Oakland Bay Marina

October 25, 2021

Ms. Joyce Mercuri,
Project Manager, Toxics Cleanup Program
Ms. Laura Inouye,
Shorelands and Environmental Assistance Program
Washington State Department of Ecology

Re.: Shelton Yacht Club - US Army Corp Permit NWS-2021-668
MTCA Cleanup of Former Evergreen Fuel Facility Site

Dear Joyce and Laura:

Thank you for our recent meeting on Oct. 19, 2021, where we reviewed the Club's proposed project and the current status of DOE's continuing cleanup of the former Evergreen Fuel Faculty.

One of the decisions made was for DOE to meet separately to decide if this project provided an opportunity to remove the remaining contaminated soils left behind after the MTCA cleanup work that occurred in 2006. These materials appear to have been left in place at the previous site owner's request (Port of Shelton) to avoid addressing the existing deteriorated soldier pile retaining wall at the site. It is our understanding that the Port may have committed to the wall's replacement at the time, supporting the decision to leave these remaining materials in place temporarily pending the Port's wall replacement project. The Port completed a couple of design alternatives towards this but, unfortunately, the Port did not follow through with the project and instead sold the property to the Shelton Yacht Club in 2019.

Rather than allowing completion of the cleanup effort so that site could be declared complete in 2006, the Port's delay in completing the wall appears to have instead resulted in a continuing monitoring effort over the years since. During this time the wall has continued to deteriorate, and the remaining contaminated soils left behind have been migrating into Oakland Bay for several years. The wall left in place by the Port retaining these contaminated materials is constructed of creosote piles and creosote timber lagging which has essentially failed in place. We feel this condition poses a risk of collapse, which could result in contaminated materials cascading into the bay. As a result, the Club has taken the interim step of moving parking back from the wall to protect the public.

Since purchasing the site from the Port, the Shelton Yacht Club has worked to stabilize the site and is now proposing a project to complete repairs to both the marina and uplands providing a permanent repair to these conditions. In addition, the Shelton Yacht Club has also taken ownership of the adjacent tidelands for the entire upper Oakland Bay and in partnership with South Puget Sound Salmon Enhancement Group and the Squaxin Tribe, share in stewardship for the adjacent Habitat Restoration project that is currently underway. As part of this effort, the Club is taking on a portion of the already permitted habitat restoration work and extending it to the north. Rather than ending the habitat restoration work abruptly within the damaged shoreline, this additional work will serve to repair the last remaining section of industrially damaged shoreline, tying the overall habitat restoration project into the natural shoreline along the northern limits of the Club's tideland properties.

The purpose of explaining this is to underscore the extent of the work taking place, our commitment to completing these activities, and our concern for the environment as a key component of the overall the project. We understand that you are reviewing the previous decision made to leave these materials in place and are contemplating this opportunity to remove them altogether now. This would eliminate the remaining contaminated soils and possible future risk entirely and would allow the site to be declared complete, removing it from the DOE's list of MTCA cleanup sites.

If you should decide to do this, we would like to offer our support. We too would like to see the hazardous soils removed and the site closed. If this is your decision and given the extent of the work we are competing in this area too, this would be an ancillary activity within the overall project. Because of this the Shelton Yacht Club would like to request that control of the site and completion of this work be retained by the Club itself. Given that the existing wall is in a state of failure, the work must be integrated and staged as part of the overall work to safely remove the hazardous materials, to minimize hazards to crews, and to complete the work in the overall most cost-effective manner. This work could be completed as part of the Club's shoreline repairs to be constructed as mitigation for the new boat launch and marina repairs. The club is prepared to carry out this work immediately and has made a commitment to the Corp and the Services to complete the mitigation first before construction the desired improvements. The Club will accept the impacts to schedule and work sequence so that we can best control them and because there is a benefit to Club in having the site cleaned and delisted. We can incorporate this work into our efforts in hopes of providing best economy of scale. If you concur, we will do everything possible to keep the costs minimized to the greatest extent possible. However, we would ask that the costs to complete this additional effort be reimbursed.

After our meeting on October 19th, Joyce asked if the remedial repairs identified in a letter appendix to Farallon's report dated July 30, 2007, were completed.

We reviewed the letter and details provided in the report by Mr Gary Flowers dated January 5, 2007, to identify what might have been completed and the intent

behind the work they may have done. The first paragraph of the letter appears to describe the intent and scope of the effort which was to repair the damage done to existing tiebacks caused by the excavation work from the site cleanup. The plan view detail shows this repair being done to a few of the solider piles that had their anchors inadvertently damaged. It does not appear that this is a repair that was done for the length of the wall.

He termed the soldier piles making up the wall face as Grid A. This was followed a row of wood piles placed and buried in the fill behind the wall used as the primary "Deadman" tiebacks termed as Grid B. In addition to this, added capacity to the Deadman anchors may have also been originally installed by connecting these primary buried piles to a short, buried section of log that were approximately 3' in length. He termed this as Grid C. The cleanup excavation work appears to have removed the buried 3' logs he termed as Grid C and in doing so it appears they also damaged the cables between the buried piles of Grid B and short buried logs of Grid C. His work appears to have been focused on replacing the function of the Grid C buried 3' sections of logs by pouring lean concrete blocks and then connecting them back to the buried piles of Grid B. All this work was done inside the excavation area of the MTCA cleanup work.

Mr. Flowers did note that some of the exterior piles had been damaged at their tie rod connections by having the connections pulled through the exterior piles he called Grid A. He made some recommendations for collars to be installed to repair this. But in reviewing the wall as it stands today, there is no evidence that this work was completed. Instead, the connections appear to be the original connections with several of them showing signs of being pulled through the piling. In his last paragraphs he notes that:

A comprehensive inspection of this wall system is not within this engineer's Scope of Work, and was not performed. However, during the site visit It was noted that several piles at the north end of grid A have leaned outward under earth pressure, prior to and unrelated to the ongoing excavation. Some additional piles appear have been added In this area, apparently to buttress the wall, but the effectiveness of this fix cannot be determined. It is recommended that the property owner monitor the piles to determine if they move further out of plumb, and if they do, it is suggested that the owner perform some exploration of the rods, their connections and the tie back piles to determine If any damage exists.

Some significant corrosion of existing tie rods was observed where they were exposed. At some point it will be necessary to replace these rods to maintain the strength of the wall. From the observations made during the visual review of site conditions it is apparent that the overall structural integrity of the wall system has been compromised by corrosion and deterioration of the piles, lagging, deadman structures (earth anchors). The long term structural stability of the wall system is questionable and should not be relied upon without further detailed inspection and evaluation by an engineer quallfied to perform this work. Any future use of the property should consider the questionable condition of the wall system.

It does not appear that the work done in 2006 was intended to address stability for the wall itself or ensure that it continued to function as an effective containment of the hazardous soils left behind it. Mr. Flowers noted that his work was to replace the anchors that were damaged and removed as part of the excavation work and that his evaluation and repairs were limited to that effort. It has been 15 years since the cleanup work and the abbreviated repairs behind the wall noted by Mr Flowers were completed. During this time the Port did not complete the proposed wall replacement or any interim repairs to the wall face to contain the hazardous material left behind the wall. The wall has continued to deteriorate and currently appears to be in a state if imminent failure.

While I could get a structural engineer's opinion for its condition today, the condition of the wall is pretty apparent in the attached pictures. Please note that the lagging has rotted away in large sections areas exposing the materials behind the boards. It is matter of time before heavy rains increase pressures and cause these areas to fail through the lagging. Please also note the tie rods and plates that have been pulled through and into the hearts of the supporting piles. One of the piles is split vertically while another pile has been sheared off at its base because of pressure buildup behind the wall. Boards have been moved away from the piles as they rotate forward and daily tide cycles continue to wash materials from behind the wall.

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These areas where the wall has failed in place are located within the area currently permitted for the habitat restoration work which would allow the work to proceed. However, these areas are being reconstruction by the Shelton Yacht Club as a part of the current permit request of the Corp. We are prepared to begin this work immediately once these areas have been approved for use by the current permit effort. We hope that you can help us to get this approved in the shortest period possible so that this work can be completed before a larger failure occurs. We are prepared to begin this work as a first order of work during the next permitted work cycle beginning July 2022. It is our hope that this can be made a part of the current project permit so that we can complete this in July of next year.

Respectfully,

Dave Mariano
Shelton Yacht Club
360.701.6623

Attachments:
Photos
Nelson Consulting Engineering PS letter to Mr. Gary Flowers

Oakland Bay Marina

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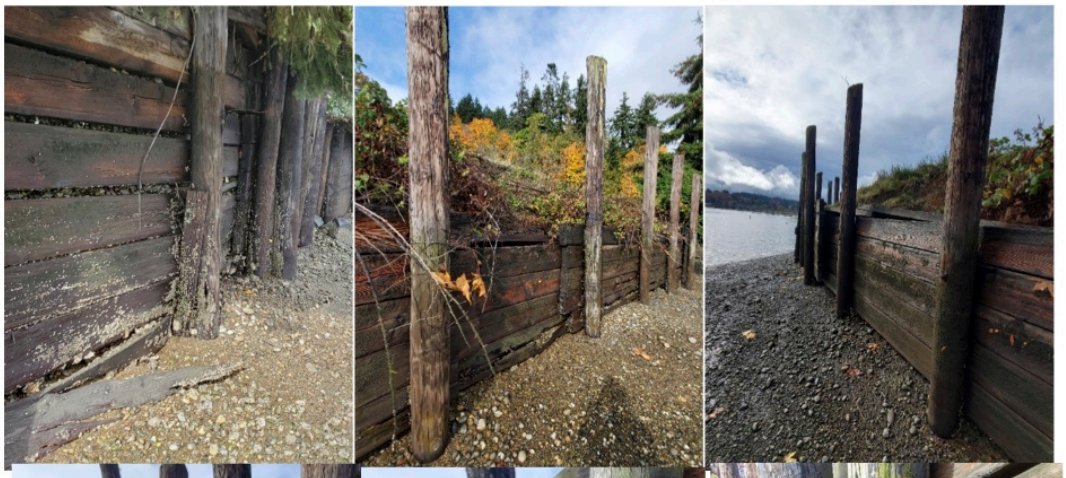

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Nelson Consulting Engineering PS
221 58th Ave NE
Kenmore, Washington 98028-3118
(425) 483 9126
Fax: (425) 485 1136

January 5th, 2007

Farallon Consulting
Attn: Ms. Carla Brock, Geologist
975 5th Ave NW, Issaquah, 98027
Fax: 425 295 0850

Mr. Gary Flowers
Gary Flowers PLLC
19532 12th Ave NE
Shoreline, WA 98155-1106

Subject: Evergreen Fuel retaining wall evaluation
661 East Pine Street
Shelton, WA

Ms. Brock and Mr. Flowers:

Mr. Larry McNeely, technician, representing this firm visited the above noted site for the purpose of observing, photographing, and camcordering the condition of an existing wood tie-back soldier pile/timber lagging retaining wall along the shoreline. The purpose of this visit was to enable the principal of this firm to evaluate the impact of contaminated soil removal activities on portions of the wall system proximal to the excavation so that these areas could be re-constructed in-kind. Contaminated soil excavation required the exposing/removal of some of the earth anchors and damaged some of the tension rods/cables connecting the earth anchors to the wall piles

Observations:
This wall (grid A) consists of approximately vertical 8" to 10" diameter treated wood piles at about 6' to 8' on center, supporting horizontal 4x12 treated timber lagging. Most of the wall piles are propped cantilevers, that is, they are connected to tension rods near their top ends. The tension rods are restrained by a parallel row of earth anchor piles, which is roughly 18' plus or minus from the retaining wall piles (grid B).

Most of the earth anchor piles are (or were) connected by steel cables to yet another row of earth anchors (grid C) consisting of approximately 3'

long horizontal buried logs. Most of these have been removed during the ongoing excavation.

Conclusions and recommendations:
No drawings are available on the wall, so the only information available is from site observations. Thus, there are many unknowns, including the condition of the piles below grade, the embedment of the piles, and the density of the subgrade. So recommendations are based on extrapolation of the likely condition and geometry of the wall elements and engineering judgment.

It is the charge of the client, Farallon Consulting, that where structures associated with the wall were impacted by contaminated soil removal that these structures are replaced in-kind. The contaminated soil excavation has resulted in the removal of the grid C earth anchors and cables and damage to one or more tension rods between grids A and B.

It is likely that the earth anchors on grid C helped to stabilize the anchor piles on grid B by enabling the grid B piles to act as propped cantilevers, which stabilized the wall piles on grid A. Removal of the grid C anchors may ultimately reduce the ability of the grid A wall to retain earth loads. So, it is the judgment of the undersigned engineer that the grid C earth anchors should be replaced in kind, or the grid B earth anchor pile capacity should be increased to compensate for the permanent removal of the grid C anchors. Increasing the capacity of the grid B piles is probably the least cost and most effective solution. This would consist of pouring a block of lean mix concrete at the top of each of the grid B piles, approximately 4' wide (measured perpendicular to the tension rods), by 2' thick (measured parallel to the tension rods) by 2' deep. The top of the concrete should be about 2' below finished grade. No reinforcing steel is required. Note that any earth replacement earth must be structural fill

Tension rods which have been damaged must be replaced in kind, with hot dipped galvanized steel, with new 4" diameter washers on both ends and nuts. Where the piles have split by the rods pulling thru, apparently due to impact during excavation, it is recommended that bolted, galvanized steel collars be installed to prevent further splitting of the piles.

In at least one condition, a tension rod has pulled through a 4x12 horizontal member. This caused a substantial split, and this piece should be replaced with a new 4x12, treated.

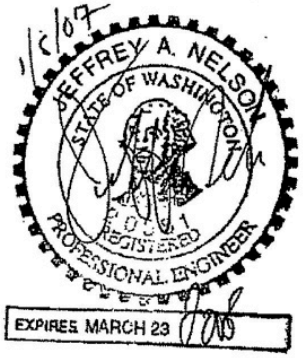
The above solution will restore the capacity of the tie back system to that which existed prior to commencing excavation, and that is the intent of this engineers work. No opinion is offered as to the conformance of the wall to the current building codes.

A comprehensive inspection of this wall system is not within this engineer's Scope of Work, and was not performed. However, during the site visit it was noted that several piles at the north end of grid A have leaned outward under earth pressure, prior to and unrelated to the ongoing excavation. Some additional piles appear have been added in this area, apparently to buttress the wall, but the effectiveness of this fix cannot be determined. It is recommended that the property owner monitor the piles to determine if they move further out of plumb, and if they do, it is suggested that the owner perform some exploration of the rods, their connections and the tie back piles to determine if any damage exists.

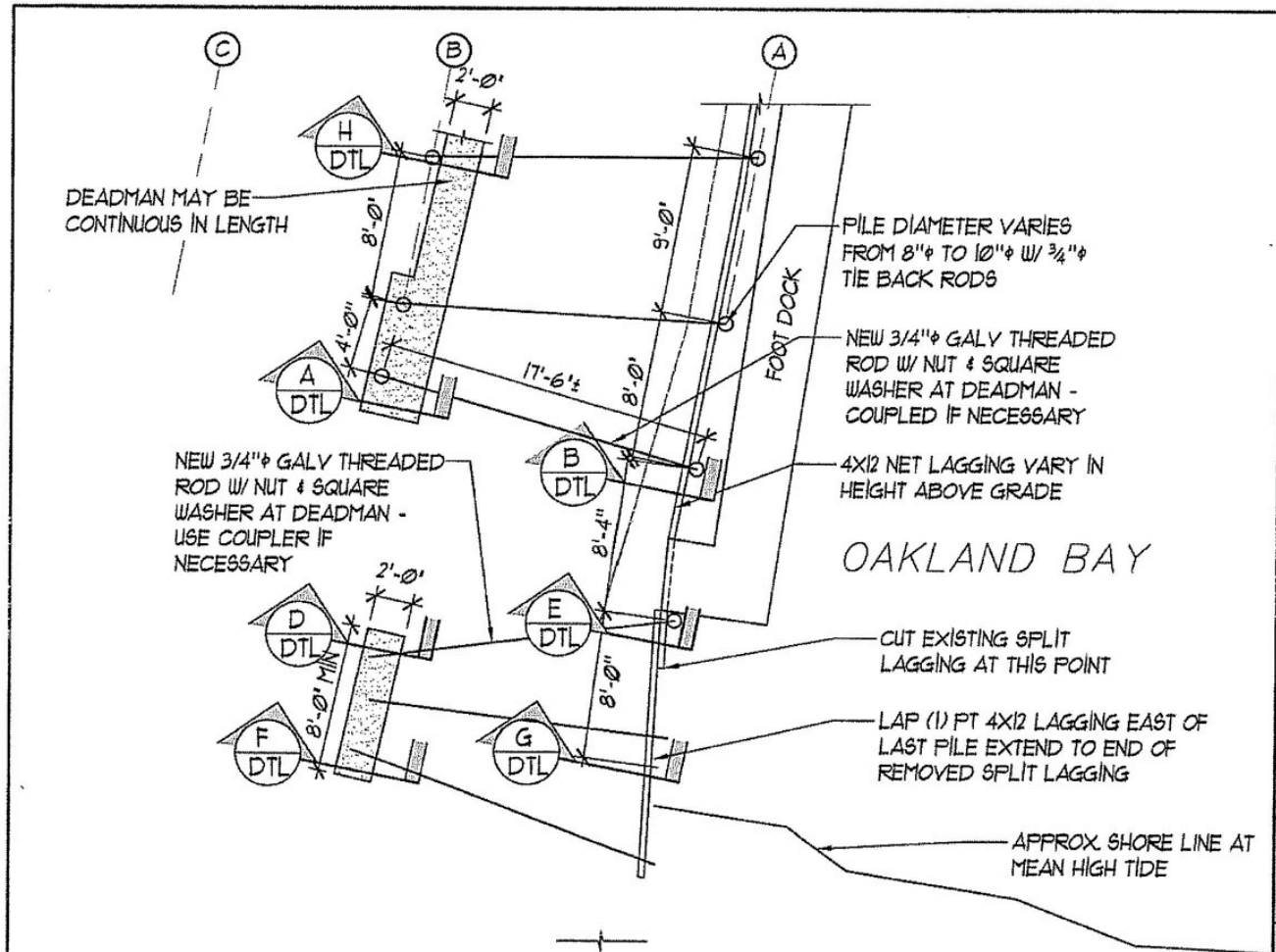
Some significant corrosion of existing tie rods was observed where they were exposed. At some point it will be necessary to replace these rods to maintain the strength of the wall. From the observations made during the visual review of site conditions it is apparent that the overall structural integrity of the wall system has been compromised by corrosion and deterioration of the piles, lagging, deadman structures (earth anchors). The long term structural stability of the wall system is questionable and should not be relied upon without further detailed inspection and evaluation by an engineer qualified to perform this work. Any future use of the property should consider the questionable condition of the wall system.

This report respectfully presented, without prejudice, by:

1/5/07



Jeffrey A Nelson PE SE
Principal
Nelson Consulting Engineering PS



PLAN VIEW TIE ROD & DEADMAN REPAIRS

REVISED Ø1Ø92ØØ7

SCALE: 1" = 8'-Ø"

N

NELSON CONSULTING ENGINEERING PS
19221 58TH AVE NE
KENMORE, WA 98028
PHONE: 425.483.9126 FAX: 425.485.1136

PREPARED BY: LM

DATE: Ø1Ø92ØØ7

JOB NAME: FARALLON - EVERGREEN FUEL REPAIR

DESCRIPTION: PLAN VIEW TIE ROD & DEADMAN REPAIRS

JOB NO: Ø6118

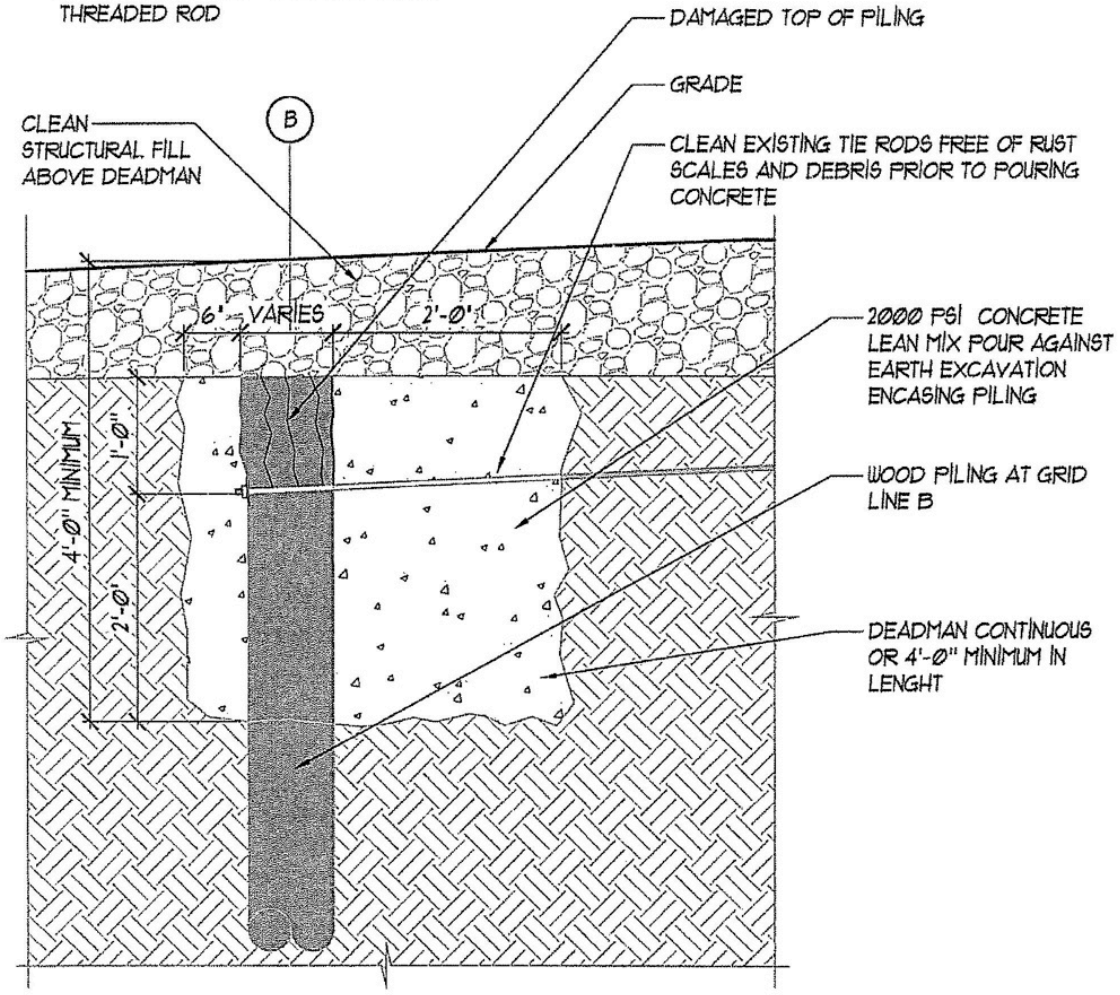
PAGE NUMBER: 1 / PLAN

NELSON CONSULTING ENGINEERING PS 19221 58TH AVENUE NE KENMORE, WA 98028-3118 (425) 483-9126 FAX: (425) 485-1136	PREPARED BY: LM	DATE: 01092007	JOB NO: 0618
	JOB NAME: FARALLON - EVERGREEN FUEL REPAIR		PAGE NUMBER: A / DTL
	DESCRIPTION: DEADMAN REPAIR SECTIONS		

NOTE:

USE THIS CONDITION IF TIE ROD IS CLOSE TO TOP OF PILING

REPLACE TIE ROD IS DAMAGE BEYOND REPAIR WITH A 3/4"ϕ A36 GALV STEEL THREADED ROD



A/DTL SECTION

REVISED 01092007

SCALE: 3/4" = 1'-Ø"

NELSON CONSULTING ENGINEERING PS 19221 58TH AVENUE NE KENMORE, WA 98028-3118 (425) 483-9126 FAX: (425) 485-1136	PREPARED BY: LM	DATE: 01092007	JOB NO: 0618
	JOB NAME: FARALLON - EVERGREEN FUEL REPAIR		PAGE NUMBER: D / DTL
	DESCRIPTION: DEADMAN REPAIR SECTIONS		

NOTE:

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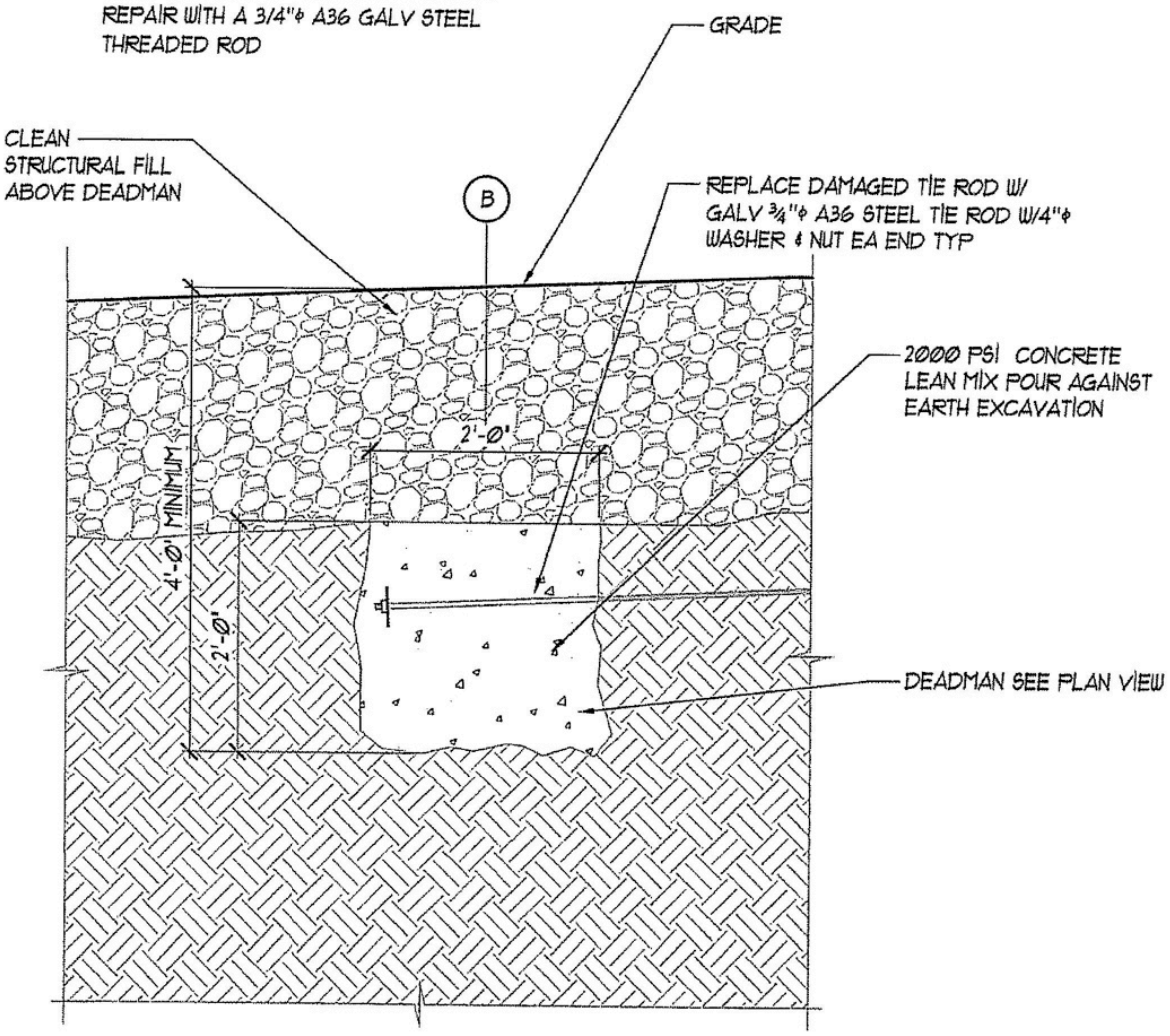

D/DTL SECTION

REVISED 01092007

SCALE: ¾" = 1'-0"

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PREPARED BY: LM	DATE: 01092007	JOB NO: 06118
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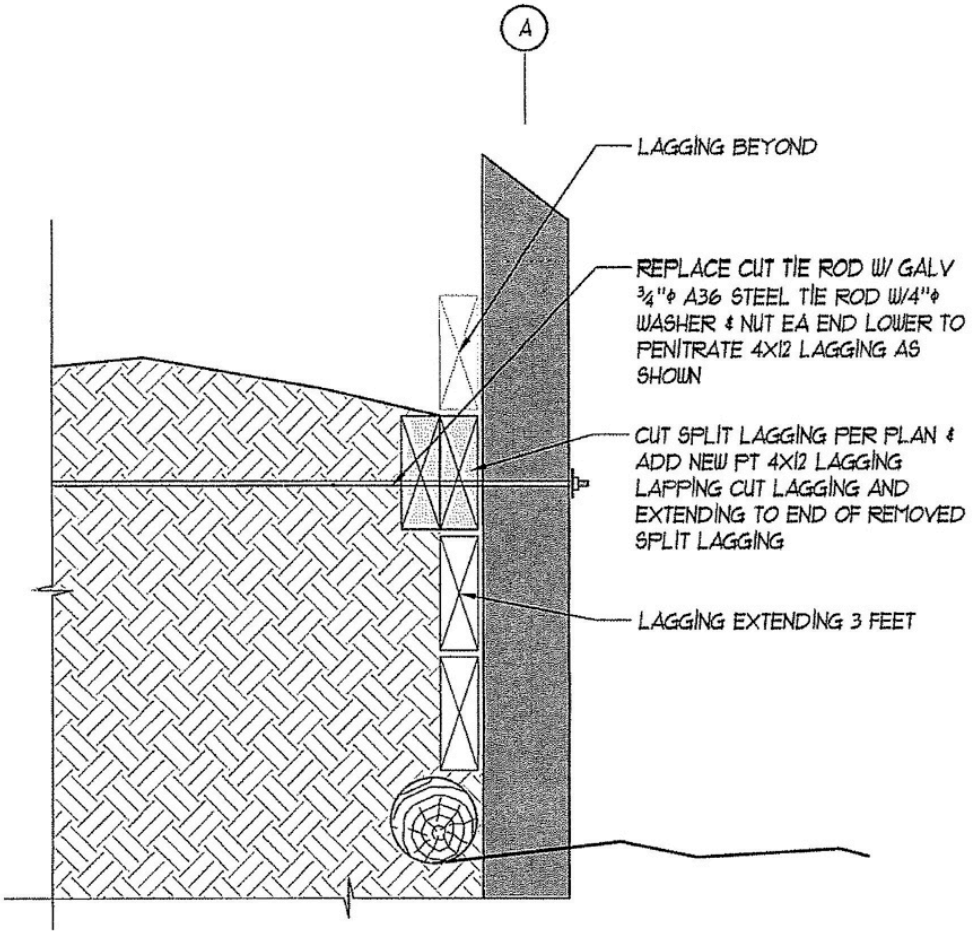
DESCRIPTION: DEADMAN REPAIR SECTIONS		



E / DTL SECTION

REVISED 01092007

SCALE: ¾" = 1'-0"

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	JOB NAME: FARALLON - EVERGREEN FUEL REPAIR		
	DESCRIPTION: DEADMAN REPAIR SECTIONS		PAGE NUMBER: F / DTL

NOTE:

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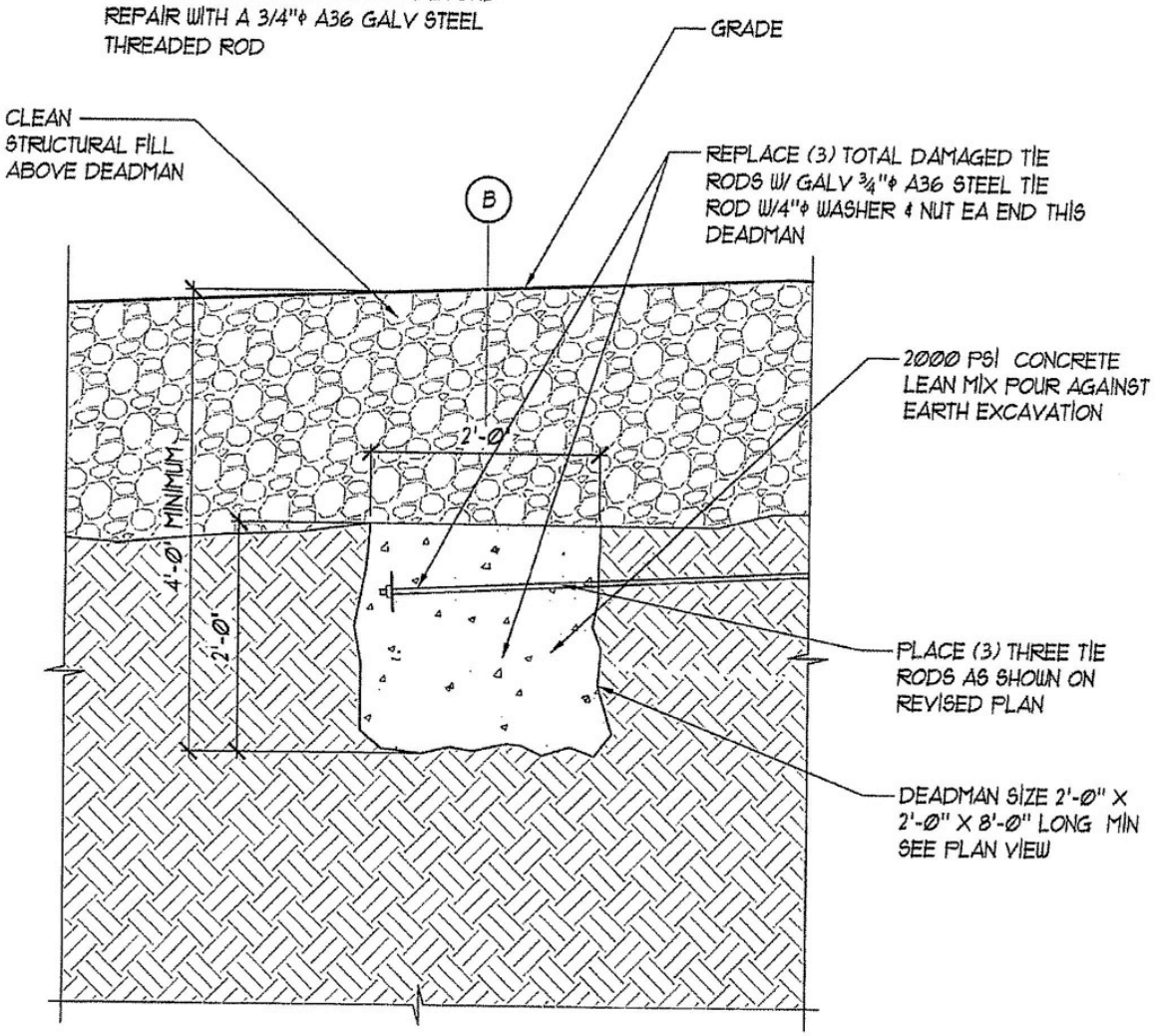
REPLACE TIE ROD IS DAMAGE BEYOND REPAIR WITH A 3/4"ϕ A36 GALV STEEL THREADED ROD



F / DTL SECTION

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SCALE: ¾" = 1'-0"

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	JOB NAME: FARALLON - EVERGREEN FUEL REPAIR		PAGE NUMBER: G / DTL
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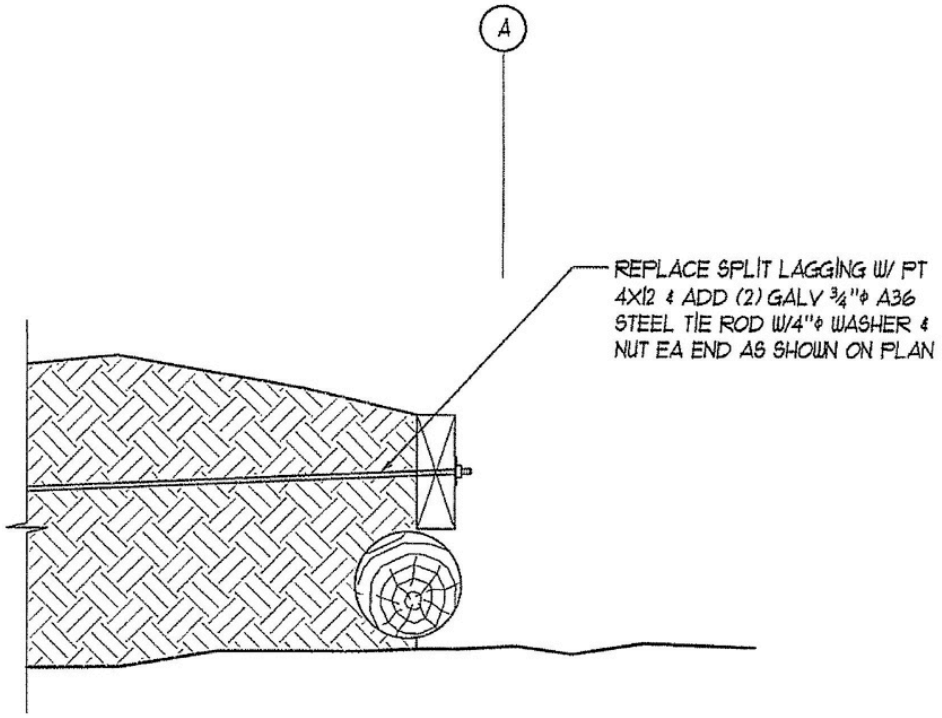

G / DTL

SECTION

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SCALE: ¾" = 1'-0"

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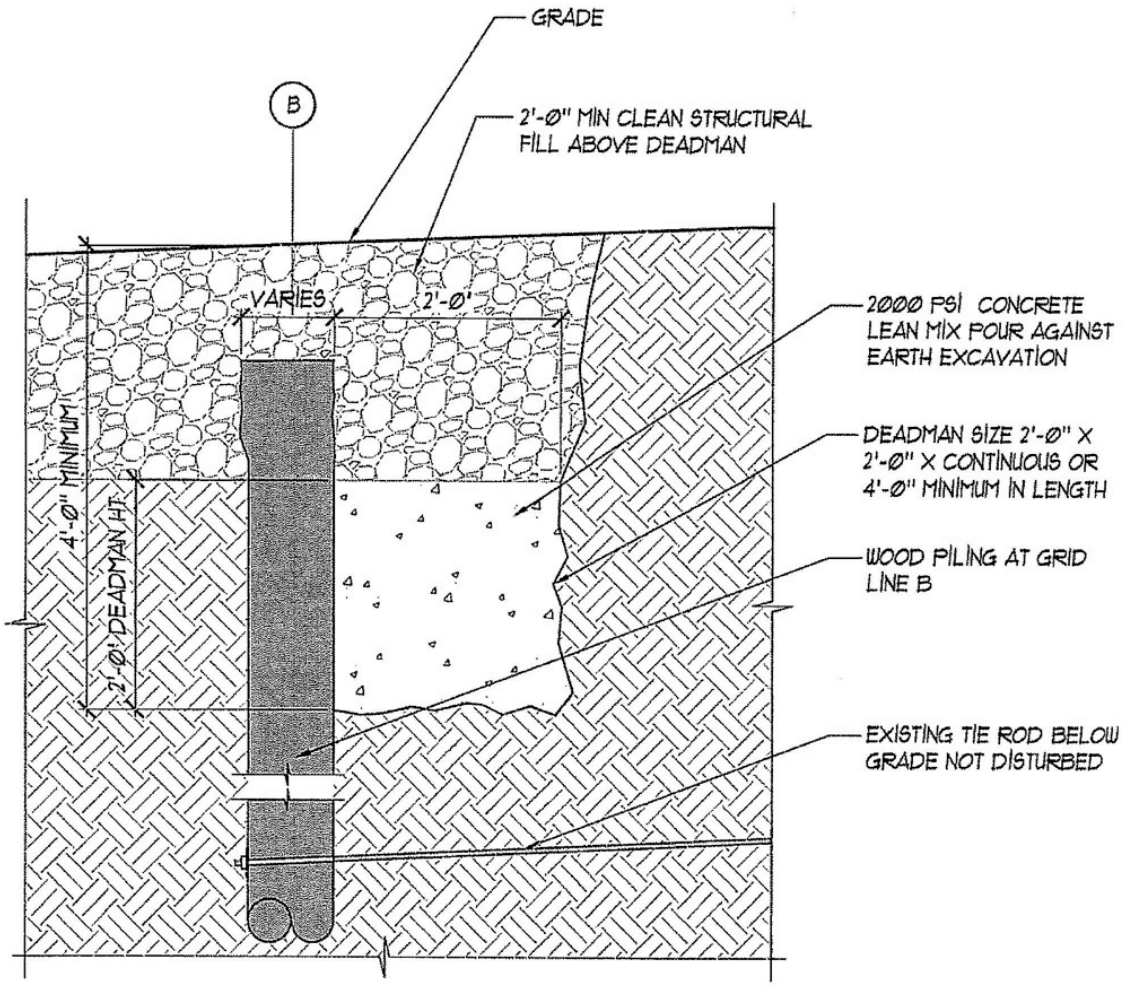
PREPARED BY: LM	DATE: 01.09.2007	JOB NO: 06118
JOB NAME: FARALLON - EVERGREEN FUEL REPAIR		
DESCRIPTION: DEADMAN REPAIR SECTIONS		PAGE NUMBER: H / DTL

NOTE:

USE THIS CONDITION IF TIE ROD IS LOCATED BELOW DEADMAN TYPICAL



H/DTL SECTION

REVISED 01.09.2007

SCALE: 3/4" = 1'-0"