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DEVELOPMENT

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01/20/2025

El Paso County Public Works
3275 Akers Drive
Colorado Springs, CO 80922

Re: Eastonville Road – Non-Jurisdictional Water Impoundment Structure Forms

To Whom it may concern,

Transmitted herein is a copy of the Eastonville Road "Non-Jurisdictional Water Impoundment Structure Forms" for all proposed detention basins of the Eastonville Road project. These forms will be submitted to the State of Colorado Division of Water Resources as required per Section 37-87-125, C.R.C. (1988) to the Division Engineer's Office, a minimum of 45 days prior to construction.

There are no comments anticipated, all detention basins for the Eastonville road project do not meet any of the criteria to be classified as a "Non-Jurisdictional Structure" by the State Engineer.

Thank you,

Colleen Monahan, P.E., LEED AP

COLORADO
Division of Water Resources
Department of Natural Resources
dwr.colorado.gov P 303.866.3581

NON-JURISDICTIONAL WATER IMPOUNDMENT STRUCTURE[1]

This notice is required per Section 37-87-125, C.R.S. (1998) and
must be submitted to the Division Engineer's Office a minimum of 45 days prior to construction.

OWNER INFORMATION

Name: D.R. HORTON Telephone/E-Mail: (303)503-4903 / RHILLEN@DRHORTON.COM

Address: 9555 S. KINGSTON CT ENGLEWOOD COLORADO 80112
Street / P.O. Box/ Rural Route | City | State | Zip Code

Responsible Person: RILEY HILLEN, P.E. Telephone/E-Mail: (303)503-4903 / RHILLEN@DRHORTON.COM

Address: 9555 S. KINGSTON CT ENGLEWOOD COLORADO 80112
Street / P.O. Box/ Rural Route | City | State | Zip Code

Contractor: TBD Telephone/E-Mail: ( ) TBD / TBD

STRUCTURE INFORMATION

Name of Dam: EASTONVILLE RD - POND A Water Division: 2 Water District: 10

Location: *(Provide Section, Township, Range, **and** GPS Point taken at crest of dam above streamline/outlet)*

- Section: 28, Township: 12S, Range: 64W, 6TH P.M.

- Northing 432348.44 meters, Easting 995024.78 meters (*Datum should be UTM, NAD 83)*

Dam Dimensions:

- Vertical Height[2]: 6.08 ft., Length: 128.5 ft., Crest Width: 12 ft., Slopes: U/S: 4 (H:1V), D/S 3 (H:1V)

Reservoir:

- Surface Area[1]: 0.214 acres, Capacity[1]: 0.512 acre-feet, Drainage Area*: 1.58 acres
**(If drainage area is unknown leave blank and a spillway size will be assigned):*

Emergency Spillway: *(See Table 1, Spillway Sizing Guidelines)*

- Bottom Width: 5 ft., Side Slopes: 4 H:1V, Freeboard[3]: 1.26 ft

Outlet Conduit Type: Reinforced Concrete Pipe (RCP), Size: 18" inches, Location: SW end of SFB

Stream Name or Water Source[4]: Gieck Ranch Tributary Proposed Water Use: NA

Water Court Case ***or*** WDID : TBD
(Water District Identification Number)

Signature of Owner Date

Office Use Only

DIVISION ENGINEER'S REQUIREMENTS:

Dam I.D. Signature of Division Engineer Date

[1] A "Non-Jurisdictional Structure" is a dam creating a reservoir with a capacity of 100 acre-feet or less *and* a surface area of 20 acres or less *and* a vertical height (footnote 2) of 10 feet or less. Non-jurisdictional size dams are regulated and subject to the authority of the State Engineer consistent with sections 37-87-102 and 37-87-105 C.R.S.

[2] "Vertical Height" is measured from the elevation of the lowest point of the natural surface of the ground or the invert of the outlet conduit (whichever is lower) where that point occurs along the longitudinal centerline of the dam up to the crest of the emergency spillway of the dam.

[3] "Freeboard" is the vertical distance from the bottom of spillway to the crest of the dam. Minimum Freeboard is 3 feet.

[4] If construction in reservoir intercepts groundwater, a well permit is required. (Well permit applications can be found at dwr.colorado.gov)

COLORADO
Division of Water Resources
Department of Natural Resources

Table 1 DAM SAFETY BRANCH Spillway Sizing Guidelines for Non-Jurisdictional Dams

Drainage Area (Acres)	Minimum Recommended Bottom Width[1] (Feet) Low Intensity Rainfall Zone	Minimum Recommended Bottom Width[1] (Feet) High Intensity Rainfall Zone
175	8	8
225	8	10
275	8	12
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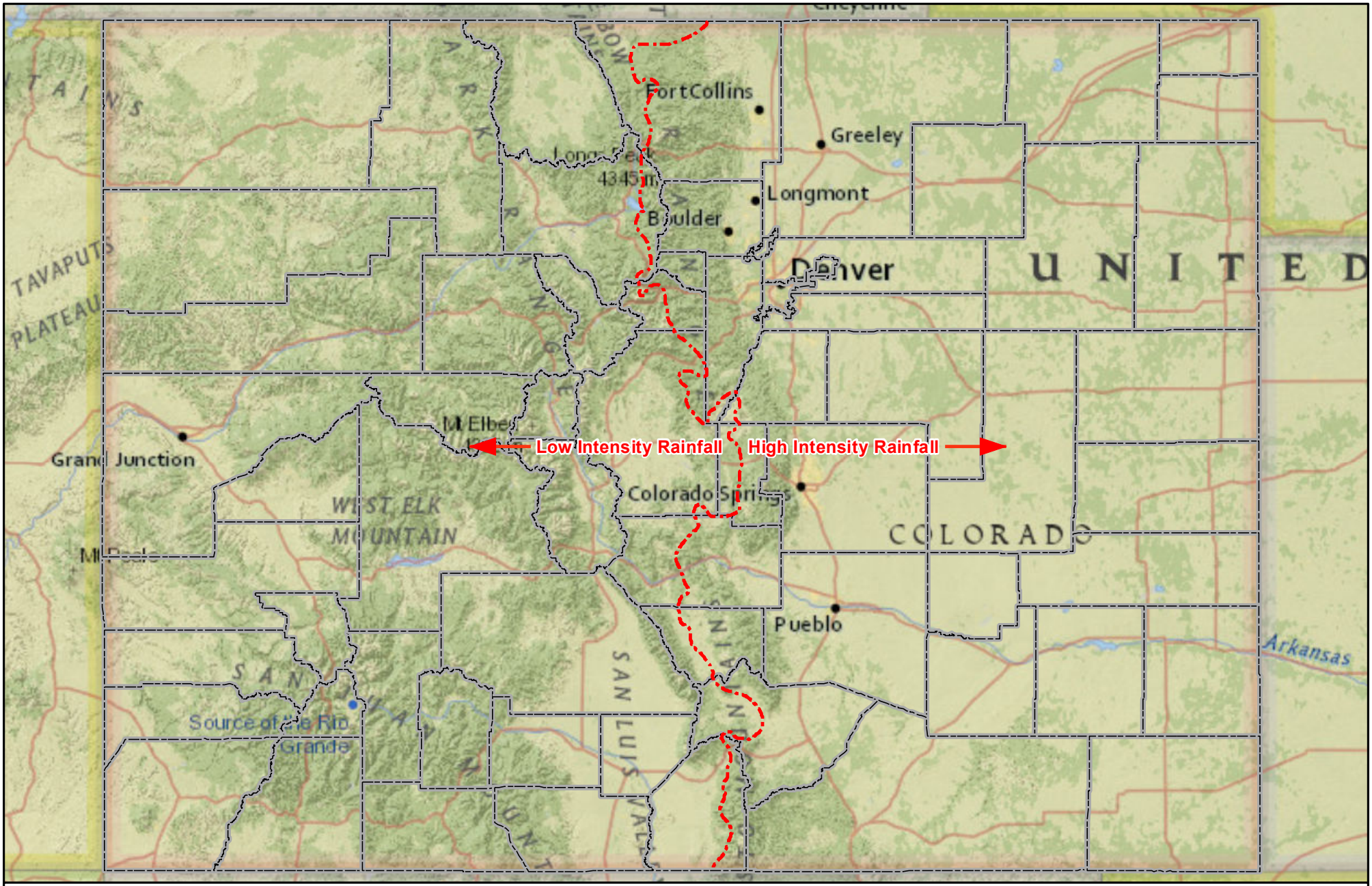
375	10	17
425	11	19
475	12	21
525	13	24
575	15	26
625	16	28
675	17	30
725	19	33
775	20	35
825	21	37
875	22	39
925	24	42
975	25	44
1025	26	46
1075	28	48
1125	29	51
1175	30	53
1225	31	55
1275	33	57
1325	34	59
1375	35	62
1425	37	64
1475	38	66

[1]Minimum recommended bottom width for drainage areas less than 175 acres is 8 feet

Spillway Section



COLORADO
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Department of Natural Resources

Rainfall Intensity Zones for Non-Jurisdictional Dam Spillway Sizing

COLORADO
Division of Water Resources
Department of Natural Resources

DAM SAFETY BRANCH Specifications for Construction of Non-Jurisdictional Dams

- Site Selection:
  - Foundation soils should be firm to provide adequate support for the embankment and should have low permeability to allow for water retention. Site selection should consider potential downstream property damage in the event of a dam failure. Construction of dams in boggy areas, areas with non-uniform fractured rock, or sands/gravels is not recommended and an engineer should be hired to evaluate the site conditions. Any part of the reservoir basin excavated below grade cannot expose groundwater.

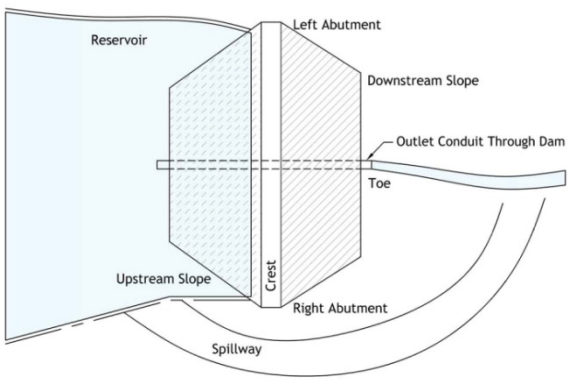
- Embankment Design:
  - Backfill material to be used for construction of the cutoff trench and embankment should be a suitable clay material and contain no material larger than 6 inches in diameter.
  - The upstream slope should be constructed with a slope no steeper than 3:1, and the downstream slope should be no steeper than 2:1 (see cross section below). The dam crest should have a minimum width of 10 feet and the surface should be graded with positive drainage toward the reservoir basin.
  - It is recommended that rock rip rap or other suitable material be placed on the upstream slope of the embankment to protect it from wave action. A suitable gravel or geosynthetic material should be placed under the rip rap to prevent fine material from washing out from behind the larger rock.
  - The embankment should be fenced to restrict livestock from accessing the dam since they damage the protective vegetation and increase erosion.

- Embankment Construction
  - The topsoil and all organic material should be removed from the foundation of the proposed dam site. Organic soil should only be reused for placement on the completed embankment to promote the re-growth of vegetation.
  - A cutoff trench should be excavated under the full length of the centerline of the dam with sloping sides (1:1 min.), a minimum bottom width of 3 feet and a depth of 3 feet.
  - The foundation of the dam should be scarified/ripped to a depth of 6-inches to provide proper contact between the native foundation and embankment. This surface should then be moisture treated before placement of fill.
  - Fill material should be placed in layers not exceeding 12 inches in thickness prior to compaction. Suitable backfill material should have enough clay and moisture content to roll a small ball by hand. If this cannot be done, the soil is likely too dry or does not have adequate clay content.
  - Each lift should be thoroughly compacted using a sheeps foot compactor. Care should be taken not to allow the top layers of the soil to dry out between placement of lifts.
  - Fill should be placed in uniform lifts that cover the entire embankment length and width.

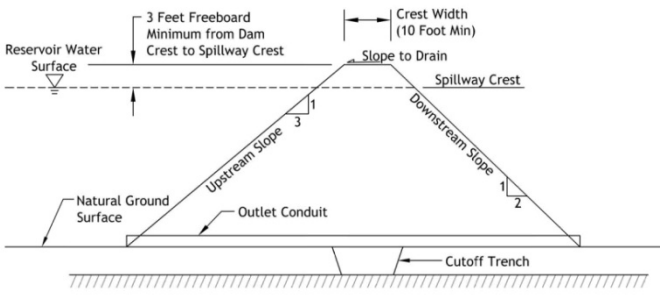
- Outlet
  - Unless a waiver is granted in writing by the Division Engineer, all non-jurisdictional dams require an outlet conduit positioned at the natural low point of the reservoir basin. A minimum diameter of 12 inches is recommended and should be controlled at the upstream end by a valve and trash rack.

- Emergency Spillway
  - The spillway should have sufficient width to provide capacity to route the runoff from the drainage basin above the dam during rainfall/runoff events.
  - The emergency spillway should be located on natural ground far enough away to prevent erosion of the dam embankment. A spillway over the dam embankment is not acceptable.
  - A minimum of 3 feet of freeboard is required from the bottom of the emergency spillway to the top of the dam.
  - To determine the minimum spillway width, see the attached table for your area and drainage basin size.

- Example Plan View and Cross Section



Plan View



Cross Section Through Dam at Outlet

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Contractor: TBD Telephone/E-Mail: ( ) TBD / TBD

STRUCTURE INFORMATION

Name of Dam: EASTONVILLE RD - POND B Water Division: 2 Water District: 10

Location: *(Provide Section, Township, Range, **and** GPS Point taken at crest of dam above streamline/outlet)*

- Section: 21, Township: 12S, Range: 64W, 6TH P.M.

- Northing 433011.07 meters, Easting 995155.23 meters (*Datum should be UTM, NAD 83)*

Dam Dimensions:

- Vertical Height[2]: 8.25 ft., Length: 172 ft., Crest Width: 12 ft., Slopes: U/S: 4 (H:1V), D/S 4 (H:1V)

Reservoir:

- Surface Area[1]: 0.423 acres, Capacity[1]: 1.786 acre-feet, Drainage Area*: 9.48 acres
**(If drainage area is unknown leave blank and a spillway size will be assigned):*

Emergency Spillway: *(See Table 1, Spillway Sizing Guidelines)*

- Bottom Width: 15.5 ft., Side Slopes: 4 H:1V, Freeboard[3]: 1.5 ft

Outlet Conduit Type: Reinforced Concrete Pipe (RCP), Size: 18" inches, Location: NE end of EDB

Stream Name or Water Source[4]: Gieck Ranch Tributary Proposed Water Use: NA

Water Court Case ***or*** WDID : TBD
(Water District Identification Number)

_____
Signature of Owner Date

Office Use Only

DIVISION ENGINEER'S REQUIREMENTS: _____

_____

_____

_____
Dam I.D._____ Signature of Division Engineer Date

[1] A "Non-Jurisdictional Structure" is a dam creating a reservoir with a capacity of 100 acre-feet or less *and* a surface area of 20 acres or less *and* a vertical height (footnote 2) of 10 feet or less. Non-jurisdictional size dams are regulated and subject to the authority of the State Engineer consistent with sections 37-87-102 and 37-87-105 C.R.S.

[2] "Vertical Height" is measured from the elevation of the lowest point of the natural surface of the ground or the invert of the outlet conduit (whichever is lower) where that point occurs along the longitudinal centerline of the dam up to the crest of the emergency spillway of the dam.

[3] "Freeboard" is the vertical distance from the bottom of spillway to the crest of the dam. Minimum Freeboard is 3 feet.

[4] If construction in reservoir intercepts groundwater, a well permit is required. (Well permit applications can be found at dwr.colorado.gov)

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Department of Natural Resources

Table 1 DAM SAFETY BRANCH Spillway Sizing Guidelines for Non-Jurisdictional Dams

Drainage Area (Acres)	Minimum Recommended Bottom Width[1] (Feet) Low Intensity Rainfall Zone	Minimum Recommended Bottom Width[1] (Feet) High Intensity Rainfall Zone
175	8	8
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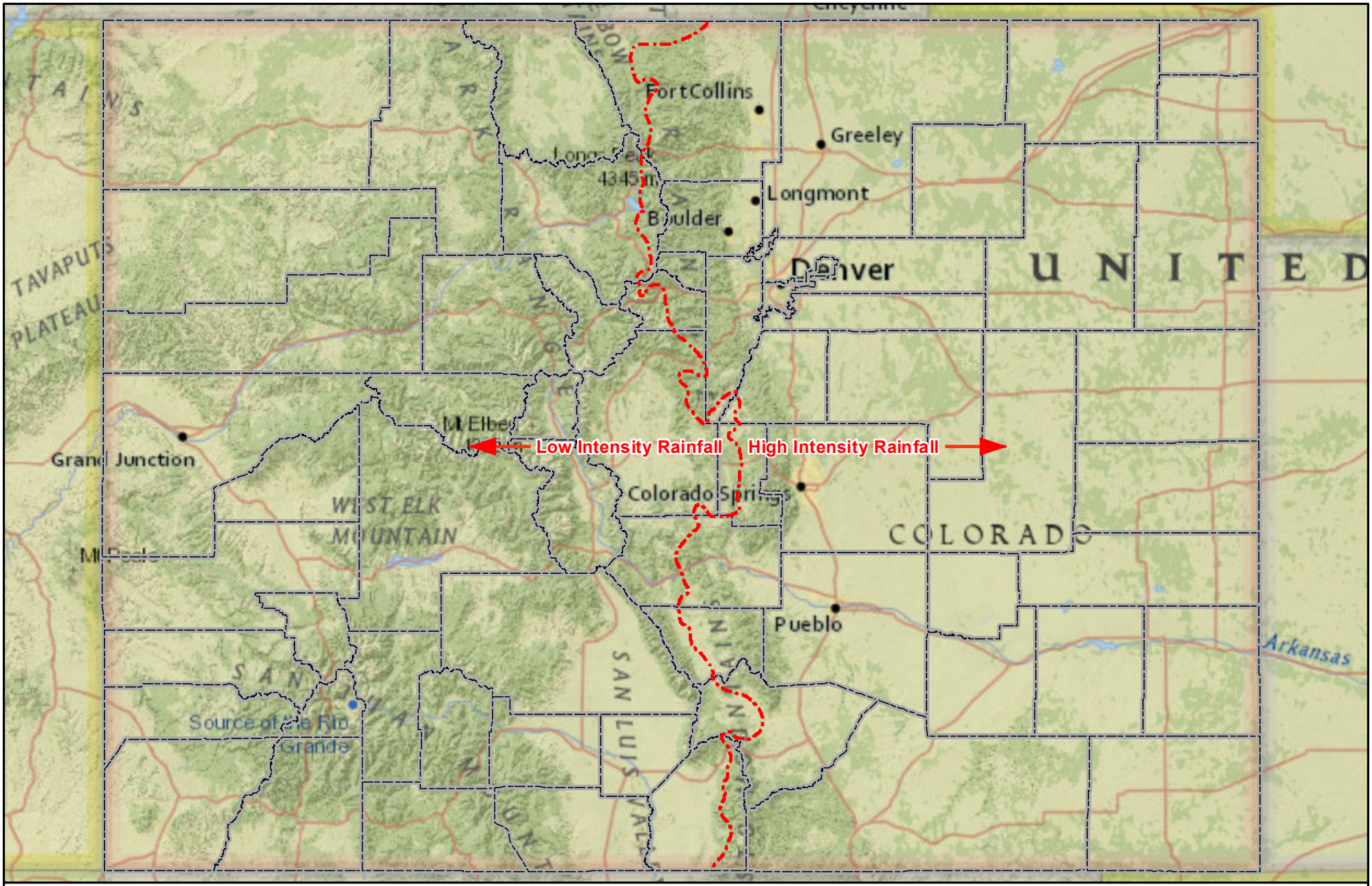
[1]Minimum recommended bottom width for drainage areas less than 175 acres is 8 feet

Spillway Section



COLORADO
Division of Water Resources
Department of Natural Resources

Rainfall Intensity Zones for Non-Jurisdictional Dam Spillway Sizing

COLORADO
Division of Water Resources
Department of Natural Resources

DAM SAFETY BRANCH Specifications for Construction of Non-Jurisdictional Dams

- Site Selection:
  - Foundation soils should be firm to provide adequate support for the embankment and should have low permeability to allow for water retention. Site selection should consider potential downstream property damage in the event of a dam failure. Construction of dams in boggy areas, areas with non-uniform fractured rock, or sands/gravels is not recommended and an engineer should be hired to evaluate the site conditions. Any part of the reservoir basin excavated below grade cannot expose groundwater.

- Embankment Design:
  - Backfill material to be used for construction of the cutoff trench and embankment should be a suitable clay material and contain no material larger than 6 inches in diameter.
  - The upstream slope should be constructed with a slope no steeper than 3:1, and the downstream slope should be no steeper than 2:1 (see cross section below). The dam crest should have a minimum width of 10 feet and the surface should be graded with positive drainage toward the reservoir basin.
  - It is recommended that rock rip rap or other suitable material be placed on the upstream slope of the embankment to protect it from wave action. A suitable gravel or geosynthetic material should be placed under the rip rap to prevent fine material from washing out from behind the larger rock.
  - The embankment should be fenced to restrict livestock from accessing the dam since they damage the protective vegetation and increase erosion.

- Embankment Construction
  - The topsoil and all organic material should be removed from the foundation of the proposed dam site. Organic soil should only be reused for placement on the completed embankment to promote the re-growth of vegetation.
  - A cutoff trench should be excavated under the full length of the centerline of the dam with sloping sides (1:1 min.), a minimum bottom width of 3 feet and a depth of 3 feet.
  - The foundation of the dam should be scarified/ripped to a depth of 6-inches to provide proper contact between the native foundation and embankment. This surface should then be moisture treated before placement of fill.
  - Fill material should be placed in layers not exceeding 12 inches in thickness prior to compaction. Suitable backfill material should have enough clay and moisture content to roll a small ball by hand. If this cannot be done, the soil is likely too dry or does not have adequate clay content.
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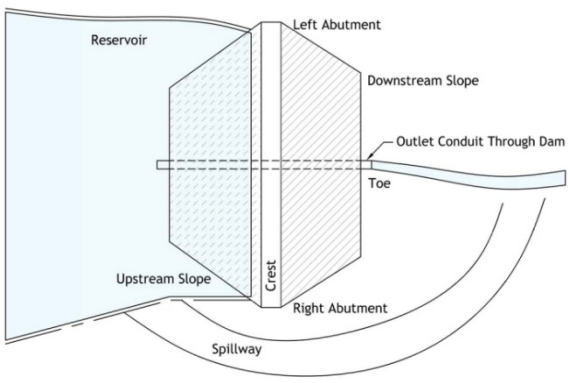
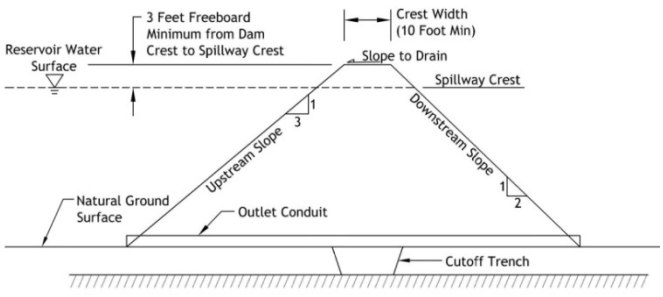


Plan View



Cross Section Through Dam at Outlet

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Name of Dam: EASTONVILLE RD - POND C Water Division: 2 Water District: 10

Location: *(Provide Section, Township, Range, **and** GPS Point taken at crest of dam above streamline/outlet)*

- Section: 21, Township: 12S, Range: 64W, 6TH P.M.

- Northing 433853.84 meters, Easting 995481.68 meters (*Datum should be UTM, NAD 83)*

Dam Dimensions:

- Vertical Height[2]: 6 ft., Length: 69 ft., Crest Width: 12 ft., Slopes: U/S: 4 (H:1V), D/S 4 (H:1V)

Reservoir:

- Surface Area[1]: 0.423 acres, Capacity[1]: 0.144 acre-feet, Drainage Area*: 0.63 acres
**(If drainage area is unknown leave blank and a spillway size will be assigned):*

Emergency Spillway: *(See Table 1, Spillway Sizing Guidelines)*

- Bottom Width: 5 ft., Side Slopes: 4 H:1V, Freeboard[3]: 1.23 ft

Outlet Conduit Type: Reinforced Concrete Pipe (RCP), Size: 18" inches, Location: SE end of SFB

Stream Name or Water Source[4]: Gieck Ranch Tributary Proposed Water Use: NA

Water Court Case ***or*** WDID : TBD
(Water District Identification Number)

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Signature of Owner Date

Office Use Only

DIVISION ENGINEER'S REQUIREMENTS: _____

_____

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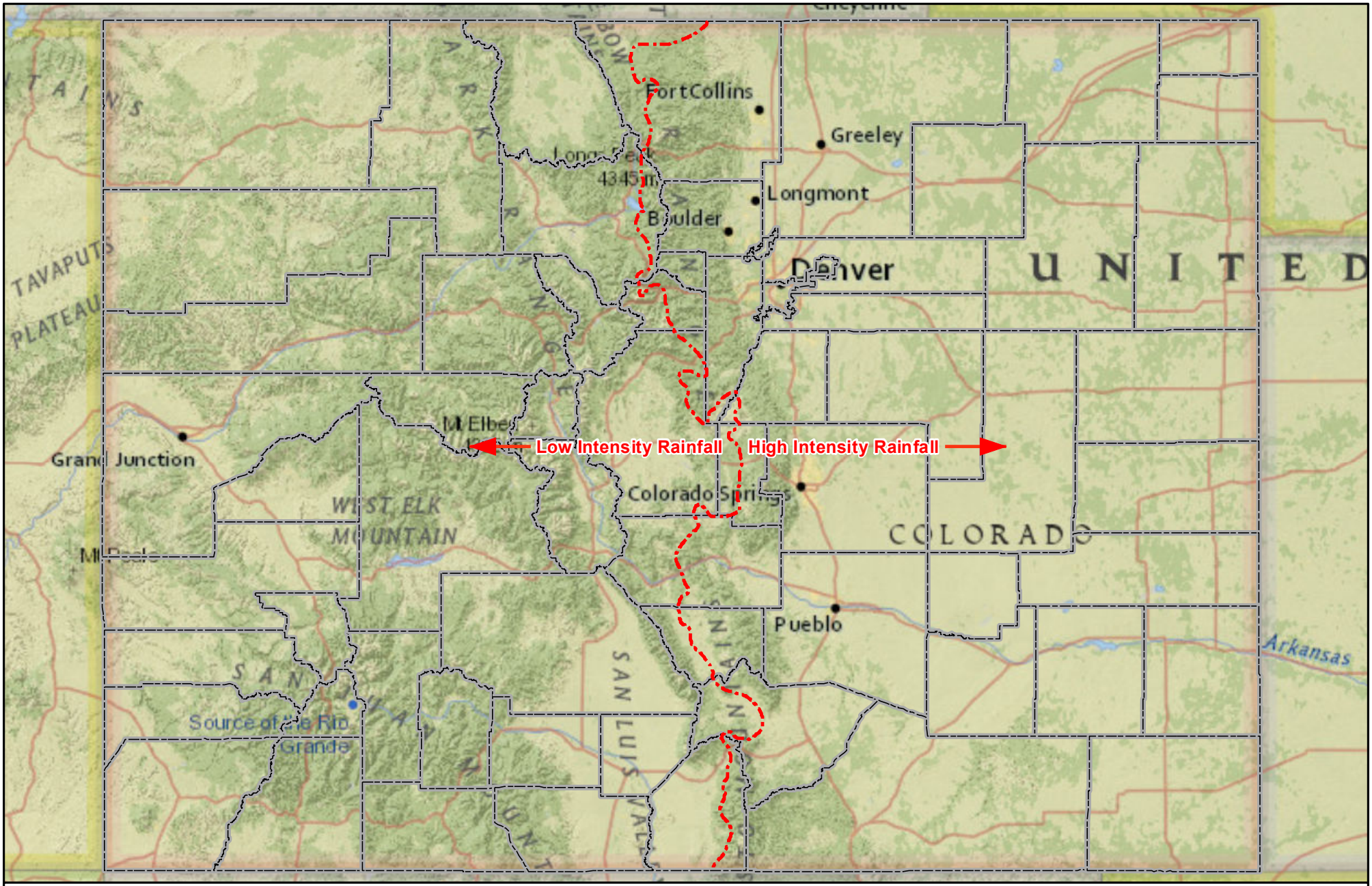

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Rainfall Intensity Zones for Non-Jurisdictional Dam Spillway Sizing

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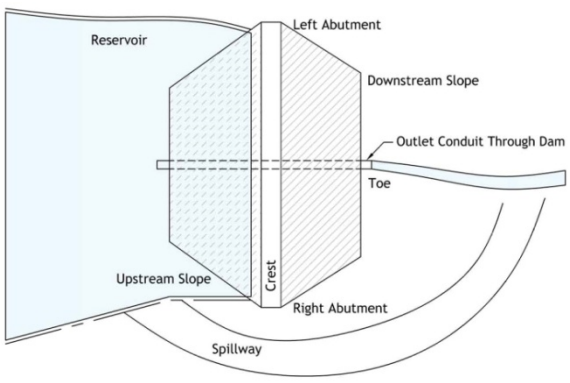

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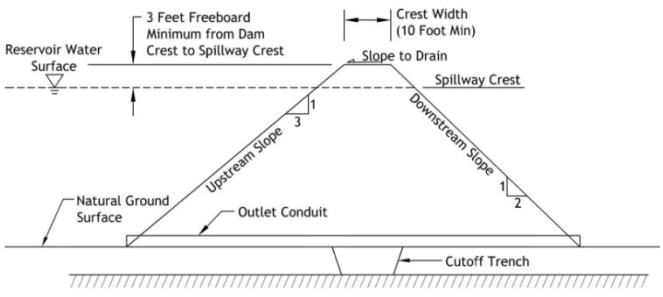

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- Northing 432075.64 meters, Easting 994811.42 meters (*Datum should be UTM, NAD 83)*

Dam Dimensions:

- Vertical Height[2]: 9.88 ft., Length: 132 ft., Crest Width: 12 ft., Slopes: U/S: 4 (H:1V), D/S 3 (H:1V)

Reservoir:

- Surface Area[1]: 0.239 acres, Capacity[1]: 0.934 acre-feet, Drainage Area*: 3.93 acres
**(If drainage area is unknown leave blank and a spillway size will be assigned):*

Emergency Spillway: *(See Table 1, Spillway Sizing Guidelines)*

- Bottom Width: 4 ft., Side Slopes: 4 H:1V, Freeboard[3]: 1.5 ft

Outlet Conduit Type: Reinforced Concrete Pipe (RCP), Size: 18" inches, Location: SW end of SFB

Stream Name or Water Source[4]: Gieck Ranch Tributary Proposed Water Use: NA

Water Court Case ***or*** WDID : TBD
(Water District Identification Number)

_____
Signature of Owner Date

Office Use Only

DIVISION ENGINEER'S REQUIREMENTS: _____

_____

_____

_____
Dam I.D._____ Signature of Division Engineer Date

[1] A "Non-Jurisdictional Structure" is a dam creating a reservoir with a capacity of 100 acre-feet or less *and* a surface area of 20 acres or less *and* a vertical height (footnote 2) of 10 feet or less. Non-jurisdictional size dams are regulated and subject to the authority of the State Engineer consistent with sections 37-87-102 and 37-87-105 C.R.S.

[2] "Vertical Height" is measured from the elevation of the lowest point of the natural surface of the ground or the invert of the outlet conduit (whichever is lower) where that point occurs along the longitudinal centerline of the dam up to the crest of the emergency spillway of the dam.

[3] "Freeboard" is the vertical distance from the bottom of spillway to the crest of the dam. Minimum Freeboard is 3 feet.

[4] If construction in reservoir intercepts groundwater, a well permit is required. (Well permit applications can be found at dwr.colorado.gov)

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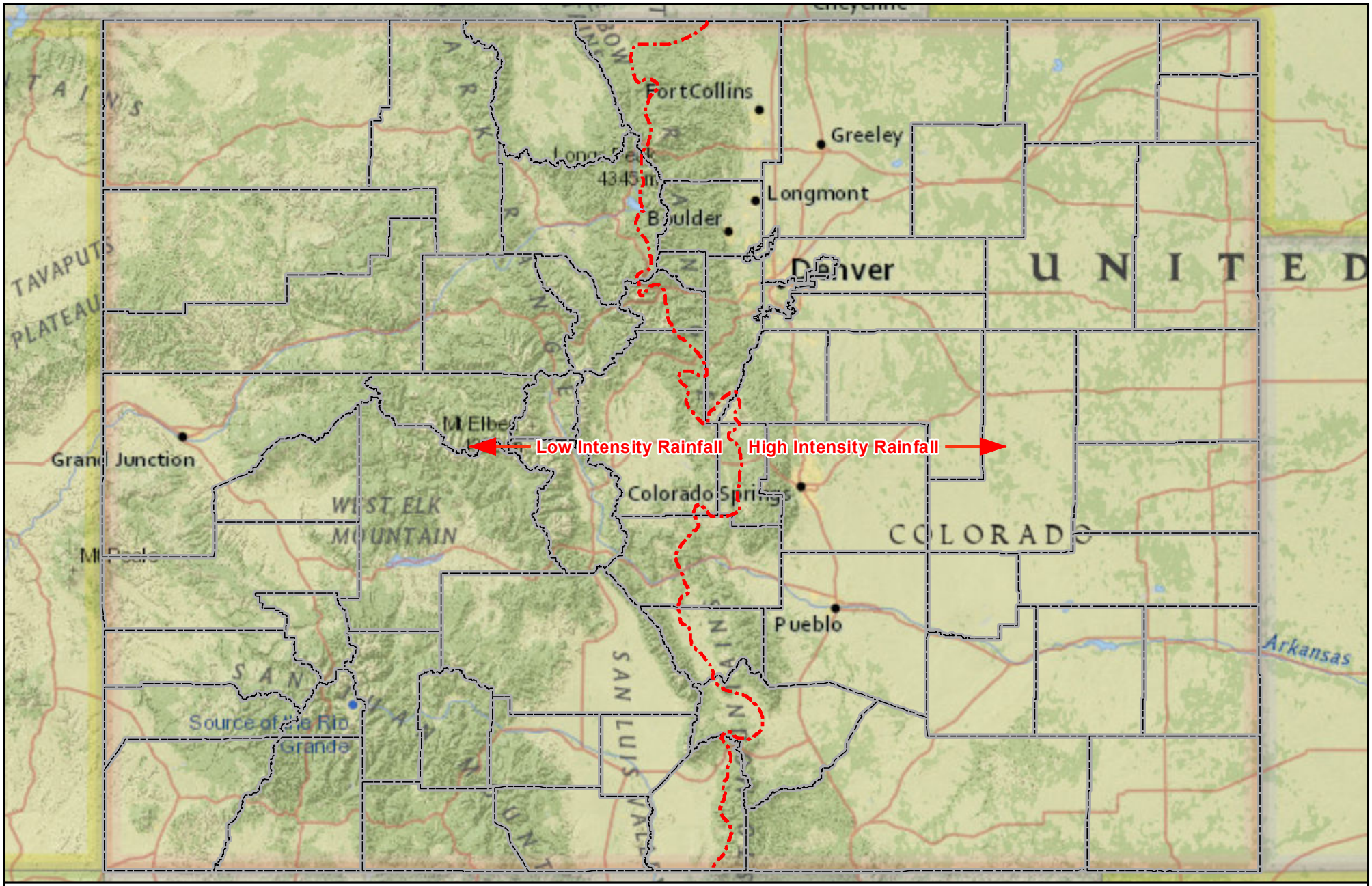
Table 1 DAM SAFETY BRANCH Spillway Sizing Guidelines for Non-Jurisdictional Dams

Drainage Area (Acres)	Minimum Recommended Bottom Width[1] (Feet) Low Intensity Rainfall Zone	Minimum Recommended Bottom Width[1] (Feet) High Intensity Rainfall Zone
175	8	8
225	8	10
275	8	12
325	8	15
375	10	17
425	11	19
475	12	21
525	13	24
575	15	26
625	16	28
675	17	30
725	19	33
775	20	35
825	21	37
875	22	39
925	24	42
975	25	44
1025	26	46
1075	28	48
1125	29	51
1175	30	53
1225	31	55
1275	33	57
1325	34	59
1375	35	62
1425	37	64
1475	38	66

[1]Minimum recommended bottom width for drainage areas less than 175 acres is 8 feet

Spillway Section



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Rainfall Intensity Zones for Non-Jurisdictional Dam Spillway Sizing

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DAM SAFETY BRANCH Specifications for Construction of Non-Jurisdictional Dams

- Site Selection:
  - Foundation soils should be firm to provide adequate support for the embankment and should have low permeability to allow for water retention. Site selection should consider potential downstream property damage in the event of a dam failure. Construction of dams in boggy areas, areas with non-uniform fractured rock, or sands/gravels is not recommended and an engineer should be hired to evaluate the site conditions. Any part of the reservoir basin excavated below grade cannot expose groundwater.

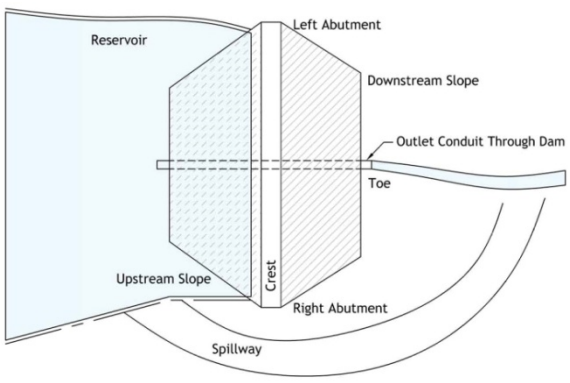
- Embankment Design:
  - Backfill material to be used for construction of the cutoff trench and embankment should be a suitable clay material and contain no material larger than 6 inches in diameter.
  - The upstream slope should be constructed with a slope no steeper than 3:1, and the downstream slope should be no steeper than 2:1 (see cross section below). The dam crest should have a minimum width of 10 feet and the surface should be graded with positive drainage toward the reservoir basin.
  - It is recommended that rock rip rap or other suitable material be placed on the upstream slope of the embankment to protect it from wave action. A suitable gravel or geosynthetic material should be placed under the rip rap to prevent fine material from washing out from behind the larger rock.
  - The embankment should be fenced to restrict livestock from accessing the dam since they damage the protective vegetation and increase erosion.

- Embankment Construction
  - The topsoil and all organic material should be removed from the foundation of the proposed dam site. Organic soil should only be reused for placement on the completed embankment to promote the re-growth of vegetation.
  - A cutoff trench should be excavated under the full length of the centerline of the dam with sloping sides (1:1 min.), a minimum bottom width of 3 feet and a depth of 3 feet.
  - The foundation of the dam should be scarified/ripped to a depth of 6-inches to provide proper contact between the native foundation and embankment. This surface should then be moisture treated before placement of fill.
  - Fill material should be placed in layers not exceeding 12 inches in thickness prior to compaction. Suitable backfill material should have enough clay and moisture content to roll a small ball by hand. If this cannot be done, the soil is likely too dry or does not have adequate clay content.
  - Each lift should be thoroughly compacted using a sheeps foot compactor. Care should be taken not to allow the top layers of the soil to dry out between placement of lifts.
  - Fill should be placed in uniform lifts that cover the entire embankment length and width.

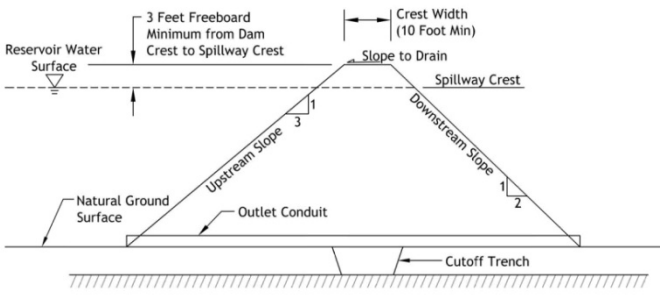
- Outlet
  - Unless a waiver is granted in writing by the Division Engineer, all non-jurisdictional dams require an outlet conduit positioned at the natural low point of the reservoir basin. A minimum diameter of 12 inches is recommended and should be controlled at the upstream end by a valve and trash rack.

- Emergency Spillway
  - The spillway should have sufficient width to provide capacity to route the runoff from the drainage basin above the dam during rainfall/runoff events.
  - The emergency spillway should be located on natural ground far enough away to prevent erosion of the dam embankment. A spillway over the dam embankment is not acceptable.
  - A minimum of 3 feet of freeboard is required from the bottom of the emergency spillway to the top of the dam.
  - To determine the minimum spillway width, see the attached table for your area and drainage basin size.

- Example Plan View and Cross Section



Plan View



Cross Section Through Dam at Outlet