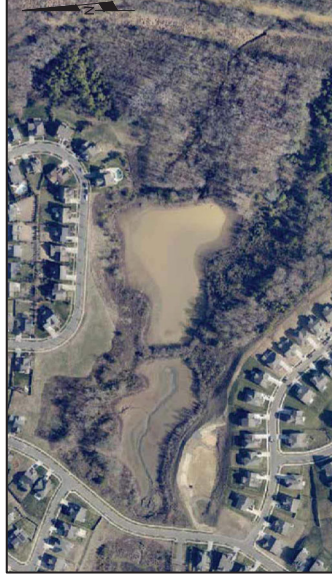
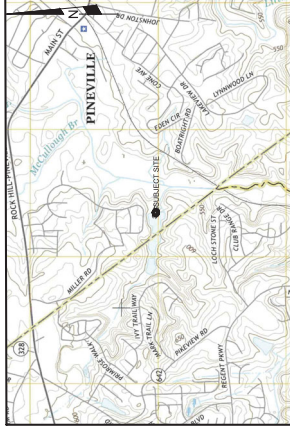


CRYSTAL DAM - COUNTRY LAKE DRIVE PINEVILLE, NC

DAM REPAIR PROJECT NO. 22-168 - AUGUST 2023

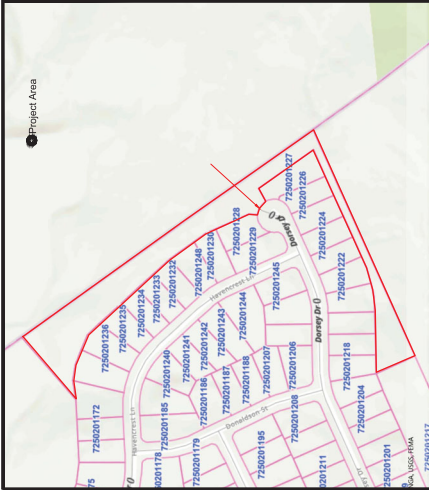
- INDEX TO PLAN SHEET
- SHEET 1 COVER/TITLE SHEET
 - SHEET 2 SITE ACCESS, PROJECT AREA, STAGING AREA, STOCKPILE AREA
 - SHEET 3 DAM PROFILE EXISTING TOPOGRAPHY
 - SHEET 4 DAM CROSS-SECTIONS
 - SHEET 5 BREACH REPAIR PLANS & NEW EMERGENCY SPILLWAY
 - SHEET 6 BREACH REPAIR CROSS-SECTIONS AND FILL QUANTITIES
 - SHEET 7 SIPHON PRIMARY SPILLWAY
 - SHEET 8 NOTES & SPECIFICATIONS
 - SHEET 9 DETAILS



CONSULTING, CIVIL ENGINEER
HIRAM J. ARZIANO, PE
PO Box 278, Asheville, NC 27204 - (336)93-4450
hmarziano@tradbiz.rr.com
PROJECT ENGINEER



P.O. Box 6418, High Point, NC 27262
www.northwestgeoscience.com
NC Geological Corporation License #442
PROJECT CONSULTANT/MANAGER
NORTHWEST GEOSCIENCE P.C.



SEAL:



SCALE BAR 1"=15'

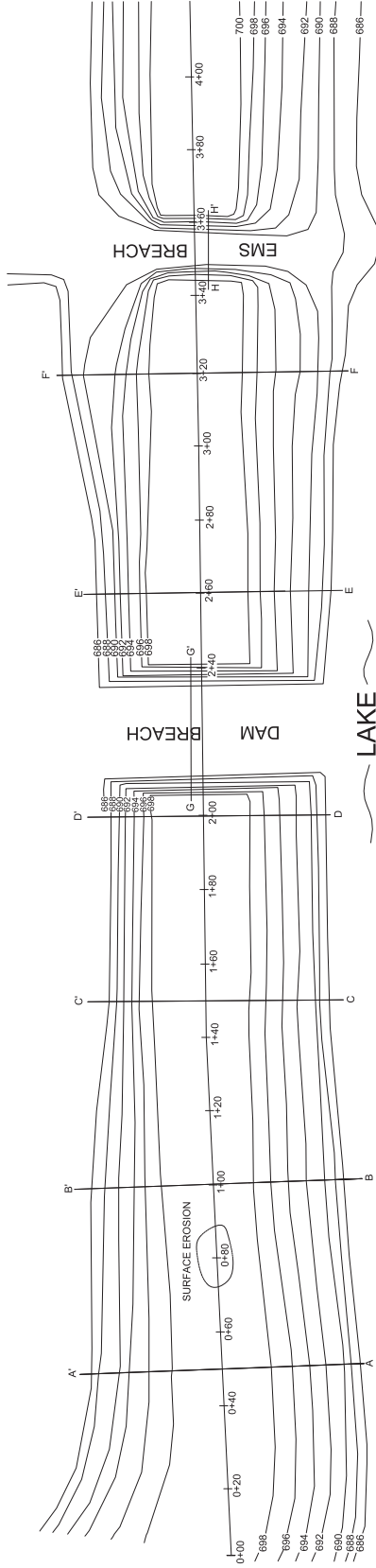



CRYSTAL DAM

SITE ACCESS - PROJECT AREA - STAGING AREA - STOCKPILE AREA

PROJECT: CRYSTAL DAM	APPROVED BY: HJM
ADDRESS: COUNTRY LAKE DRIVE	DRAWN BY: KJK
LOCATION: PINEVILLE, NC	
HWGEO PROJECT NO: 22-168	
SCALE: 1"=100'	
DATE: 8/23	
	SHEET 2

Northwest Geoscience
CONSULTING CIVIL ENGINEER
HIRAM J. MARZIANO, PE
P.E. No. 478, Asheville, NC 27204 | (813) 693-4400





Northwest Geoscience
INC.
2000 Highway 100, Suite 200
Pineville, NC 28134
Phone: 704.733.8888
Fax: 704.733.8889
www.nwgeoscience.com

CONSULTING CIVIL ENGINEER
HIRAM J. MARZIANO, PE
PE No. 278, Administrator of Public Works
1000 Highway 100, Suite 200
Pineville, NC 28134


PROJECT: CRYSTAL DAM
ADDRESS: COUNTRY LAKE DRIVE
LOCATION: PINEVILLE, NC
INWED PROJECT NO: 22-168
SCALE: 1"=15'
DATE: 8/23

APPROVED BY: HJM
DRAWN BY: KKK
SHEET 3


CRYSTAL DAM

DAM PROFILE
EXISTING TOPOGRAPHY

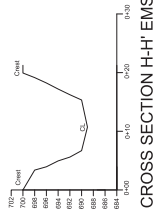
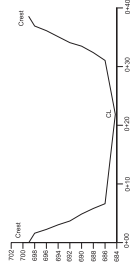
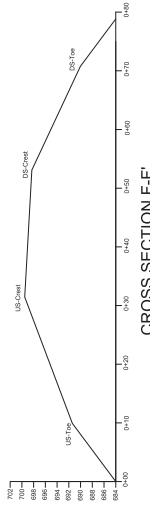
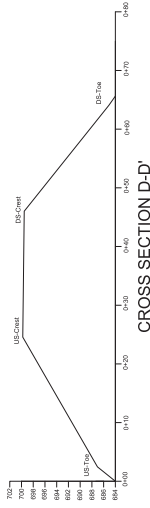
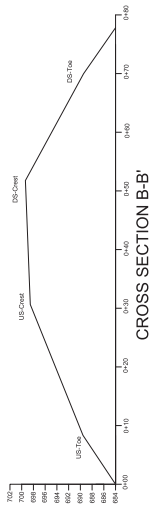
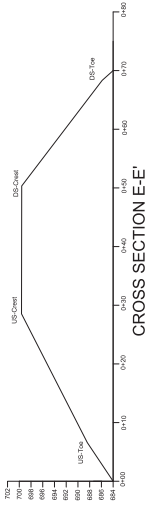
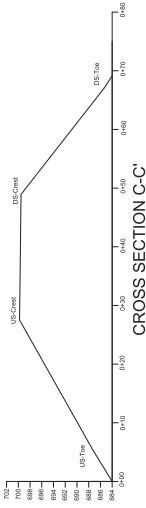
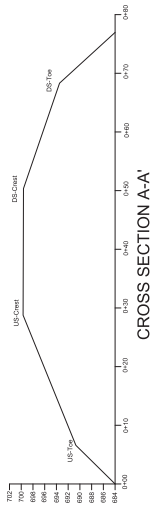
SEAL:



SCALE BAR 1"=15'



NOTES: 2 FT CONTOUR INTERVAL
CROSS SECTION LINES CORRESPOND TO SHEET 4



SCALE BAR 1"=10'

NOTES: GROSS SECTION PROFILES MATCH TO SHEET 3
NO VERTICAL EXAGGERATION.

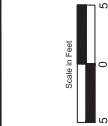
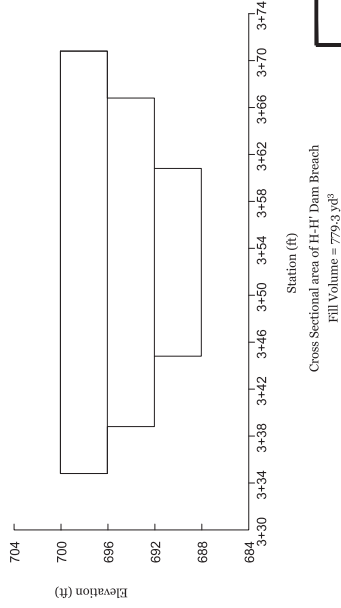
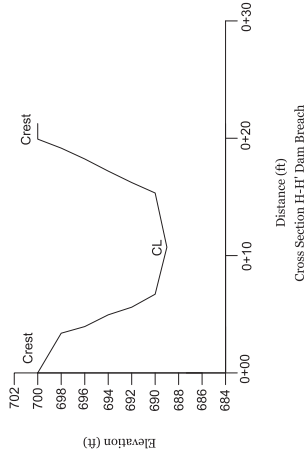
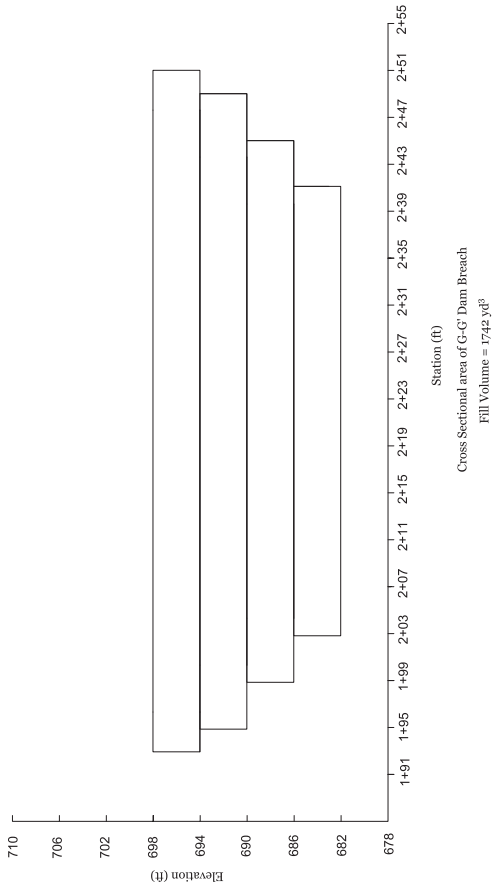
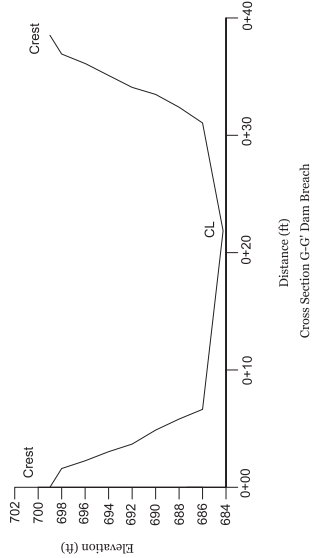


SEAL:

DAM CROSS SECTIONS

CRYSTAL DAM

PROJECT: CRYSTAL DAM
ADDRESS: COUNTRY LAKE DRIVE
LOCATION: PINEVILLE, NC
INVEST PROJECT NO: 22-168
SCALE: 1"=10'
DATE: 8/23
APPROVED BY: HJM
DRAWN BY: KJK

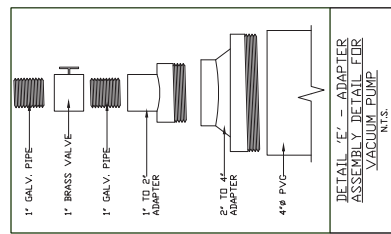
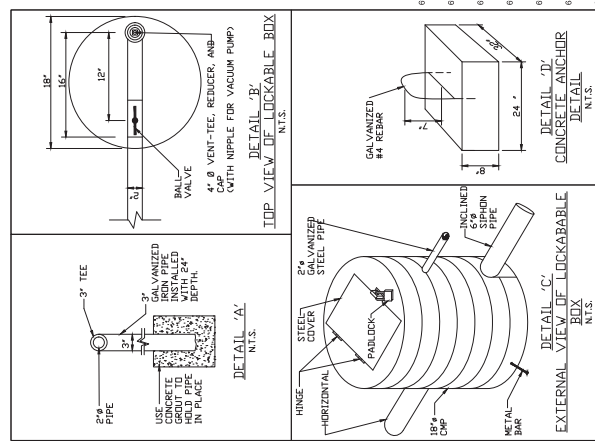
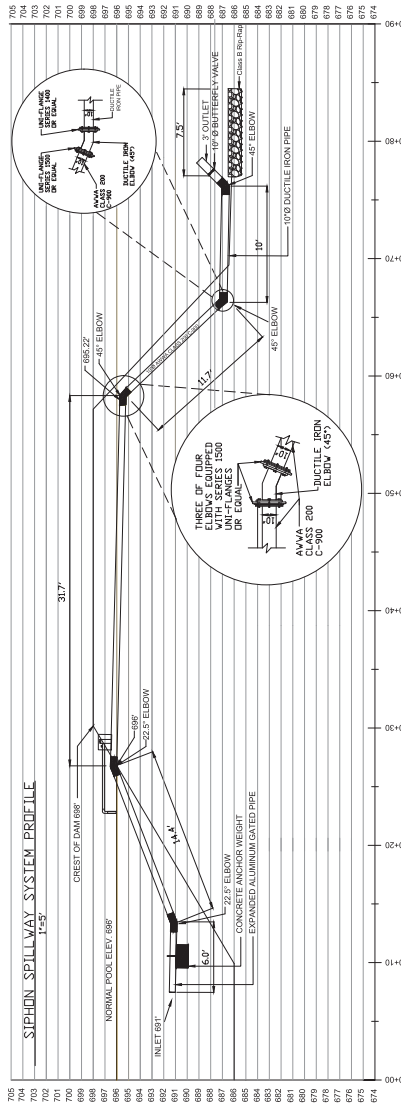


SEAL:

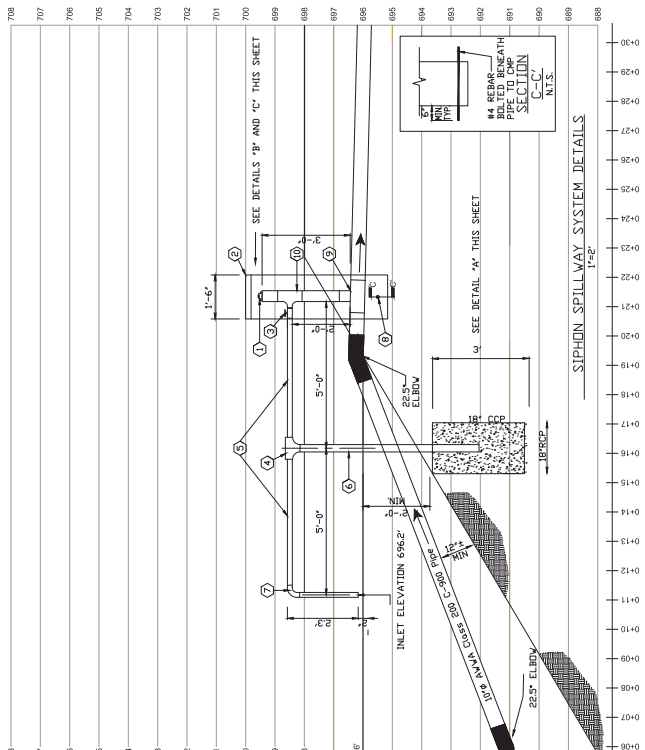
CRYSTAL DAM

BREACH REPAIR CROSS-SECTIONS
& FILL QUANTITIES

PROJECT: CRYSTAL DAM
ADDRESS: COUNTRY LAKE DRIVE
LOCATION: PINEVILLE, NC
HWYED PROJECT NO: 22-168
SCALE: AS SHOWN
DATE: 8/23
APPROVED BY: HJM
DRAWN BY: KJK



- LEGEND**
- 1 - 4" 8 VENT-TEE, REDUCER, VACUUM PUMP - SEE DETAIL 'E' THIS SHEET
 - 2 - 1" BRASS VALVE - SEE DETAIL 'E' THIS SHEET
 - 3 - 1" GALV. PIPE
 - 4 - 3' x 3' GALVANIZED STEEL TEE
 - 5 - 2" GALVANIZED STEEL PIPE
 - 6 - 1" TO 2" ADAPTER
 - 7 - 2" TO 4" ADAPTER
 - 8 - 4" PVC
 - 9 - 4" 8 VENT-TEE, REDUCER, VACUUM PUMP - SEE DETAIL 'E' THIS SHEET
 - 10 - 4" 8 VENT-TEE FOR VACUUM PUMP
 - 11 - 1" GALV. PIPE
 - 12 - 1" BRASS VALVE
 - 13 - 1" GALV. PIPE
 - 14 - 3' x 3' GALVANIZED STEEL TEE
 - 15 - 2" GALVANIZED STEEL PIPE
 - 16 - 1" TO 2" ADAPTER
 - 17 - 2" TO 4" ADAPTER
 - 18 - 4" PVC

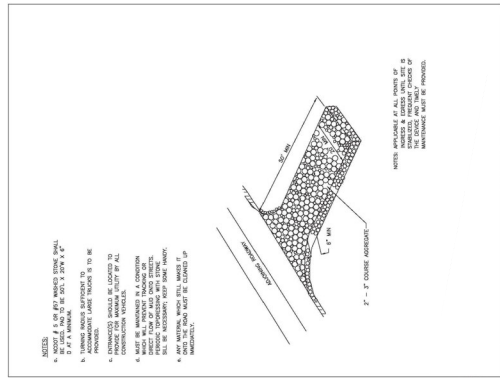


PROJECT: CRYSTAL DAM
ADDRESS: COUNTRY LAKE DRIVE
LOCATION: PINEVILLE, NC
INWEO PROJECT NO: 22-168
SCALE: AS SHOWN
DATE: 8/23
DRAWN BY: K.K.
SHEET 7

SIPHON PRIMARY SPILLWAY

CRYSTAL DAM

SEAL:



DETAILS

HIRAM J. ARZIANO, PE
CONSULTING, CIVIL ENGINEER
PO Box 278, Asheville, NC 27204 - (316)933-3450