

4. MATERIAL FOR FITTINGS SUCH AS CROSSES, TEES, BENDS, REDUCERS AND SLEEVES SHALL BE DUCTILE IRON. JOINTS SHALL BE M.J., FLANGED OR PUSH-QN JOINTS AND SHALL CONFORM TO AWWA SPECIFICATIONS C-110-71 AND C-104-71.

5. CONCRETE BLOCKING SHALL BE AS SPECIFIED IN CITY OF FERNDALE STANDARD DETAILS W-2, W-3 AND W-4, OR AS DIRECTED BY THE PROJECT ENGINEER. BLOCKS SHALL BE INSTALLED AS SPECIFIED IN SECTION 7-09.3(21) OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION. NO PRE-CAST BLOCKS ARE ALLOWED.

6.CONNECTIONS TO EXISTING WATER MAINS - THE CONTRACTOR MUST NOTIFY THE CITY OF FERNDALE PUBLIC WORKS DIRECTOR OF A PROPOSED CONNECTION AT LEAST FOUR WORKING DAYS IN ADVANCE.

7. ALL HYDROSTATIC TESTING AND DISINFECTION OF WATER MAINS SHALL CONFORM TO SECTION 7-09.3(23) AND SECTION 7-09.3(24)OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE OR MUNICIPAL CONSTRUCTION - CURRENT EDITION. HYDROSTATIC TEST PRESSURE FOR WATER MAIN ACCEPTANCE SHALL BE 250 PSI AND SHALL BE DONE ACCORDING TO CITY OF FERNDALE REQUIREMENTS. THE CITY OF FERNDALE LABORATORY SHALL CONDUCT ALL DISINFECTION TESTS AND BACTERIOLOGICAL TESTS. THE PIPE WILL NOT PASS TESTING UNLESS A ZERO BACTERIAL COUNT IS MEASURED ON TWO CONSECUTIVE TESTS, CONDUCTED 24 HOURS APART.

8. BACKFILL SHALL BE GRAVEL BASE, CLASS B, IN ALL STREET RIGHTS-OF-WAY, COMPACTED TO MINIMUM 95% OPTIMUM DENSITY. IN UNIMPROVED AREAS, MINIMUM COMPACTION SHALL BE 90% OF OPTIMUM DENSITY.

9. ALL PIPE SHALL HAVE A MINIMUM COVER OF 36".

10. ALL VALVES SHALL BE EITHER GATE OR BUTTERFLY TYPE VALVES AND SHALL BE INSTALLED WITH SLIP TYPE CAST IRON VALVE BOXES. GATE VALVES SHALL BE USED FOR LINES 2 INCHES THROUGH 10 INCHES IN DIAMETER. SHORT-BODY VALVES SUITABLE FOR A NON-SHOCK SHUT-OFF PRESSURE OF 130 PSI AND SUITABLE FOR DIRECT BURIAL ARE SPECIFIED. GATE VALVES SHALL BE RESILIENT SEATED IRON-BODY, FULL-BRONZE MOUNTED VALVES CONFORMING TO AWWA C509 AND SUITABLE FOR SERVICE WITH THE TYPE AND CLASS OF PIPE USED. ALL VALVES SHALL HAVE NON-RISING STEMS AND SHALL OPEN COUNTERCLOCKWISE AND SHALL BE EQUIPPED WITH A 2 INCH SQUARE OPERATING NUT. VALVES WILL BE FLANGE OR M.J. JOINTS. VALVE MARKERS SHALL BE LOCATED OUTSIDE OF

11. WATER SERVICE TAP INSTALLATIONS SHALL MEET THE REQUIREMENTS OF THE COFDS W-5.

12. FIRE HYDRANTS AND FIRE MAINS MUST CONFORM TO COFDS- SD W-1 (WSDOT B-19) AND THE FOLLOWING STANDARDS:

A.FIRE HYDRANTS SHALL HAVE TWO INDIVIDUALLY VALVED 2-1/2" PORTS AND ONE 5-1/4" MAIN VALVE OPENING. A 4-1/2" NST PUMPER NOZZLE AND A 5" STORZ PORT WITH CAP AND AIRCRAFT CABLE SHALL BE SUPPLIED. HYDRANTS SHALL BE EITHER IOWA OR M.H. 929T HYDRANTS.

B. FIRE HYDRANTS SHALL HAVE THE STORZ PORT FACING THE REQUIRED ACCESS AND THE BASE FLANGE OF THE HYDRANT MUST NOT VARY MORE THAN 1 FOOT IN ELEVATION FROM THE GRADE LEVEL OF THE REQUIRED ACCESS. THE LOWEST STEM SHALL BE A MINIMUM OF 14" ABOVE THE GROUND.

C. IF THE PUBLIC WORKS DIRECTOR DETERMINES THAT FIRE HYDRANTS ARE VULNERABLE TO VEHICULAR DAMAGE, APPROPRIATE CRASH POSTS SHALL BE PROVIDED. NO OBSTRUCTIONS SHALL EXIST WITHIN A 3-FOOT WORKING AREA OF EACH REQUIRED ACCESS. CRASH POSTS SHALL BE 4" CEMENT-FILLED PIPE A MIN. OF 3' IN HEIGHT WITH A MIN. OF 2' OF PIPE BELOW GRADE. HYDRANT SHUTOFF VALVES SHALL BE LOCATED BETWEEN 5' AND 20' FROM THE HYDRANT.

D. UNDERGROUND SUPPLIES TO FIRE HYDRANTS MUST BE INSPECTED. SUCH INSPECTION SHALL INCLUDE VISUAL INSPECTION OF PIPING AND HYDROSTATIC PRESSURE TESTING TO A MIN. OF 250 PSI. A FLOW TEST WILL BE REQUIRED WHEN INSTALLATION IS COMPLETE.

E. FIRE HYDRANTS MUST BE MAINTAINED IN AN OPERABLE CONDITION AT ALL TIMES AND MUST BE REPAIRED OR REPLACED WHEN DEFECTIVE. HYDRANTS SHALL BE FULLY OPERABLE BEFORE CONSTRUCTION COMMENCES ABOVE GRADE LEVEL.

#### ROAD

1. THE FOLLOWING STANDARD DETAILS SHALL BE USED FOR CONSTRUCTION OF THE STANDARD STREET SECTION:

TYPICAL STREET SECTION (PER PROJECT) PCC CURB AND GUTTER COFSD R-9

PCC SIDEWALKS COFSD R-12 (SEE CONSTRUCTION DOCUMENTS TYPICAL SECTION)

PCC CURB RAMPS WSDOT STD. DETAIL F-40.

2. ROADWAY EXCAVATION WITHIN THE ROADWAY PRISM SHALL BE CUT TO A UNIFORM GRADE. THE COMPLETED SUBGRADE SURFACE SHALL NOT VARY MORE THAN 0.10-FOOT FROM THE LOWER EDGE OF A 15-FOOT STRAIGHTEDGE PLACED ON THE SUBGRADE PARALLEL TO THE CENTERLINE UNLESS APPROVED BY THE ENGINEER.

3. THE OWNER SHALL PROVIDE TO THE ENGINEER A REPORT FROM A QUALIFIED GEOTECHNICAL FIRM CERTIFYING THE COMPACTION OF THE GRAVEL BASE UNDER ALL PAVING AREAS.

4. ASPHALT CONCRETE PAVEMENT SHALL BE CLASS "B" MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, SECTION 5-04, EXCEPT AS MODIFIED HEREIN. CONNECTION TO EXISTING PAVEMENT SHALL BE TO A STRAIGHT NEATLY-TRIMMED LINE.

5. CRUSHED ROCK SURFACING FOR PAVEMENT SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 9-03.9(3); BALLAST PER SECTION 9-03.9(1).

6. CEMENT CONCRETE SHALL BE CLASS 3000 (WITH AIR ENTRAINMENT) IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 6-02.3(2)B.

7. CEMENT CONCRETE SIDEWALK SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH CITY STANDARDS, DRAWING NO. R-12.

8. CEMENT CONCRETE DRIVEWAYS SHALL BE 6 INCHES THICK AND CONSTRUCTED WHERE SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER IN ACCORDANCE WITH THE CITY STANDARDS, DRAWING NO. R-15. A 2- INCH LATER OF 3/4 INCH DRAIN ROCK SHALL BE USED FOR DRIVEWAY BEDDING.

9. CEMENT CONCRETE CURB AND GUTTER SHALL BE CONSTRUCTED WHERE SHOWN ON THE PLANS OR AS DESIGNED BY THE ENGINEER, IN ACCORDANCE WITH WSDOT STANDARDS SPECIFICATIONS, SECTION 8-04 AND CITY OF FERNDALE STANDARDS, DRAWING R-8 AND R-9. HANDICAP RAMPS SHALL BE CONSTRUCTED PER WSDOT STANDARD PLANS F-40. WHERE NEW CEMENT CONCRETE CURB AND GUTTER IS CONNECT TO EXISTING CURB AND GUTTER, ASSURE THAT NO ABRUPT OFFSETS IN LINE OR GRADE SHALL BE CONSTRUCTED WHICH WILL BE UNSIGHTLY OR IMPEDE FLOW IN THE GUTTER LINE.

#### 10. PAVEMENT:

A. SOIL RESIDUAL HERBICIDE SHALL BE PLACED WITHIN 24 HOURS OF PAVING.

B. A TACK COAT OF ASPHALT SHALL BE APPLIED BETWEEN ALL COURSES OF ASPHALT.

C. ALL PAVEMENT REPAIR SHALL BE SAW-CUT BEFORE REMOVAL. AR-4000W SHALL BE APPLIED TO ALL EDGES OF EXISTING PAVEMENT. WHERE NEWLY CONSTRUCTED PAVING MEETS EXISTING PAVING, THE APPLICANT SHALL PROVIDE A SMOOTH TRANSITION FROM EXISTING TO PROPOSED PAVING. CONTRACTOR SHALL COLD PLANE PER DIMENSIONS SPECIFIED ON THE PLANS, AND INSTALL A MINIMUM 2-FOOT WIDE PETROTAC PAVING FABRIC, OR EQUIVALENT, OVER JOINT BETWEEN PAVING LIFTS.

11. THRU-CURB BASINS AND THRU-CURB INLETS CONFORMING TO THE WSDOT STANDARD SPECIFICATIONS, SECTION 7-05 SHALL BE CONSTRUCTED AT THE LOW POINT OF THE CURB FLOW LINES AND TO THE LOCATIONS, DIMENSIONS, AND DETAILS AS SHOWN ON THE PLANS OR DESIGNATED BY THE ENGINEER AND CITY STANDARDS, DRAWING NO. R-8.

12. TRENCH EXCAVATIONS, BEDDING AND PIPE FOR STORMWATER PIPE LAYING SHALL BE IN ACCORDANCE WITH THE WSDOT STANDARD SPECIFICATIONS, SECTION 7-08.

13. STORM SEWER PIPE CONSTRUCTION REQUIREMENTS SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION, SECTION 7-04. MATERIAL SHALL BE HANCOR SURE-LOK F477 PIPE OR CITY APPROVED EQUAL. LOTS' STORM DRAIN SERVICE LINE SHALL BE 6" PVC PER WSDOT STANDARD SPECIFICATION, SECTION 9-05.1(5)

14. PERFORATED UNDERDRAIN PIPE SHALL MEET THE WSDOT STANDARD SPECIFICATION 7-01.3(2).

#### SEWER

1. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CITY OF FERNDALE STANDARD SPECIFICATIONS AND DETAILS, A.P.W.A. STANDARD SPECIFICATION, AND WSDOT STANDARD SPECIFICATIONS, MOST RECENT EDITIONS. SANITARY SEWER SYSTEM INSTALLATION, BOTH PUBLIC AND PRIVATE, IS SUBJECT TO CITY REVIEW AND APPROVAL.

2. ALL WORK MUST BE INSPECTED TO THE SATISFACTION OF THE CITY OF FERNDALE. 24 HOUR NOTICE MUST BE GIVEN PRIOR TO STARTING WORK. TESTING OF THE SEWER SYSTEM AND ALL CONNECTIONS TO EXISTING MAINS SHALL BE PERFORMED IN THE PRESENCE AND UNDER THE SUPERVISION OF A CITY OF FERNDALE REPRESENTATIVE.

3. SANITARY SEWER MAINS SHALL BE A MINIMUM 8 INCH DIAMETER PVC PIPE (SDR-35) CONFORMING TO THE PROVISIONS OF ASTM D 3034 AND INSTALLED TO CITY SPECIFICATIONS.

4. SANITARY SEWER PIPE BEDDING SHALL BE PEA GRAVEL PER COFSD SS-1. ALL TRENCHES SHALL BE BACKFILLED WITH CLASS B BANK RUN GRAVEL WITHIN CITY RIGHT OF WAY AND TRAVELED WAYS OUTSIDE OF RIGHT OF WAY (ACCESS EASEMENTS) AND SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% MODIFIED PROCTOR. USE OF SUITABLE NATIVE BACKFILL OUTSIDE OF TRAVELED WAY SHALL BE SUBJECT TO APPROVAL BY THE CITY.

5. ALL MANHOLES SHALL BE INSTALLED PER CITY OF FERNDALE STANDARD DETAILS AND SHALL BE PRE CHANNELED. MANHOLE CONES ARE TO BE OFFSET SUCH THAT LADDER RUNGS ARE PARALLEL TO THE FLOW.

6. ALL SIDE SEWERS SHALL BE INSTALLED PER CITY O FERNDALE STANDARD DETAILS SS-6, SS-8, OR SS-13, EXCEPT THAT SINGLE SIDE SEWERS SHALL HAVE A MINIMUM DIAMETER OF 4".

7. CONTRACTOR SHALL EXTEND SEWER STUBS 5 FT BEYOND UTILITY CORRIDOR OR 15 FEET BEYOND RIGHT-OF-WAY LINE.

INVERT INDICATED. THE LOCATION MARKER SHALL BE CONNECTED TO THE SERVICE STUB BY A #12 COPPER WIRE.

8. EACH SIDE SEWER STUB SHALL BE CAPPED WITH AN WATERTIGHT PLUG. EACH STUB SHALL BE MARKED FOR LOCATION WITH A 2" DIAM. PVC PIPE (MIN. SCHEDULE 40) WITH THE TOP 18" PAINTED GREEN AND STENCILED WITH THE WORD "SEWER" AND THE PIPE

APPROVED

**ENGINEER'S CERTIFICATION:** "I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE."

By: Hu 4 W

Date: 2-9-11

**AS-BUILT PLAN** 

CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555

Date

REVISION

HAF / JPS DRAWN BY: JPS CHECKED BY:

220 West Champion Street, Suite 290 t: 360.650.1408 Bellingham, WA 98225 f: 360.650.1401 FREELAND & ASSOCIATES

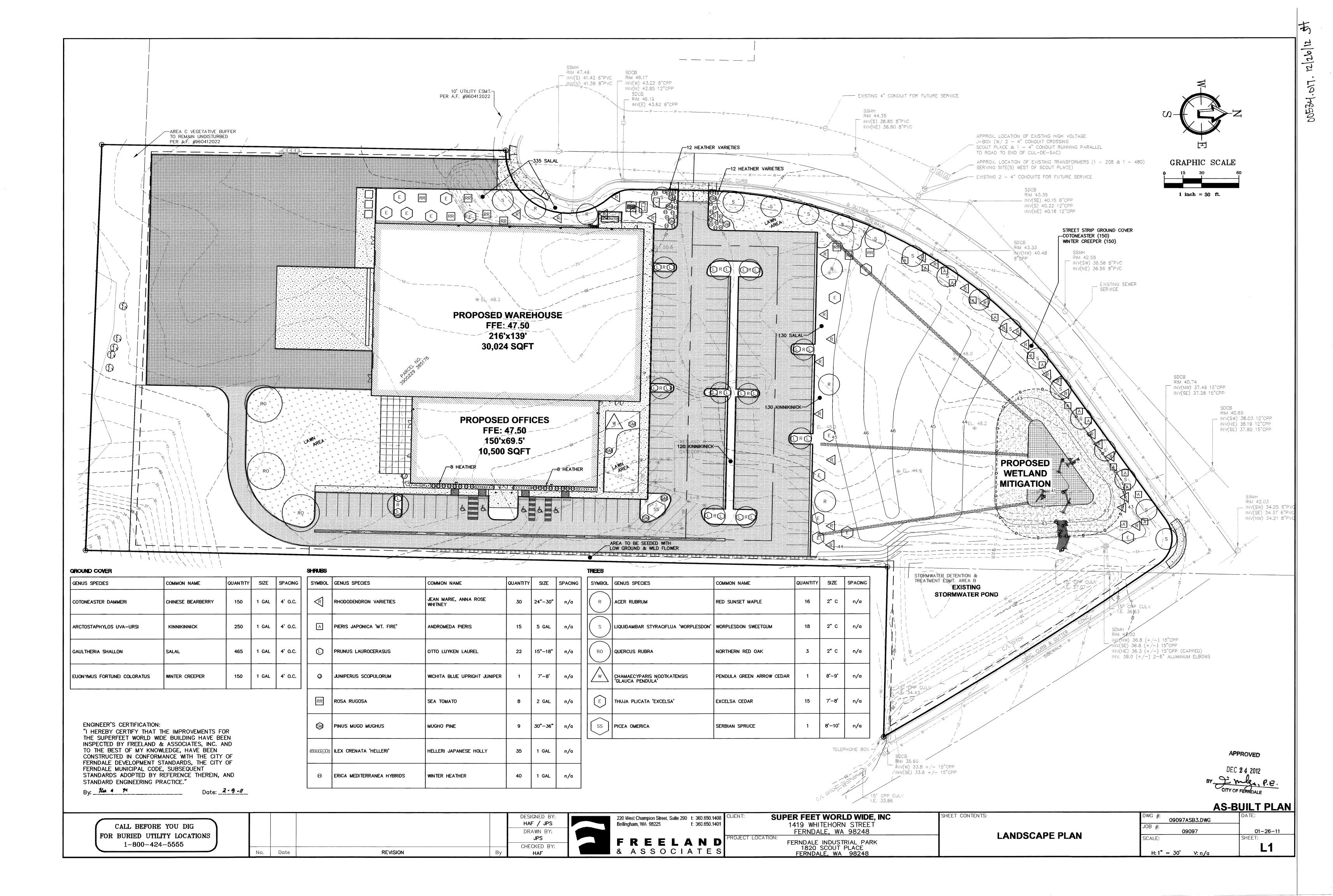
SUPER FEET WORLD WIDE. INC 1419 WHITEHORN STREET FERNDALE, WA 98248 ROJECT LOCATION:

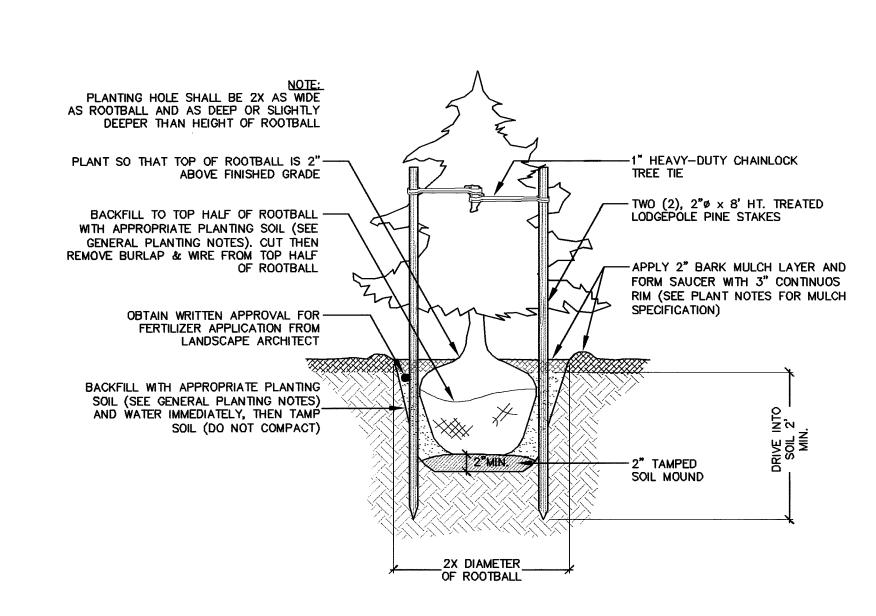
FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE FERNDALE, WA 98248

SHEET CONTENTS:

**GENERAL NOTES** 

09097ASB3.DWG 01-26-11 CALE: C16

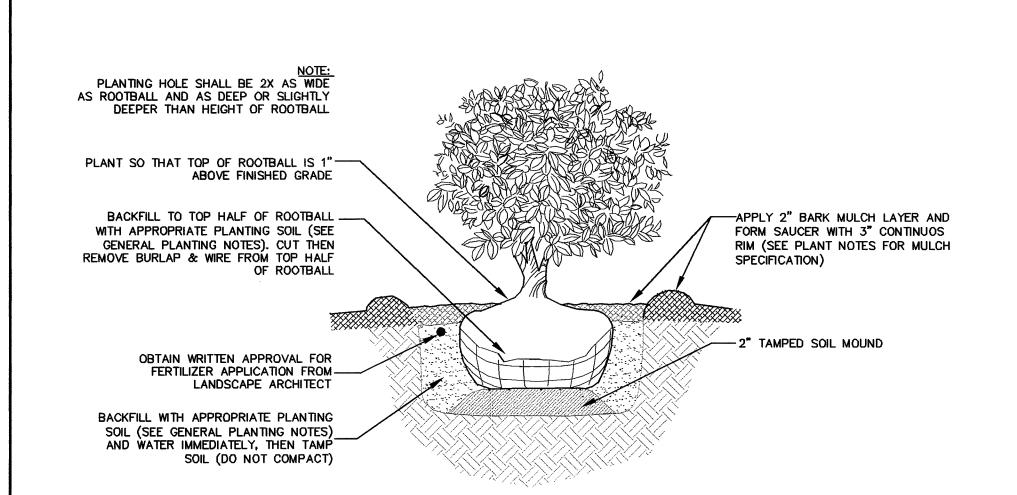




**CONIFEROUS TREE** 

PLANTING HOLE SHALL BE 2X AS WIDE AS ROOTBALL AND AS DEEP OR SLIGHTLY DEEPER THAN HEIGHT OF ROOTBALL PLANT SO THAT TOP OF ROOTBALL IS 2"-ABOVE FINISHED GRADE -1" HEAVY-DUTY CHAINLOCK BACKFILL TO TOP HALF OF ROOTBALL -- TWO (2), 2"ø x 8' HT. TREATED WITH APPROPRIATE PLANTING SOIL (SEE LODGÉPOLE PINE STAKES GENERAL PLANTING NOTES). CUT THEN REMOVE BURLAP & WIRE FROM TOP HALF OF ROOTBALL -APPLY 2" BARK MULCH LAYER AND FORM SAUCER WITH 3" CONTINUOS RIM (SEE PLANT NOTES FOR MULCH OBTAIN WRITTEN APPROVAL FOR -SPECIFICATION) FERTILIZER APPLICATION FROM LANDSCAPE ARCHITECT BACKFILL WITH APPROPRIATE PLANTING SOIL (SEE GENERAL PLANTING NOTES) AND WATER IMMEDIATELY, THEN TAMP' SOIL (DO NOT COMPACT) SOIL MOUND ├──2X DIAMETER OF ROOTBALL

B DECIDUOUS/STREET TREE



C SHRUB nts

No.

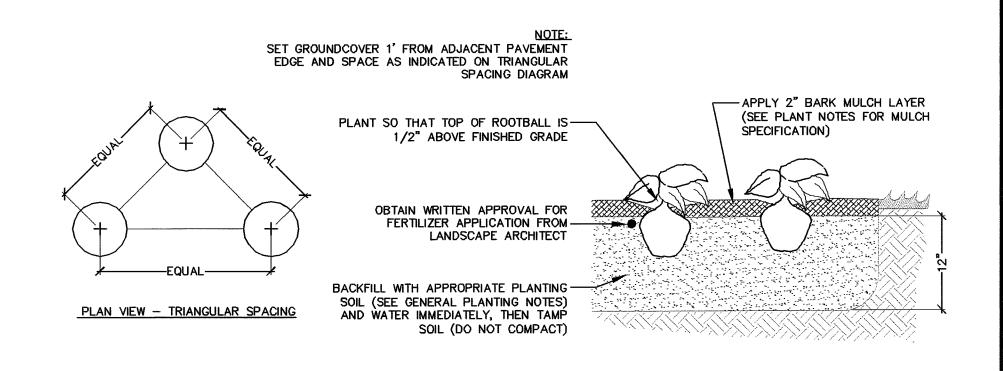
Date

REVISION

ENGINEER'S CERTIFICATION:
"I HEREBY CERTIFY THAT THE IMPROVEMENTS FOR THE SUPERFEET WORLD WIDE BUILDING HAVE BEEN INSPECTED BY FREELAND & ASSOCIATES, INC. AND TO THE BEST OF MY KNOWLEDGE, HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE CITY OF FERNDALE DEVELOPMENT STANDARDS, THE CITY OF FERNDALE MUNICIPAL CODE, SUBSEQUENT STANDARDS ADOPTED BY REFERENCE THEREIN, AND STANDARD ENGINEERING PRACTICE."

By: Xu a 7

Date: **2-9-//** 



(D) GROUND COVER nts

#### General Planting Notes

- 1. ALL PLANTS SHALL MEET OR EXCEED THE SPECIFICATIONS OF FEDERAL, STATE AND LOCAL LAWS REQUIRING INSPECTION FOR PLANT DISEASE AND INSECT CONTROL.
- 2. QUALITY AND SIZE SHALL CONFORM TO OR EXCEED STANDARDS IN THE CURRENT ISSUE OF THE "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 3. THE CONTRACTOR SHALL KEEP FULLY INFORMED AND SHALL COMPLY WITH ALL EXISTING LAWS, CODES, ORDINANCES AND REGULATIONS THAT IN ANY WAY AFFECT THE CONDUCT OF THE WORK. IN PARTICULAR, THE CONTRACTOR SHALL CONFIRM THAT THE IRRIGATION SYSTEM WORK MEETS ALL REQUIREMENTS FOR CROSS CONNECTION CONTROL. THE CONTRACTOR SHALL SECURE, AT HIS EXPENSE, ALL NECESSARY PERMITS FOR CONSTRUCTION.
- 4. NO PLANTING SHALL TAKE PLACE DURING FREEZING WEATHER OR WHEN THE GROUND IS FROZEN OR MUDDY. DO NOT PLANT IN WET CONDITIONS. PROVIDE DRAINAGE FROM EACH
- 5. BARE ROOT MATERIAL SHALL BE PLANTED FROM NOVEMBER 15th THROUGH APRIL 15th. AT NO TIME SHALL BARE ROOT MATERIAL BE PLANTED AFTER LEAFING OUT. BOXED, BALLED OR CONTAINERIZED PLANTS MAY BE PLANTED AT ANY TIME OF THE YEAR THAT THE WEATHER
- 6. ALL PLANT MATERIALS SHALL BE NURSERY GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICES UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE OF THE PROJECT FOR AT LEAST TWO YEARS, UNLESS SPECIFICALLY AUTHORIZED BY THE LANDSCAPE ARCHITECT IN WRITING. UNLESS OTHERWISE NOTED, ALL PLANTS SHALL BE SPECIMEN QUALITY. SUBMIT TO LANDSCAPE ARCHITECT A LIST OF PLANTS AND THEIR SOURCES.
- 7. CONTAINER STOCK SHALL HAVE GROWN IN CONTAINERS IN WHICH DELIVERED FOR AT LEAST SIX MONTHS BUT NOT MORE THAN TWO YEARS. SAMPLES MUST PROVE NO ROOT-BOUND CONDITIONS EXIST. CONTAINER PLANTS WITH CRACKED OR BROKEN BALLS OF EARTH WHEN TAKEN FROM CONTAINERS MAY BE PLANTED ONLY WITH APPROVAL OF THE LANDSCAPE ARCHITECT
- 8. PLANTS SHALL BE SOUND, HEALTHY AND VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF. THEY SHALL BE FREE OF DISEASE, INSECT PESTS, EGGS, OR LARVAE, AND SHALL HAVE HEALTHY, WELL DEVELOPED ROOT SYSTEMS. THEY SHALL BE FREE FROM PHYSICAL DAMAGE OR ADVERSE CONDITIONS THAT WOULD PREVENT THRIVING GROWTH. TREES WHICH HAVE DAMAGED OR CROOKED LEADERS, OR MULTIPLE LEADERS, UNLESS SPECIFIED, WILL BE REJECTED. TREES WITH ABRASIONS ON THE BARK, SUNSCALDS, DISFIGURING KNOTS, OR FRESH CUTS OF LIMBS OVER 3/4 INCH WHICH HAVE NOT COMPLETELY CALLUSED, WILL BE REJECTED.
- 9. PLANTS SHALL NOT BE PRUNED PRIOR TO DELIVERY. PRUNE PLANTS ONLY AFTER PLANTING AND ACCORDING TO STANDARD HORTICULTURAL PRACTICE TO PRESERVE THE NATURAL CHARACTER OF THE TREE. REMOVE ALL DEAD WOOD, SUCKERS AND BROKEN OR BADLY BRUISED BRANCHES. USE ONLY CLEAN SHARP TOOLS.
- 10. PLANTS SHALL BE TRUE TO SPECIES AND VARIETY AND SHALL CONFORM TO SPECIFIED MEASUREMENTS, HOWEVER, LARGER PLANTS MAY BE USED IF APPROVED BY LANDSCAPE ARCHITECT. USE OF SUCH PLANTS SHALL NOT INCREASE CONTRACT PRICE. SPECIFIED HEIGHT AND AND SPREAD DIMENSIONS REFER TO MAIN BODY OF PLANT AND NOT BRANCH TIP TO TIP. CALIPER MEASUREMENT SHALL BE TAKEN AT A POINT ON THE TRUNK 6 INCHES ABOVE THE NATURAL GROUND LINE FOR TREES UNDER 4 INCHES IN CALIPER, AND AT A POINT 12 INCHES ABOVE THE GROUND FOR TREES 4 INCHES OR GREATER IN CALIPER. IF A RANGE OF SIZES IS GIVEN, NO PLANT SHALL BE LESS THAN THE MINIMUM SIZE AND NO LESS THAN 40% OF THE PLANTS SHALL BE AS LARGE AS THE MAXIMUM SIZE SPECIFIED.
- 11. SOIL RETENTION THE DUFF LAYER AND NATIVE TOPSOIL SHOULD BE RETAINED IN AN UNDISTURBED STATE TO THE MAXIMUM EXTENT PRACTICABLE. IN ANY AREAS REQUIRING GRADING REMOVE AND STOCKPILE THE DUFF LAYER AND TOPSOIL ON SITE IN A DESIGNATED, CONTROLLED AREA, NOT ADJACENT TO PUBLIC RESOURCES AND CRITICAL AREAS, TO BE REAPPLIED TO OTHER PORTION OF THE SITE WHERE FEASIBLE.
- 12. SOIL QUALITY ALL AREAS SUBJECT TO CLEARING AND GRADING THAT HAVE NOT BEEN COVERED BY IMPERIOUS SURFACE, INCORPORATED INTO A DRAINAGE FACILITY OR ENGINEERED AS STRUCTURAL FILL OR SLOPE SHALL, AT PROJECT COMPLETION, DEMONSTRATE THE FOLLOWING:
- FOLLOWING:

  CONSTRUCTION MATERIAL(S) SHALL NOT BE PRESENT.

ACCEPTANCE OF PLANT INSTALLATION.

- TOPSOIL LAYER W/MIN. ORGANIC MATTER CONTENT OF 10% DRY WEIGHT & PH FROM 6.0 TO 8.0 OR MATCH THE PH OF ORIGINAL UNDISTURBED SOIL.
- TOPSOIL LAYER SHALL HAVE MINIMUM DEPTH OF 6" EXCEPT WHERE TREE ROOTS LIMIT THE DEPTH OF INCORPORATION OF AMENDMENTS NEEDED TO MEET THE CRITERIA.
- SUBSOILS BELOW THE TOP SOIL LAYER SHALL BE SCARIFIED AT LEAST 6" WITH SOME INCORPORATION OF THE UPPER MATERIAL TO AVOID STRATIFIED LAYERS. (THE INTENT IS TO PROVIDE A LOOSE PLANTING MEDIUM WITH TOTAL DEPTH OF LOOSENED 12".
   COMPOST OR OTHER MATERIAL USED TO MEET ORGANIC MATTER CONTENT SHALL BE
- "COMPOSTED MATERIALS" IN WAC 173-350-220. THE COMPOST MUST ALSO HAVE ORGANIC MATTER CONTENT 35% TO 65% AND A CARBON TO NITROGEN RATIO BELOW 25:1 OR 35:1 IF INSTALLING PLANTS NATIVE TO THE PUGET SOUND LOWLAND REGION.
- OR 35:1 IF INSTALLING PLANTS NATIVE TO THE PUGET SOUND LOWLAND REGION.

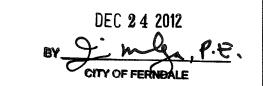
   ALL PLANTING AREAS NEAR PAVED/HARD SURFACES SHALL BE AT 2-1/2" BELOW ADJACENT SURFACES TO ALLOW FOR 2" MULCH.

   MULCH SHALL CONSIST OF MEDIUM TO COARSE PARTICLE SIZE.
- 13. NEW (IF IMPORTED) PLANTING SOIL SHALL MEET THE SOIL QUALITY CRITERIA LISTED AND SHALL BE FREE OF WEEDS, SUCH AS OLD HORSETAIL ROOT FRAGEMENTS. MATERIAL MUST BE SCREENED AT A MINIMUM OF 7/16" AS AVAILABLE FROM GROW SOURCE.
- 14. STANDARD COMMERCIAL GRADE FERTILIZERS AND HERBICIDES SHALL NOT BE APPLIED UNLESS THE CONTRACTOR HAS DEEMED IT NECESSARY TO PROMOTE HEALTHY AND SUSTAINABLE GROWTH. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE
- ARCHITECT BEFORE APPLYING FERTILIZERS AND HERBICIDES.

  15. FOR REQUIRED PLANTING AREA CONTRACTOR SHALL DESIGN AND PROPERLY INSTALL A FULLY AUTOMATIC DRIP IRRIGATION SYSTEM IN ACCORDANCE WITH MANUFACTURERS' INSTALLATION INSTRUCTIONS AS SUBMITTED TO LANDSCAPE ARCHITECT. THE SYSTEM SHALL DELIVER UNIFORM DISTRIBUTION OF ADEQUATE WATER TO ESTABLISH ALL PLANTS AND SUSTAIN THEM DURING DRY PERIODS. IN ADDITION TO DISTRIBUTION AND CONVEYANCE COMPONENTS, PROVIDE AND INSTALL PROPER BACK FLOW PREVENTION TO SATISFY CODE REQUIREMENTS, PROVIDE AND INSTALL PROPER FILTRATION TO ENSURE CLOG FREE PERFORMANCE, AND PROVIDE AND INSTALL IRRIGATION CONTROLLER TO MAINTAIN AUTOMATIC OPERATION OF THE SYSTEM. IN LIEU OF IRRIGATION SYSTEM CONTRACTOR SHALL PROVIDE MEANS OF WATERING
- 16. ALL DISTURBED AREAS SHALL BE RE-VEGETATED AS LAWN OR AS COMBINATION OF MUCLH & PLANTS SPECIFIED IN PLANTING LEGEND.

PLANTS SUFFICIENT TO SUSTAIN AND ESTABLISH PLANTS FOR TWO YEAR PERIOD AFTER FINAL

APPROVED



 $H:1^* = 30'$  V:  $\pi/a$ 

			AS-BUILT PLAN
CALL BEFORE YOU DIG FOR BURIED UTILITY LOCATIONS 1-800-424-5555  1 3-4-10 REVISED TRUCK DOCK AND LOWERED FFE OF BUILDING AND SITE BY 1'	DESIGNED BY: HAF / JPS DRAWN BY: JPS CHECKED BY:  DESIGNED BY:  220 West Champion Street, Suite 290 t: 360.650.1408 f: 360.650.1408 f: 360.650.1408 f: 360.650.1408 FREELAND PROJECT LOCATION: FERNDALE INDUSTRIAL PARK 1820 SCOUT PLACE	LANDSCAPE DETAILS & NOTES  SCALE:	9097ASB3.DWG  09097  01-26-11  SHEET:  L2

FERNDALE, WA 98248

& ASSOCIATES