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Rails-to-Trails
TRUSTEE DISTRIBUTION SHEET

Item: Review Draft of Summary Tables & Section 6 Figures of the EE/CA

Date: September 16, 1998

Task: 5213-2

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Item: Review Draft of Summary Tables and Section 6 Figures of the EE/CA

Date: September 16, 1998

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Memorandum

TO: See Attached List

CC:
FROM: Mike Cooper - McCulley, Frick & Gilman, Inc.
DATE: September 16, 1998 **PROJECT NO.:** 5213-2
SUBJECT: **Union Pacific Railroad Wallace-Mullan Branch**
Rails-to-Trails Conversion -- Summary Tables and Figures of Draft EE/CA

Attached, for your review and comment are summary tables for Sections 4 and 5 of the draft EE/CA as well as Figures 6-1 through 6-4. The figures depict conceptual details of the recommended response actions. Appropriate references for the Tables and Figures will be added to the text.

This memorandum and the attached documents are complementary to the ongoing negotiations in pursuit of a settlement to the natural resource damages (NRD) claim brought by the federal and tribal trustees against Union Pacific Railroad for alleged impacts in the Coeur d'Alene Basin.

If you have any questions please do not hesitate to contact Mike Cooper at (303) 447-1823.

Table 4-1

SUMMARY OF IDENTIFICATION AND ANALYSIS OF RESPONSE ACTIONS

Evaluation Criteria	No Action	Institutional Controls	Source Containment	Removal and Disposal		Treatment
Scope of Actions	Leave rail beds and lateral zones in current condition	Establish rules and regulations regarding land use, access; install physical barricades, warning signs; provide educational programs	Installation of protective barriers to contain contaminated materials in-place or in localized consolidation areas	Excavation of potentially contaminated source materials	Disposal of removed materials at existing repository within the Basin or at off-site TSD facility	Implementation of physical, chemical or biological process to reduce toxicity, mobility or volume of contaminated mat'l
Initial Screening						
· Implementability	Readily implementable	Most implementable if ROW remains under control of single managing entity Otherwise, may require new local ordinances	Implementable for all identified types of barrier materials	Implementable from areas outside the river flood plain. Actions within flood plain constrained by access and depth of tailings	Localized consolidation of small volumes is implementable, as is disposal in an existing on-site facility (CIA). Off-site disposal suitable only for small volumes of high conc.	Implementable for small volumes Not implementable for large volumes in-situ
· Effectiveness	Not protective of human health and the environment	Limited effectiveness in minimizing direct contact Ineffective in restricting mobilization Enhances effectiveness of other physical actions	Effective in preventing direct contact and restricting wind and water mobilization of underlying contaminated materials	Effective in areas outside the flood plain May not be effective in flood plain areas due to potential for recontamination during future floods	Localized or on-site disposal effective in reducing mobility. Off-site disposal presents potential for impacts during transportation	Effective in reducing toxicity and mobility, but not volume.
· Cost	Minimal capital and O&M	Low capital and moderate O&M	Low to moderate capital and O&M costs	Moderate to high capital cost, depending on volume and location. Low to high O&M depending on recontamination potential.	Low to moderate capital costs for on-site disposal, depending on haul distance High to very high capital costs for off-site disposal Low O&M costs	Moderate to high capital costs, depending on volume and process complexity Low O&M costs

Table 4-1 (continued)

Evaluation Criteria	No Action	Institutional Controls	Source Containment	Removal and Disposal		Treatment
· Retention/Rejection	Rejected	Rejected as primary response, retained for consideration in conjunction with other actions	Retained as viable primary response actions	Retention of selected removals in conjunction with other response actions Large-scale removals rejected	On-site disposal retained except in the case where construction of a new facility is required Off-site disposal rejected except for small volumes of material not suitable for on-site disposal	Rejected as a primary response action
<u>Alternatives Analysis</u>						
· Areas of Application		Throughout the length of the ROW, with increased focus in populated areas	All or a portion of the ROW, with barrier type matched to local setting and conditions: · Vegetation alone in flood plain areas where other materials not feasible · Vegetated soil or gravel where residential exposure scenarios possible Not appropriate in flood plain or where heavy pedestrian or bicycle traffic expected · Asphalt concrete pavement (ACP) where heavy traffic associated with trail use expected · Rip rap not primary barrier material, but used to protect other barriers	For materials with relatively high lead or other heavy metal contamination Localized removals to maintain existing surface grade for drainage or to match barrier grade with adjacent existing surface	Consolidation and containment under ACP Disposal in the CIA	

Table 4-1 (continued)

Evaluation Criteria	No Action	Institutional Controls	Source Containment	Removal and Disposal		Treatment
- Implementability		Only universally implementable if ROW maintained intact under single operating entity. Localized ICs possible through larger communities in Upper Basin. Less feasible in Lower Basin, due to rural setting with smaller, less formal communities. Only limited acceptance if not universally and consistently applied	Readily implemented in ROW and other portions of the BHSS, outside the routinely active portions of the flood plain. - Barriers within the flood plain would be subject to erosion or recontamination during future floods Less implementable, and potentially unstable in steeply sloping areas of ROW Unnecessary in areas where existing vegetation is well established	Removal of localized accumulations of high-concentration materials has been shown to be implementable and effective within the BHSS Removal of larger volumes of materials from certain areas (ballast) may be implementable, subject to equipment access	On-site disposal at the CIA has been shown to be implementable within the BHSS - Volumes and haul distances from various ROW locations are primary considerations	

Table 4-1 (continued)

Evaluation Criteria	No Action	Institutional Controls	Source Containment	Removal and Disposal		Treatment
- Effectiveness		Effectiveness depends on future ROW use and ability of operating entity to monitor and enforce Successfully implemented within BHSS - Education - Land use restrictions - Regulations limiting intrusive activities. Warn against or physically restrict access to contaminated areas, thereby reducing direct exposure	Effective in providing good overall protection of human health and the environment - Physical barrier against direct contact, ingestion, inhalation - Restrict wind or water mobilization of underlying soils Long-term effectiveness will depend on appropriate choice of materials for intended use and local setting and conditions, performance of ongoing maintenance and implementation of protective ICs	Effective in eliminating direct exposure and mobility concerns, but not in reducing volume or toxicity Hot spot removal would increase effectiveness of overall remedy. Selective removals will enhance maintenance of existing drainage courses and facilitate blending of barriers into surrounding terrain.	Effective in reducing direct exposure potential and mobility, but not overall volume or toxicity - Direct exposure and mobility reductions increase the overall protectiveness of human health and environment	
- Cost		Costs will depend on nature and extent of ICs, and whether new or expansion of existing program. Costs for physical restraints will be higher than for education programs	Direct costs per unit area for containment will depend on choice of material and construction conditions	Direct costs for removals will depend on material volume and access to removal area Indirect costs will depend on the extent of temporary activities necessary to avoid short-term impacts. O&M costs should be low where potential recontamination is not a factor.	Direct costs for on-site disposal will depend on haul distance from removal area to disposal facility Direct costs for off-site disposal will depend on tipping fees charged by TSD facility. O&M costs associated with disposal will be the responsibility of the disposal facility operator	

Table 5-1
SUMMARY OF COMPARITIVE ANALYSIS OF RESPONSE ACTIONS

Evaluation Criteria	Institutional Controls	Source Containment	Removals and Disposal
Scope of Actions	Establish rules and regulations regarding land use, access; install physical barricades, warning signs; provide educational programs	Installation of protective barriers to contain contaminated materials in-place or in localized consolidation areas	Excavation of potentially contaminated source materials
Comparitive Ranking Among Alternatives		- Negative; evaluation does favor the alternative relative to others + Positive: evaluation favors the alternative relative to others	
- Implementability	- Less implementable than other alternatives	++ Implementable for all identified types of barrier materials	+ Implementable from areas outside the river flood plain depending upon availability of on-site disposal. Actions within flood plain constrained by access and depth of tailings and
- Effectiveness	+ Limited effectiveness in minimizing direct contact Ineffective in restricting mobilization. Enhances effectiveness of other physical actions	+++ Effective in preventing direct contact and restricting wind and water mobilization of underlying contaminated materials	++ Effective in areas outside the flood plain May not be effective in flood plain areas due to potential for recontamination during future floods
- Cost	++ Low capital and moderate O&M	+ Low to moderate capital and O&M costs	- Moderate to high capital cost, depending on volume and location Low to high O&M depending on recontamination potential.

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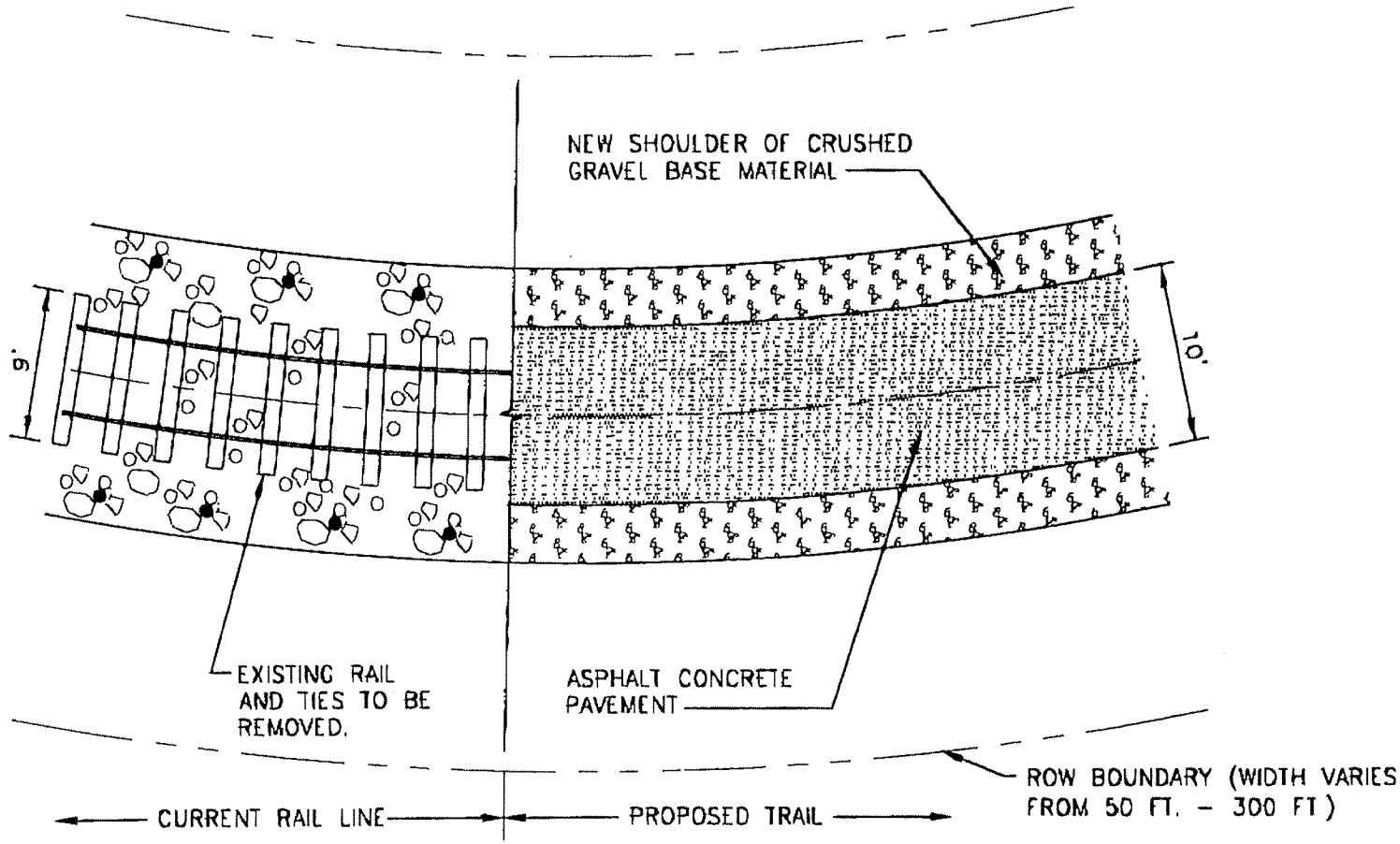

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Wallace-Mullan Branch EE/CA

FIGURE 6-1

CONCEPTUAL TRAIL CONSTRUCTION PLAN

PROJECT: 5213.2	DATE: SEPTEMBER 1998	
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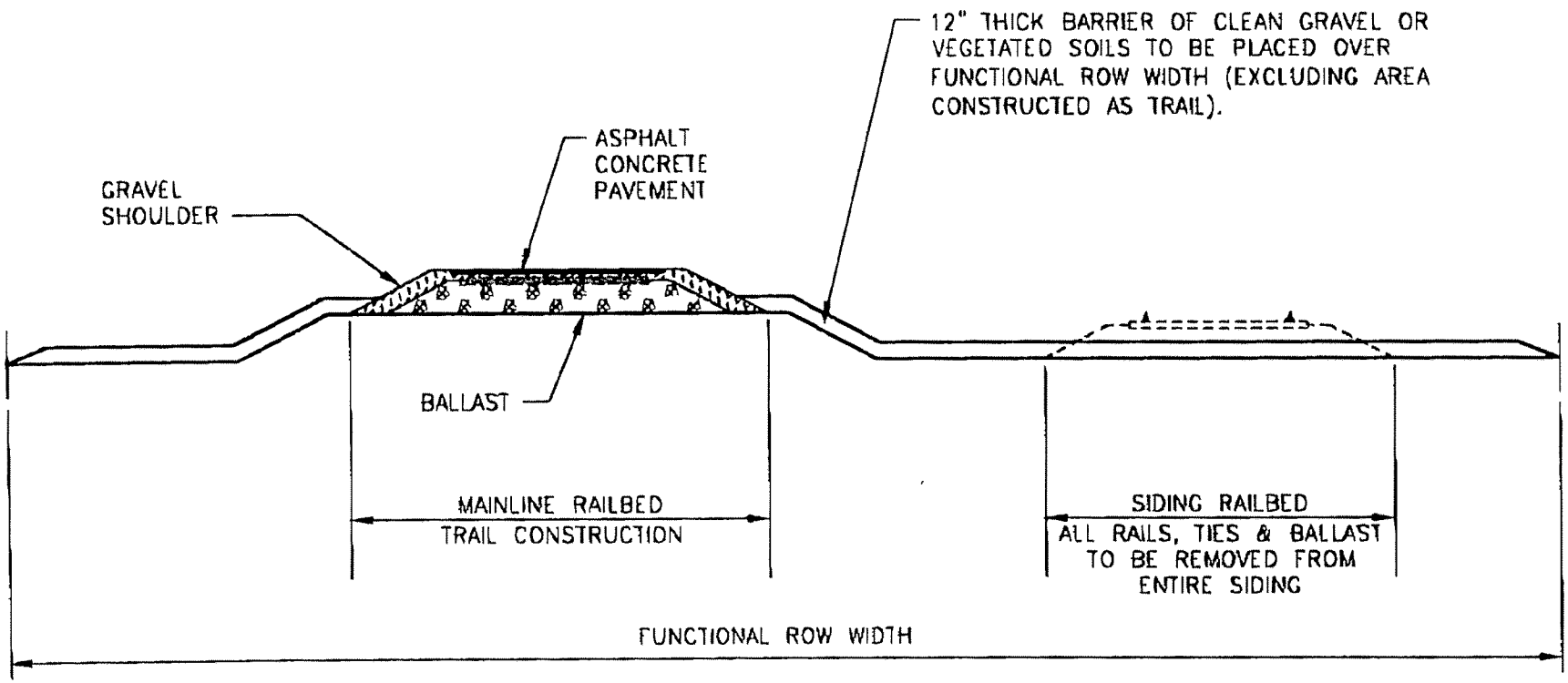

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FIGURE 6–2
CONCEPTUAL RESIDENTIAL BARRIER–MAINLINE & SIDING SECTION

PROJECT: 5213.2	DATE: SEPTEMBER 1998	
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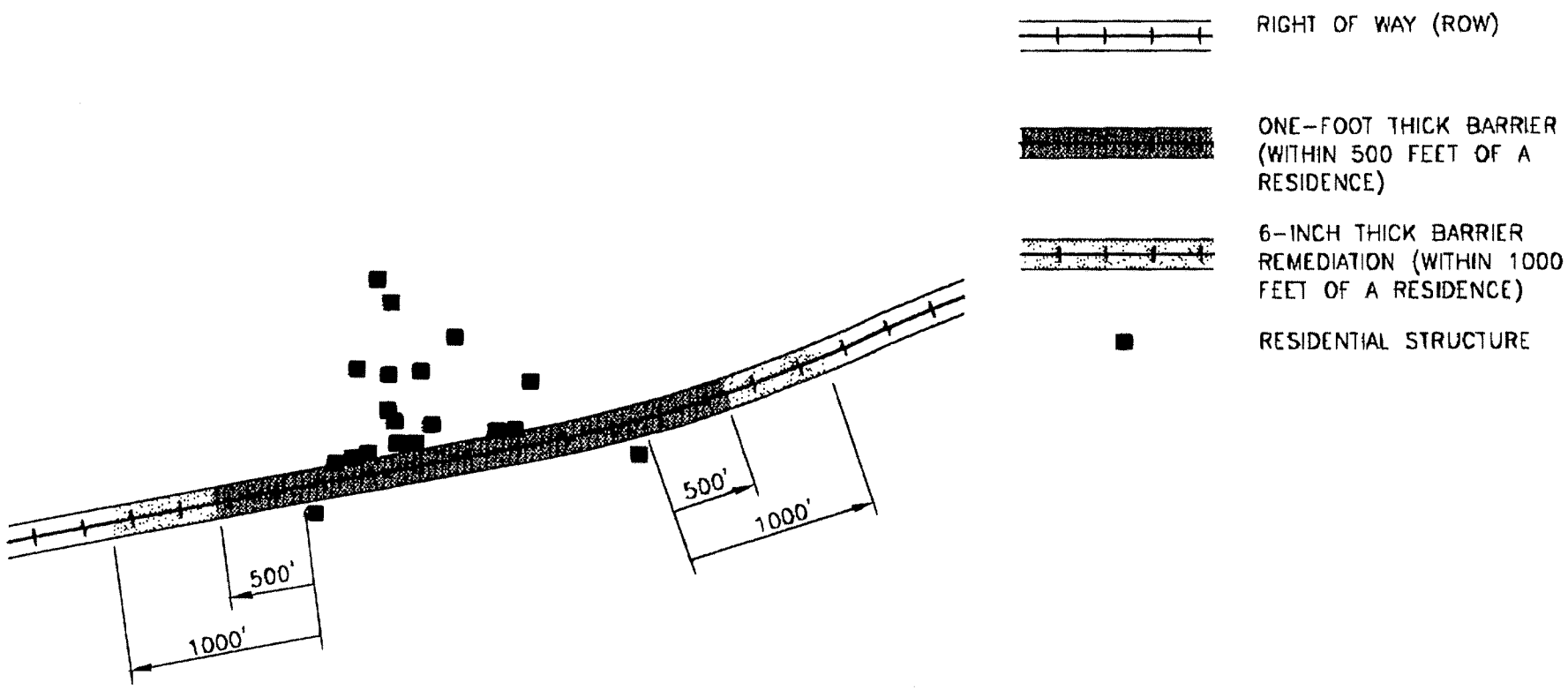

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FIGURE 6-3

CONCEPTUAL RESIDENTIAL BARRIER PLAN

PROJECT: 5213.2	DATE: SEPTEMBER 1998	
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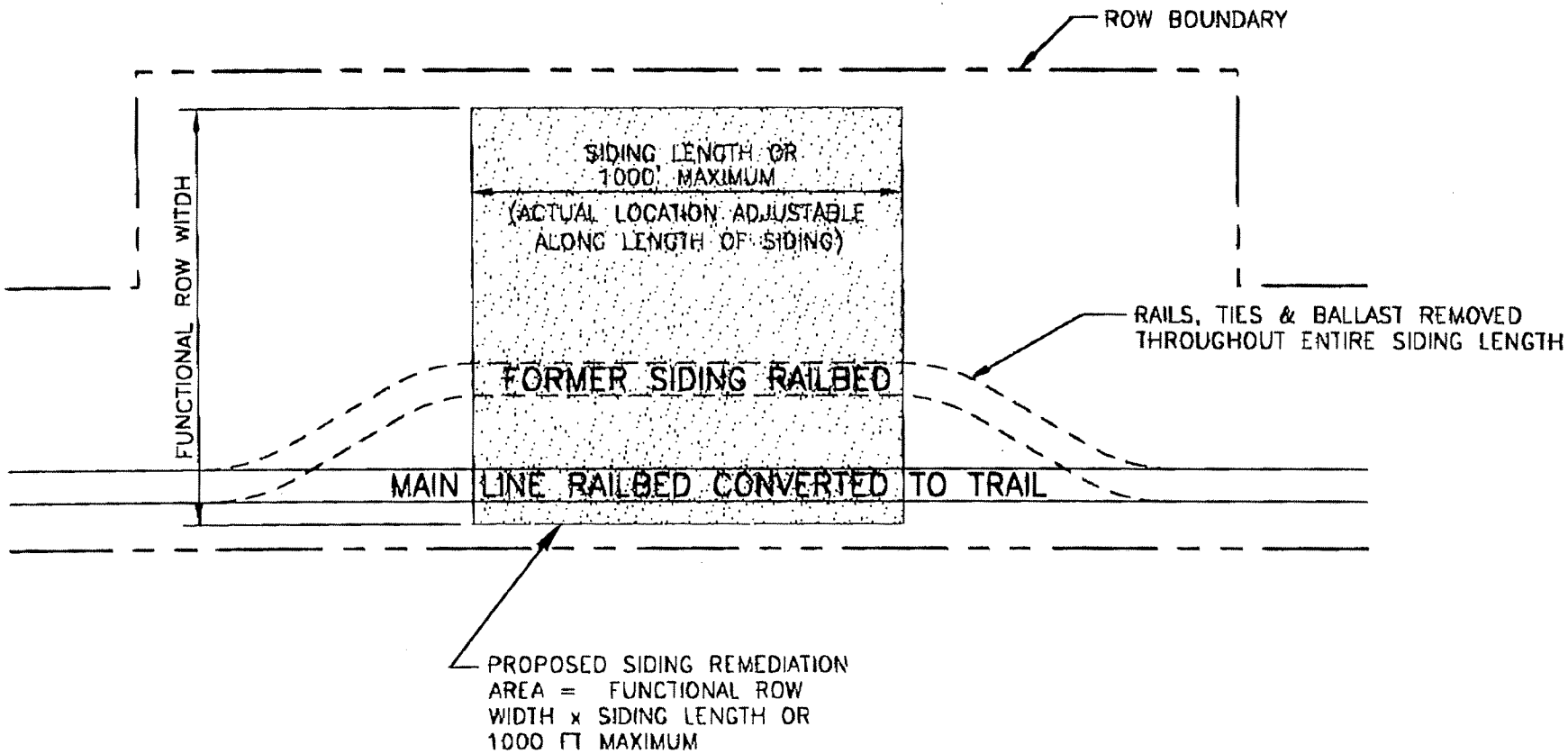

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FIGURE 6–4

CONCEPTUAL RURAL SIDING REMOVAL & BARRIER PLAN

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