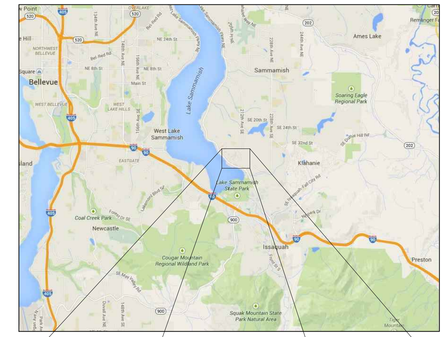
SAMMAMISH 212TH WAY SE



VICINITY MAPS

SHEET INDEX

W1	EXISTING CONDITIONS PROJECT KEY PLAN
W2	EXISTING CONDITIONS PROJECT AREA
W3	PROPOSED MITIGATION PLAN
W4	TESC AND DEMOPLAN
W5	GRADING PLAN AND DETAILS
W6	PLANTING PLAN
W7	MITIGATION DETAILS
W8	DETAILS AND PLANT INSTALLATION NOTES
W9	MITIGATION NOTES (NOT IN CONTRACT)

NOTES

1. CRITICAL AREAS DELINEATED BY THE WATERSHED COMPANY IN NOVEMBER, 2014.
2. SURVEY RECEIVED FROM GRAY & OSBORNE, INC., DECEMBER 2014.
3. REFER TO NOVEMBER 2015 MITIGATION PLAN BY THE WATERSHED COMPANY

EXISTING CONDITIONS AND KEY PLAN

0 100' 200' 400' 800'

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SAMMAMISH 212TH WAY SE
MITIGATION PLAN
PREPARED FOR: GRAY & OSBORNE, INC.
SITE ADDRESS:
212TH WAY SE
SAMMAMISH, WA 98075

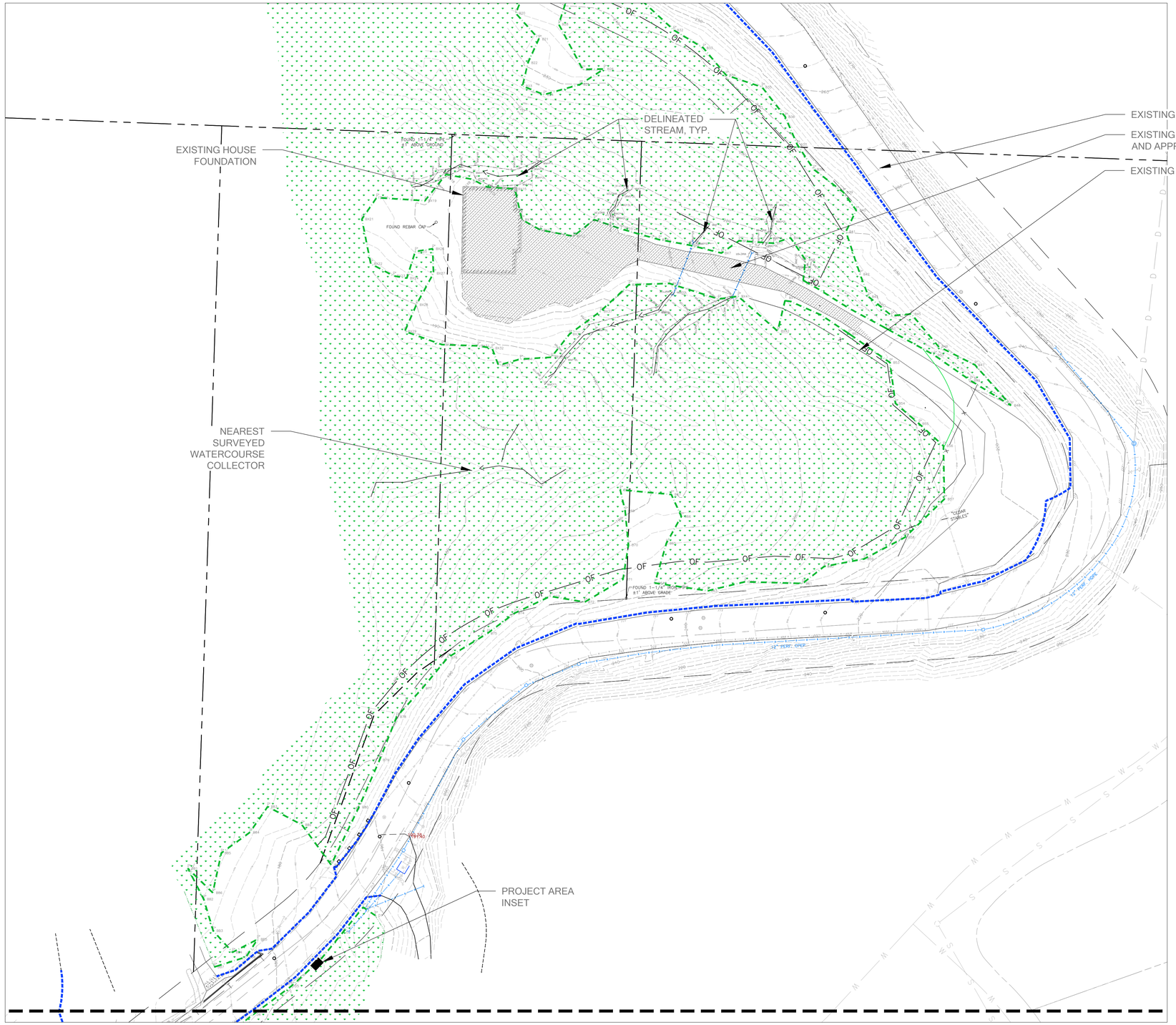
SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11-13-15	IMPACTS & MITIGATION	MSF
2	11-25-15	REVISED MITIGATION PLAN	AR
3	1-29-16	90% PLANSET	KMB

SHEET SIZE:
ORIGINAL PLAN IS 22" x 34".
SCALE ACCORDINGLY.

PROJECT MANAGER: HM
DESIGNED: HM/MSF
DRAFTED: MSF/KMB
CHECKED: HM
JOB NUMBER:
140516
SHEET NUMBER:
W1 OF 9

DATE 1/27/2016 | PRINTED BY KYLE BRAUN | FILENAME 140516_SAMM212TH_MIT.DWG



LEGEND
- DELINEATED WETLAND BOUNDARY
- WETLAND BUFFER
- DELINEATED STREAM BOUNDARY TYPE NP
- APPROXIMATE LOCATION OF FILL (NOT SURVEYED)
- EXISTING CULVERT

EXISTING CONDITIONS PROJECT AREA

0 20' 40' 80' 160'

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W2 OF 9

FILENAME 140516_SAMM212TH_MIT.DWG
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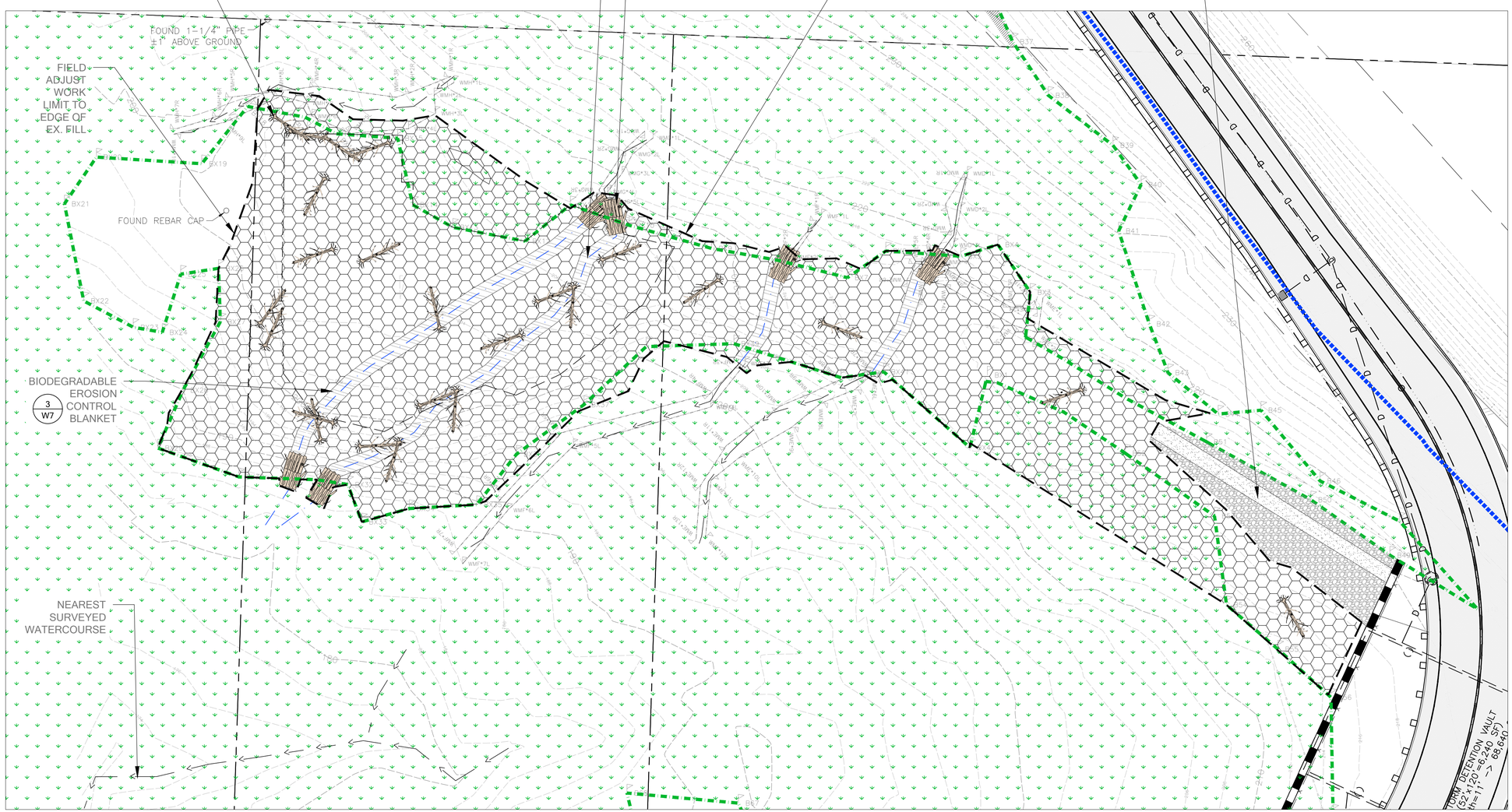
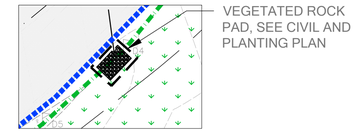
LEGEND

- DELINEATED WETLAND BOUNDARY
- WETLAND BUFFER
- DELINEATED STREAM OHWM TYPE NP
- EXISTING WATERCOURSE CENTERLINE
- PROPOSED WATERCOURSE CENTERLINE
- PROPOSED WORK LIMITS
- PROPOSED MITIGATION PLANTING AREA A
- PROPOSED GEOTEXTILE - SEE DETAIL
- PROPOSED WOODY DEBRIS - SEE DETAIL
- PROPOSED LOG RUNDOWN STRUCTURE - SEE DETAIL

NOTES

1. PROPOSED MITIGATION PLANTING AREA A TO BE IRRIGATED WITH A TEMPORARY IRRIGATION SYSTEM DESIGNED BY CONTRACTOR.





INSET MITIGATION
SCALE: 1" = 20'

PROPOSED MITIGATION PLAN

0 10' 20' 40' 80'

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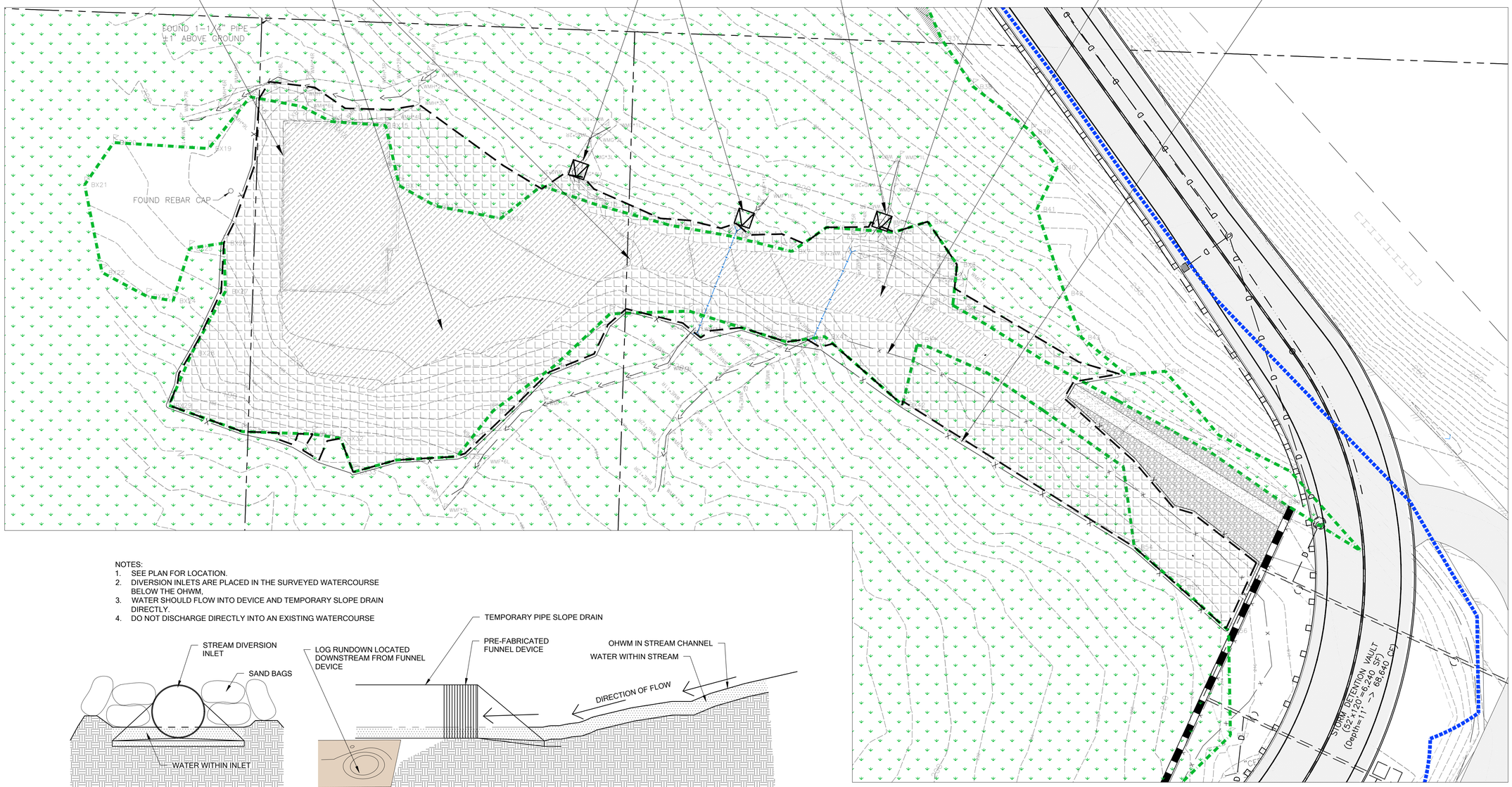
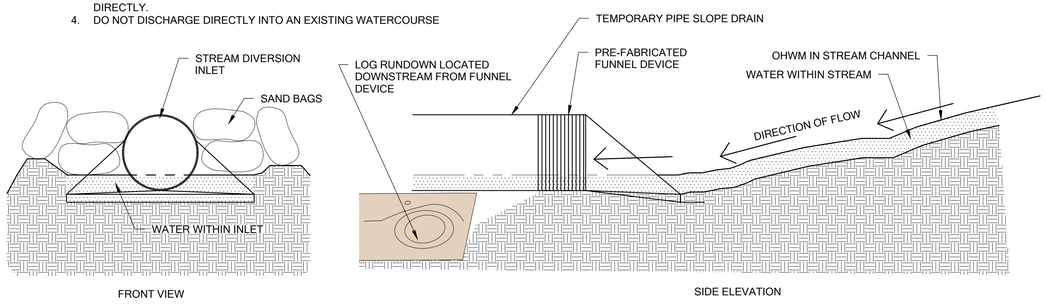


NOTES:
1. SEE PLAN FOR LOCATION.
2. DIVERSION INLETS ARE PLACED IN THE SURVEYED WATERCOURSE BELOW THE OHWM,
3. WATER SHOULD FLOW INTO DEVICE AND TEMPORARY SLOPE DRAIN DIRECTLY.
4. DO NOT DISCHARGE DIRECTLY INTO AN EXISTING WATERCOURSE



1 TEMPORARY PIPE SLOPE DRAIN

Scale: NTS

NOTES

1. WATERCOURSES SHALL REMAIN DIVERTED THROUGH THE SITE FOR AT LEAST ONE YEAR DURING PLANT ESTABLISHMENT PERIOD.
2. AREAS OF FILL TO BE REMOVED TO 24" BELOW FINISH GRADE

LEGEND

- DELINEATED WETLAND BOUNDARY
- WETLAND BUFFER
- SILT FENCE (3 / W8)
- LIMIT OF WORK BOUNDARY
- ENTRANCE TO TEMPORARY PIPE SLOPE DRAIN (1 / W4)
- AREA OF EXCAVATION FOR TOPSOIL TYPE B
- AREA OF EXCAVATION FOR FILL TO BE REMOVED

TESC AND DEMO PLAN

0 10' 20' 40' 80'

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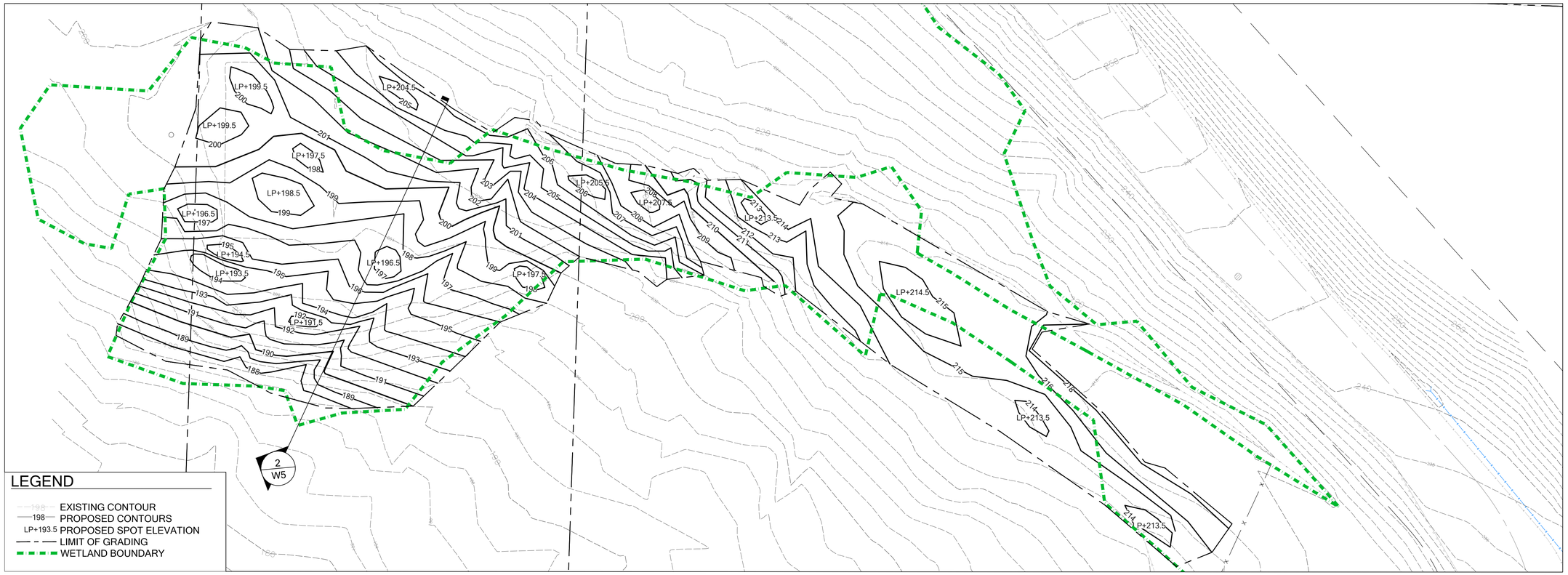
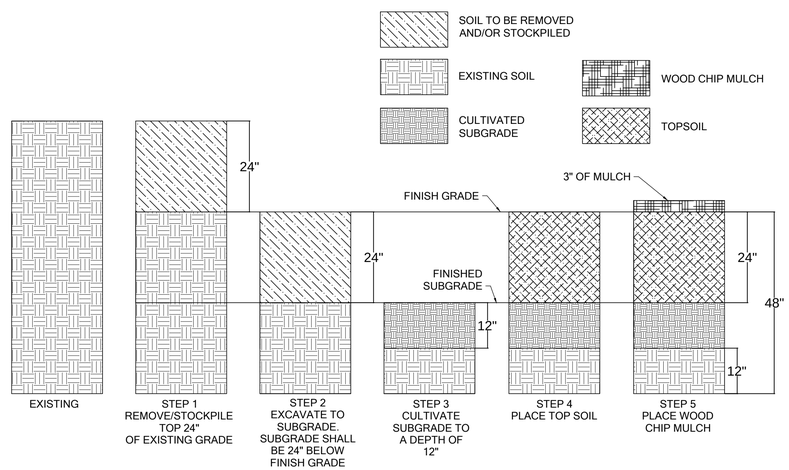


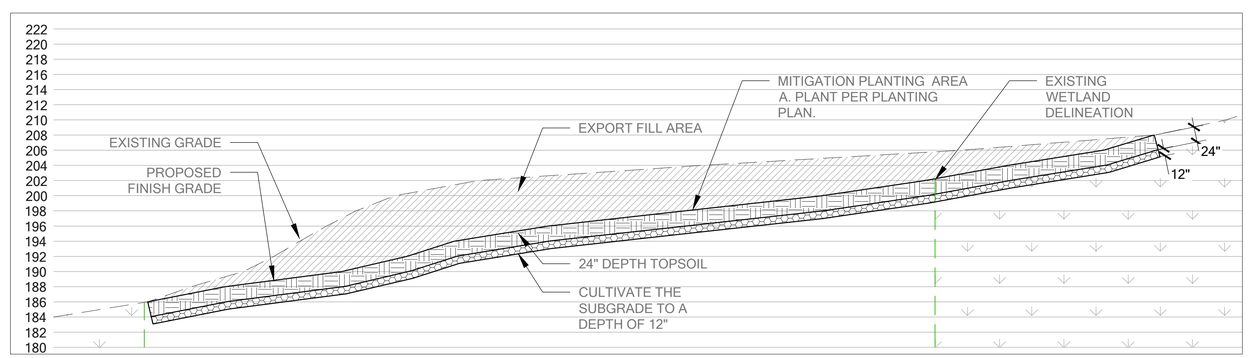
GRADING PLAN

SCALE: 1" = 20'-0"



1 GRADING & SOIL PREPARATION

Scale: NTS



2 GRADING SECTION

Scale: NTS

GRADING PLAN AND DETAILS

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LEGEND

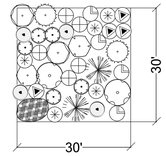
- DELINEATED WETLAND BOUNDARY
- WETLAND BUFFER
- DELINEATED STREAM OHWM TYPE NP
- EXISTING WATERCOURSE CENTERLINE
- PROPOSED WATERCOURSE CENTERLINE
- PROPOSED WORK LIMITS

PLANT SCHEDULE

PLANTING TYPICAL LEGEND

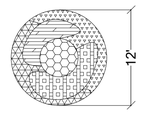
WETLAND CREATION

22,669 SF



EMERGENT WETLAND PLANTING

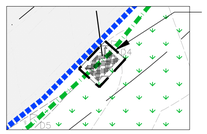
1,804 SF



LATIN NAME/COMMON NAME	SIZE	QTY
TREES 9'-0" O.C. SPACING		
ALNUS RUBRA / RED ALDER	2 GAL	55
FRAXINUS LATIFOLIA / OREGON ASH	2 GAL	55
POPULUS BALSAMIFERA / BLACK COTTONWOOD	2 GAL	55
THUJA PLICATA / WESTERN CEDAR	2 GAL	55
PICEA SITCHENSIS / SITKA SPRUCE	2 GAL.	55
SHRUBS 6'-0" O.C. SPACING		
ACER CIRCINATUM / VINE MAPLE	1 GAL.	110
RIBES LACUSTRE / GOOSEBERRY	1 GAL.	130
LONICERA INVOLUCRATA / BLACK TWINBERRY	1 GAL.	130
ROSA PISOCARPA / SWAMP ROSE	1 GAL.	130
RUBES SPECTABILIS / SALMON BERRY	1 GAL.	110
PHYSOCARPUS CAPITATUS / NINEBARK	1 GAL.	110

LIVE STAKES AND GROUNDCOVER

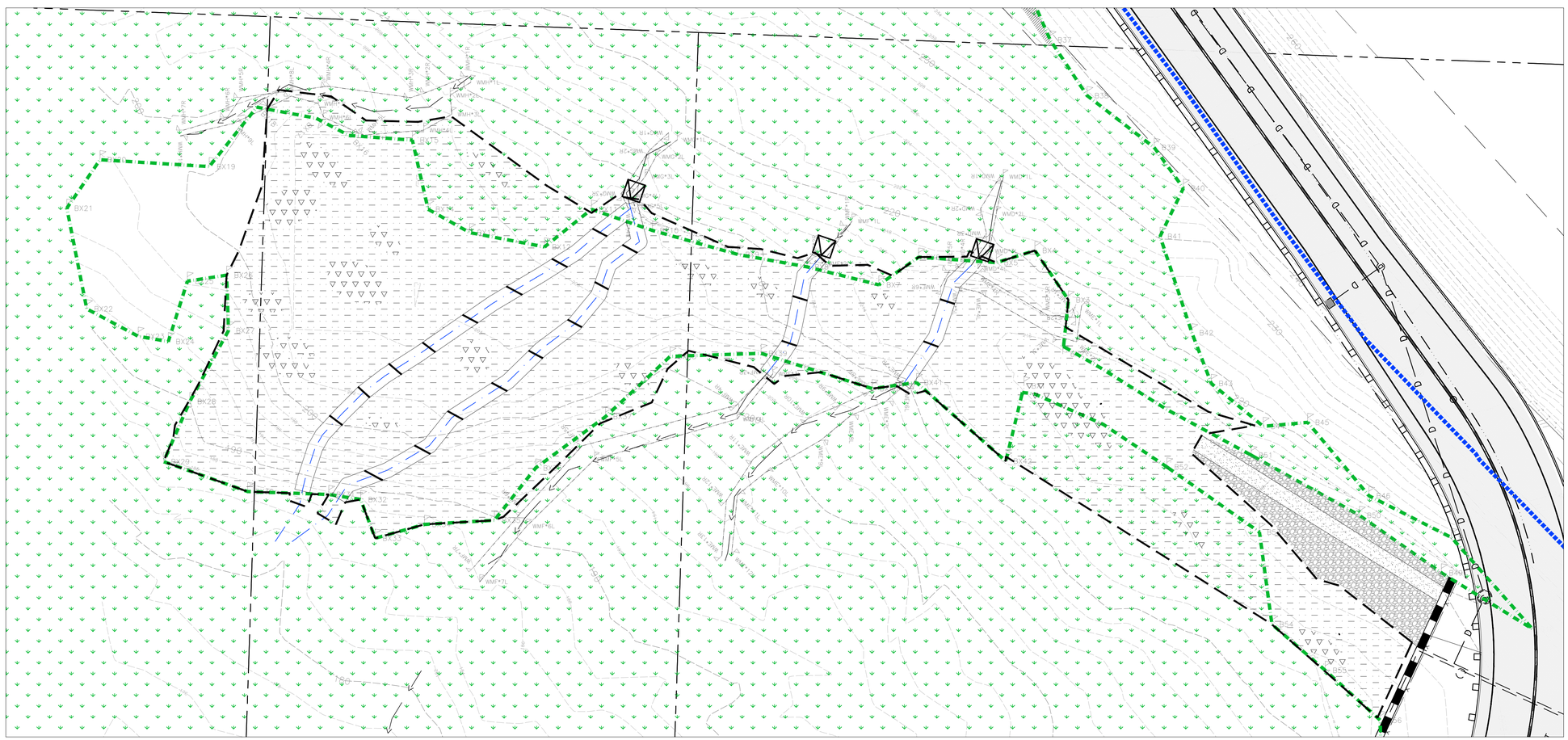
LATIN NAME/COMMON NAME	SIZE	QTY	SPACING/NOTES
SALIX LUCIDA / PACIFIC WILLOW	4' LIVE STAKE	445	12" O.C. PLANT IN GROUPS OF 40-60
SALIX SITCHENSIS / SITKA WILLOW	4' LIVE STAKE	445	12" O.C. PLANT IN GROUPS OF 40-60
CORNUS SERICEA / RED-TWIG DOGWOOD	4' LIVE STAKE	400	12" O.C. PLANT IN GROUPS OF 40-60
ATHYRIUM FILIX-FEMINA / LADY FERN	1 GAL.	105	24" O.C. PLANT IN GROUPS OF 5-15
CAREX OBNUPTA / SLOUGH SEDGE	1 GAL.	105	24" O.C. PLANT IN GROUPS OF 5-15
CAREX STIPATA / SAWBECK SEDGE	1 GAL.	105	24" O.C. PLANT IN GROUPS OF 5-15
DESCHAMPSIA CESPITOSA / TUFT HAIRGRASS	1 GAL.	105	24" O.C. PLANT IN GROUPS OF 5-15
TELLIMA GRANDIFLORA / FRINDGE CUP	1 GAL.	105	24" O.C. PLANT IN GROUPS OF 5-15
STRIPS OF LIVE STAKES ACROSS WATER CHANNEL (ONLY SALIX SP. LIVE STAKES)	4' LIVE STAKE	480	(SEE DETAIL) 3/W7



AREA 2 TEMPORARY IMPACT: REPLANT DISTURBED AREA WITH WILLOW STAKES AT 12" O.C. (QTY 90) ONLY SALIX SP. LIVE STAKES

PROJECT AREA INSET PLAN

SCALE: 1" = 20'



PLANTING PLAN

0 10' 20' 40' 80'

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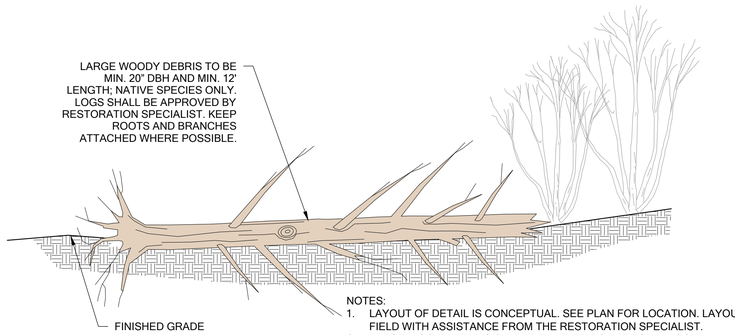
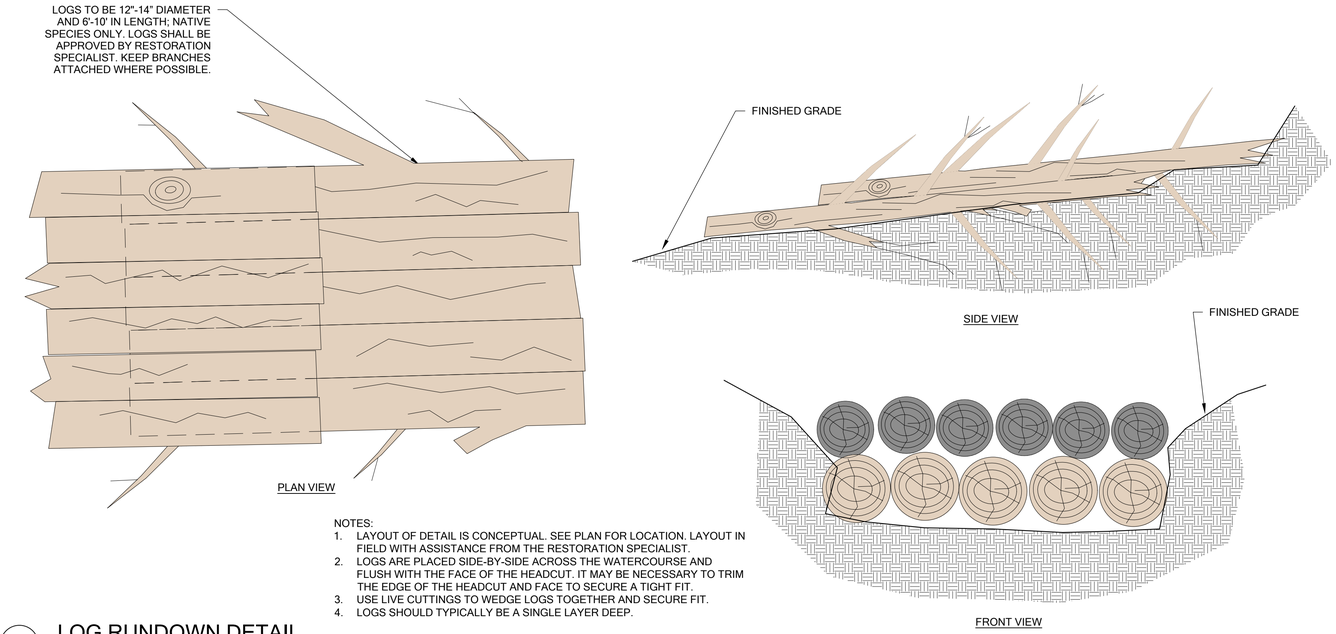


NOTES:
1. LAYOUT OF DETAIL IS CONCEPTUAL. SEE PLAN FOR LOCATION. LAYOUT IN FIELD WITH ASSISTANCE FROM THE RESTORATION SPECIALIST.
2. LARGE WOODY DEBRIS SHALL BE BURIED 1/3 THE TOTAL LOG DBH. ROOTS AND BRANCHES MAY BE TRIMMED AS DIRECTED BY THE RESTORATION SPECIALIST IN ORDER TO MAXIMIZE GROUND CONTACT.

1 LARGE WOODY DEBRIS DETAIL

Scale: NTS

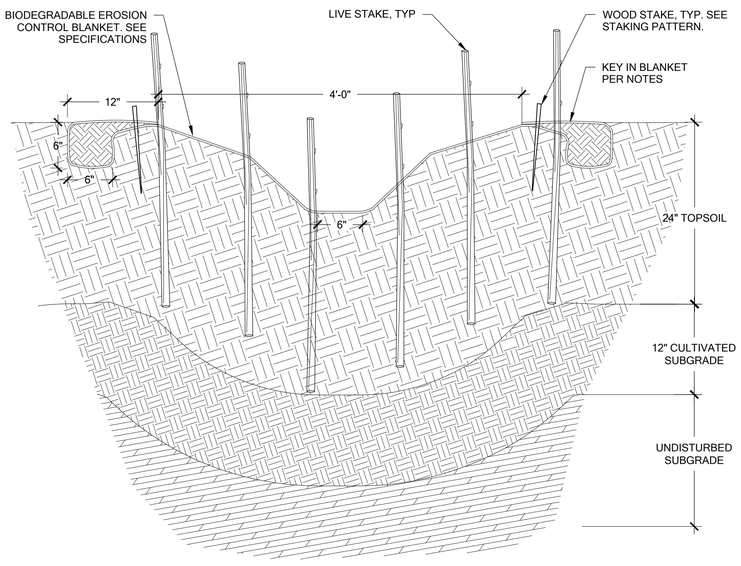


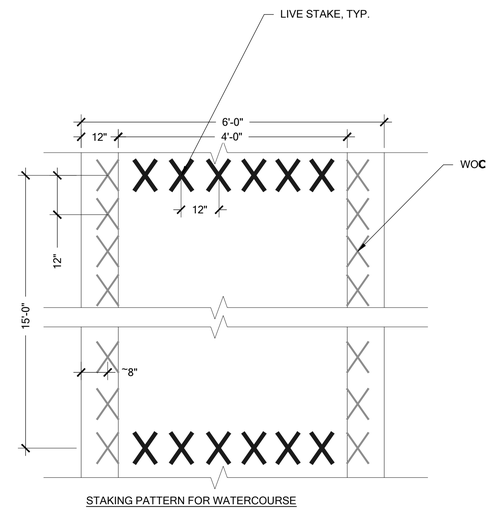
NOTES:
1. LAYOUT OF DETAIL IS CONCEPTUAL. SEE PLAN FOR LOCATION. LAYOUT IN FIELD WITH ASSISTANCE FROM THE RESTORATION SPECIALIST.
2. LOGS ARE PLACED SIDE-BY-SIDE ACROSS THE WATERCOURSE AND FLUSH WITH THE FACE OF THE HEADCUT. IT MAY BE NECESSARY TO TRIM THE EDGE OF THE HEADCUT AND FACE TO SECURE A TIGHT FIT.
3. USE LIVE CUTTINGS TO WEDGE LOGS TOGETHER AND SECURE FIT.
4. LOGS SHOULD TYPICALLY BE A SINGLE LAYER DEEP.

2 LOG RUNDOWN DETAIL

Scale: NTS

NOTES:
1. CLEAR ANY WEEDS OR DEBRIS FROM THE INSTALLATION AREA BEFORE INSTALLING THE BLANKET.
2. PREPARE SOIL SURFACE AND SUBGRADE PER PLAN.
3. ROLL THE BLANKET DOWN THE WATERCOURSE MINIMIZE THE NUMBER OF SEAMS TO THE EXTENT POSSIBLE.
4. BURY THE START OF THE BLANKET AND THE LENGTH OF EACH SIDE OF THE BLANKET IN A TRENCH 6 INCHES DEEP AND 6 INCHES WIDE WITH A MIN. 12" OF FABRIC EXTENDING BEYOND THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER SECURING.
5. SECURE THE BLANKET TRENCHES WITH A ROW OF STAKES PLACED 12" APART ALONG THE LENGTH OF THE BLANKET.
6. THE EDGES OF ALL SEAMS MUST BE SECURED WITH A MIN. 12" OF OVERLAP.
7. ADDITIONAL HORIZONTAL BLANKETS SHALL BE JOINED USING A MINIMUM 12" OVERLAPPING OR SHINGLE STYLE IN THE DIRECTION OF WATER FLOW. PLACE STAKES MIN. 6" APART ALONG THE OVERLAPPING SEAMS.
8. SECURE THE BLANKET WITH A ROW OF LIVE STAKES PLACED 12" APART ACROSS THE WIDTH OF THE BLANKET EVERY 15'-0" PER PLAN .





3 WATERCOURSE SECTION AND BIODEGRADABLE EROSION CONTROL BLANKET INSTALLATION DETAIL

Scale: NTS

MITIGATION DETAILS

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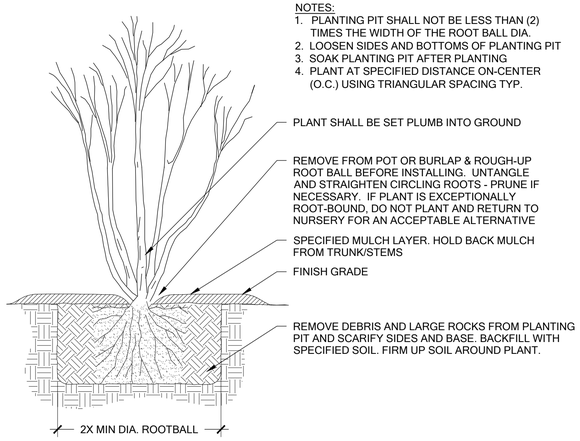
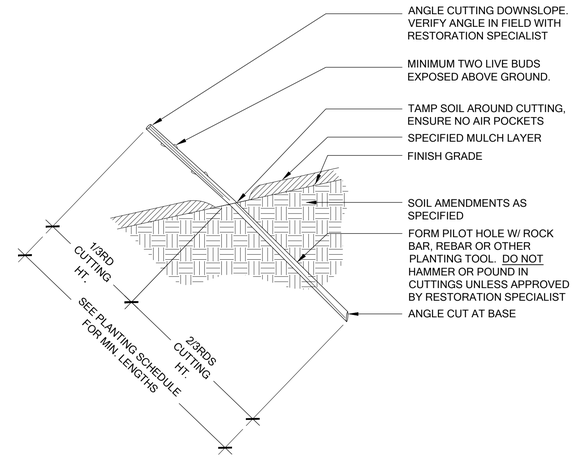
NOTES:
1. PLANTING PIT SHALL NOT BE LESS THAN (2) TIMES THE WIDTH OF THE ROOT BALL DIA.
2. LOOSEN SIDES AND BOTTOMS OF PLANTING PIT
3. SOAK PLANTING PIT AFTER PLANTING
4. PLANT AT SPECIFIED DISTANCE ON-CENTER (O.C.) USING TRIANGULAR SPACING TYP.



1 CONTAINER PLANTING

Scale: NTS

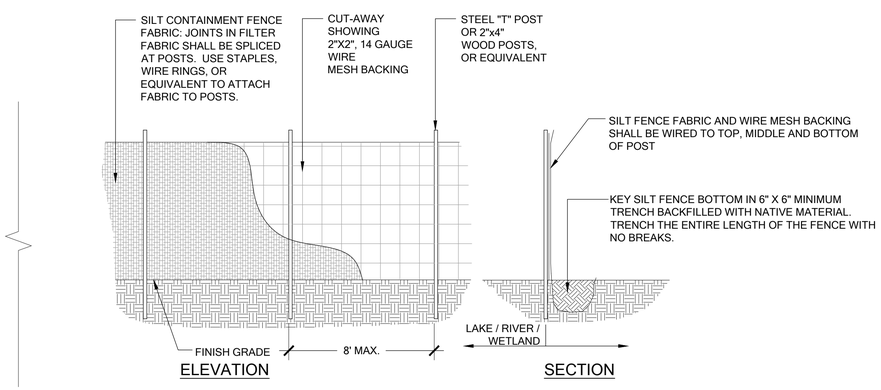


NOTES:
1. INSTALL HARDWOOD CUTTINGS DURING THEIR DORMANCY. DO NOT ALLOW THEM TO DRY OUT.
2. CUTTINGS SHALL BE $\frac{3}{4}$" TO 1" IN DIAMETER OR APPROVED EQUIVALENT.
3. INSTALL TO MIN. 2/3RDS DEPTH INTO SOIL. USE TRIANGULAR SPACING. SEE PLANTING SCHEDULE FOR SPACING.
4. INSURE THAT BUDS ARE POINTING UP.
5. FIRM UP SOIL AROUND INSTALLED CUTTING.
6. WATER AFTER PLANTING AND BEFORE MULCHING.

2 LIVE CUTTING ON SLOPE

Scale: NTS

SILT FENCE MAINTENANCE STANDARDS:
1. ANY DAMAGE SHALL BE REPAIRED IMMEDIATELY.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATION EXCEEDS 6" IN DEPTH.



3 SILT FENCE

Scale: NTS

DETAILS AND PLANT INSTALLATION NOTES

SCALE AS NOTED

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NOT IN CONTRACT

Executive Summary

This wetland mitigation plan seeks to reestablish previously filled portions of a large slope wetland as compensation for unavoidable impacts arising from road reconstruction along 212th Way SE in the City of Sammamish (City). Wetland reestablishment will be accomplished by removing fill material, a residential concrete foundation and three (possibly more) culverts. Following fill removal soils will be de-compacted, topsoil will be imported and the entire site will be revegetated with a dense assemblage of native trees and shrubs. Flows from four small drainages will be contained within temporary culverts for at least one year to allow revegetated areas to establish. Drainage flows will eventually be routed into swales.

The mitigation site will be monitored and maintained for five years following construction to ensure and document progress towards the performance standards established for the mitigation project.

The mitigation site spans three tax parcels, two of which are owned by the City (1724069020 and 1724069093, the former Brackman properties), and one that is in private ownership (1724069021). Although wetland reestablishment is proposed on both City and private properties, all required compensatory mitigation will take place solely on City property. Work on the private parcel is a voluntary, non-regulatory restoration effort that is not intended to compensate for project impacts.

Goals and Objectives

1) Return the mitigation area to a functioning wetland condition.

2) Establish a dense assemblage of native woody vegetation across the mitigation area.

Performance Standards

The standards listed below will be used to judge the success of the plan over time in meeting the Goals and Objectives outlined above. A monitoring and maintenance period will be implemented for five years following acceptance of the installed plan as approved by regulatory agencies. If performance standards are not met by the end of year five, the monitoring and maintenance period may need to be extended until standards are achieved.

1) Wetland re-establishment:

a) Achieve wetland hydrology across the wetland re-establishment area as defined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region Version 2.0* (Regional Supplement) (US Army Corps of Engineers May 2010)

b) Achieve a hydrophytic plant community across the wetland re-establishment area as defined in the Regional Supplement.

c) Assume hydric soils characteristics will develop over time, provided wetland hydrology (noted above) is established.

2) Survival:

a) 100% survival of all container plantings at the end of Year One. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.

b) 85% survival of all container plantings at the end of Year Two. This standard may be met through establishment of installed plants or by replanting as necessary to achieve the required numbers.

c) 80% survival of all container plantings at the end of Year Five.

3) Native woody vegetation cover in densely planted areas:

a) Achieve 65% cover of native woody vegetation by the end of Year 3. Volunteer species may count towards this standard.

b) Achieve 80% cover of native woody vegetation by the end of Year 5. Volunteer species may count towards this standard.

4) Watercourse stability:

a) Watercourses through the mitigation site will remain stable and not incur substantial or detrimental downcutting erosion. Short downcuts or lateral scour is acceptable unless found to be substantially affecting establishment of native woody vegetation.

b) Documentation of substantial or detrimental downcutting or lateral scour will trigger immediate corrective actions - see contingency plans below.

5) Invasive species standards in planted areas:

a) No more than 10% cover of invasive woody species in the planting area, in any monitoring year. Invasive species cover above 10% will trigger maintenance weeding.

Monitoring Methods

This monitoring program is designed to track the success of the mitigation site over time by measuring the degree to which the performance standards listed above are being met.

An as-built plan will be prepared and submitted to the City for approval within 30 days of substantially complete construction of the mitigation area. The as-built plan will document substantial conformance with these plans and also will disclose any substitutions or other non-critical departures. The as-built plan will establish transects, baseline plant installation quantities, and photopoints that will be used throughout the monitoring period to measure the performance standards over time.

Transects

During the as-built inspection, the monitoring **restoration specialist** shall install at least four transects at least 50 feet in length throughout enhancement areas. Length of transects may vary and be limited by the shapes of planting areas. At least eight shallow groundwater monitoring wells will also be installed during the as-built inspection. Wells shall be constructed of perforated PVC pipe, 2-inches in diameter and extending at least 18-inches below finish grade.

Photopoints shall be established at either end of all transects or from other monuments (at least 10) to provide photographic documentation of site conditions. Areas outside the established transects will be visually monitored to verify that performance standards are being met.

Monitoring shall occur twice annually for five years. The first monitoring visit shall occur in the spring. This visit shall record necessary weeding, invasive weed control, and other maintenance needs. The **restoration specialist** will then notify the owner and/or maintenance crews of necessary early season maintenance. The second visit shall occur in late summer or fall and will record the following and provide an annual report to the City:

1) General summary of the spring visit.

2) Spring monitoring data as recorded in monitoring wells, in addition to visual observations of saturation or inundation. Hydrology shall be monitored beginning on March 1st of the first spring following as-built acceptance. Wells shall be monitored weekly for five weeks. Alterations of this schedule may be proposed based on abnormal or unusual weather either immediately preceding or during the hydrology monitoring period.

3) An evaluation of watercourse scour, where and if present. Such evaluation shall take place during the first week of March in monitoring years 1, 2 and 3. Results of the Year 1 evaluation will inform the removal of the temporary diversion piping carrying watercourse flow. If channel revegetation is not sufficiently established, an additional year of temporary flow diversion may be recommended.

4) First-year counts of surviving and dead/dying plants by species in the planting areas.

5) Estimates of native woody species cover along transects using the line intercept method.

6) Estimates of invasive woody species cover along transects using the line intercept method.

7) Notes and/or sketches of invasive weed colonies establishing in the mitigation site.

8) Photographic documentation from transects ends and established reference points.

9) Intrusions into the planting areas, vandalism, trash, and other actions detrimental to the overall health of the mitigation area.

10) Recommendations for maintenance in the mitigation area.

Contingency Plans and Adaptive Management

Should the mitigation plan fail to meet performance standards or the overall goals and objectives, contingency measures shall be considered to adaptively manage the mitigation site. Contingency measures could include (but are not limited to) the following:

1) Changes to site maintenance (weeding/mulching/fertilizing/herbicide), including alteration of the frequency and intensity of maintenance.

2) Substitutions of plant species, sizes, conditions and spacing.

3) Implementation of erosion control measures including applications of mulch, compost socks, check dams, erosion control fabric (coir or jute), or similar techniques.

4) Implementation or extension of temporary watercourse diversions.

5) Incorporation of soil amendments.

6) Grading or alteration of site soils by hand or machine.

Construction Notes and Specifications

Work Sequence

Note: Specifications for items in **bold** can be found under "Material Specifications and Definitions."

The **restoration specialist** shall:

1) Monitor all site preparation

a) Invasive weed removal

b) Clearing and fill removal

c) Sub-soil grading, decompaction, and amendment with **compost**

d) Topsoil placement to finish grade

e) Watercourse channel grading, fabric placement and **log rundown** placement

f) Woody debris placement

2) Inspect plant material

a) Live-stake installation

b) 50% plant installation/layout inspection

c) 100% plant installation inspection

3) Perform a final walk through

a) Wood chip mulch placement

General Work Sequence

1) Remove all plastic, silt fencing and other non-organic debris from the project area.

2) Clear invasive weeds, including but not limited to: Himalayan and evergreen blackberry, reed canarygrass, English ivy and English holly. Weed clearing to take place within planted areas not proposed for grading. Do not clear, damage or remove existing native vegetation or non-native, non-invasive trees.

3) Install erosion control per civil plan set.

4) Divert watercourse flow around the work area.

5) Decommission concrete foundation, remove fill to design sub-grade and remove culverts per civil plan set.

6) Form water course channels per the details in this plan set.

7) Mechanically de-compact subgrade to a depth of 24-inches, and amend with 5-inches of **compost**.

8) Place 12-inches of **topsoil**, being careful to avoid compaction of recently de-compacted subgrade.

9) Place **biodegradable erosion control fabric** in the watercourse channels per the details in this plan set.

10) Place **log rundowns** where indicated and per the detail in this plan set.

11) All plant installation shall take place during the early dormant season (October 15 - December 1). Approval of planting outside this time may be requested by the contractor based on recent weather, construction circumstances and availability of irrigation.

12) Lay out vegetation to be installed per the planting plan and plant schedule.

13) Prepare a planting pit for each container plant and install per the planting details.

14) Install **live stakes** where indicated. Live stakes may only be installed during the period of October 15 - March 1.

15) Blanket mulch planting area with **wood chip mulch**, three inches thick.

16) Install a temporary irrigation system capable of supplying two inches of water per week to all plants in the mitigation area from June 1 through September 30 for the first two years following installation.

Maintenance

This site will be maintained for five years following completion of the construction. Specifications in **bold** can be found under "Material Specifications and Definitions."

1) Replace each container plant found dead in the summer monitoring visit during the upcoming fall dormant season (October 15th to March 1st). Replacement shall be of the same species and size unless otherwise authorized by the **restoration specialist**.

2) Follow the recommendations noted in the spring monitoring site visit.

a) Watercourse maintenance: Evaluate watercourses for downcutting or lateral scour erosion. If undue erosion is noted, work with the **restoration specialist** to install additional live stakes, brush wattles, biodegradable landscape fabric (coir or jute), woody debris, check dams or other methods.

3) Invasive species maintenance plan:

a) Invasive vegetation shall be grubbed out by hand on an ongoing basis, being careful to grub out roots except where such work will jeopardize the roots of installed native or volunteer native plants.

a) If hand removal proves unsuccessful or will damage desirable species, application of an herbicide approved for use in aquatic areas may be used. Herbicide applications must be conducted only by a state-licensed applicator. Applications should be done between mid-spring and mid-summer to maximize uptake by plants. Application should be a targeted method such as spot spray (preferred for Himalayan blackberry), or wick/wand.

b) Once per year, vines and thickets encroaching from outside of the planted area are to be cut back to at least ten feet from the planted area.

c) Control reed canarygrass by mowing the patches to the ground, covering with cardboard, plus at least four inches of **woodchip mulch**. The mulched area is then planted densely with native woody species on tight spacing (maximum 4-feet on-center). Species and quantities to be determined by the **restoration specialist**.

4) At least twice-yearly, hand remove all competing weeds and weed roots from beneath each installed plant and any desirable volunteer vegetation to a distance of 18 inches from the main plant stem. Weeding should occur as needed during the spring and summer. Frequent weeding will result in lower mortality and lower plant replacement costs.

5) Do not weed the area near the plant bases with string trimmer (weed whacker). Native plants are easily damaged or killed, and weeds easily recover after trimming.

6) Apply slow release granular **fertilizer** to each installed plant annually in the spring (by June 1) of years two through five but not in year one.

7) Maintain a minimum three-inch thick mulch layer throughout the planting area.

8) The temporary irrigation system shall be operated to ensure that plants receive a minimum of two inches of water per week from June 1 through September 30 for the first two years following installation. Irrigation beyond the second year may be needed based on site performance or significant replanting.

Material Specifications and Definitions

1) Topsoil: Topsoil shall be imported and shall be Cedar Grove or an approved equal by the restoration specialist. The planting soil mix shall consist of 67% sandy loam and 33% compost by volume. The compost (organic amendment) component shall meet WAC 173-350-220. The sandy loam component shall consist largely of sand, but with enough silt and clay present to give it a small amount of stability and shall meet the following sieve analysis:

Screen Size	Percent Passing
3/8"	100
1/4"	95-100
#10	85-95
#30	60-75
#60	50-60
#100	10-20
#200	0-10

Soil shall have pH range of 5.5 to 7.5 with dolomite lime, sulfur or other amendments added prior to delivery as necessary to attain this range.

2) Compost: Compost shall be fine compost, Cedar Grove or an approved equivalent as determined by the Restoration specialist. Compost must meet the definition of "composted materials" in WAC 173-350-220.

3) Wood chip mulch: "Arborist chips" (chipped woody material) approximately one to three inches in maximum dimension (not sawdust or coarse hog fuel). This material is commonly available in large quantities from arborist or tree-pruning companies. This material is sold as "Animal Friendly Hog Fuel" at Pacific Topsoils ([800] 884-7645). Mulch shall not contain appreciable quantities of garbage, plastic, metal, soil, and dimensional lumber or construction/demolition debris.

4) Live stake cuttings: All cuttings to be per species in the plant schedule. Cutting diameter shall be between 0.5 and 1.00 inches. Cutting length shall be minimum 36 inches. Install cuttings per details in this plan sheet.

5) Fertilizer: Slow release, phosphorous-free, granular fertilizer such as Osmocote™ or equal product. Most retail nurseries carry this product. Follow manufacturer's instructions for application. Keep fertilizer in a weather-tight container while on site. Note that fertilizer is to be applied only in years two, three, four and five and not in the first year.

6) Woody Debris: Large woody debris shall be minimum 20 inches dbh and minimum twelve-foot length as measured from ground level. Roots and branches shall be kept intact where possible. Woody debris to be approved by the **restoration specialist**. Any imported woody debris shall be native species only, with coniferous species preferred. See plan for detail and placement.

7) Log rundowns: Logs to be 12-14 inches in diameter and 6-10 feet in length. Branches trimmed to a maximum 12 inch length shall remain attached where possible. Logs shall be native species only. See plan for detail and placement.

8) Biodegradable erosion control fabric: Fabric shall be 100% biodegradable and shall provide erosion protection for 24-36 months. Fabric shall be 10 feet wide minimum, in rolls as long as possible to minimize seams. Untreated wood stakes shall be used to secure the trenched sides of the fabric in addition to live cuttings staked throughout the fabric. See plan for detail and placement.

9) Restoration specialist: The Watershed Company personnel or other persons qualified to evaluate environmental restoration projects.

MITIGATION NOTES (NOT IN CONTRACT)

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THE WATERSHED COMPANY
750 Sixth Street South
Kirkland WA 98033
p 425.822.5242
www.watershedco.com
Science & Design

SAMMAMISH 212TH WAY SE
MITIGATION PLAN
PREPARED FOR: GRAY & OSBORNE, INC.
SITE ADDRESS:
212TH WAY SE
SAMMAMISH, WA 98075

SUBMITTALS & REVISIONS

NO.	DATE	DESCRIPTION	BY
1	11-13-15	IMPACTS & MITIGATION	MSF
2	11-25-15	REVISED MITIGATION PLAN	AR
3	1-29-16	90% PLANSET	KMB

SHEET SIZE:
ORIGINAL PLAN IS 22" x 34".
SCALE ACCORDINGLY.

PROJECT MANAGER: HM
DESIGNED: HM/MSF
DRAFTED: MSF/KMB
CHECKED: HM
JOB NUMBER:
140516
SHEET NUMBER:
W9 OF 9

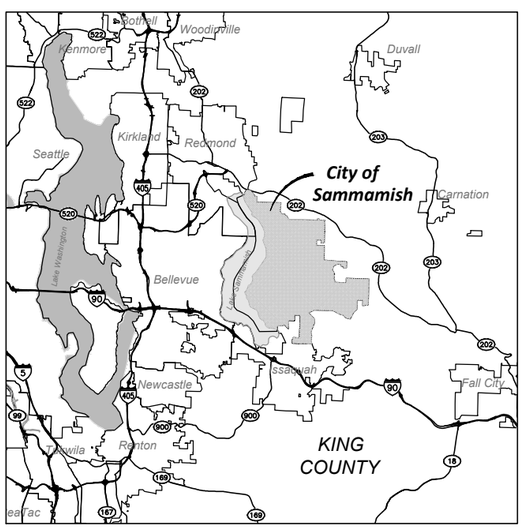
DATE: 1/27/2016 | PRINTED BY: KYLE BRAUN | FILENAME: 140516_SAMM212TH_MIT.DWG

CITY OF SAMMAMISH

KING COUNTY **WASHINGTON**

212TH WAY SE IMPROVEMENTS

RIGHT OF WAY PLAN



VICINITY MAP

NOT TO SCALE

BASIS OF BEARINGS

HORIZONTAL DATUM: NAD83[91]
VERTICAL DATUM: NAVD88

NOTES:

ADJACENT PROPERTY OUTLINES SHOWN HEREON ARE APPROXIMATE AND ARE BASED ON COUNTY ASSESSOR'S MAPS AND ARE NOT DEPICTED AT SURVEY STANDARDS. INDIVIDUAL PARCEL BOUNDARY ANALYSIS WAS NOT PERFORMED.

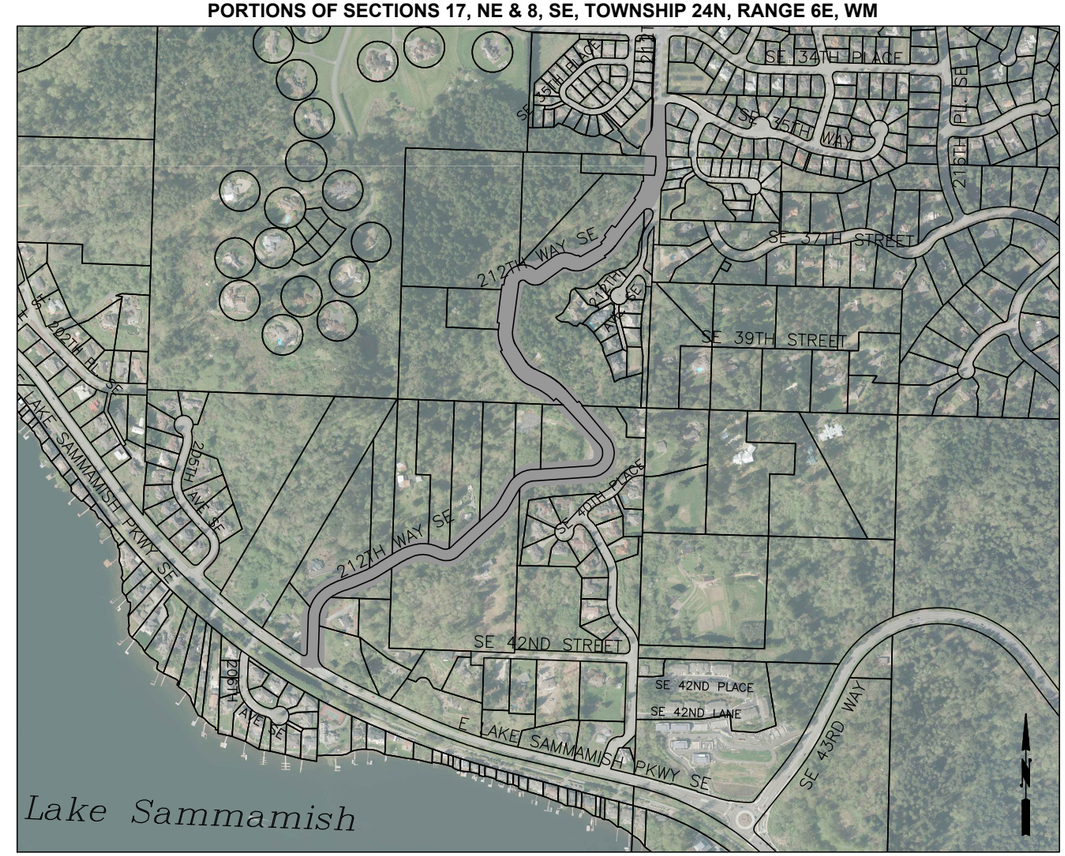
SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER
2	RIGHT-OF-WAY PLAN STA 0+00 to 6+00
3	RIGHT-OF-WAY PLAN STA 6+00 to 12+00
4	RIGHT-OF-WAY PLAN STA 12+00 to 18+00
5	RIGHT-OF-WAY PLAN STA 18+00 to 24+00
6	RIGHT-OF-WAY PLAN STA 24+00 to 30+00
7	RIGHT-OF-WAY PLAN STA 30+00 to 35+80
8	RIGHT-OF-WAY PLAN STA 35+80 to 44+00

Updated: 11-23-2015

Gray & Osborne, Inc.
CONSULTING ENGINEERS
701 DEXTER AVENUE NORTH SUITE 200
SEATTLE, WASHINGTON 98109 (206) 284-0860

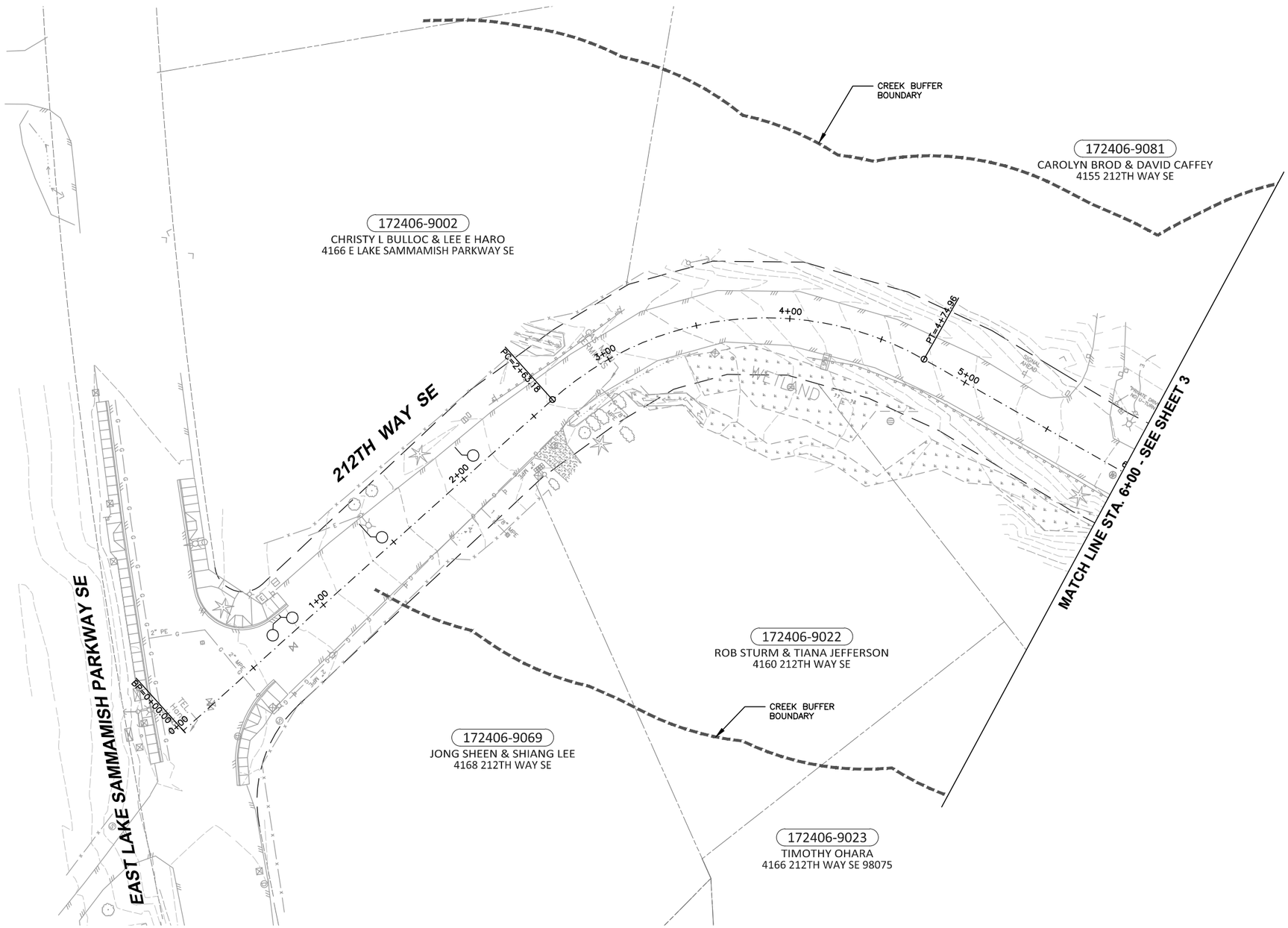
PORTIONS OF SECTIONS 17, NE & 8, SE, TOWNSHIP 24N, RANGE 6E, WM



PROJECT LOCATION MAP

SCALE: 1"=400'

TOTAL LENGTH OF PROJECT = 0.83 MILES



LEGEND

	PROPERTY LINE
	EASEMENT LINE
	EXISTING RIGHT-OF-WAY LINE
	PROPOSED RIGHT-OF-WAY LINE
	CENTERLINE OF RIGHT-OF-WAY
TCE	TEMPORARY CONSTRUCTION EASEMENT
	RIGHT-OF-WAY ACQUISITION
XXX	PARCEL NUMBER

30' 15' 0 30' 60'
SCALE: 1"=30'

0 1" 2"
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

Gray & Osborne, Inc.
CONSULTING ENGINEERS
701 DEXTER AVENUE NORTH SUITE 200
SEATTLE, WASHINGTON 98109 • (206) 284-0860

DATE: FEB 2016
SCALE: 1"=30'
DRAWN: PGM/CJB
CHECKED: –
APPROVED: B.L.S.

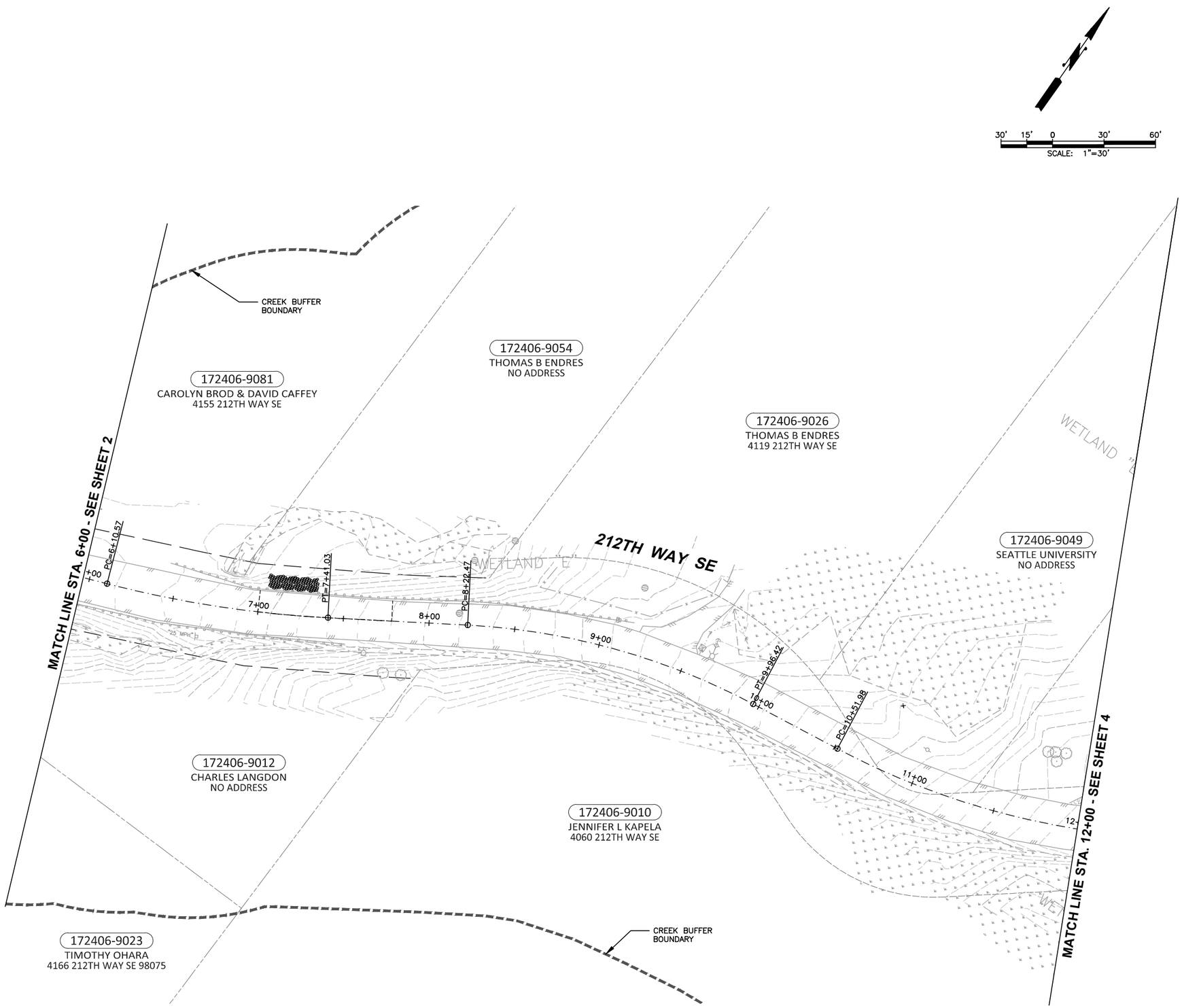
No.	REVISION	DATE	APPD
	PRELIMINARY NOT FOR CONSTRUCTION		

RICHARD A. BOND
STATE OF WASHINGTON
40097
REGISTERED PROFESSIONAL LAND SURVEYOR

BRIAN L. SOURWINE
STATE OF WASHINGTON
36091
REGISTERED PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 2
OF: 8
JOB NO.: 14630
DWG: ROW_PLANS



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CONSTRUCTION

RICHARD A. BOND
STATE OF WASHINGTON
40097
REGISTERED
PROFESSIONAL ENGINEER

BRIAN L. SOURWINE
STATE OF WASHINGTON
36091
REGISTERED
PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 3
OF: 8

JOB NO.: 14630
DWG: ROW_PLANS

PROPERTY SUMMARY TABLE

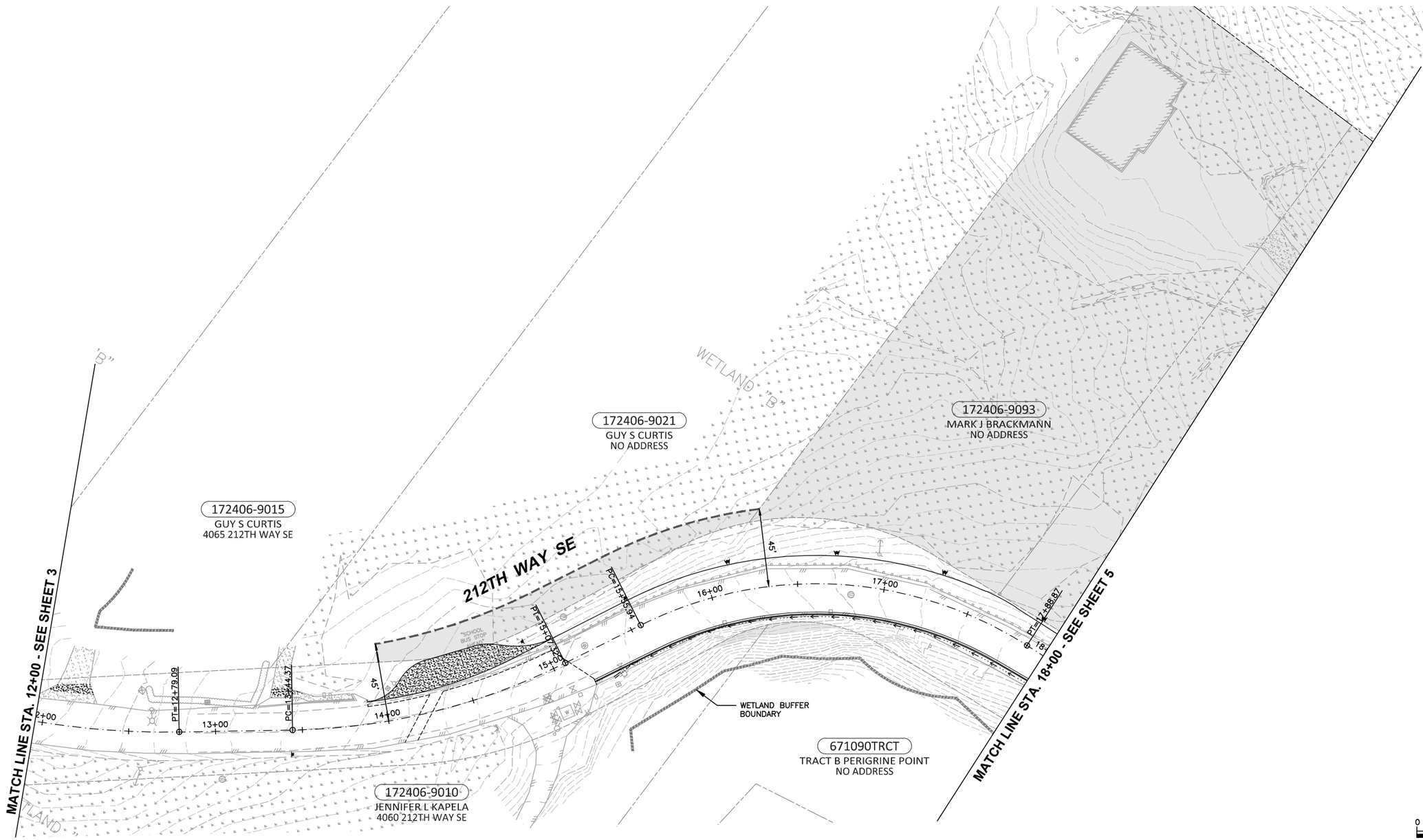
PARCEL NO.	OWNER NAME	TOTAL AREA (APPROXIMATE)	R/W AREA (APPROXIMATE)	REMAINDER (APPROXIMATE)	EASEMENT TYPE	EASEMENT AREA
172406-9021	GUY S CURTIS	±89,856	±3,323	±86,533	N/A	0
172406-9093	MARK J. BRACKMANN	±49,480	FULL TAKE	0	N/A	0

ALL AREAS ARE IN SQUARE FEET (SF)

30' 15' 0 30' 60'
SCALE: 1"=30'

LEGEND

- PROPERTY LINE
- EASEMENT LINE
- EXISTING RIGHT-OF-WAY LINE
- PROPOSED RIGHT-OF-WAY LINE
- CENTERLINE OF RIGHT-OF-WAY
- TCE — TEMPORARY CONSTRUCTION EASEMENT
- RIGHT-OF-WAY ACQUISITION
- XXX — PARCEL NUMBER



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SEATTLE, WASHINGTON 98109 • (206) 284-0860

DATE: FEB 2016
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No.	REVISION	DATE	APPD

PRELIMINARY NOT FOR CONSTRUCTION

RICHARD A. BOND — STATE OF WASHINGTON — 40597 — REGISTERED PROFESSIONAL LAND SURVEYOR

BRIAN L. SOUBWINE — STATE OF WASHINGTON — 36091 — REGISTERED PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 4
OF: 8
JOB NO.: 14630
DWG: ROW_PLANS

PROPERTY SUMMARY TABLE

PARCEL NO.	OWNER NAME	TOTAL AREA (APPROXIMATE)	R/W AREA (APPROXIMATE)	REMAINDER (APPROXIMATE)	EASEMENT TYPE	EASEMENT AREA
172406-9020	MARK J. BRACKMANN	±81,329	FULL TAKE	0	N/A	0

ALL AREAS ARE IN SQUARE FEET (SF)

LEGEND

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- EASEMENT LINE
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- PROPOSED RIGHT-OF-WAY LINE
- CENTERLINE OF RIGHT-OF-WAY
- TCE — TEMPORARY CONSTRUCTION EASEMENT
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- XXX — PARCEL NUMBER

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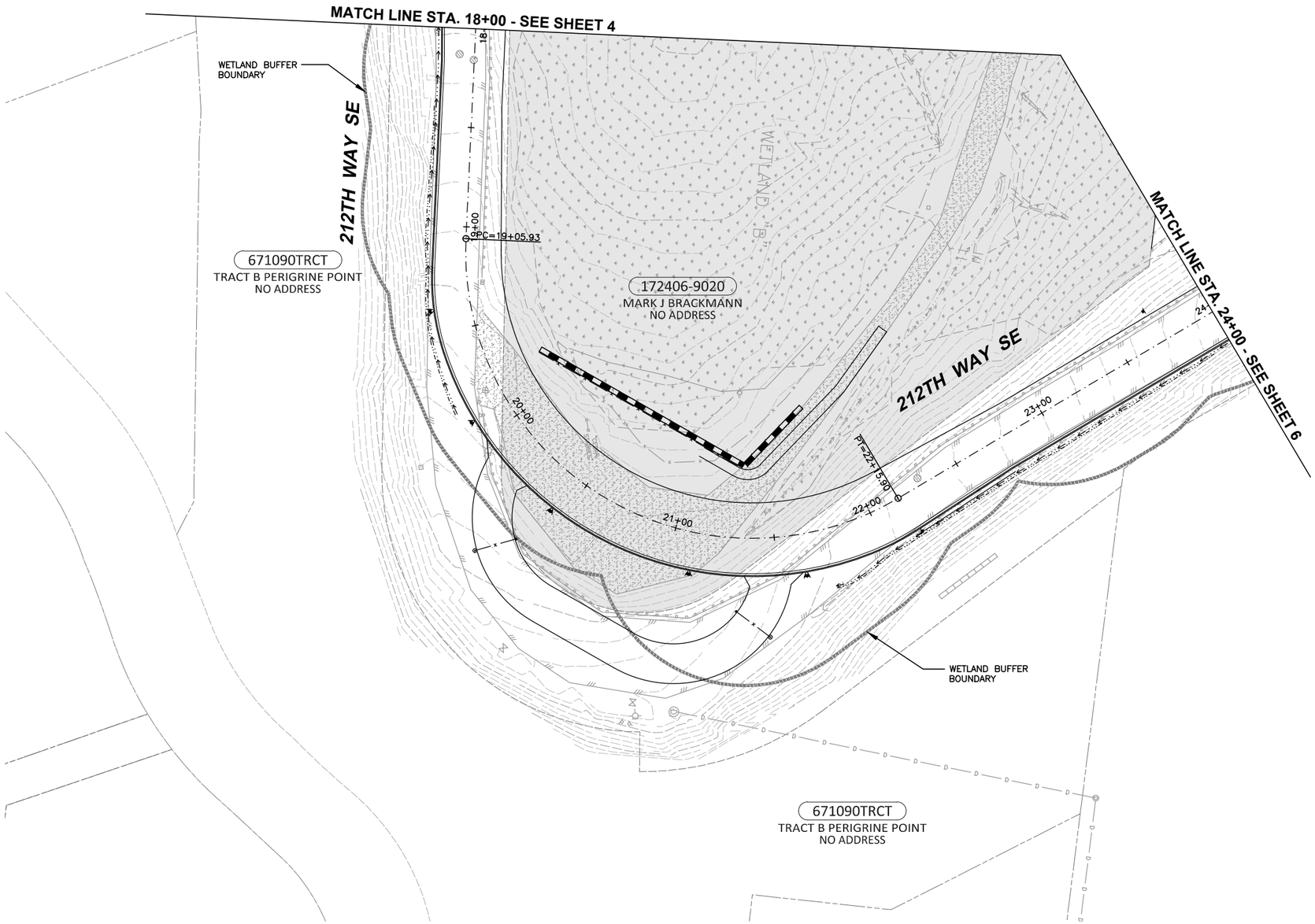
SCALE: 1"=30'



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SEATTLE, WASHINGTON 98109 • (206) 284-0860

DATE: FEB 2016
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APPROVED: B.L.S.

No.	REVISION	DATE	APPD

PRELIMINARY
NOT FOR
CONSTRUCTION

RICHARD A. BOND — STATE OF WASHINGTON — 40097 — REGISTERED PROFESSIONAL LAND SURVEYOR

BRIAN L. SOURWINE — STATE OF WASHINGTON — 30091 — REGISTERED PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 5
OF: 8
JOB NO.: 14630
DWG: ROW_PLANS

PROPERTY SUMMARY TABLE

PARCEL NO.	OWNER NAME	TOTAL AREA (APPROXIMATE)	R/W AREA (APPROXIMATE)	REMAINDER (APPROXIMATE)	EASEMENT TYPE	EASEMENT AREA
082406-9019	AHMAD NAZEMI	±290,498	±10,723	±279,775	N/A	0
082406-9120	VERYL E. MEIER	±58,386	±5,013	±53,373	N/A	0

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SCALE: 1"=30'

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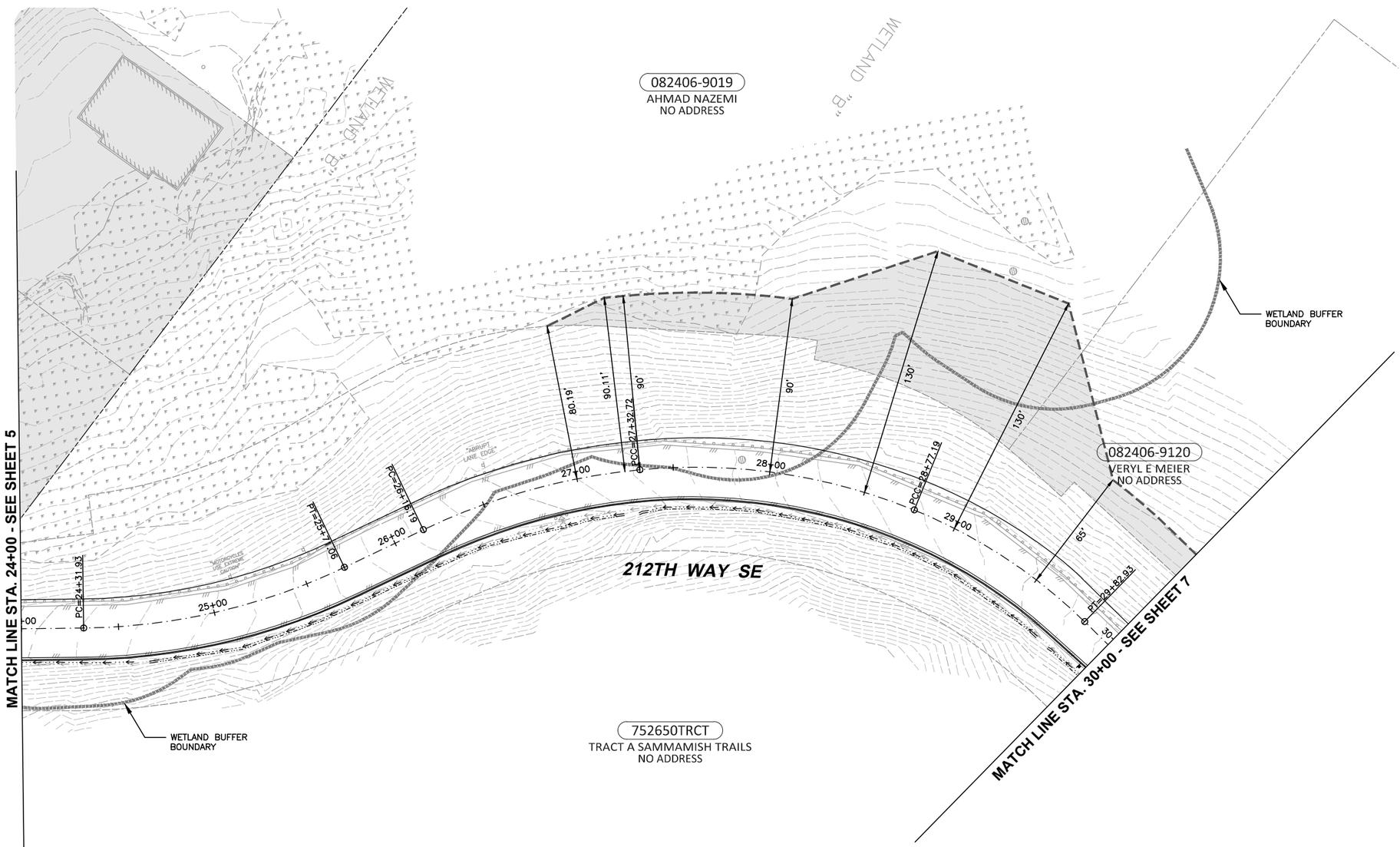

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APPROVED: B.L.S.

No.	REVISION	DATE	APPD

PRELIMINARY NOT FOR CONSTRUCTION

RICHARD A. BOND — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 40097

BRIAN L. SOURWINE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 36091

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

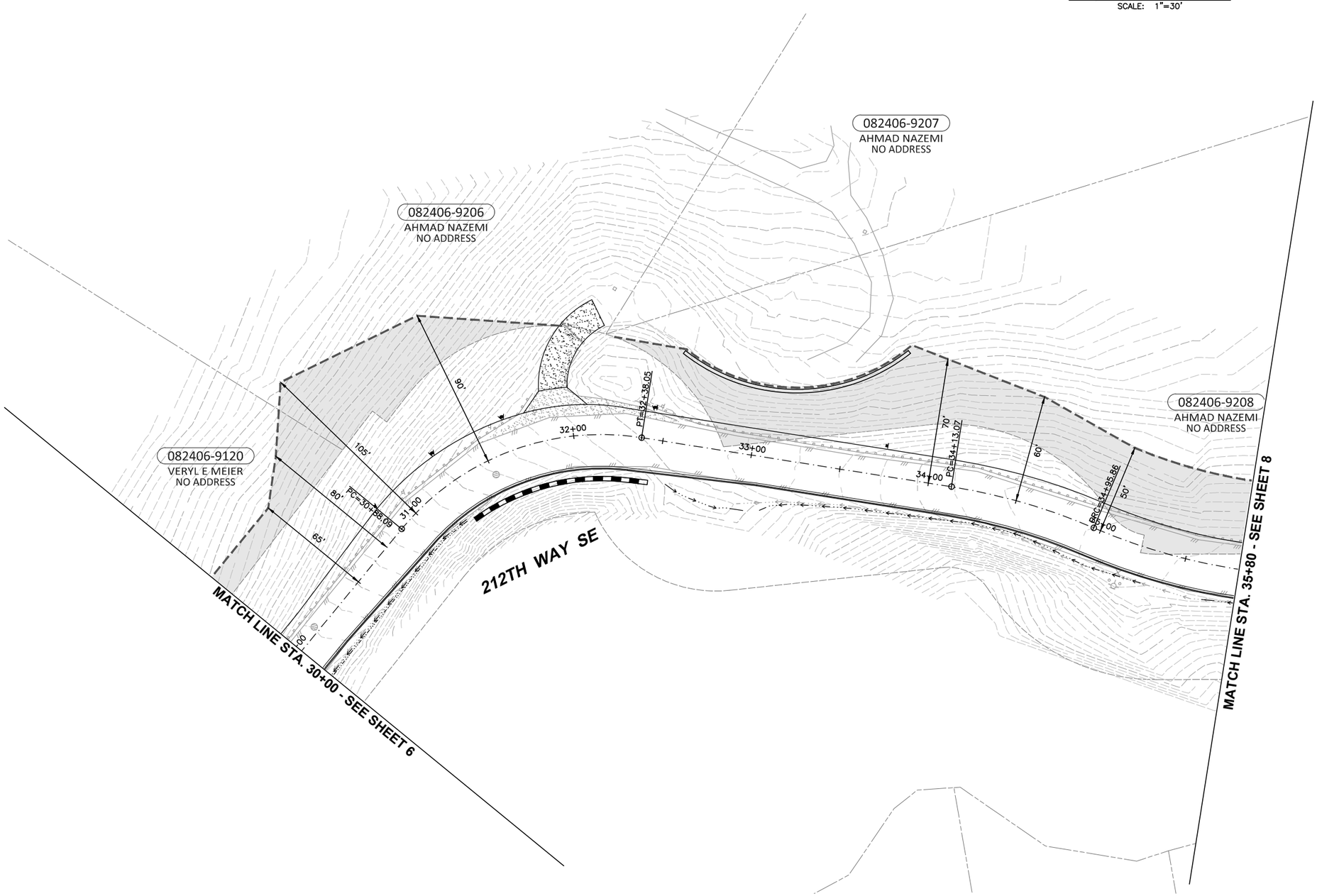
SHEET: 6
OF: 8
JOB NO.: 14630
DWG: ROW_PLANS

PROPERTY SUMMARY TABLE

PARCEL NO.	OWNER NAME	TOTAL AREA (APPROXIMATE)	R/W AREA (APPROXIMATE)	REMAINDER (APPROXIMATE)	EASEMENT TYPE	EASEMENT AREA
082406-9206	AHMAD NAZEMI	±440,728	±4,107	±436,621	N/A	0
082406-9207	AHMAD NAZEMI	±137,816	0	±137,816	N/A	0
082406-9208	AHMAD NAZEMI	±131,766	±20,664	±111,102	N/A	0

ALL AREAS ARE IN SQUARE FEET (SF)

30' 15' 0 30' 60'
SCALE: 1"=30'



0 1" 2"
TWO INCHES AT FULL SCALE.
IF NOT, SCALE ACCORDINGLY

Gray & Osborne, Inc.
CONSULTING ENGINEERS
701 DEXTER AVENUE NORTH SUITE 200
SEATTLE, WASHINGTON 98109 • (206) 284-0860

DATE: FEB 2016
SCALE: 1"=30'
DRAWN: PGM/CJB
CHECKED: –
APPROVED: B.L.S.

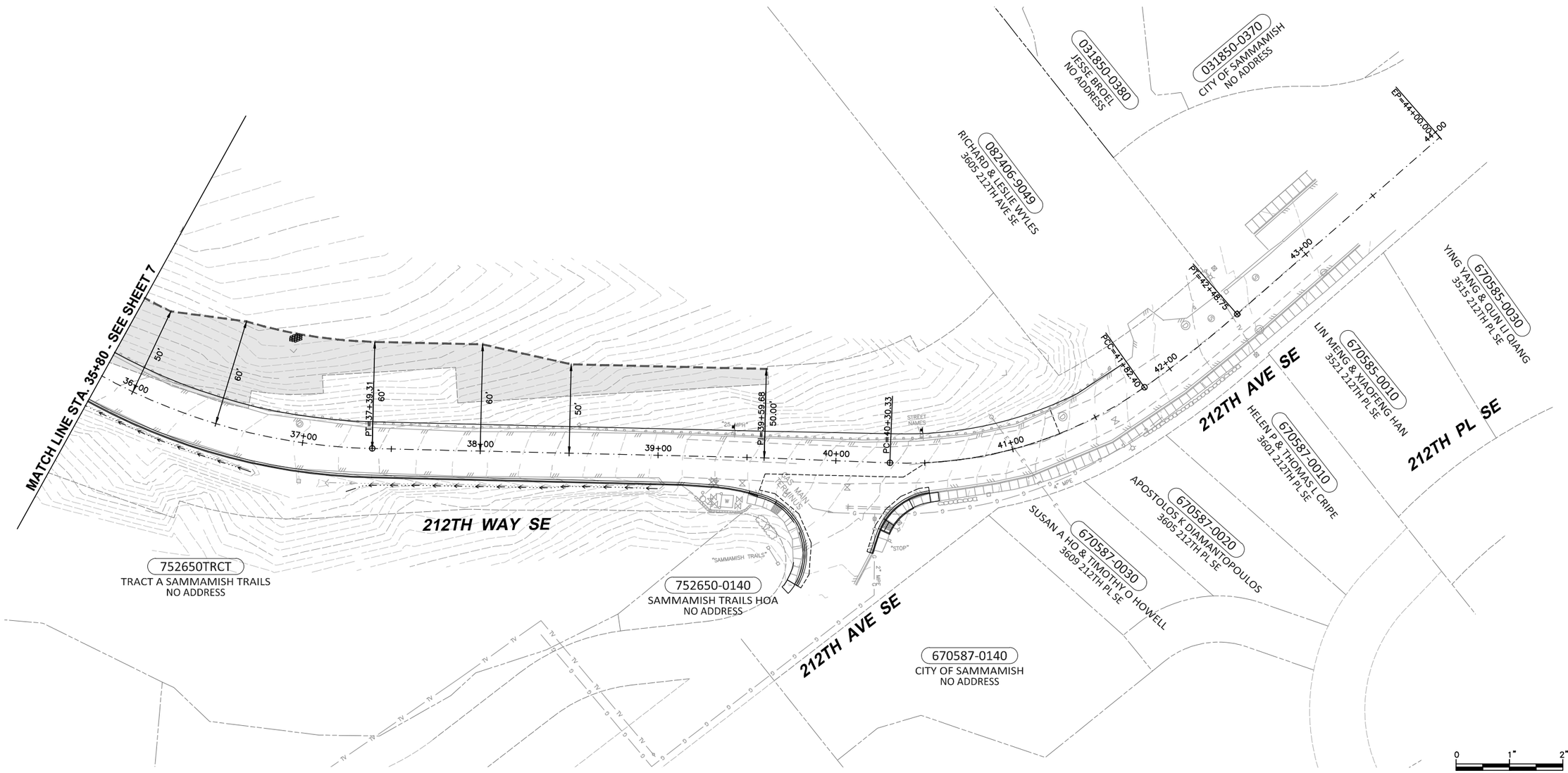
No.	REVISION	DATE	APPD
	PRELIMINARY NOT FOR CONSTRUCTION		

RICHARD A. BOND
STATE OF WASHINGTON
40097
REGISTERED PROFESSIONAL LAND SURVEYOR

BRIAN L. SOURWINE
STATE OF WASHINGTON
36091
REGISTERED PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 7
OF: 8
JOB NO.: 14630
DWG: ROW_PLANS



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PRELIMINARY NOT FOR CONSTRUCTION

No.	REVISION	DATE	APPD

RICHARD A. BOND — STATE OF WASHINGTON — 40097 — REGISTERED PROFESSIONAL LAND SURVEYOR

BRIAN L. SOUERWINE — STATE OF WASHINGTON — 36061 — REGISTERED PROFESSIONAL ENGINEER

CITY OF SAMMAMISH
KING COUNTY WASHINGTON
212TH WAY SE IMPROVEMENTS
RIGHT-OF-WAY PLAN

SHEET: 8
OF: 8
JOB NO.: 14630
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