



DOE/EA-1408

Proposed Future Disposition of
Certain Cerro Grande Fire Flood and
Sediment Retention Structures at
Los Alamos National Laboratory,
Los Alamos, New Mexico



August 8, 2002

Department of Energy
National Nuclear Security Administration
Los Alamos Site Office

Contents

Acronyms and Terms	vii
Summary	1
1.0 Purpose and Need	3
1.1 Introduction	3
1.2 Background.....	3
1.3 Purpose and Need for Agency Action	8
1.4 Scope of This EA	8
1.5 Public Involvement	9
2.0 Proposed Action and Alternatives	11
2.1 Description of Structures	11
2.1.1 Flood Retention Structure	11
2.1.2 Low-head Weir and Detention Basin.....	18
2.1.3 Road Reinforcements.....	19
2.1.4 Steel Diversion Wall.....	20
2.2 Proposed Action.....	21
2.2.1 Flood Retention Structure	22
2.2.2 Low-head Weir and Detention Basin.....	24
2.2.3 Road Reinforcements.....	24
2.2.4 Steel Diversion Wall.....	24
2.3 Disassembly of All Structures Alternative	25
2.3.1 Flood Retention Structure	25
2.3.2 Low-head Weir and Detention Basin.....	27
2.3.3 Road Reinforcements.....	27
2.3.4 Steel Diversion Wall.....	28
2.4 No Action Alternative	28
2.4.1 Flood Retention Structure	28
2.4.2 Low-head Weir and Detention Basin.....	28
2.4.3 Road Reinforcements.....	28
2.4.4 Steel Diversion Wall.....	28
2.5 Alternatives Considered but not Analyzed	28
2.6 Related Actions	28
2.6.1 Special Environmental Analysis.....	28
2.6.2 Relocation of TA-18 Operations	29
2.6.3 Site-Wide Environmental Impact Statement	29
3.0 Affected Environment	31
3.1 Regional Setting.....	31
3.2 Waste Management	36
3.3 Air Quality	36
3.4 Floodplains and Wetlands	37
3.5 Biological Resources	38
3.6 Cultural Resources	39
3.7 Geology	40
3.8 Water Resources (Ground and Surface)	44
3.9 Human Health	45
3.10 Noise	45
3.11 Traffic and Transportation.....	46

3.12	Visual Resources	47
4.0	Environmental Consequences	49
4.1	Effects of the Proposed Action	49
4.1.1	Waste Management	49
4.1.2	Air Quality	50
4.1.3	Floodplains and Wetlands	50
4.1.4	Biological Resources	51
4.1.5	Cultural Resources	52
4.1.6	Geology	52
4.1.7	Water Resources (Ground and Surface)	53
4.1.8	Human Health	54
4.1.9	Noise	55
4.1.10	Traffic and Transportation	56
4.1.11	Visual Resources	56
4.2	Effects of the Disassembly of All Structures Alternative	57
4.2.1	Waste Management	57
4.2.2	Air Quality	58
4.2.3	Floodplains and Wetlands	58
4.2.4	Biological Resources	59
4.2.5	Cultural Resources	59
4.2.6	Geology	60
4.2.7	Water Resources (Ground and Surface)	60
4.2.8	Human Health	61
4.2.9	Noise	61
4.2.10	Traffic and Transportation	62
4.2.11	Visual Resources	63
4.3	Effects of the No Action Alternative	63
4.3.1	Waste Management	63
4.3.2	Air Quality	64
4.3.3	Floodplains and Wetlands	64
4.3.4	Biological Resources	65
4.3.5	Cultural Resources	65
4.3.6	Geology	65
4.3.7	Water Resources (Ground and Surface)	66
4.3.8	Human Health	67
4.3.9	Noise	67
4.3.10	Traffic and Transportation	68
4.3.11	Visual Resources	68
5.0	Accident Analysis	69
5.1	FRS Structural Failure Hazards	69
5.2	Demolition (Construction) Hazards	69
5.3	Transportation Hazards	70
6.0	Cumulative Effects	71
7.0	Agencies Consulted	73
	References	75
	Appendix: A Floodplains and Wetlands Assessment of the Proposed Future Disposition of Certain Cerro Grande Fire Flood and Sediment Retention Structures at Los Alamos National Laboratory	81

Figures

Figure 1.	Location of Los Alamos National Laboratory.....	4
Figure 2.	Extent and Severity of the Cerro Grand Fire.....	6
Figure 3.	Location of certain flood and sediment retention structures.	7
Figure 4.	Upstream face of the FRS from upstream, north bank.....	12
Figure 5.	Close-up of the RCC construction material. Quarter is placed to show scale.	12
Figure 6.	Composite cross-section of the FRS.....	13
Figure 7.	FRS from top of canyon to show 200-ft- wide (60 m) spillway.....	14
Figure 8.	Close-up of the 73-ft (21.9 m) intake tower taken from reservoir on upstream side of FRS. .	15
Figure 9.	Inlet tower taken from north bank of reservoir to show spacing of openings.	16
Figure 10.	Close-up of inlet tower to show galvanized trash rack.	16
Figure 11.	Los Alamos Canyon weir showing detention basin on the left and gabions on the right.....	18
Figure 12.	Road reinforcements along SR 501	19
Figure 13.	Steel diversion wall at TA-18 under construction.	20
Figure 14.	Detail of joined steel panel in steel diversion wall.	21
Figure 15.	Digitally altered picture of the FRS to show partial removal.	22
Figure 16.	Digitally altered picture of complete removal of the FRS.....	25
Figure 17.	Location of FRS in Pajarito Canyon.....	32
Figure 18.	Location of low-head weir in Los Alamos Canyon.....	33
Figure 19.	Location of road reinforcements in Two-Mile Canyon and Pajarito Canyon.	34
Figure 20.	Location of steel diversion wall in Pajarito Canyon above TA-8.....	35
Figure 21.	Generalized geologic map of the Rio Grande Rift in northern New Mexico.	41
Figure 22.	Stratigraphy of the Bandelier Tuff.....	42

Tables

Table 1.	Potential Environmental Issues Applicable to this EA	31
----------	--	----

