Attachment 1

Technical Memo – WHEX Pond Design

TECHNICAL MEMORANDUM
WHEX POND DESIGN

9540 Maroon Circle
Suite 300
Englewood, CO 80112

T: 720.508.3300
F: 720.508.3339

To: **Jeff Gaul, Senior Engineer**

From: **Roxanne Li, P.E.**

Jay Janney-Moore, P.E.

Project: **VLF2 Phase 3**

Project No: **475.0106.060**

Subject: **WHEX Sediment Pond Basis of Design**

Date: **10 May 2023**

The existing sediment pond (EMP-18) at the Mine owned by Cripple Creek and Victor Gold Mining Company (CC&V), located north of the Wild Horse Expansion (WHEX) Pit and south of Mollie Kathleen Road (County Road 82), is currently located on a valuable clay resource that CC&V intends to excavate and use for the Vertical Leach Facility 2 (VLF2) Phase 3 expansion project. This technical memo outlines the design basis for the replacement sediment pond EMP-18b as well as two channels designed to convey stormwater from culverts into the pond.

1.0 SEDIMENT POND EMP-18B

Sediment pond EMP-18b will remain open throughout closure of the Mine, and so has been sized to contain runoff from the 500-year, 24-hour storm event. The design storm volume was calculated using an SCS type II storm in HEC-HMS. The following inputs were used in the HEC-HMS model:

- The Precipitation Frequency Data Server from the National Oceanic and Atmospheric Administration was used to obtain a 500-year, 24-hour storm event depth of 6.10 inches
- The Web Soil Survey from the United States Department of Agriculture was used to obtain hydrologic soil groups, which were used to calculate a composite curve number (CN) of 67.
- Watershed area, average slope and length of the longest flow path were measured using AutoCAD Civil3D software.

A summary of the sediment pond hydrology calculations can be found in Attachment A.

Sediment loading calculations were completed using the EPA's online Pollutant Load Estimator Tool (PLET). The PLET utilizes the Universal Soil Loss Equation to calculate the total sediment

runoff from a given watershed. The soil and cover inputs used were the average values from Teller County, Colorado. A summary of inputs and calculations from the tool can be found in Attachment A.

The final pond has the capacity to store the 500-year, 24-hour storm event volume of 7.2 Mgal, 1 foot of sediment, or 27 years of storage with a volume of 0.24 Mgal, and 1 foot of freeboard. The crest of the pond is level with the closure surface around the WHEX Pit. Internal side slopes of the pond are constructed at 2.5H:1V. The filling curve for the pond can be found in Figure 1. Figure 2 shows the plan view of the proposed facility.

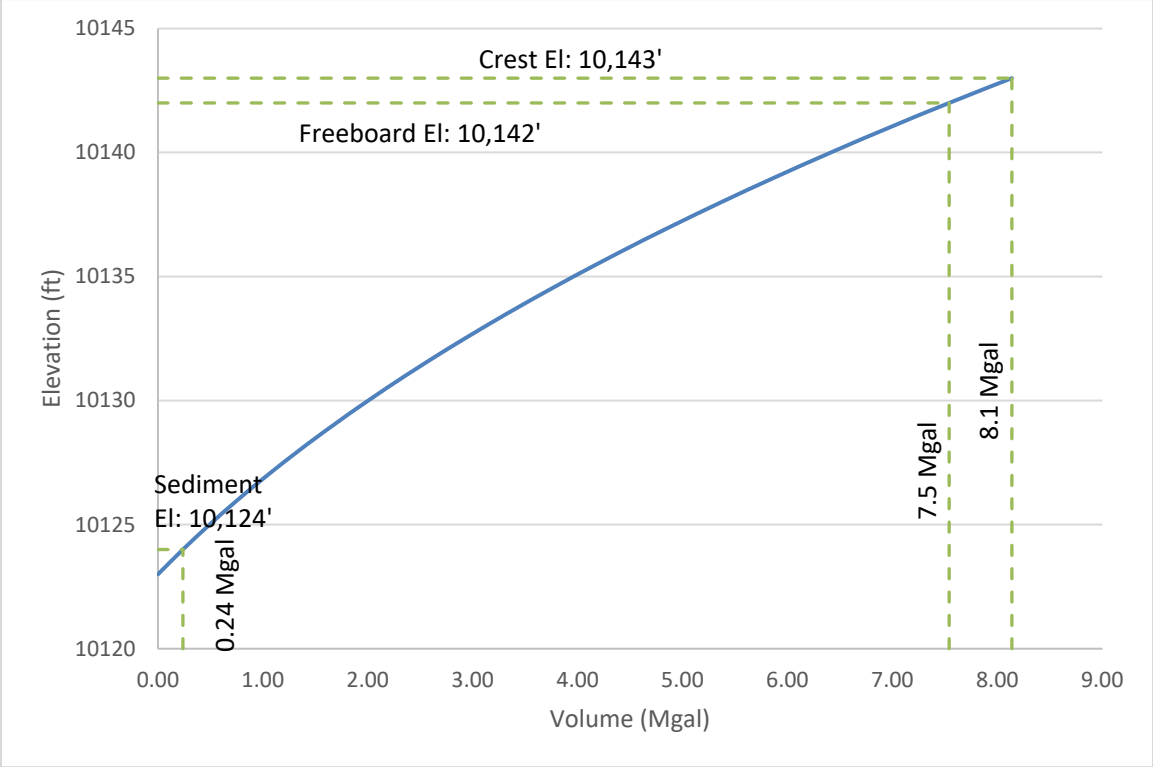


Figure 1: WHEX Pond Filling Curve

2.0 SEDIMENT POND INLET CHANNELS

There are three culverts numbered 1, 2 and 3, that convey stormwater under the access road south of CR82 to EMP-18b. Two of them, Culverts 1 and 3, will have rock chute channels at their outlets. These channels, the West and East EMP-18b inlet channels, are designed to convey stormwater runoff from the 100 year, 24 hour storm with a minimum 1 foot of freeboard. Stormwater runoff was calculated using HEC-HMS. Erosion protection was designed using the Rock Chute Design spreadsheet from the Natural Resources Conservation Service.

No channel was designed at the outlet of Culvert 2. This channel will discharge to a gently sloped road at a 10% grade that will convey water to EMP-18b without the need for additional erosion protection.

2.1 EMP-18b West Inlet Channel

The West Inlet Channel is located downstream of Culvert 1. The channel dimensions are 12 feet wide with 2.5H:1V side slopes, and a total depth of 2 feet. The West channel is designed as a rock chute with a chute slope of 27.4% and an outlet channel slope of 1%. A 1 foot thick layer of D_{50} = 6 inch riprap underlain by 10 oz/yd^2 geotextile will be used as erosion protection within the channel. Refer to Table 1 for a summary of channel dimensions and design criteria. A plan view of the proposed facility can be found on Figure 2.

2.2 EMP-18b East Inlet Channel

The East Inlet Channel is located downstream of Culvert 3. The channel dimensions are 12 feet wide with 2.5H:1V side slopes, and a total depth of 2 feet. The East channel is designed as a rock chute with a chute slope of 27.5% and an outlet channel slope of 1%. A 1 foot thick layer of D_{50} = 6 inch riprap underlain by 10 oz/yd^2 geotextile will be used as erosion protection within the channel. Refer to Table 1 for a summary of channel dimensions and design criteria. A plan view of the proposed facility can be found on Figure 2.

TABLES

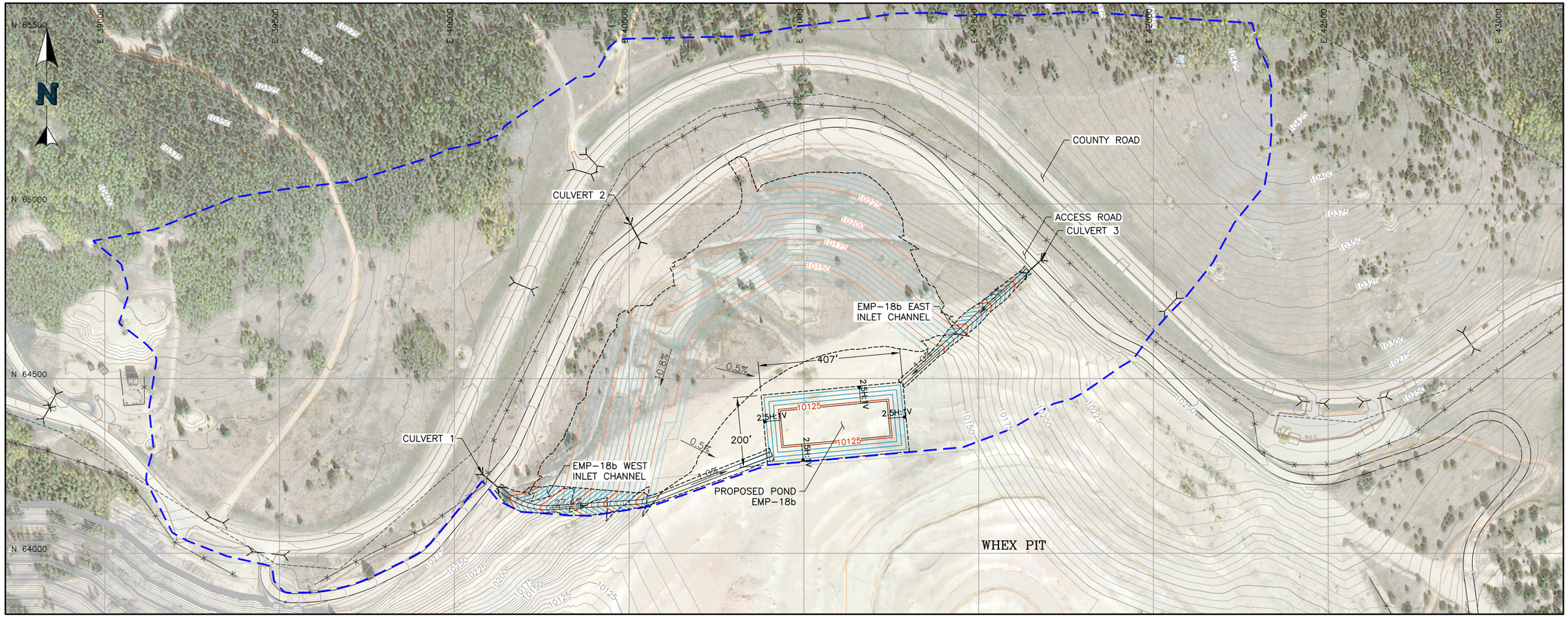
Table 1: Channel Summary

LIST OF ATTACHMENTS

Attachment A: Hydrology, Sediment Loading and Rock Chute Calculations

Cripple Creek & Victor Gold Mining Company
WHEX Channel Sizing Calculations
Table 1 - Channel Summary

Station	Slope (ft/ft)	100yr, 24hr Flow (cfs)	500yr, 24hr Flow (cfs)	Erosion Protection (D_{50}, in)	Roughness Coefficient	Channel Width (ft)	Channel Side Slopes (X:1)	Velocity (ft/s, 100yr24hr storm)	100yr Flow Depth (ft)	500yr Flow Depth (ft)	Design Depth Including Freeboard (ft)
West Channel											
West Chute	0.274	15.3	27.9	6	0.05	12	2.5	5.51	0.2	0.3	2.0
West Chute Outlet Channel	0.010	15.3	27.9	6	0.05	12	2.5	1.93	0.6	0.8	2.0
East Channel											
East Chute	0.275	18.6	30.0	6	0.05	12	2.5	5.94	0.2	0.3	2.0
East Chute Outlet Channel	0.010	18.6	30.0	6	0.05	12	2.5	2.07	0.7	0.9	2.0



0 150 300 FEET

LEGEND:

- CLOSURE CONTOURS
- PROPOSED POND AND CHANNEL CONTOURS
- EXCAVATION CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING FENCE
- EXISTING CULVERT
- WATERSHED BOUNDARY
- PROPOSED CULVERT

NOTES:

1. DISTURBED AREAS WILL BE RE-VEGETATED IN ACCORDANCE WITH EXHIBIT E IN THE APPROVED RECLAMATION PLAN.

COLORADO REGISTERED
JAYE N. JANNEY-MOORE
37571
PROFESSIONAL ENGINEER
5-10-2023

NewFields

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: VLF2 PHASE 3

TITLE: WHEX POND RE-LOCATION

FILENAME: 0106.056.094F

FIGURE NO.: 2

REVISION: A

P:\Projects\0106.056 VLF2 Phase 3a CQA\A-CAD\FIGS\0106.056.094F.dwg-5/10/2023 8:49 PM

ATTACHMENT A: HYDROLOGY, SEDIMENT LOADING AND ROCK CHUTE CALCULATIONS

NewFields

CALCULATION COVER SHEET

Client	Cripple Creek & Victor Gold Mining Company	Preparer:	Callie Urbas	04/21/23
Project	VLF2 Phase 3	Checked:	Roxanne Li	05/10/23
Title	Pond Sizing Calculations	Revision	B	

CALCULATION OBJECTIVE

1. Estimate the peak runoff from upstream watersheds to design the sediment pond.

2. Determine the required size of the diversion channels and erosion protection (if necessary)

ASSUMPTIONS

1. Composite SCS Curve numbers are calculated based on ground type.
2. Storm events will be sized according to previous meteorological studies.

500-Year 6.10 inches

METHODOLOGY

1. Area and length measurements were determined using AutoCAD Civil 3D.
2. SCS Type II Storm event was modeled.
3. HEC-HMS was used to model the storm events.

REFERENCES

1. AutoCAD Civil 3D version 2022.
2. U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). "Part 630 Hydrology National Engineering Handbook." 210-vi, NEH, May 2010.
3. United States Army Corps of Engineers. Hydrologic Modeling System (HEC-HMS) Version 4.10, Computer Program (April 2023)

CONCLUSIONS

1. See attached tables for channel and culvert sizing.

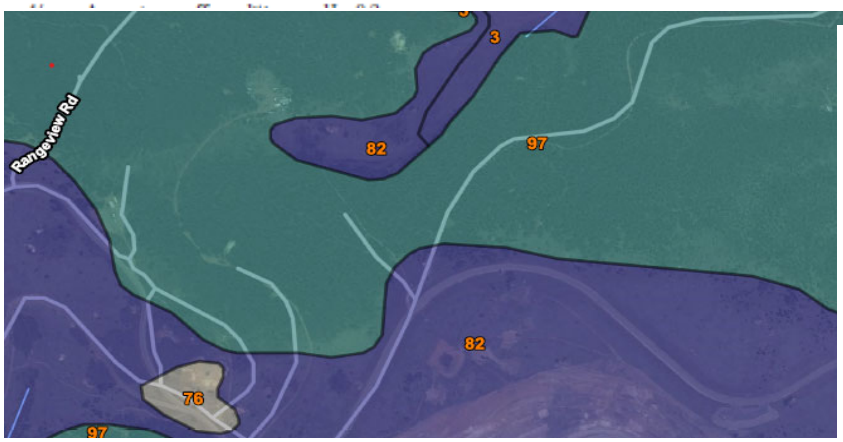
Filename:

Z:\Projects\0106.056 VLF2 Phase 3a CQA\H-CALCULATIONS\[Whex Pond hydrology.xlsx]Hec Calc Cover

Whex Pond Hydrology

Table 9–1 Runoff curve numbers for agricultural lands [1/] — Continued

Cover description: covertype	treatment [2/]	hydrologic condition [3/]	CN for hydrologic soil group: A	B	C	D
Pasture, grassland, or range-continuous forage for grazing [4/]		Poor	68	79	86	89
		Fair	49	69	79	84
		Good	39	61	74	80
Meadow-continuous grass, protected from grazing and generally mowed for hay		Good	30	58	71	78
Brush-brush-forbs-grass mixture with brush the major element [5/]		Poor	48	67	77	83
		Fair	35	56	70	77
		Good	30 [6/]	48	65	73
Woods-grass combination (orchard or tree farm) [7/]		Poor	57	73	82	86
		Fair	43	65	76	82
		Good	32	58	72	79
Woods [8/]		Poor	45	66	77	83
		Fair	36	60	73	79
		Good	30	55	70	77
Farmstead–buildings, lanes, driveways, and surrounding lots		---	59	74	82	86
Roads (including right-of-way):						
Dirt		---	72	82	87	89
Gravel		---	76	85	89	91



Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sand or gravel and have a high rate of water transmission (greater than 0.30 in/hr).

Group B soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (0.15-0.30 in/hr).

Group C soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05-0.15 in/hr).

Group D soils have high runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (0-0.05 in/hr).

In exhibit A-1, some of the listed soils have an added modifier; for example, "Abrazo, gravelly." This refers to a gravelly phase of the Abrazo series that is found in SCS soil map legends.

Table 2-2d Runoff curve numbers for arid and semiarid rangelands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition [2]	A [3]	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

1 Average runoff condition, and I_a = 0.2S. For range in humid regions, use table 2-2c.
2 Poor: <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: > 70% ground cover.
3 Curve numbers for group A have been developed only for desert shrub.

NewFields

Cripple Creek and Victor Gold Mining Company
Whex Pond Hydrology
Lag Time Calculation

$$t_p = \frac{l^{0.8}(S+1)^{0.7}}{1900y^{0.5}}$$

t_p	Lag Time (hr.)
l	Length to Divide (ft)
y	Avg. Watershed Slope (%)
CN	Composite Curve Number
S	1000/CN-10 (in.)
Ia	Initial Abstraction (0.2*S)

Input Values

Lag Time and Watershed Characteristics								
Watershed[1, 2]	**Area (mi^2)**	**l (ft)**	**CN**	**y**	**S**	**t_p (hr)**	**t_p (min)**	**Ia**
Area 1	3,575,518.24	1,921	67	22.3%	4.87	0.16	9.8	0.97

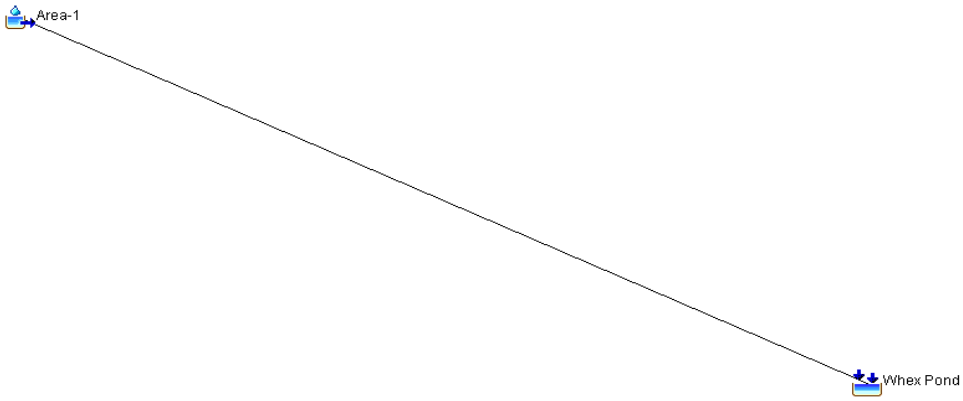
NewFields

Cripple Creek & Victor Gold Mining Company
Whex Pond Sizing Calculations
Watershed Summary

500 Year-24 Hour Hec-HMS Results

Hydraulic Element	Drainage Area (Mi^2)	Peak Discharge (ft^3/s)	Volume (acre-ft)
Area-1	0.1283	263.8	22.0
Whex Pond	0.1283	263.8	22.0

Cripple Creek & Victor Gold Mining Company
Whex Pond Sizing Calculations
Hec-HMS Overall View



NewFields

Cripple Creek and Victor Gold Mining Company
Whex Pond Hydrology
Lag Time Calculation

$$t_p = \frac{l^{0.8}(S+1)^{0.7}}{1900y^{0.5}}$$

t_p	Lag Time (hr.)
l	Length to Divide (ft)
y	Avg. Watershed Slope (%)
CN	Composite Curve Number
S	1000/CN-10 (in.)
Ia	Initial Abstraction (0.2*S)

Input Values

Lag Time and Watershed Characteristics								
Watershed[1, 2]	**Area (mi^2)**	**l (ft)**	**CN**	**y**	**S**	**t_p (hr)**	**t_p (min)**	**Ia**
West WHEX Pond Channel	524,861.65	1,826	68	11.7%	4.69	0.21	12.7	0.94
East WHEX Pond Channel	309,069.64	1,565	78	23.7%	2.87	0.10	6.0	0.57

NewFields

Cripple Creek & Victor Gold Mining Company
Whex Channel Sizing Calculations
Watershed Summary

25 Year-24 Hour Hec-HMS Results

Hydraulic Element	Drainage Area (Mi^2)	Peak Discharge (ft^3/s)	Volume (acre-ft)
West Channel	0.0188	7.8	1.0
East Channel	0.0111	11.2	0.9

100 Year-24 Hour Hec-HMS Results

Hydraulic Element	Drainage Area (Mi^2)	Peak Discharge (ft^3/s)	Volume (acre-ft)
West Channel	0.0188	15.3	1.8
East Channel	0.0111	18.6	1.5

500 Year-24 Hour Hec-HMS Results

Hydraulic Element	Drainage Area (Mi^2)	Peak Discharge (ft^3/s)	Volume (acre-ft)
West Channel	0.0188	27.9	3.1
East Channel	0.0111	30.0	2.4

Cripple Creek & Victor Gold Mining Company
Whex Channel Sizing Calculations
Hec-HMS Overall View

Cripple Creek and Victor Gold Mining Company
Whex Pond Hydrology
Pollutant Load Estimation Tool

Inputs

Note: only inputs relevant to sediment loading are shown.

1. Watershed Land Use Area (ac) and Precipitation (in)

Double-click on the "HSG" field to select a Hydrologic Soil Group category [NOTE: hover over the "HSG" column header for more information].

Watershed	HSG	Urban	Cropland	Pastureland	Forest	User Defined	Feedlots	Total	Feedlots Percent Paved	Annual Rainfall	Rain Days	Average Rain/Event
Custom Watershed	B	11.33	0.00	0.00	9.36	61.39	0.00	82.08	0-24%	12.96	68.83	0.4712

2. Agricultural Animals (Animal Count)

3. Septic and Illegal Wastewater Discharge

4. Percent Nutrient in Soil

5. Universal Soil Loss Equation

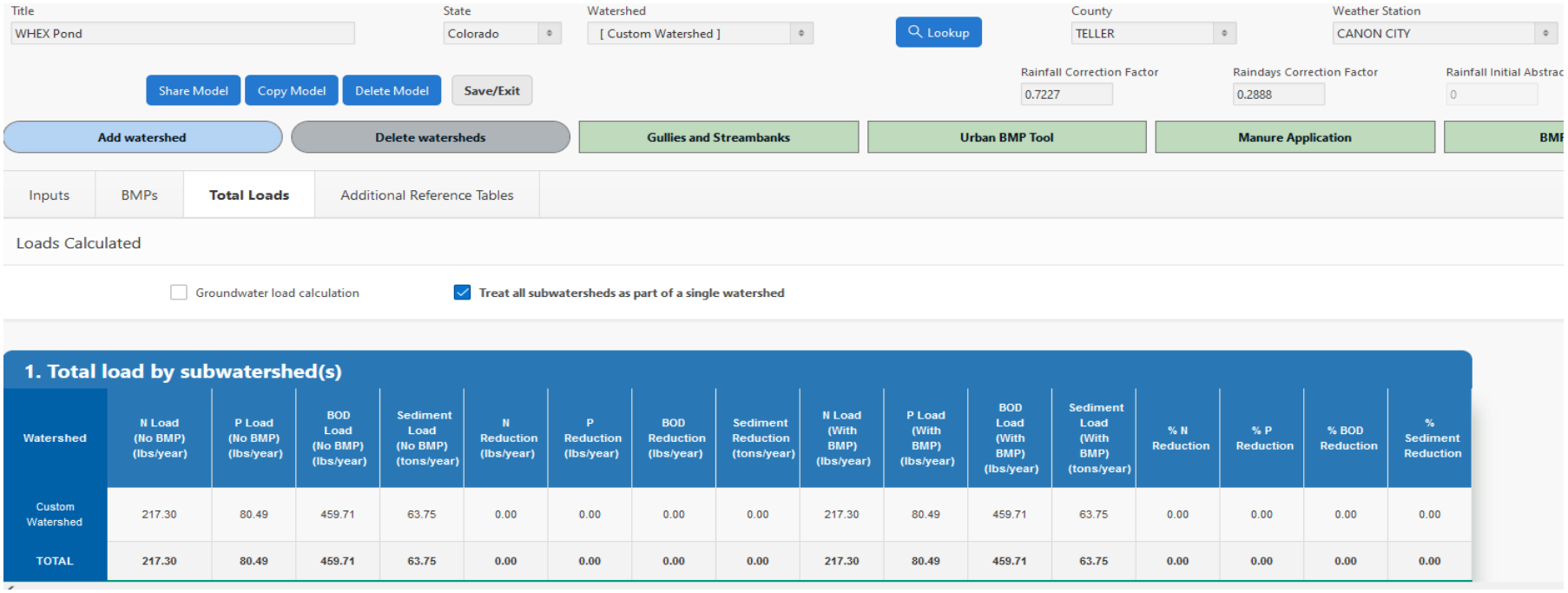
	Cropland					Pastureland					Forest					User Defined				
Watershed	R	K	LS	C	P	R	K	LS	C	P	R	K	LS	C	P	R	K	LS	C	P
Custom ...	30.00000	0.13576	3.56416	0.20000	1.00000	30.00000	0.13576	3.56416	0.04000	1.00000	30.00000	0.13576	3.56416	0.00300	1.00000	30.00000	0.13576	3.56416	0.13065	1.00000

6. Reference Runoff Curve Number

SHG	A	B	C	D
Urban	83.00	93.00	92.00	93.00
Cropland	67.00	78.00	85.00	89.00
Pastureland	49.00	62.00	79.00	84.00
Forest	39.00	70.00	73.00	79.00
User Defined	0.00	62.00	0.00	0.00

Cripple Creek and Victor Gold Mining Company
Whex Pond Hydrology
Pollutant Load Estimation Tool

Outputs



1. Total load by subwatershed(s)

Watershed	N Load (No BMP) (lbs/year)	P Load (No BMP) (lbs/year)	BOD Load (No BMP) (lbs/year)	Sediment Load (No BMP) (tons/year)	N Reduction (lbs/year)	P Reduction (lbs/year)	BOD Reduction (lbs/year)	Sediment Reduction (tons/year)	N Load (With BMP) (lbs/year)	P Load (With BMP) (lbs/year)	BOD Load (With BMP) (lbs/year)	Sediment Load (With BMP) (tons/year)	% N Reduction	% P Reduction	% BOD Reduction	% Sediment Reduction
Custom Watershed	217.30	80.49	459.71	63.75	0.00	0.00	0.00	0.00	217.30	80.49	459.71	63.75	0.00	0.00	0.00	0.00
TOTAL	**217.30**	**80.49**	**459.71**	**63.75**	**0.00**	**0.00**	**0.00**	**0.00**	**217.30**	**80.49**	**459.71**	**63.75**	**0.00**	**0.00**	**0.00**	**0.00**

Total annual sediment load: **63.75** tons/year

Rock Chute Design Data

(Version 4.01 - 04/23/03, Based on Design of Rock Chutes by Robinson, Rice, Kadavy, ASAE, 1998)

Project: WHEX Pond West Inlet
Designer: R. Li
Date: 5/10/2023

County: Teller
Checked by: J. Moore
Date: 05/10/23

Input Channel Geometry

Inlet Channel	Chute		Outlet Channel
Bw = 12.0 ft.	Bw = 12.0 ft.		Bw = 12.0 ft.
Side slopes = 2.5 (m:1)	Factor of safety = 1.20 (F_s)		Side slopes = 2.5 (m:1)
n-value = 0.050	Side slopes = 2.5 (m:1)	→ 2.0:1 max.	n-value = 0.050
Bed slope = 0.2740 ft./ft.	Bed slope (3.6:1) = 0.274 ft./ft.	→ 2.5:1 max.	Bed slope = 0.0100 ft./ft.
Freeboard = 1.0 ft.	Outlet apron depth, d = 0.0 ft.		Base flow = 0.0 cfs

Design Storm Data (Table 2, NHCP, NRCS Grade Stabilization Structure No. 410)

Drainage area = 12.0 acres Rainfall = ○ 0 - 3 in. ○ 3 - 5 in. ◉ 5+ in.

Apron elev. --- Inlet = 129.0 ft. --- Outlet = 0.0 ft. --- (H_{drop} = 129 ft.)

Chute capacity = Q25-year
Total capacity = Q100-year
Minimum capacity (based on a 5-year, 24-hour storm with a 5+ inch rainfall)

Q_{high} = 15.3 cfs High flow storm through chute → Tw (ft.) = Program

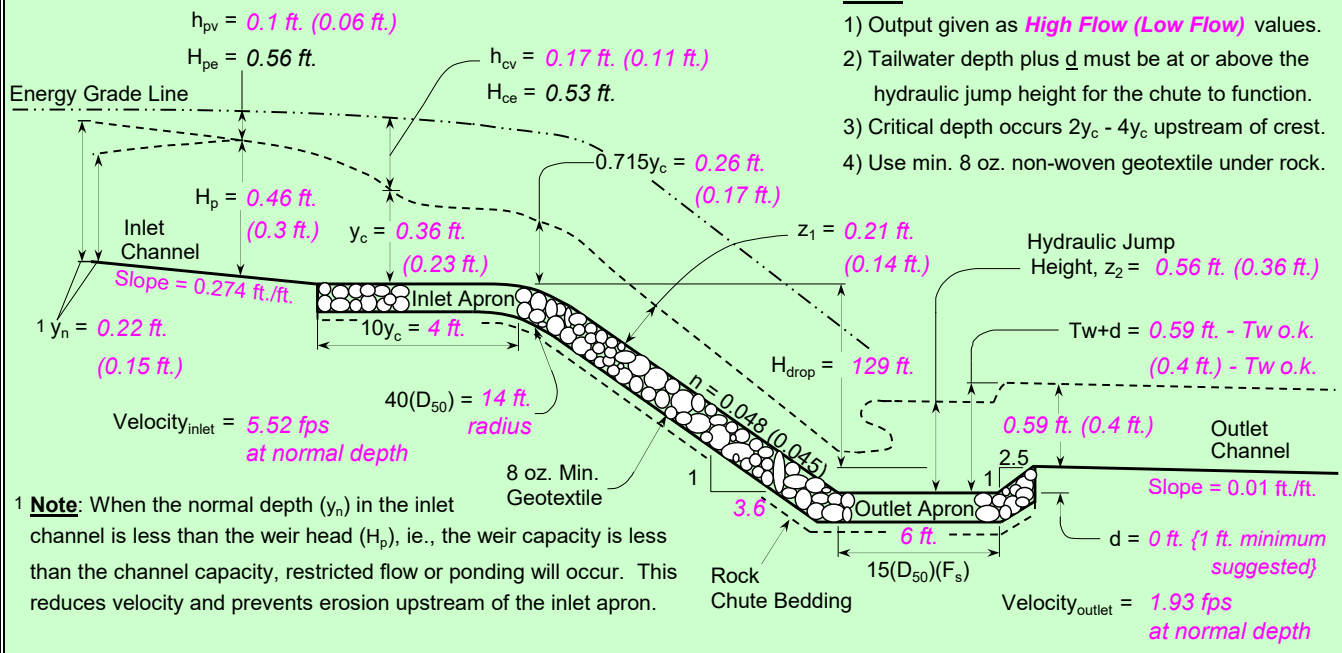
Q_{low} = 7.8 cfs Low flow storm through chute → Tw (ft.) = Program

***Note**: The total required capacity is routed through the chute (principal spillway) or in combination with an auxiliary spillway.*

***Input tailwater (Tw)**:*

0.27

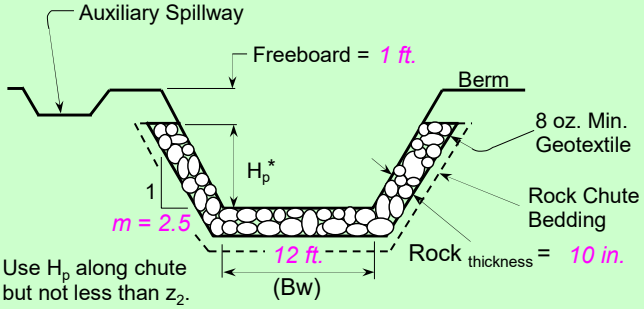
Profile and Cross Section (Output)



Notes:
1) Output given as ***High Flow (Low Flow)*** values.
2) Tailwater depth plus d must be at or above the hydraulic jump height for the chute to function.
3) Critical depth occurs 2y_c - 4y_c upstream of crest.
4) Use min. 8 oz. non-woven geotextile under rock.

[1] **Note**: When the normal depth (y_n) in the inlet channel is less than the weir head (H_p), ie., the weir capacity is less than the channel capacity, restricted flow or ponding will occur. This reduces velocity and prevents erosion upstream of the inlet apron.

Profile Along Centerline of Chute



* Use H_p along chute but not less than z_2.

Typical Cross Section

q_t =	1.23 cfs/ft.	Equivalent unit discharge
F_S =	1.20	Factor of safety (multiplier)
z_1 =	0.21 ft.	Normal depth in chute
n-value =	0.048	Manning's roughness coefficient
D_{50}(F_s) =	5 in. (9 lbs. - 50% round / 50% angular)	
2(D_{50})(F_s) =	10 in.	Rock chute thickness
Tw + d =	0.59 ft.	Tailwater above outlet apron
z_2 =	0.56 ft.	Hydraulic jump height
*** ***The outlet***	***will***	***function adequately***

High Flow Storm Information

Rock Chute Design Data

(Version 4.01 - 04/23/03, Based on Design of Rock Chutes by Robinson, Rice, Kadavy, ASAE, 1998)

Project: WHEX Pond East Inlet **County:** Teller
Designer: R. Li **Checked by:** J. Moore
Date: 5/10/2023 **Date:** 05/10/23

Input Channel Geometry

Inlet Channel	Chute	Outlet Channel
Bw = 12.0 ft.	Bw = 12.0 ft.	Bw = 12.0 ft.
Side slopes = 2.5 (m:1)	Factor of safety = 1.20 (F_s)	Side slopes = 2.5 (m:1)
n-value = 0.050	Side slopes = 2.5 (m:1) → 2.0:1 max.	n-value = 0.050
Bed slope = 0.2750 ft./ft.	Bed slope (3.6:1) = 0.275 ft./ft. → 2.5:1 max.	Bed slope = 0.0100 ft./ft.
Freeboard = 1.0 ft.	Outlet apron depth, d = 0.0 ft.	Base flow = 0.0 cfs

Design Storm Data (Table 2, NHCP, NRCS Grade Stabilization Structure No. 410)

Drainage area = 7.0 acres Rainfall = ○ 0 - 3 in. ○ 3 - 5 in. ◉ 5+ in.

Apron elev. --- Inlet = 107.0 ft. --- Outlet = 0.0 ft. --- (H_{drop} = 107 ft.)

Chute capacity = Q25-year
Total capacity = Q100-year
Minimum capacity (based on a 5-year, 24-hour storm with a 5+ inch rainfall)

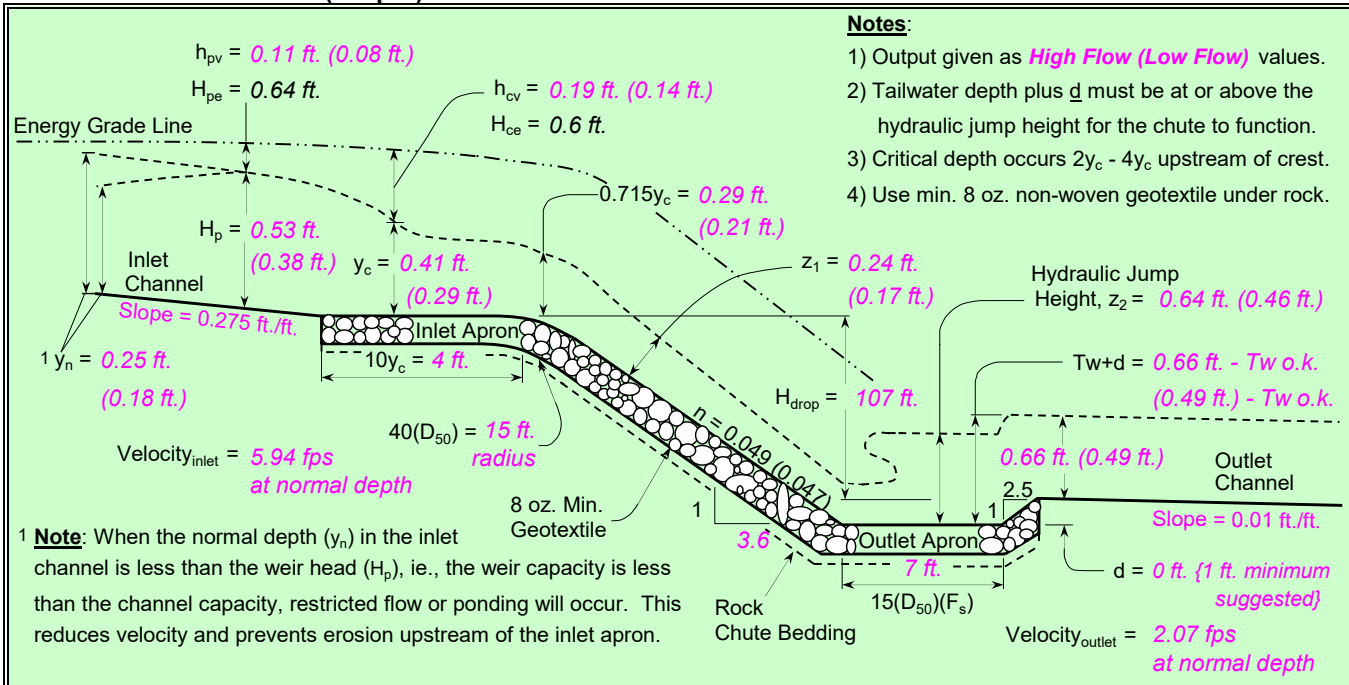
Q_{high} = 18.6 cfs High flow storm through chute → Tw (ft.) = Program 0.28

Q_{low} = 11.2 cfs Low flow storm through chute → Tw (ft.) = Program

***Note**: The total required capacity is routed through the chute (principal spillway) or in combination with an auxiliary spillway.*

***Input tailwater (Tw)**:*

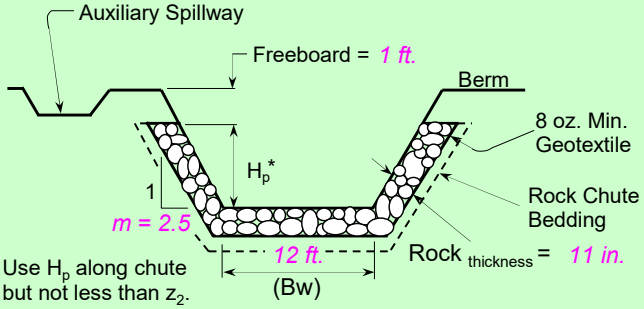
Profile and Cross Section (Output)



Notes:
1) Output given as ***High Flow (Low Flow)*** values.
2) Tailwater depth plus d must be at or above the hydraulic jump height for the chute to function.
3) Critical depth occurs 2y_c - 4y_c upstream of crest.
4) Use min. 8 oz. non-woven geotextile under rock.

[1] **Note**: When the normal depth (y_n) in the inlet channel is less than the weir head (H_p), ie., the weir capacity is less than the channel capacity, restricted flow or ponding will occur. This reduces velocity and prevents erosion upstream of the inlet apron.

Profile Along Centerline of Chute



* Use H_p along chute but not less than z_2.

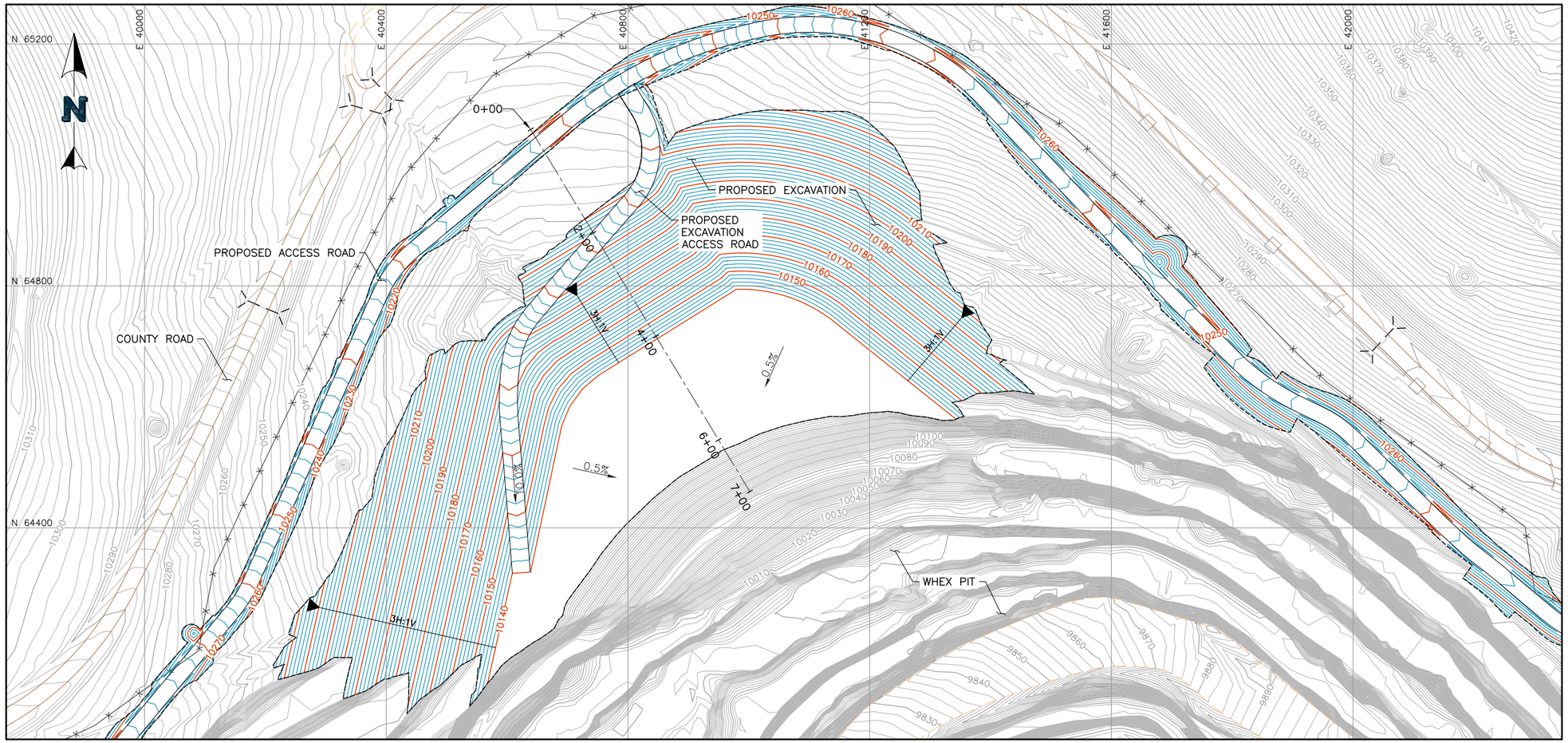
Typical Cross Section

q_t =	1.48 cfs/ft.	Equivalent unit discharge
F_S =	1.20	Factor of safety (multiplier)
z_1 =	0.24 ft.	Normal depth in chute
n-value =	0.049	Manning's roughness coefficient
$D_{50}(F_s)$ =	5.5 in. (12 lbs. - 50% round / 50% angular)	
$2(D_{50})(F_s)$ =	11 in.	Rock chute thickness
Tw + d =	0.66 ft.	Tailwater above outlet apron
z_2 =	0.64 ft.	Hydraulic jump height
*** ***The outlet***	***will***	***function adequately***

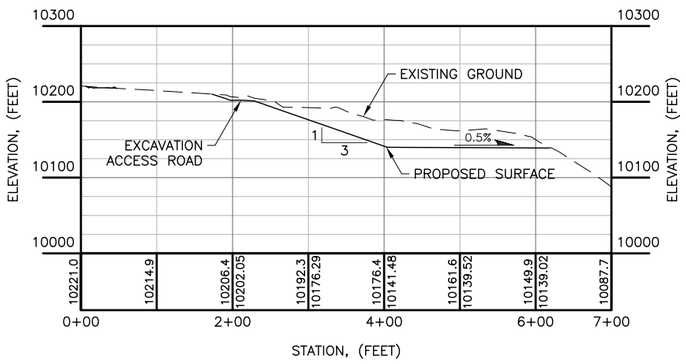
High Flow Storm Information

Attachment 2

Figure 1 – WHEX Pit Clay Excavation



0 100 200 FEET



0 100 200 FEET
HORIZONTAL

0 100 200 FEET
VERTICAL

NO EXAGGERATION

LEGEND:

- EXISTING GROUND CONTOURS
- PROPOSED GROUND CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING FENCE
- EXISTING CULVERT

COLORADO REGISTERED
N. JANNEY-MOORE
37571
PROFESSIONAL ENGINEER
9-20-2023

NewFields

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: VLF2 PHASE 3

TITLE: WHEX PIT CLAY EXCAVATION – 10140'

FILENAME: 0106.056.071F

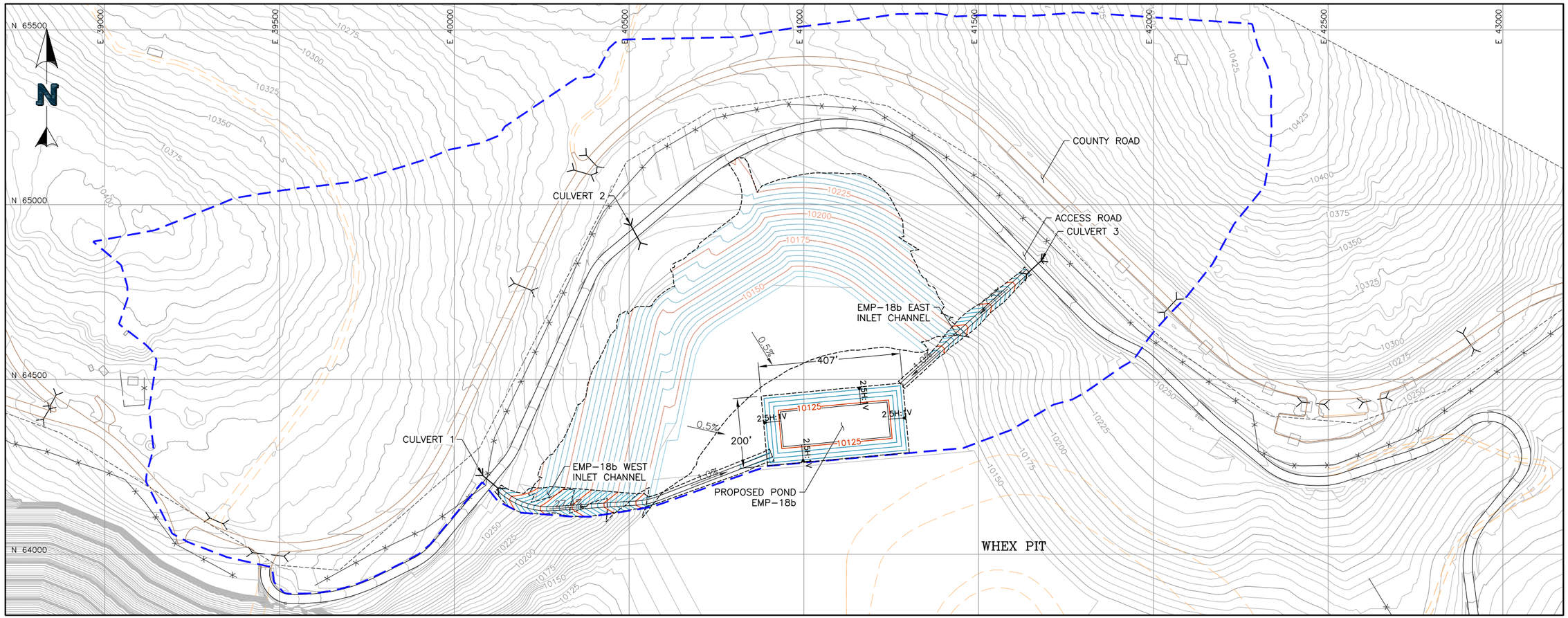
FIGURE NO.: 1

REVISION: A

P:\Projects\0106.056 VLF2 Phase 3a CQA\A-CAD\FIGS\0106.056.071F.dwg-2/20/2023 5:32 PM

Attachment 3

Figure 2 – WHEX Pit Excavation Reclamation



0 150 300 FEET

LEGEND:

- CLOSURE CONTOURS
- PROPOSED POND AND CHANNEL CONTOURS
- EXCAVATION CONTOURS
- EXISTING ROADS/TRAILS
- EXISTING FENCE
- EXISTING CULVERT
- POND WATERSHED BOUNDARY
- PROPOSED CULVERT

NOTES:

1. DISTURBED AREAS WILL BE RE-VEGETATED IN ACCORDANCE WITH EXHIBIT E IN THE APPROVED RECLAMATION PLAN.

COLORADO REGISTERED
KAYLA N. JANNEY-MOORE
37571
PROFESSIONAL ENGINEER
5-10-2023

NewFields

CLIENT: CRIPPLE CREEK & VICTOR GOLD MINING COMPANY

PROJECT: VLF2 PHASE 3

TITLE: WHEX PIT EXCAVATION RECLAMATION

FILENAME: 0106.056.095F

FIGURE NO.: 2

REVISION: A

P:\Projects\0106.056 VLF2 Phase 3a CQA\A-CAD\FIGS\0106.056.095F.dwg-5/11/2023 9:22 AM

Attachment 4

TR-137 WHEX Clay Borrow Reclamation Costs

Table 1: TR-137 Additional WHEX Clay Borrow Reclamation			
Task	**Unit**	**Unit Cost**	**Total Cost**
WHEX Clay Borrow Topsoil (CY)	6575.0	$ 1.64	$ 10,757.36
WHEX Clay Borrow Revegetation (Acre)	8.2	$ 1,667.37	$ 13,589.07
DRMS Indirect Cost (28.5%)			$ 6,938.73
		Total:	**$ 31,285.15**

Current Bond Held	$ 209,491,188.00
Current Financial Warranty (TR-133 Update)	$ 208,742,229.26
TR-137 Liability Amount	$ 31,285.15
New Financial Warranty	$ 208,773,514.42
Surplus Financial Warranty	$ 717,673.58