



February 20, 2013

Mr. Barry Rogowski  
Washington Department of Ecology  
300 Desmond Drive  
Lacey, WA 98503-1274

**Re: Amendment to the Phase 2 Remedial Investigation Work Plan,  
Addendum to Final Work Plan for Remedial Investigation/Feasibility Study and  
Draft Cleanup Action Plan, JELD-WEN inc. Former Nord Door Site,  
300 West Marine View Drive, Everett, Washington**

Dear Mr. Rogowski,

SLR International Corporation is pleased to present this Amendment to the Phase 2 Remedial Investigation Work Plan, Addendum to Final Work Plan for Remedial Investigation/Feasibility Study (RI/FS) and Draft Cleanup Action Plan (CAP) (Phase 2 RI Work Plan, SLR 2011) for the JELD-WEN inc. former Nord Door Site located at 300 West Marine View Drive in Everett, Washington (Site). This amendment presents a scope of work for additional upland soil and groundwater sampling and testing to evaluate the source and extent of dioxin and furan impacts around the former Woodlife storage and use area in the northeastern portion of the Site. The work is being conducted under an Agreed Order with Ecology for RI/FS study and Draft CAP, dated January 2, 2008.

## **BACKGROUND**

The initial RI investigation was completed between May and October 2009 and was performed in general conformance with the Washington Department of Ecology (Ecology) approved 2008 RI Work Plan. On November 20, 2009, JELD-WEN submitted an Initial RI Investigation Data Summary (RI Summary) report to Ecology. This document contained a summary of RI field activities, data results, and identified data gaps that warranted further investigation. Ecology provided written comments to the RI Summary report on May 12, 2010, and requested additional assessment. The Phase 2 RI Work Plan was developed in August 2011 to address Ecology's comments and to provide additional characterization to allow for completion of the RI/FS and draft CAP. In May 2012, SLR completed the additional upland sampling and analysis in accordance with the August 2011 Phase 2 RI Work Plan. The findings of this investigation were sufficient to complete characterization of upland impacts at the Site for completion of the RI/FS and draft CAP in all areas except the former Woodlife storage and use area.

The Woodlife storage and use area is located in the northeast corner of the Site, and formerly included an approximately 10,000-gallon aboveground storage tank (AST) containing Woodlife wood treatment solution (which contained pentachlorophenol [PCP]). The AST was located within a concrete berm approximately 125 feet northeast of the main manufacturing building.

The Woodlife AST was connected by underground piping to a wood treatment area located inside the northeast corner of the building. The configuration of the underground piping and the exact location of the former wood treatment area in the building are unknown. The Woodlife AST was removed in approximately 1991, at which time the berm was demolished and the location of the former AST was paved with asphalt. No significant PCP impacts have been identified in soil or groundwater in the former Woodlife storage or use areas; however, elevated concentrations of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) total toxicity equivalence (TEQ) (i.e. dioxin/furan) have been identified in soil and groundwater to the northeast of the building. The attached Figure 1 presents a summary of dioxin/furan sampling results from areas sampled across the Site, the attached Figure 2 presents a summary of dioxin/furan sampling results from soil in the former Woodlife storage and use area, and the attached Figure 3 presents a summary of dioxin/furan sampling results from groundwater in the former Woodlife storage and use area.

Soil boring GP-302, placed outside the northeast corner of the building during the initial RI in 2009, identified dioxin/furan at a concentration of 4,157 picograms per gram (pg/g) at a depth of 1 foot below ground surface (bgs). This concentration exceeded the Preliminary Cleanup Level (PCL) of 11 pg/g. Three additional soil samples (401-P, 402-P, and 403-P) were collected from depths of 2 and 3 feet bgs from the former Woodlife storage and use area during the May 2012 Phase 2 RI. Borings 401-P and 402-P were located approximately 40 feet north and 20 feet northeast of boring GP-302, respectively. These borings identified dioxin/furan concentrations of 22.82 pg/g and 20.93 pg/g, respectively. The concentrations exceeded the PCL of 11 pg/g, but were significantly lower than the concentration identified in boring GP-302. Boring 403-P, located approximately 80 feet east of boring GP-302, identified dioxin/furan at a concentration of 247.22 pg/g. The source of dioxin/furan at this location is unknown.

A groundwater sample collected from boring GP-302 identified dioxin/furan at a concentration of 125 picograms per liter (pg/L), above the PCL of 0.01 pg/L. As was specified in the Work Plan, during the May 2012 Phase 2 RI the groundwater sample from the probe boring with the highest dioxin/furan concentration in soil (403-P) and a groundwater sample from downgradient monitoring well MW-6 were submitted for dioxin/furan analysis. Groundwater analytical results from these analyses exceeded the dioxin/furan PCL; however, most of the dioxin/furan congeners were below laboratory method detection limits, and the actual concentrations reported in both groundwater samples were below the concentrations reported in the laboratory method blank. Dioxin/furan impacts in groundwater do not extend to monitoring well MW-6 to the northeast or to boring 403-P to the east; however, additional groundwater sampling is warranted to evaluate the extent of dioxin/furan impacts to groundwater around boring GP-302.

## SCOPE OF WORK

The purpose of this addendum is to evaluate the source and extent of the dioxin/furan concentrations in the former Woodlife storage and use area.

**Soil** - SLR is proposing the completion of twelve additional borings (501-P through 512-P) in the northeast portion of the Site. Three soil samples will be collected from each boring at depths of

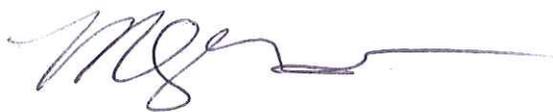
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1 foot, 3 feet, and 5 feet below ground surface (bgs). As is shown on attached Figure 2, the proposed soil boring locations have been designated as Round 1 samples and Round 2 samples. Initially, only the Round 1 soil samples collected from 1 foot bgs will be submitted for laboratory analysis. The remaining Round 1 soil samples and all of the Round 2 soil samples will be held by the laboratory. Follow-up analysis (if any) will be determined based on the findings of the Round 1 sample results.

**Groundwater** - SLR is proposing the collection of groundwater samples from the twelve additional soil borings (501-P through 512-P) in the northeast portion of the Site. As is shown on attached Figure 3, the proposed groundwater sample locations have been designated as Round 1 samples and Round 2 samples. Initially, only the four Round 1 groundwater samples (501-P, 502-P, 503-P, and 504-P) will be submitted for laboratory analysis. The Round 2 groundwater samples will be held by the laboratory. Follow-up analysis (if any) will be determined based on the findings of the Round 1 sample results.

A sampling and analysis plan (SAP) for the upland investigation and a site-specific Health and Safety Plan were included as appendixes to the Phase 2 RI Work Plan. The methods and procedures described in these plans for soil and groundwater sample collection will be utilized during the proposed sampling. Sampling equipment will be decontaminated between each sample location using the procedures described in the SAP. All soil and groundwater samples will be collected during a single sampling event. The soil and groundwater samples will be submitted to SGS Analytical Perspectives, an Ecology-accredited laboratory (Accreditation Number C901-12), for analysis of dioxins and furans by EPA Method 1613B on a standard turnaround time.

Sincerely,  
**SLR International Corporation**



Megan S. Coracci  
Principal Scientist



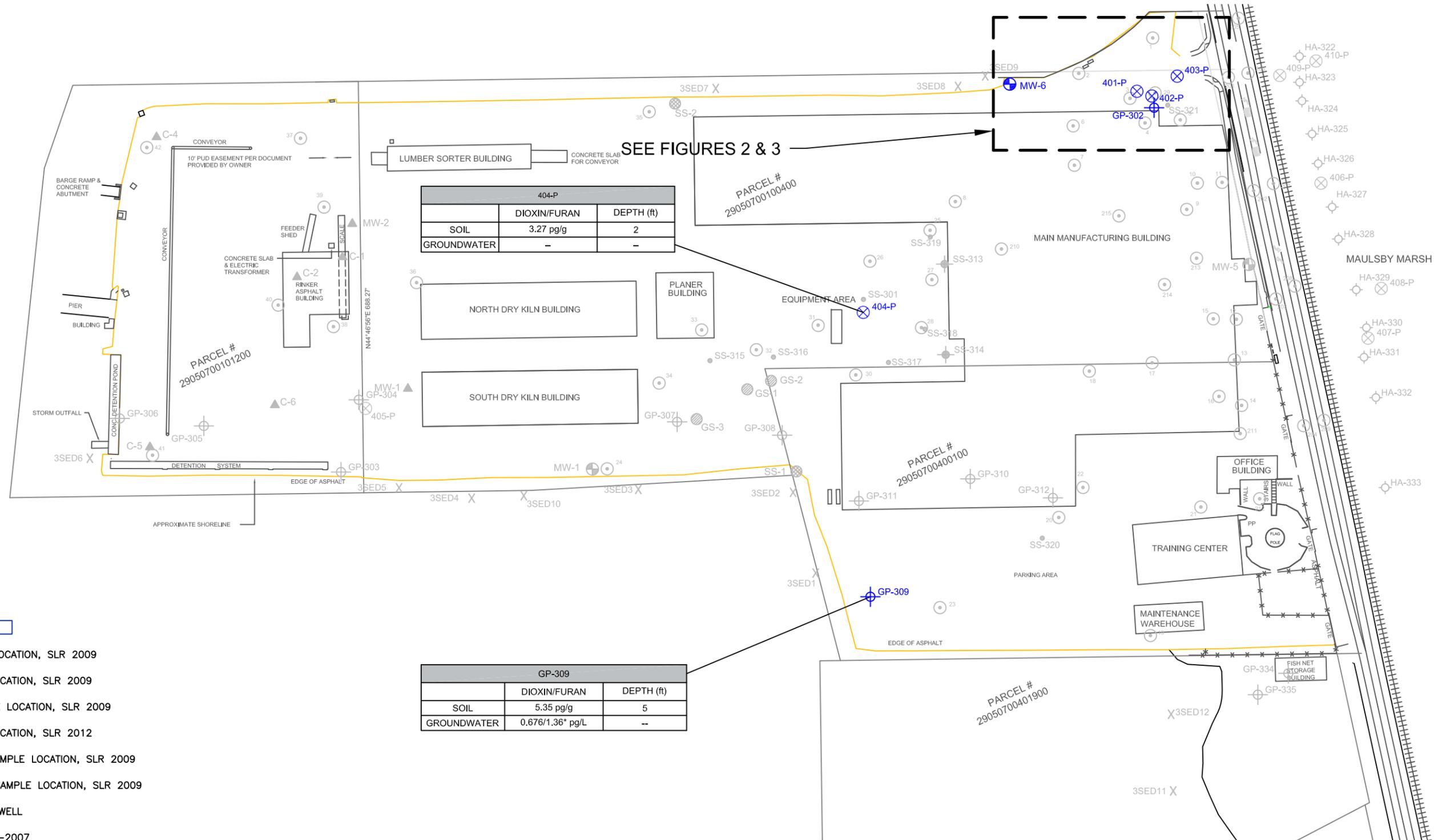
R. Scott Miller, P.E.  
Principal Engineer

cc Dwayne Arino – JELD-WEN, inc.  
Andy Kallus – Ecology

Attachments: Figures 1 to 3

## **FIGURES**

- Figure 1      Site-Wide Dioxin/Furan Sample Locations and Results**
- Figure 2      Soil Dioxin/Furan Results and Proposed Sample Locations**
- Figure 3      Groundwater Dioxin/Furan Results and Proposed Sample Locations**



SEE FIGURES 2 & 3

PARCEL # 29050700100400

| 404-P       |              |            |
|-------------|--------------|------------|
|             | DIOXIN/FURAN | DEPTH (ft) |
| SOIL        | 3.27 pg/g    | 2          |
| GROUNDWATER | -            | -          |

PARCEL # 29050700400100

| GP-309      |                  |            |
|-------------|------------------|------------|
|             | DIOXIN/FURAN     | DEPTH (ft) |
| SOIL        | 5.35 pg/g        | 5          |
| GROUNDWATER | 0.676/1.36* pg/L | --         |

**LEGEND**

- X SEDIMENT SAMPLING LOCATION, SLR 2009
- ⊕ GEOPROBE SAMPLE LOCATION, SLR 2009
- SURFACE SOIL SAMPLE LOCATION, SLR 2009
- ⊗ GEOPROBE SAMPLE LOCATION, SLR 2012
- ⊙ BNSF HAND AUGER SAMPLE LOCATION, SLR 2009
- ⊖ NEAR SURFACE SOIL SAMPLE LOCATION, SLR 2009
- ⊕ EXISTING MONITORING WELL
- ⊙ GEOPROBE, SLR 2006-2007
- ⊗ SEDIMENT SAMPLE, PARAMETRIX 1991
- ⊙ SURFACE SOIL SAMPLES, PARAMETRIX 1991
- TEST PITS, SLR 2007
- ▲ SOIL AND GROUNDWATER SAMPLES, RZA AGRA 1994

**NOTES**

\* DIOXIN/FURAN CONCENTRATION USING ZERO FOR NON-DETECTIONS/DIOXIN FURAN CONCENTRATION USING A VALUE OF 1/2 METHOD DETECTION LIMIT FOR NON-DETECTIONS

THE BUILDINGS, SURFACE UTILITIES, EDGE OF PAVEMENT, AND APPROXIMATE SHORELINE SHOWN ON THIS MAP ARE BASED ON A 2006 SURVEY PERFORMED BY WH PACIFIC.

**JELD-WEN SITE**  
 300 WEST MARINE VIEW DRIVE  
 EVERETT, WASHINGTON

Report **AMENDMENT TO PHASE 2 RI UPLAND SOIL AND GROUNDWATER WORKPLAN**

Drawing **FIGURE 1 - SITE-WIDE DIOXIN/FURAN SAMPLE LOCATIONS AND RESULTS**

|           |                   |             |                 |          |   |
|-----------|-------------------|-------------|-----------------|----------|---|
| Date      | January 29, 2013  | Scale       | AS SHOWN        | Fig. No. | 1 |
| File Name | 108.00228.00026-5 | Project No. | 008.00228.00026 |          |   |



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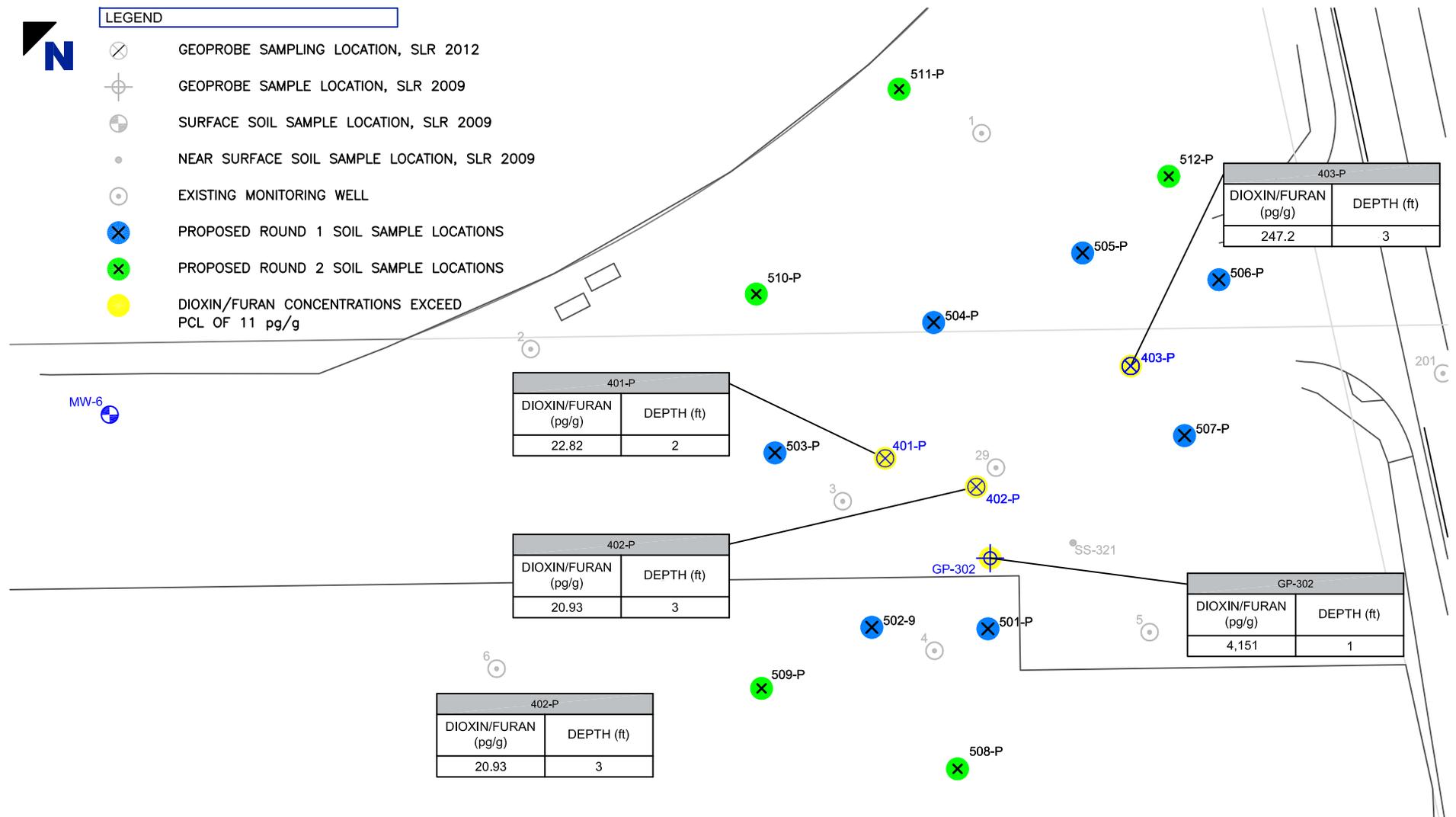


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**LEGEND**

- GEOPROBE SAMPLING LOCATION, SLR 2012
- GEOPROBE SAMPLE LOCATION, SLR 2009
- SURFACE SOIL SAMPLE LOCATION, SLR 2009
- NEAR SURFACE SOIL SAMPLE LOCATION, SLR 2009
- EXISTING MONITORING WELL
- PROPOSED ROUND 1 SOIL SAMPLE LOCATIONS
- PROPOSED ROUND 2 SOIL SAMPLE LOCATIONS
- DIOXIN/FURAN CONCENTRATIONS EXCEED PCL OF 11 pg/g



**NOTES**

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**300 WEST MARINE VIEW DRIVE**  
**EVERETT, WASHINGTON**

Report **AMENDMENT TO PHASE 2 RI UPLAND SOIL AND GROUNDWATER WORKPLAN**

Drawing **FIGURE 2 - SOIL DIOXIN/FURAN RESULTS AND PROPOSED SAMPLING LOCATIONS**

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Fig. No. **2**

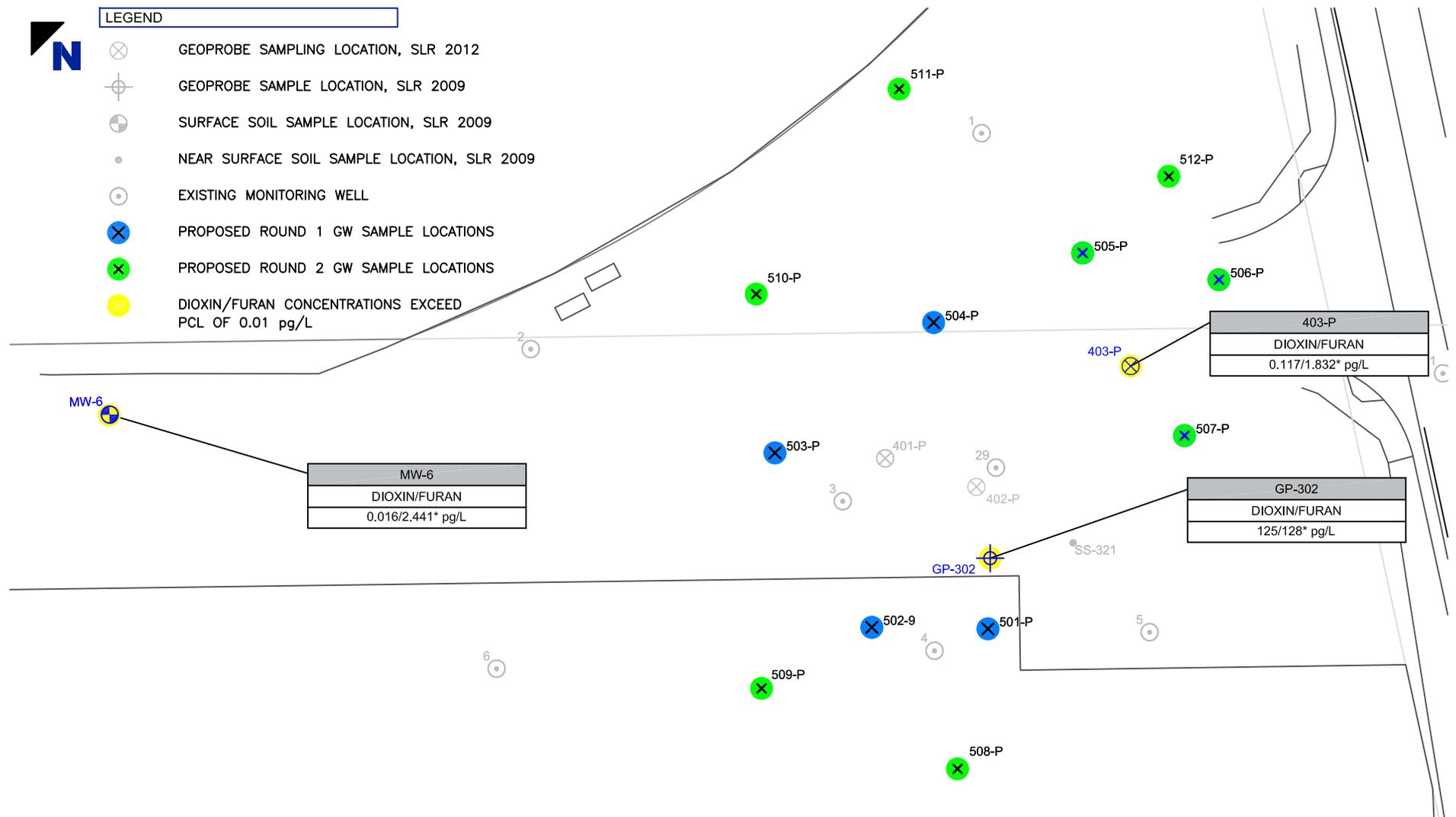


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**LEGEND**

- GEOPROBE SAMPLING LOCATION, SLR 2012
- GEOPROBE SAMPLE LOCATION, SLR 2009
- SURFACE SOIL SAMPLE LOCATION, SLR 2009
- NEAR SURFACE SOIL SAMPLE LOCATION, SLR 2009
- EXISTING MONITORING WELL
- PROPOSED ROUND 1 GW SAMPLE LOCATIONS
- PROPOSED ROUND 2 GW SAMPLE LOCATIONS
- DIOXIN/FURAN CONCENTRATIONS EXCEED PCL OF 0.01 pg/L



**NOTES**

\* DIOXIN/FURAN CONCENTRATION USING ZERO FOR NON-DETECTIONS/DIOXIN FURAN CONCENTRATION USING A VALUE OF 1/2 METHOD DETECTION LIMIT FOR NON-DETECTIONS

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Report **AMENDMENT TO PHASE 2 RI UPLAND SOIL AND GROUNDWATER WORKPLAN**

Drawing **FIGURE 3 - GROUNDWATER DIOXIN/FURAN RESULTS AND PROPOSED SAMPLING LOCATIONS**

Date January 29, 2013  
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Fig. No. **3**

