Conceptual Closure Plan
for
Ponds NGS-N, NGS-S, OGS-N and OGS-S

Piney Point Phosphogypsum Stack System
Manatee County, Florida

Prepared by

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

March 2nd, 2022

Ardaman & Associates, Inc.

Geotechnical, Environmental and
Materials Consultants

March 02, 2022
File Number 21-13-0031C

Mr. Herbert R. Donica
Donica Receivership Services, LLC
238 E. Davis Boulevard, Ste. 209
Tampa, FL 33606

Subject: Conceptual Terminal Closure for Lined Ponds OGS-N, OGS-S, NGS-N and NGS-S of the Piney Point Phosphogypsum Stack System, Manatee County, Florida

Dear Mr. Donica:

As requested, Ardaman & Associates, Inc. (AAI), has completed a preliminary engineering assessment and prepared conceptual design recommendations for the terminal closure of lined ponds OGS-N, OGS-S, NGS-N and NGS-S of the Piney Point Phosphogypsum Stack System.

The closure plan and supporting documentation provided herein have been prepared in general accordance with the closure requirements of Rule 62-673 F.A.C. Basic design analyses and the preparation of detailed design and construction drawings and technical specifications will be completed and submitted to the Florida Department of Environmental Protection (FDEP) for review and approval before the beginning of construction.

Construction activities will need to be planned in multiple phases as necessary to accommodate the management of pond water inventory, rainfall runoff, and handling of soft sediments in certain ponds. The conceptual closure plan also presents other closure options for additional enhancement beyond closure requirements for consideration.

It has been a pleasure assisting you with this phase of the project. We trust that the enclosed supporting attachments meet your current planning and permitting needs. Please contact us if you have any questions or need additional information or assistance.

As requested, we are copying this correspondence to the Department of Environmental Protection on behalf of Mr. Donica for the Department's review under the requirements of Chapter 62-673 F.A.C.

Very truly yours,
ARDAMAN & ASSOCIATES, INC.
Certificate of Authorization 5950

for
Reinaldo Rolo, Ph.D., P.E.
Project Director

for
Phong Vo
Senior Consultant

MOHAMAD AL-HAWAREE
LICENSE
No. 58537
03/02/2022
STATE OF
FLORIDA
PROFESSIONAL ENGINEER

Mohamad Al-hawaree, P.E.
President, Senior Consultant
Florida License No. 58537

CC: Mr. John Coates, P.E. - FDEP

SECTION 1 - GENERAL INFORMATION

The Piney Point Phosphogypsum Stack System has been closed under NPDES Permit No. 000124 and included the following general closure features: (i) lined surfaces and inside slopes of the cooling ponds; (ii) lined top surfaces and inside slopes of gypsum stack compartments; (iii) lined stormwater conveyance system; (iv) seepage collection system; and (v) stormwater NPDES outfalls D-001 and D-003. The lined surfaces are covered with either 60-mil or 80-mil high-density polyethylene (HDPE) geomembrane, and only the lined cooling ponds and some portions of the lined OGS were covered with a 24-inch soil cover

The four former gypsum stack compartments, namely NGS-N, NGS-S, OGS-N and OGS-S are considered partially closed (i.e., lined), but do not meet the closure requirements under Rule 62-673 F.A.C. Furthermore, due to dredge operations, significant amounts of soft/loose marine sediments have been deposited in , OGS-N and OGS-S, and some sediments have accumulated in the NGS-S pond. Also, a recent bathymetric survey suggests the presence of a layer of sediments at the bottom of pond NGS-N, presumably as a result of constituents precipitating over the years due to the spray evaporation system installed in this pond. Therefore, the biggest challenge for terminal closure of ponds NGS-S, NGS-S, OGS-N and OGS-S is the handling of sediments as describe below.

Pond NGS-S: This lined pond contains an estimate of over 713,000 cubic yards of soft marine sediments. To close the pond handling of these soft sediments must be addressed, which will likely involve dewatering, consolidating, and entombing them in the lined cover system. Dewatering methods under evaluation include mechanical excavation and drying, mixing and drying, or dredging and pumping into dewatering synthetic bags such as Geotube®. The dewatering of the soft sediments can be very time consuming and costly. It is anticipated that the existing HPDE liner could be damaged during the handling and removal of soft sediments and, therefore, will be replaced with a new HDPE liner. Evaluation of an effective handling method is underway and will be presented at the detailed design phase of the closure plan.

Pond NGS-N: This lined pond has been fitted with a spray evaporation system to consume water during closure. The bathymetric survey suggests the presence of an estimated 95,000 cubic yards of sediments, accumulated mainly in the northwest portion of the pond. These sediments are not expected to be soft and will likely be conditioned by mixing with other materials before being entombed under the new liner system.

Ponds OGS-N and OGS-S: Approximately half of these ponds contain coarse materials deposited during dredge operations. The other half, which is further away from the point of discharge, contains finer particles from dredge operations. The coarser materials are relatively densely packed, while the finer ones are soft and have high-water content. High strength fabric, a thick layer of clean sand and an underdrain system that would underlay the new top closure geomembrane are being considered for the closure of these areas. An existing liner tear and associated erosion feature in gypsum under the liner at the west wall of the OGS-S pond is currently under investigation. A repair plan is being considered and will be implemented prior to terminal closure.

The conceptual closure plan is only to address terminal closure of the four former gypsum stack compartments mentioned above. The conceptual closure plan does not address the following previously approved elements under existing NPDES permit No. Fl 0000124 supported by the "*Site Report NPDES Permit Renewal Application FL0000124*" by Environmental Consulting & Technology, Inc. (ECT) dated September 2009:

- Groundwater Monitoring Plan
- Long-term care of the gypsum stack system including seepage water management
- Closure of the LPWS pond (seepage collection pond)

SECTION 2 - CONCEPTUAL CLOSURE DESIGN PLAN

Preliminary drawings depicting the general closure of the former gypsum stack compartments are included in Figures 1 through 9. A brief description is provided below.

OGS-S: Dredged marine deposits were introduced at the south end of this 24-acre pond. The southern 10 acres of the pond are covered with relatively dense coarse sediments, while the remaining northern 14 acres contain fine and soft deposits. Closure of the southern area will be accomplished by placing a 60-mil HDPE liner over the existing sediments, covered by 2 feet of compacted soil. A thin cushion layer (sand or gypsum) may need to be place under the liner to prevent sharp particles present in the dredge deposits (rocks and shells) from damaging the liner.

The northern area will require the installation of a high-strength woven geotextile over the soft materials to facilitate placement of a thick layer of sand to act as a surcharge, for the purpose of accelerating consolidation of the soft, compressible materials. Given that a liner was already installed over the pond surface before storage of the dredge material, the sand layer will also act as a collection zone for the consolidation water. A relief drain will be placed within the sand to facilitate drainage and discharge of this water to the seepage collection system. A 60-mil HDPE liner covered with 2 feet of compacted soil will ultimately be used to cap this area.

The pond will be graded and fitted with runoff collection swales to provide gravity runoff to a new outfall structure to be located at the west wall of the pond. A notch will also be excavated in the dike at this location to limit water storage in case of large rain events.

OGS-N: This 36-acre pond was similarly filled with dredge deposits from the south end and, as a result, has an approximately 10-acre beach of coarse, relatively dense marine sediments on its southern end. The remaining 26 acres to the north are covered with fine, soft deposits similar to those in OGS-S. The closure of these 26 acres will be comparable to the closure of the aforementioned northern area of OGS-S, using a high strength geotextile covered with a thick sand layer fitted with a collection drain, and capped with a 60-mil HDPE liner and 2 feet of compacted soil cover.

The 10-acre beach will be utilized to house soft sediments from NGS-S, possibly stored in Geotube® dewatering containers resting on top of the existing coarse deposits. Once the Geotube® filling operation is complete, the void spaces between tubes will be filled with sandy soils to provide a flat, stable surface prior to the entire area being covered with a 60-mil HDPE liner and 2 feet of compacted soil cover. In areas outside of the Geotube® containers, a thin cushion layer (sand or gypsum) may need to be place under the liner to prevent sharp particles present in the dredge deposits (rocks and shells) from damaging the new liner.

Grading and swales will be incorporated in the design and construction of the closure to provide a positive gradient for runoff to gravity-flow to a new outfall structure to be located at the north end of the pond. An open notch will similarly be provided in the dike at this location to limit water storage in case of large rain events.

NGS-S: This 72-acre pond is covered by an average 10 feet of soft, compressible, fine carry over sediments from the dredge operation. To dewater these sediments in a reasonable timeframe, the conceptual plan assumes that the soft deposits will be removed and stored in dewatering synthetic bags (e.g., Geotube® containers). Due to the large volume of bags required and schedule constraints, a number of the bags will be permanently stored in OGS-N as previously described (dimensions of this area will be determined in the design phase). The remaining bags will be stored in a dedicated area at the northeastern end of NGS-S (dimensions of this area will be determined in the design phase). The entire footprint will then be graded so that runoff from approximately the northern one third of the pond will drain towards a point of discharge in the northeast, while runoff from the remaining two thirds of the pond will drain to the southwest. Large notches will be excavated in the existing dike at these two points of discharge to also provide visibility and easy access to the pond. Structures will be installed to control runoff discharge flow rates.

Given the likelihood that the existing liner covering the 45-acre pond bottom could be damaged as a result of the removal of the soft deposits, a new 60-mil HDPE liner will be installed and connected to the existing liner on the inside slopes (a gas venting system will be provided between the two liners). Two feet of compacted soil will be placed over the entire pond.

A tear in the liner at the southwest corner of the pond bottom is currently being investigated. A preliminary repair plan is underway to curtail the leak, but a permanent repair will be implemented after emptying the pond and removing the dredge deposits.

NGS-N: This pond has a total area of 34 acres and is thought to contain an average of 1.7 feet of materials that have precipitated from the water stored in the pond and from the water being evaporated in the spray evaporation system.

Closure of this pond currently assumes that these precipitated materials can readily be handled, and/or mixed with other soils, in place. A new 60-mil HDPE liner will be installed and connected to the existing liner on the slopes to entomb this material (a gas venting system will be provided between the two liners). The current grading of the pond bottom will be maintained, which provides a positive gradient to the northwest of the pond, where a notch will be excavated in the existing dike to allow for stormwater discharge, while providing visibility and easy access to the pond. Structures will be installed to control discharge flow rates. Two feet of compacted soil will be placed over the entire pond.

It is important to emphasize that the above closure plans for NGS-N and NGS-S assume that the outside perimeter dikes remain essentially the same as current conditions with the same notches. An alternative that is still under consideration would be to excavate the outside dikes (i.e., entire north wall for NGS-N and east and south walls for NGS-S), and use the cut material inside the ponds as grading fill (See Figures 6 and 7). This alternative would eliminate the capacity of the ponds to store water, allow much wider access to the ponds and provide unrestricted view.

Post-closure stormwater flow and management for the entire facility, including downstream from the point of discharge of the four aforementioned ponds, is discussed in more detail in Attachment I (Hydrologic & Hydraulic Evaluations).

N

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SCALE: 1"=200'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- CLOSED GYPSUM STACK SOFT DEPOSIT AREA
- OUTFALL STRUCTURE

OGS-N CONCEPTUAL CLOSURE LAYOUT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

DRAWN BY: BTW	CHECKED BY: WAS	DATE: 03/01/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 1

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SCALE: 1"=200'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED RELIEF DITCH AREA
- APPROXIMATE AREA OF MODIFIED DITCH LINER
- OUTFALL STRUCTURE

NORTH RELIEF DITCH
CONCEPTUAL CLOSURE LAYOUT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT
PHOSPHATES
MANATEE COUNTY, FL

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FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 2

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SCALE: 1"=150'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- CLOSED GYPSUM STACK SOFT DEPOSIT AREA
- OUTFALL STRUCTURE

OGS-S CONCEPTUAL CLOSURE LAYOUT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 3

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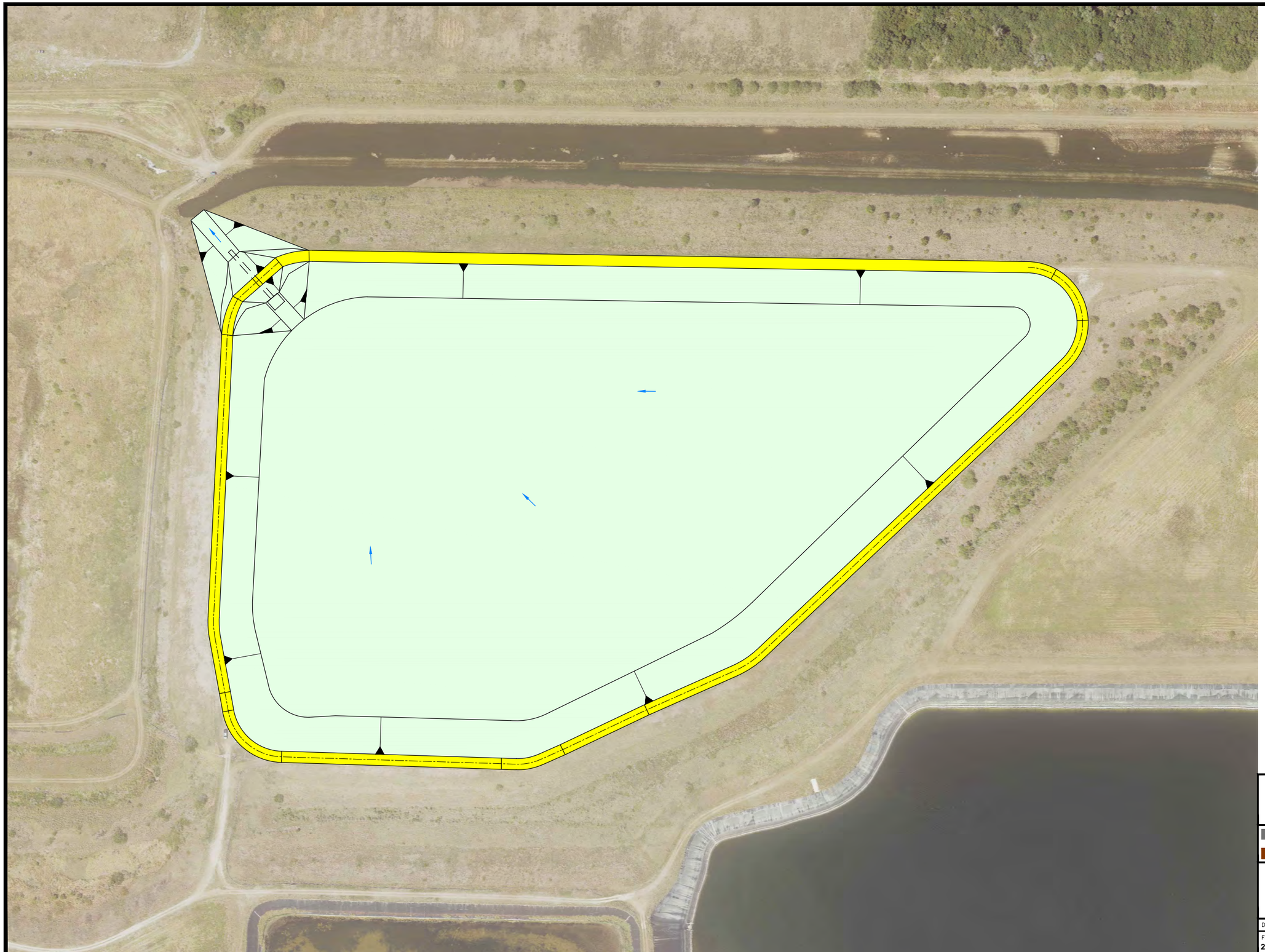

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SCALE: 1"=200'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

NGS-N - CONCEPTUAL CLOSURE LAYOUT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 4

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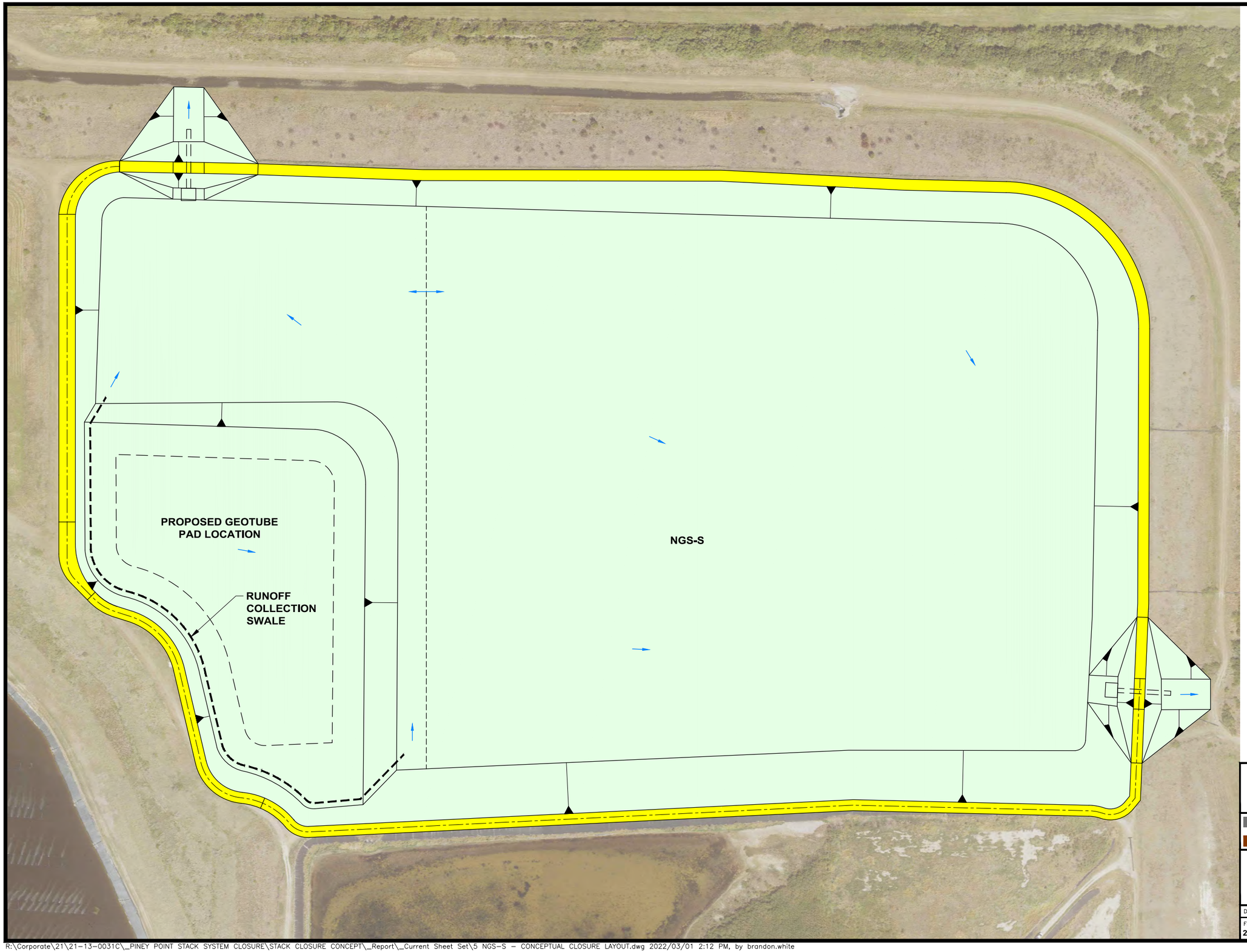

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SCALE: 1"=200'

DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

NGS-S - CONCEPTUAL CLOSURE LAYOUT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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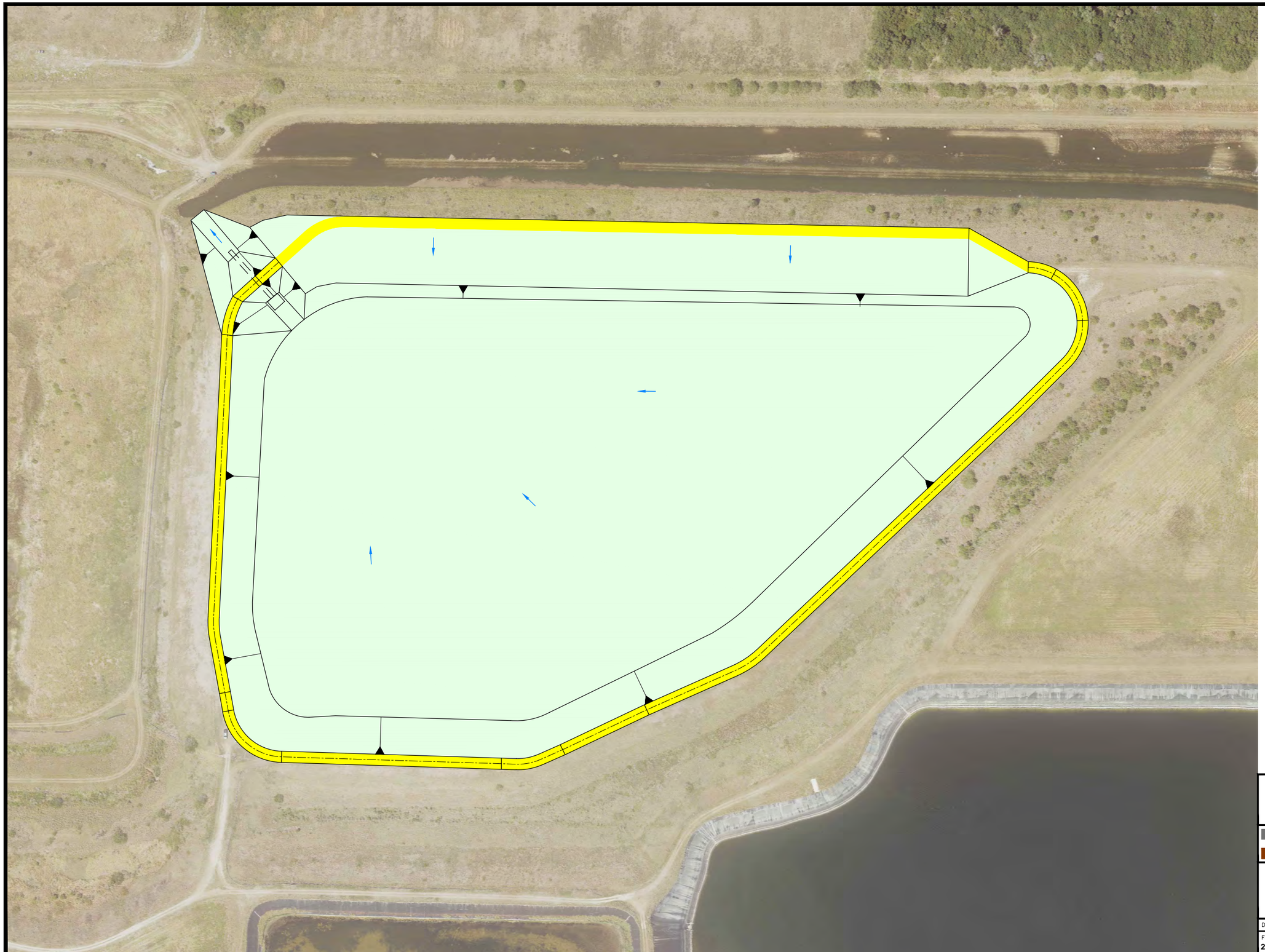

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DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

NGS-N - CONCEPTUAL CLOSURE LAYOUT (ALTERNATIVE OPTION)

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 6

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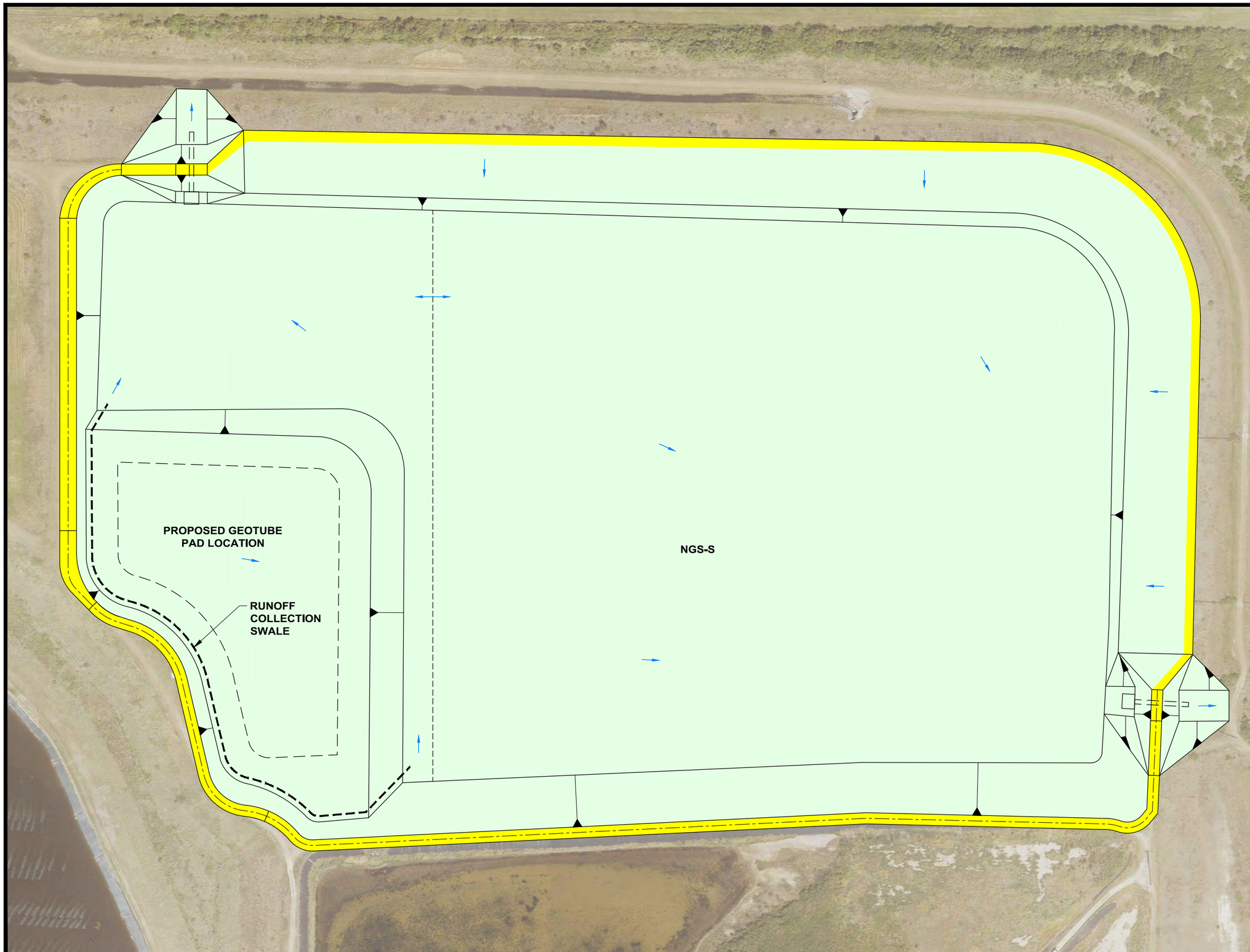

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DATE OF PHOTOGRAPHY:
APRIL 06, 2021

BY: WOOLPERT AERIAL

LEGEND

- DIKE ROAD AREAS
- CLOSED GYPSUM STACK POND AREA
- OUTFALL STRUCTURE

NGS-S - CONCEPTUAL CLOSURE LAYOUT (ALTERNATIVE OPTION)

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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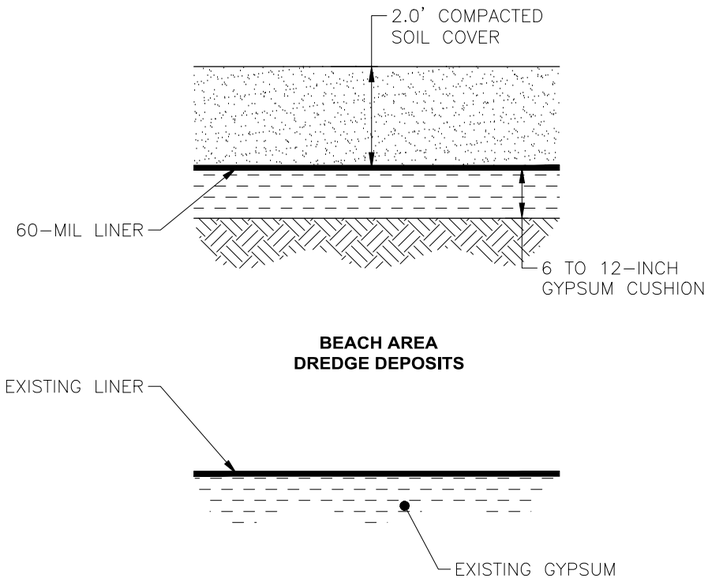
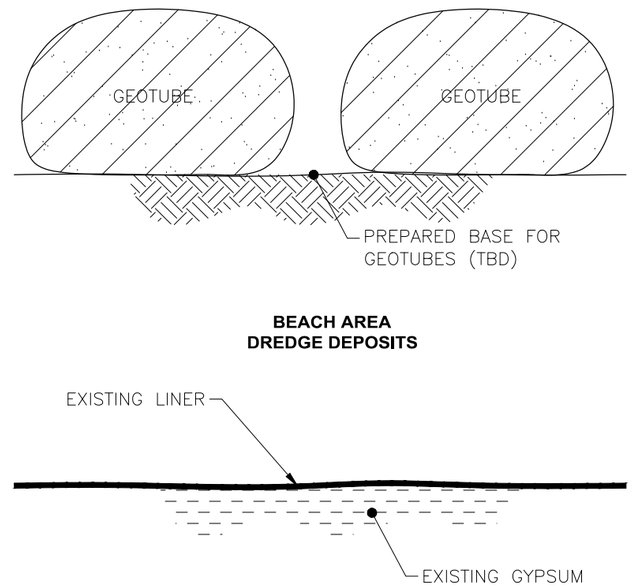


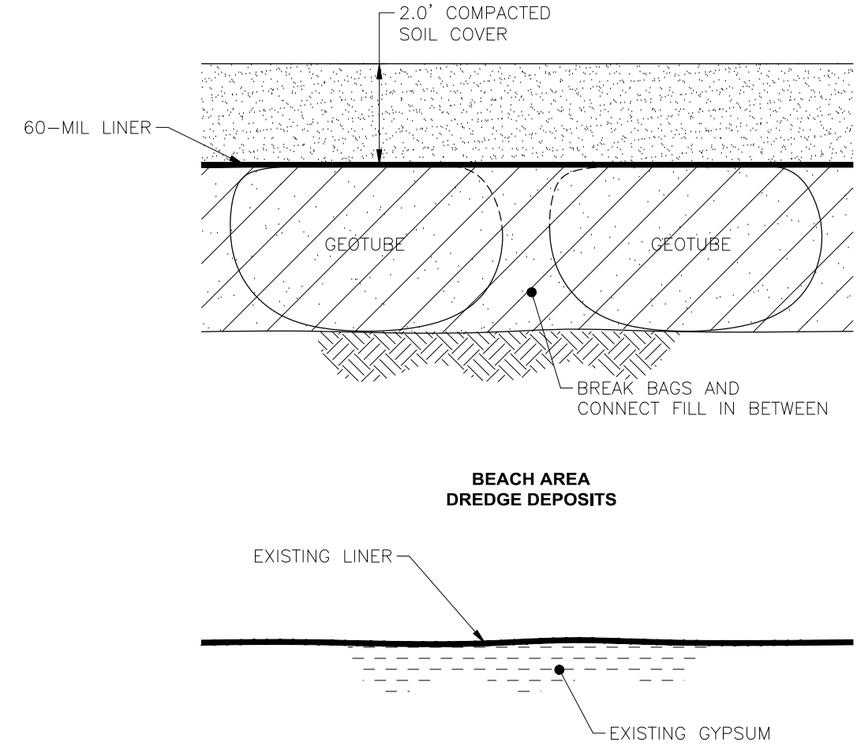
CLOSED ELEVATED DREDGE AREA DETAIL (NO GEOTUBES)

NOT TO SCALE



GEOTUBE PAD AREA DETAIL

NOT TO SCALE



CLOSED GEOTUBE PAD AREA DETAIL

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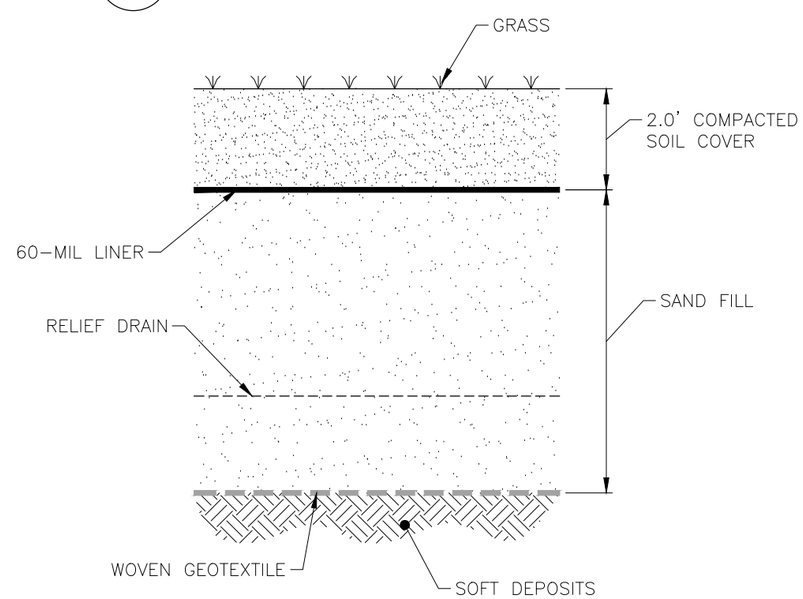

CLOSED SOFT DEPOSIT AREA DETAIL

NOT TO SCALE

MISCELLANEOUS DETAILS

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PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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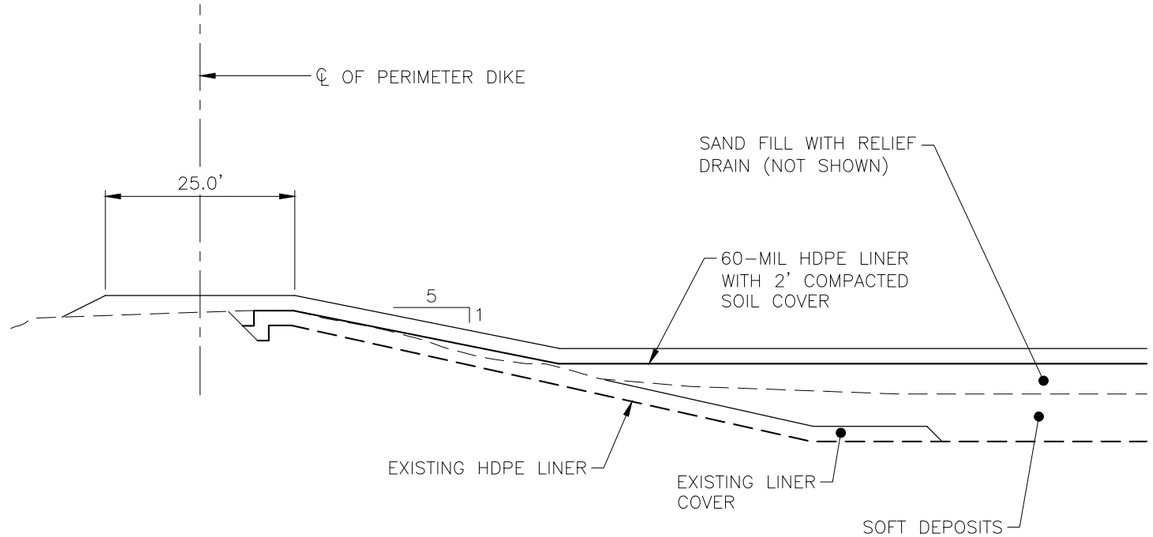
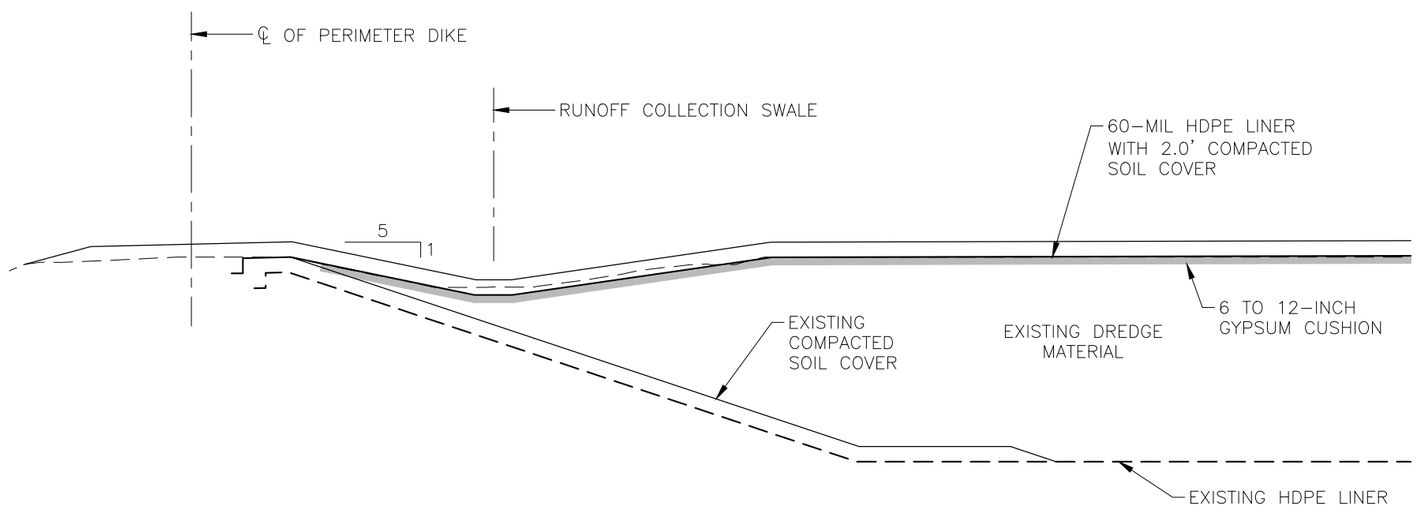


TYPICAL CAP CROSS SECTION AT SOFT DEPOSIT AREA

SCALE: 1" = 20'



TYPICAL CAP CROSS SECTION AT ELEVATED DREDGE DEPOSIT AREA

SCALE: 1" = 20'

GENERAL SECTIONS

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT PHOSPHATES MANATEE COUNTY, FL

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FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 9

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SECTION 3 - WATER BALANCE & MANAGEMENT DURING CLOSURE

As of January 1st, 2022**,** the Piney Point Phosphogypsum Stack System has approximately 397 million gallons of ponded water inventory (not accounting for the small volume of water in the seepage collection pond LPWS). It's anticipated that the deep well injection system will be operational in October/November 2022 with an injection rate of 1 million gallons per day (MGD). The water balance projection below (Figure 10) accounted for the following assumptions:

- Approximately 49 million gallons of pore water will drain from the soft sediments in NGS-S
- Deep Well Injection Rate: 1 MGD
- Spray Evaporation System Rate: ~110 GPM and to shut down at 150MM inventory
- POTW Transfer System Rate: 100,000 gallons per day.
- Seepage Rate from the Underdrain Seepage Collection System: 200 GPM
- Average Rainfall: 53.66 inches per year.

The closure timelines of the ponds shown below (Figure 10) reflect the above assumptions for pond inventory reduction and the anticipated progress of the removal and consolidation of the soft sediments in NGS-S. Any deviations from these assumptions can potentially impact the closure timeline.

During closure phases, all rainfall runoff from construction areas will be contained within the pond system. The following describes water management and closure activities during closure of ponds NGS-N, NGS-S, OGS-N and NGS-S:

OGS-S: Closure of pond OGS-S is independent of the pond storage capacity as this pond is not being used to store pond inventory. A detailed closure plan will be submitted to the Receiver for submittal to FDEP on April 1st, 2022. Closure activities will commence following approval from FDEP. Stormwater runoff from pond OGS-S during closure will be captured and routed to the pond system (i.e., LPWS, OGS-N, NGS-N and NGS-S)

OGS-N: This pond has an approximately 10-acre beach of coarse marine sediments. The area will be used for the initial stages of soft sediment handling activities from NGS-S. Rainfall runoff and consolidation water from the dewatering of soft sediments will be routed to the lower portion of the pond to allow fine sediments to settle. Clear decant water will be routed back to the pond system (i.e., NGS-S or NGS-N).

NGS-S: With a deep well injection rate of 1 MGD and at average rainfall, it is anticipated that all ponded water in the NGS-S pond will be removed by June/July 2023. At that point, minimum water inventory will be kept in the pond at the dredge location to support any remaining soft sediment dredging operations. Following removal of soft sediments, the liner will be inspected for liner damage and any known anomalies will be repaired properly. Additional inspections will be performed for any anomalies below the liner. It is anticipated that the existing liner could be damaged by soft sediment removal activities and will be replaced with a new HDPE liner for terminal closure of the pond.

Evaluation of handling soft sediment is currently underway. If Geotube® dewatering is implemented, the higher northern part of the NGS-S pond will likely be used to place the Geotube® containers to facilitate operations. Rainfall runoff from NGS-S during the soft sediment handling phase and closure phases will be captured and routed to the pond system (NGS-N and OGS-N).

NGS-N: It is anticipated that NGS-N will be the last pond to be closed following the removal of all pond inventory. Rainfall runoff from this pond during closure will be collected in a sump with turbidity control measures in place to allow the removal of clean rainfall runoff to the seepage collection pond LPWS.

Water Management in Support of Deep Well Injection Operations: During closure activities, a pump and pipe routing system will be installed to allow sending remnant process water and seawater mixtures to the pretreatment system for the deep well injection operations located off site of the gypsum stack system. It is anticipated that the pretreatment system will return a small volume (~36 GPM) of reject turbid water with approximately 2.6 percent solids to the gypsum stack pond system. The closure plan will incorporate measures such as dewatering tubes to capture this reject stream to allow clarification of this water and return to the deep well injection operation.

It is anticipated that when all system pond inventory is depleted, and the last pond is in closure, (i.e., NGS-N as shown below), the deep well injection system will continue to receive, treat and dispose of seepage water from the seepage collection system with no reject stream returned to the Piney Point Phosphogypsum Stack System. Therefore, there are no plans or measures in this closure plan to receive the reject water stream from the pretreatment system after the pond system inventory is depleted. If any areas of the OGS-N pond must remain open to manage (i.e., dewatering tube operations) the reject water stream from the pretreatment system during closure, those areas in OGS-N pond will be closed after the termination of the dewatering tube operations.

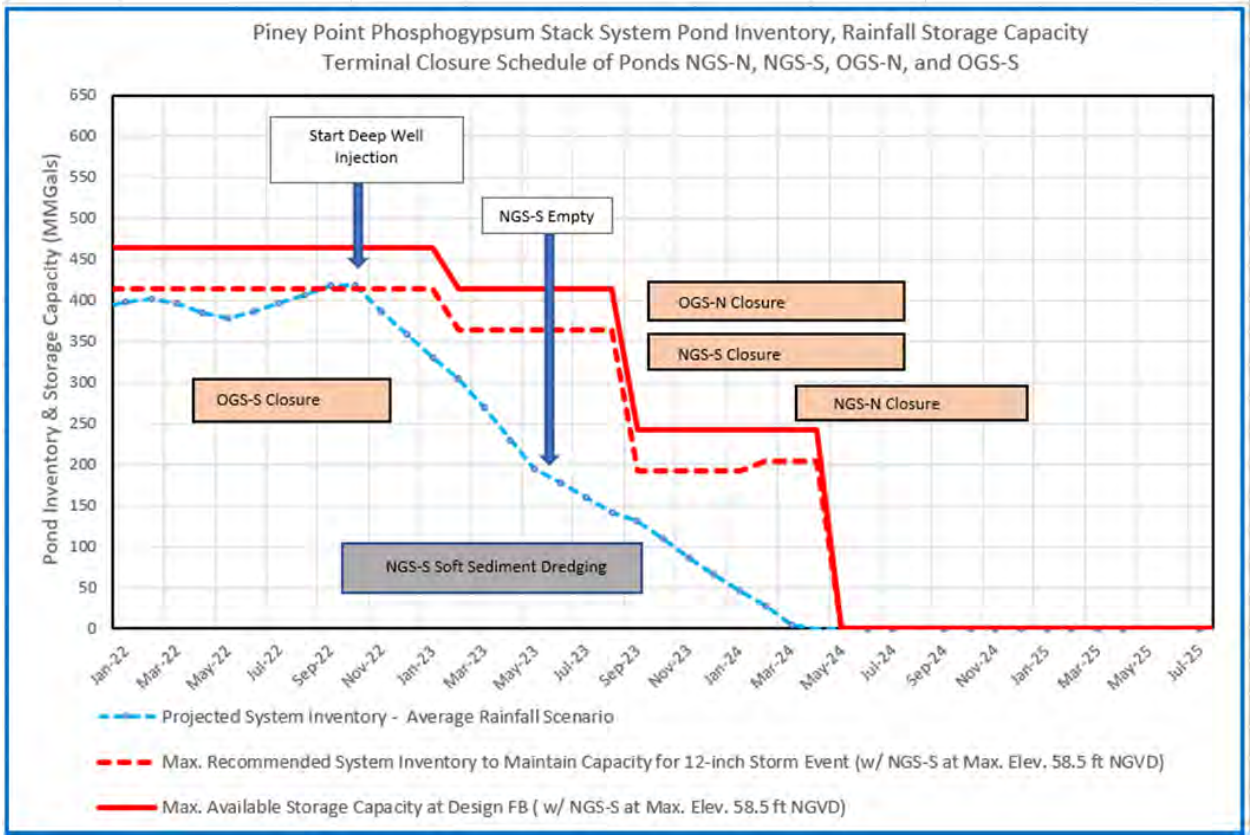

Figure 10: Water Balance Projection and Anticipated Closure Timeline

ATTACHMENT 1

HYDROLOGIC AND HYDRAULIC EVALUATIONS
2021 Conceptual Stormwater Management System
Gypsum Stack Closure Plan
Piney Point, FL Phosphate Complex
For Receiver

Nestor Aceituno, P.E.
Water Resources

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ATTACHMENTS

Attachment	Title
A	2021 Existing Vs Closure Discharge Hydrographs at Outfalls 001 and 003
B	Basin 2 (pre Vs post) Discharge Hydrographs
C	Basin 2 (pre Vs Post) Stage Hydrographs
D	ICPR Model Inputs and Outputs Data

1. INTRODUCTION

The following report presents an overview of the proposed stormwater management plan for the conceptual final closure of the currently partial closed gypsum stack and associated areas. The study consists of a hydrologic and hydraulic assessment of the assumed 2021 existing (pre) scenario and the proposed closure (post) scenario. The description of engineering methods, assumptions and findings are described in the following sections.

2. PROJECT LOCATION

The site is located east of U.S. Highway 41 N and north of Buckeye Road, approximately 9.3 miles north-northeast of Bradenton, Manatee County, Florida. The gypsum stack system is located within portions of Sections 5,6,7 and 8, Township 33 South, Range 18 East, in Northwest Manatee County; Refer to Figure 1.

3. SCOPE OF WORK

The primary objective of this work is to develop a stormwater management plan for the complete (terminal) closure of the Piney Point facility. The proposed plan provides stormwater runoff attenuation and treatment, utilizing the existing inactive top areas coupled with the currently closed areas throughout the site.

The extent of these evaluations covers the watersheds reporting to 001 and 003 Outfalls only and therefore Outfall 002 was not included. During the course of these analyses, no previous records of allowed discharges through Outfalls 001 and 003 were found and consequently the evaluations are limited to the existing 2021 peak discharges “pre”, in comparison to the proposed closure “post” scenario discharges.

The stormwater management system was evaluated using traditional hydrologic and hydraulic models; in this case the ICPR v3 model was used. The hydrologic and hydraulic analyses are described in detail throughout the remainder of this report.

4. 2021 EXISTING CONDITION – TOPOGRAPHY AND DRAINAGE

Surface water runoff from the <u>partially closed</u> Piney Point facility is currently managed by the existing stormwater system designed to collect, treat, and detain excess runoff from their corresponding contributing areas. The existing stormwater system mainly consist of series of dry detention basins throughout the facility. The stormwater system consists of two main watersheds (east and west) each reporting to NPDES discharge points outfall 001 and outfall 003; Refer to Figure 2. Both outfall structures are equipped with a sharp crested weir for flow measurements. Discharges from outfalls 001 and 003 flow into Buckeye Road drainage ditch, then westward under U.S. Highway 41 N via box culverts, and under railroad via pipe to southernly flowing railroad drainage ditch for ultimate discharge into Bishop Harbor which flows into Tampa Bay.

Currently, the total area from the closed stack reporting to outfall 001 is approximately 197 acres and the total area from the closed stack and other areas reporting to outfall 003 is approximately 108 acres, totaling 305 acres.

Within the facility, a total of 5 areas (currently not closed) are self-contained and therefore not discharging to outfalls. These areas are as follows: the 34.5 acre New Gypsum Stack-North (NGS-N) , the approximately 72.0 acre New Gypsum Stack-South (NGS-S), the approximately 35.6 acre Old Gypsum Stack-North (OGS-N) , the approximately 23.6 acre Old Gypsum Stack-South (OGS-S), and the approximately 11.7 acre Lined Sump (LPWS) . Therefore, the total area currently not reporting to outfalls 001 and 003 is 177.4 acres.

At closure, and including the previously described areas, it is estimated that the total area reporting to outfalls 001 and 003 will be 471 acres combined, excluding 11.7 acres from the Lined Sump (LPWS) which will be closed at later time.

5. FUTURE CLOSURE CONDITION

The future (short term) closure condition consists of closing and releasing the self-contained areas previously mentioned (except the LPWS) into their corresponding watersheds reporting to outfalls 001 and 003. The following provides a description of the proposed conceptual closure design features; refer to Figure 3.

5.1 Stack Top Areas

A total of 4 top cells hydraulically separated by berms, namely the NGS-N, NGS-S, OGS-N and OGS-S will be closed. For the closure condition, these areas will be lined with two-foot-thick grassed soil cover. These areas will only receive runoff from their own defined catchments, including associated berms, and will be graded to direct runoff to drop inlets connected to HDPE pipes for discharge to lower receiving features. Under normal conditions, they will not be allowed to hold (pond) water. Because the top areas will be completely isolated from gypsum, they are expected to discharge high quality runoff. However, these areas will be provided with a drop inlet structure with associated effluent filtration devices to provide the required water quality treatment while providing attenuation. Drop inlet access will be provided for all cells.

Conceptually, the top area NGS-N will be routed north into to the lined North Stormwater Pond for ultimate discharge into Basin 2 and outfall 001.

The top area NGS-S will be connected to the closed stormwater ditch on the south and east for ultimate discharge into the lined North Stormwater Pond and into Basin 2 and outfall 001.

The Basin 2 existing outlet structure will be retrofitted to limit the existing discharge while maximizing the available storage within Basin 2. This could be achieved by restraining the existing 18-inch HDPE pipe or equivalent approach.

The OGS-S will be routed to the OGS-N, the OGS-N will be directly connected to the Relief Ditch for ultimate discharge through outfall 003.

The NGS-N Relief Ditch and existing outlet structure will be reconditioned to attenuate the additional discharge volumes from OGS-S and OGS-N.

The closed OGS-S CAP area currently flows to the upper ditch west of the side slopes with ultimate discharge into Outfall 003. For the conceptual closure, the existing drop structure pipe will be extended to the west field and therefore into Basin 2 and Outfall 001.

5.2 Lined Sump (LPWS)

The 11.7 acres Lined Sump (LPWS) is not part of the (short term) closure plan and therefore not included in these analyses. This area will be closed at a later time as the area will remain operable for the long term care water treatment requirements, (e.g., seepage).

5.3 NPDES Outfalls 001 and 003

The existing Outfalls Structures D-001 and D-003 will remain in place after closure of the site. Outfalls D-001 and D-003 eventually discharge into Bishop Harbor, a part of Terra Ceia Bay Aquatic Preserve, which is designated as Outstanding Florida Water (OFW).

The Outfall Structures top openings are approximately 9.0-feet by 9.0-feet, and approximately 5.3-feet deep with sharp crested weirs at elevations 3.0 feet and 7.5 feet NGVD29, respectively. The length of the sharp weirs for both are 3.2 feet. Similar to the 2021 existing condition, the outfalls 001 and 003 will serve as the discharge points leaving the site after terminal closure.

6. REGULATORY CRITERIA

The Piney Point facility lies within the Southwest Florida Water Management District (SWFMWD) and as delegated by Manatee County, is subjected to stormwater management rules developed by SWFWMD and Manatee County.

The classification of the receiving waters is OFW (the bay) and therefore projects discharging into Outstanding Florida Water (OFW) shall require to provide treatment for a volume 50 percent more than the required for the selected treatment system.

Based on regulatory criteria, the dry detention system (detention with effluent filtration) planned for stormwater runoff from the closed top-gradient of the stack shall comply with the following requirements:

a) the treatment system shall treat the runoff from the first one inch of rainfall;
b) the stormwater must pass through a minimum of two feet of the filter material before entering the perforated pipe;
c) the total detention volume shall again be available within 36 hours; and
d) the design of the system must be such that the water velocities and associated flow path through the storage pond do not cause the accumulated pollutants to be flushed out of the treatment pond up to the 25-year/24-hour design rainfall event.

One inch of runoff treatment volume will be provided for the terminal closure and therefore more than the required treatment will be provided.

7. AVAILABLE DATA AND SOURCES

7.1 Topographic Data and Source Documents

Topographic and other survey data used in these evaluations include, the April 2021 Lidar data set provided by FDEP, the 2021 survey from Survtech Solutions, as-built and design drawings for different facility components from various sources, and several engineering 2021 field reconnaissance visits by Ardaman.

7.2 Rainfall Data

The 24-hour duration, Mean annual and the 25-year (4.7-inch and 8.5-inch from SWFWMD) return period were selected for these evaluations. The standard SCS Type II (Florida Modified) rainfall distribution is used to be consistent with local and state criteria.

8. METHODOLOGY AND MODEL DEVELOPMENT

Hydrologic analyses typically employ specialized mathematical models to define the response of a drainage system to design storm events. A model, in this context, is a computer implemented mathematical representation of the physical and behavioral characteristics of a system. With this mathematical representation, storm event conditions are simulated, and results are analyzed to evaluate drainage system performance.

8.1 Model Selection

A hydro-meteorological, hydrodynamic modeling approach was selected for use in defining design flow rates, peak discharges, and water surface elevations. The approach involves computation of runoff, storage, and conveyance in response to a rainfall event that is uniformly distributed over the contributing drainage area.

The Interconnected Pond Routing (ICPR) V3.10 Service Pack 11 model for Windows was selected for use in this study. ICPR is a storm event modeling system that generates runoff hydrographs for basins and performs hydrodynamic routings of that runoff through a surface water conveyance system comprised of lakes, ponds, channels, and drainage structures. It also features extensive import capability for the incorporation of GIS coverage data during model construction.

8.2 Model Network Layout

ICPR operates with a model network comprised of a series of node and reach elements. These connections provide a framework for dynamic storage and routing of flows throughout a drainage system. Nodes, located at critical points of interest within the drainage system, have storage and elevation characteristics and are used as locations for delivery of runoff to the drainage system. Model node elements typically represent lakes, ponds, and points of interest in open channels.

Nodes are also used to assign downstream boundary conditions for the modeled system, where a known water surface elevation (called a "tailwater") must be defined.

Reach elements have specific hydraulic characteristics and are used to convey flow between nodes. Model reach elements typically represent open channels and drainage structures (culverts, bridges, weirs, etc.) that provide conveyance through the surface water drainage system.

9. HYDROLOGIC APPROACH

9.1 Hydrologic Parameterization

To develop design runoff hydrographs, the Soil Conservational Service's (SCS) curve number method was selected as the preferred rainfall excess method.

Subbasin parameterization was performed in order to assign values for hydrologic model development, including Time of Concentration (Tc), Runoff Curve Number (CN), Initial abstraction, Peak Rate Factor (K'), and Antecedent Moisture Condition (AMC). The following parameters were assigned as explained below:

9.1.1 Basin Delineation

Basins represent local drainage areas delineated so that they contribute runoff to a single point or node in the model network. Aerial photographs in combination with available topographic contour maps of the site were used to determine the drainage divides in combination with the proposed closure design conditions.

9.1.2 Time of Concentration

Time of concentration is generally defined as the amount of time it takes for a drop of water to travel from the most hydrologically distant point in a basin to the point where that basin discharges. It is used as a parameter in the computation of a runoff hydrograph, when using the SCS Unit Hydrograph Method for hydrograph generation. The computation is made according to techniques recommended in TR-55 by the NRCS. A minimum travel time of 10 min was used in these evaluations.

Travel segment data for this study was developed using contours, aerial photographs, and land use. The flow path along the surface of the basins was broken into sheet flow and shallow concentrated flow sections.

9.1.3 Land use

Land use categories were used along with soil types to define runoff potential from the site. Categories used to describe land use and cover for the project site areas are based on the Florida Land Use, Cover and Forms Classification System (FLUCFCS). Three general land use categories described as extractive, industrial and reservoirs were found within the site.

9.1.4 Soils

Soils are classified into hydrologic soil groups A,B,C and D, depending on their infiltration rate and rate of water transmission that relate to runoff potential. The natural soils for the area are poorly drained soils. According to the NRCS soil database, the existing soils within the study area are generally classified as dual Hydrologic Soil Group consisting of mainly A/D with few B/D, and C/D.

9.1.5 Runoff Curve Number

The runoff Curve Number method is a parameter used for predicting direct runoff or infiltration from rainfall excess and it is based on combinations of land use and soils. This number usually has a range from 30 to 100; lower numbers indicate low runoff potential while larger numbers are for increasing runoff potential. A CN of 85, which is representative of average antecedent moisture conditions (AMC-II), was selected for the closed stack side slopes while the closed top gradients were modeled with CN of 80. For the remaining reclaimed areas (plant site), CN values were selected based on the existing soil and land used information as follows: CN of 93 is used for the Industrial areas with (A/D and B/D Soils) and a CN of 80 was used for Extractive areas with (A/D and B/D Soils).

9.1.6 Antecedent Moisture Condition (AMC)

Antecedent Moisture condition is the preceding relative moisture of the pervious surfaces prior to the rainfall event. Antecedent Moisture is considered to be low when there has been little preceding rainfall and high when there has been considerable rainfall prior to the modeled rainfall event. For modeling purposes, we consider watersheds to be AMC II, which is essentially an average moisture condition.

9.1.7 Peak Rate Factor

The peak rate factor (K') is a numeric value used to describe the shape of a unit hydrograph for a basin. In this case, a peak rate factor of 256 was used where the watershed has mild slopes with intermittent storage throughout the watershed surrounding the gypsum stack. For the stack slope areas, a peak rate factor of 484 was selected.

10. HYDRAULIC APPROACH

10.1 Surface Water Runoff Geometric and Hydraulic Parameters

As previously mentioned, the ICPR is a storm event modeling system that performs hydrodynamic routings through a surface water conveyance system comprised of lakes, ponds, channels, and drainage structures.

10.1.1 Storage Representation

ICPR is capable of modeling lakes, wetlands, and floodplains with varying surface areas (and therefore storage volume) as water levels rise and recede within the system. In order to make this possible, surface area at successively higher elevations must be described for

every water body in the model. The only exceptions to this are the riverine or channel reaches where the entire flood plain is defined by channel cross sections.

10.1.2 Conveyance System

Channel storage is accounted for in the definition of the open channel cross section, with channel storage apportioned to the upstream and downstream nodes. Channel cross sections were used to define conveyance within the stormwater system. Channel

roughness parameters were assigned based on assumed design and existing conditions. The length assigned to each open channel reach was measured along the flow line.

10.1.3 Model Initial Conditions

Model initial conditions were set to the control elevation of each hydraulicly connected feature throughout the watershed. The control elevation refers to the lowest elevation of all individual hydraulic features controlling water levels within the area e.g., orifice in a drop structure, pipe invert elevation, etc.

10.1.4 Critical Points

Critical Points (CP's) denote common locations where flows are computed in the 2021 existing condition and the closure scenario. Any location where modeled stormwater runoff exits the Area of Interest (AOI), is considered a Critical Point. The location of the Critical Points is represented by the Outfalls 001 and 003, along with each CP's contributing drainage basins, are depicted in Figures 2 and 3.

10.1.5 Boundary Conditions

Downstream boundary conditions, outfalls 001 and 003 were modeled as fixed tailwater. A fixed tailwater elevation of 1.3 feet NGVD29 was chosen as the Mean High Water (MHW) level for tide influenced outfalls. As previously described, the sharp crested weirs elevations from outfalls 001 and 003 are set to elevations 3.0 feet and 7.5 feet (NGVD29) respectively and therefore, these evaluations assumed free discharge.

10.1.6 Floodplains

Existing flood prone areas were determined using the Federal Emergency Management Agency (FEMA) Federal Insurance Rate Map (FIRM) for Manatee County. Based upon review of this document, the 100 year or 1% probability floodplain encompasses the lower west corner of the property. Basin #2 lies within in the floodplain polygon designated as (AE) with a calculated elevation of 8.0 feet NAVD88 or 8.98 feet NGVD29 as shown in Figure 4. According to the revised FEMA Flood Insurance Study (FIS) of August 10, 2021, the flooded area is costal, and it is based on storm surges and waves with same 1% probability. Therefore, the type of flooding previously described is caused by hurricane surge.

Although Basin 2 top of dike is at elevation 14.0 feet NGVD29 or approximately 5.0 feet above the FEMA map, it is possible to backflow Basin 2 via the existing pipe connecting Basin 2 drop structure with Outfall 001. Basin 2 discharge control structure is comprised of one Type C FDOT inlet box with one 18-inch DR21 pipe connecting to Outfall 001. Along

the pipe, a knife gate valve is provided perhaps to prevent from backflowing Basin 2 should this extreme costal event occur. The FDOT Type C top of riser is at elevation 7.28 feet while the pipe upstream elevation is 2.98 feet and the downstream is at elevation 1.96 feet NGVD29.

11. STORMWATER MODEL RESULTS COMPARISONS

Locations of the Critical Points (CP's) selected for the 2021 Existing (pre) and the Closure (post) comparisons are shown on Figures 2 and 3 (outfalls 001 and 003). Table 1 below summarizes the performance of the entire system in terms of peak discharge rates relative to two comparative scenarios, the 2021 Existing (pre) and the Closure (post) scenarios in response to a Mean/24hr and a 25-year/24hr storm events.

Table 1. 2021 Existing (pre) and Closure (post) Scenario Peak Discharges

Outfall Location	Critical Point (CP)	Estimated 2021 Existing (Pre)		Estimated Full Closure (Post)	
		Mean-Annual Event (cfs)	25-year/24hr Event (cfs)	Mean-Annual Event (cfs)	25-year/24hr Event (cfs)
Outfall 001	001	10.3	14.6	9.5	13.9
Outfall 003	003	7.5	8.9	7.5	8.8
	Total	17.8	23.5	17.0	22.7

As show in Table 1, the total peak discharges leaving the site closure during a 25-year 24-hour storm event would be about 22.7 cfs, compared to the 2021 existing total of 23.5 cfs. The 2021 existing (pre) vs closure (post) scenario discharge hydrograph plots for critical points 001 and 003 are shown in Attachment A. Attachments B and C shows flow and stage hydrographs resulting from the proposed modification of outfall from Basin 2.

12. CLOSING COMMENTS

The conceptual hydrologic and hydraulic analyses presented herein are based on best available information. The current models contain hydrologic data and hydraulic data from recent (2021) LiDAR data, 2021 surveys, recent 2021 field reconnaissance visits and as-builts and design drawings. It is important to note that the conveyance system (ditches) was mainly obtained from as-builts and design data since the 2021 LiDAR data did not accurately capture the bottom of these ditches due to either heavy vegetation or stagnant water at the time of the flight. Basin delineations and hydrologic and hydraulic parameters assignments were derived from best available sources at the time of these analyses. During construction of these hydro-meteorological hydrodynamic models, differences between the LiDAR and design elevations were observed along the tops of dikes. The LiDAR dike elevations were lower by about one foot relative to the design dike elevations. Critical as-builts top of dike elevations should be verified by a Professional Land Surveyor (PLS). Similarly, liner anchor trench elevation should be verified by a PLS.

As shown in Figure 3, it is proposed to retrofit Basin 2 outfall structure with the purpose of reducing the peak discharge in the proposed closure scenario. By doing this, the stage in Basin 2 will increase by 1.0 feet and therefore it may affect the hydraulic performance of all features hydraulically connected to Basin 2. A thorough review is recommended of all non-surveyed features utilized in these analyses before adopting this improvement.

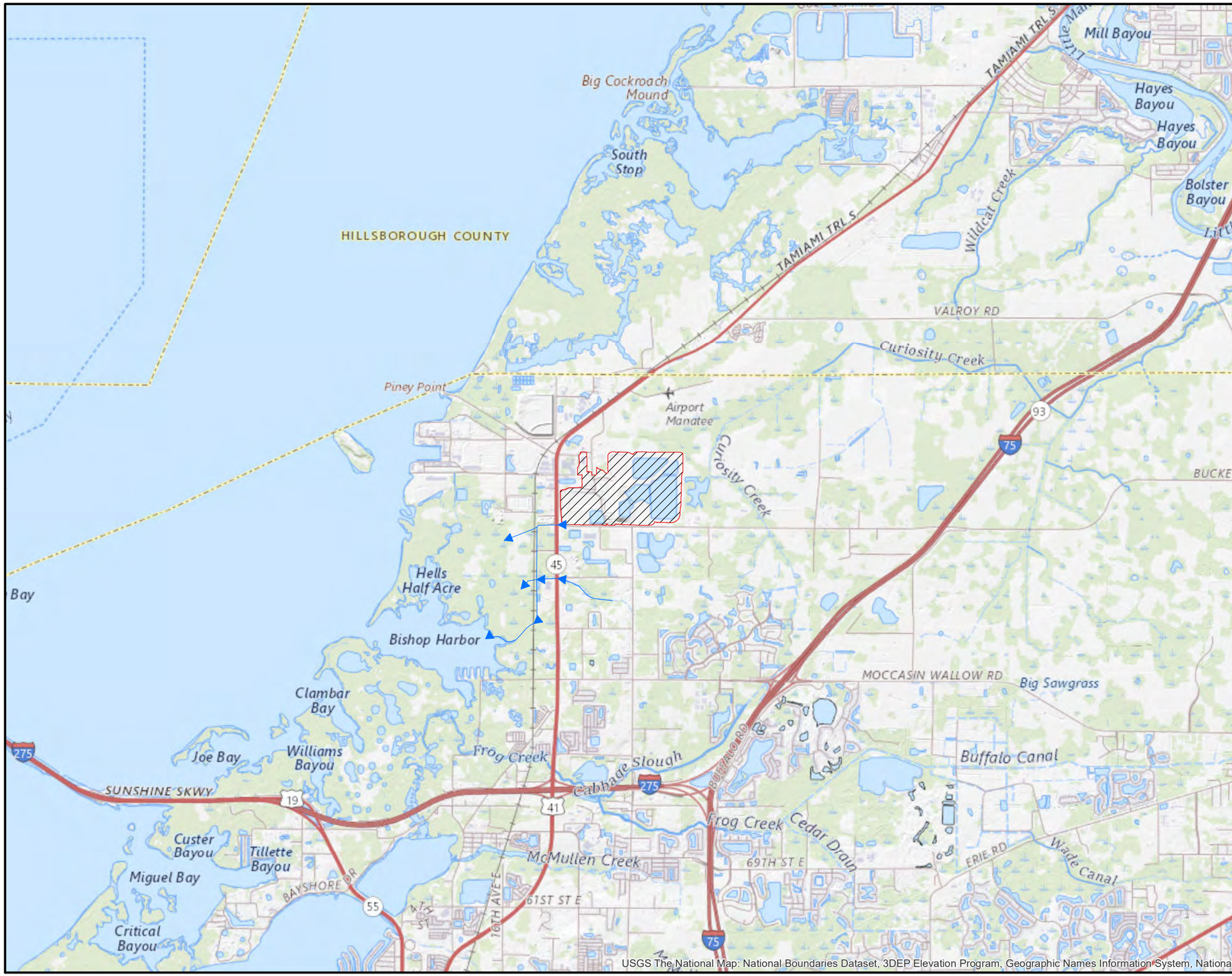
As shown in Figure 3, it is proposed to recondition the NGS-N Relief Ditch by removing the existing 2-feet of soil cover and line the entire area with a new liner and back fill it with previously taken top 2-feet of soil cover. In addition, it is proposed to constraint the existing 12-inch pipe draining the Relief Ditch by replacing the pipe with one 8-inch pipe or equivalent. By doing this, the stage in the NGS-N Relief Ditch could be increased by 5.0 feet and therefore temporarily detain the additional volume from the proposed closure of OGS-S and OGS-N combined.

Few other areas throughout the site are proposed to be improved such as the low-lying area north of the West Field and the area east of Basin 1; refer to Figure 3. It is proposed to slightly regrade these areas to better accommodate the expected additional run-off from the proposed closure. These areas will also be directly connected to the West Field via pipes to improve connectivity and to maximize the available storage. Also, Additional detailed analysis of closure pond tops will be performed to better estimate peak discharges and stages under the closure scenario. A list of final detailed improvements and retrofits will be provided in the final report.

The maximum stage elevation maps produced as ICPR modeling results presented in Figures 5 and 6 were delineated using automated techniques and mapped to check for reasonableness only. From the ICRP model, each node's maximum elevation was assigned to its corresponding basin and compared with the coincident cells of the raster-based digital elevation model (DEM) in GIS. Where the maximum elevation was higher than a coincident DEM cell, a polygon was produced, and all polygons whose edges intersect were merged into a single polygon. This automatically produced polygon output is to be used as a tool to review the various hydraulic and hydrologic scenarios evaluated in these analyses and is <u>not intended to suggest flood risk</u>. This product is only to be used for model result review due to limitations including reduced LiDAR accuracy in wet and vegetated areas, DEM resampling of a LiDAR point cloud to a regular raster grid, and sloping water represented with level pool maximum stages per nodes from the ICPR model.

Model results for the existing condition in response to a 25-year/24-hour synthetic rainfall event, demonstrate that maximum water elevations within the main receiving water features are below the designed anchor trench liner elevation (as-builts liner levels to be verified by a PLS). Based on comparisons of the 2021 Existing (pre) and Closure simulations results, the proposed closure plan will not exceed the existing (pre) scenario peak discharge while allowing for effective management of stormwater runoff. The proposed closure plan shows, through comparative storm event simulations, to include appropriately designed features that limit peak discharge rates, resulting in no adverse impacts to downstream adjacent areas.

FIGURES



N

Feet
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Scale: 1" = 5,000'

SOURCE: USGS NATIONAL MAP, 2017

Discharge_Ditch
Watershed Boundary

LOCATION MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: TJC	CHECKED BY: NA	DATE: 1/3/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 1

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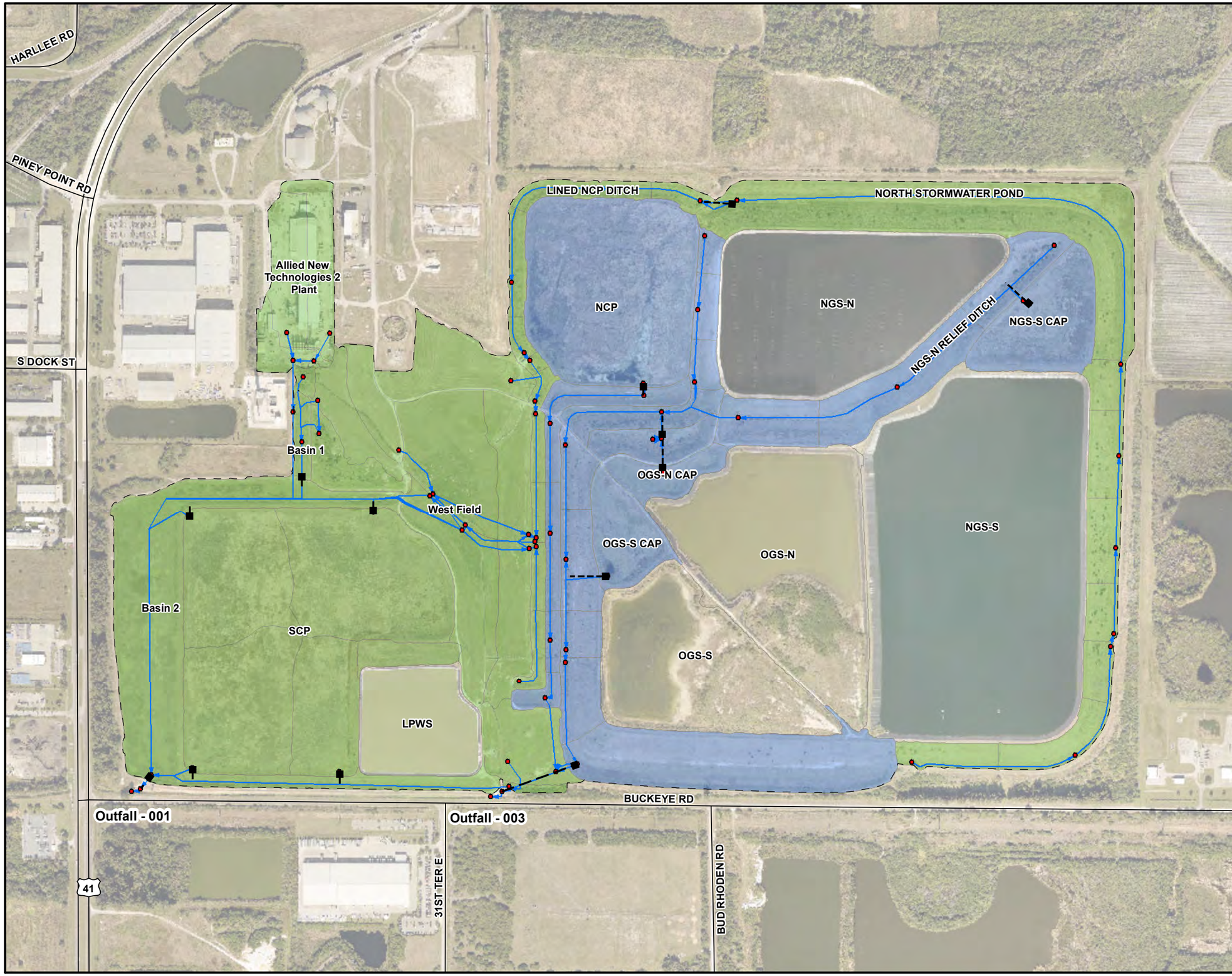

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Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

Watershed Boundary
Node
Reach

Basin System
Isolated
Outfall_001
Outfall_003

2021 EXISTING SCENARIO WATERSHED

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: TJC	CHECKED BY: NA	DATE: 1/3/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 2

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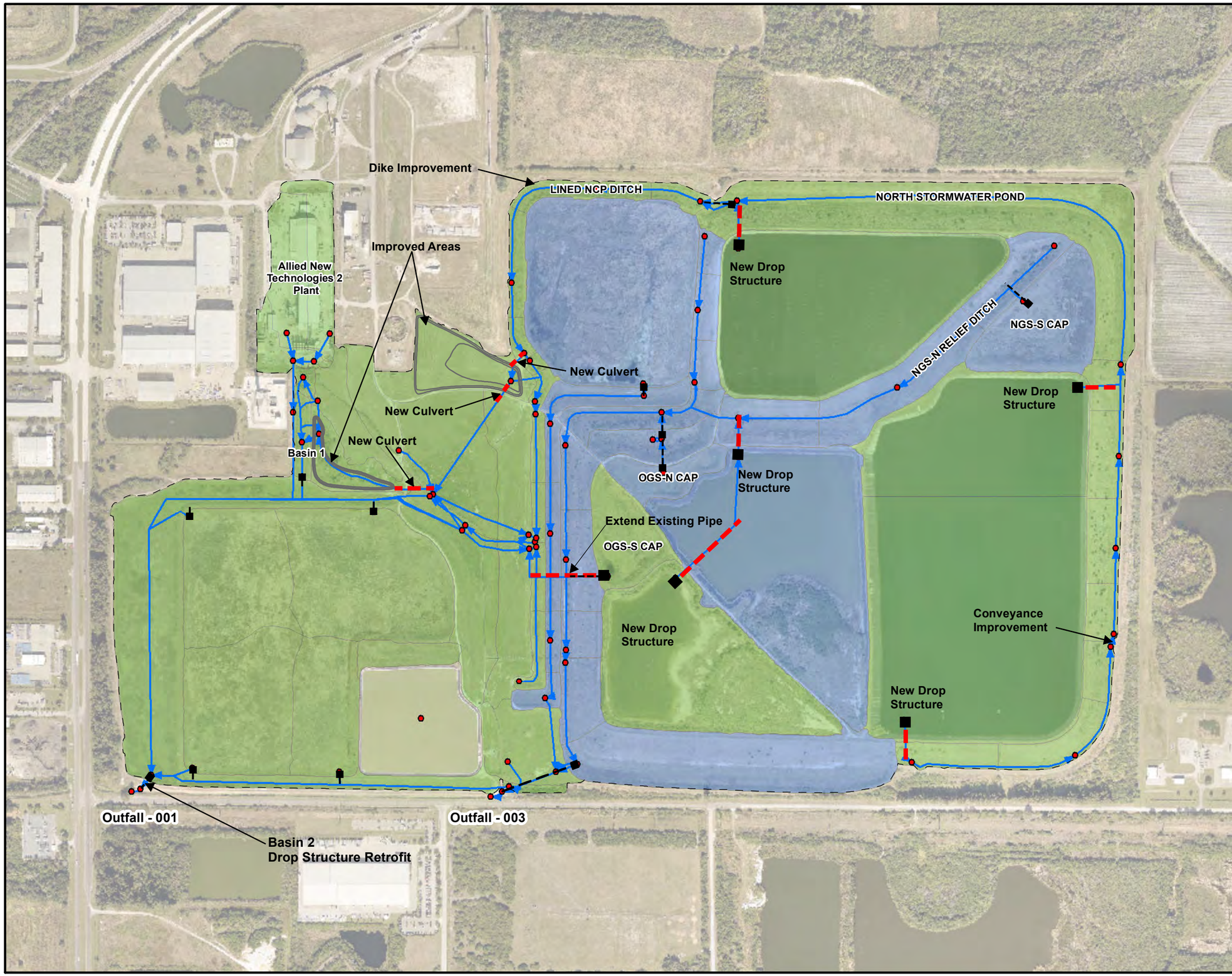

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Feet
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Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

Watershed Boundary
Node
Reach
Basin System
Isolated
Outfall_001
Outfall_003
New Structure
New Culvert

CLOSURE SCENARIO WATERSHED

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: SG	CHECKED BY: NA	DATE: 02/22/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 3

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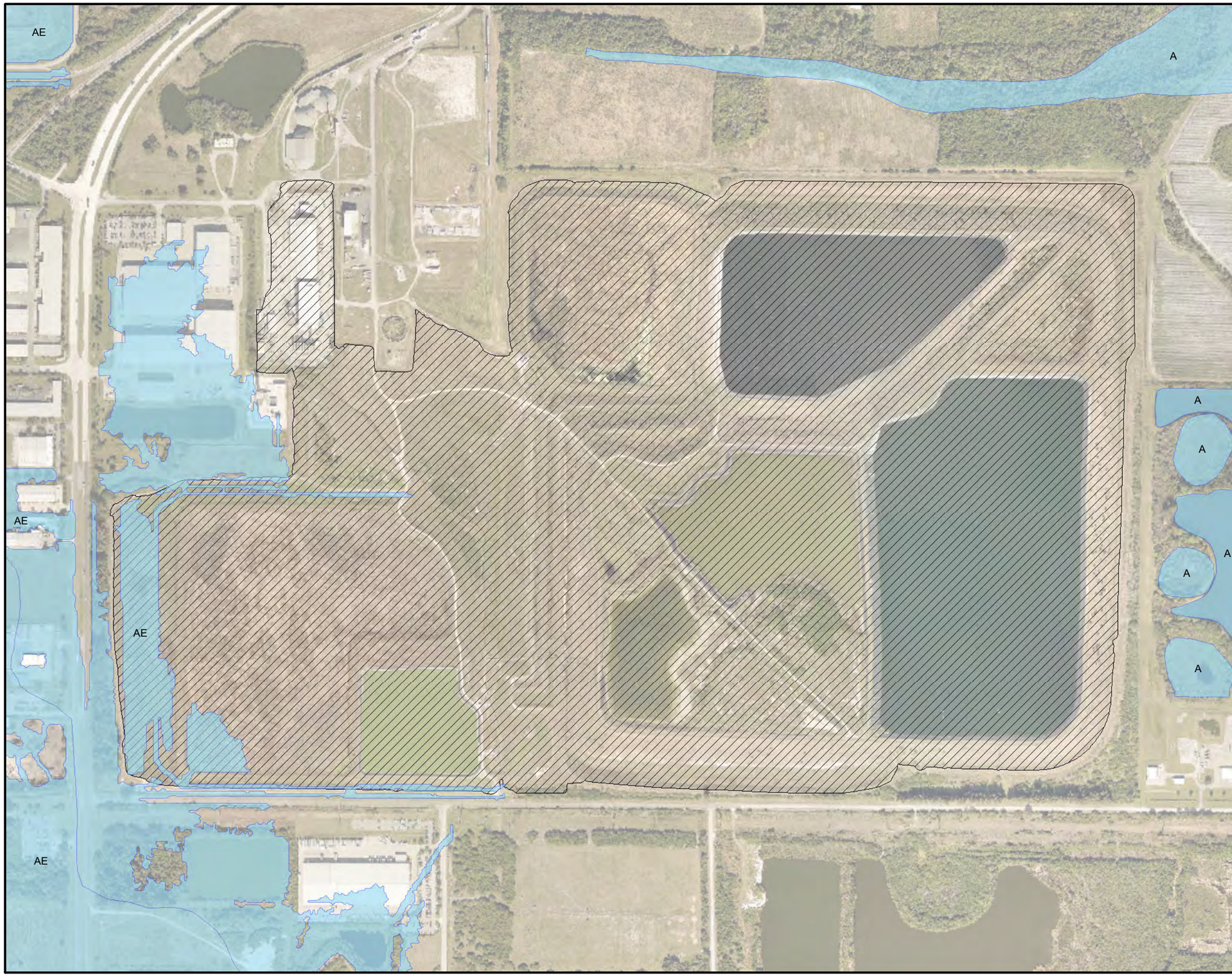

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Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

FEMA Flood Zone

Watershed Boundary

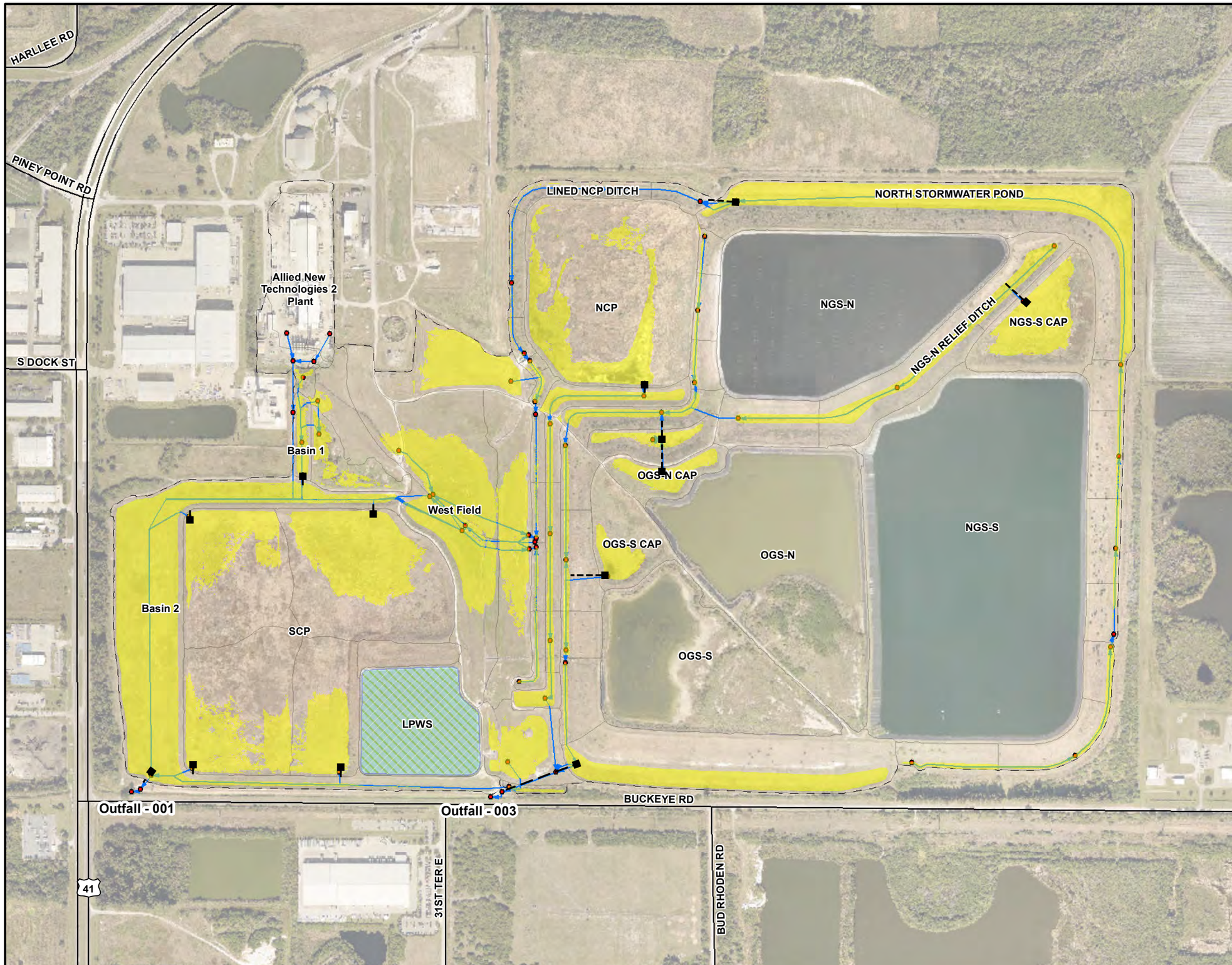
FEMA 100 YEAR FLOOD FLOOD PLAIN MAP

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: **TJC**	CHECKED BY: **NA**	DATE: **1/3/22**
FILE NO. **21-13-0031C**	APPROVED BY:	FIGURE: **4**

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220222_Report_Figures\Figure_4 FEMA 100 Year Flood Plain Map.mxd



N

Feet
0 600 1,200

Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

- Existing Approximate 25y/24h Max Stage Extent
- LPWS
- Watershed Boundary
- Node
- Reach
- Basins

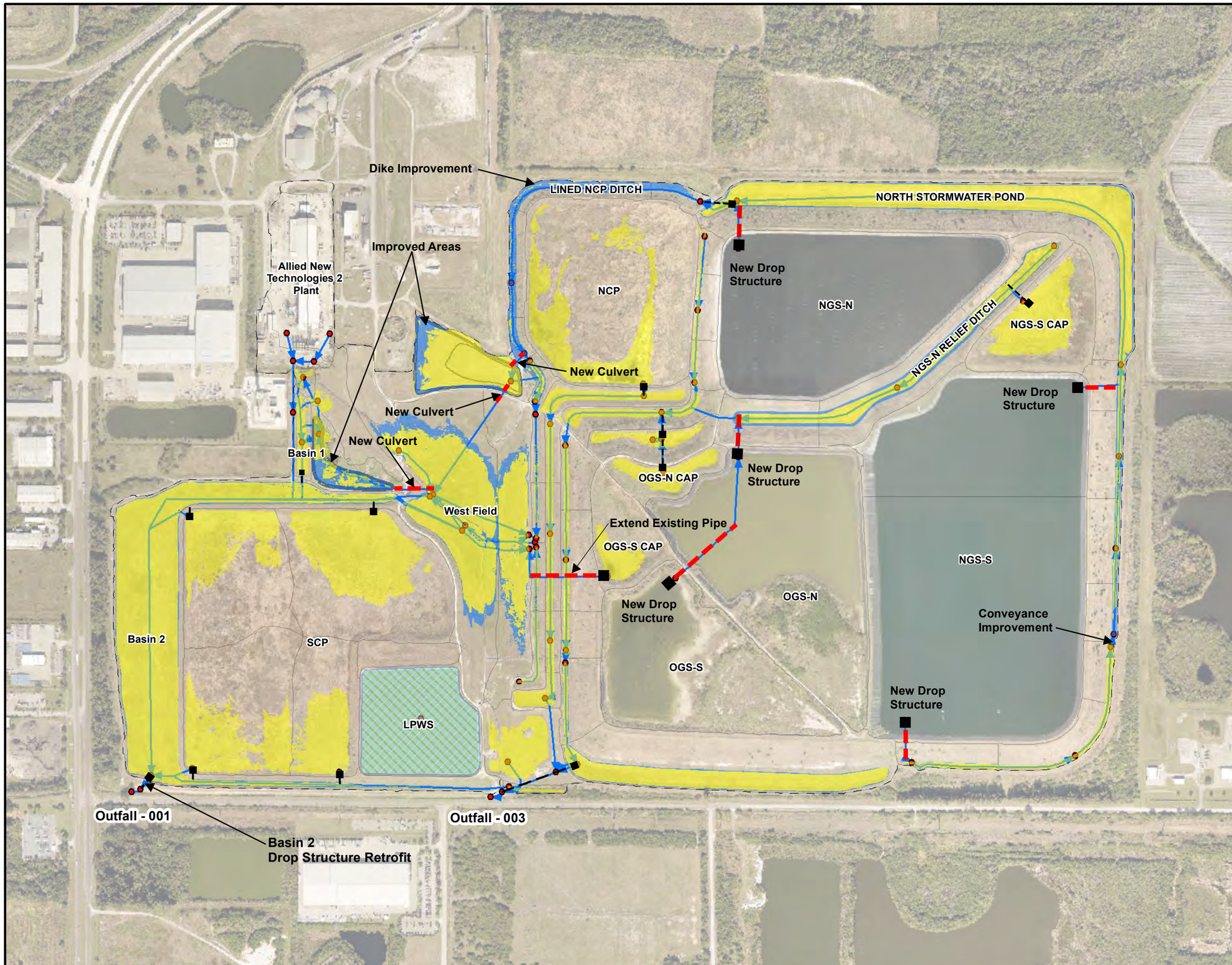
2021 EXISTING SCENARIO MAXIMUM STAGE APPROX. EXTENT 25-YEAR 24-HOUR EVENT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: SG	CHECKED BY: NA	DATE: 2/24/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 5

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_5 2021 Existing Max Stage Extent.mxd



N

Feet
0 600 1,200
Scale: 1" = 600'

SOURCE: AERIAL PHOTOGRAPH FROM MANATEE COUNTY, 2020.

- Proposed Closure Approximate 25y/24h Max Stage Extent
- Existing Approximate 25y/24h Max Stage Extent
- LPWS
- Watershed Boundary
- Node
- Reach
- Basins
- New Drop Structure
- New Culvert

EXISTING AND CLOSURE SCENARIOS MAXIMUM STAGE APPROX. EXTENTS 25-YEAR 24-HOUR EVENT

Ardaman & Associates, Inc.
Geotechnical, Environmental and Materials Consultants

PINEY POINT

DRAWN BY: SG	CHECKED BY: NA	DATE: 02/22/22
FILE NO. 21-13-0031C	APPROVED BY:	FIGURE: 6

W:\Projects\2021\21-13-0031C_Piney_Point\ArcGIS\ArcLayouts\20220224_Report_Figures\Figure_6 Closure Max Stage Extent.mxd

Attachment A

2021 Existing (pre) Vs Closure (post) Hydrograph Plots

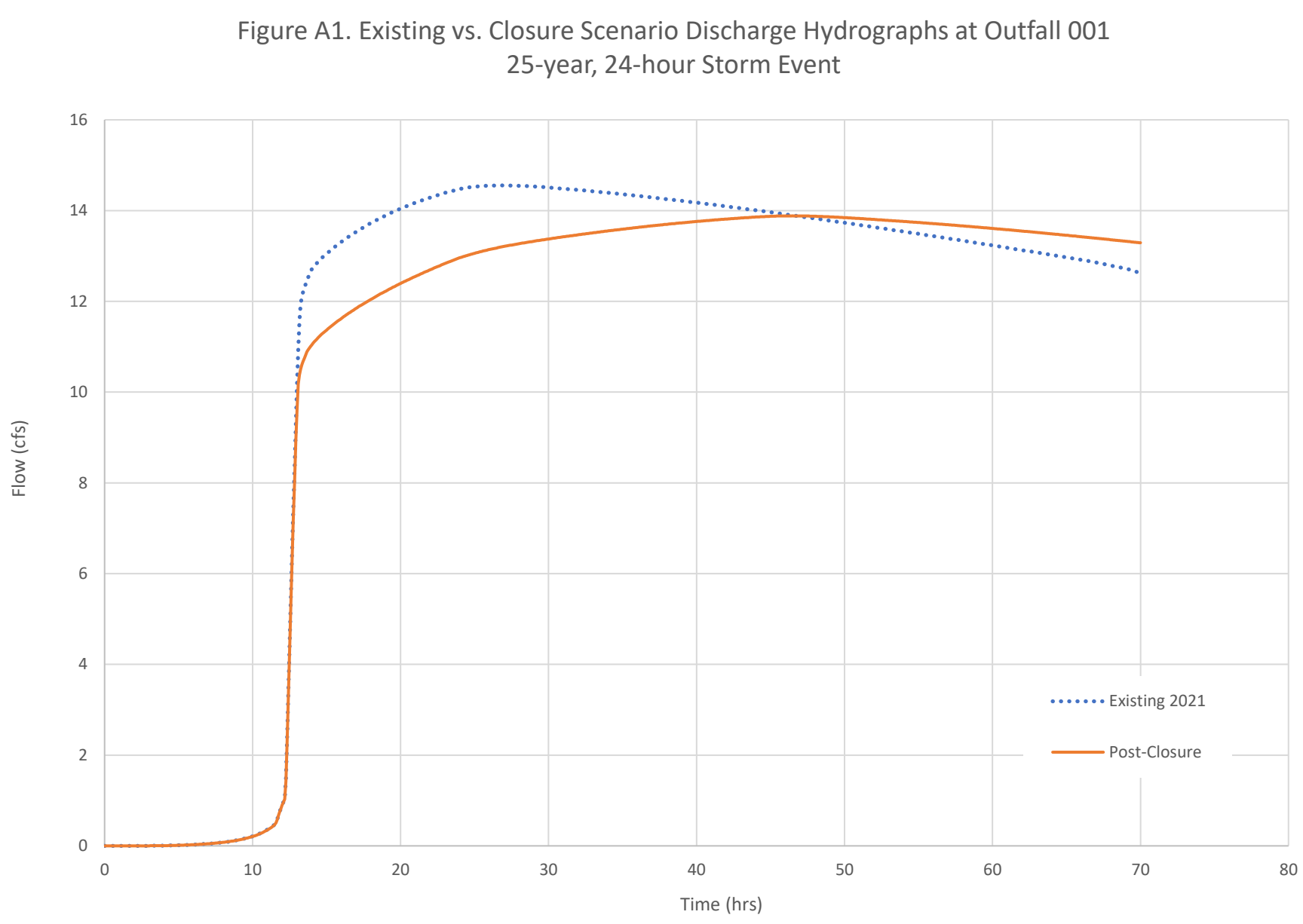


Figure A1. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 001
25-year, 24-hour Storm Event
Flow (cfs)
16
14
12
10
8
6
4
2
0
0
10
20
30
40
50
60
70
80
Time (hrs)
Existing 2021
Post-Closure

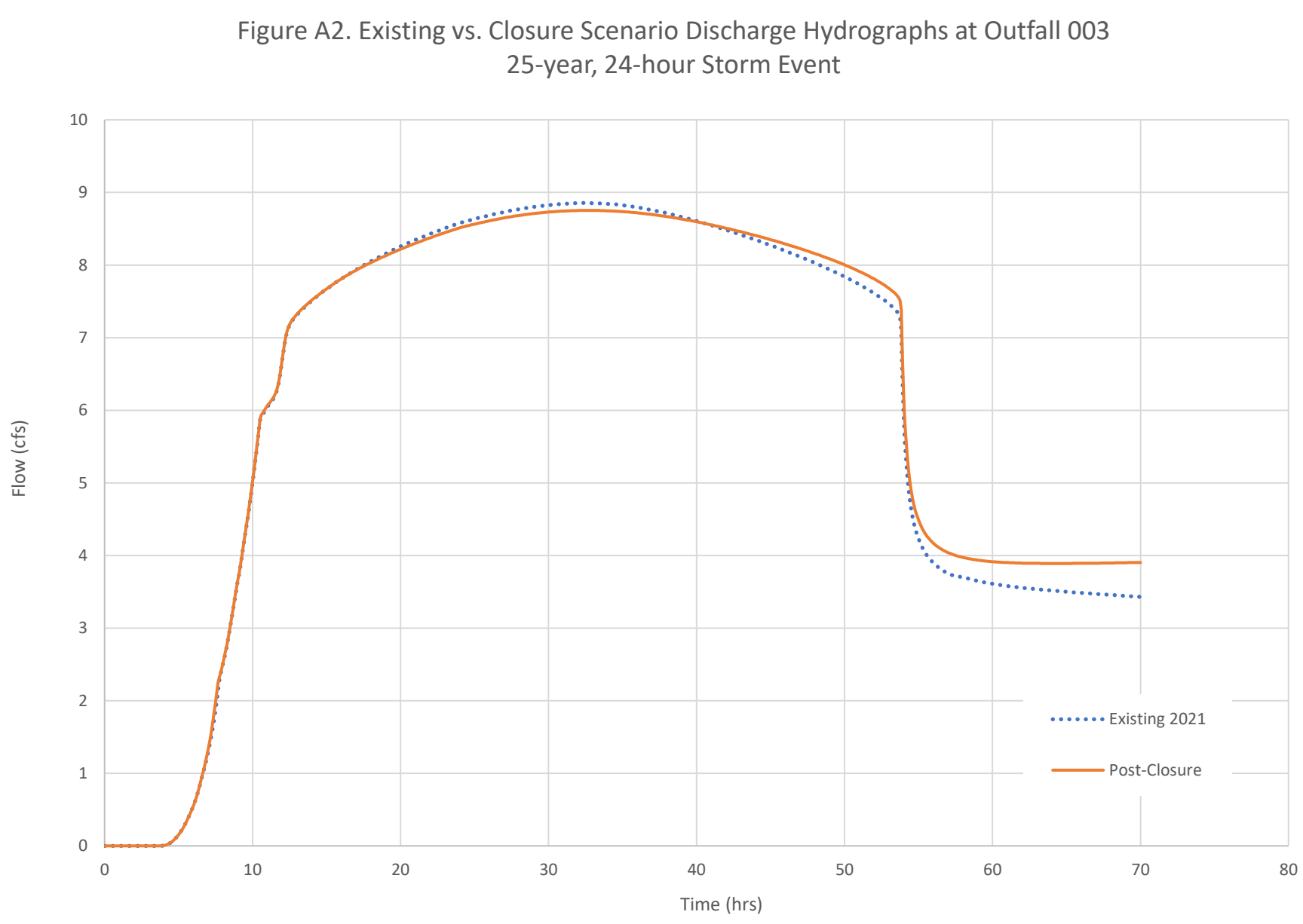
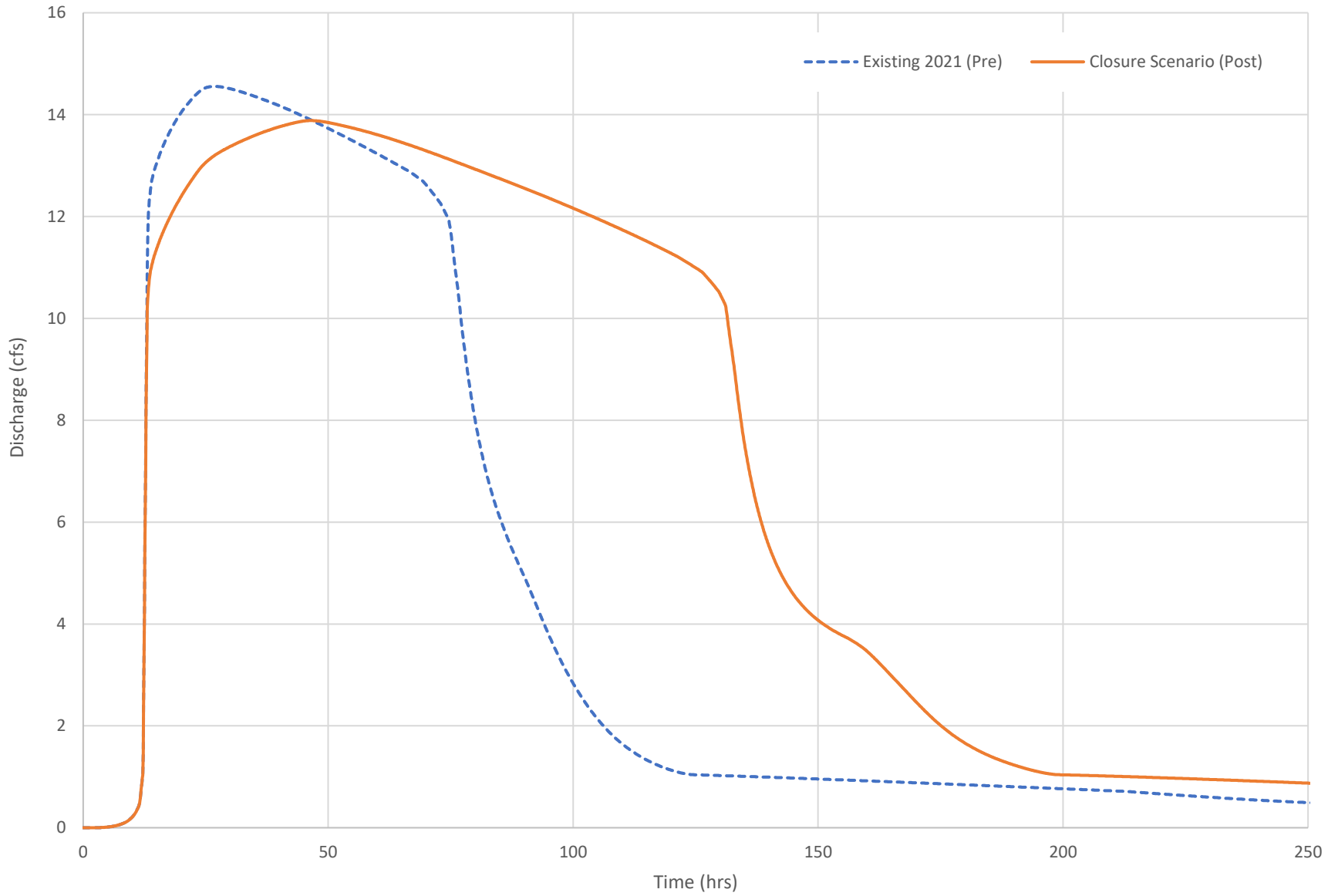


Figure A2. Existing vs. Closure Scenario Discharge Hydrographs at Outfall 003
25-year, 24-hour Storm Event
Flow (cfs)
Time (hrs)
0
1
2
3
4
5
6
7
8
9
10
0
10
20
30
40
50
60
70
80
Existing 2021
Post-Closure

Attachment B

Basin 2 (pre Vs post) Discharge Hydrographs

Figure B. Basin 2 (pre Vs post) Discharge Hydrographs



Attachment C

Basin 2 (pre Vs post) Stage Hydrographs

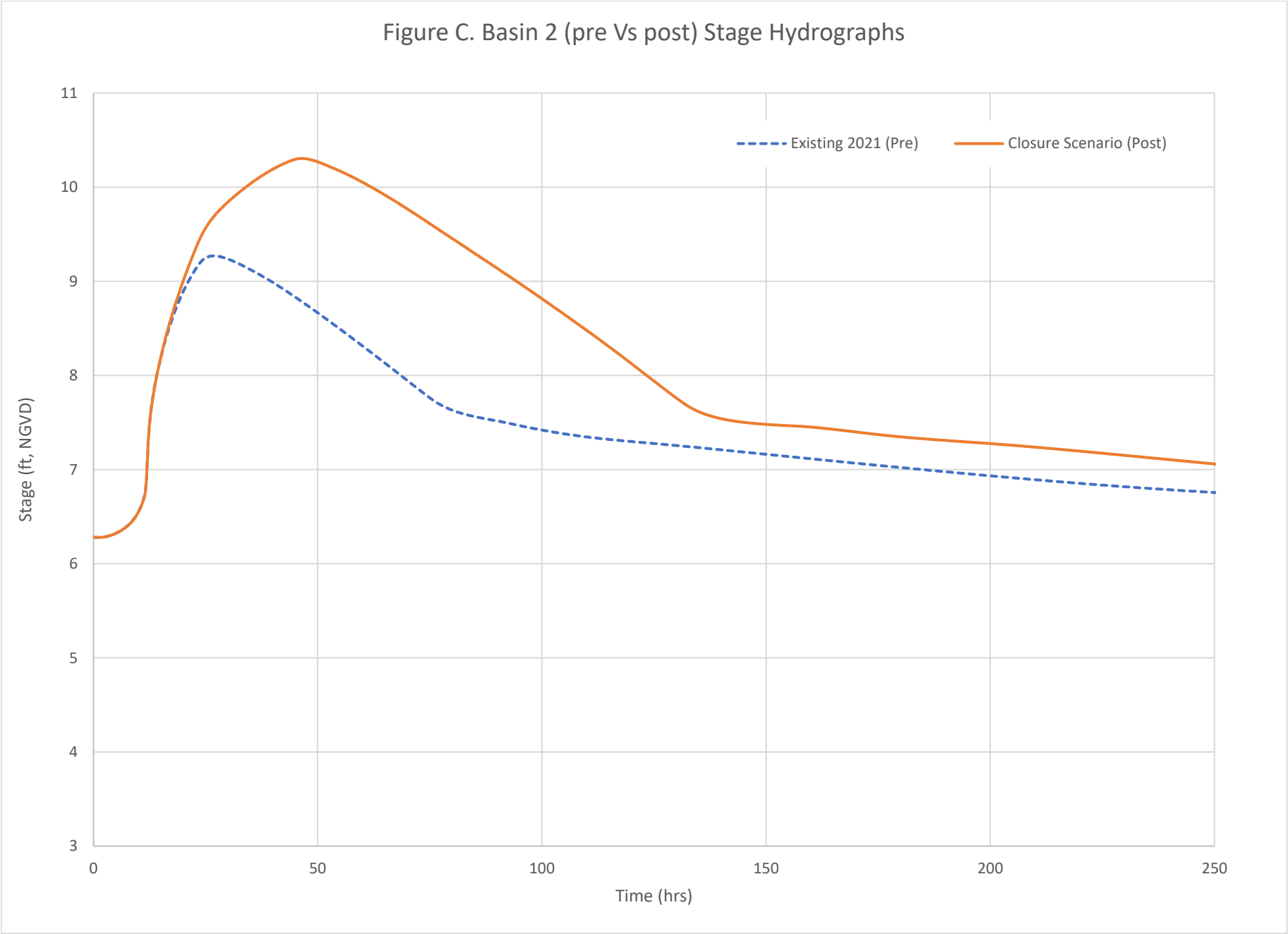


Figure C. Basin 2 (pre Vs post) Stage Hydrographs
Existing 2021 (Pre)
Closure Scenario (Post)
Stage (ft, NGVD)
Time (hrs)
11
10
9
8
7
6
5
4
3
0
50
100
150
200
250

Attachment D

ICPR Model Inputs and Outputs Data*

```
==========================================================================================
==== Basins ==============================================================================
==========================================================================================

         Name: B0-NE                    Node: 0-NE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 15.29
            Area(ac): 18.110                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-NW                    Node: 0-NW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 24.38
            Area(ac): 12.592                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SE                    Node: 0-SE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 16.04
            Area(ac): 8.242                      Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SW                    Node: 0-SW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.75
            Area(ac): 13.732                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B002                     Node: 002                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 16.907                     Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B003                     Node: 003                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.962                      Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B004                     Node: 004                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
```

```
            Area(ac): 1.743                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005                     Node: 005                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.331                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005B                    Node: 005B                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 5.877                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B006                     Node: 006                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.121                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B007                     Node: 007                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.711                  Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B008                     Node: 008                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.603                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B009                     Node: 009                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.465                  Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B010                     Node: 010                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
```

```
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 4.399                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B011                    Node: 011                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 7.248                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B012                    Node: 012                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 3.931                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B013                    Node: 013                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.297                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B014                    Node: 014                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.479                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B015                    Node: 015                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 0.916                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B016                    Node: 016                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.101                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B017                    Node: 017                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 0.869                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B018                     Node: 018                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 1.810                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B019                     Node: 019                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 0.965                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B02                      Node: 02                     Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                    Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.45
             Area(ac): 1.874                    Time Shift(hrs): 0.00
         Curve Number: 93.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B020                     Node: 020                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 2.936                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B021                     Node: 021                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 2.314                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B022                     Node: 022                    Status: Onsite
       Group: BASE                     Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
             Area(ac): 3.146                    Time Shift(hrs): 0.00
         Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
```

```
        Name: B023                    Node: 023                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.632                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B024                    Node: 024                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.694                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B025                    Node: 025                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.608                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B026                    Node: 026                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.765                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B027                    Node: 027                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.700                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B028                    Node: 028                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 24.355                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B029                    Node: 029                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.051                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
-----------------------------------------------------------------------------------------------------
        Name: B03                     Node: 03                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.219                     Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B030                    Node: 030                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.234                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B031                    Node: 031                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.636                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B032                    Node: 032                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.724                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B033                    Node: 033                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.318                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034                    Node: 034                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.586                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034B                   Node: 034B                  Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 17.90
            Area(ac): 6.673                     Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
--------------------------------------------------------------------------------------------------
         Name: B035                    Node: 035                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.909                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B036                    Node: 036                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.755                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B038                    Node: 038                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.886                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B039                    Node: 039                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.236                      Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B04                     Node: 04                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.56
            Area(ac): 4.524                      Time Shift(hrs): 0.00
         Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B040                    Node: 040                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 31.64
            Area(ac): 4.868                      Time Shift(hrs): 0.00
         Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


--------------------------------------------------------------------------------------------------
         Name: B041                    Node: 041                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 18.58
            Area(ac): 5.137                      Time Shift(hrs): 0.00
```

```
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042_B                  Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 11.27
             Area(ac): 2.239                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042A                   Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 13.56
             Area(ac): 8.431                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B043                    Node: 043                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 9.704                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B044                    Node: 044                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 12.33
             Area(ac): 3.148                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B045                    Node: 045                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 5.663                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B046                    Node: 046                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 0.465                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B05                     Node: 05                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
```

```
    Rainfall Amount(in): 0.000                Time of Conc(min): 24.88
               Area(ac): 5.013                  Time Shift(hrs): 0.00
           Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B1                      Node: 1                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 1.344                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B2                      Node: 2                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 3.486                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B3                      Node: 3                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.93
               Area(ac): 3.600                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B4                      Node: 4                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 0.553                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BBASIN_2                Node: BASIN_2                Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 26.822                 Time Shift(hrs): 0.00
           Curve Number: 95.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BLPWS                   Node: LPWS                   Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 11.656                 Time Shift(hrs): 0.00
           Curve Number: 100.00            Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BNCOLLING_P             Node: NCOLLING_P             Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 27.750                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-N                    Node: NGS-N                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 34.446                     Time Shift(hrs): 0.00
        Curve Number: 100.00                Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S                    Node: NGS-S                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 72.119                     Time Shift(hrs): 0.00
        Curve Number: 100.00                Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S_CAP                Node: NGS-S_CAP              Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 9.766                      Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-N                    Node: OGS-N                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 35.637                     Time Shift(hrs): 0.00
        Curve Number: 95.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-S                    Node: OGS-S                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.611                     Time Shift(hrs): 0.00
        Curve Number: 95.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


===============================================================================================
==== Nodes ====================================================================================
===============================================================================================

      Name: 0-NE                Base Flow(cfs): 0.000          Init Stage(ft): 9.000
     Group: BASE                                               Warn Stage(ft): 13.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
          8.700          0.0000
          9.700          1.9353
         10.700          7.5750
```

11.700	12.8416
12.700	15.7512
13.700	16.5189
14.700	16.7168
15.700	16.8417
16.700	16.9569
17.700	17.0643
18.700	17.1677
19.700	17.2726
20.700	17.3781
21.700	17.4871
22.700	17.5933
23.700	17.6920
24.700	17.8044
25.700	18.0903
26.700	18.1110
27.520	18.1114

Name: 0-NW Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.960	0.0000
9.960	0.9966
10.960	3.5226
11.960	8.0966
12.960	11.8522
13.960	12.5666
14.960	12.5930
15.370	12.5931

Name: 0-SE Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
9.050	0.0001
10.050	1.4902
11.050	4.1887
12.050	6.2550
13.050	7.0393
14.050	7.2425
15.050	7.3425
16.050	7.4203
17.050	7.4910
18.050	7.5614
19.050	7.6287
20.050	7.6934
21.050	7.7614
22.050	7.8276
23.050	7.8972
24.050	7.9633
25.050	8.0819
26.050	8.2410
26.690	8.2417

Name: 0-SW Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.820	0.0000
9.820	0.7520
10.820	3.4854
11.820	8.6541
12.820	12.7281
13.820	13.6629
14.820	13.7300
15.290	13.7303

Name: 001 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 18.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 002 Base Flow(cfs): 0.000 Init Stage(ft): 17.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)
16.480	0.0000
17.480	0.8465
18.480	2.3918
19.480	3.0914
20.480	3.4540
21.480	3.7725
22.480	4.0917
23.480	4.4203
24.480	4.7447
25.480	5.0727
26.480	5.3905
27.480	5.7169
28.480	6.0806
29.480	6.4178
30.480	6.6524
31.480	6.8462
32.480	7.0136
33.480	7.1677
34.480	7.3151
35.480	7.4683
36.480	7.6192
37.480	7.7618
38.480	7.8991
39.480	8.0352
40.480	8.1720
41.480	8.3092
42.480	8.4576
43.480	8.6048
44.480	8.7601
45.480	8.9182
46.480	9.0779
47.480	9.2334
48.480	9.3936
49.480	9.5514
50.480	9.7137
51.480	9.8738
52.480	10.0354
53.480	10.1966
54.480	10.3568
55.480	10.5164
56.480	10.6740
57.480	10.8303
58.480	10.9867
59.480	11.1417
60.480	11.3013
61.480	11.4644
62.480	11.6300
63.480	11.7923
64.480	11.9512
65.480	12.1116
66.480	12.2753
67.480	12.4394
68.480	12.6036
69.480	12.7660
70.480	12.9301
71.480	13.0910
72.480	13.2507
73.480	13.4117
74.480	13.5715
75.480	13.7473
76.480	13.9285
77.480	14.0981
78.480	14.2643
79.480	14.4300
80.480	14.5995
81.480	14.7764
82.480	14.9779
83.480	15.1728
84.480	15.2790
85.480	15.4114
86.480	16.2870
87.480	16.4206
88.480	16.5302
89.480	16.6528
90.480	16.7484
91.480	16.8595

92.480	16.9005
93.240	16.9095

Name: 003 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 004 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 005 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 005B Base Flow(cfs): 0.000 Init Stage(ft): 76.160
Group: BASE Warn Stage(ft): 82.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.460	0.0000
76.460	0.2122
77.460	0.4066
78.460	0.9553
79.460	1.4878
80.460	2.0940
81.460	2.7105
82.460	3.3906
83.460	4.0673
84.460	4.6060
85.460	4.8908
86.460	5.0713
87.460	5.3024
88.460	5.6746
89.460	5.7884
90.460	5.8467
91.460	5.8746
92.460	5.8764
92.610	5.8764

Name: 006 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 007 Base Flow(cfs): 0.000 Init Stage(ft): 30.950
Group: BASE Warn Stage(ft): 37.000
Type: Stage/Area

Stage(ft)	Area(ac)
29.700	0.0003
30.700	0.2348
31.700	0.5205
32.700	0.7105
33.700	0.8616
34.700	1.0000
35.700	1.1362
36.700	1.4003

37.700	1.6724
38.700	1.7573
39.700	1.8290
40.700	1.9013
41.700	1.9713
42.700	2.0374
43.700	2.1024
44.700	2.1734
45.700	2.2410
46.700	2.3106
47.700	2.3764
48.700	2.4462
49.700	2.5108
50.700	2.5756
51.700	2.6441
52.700	2.7113
53.700	2.7789
54.700	2.8459
55.700	2.9146
56.700	2.9823
57.700	3.0489
58.700	3.1217
59.700	3.2305
60.700	3.3445
61.700	3.4190
62.700	3.4429
63.700	3.4561
64.700	3.4667
65.700	3.4766
66.700	3.4868
67.700	3.4979
68.700	3.5085
69.700	3.5185
70.700	3.5286
71.700	3.5386
72.700	3.5516
73.700	3.5639
74.700	3.5748
75.700	3.6119
76.700	3.6998
77.700	3.7083
78.400	3.7110

Name: 008 Base Flow(cfs): 0.000 Init Stage(ft): 55.200
Group: BASE Warn Stage(ft): 59.500
Type: Stage/Area

Stage(ft)	Area(ac)
53.880	0.0000
54.880	0.2202
55.880	0.6918
56.880	1.0233
57.880	1.1896
58.880	1.3431
59.880	1.5155
60.880	1.6559
61.880	1.7608
62.880	1.8412
63.880	1.9170
64.880	1.9969
65.880	2.0717
66.880	2.1443
67.880	2.2175
68.880	2.2852
69.880	2.3524
70.880	2.4193
71.880	2.4892
72.880	2.5566
73.880	2.6226
74.880	2.6915
75.880	2.7537
76.880	2.8407
77.880	2.9242
78.880	3.0003
79.880	3.0654
80.880	3.1295
81.880	3.1944
82.880	3.2869
83.880	3.5208
84.880	3.5931
85.880	3.6024
86.170	3.6026

Name: 008A Base Flow(cfs): 0.000 Init Stage(ft): 46.400

```
     Group: BASE                                                Warn Stage(ft): 55.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 009                 Base Flow(cfs): 0.000          Init Stage(ft): 80.300
     Group: BASE                                                Warn Stage(ft): 83.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         78.970          0.0000
         79.970          0.4152
         80.970          1.3790
         81.970          1.9540
         82.970          2.2372
         83.970          2.4893
         84.970          2.6691
         85.970          2.8333
         86.970          3.1062
         87.970          3.4281
         88.970          3.4642
         89.970          3.4655
         90.360          3.4657

-------------------------------------------------------------------------------------------
      Name: 01                  Base Flow(cfs): 0.000          Init Stage(ft): 6.830
     Group: BASE                                                Warn Stage(ft): 14.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 010                 Base Flow(cfs): 0.000          Init Stage(ft): 43.900
     Group: BASE                                                Warn Stage(ft): 76.000
      Type: Stage/Area

Liner El. = 54.0 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 011                 Base Flow(cfs): 0.000          Init Stage(ft): 48.000
     Group: BASE                                                Warn Stage(ft): 75.000
      Type: Stage/Area

Liner El. = 54.0 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 012                 Base Flow(cfs): 0.000          Init Stage(ft): 53.200
     Group: BASE                                                Warn Stage(ft): 63.000
      Type: Stage/Area

Liner El. = 57.2 per construction plan

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 013                 Base Flow(cfs): 0.000          Init Stage(ft): 33.300
     Group: BASE                                                Warn Stage(ft): 38.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 014                 Base Flow(cfs): 0.000          Init Stage(ft): 34.200
     Group: BASE                                                Warn Stage(ft): 39.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
```

--- ---

Name: 015 Base Flow(cfs): 0.000 Init Stage(ft): 35.500
Group: BASE Warn Stage(ft): 38.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 016 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 23.500
Type: Stage/Area

Stage(ft)	Area(ac)
17.610	0.0000
18.610	0.3218
19.610	0.4302
20.610	0.5008
21.610	0.5593
22.610	0.6294
23.610	0.7030
24.610	0.8875
25.610	0.9387
26.610	0.9532
27.610	0.9690
28.610	0.9928
29.480	1.1002

Name: 017 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 018 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 019 Base Flow(cfs): 0.000 Init Stage(ft): 19.000
Group: BASE Warn Stage(ft): 24.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 02 Base Flow(cfs): 0.000 Init Stage(ft): 6.880
Group: BASE Warn Stage(ft): 12.480
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 020 Base Flow(cfs): 0.000 Init Stage(ft): 19.820
Group: BASE Warn Stage(ft): 25.000
Type: Stage/Area

Stage(ft)	Area(ac)
18.630	0.0000
19.630	0.0914
20.630	0.2376
21.630	0.4010
22.630	0.6186

23.630	0.8277
24.630	0.9948
25.630	1.1502
26.630	1.2915
27.630	1.4197
28.630	1.5445
29.630	1.6686
30.630	1.7981
31.630	1.9240
32.630	2.0286
33.630	2.3002
34.630	2.4753
35.630	2.5440
36.630	2.6354
37.630	2.8971
38.630	2.9365
38.900	2.9369

Name: 021 Base Flow(cfs): 0.000 Init Stage(ft): 35.300
Group: BASE Warn Stage(ft): 38.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 022 Base Flow(cfs): 0.000 Init Stage(ft): 30.600
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 023 Base Flow(cfs): 0.000 Init Stage(ft): 29.480
Group: BASE Warn Stage(ft): 32.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 024 Base Flow(cfs): 0.000 Init Stage(ft): 25.100
Group: BASE Warn Stage(ft): 29.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 025 Base Flow(cfs): 0.000 Init Stage(ft): 24.600
Group: BASE Warn Stage(ft): 29.400
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 026 Base Flow(cfs): 0.000 Init Stage(ft): 24.000
Group: BASE Warn Stage(ft): 29.200
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 027 Base Flow(cfs): 0.000 Init Stage(ft): 23.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)

```
      Name: 028                 Base Flow(cfs): 0.000          Init Stage(ft): 20.500
     Group: BASE                                              Warn Stage(ft): 28.500
      Type: Stage/Area

Storage below LIDAR El. 25.3 estimated from the Design

      Stage(ft)        Area(ac)
--------------- ---------------
         20.500          0.1000
         25.000          2.6500
         25.300          9.7042
         26.300         11.4477
         27.300         12.0331
         28.300         12.6026
         29.300         13.3008
         30.300         13.5739
         31.300         13.8299
         32.300         14.1049
         33.300         14.3780
         34.300         14.6358
         35.300         14.8904
         36.300         15.1472
         37.300         15.4050
         38.300         15.6724
         39.300         15.9405
         40.300         16.2058
         41.300         16.4608
         42.300         16.7007
         43.300         16.9338
         44.300         17.1620
         45.300         17.4048
         46.300         17.6509
         47.300         17.8896
         48.300         18.1348
         49.300         18.3722
         50.300         18.6043
         51.300         18.8395
         52.300         19.0622
         53.300         19.2821
         54.300         19.5003
         55.300         19.7247
         56.300         19.9467
         57.300         20.1671
         58.300         20.3885
         59.300         20.6070
         60.300         20.8241
         61.300         21.0444
         62.300         21.2632
         63.300         21.5239
         64.300         22.0542
         65.300         22.2391
         66.300         22.4196
         67.300         22.5921
         68.300         22.7528
         69.300         22.9029
         70.300         23.0388
         71.300         23.1711
         72.300         23.3306
         73.300         23.7533
         74.300         24.2280
         75.300         24.3146
         76.170         24.3501

-------------------------------------------------------------------------------------------
      Name: 029                 Base Flow(cfs): 0.000          Init Stage(ft): 15.250
     Group: BASE                                              Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 03                  Base Flow(cfs): 0.000          Init Stage(ft): 6.980
     Group: BASE                                              Warn Stage(ft): 15.130
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 030                 Base Flow(cfs): 0.000          Init Stage(ft): 14.700
     Group: BASE                                              Warn Stage(ft): 17.500
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 031                Base Flow(cfs): 0.000         Init Stage(ft): 13.700
     Group: BASE                                             Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 032                Base Flow(cfs): 0.000         Init Stage(ft): 13.670
     Group: BASE                                             Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 033                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 034                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                             Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 034B               Base Flow(cfs): 0.000         Init Stage(ft): 14.050
     Group: BASE                                             Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         13.700          0.0001
         14.150          0.0001
         15.150          2.0356
         16.150          4.6862
         17.150          6.4093
         18.150          6.6558
         19.150          6.6724
         19.180          6.6724

-------------------------------------------------------------------------------------------
      Name: 035                Base Flow(cfs): 0.000         Init Stage(ft): 13.000
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 036                Base Flow(cfs): 0.000         Init Stage(ft): 12.500
     Group: BASE                                             Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037                Base Flow(cfs): 0.000         Init Stage(ft): 9.000
     Group: BASE                                             Warn Stage(ft): 19.000
      Type: Stage/Area

48-inch Dia Manhole
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037A                Base Flow(cfs): 0.000          Init Stage(ft): 8.300
     Group: BASE                                               Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037B                Base Flow(cfs): 0.000          Init Stage(ft): 7.820
     Group: BASE                                               Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 038                 Base Flow(cfs): 0.000          Init Stage(ft): 12.500
     Group: BASE                                               Warn Stage(ft): 16.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 039                 Base Flow(cfs): 0.000          Init Stage(ft): 13.500
     Group: BASE                                               Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 04                  Base Flow(cfs): 0.000          Init Stage(ft): 7.080
     Group: BASE                                               Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 040                 Base Flow(cfs): 0.000          Init Stage(ft): 13.140
     Group: BASE                                               Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.650          0.0001
         13.650          1.3042
         14.650          2.8713
         15.650          4.0654
         16.650          4.5393
         17.650          4.7536
         18.650          4.7902
         19.650          4.8116
         20.650          4.8274
         21.650          4.8380
         22.650          4.8487
         23.650          4.8615
         24.640          4.8687

-------------------------------------------------------------------------------------------
      Name: 041                 Base Flow(cfs): 0.000          Init Stage(ft): 13.160
     Group: BASE                                               Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.770          0.0001
         13.770          1.9350
         14.770          3.1670
         15.770          4.2380
```

16.770	4.8959
17.770	5.0785
18.770	5.1064
19.770	5.1317
20.750	5.1358

Name: 042 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 14.000
Type: Stage/Area

Stage(ft)	Area(ac)
11.160	0.0001
12.160	0.8978
13.160	3.0166
14.160	4.3885
15.160	5.4963
16.160	6.3647
17.160	6.8052
18.160	7.0177
19.160	7.1529
20.160	7.2571
21.160	7.3411
22.160	7.4371
23.160	7.5892
24.160	8.1239
25.160	8.3570
26.160	8.4305
26.180	8.4305

Name: 043 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 13.500
Type: Stage/Area

Stage(ft)	Area(ac)
10.430	0.0001
11.430	1.3729
12.430	3.1506
13.430	4.8630
14.430	6.9806
15.430	8.3948
16.430	9.3829
17.430	9.6960
17.670	9.7055

Name: 044 Base Flow(cfs): 0.000 Init Stage(ft): 12.700
Group: BASE Warn Stage(ft): 12.700
Type: Stage/Area

Stage(ft)	Area(ac)
12.480	0.0001
13.480	0.2257
14.480	0.7996
15.480	1.4866
16.480	2.2975
17.480	3.0542
18.480	3.1375
19.480	3.1413
20.480	3.1461
20.960	3.1474

Name: 045 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 16.000
Type: Stage/Area

Stage(ft)	Area(ac)
12.820	0.0000
13.820	0.6587
14.820	2.5233
15.820	3.2643
16.820	3.5009
17.820	3.6994
18.820	4.2301
19.820	4.5500

20.820	4.7070
21.820	4.8326
22.820	4.9455
23.820	5.0906
24.820	5.2863
25.820	5.3421
26.820	5.3866
27.820	5.4362
28.820	5.6058
29.350	5.6633

Name: 046 Base Flow(cfs): 0.000 Init Stage(ft): 11.480
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

Stage(ft)	Area(ac)
11.000	0.0015
12.000	0.0800
13.000	0.1500
14.000	0.2300

Name: 05 Base Flow(cfs): 0.000 Init Stage(ft): 6.980
Group: BASE Warn Stage(ft): 11.980
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 1 Base Flow(cfs): 0.000 Init Stage(ft): 8.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
7.720	0.0000
8.720	0.1141
9.720	0.3956
10.720	0.6195
11.720	0.7843
12.720	0.9468
13.720	1.2929
14.400	1.3449

Name: 2 Base Flow(cfs): 0.000 Init Stage(ft): 10.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.030	0.0001
9.030	0.0239
10.030	0.1011
11.030	0.5573
12.030	0.9975
13.030	1.6286
14.030	2.2138
15.030	2.5505
16.030	3.1779
17.030	3.4080
18.030	3.4663
19.030	3.4822
20.030	3.4862
20.580	3.4863

Name: 3 Base Flow(cfs): 0.000 Init Stage(ft): 11.300
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

Stage(ft)	Area(ac)
11.300	0.0001
11.680	0.0001
12.680	0.0069

13.680	0.3857
14.680	1.7427
15.680	2.8830
16.680	3.2278
17.680	3.5154
18.680	3.5625
19.680	3.5872
20.680	3.5958
21.680	3.5991
22.110	3.5995

Name: 4 Base Flow(cfs): 0.000 Init Stage(ft): 9.330
Group: BASE Warn Stage(ft): 11.300
Type: Stage/Area

Stage(ft)	Area(ac)
8.350	0.0000
9.350	0.0171
10.350	0.0567
11.350	0.1072
12.350	0.1796
13.350	0.3602
14.350	0.5108
15.350	0.5341
16.350	0.5415
17.350	0.5459
18.350	0.5494
19.350	0.5517
20.350	0.5525
21.350	0.5530
21.530	0.5531

Name: BASIN_2 Base Flow(cfs): 0.000 Init Stage(ft): 6.280
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Pond Initial stage was set to the orifice invert level

Stage(ft)	Area(ac)
5.750	13.0000
7.210	14.5540
8.210	16.9331
9.210	19.0328
10.210	20.0919
11.210	20.9577
12.210	21.7667
13.210	23.9547
14.210	25.3767
15.210	25.5168
16.210	25.6311
17.210	25.7334
18.210	25.8340
19.210	25.9225
20.210	26.0140
21.210	26.1166
22.210	26.2508
23.210	26.5192
24.210	26.7546
25.210	26.7962
26.210	26.8112
27.210	26.8122
27.590	26.8124

Name: BOX_001 Base Flow(cfs): 0.000 Init Stage(ft): 3.000
Group: BASE Warn Stage(ft): 8.100
Type: Stage/Area

Stage(ft)	Area(ac)
0.260	0.0014
8.100	0.0014

Name: BOX_003 Base Flow(cfs): 0.000 Init Stage(ft): 7.500
Group: BASE Warn Stage(ft): 12.900
Type: Stage/Area

Stage(ft)	Area(ac)

6.530	0.0020
12.900	0.0020

Name: LPWS Base Flow(cfs): 0.000 Init Stage(ft): 20.200
Group: BASE Warn Stage(ft): 23.500
Type: Stage/Area

Stage(ft)	Area(ac)
20.160	10.5829
21.160	10.7484
22.160	10.9322
23.160	11.1223
24.160	11.3931
25.160	11.5225
26.160	11.6577
26.850	11.6602

Name: NCOLLING_P Base Flow(cfs): 0.000 Init Stage(ft): 27.200
Group: BASE Warn Stage(ft): 33.000
Type: Stage/Area

Stage(ft)	Area(ac)
27.200	0.0001
27.770	0.0001
28.770	4.2938
29.770	7.5798
30.770	11.1430
31.770	15.2281
32.770	18.8204
33.770	21.9343
34.770	23.5564
35.770	25.2042
36.770	26.4725
37.770	27.1428
38.770	27.5476
39.770	27.7520
39.820	27.7522

Name: NGS-N Base Flow(cfs): 0.000 Init Stage(ft): 67.700
Group: BASE Warn Stage(ft): 73.000
Type: Stage/Area

Stage(ft)	Area(ac)
37.500	0.0010
48.000	22.7000
67.590	31.8853
68.590	32.1925
69.590	32.5496
70.590	32.9304
71.590	33.2720
72.590	33.5857
73.590	33.9084
74.590	34.2087
75.590	34.3437
76.590	34.4380
77.350	34.4428

Name: NGS-S Base Flow(cfs): 0.000 Init Stage(ft): 57.200
Group: BASE Warn Stage(ft): 74.000
Type: Stage/Area

Stage(ft)	Area(ac)
36.000	0.0001
40.000	4.0000
49.000	50.0000
57.130	58.8116
58.130	59.1489
59.130	59.6192
60.130	60.1959
61.130	60.7219
62.130	61.2051
63.130	61.7112

64.130	62.2129
65.130	62.7124
66.130	63.2197
67.130	63.7202
68.130	64.2234
69.130	64.7348
70.130	65.2558
71.130	65.7820
72.130	66.3172
73.130	66.8567
74.130	67.4716
75.130	68.3573
76.130	69.0475
77.130	69.6398
78.130	69.9147
79.130	70.0782
80.130	70.2414
81.130	70.4009
82.130	70.5558
83.130	70.7116
84.130	70.8648
85.130	70.9892
86.130	71.1524
87.130	71.5977
88.130	72.0957
89.130	72.1161
90.130	72.1238
90.530	72.1258

Name: NGS-S_CAP Base Flow(cfs): 0.000 Init Stage(ft): 56.500
Group: BASE Warn Stage(ft): 63.000
Type: Stage/Area

Stage(ft)	Area(ac)
54.160	0.0000
55.160	0.8622
56.160	2.7473
57.160	4.2805
58.160	5.3020
59.160	6.0027
60.160	6.6035
61.160	7.0431
62.160	7.2603
63.160	7.4732
64.160	7.9721
65.160	8.0772
66.160	8.1747
67.160	8.2691
68.160	8.3574
69.160	8.4400
70.160	8.5202
71.160	8.5951
72.160	8.6691
73.160	8.7451
74.160	8.8226
75.160	8.8951
76.160	9.0056
77.160	9.6275
78.160	9.7510
79.160	9.7638
79.730	9.7655

Name: OGS-N Base Flow(cfs): 0.000 Init Stage(ft): 77.000
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
76.140	19.7464
77.140	20.3573
78.140	21.0007
79.140	21.6298
80.140	22.4311
81.140	23.0821
82.140	23.5789
83.140	24.1385
84.140	24.7184
85.140	26.2839
86.140	31.2834
87.140	33.2180
88.140	33.8761
89.140	34.4404

90.140	35.1960
91.140	35.5109
92.140	35.5718
93.140	35.5879
94.140	35.6006
95.140	35.6091
96.140	35.6166
97.140	35.6236
98.140	35.6288
99.140	35.6338
100.140	35.6350
100.500	35.6351

Name: OGS-S Base Flow(cfs): 0.000 Init Stage(ft): 75.000
Group: BASE Warn Stage(ft): 85.000
Type: Stage/Area

Stage(ft)	Area(ac)
69.150	0.0000
70.150	0.0008
71.150	0.0027
72.150	0.0054
73.150	0.0095
74.150	0.0393
75.150	7.1784
76.150	8.9365
77.150	10.3528
78.150	11.5040
79.150	12.7468
80.150	13.5731
81.150	14.1193
82.150	14.6100
83.150	15.0135
84.150	15.4544
85.150	16.1291
86.150	17.6872
87.150	20.0775
88.150	22.2872
89.150	22.9051
90.150	23.2401
91.150	23.4963
92.150	23.5861
93.150	23.6099
94.150	23.6131
94.260	23.6132

Name: TW_001 Base Flow(cfs): 0.000 Init Stage(ft): 1.300
Group: BASE Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level (NGVD29)

Time(hrs)	Stage(ft)
0.00	1.300
999.00	1.300

Name: TW_003 Base Flow(cfs): 0.000 Init Stage(ft): 1.300
Group: BASE Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level

Time(hrs)	Stage(ft)
0.00	1.300
999.00	1.300

==========
==== Cross Sections ==========
==========

Name: X003 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	36.114	0.060000
0.998	35.788	0.060000
1.997	35.389	0.060000
2.995	34.990	0.060000

3.994	34.648	0.060000
4.992	34.353	0.060000
5.991	34.066	0.060000
6.989	33.726	0.060000
7.988	33.251	0.060000
8.986	32.788	0.060000
9.985	32.434	0.060000
10.983	32.164	0.060000
11.981	31.844	0.060000
12.980	31.441	0.060000
13.978	31.062	0.060000
14.977	30.775	0.060000
15.975	30.556	0.060000
16.974	30.334	0.060000
17.972	30.046	0.060000
18.971	29.669	0.060000
19.969	29.291	0.060000
20.968	29.025	0.060000
21.966	28.798	0.060000
22.964	28.582	0.060000
23.963	28.374	0.060000
24.961	28.144	0.060000
25.960	27.847	0.060000
26.958	27.603	0.060000
27.957	27.381	0.060000
28.955	27.060	0.060000
29.954	26.739	0.060000
30.952	26.348	0.060000
31.951	26.075	0.060000
32.949	25.859	0.060000
33.947	25.663	0.060000
34.946	25.625	0.060000
35.944	25.610	0.060000
36.943	25.418	0.060000
37.941	25.086	0.060000
38.940	24.818	0.060000
39.938	24.675	0.060000
40.937	24.606	0.060000
41.935	24.567	0.060000
42.934	24.542	0.060000
43.932	24.507	0.060000
44.931	24.468	0.060000
45.929	24.336	0.060000
46.927	24.265	0.060000
47.926	24.230	0.060000
48.924	24.467	0.060000
49.923	24.819	0.060000
50.921	25.304	0.060000
51.920	25.788	0.060000
52.918	26.076	0.060000
53.917	25.924	0.060000
54.915	25.521	0.060000
55.914	25.463	0.060000
56.912	25.619	0.060000
57.910	25.715	0.060000
58.909	26.230	0.060000
59.907	26.792	0.060000
60.906	27.400	0.060000
61.904	27.963	0.060000
62.903	28.187	0.060000
63.901	28.135	0.060000
64.900	28.099	0.060000
65.898	28.203	0.060000
66.897	28.334	0.060000
67.895	28.512	0.060000
68.893	28.718	0.060000
69.892	28.877	0.060000
70.890	28.978	0.060000
71.889	28.996	0.060000
72.887	28.963	0.060000
73.886	28.959	0.060000
74.884	28.971	0.060000
75.883	28.965	0.060000
76.881	28.921	0.060000
77.880	28.860	0.060000
78.878	28.808	0.060000
79.876	28.792	0.060000
80.875	28.791	0.060000
81.873	28.803	0.060000
82.872	28.826	0.060000
83.870	28.843	0.060000
84.869	28.825	0.060000
85.867	28.780	0.060000

Name: X005 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	37.840	0.060000
0.988	37.495	0.060000
1.976	37.204	0.060000
2.964	36.954	0.060000
3.952	36.669	0.060000
4.940	36.244	0.060000
5.928	35.768	0.060000
6.916	35.375	0.060000
7.904	35.018	0.060000
8.892	34.676	0.060000
9.879	34.380	0.060000
10.867	34.045	0.060000
11.855	33.707	0.060000
12.843	33.485	0.060000
13.831	33.271	0.060000
14.819	33.004	0.060000
15.807	32.749	0.060000
16.795	32.529	0.060000
17.783	32.282	0.060000
18.771	31.970	0.060000
19.759	31.758	0.060000
20.747	31.629	0.060000
21.735	31.297	0.060000
22.723	30.822	0.060000
23.711	30.452	0.060000
24.699	30.255	0.060000
25.687	30.058	0.060000
26.675	29.858	0.060000
27.663	29.699	0.060000
28.650	29.653	0.060000
29.638	29.630	0.060000
30.626	29.528	0.060000
31.614	29.424	0.060000
32.602	29.344	0.060000
33.590	29.328	0.060000
34.578	29.340	0.060000
35.566	29.335	0.060000
36.554	29.324	0.060000
37.542	29.335	0.060000
38.530	29.353	0.060000
39.518	29.356	0.060000
40.506	29.371	0.060000
41.494	29.361	0.060000
42.482	29.345	0.060000
43.470	29.333	0.060000
44.458	29.327	0.060000
45.446	29.322	0.060000
46.434	29.394	0.060000
47.421	29.582	0.060000
48.409	30.408	0.060000
49.397	31.012	0.060000
50.385	31.496	0.060000
51.373	31.913	0.060000
52.361	32.243	0.060000
53.349	32.375	0.060000
54.337	32.647	0.060000
55.325	32.904	0.060000
56.313	33.035	0.060000
57.301	33.170	0.060000
58.289	33.425	0.060000
59.277	33.666	0.060000
60.265	33.871	0.060000
61.253	34.044	0.060000
62.241	34.148	0.060000
63.229	34.196	0.060000
64.217	34.190	0.060000
65.205	34.150	0.060000
66.192	34.083	0.060000
67.180	34.015	0.060000
68.168	33.985	0.060000
69.156	34.002	0.060000
70.144	34.010	0.060000

Name: X006 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	39.776	0.060000
0.995	39.417	0.060000
1.989	38.973	0.060000
2.984	38.513	0.060000
3.978	38.151	0.060000

4.973	37.864	0.060000
5.967	37.600	0.060000
6.962	37.315	0.060000
7.957	36.949	0.060000
8.951	36.596	0.060000
9.946	36.339	0.060000
10.940	36.078	0.060000
11.935	35.693	0.060000
12.930	35.367	0.060000
13.924	35.134	0.060000
14.919	34.887	0.060000
15.913	34.544	0.060000
16.908	34.124	0.060000
17.902	33.777	0.060000
18.897	33.389	0.060000
19.892	33.030	0.060000
20.886	32.743	0.060000
21.881	32.535	0.060000
22.875	32.302	0.060000
23.870	32.001	0.060000
24.865	31.663	0.060000
25.859	31.415	0.060000
26.854	31.225	0.060000
27.848	31.050	0.060000
28.843	31.120	0.060000
29.837	31.332	0.060000
30.832	31.507	0.060000
31.827	31.295	0.060000
32.821	30.726	0.060000
33.816	30.069	0.060000
34.810	29.618	0.060000
35.805	29.423	0.060000
36.799	29.356	0.060000
37.794	29.347	0.060000
38.789	29.332	0.060000
39.783	29.302	0.060000
40.778	29.285	0.060000
41.772	29.288	0.060000
42.767	29.297	0.060000
43.762	29.306	0.060000
44.756	29.343	0.060000
45.751	29.441	0.060000
46.745	29.749	0.060000
47.740	30.226	0.060000
48.734	30.661	0.060000
49.729	31.104	0.060000
50.724	31.441	0.060000
51.718	31.628	0.060000
52.713	31.980	0.060000
53.707	32.545	0.060000
54.702	33.021	0.060000
55.696	33.268	0.060000
56.691	33.462	0.060000
57.686	33.716	0.060000
58.680	34.039	0.060000
59.675	34.333	0.060000
60.669	34.447	0.060000
61.664	34.413	0.060000
62.659	34.274	0.060000
63.653	34.129	0.060000
64.648	34.057	0.060000
65.642	33.999	0.060000
66.637	33.930	0.060000
67.631	33.873	0.060000
68.626	33.841	0.060000
69.621	33.830	0.060000
70.615	33.818	0.060000
71.610	33.788	0.060000
72.604	33.751	0.060000
73.599	33.709	0.060000
74.593	33.697	0.060000
75.588	33.717	0.060000
76.583	33.741	0.060000
77.577	33.746	0.060000
78.572	33.695	0.060000
79.566	33.636	0.060000
80.561	33.610	0.060000

Name: X007 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	51.214	0.060000
0.995	51.096	0.060000
1.990	50.780	0.060000

2.984	50.434	0.060000
3.979	50.132	0.060000
4.974	49.792	0.060000
5.969	49.392	0.060000
6.963	48.985	0.060000
7.958	48.573	0.060000
8.953	48.197	0.060000
9.948	47.909	0.060000
10.942	47.623	0.060000
11.937	47.268	0.060000
12.932	46.930	0.060000
13.927	46.748	0.060000
14.921	46.433	0.060000
15.916	45.900	0.060000
16.911	45.187	0.060000
17.906	44.740	0.060000
18.900	44.655	0.060000
19.895	44.376	0.060000
20.890	43.930	0.060000
21.885	43.310	0.060000
22.879	42.687	0.060000
23.874	42.238	0.060000
24.869	41.921	0.060000
25.864	41.539	0.060000
26.858	41.180	0.060000
27.853	40.806	0.060000
28.848	40.343	0.060000
29.843	39.896	0.060000
30.837	39.544	0.060000
31.832	39.140	0.060000
32.827	38.655	0.060000
33.822	38.216	0.060000
34.816	37.879	0.060000
35.811	37.607	0.060000
36.806	37.228	0.060000
37.801	36.870	0.060000
38.795	36.657	0.060000
39.790	36.411	0.060000
40.785	35.947	0.060000
41.780	35.454	0.060000
42.775	35.125	0.060000
43.769	34.851	0.060000
44.764	34.595	0.060000
45.759	34.323	0.060000
46.754	34.059	0.060000
47.748	33.779	0.060000
48.743	33.482	0.060000
49.738	33.178	0.060000
50.733	33.080	0.060000
51.727	32.793	0.060000
52.722	32.558	0.060000
53.717	32.354	0.060000
54.712	32.030	0.060000
55.706	31.692	0.060000
56.701	31.351	0.060000
57.696	31.211	0.060000
58.691	31.251	0.060000
59.685	31.252	0.060000
60.680	31.253	0.060000
61.675	31.274	0.060000
62.670	31.417	0.060000
63.664	31.501	0.060000
64.659	31.563	0.060000
65.654	31.640	0.060000
66.649	31.719	0.060000
67.643	31.737	0.060000
68.638	31.642	0.060000
69.633	31.662	0.060000
70.628	31.707	0.060000
71.622	31.827	0.060000
72.617	31.827	0.060000
73.612	31.645	0.060000
74.607	31.534	0.060000
75.601	31.435	0.060000
76.596	31.324	0.060000
77.591	31.184	0.060000
78.586	30.973	0.060000
79.580	30.752	0.060000
80.575	30.764	0.060000
81.570	30.653	0.060000
82.565	30.785	0.060000
83.559	30.920	0.060000
84.554	31.177	0.060000
85.549	31.507	0.060000
86.544	32.362	0.060000
87.539	32.974	0.060000
88.533	33.108	0.060000
89.528	33.447	0.060000
90.523	34.351	0.060000

91.518	35.192	0.060000
92.512	35.456	0.060000
93.507	35.724	0.060000
94.502	35.965	0.060000
95.497	36.122	0.060000
96.491	36.232	0.060000
97.486	36.303	0.060000
98.481	36.365	0.060000
99.476	36.394	0.060000
100.470	36.423	0.060000
101.465	36.434	0.060000
102.460	36.360	0.060000
103.455	36.228	0.060000
104.449	36.165	0.060000
105.444	36.148	0.060000
106.439	36.174	0.060000
107.434	36.263	0.060000
108.428	36.375	0.060000
109.423	36.425	0.060000
110.418	36.444	0.060000

Name: X011 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	61.013	0.060000
0.994	60.768	0.060000
1.989	60.359	0.060000
2.983	60.016	0.060000
3.978	59.663	0.060000
4.972	59.264	0.060000
5.967	58.861	0.060000
6.961	58.564	0.060000
7.956	58.233	0.060000
8.950	57.948	0.060000
9.944	57.630	0.060000
10.939	57.359	0.060000
11.933	57.079	0.060000
12.928	56.855	0.060000
13.922	56.688	0.060000
14.917	56.425	0.060000
15.911	56.170	0.060000
16.906	56.001	0.060000
17.900	55.900	0.060000
18.894	55.631	0.060000
19.889	55.144	0.060000
20.883	54.753	0.060000
21.878	54.567	0.060000
22.872	54.367	0.060000
23.867	54.079	0.060000
24.861	53.675	0.060000
25.856	53.330	0.060000
26.850	53.040	0.060000
27.844	52.809	0.060000
28.839	52.549	0.060000
29.833	52.238	0.060000
30.828	51.912	0.060000
31.822	51.646	0.060000
32.817	51.345	0.060000
33.811	50.958	0.060000
34.806	50.708	0.060000
35.800	50.641	0.060000
36.794	50.505	0.060000
37.789	50.271	0.060000
38.783	50.102	0.060000
39.778	49.902	0.060000
40.772	49.638	0.060000
41.767	49.361	0.060000
42.761	49.038	0.060000
43.756	48.608	0.060000
44.750	48.273	0.060000
45.744	48.049	0.060000
46.739	47.743	0.060000
47.733	47.349	0.060000
48.728	47.109	0.060000
49.722	47.052	0.060000
50.717	46.999	0.060000
51.711	46.892	0.060000
52.706	46.846	0.060000
53.700	46.808	0.060000
54.694	46.632	0.060000
55.689	46.430	0.060000
56.683	46.399	0.060000
57.678	46.381	0.060000
58.672	46.335	0.060000

59.667	46.364	0.060000
60.661	46.426	0.060000
61.656	46.381	0.060000
62.650	46.250	0.060000
63.644	46.246	0.060000
64.639	46.259	0.060000
65.633	46.256	0.060000
66.628	46.218	0.060000
67.622	46.244	0.060000
68.617	46.258	0.060000
69.611	46.190	0.060000
70.606	46.196	0.060000
71.600	46.267	0.060000
72.594	46.330	0.060000
73.589	46.429	0.060000
74.583	46.495	0.060000
75.578	46.466	0.060000
76.572	46.399	0.060000
77.567	46.290	0.060000
78.561	46.069	0.060000
79.556	45.866	0.060000
80.550	45.985	0.060000
81.544	46.345	0.060000
82.539	46.666	0.060000
83.533	46.902	0.060000
84.528	47.131	0.060000
85.522	47.367	0.060000
86.517	47.570	0.060000
87.511	47.957	0.060000
88.506	48.548	0.060000
89.500	48.998	0.060000
90.494	49.275	0.060000
91.489	49.504	0.060000
92.483	49.682	0.060000
93.478	49.846	0.060000
94.472	50.134	0.060000
95.467	50.639	0.060000
96.461	51.098	0.060000
97.456	51.241	0.060000
98.450	51.322	0.060000
99.444	51.671	0.060000
100.439	52.252	0.060000
101.433	52.723	0.060000
102.428	53.032	0.060000
103.422	53.298	0.060000
104.417	53.578	0.060000
105.411	53.748	0.060000
106.406	53.903	0.060000
107.400	54.156	0.060000
108.394	54.520	0.060000
109.389	54.886	0.060000
110.383	55.192	0.060000
111.378	55.514	0.060000

Name: X012 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	59.976	0.060000
0.995	59.748	0.060000
1.989	59.629	0.060000
2.984	59.376	0.060000
3.979	59.087	0.060000
4.973	58.903	0.060000
5.968	58.651	0.060000
6.963	58.339	0.060000
7.957	58.001	0.060000
8.952	57.572	0.060000
9.946	57.218	0.060000
10.941	56.888	0.060000
11.936	56.664	0.060000
12.930	56.457	0.060000
13.925	56.217	0.060000
14.920	55.930	0.060000
15.914	55.608	0.060000
16.909	55.306	0.060000
17.904	55.006	0.060000
18.898	54.791	0.060000
19.893	54.519	0.060000
20.888	54.222	0.060000
21.882	53.974	0.060000
22.877	53.764	0.060000
23.872	53.499	0.060000
24.866	53.270	0.060000
25.861	53.005	0.060000

26.856	52.696	0.060000
27.850	52.399	0.060000
28.845	52.131	0.060000
29.839	51.900	0.060000
30.834	51.630	0.060000
31.829	51.390	0.060000
32.823	51.183	0.060000
33.818	51.063	0.060000
34.813	50.893	0.060000
35.807	50.628	0.060000
36.802	50.324	0.060000
37.797	50.050	0.060000
38.791	49.955	0.060000
39.786	49.934	0.060000
40.781	50.105	0.060000
41.775	50.145	0.060000
42.770	50.105	0.060000
43.765	50.076	0.060000
44.759	49.905	0.060000
45.754	49.636	0.060000
46.748	49.428	0.060000
47.743	49.465	0.060000
48.738	49.749	0.060000
49.732	49.921	0.060000
50.727	50.068	0.060000
51.722	50.109	0.060000
52.716	50.059	0.060000
53.711	49.938	0.060000
54.706	49.808	0.060000
55.700	49.723	0.060000
56.695	49.602	0.060000
57.690	49.637	0.060000
58.684	49.894	0.060000
59.679	49.985	0.060000
60.674	50.016	0.060000
61.668	50.016	0.060000
62.663	49.921	0.060000
63.658	49.807	0.060000
64.652	49.817	0.060000
65.647	49.843	0.060000
66.641	49.865	0.060000
67.636	49.839	0.060000
68.631	49.735	0.060000
69.625	49.740	0.060000
70.620	49.826	0.060000
71.615	49.824	0.060000
72.609	49.698	0.060000
73.604	49.595	0.060000
74.599	49.505	0.060000
75.593	49.406	0.060000
76.588	49.336	0.060000
77.583	49.405	0.060000
78.577	49.464	0.060000
79.572	49.655	0.060000
80.567	49.853	0.060000
81.561	49.886	0.060000
82.556	49.728	0.060000
83.550	49.574	0.060000
84.545	49.400	0.060000
85.540	49.328	0.060000
86.534	49.322	0.060000
87.529	49.445	0.060000
88.524	49.638	0.060000
89.518	49.839	0.060000
90.513	50.083	0.060000
91.508	50.350	0.060000
92.502	50.688	0.060000
93.497	50.955	0.060000
94.492	51.159	0.060000
95.486	51.365	0.060000
96.481	51.589	0.060000
97.476	51.984	0.060000
98.470	52.371	0.060000
99.465	52.545	0.060000
100.460	52.435	0.060000
101.454	52.621	0.060000
102.449	52.933	0.060000
103.443	53.338	0.060000
104.438	53.705	0.060000
105.433	54.014	0.060000
106.427	54.306	0.060000
107.422	54.601	0.060000
108.417	54.942	0.060000
109.411	55.284	0.060000
110.406	55.524	0.060000
111.401	55.784	0.060000
112.395	56.093	0.060000
113.390	56.438	0.060000
114.385	56.798	0.060000

115.379	57.166	0.060000
116.374	57.513	0.060000
117.369	57.934	0.060000
118.363	58.330	0.060000
119.358	58.710	0.060000
120.352	59.123	0.060000
121.347	59.468	0.060000
122.342	59.712	0.060000
123.336	59.960	0.060000
124.331	60.289	0.060000
125.326	60.803	0.060000
126.320	61.357	0.060000

Name: X013W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	40.320	0.000000
0.990	39.790	0.000000
1.990	39.570	0.000000
2.980	39.400	0.000000
3.970	39.330	0.000000
4.960	39.120	0.000000
5.960	38.760	0.000000
6.950	38.260	0.000000
7.940	38.330	0.000000
8.930	38.450	0.000000
9.930	38.440	0.000000
10.920	38.430	0.000000
11.890	38.420	0.000000
12.860	38.450	0.000000
13.830	38.360	0.000000
14.800	38.210	0.000000
15.770	38.110	0.000000
16.750	38.160	0.000000
17.720	38.260	0.000000
18.690	38.410	0.000000
19.660	38.560	0.000000
20.630	38.540	0.000000
21.600	38.410	0.000000
22.570	38.300	0.000000
23.540	38.300	0.000000
24.510	38.310	0.000000
25.480	38.350	0.000000
26.460	38.340	0.000000
27.430	38.240	0.000000

Name: X015 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	46.010	0.060000
0.988	45.571	0.060000
1.975	44.994	0.060000
2.963	44.367	0.060000
3.950	43.887	0.060000
4.938	43.527	0.060000
5.925	43.178	0.060000
6.913	42.837	0.060000
7.900	42.468	0.060000
8.888	42.033	0.060000
9.875	41.666	0.060000
10.863	41.356	0.060000
11.850	41.008	0.060000
12.838	40.606	0.060000
13.825	40.233	0.060000
14.813	39.924	0.060000
15.800	39.615	0.060000
16.788	39.248	0.060000
17.775	38.844	0.060000
18.763	38.466	0.060000
19.750	38.108	0.060000
20.738	37.784	0.060000
21.725	37.520	0.060000
22.713	37.276	0.060000
23.700	37.046	0.060000
24.688	36.845	0.060000
25.675	36.689	0.060000
26.663	36.554	0.060000
27.650	36.329	0.060000
28.638	35.997	0.060000

29.625	35.656	0.060000
30.613	35.283	0.060000
31.600	34.864	0.060000
32.588	34.557	0.060000
33.575	34.473	0.060000
34.563	34.388	0.060000
35.550	34.034	0.060000
36.538	33.872	0.060000
37.525	34.133	0.060000
38.513	34.470	0.060000
39.500	34.820	0.060000
40.488	35.058	0.060000
41.475	35.342	0.060000
42.463	35.607	0.060000
43.450	35.826	0.060000
44.438	36.058	0.060000
45.425	36.285	0.060000
46.413	36.315	0.060000
47.400	36.290	0.060000
48.388	36.369	0.060000
49.375	36.942	0.060000
50.363	37.471	0.060000
51.350	37.869	0.060000
52.338	38.264	0.060000
53.325	38.720	0.060000
54.313	39.169	0.060000
55.300	39.420	0.060000
56.288	39.479	0.060000
57.275	39.524	0.060000
58.263	39.572	0.060000
59.250	39.609	0.060000
60.238	39.557	0.060000
61.225	39.491	0.060000
62.213	39.480	0.060000
63.200	39.431	0.060000
64.188	39.298	0.060000
65.175	39.114	0.060000
66.163	38.986	0.060000
67.150	39.017	0.060000
68.138	39.090	0.060000
69.125	39.110	0.060000
70.113	39.056	0.060000
71.100	38.973	0.060000
72.088	38.966	0.060000
73.075	39.044	0.060000
74.063	39.118	0.060000
75.050	39.120	0.060000
76.038	39.069	0.060000

Name: X017 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	30.478	0.060000
0.993	30.030	0.060000
1.986	29.596	0.060000
2.979	29.218	0.060000
3.972	28.776	0.060000
4.965	28.298	0.060000
5.958	27.983	0.060000
6.951	27.717	0.060000
7.944	27.407	0.060000
8.937	27.069	0.060000
9.930	26.722	0.060000
10.923	26.280	0.060000
11.916	25.846	0.060000
12.909	25.515	0.060000
13.902	25.270	0.060000
14.895	25.018	0.060000
15.888	24.737	0.060000
16.881	24.422	0.060000
17.874	24.126	0.060000
18.867	23.639	0.060000
19.860	23.210	0.060000
20.853	22.900	0.060000
21.846	22.740	0.060000
22.839	22.568	0.060000
23.833	22.325	0.060000
24.826	22.126	0.060000
25.819	21.832	0.060000
26.812	21.490	0.060000
27.805	21.063	0.060000
28.798	20.883	0.060000
29.791	20.824	0.060000
30.784	20.841	0.060000

31.777	20.805	0.060000
32.770	20.347	0.060000
33.763	19.553	0.060000
34.756	19.125	0.060000
35.749	18.867	0.060000
36.742	18.778	0.060000
37.735	18.666	0.060000
38.728	18.668	0.060000
39.721	18.903	0.060000
40.714	18.905	0.060000
41.707	19.045	0.060000
42.700	19.119	0.060000
43.693	19.156	0.060000
44.686	19.141	0.060000
45.679	19.381	0.060000
46.672	20.038	0.060000
47.665	20.884	0.060000
48.658	21.631	0.060000
49.651	22.113	0.060000
50.644	22.254	0.060000
51.637	22.371	0.060000
52.630	22.573	0.060000
53.623	22.675	0.060000
54.616	22.688	0.060000
55.609	22.738	0.060000
56.602	22.760	0.060000
57.595	22.774	0.060000
58.588	22.732	0.060000
59.581	22.709	0.060000
60.574	22.844	0.060000
61.567	23.079	0.060000
62.560	23.314	0.060000
63.553	23.497	0.060000
64.546	23.676	0.060000
65.539	23.860	0.060000
66.532	24.073	0.060000
67.525	24.352	0.060000
68.518	24.538	0.060000
69.511	24.617	0.060000
70.504	24.631	0.060000
71.497	24.592	0.060000
72.491	24.666	0.060000
73.484	24.752	0.060000
74.477	24.776	0.060000
75.470	24.764	0.060000
76.463	24.721	0.060000
77.456	24.734	0.060000
78.449	24.840	0.060000
79.442	24.945	0.060000
80.435	24.923	0.060000
81.428	24.839	0.060000
82.421	24.778	0.060000

Name: X018 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	33.783	0.060000
0.991	33.814	0.060000
1.982	33.870	0.060000
2.973	33.882	0.060000
3.964	33.893	0.060000
4.955	33.911	0.060000
5.946	33.873	0.060000
6.937	33.758	0.060000
7.928	33.618	0.060000
8.920	33.462	0.060000
9.911	33.237	0.060000
10.902	32.975	0.060000
11.893	32.719	0.060000
12.884	32.511	0.060000
13.875	32.308	0.060000
14.866	32.069	0.060000
15.857	31.764	0.060000
16.848	31.372	0.060000
17.839	30.916	0.060000
18.830	30.617	0.060000
19.821	30.341	0.060000
20.812	30.107	0.060000
21.803	29.879	0.060000
22.794	29.597	0.060000
23.785	29.124	0.060000
24.776	28.737	0.060000
25.767	28.278	0.060000
26.759	27.884	0.060000

27.750	27.509	0.060000
28.741	27.153	0.060000
29.732	26.861	0.060000
30.723	26.555	0.060000
31.714	26.269	0.060000
32.705	26.001	0.060000
33.696	25.704	0.060000
34.687	25.378	0.060000
35.678	24.886	0.060000
36.669	24.510	0.060000
37.660	24.307	0.060000
38.651	24.164	0.060000
39.642	23.944	0.060000
40.633	23.407	0.060000
41.624	22.974	0.060000
42.615	22.746	0.060000
43.606	22.616	0.060000
44.598	22.461	0.060000
45.589	22.303	0.060000
46.580	22.080	0.060000
47.571	21.757	0.060000
48.562	21.389	0.060000
49.553	21.211	0.060000
50.544	21.381	0.060000
51.535	21.091	0.060000
52.526	20.906	0.060000
53.517	20.732	0.060000
54.508	20.404	0.060000
55.499	20.166	0.060000
56.490	19.916	0.060000
57.481	19.626	0.060000
58.472	19.474	0.060000
59.463	19.388	0.060000
60.454	19.338	0.060000
61.446	19.321	0.060000
62.437	19.267	0.060000
63.428	19.215	0.060000
64.419	19.199	0.060000
65.410	19.271	0.060000
66.401	19.444	0.060000
67.392	19.724	0.060000
68.383	19.959	0.060000
69.374	20.155	0.060000
70.365	20.517	0.060000
71.356	21.000	0.060000
72.347	21.332	0.060000
73.338	21.704	0.060000
74.329	22.103	0.060000
75.320	22.545	0.060000
76.311	22.906	0.060000
77.302	23.082	0.060000
78.293	23.218	0.060000
79.285	23.312	0.060000
80.276	23.372	0.060000
81.267	23.445	0.060000
82.258	23.580	0.060000
83.249	23.744	0.060000
84.240	23.983	0.060000
85.231	24.247	0.060000
86.222	24.396	0.060000
87.213	24.479	0.060000
88.204	24.476	0.060000
89.195	24.415	0.060000
90.186	24.365	0.060000
91.177	24.356	0.060000
92.168	24.391	0.060000
93.159	24.427	0.060000
94.150	24.428	0.060000
95.141	24.406	0.060000

Name: X019 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	26.287	0.060000
0.992	25.881	0.060000
1.984	25.638	0.060000
2.976	25.519	0.060000
3.969	25.244	0.060000
4.961	24.921	0.060000
5.953	24.473	0.060000
6.945	24.015	0.060000
7.937	23.541	0.060000
8.929	23.322	0.060000
9.921	23.126	0.060000

10.913	22.870	0.060000
11.906	22.706	0.060000
12.898	22.425	0.060000
13.890	21.954	0.060000
14.882	21.485	0.060000
15.874	21.140	0.060000
16.866	20.946	0.060000
17.858	20.948	0.060000
18.851	20.836	0.060000
19.843	20.300	0.060000
20.835	19.696	0.060000
21.827	19.365	0.060000
22.819	19.242	0.060000
23.811	19.241	0.060000
24.803	19.293	0.060000
25.795	19.459	0.060000
26.788	19.498	0.060000
27.780	19.500	0.060000
28.772	19.500	0.060000
29.764	19.533	0.060000
30.756	19.571	0.060000
31.748	19.637	0.060000
32.740	19.788	0.060000
33.732	19.789	0.060000
34.725	20.091	0.060000
35.717	20.425	0.060000
36.709	20.575	0.060000
37.701	20.702	0.060000
38.693	20.991	0.060000
39.685	21.342	0.060000
40.677	21.584	0.060000
41.670	21.786	0.060000
42.662	21.825	0.060000
43.654	21.927	0.060000
44.646	22.041	0.060000
45.638	22.202	0.060000
46.630	22.440	0.060000
47.622	22.763	0.060000
48.614	23.113	0.060000
49.607	23.378	0.060000
50.599	23.568	0.060000
51.591	23.762	0.060000
52.583	23.996	0.060000
53.575	24.224	0.060000
54.567	24.381	0.060000
55.559	24.435	0.060000
56.551	24.421	0.060000
57.544	24.446	0.060000
58.536	24.505	0.060000
59.528	24.575	0.060000

Name: X020 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	37.372	0.060000
0.997	37.385	0.060000
1.995	37.372	0.060000
2.992	37.316	0.060000
3.989	37.233	0.060000
4.987	37.164	0.060000
5.984	37.128	0.060000
6.982	37.158	0.060000
7.979	37.004	0.060000
8.976	36.693	0.060000
9.974	36.301	0.060000
10.971	35.919	0.060000
11.968	35.532	0.060000
12.966	35.132	0.060000
13.963	34.718	0.060000
14.961	34.378	0.060000
15.958	34.077	0.060000
16.955	33.770	0.060000
17.953	33.411	0.060000
18.950	33.005	0.060000
19.947	32.619	0.060000
20.945	32.162	0.060000
21.942	31.785	0.060000
22.939	31.489	0.060000
23.937	31.158	0.060000
24.934	30.817	0.060000
25.932	30.454	0.060000
26.929	30.162	0.060000
27.926	29.678	0.060000
28.924	29.136	0.060000

29.921	28.642	0.060000
30.918	28.219	0.060000
31.916	27.934	0.060000
32.913	27.743	0.060000
33.910	27.498	0.060000
34.908	27.156	0.060000
35.905	26.767	0.060000
36.903	26.341	0.060000
37.900	25.912	0.060000
38.897	25.525	0.060000
39.895	25.334	0.060000
40.892	25.074	0.060000
41.889	24.698	0.060000
42.887	24.323	0.060000
43.884	23.980	0.060000
44.882	23.676	0.060000
45.879	23.397	0.060000
46.876	23.387	0.060000
47.874	23.340	0.060000
48.871	22.943	0.060000
49.868	22.683	0.060000
50.866	22.506	0.060000
51.863	22.408	0.060000
52.860	22.248	0.060000
53.858	22.032	0.060000
54.855	21.745	0.060000
55.853	21.426	0.060000
56.850	21.057	0.060000
57.847	20.750	0.060000
58.845	20.411	0.060000
59.842	20.229	0.060000
60.839	20.208	0.060000
61.837	20.305	0.060000
62.834	20.330	0.060000
63.832	20.291	0.060000
64.829	20.254	0.060000
65.826	20.219	0.060000
66.824	20.178	0.060000
67.821	20.136	0.060000
68.818	20.088	0.060000
69.816	20.032	0.060000
70.813	19.960	0.060000
71.810	19.975	0.060000
72.808	20.299	0.060000
73.805	20.657	0.060000
74.803	20.953	0.060000
75.800	21.146	0.060000
76.797	21.501	0.060000
77.795	21.812	0.060000
78.792	22.180	0.060000
79.789	22.477	0.060000
80.787	22.607	0.060000
81.784	22.902	0.060000
82.781	23.357	0.060000
83.779	23.734	0.060000
84.776	24.029	0.060000
85.774	24.348	0.060000
86.771	24.776	0.060000
87.768	25.253	0.060000
88.766	25.642	0.060000
89.763	25.964	0.060000
90.760	26.257	0.060000
91.758	26.615	0.060000
92.755	27.026	0.060000
93.753	27.392	0.060000
94.750	27.748	0.060000
95.747	28.153	0.060000
96.745	28.633	0.060000
97.742	29.129	0.060000
98.739	29.558	0.060000
99.737	29.892	0.060000
100.734	30.172	0.060000
101.731	30.443	0.060000
102.729	30.706	0.060000
103.726	30.903	0.060000
104.724	30.989	0.060000
105.721	31.268	0.060000
106.718	31.814	0.060000
107.716	32.301	0.060000
108.713	32.869	0.060000
109.710	33.542	0.060000
110.708	33.972	0.060000
111.705	33.911	0.060000
112.703	33.611	0.060000
113.700	33.482	0.060000
114.697	33.399	0.060000
115.695	33.264	0.060000
116.692	33.166	0.060000

Name: X021 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	43.508	0.060000
0.993	43.273	0.060000
1.987	42.996	0.060000
2.980	42.667	0.060000
3.974	42.301	0.060000
4.967	41.957	0.060000
5.961	41.671	0.060000
6.954	41.400	0.060000
7.948	41.080	0.060000
8.941	40.685	0.060000
9.935	40.281	0.060000
10.928	39.912	0.060000
11.922	39.498	0.060000
12.915	39.178	0.060000
13.909	38.965	0.060000
14.902	38.673	0.060000
15.896	38.279	0.060000
16.889	37.830	0.060000
17.883	37.370	0.060000
18.876	36.835	0.060000
19.870	36.414	0.060000
20.863	36.220	0.060000
21.857	35.949	0.060000
22.850	35.559	0.060000
23.844	35.172	0.060000
24.837	34.782	0.060000
25.831	34.504	0.060000
26.824	34.294	0.060000
27.818	34.088	0.060000
28.811	33.800	0.060000
29.805	33.372	0.060000
30.798	32.957	0.060000
31.792	32.651	0.060000
32.785	32.545	0.060000
33.779	32.389	0.060000
34.772	32.094	0.060000
35.766	31.992	0.060000
36.759	31.842	0.060000
37.753	31.821	0.060000
38.746	31.955	0.060000
39.740	32.069	0.060000
40.733	31.951	0.060000
41.727	32.162	0.060000
42.720	32.336	0.060000
43.714	32.469	0.060000
44.707	32.754	0.060000
45.701	33.100	0.060000
46.694	33.496	0.060000
47.688	33.842	0.060000
48.681	34.145	0.060000
49.675	34.448	0.060000
50.668	34.749	0.060000
51.662	35.024	0.060000
52.655	35.207	0.060000
53.649	35.311	0.060000
54.642	35.381	0.060000
55.636	35.426	0.060000
56.629	35.429	0.060000
57.623	35.369	0.060000
58.616	35.250	0.060000
59.610	35.147	0.060000
60.603	35.101	0.060000
61.597	35.113	0.060000
62.590	35.113	0.060000
63.584	35.077	0.060000
64.577	35.013	0.060000
65.570	34.922	0.060000
66.564	34.863	0.060000
67.557	34.853	0.060000
68.551	34.811	0.060000
69.544	34.702	0.060000
70.538	34.557	0.060000

Name: X022 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N

0.000	36.881	0.060000
0.984	36.509	0.060000
1.969	36.162	0.060000
2.953	35.871	0.060000
3.938	35.665	0.060000
4.922	35.459	0.060000
5.907	35.196	0.060000
6.891	34.857	0.060000
7.876	34.413	0.060000
8.860	33.999	0.060000
9.845	33.678	0.060000
10.829	33.483	0.060000
11.814	33.258	0.060000
12.798	32.857	0.060000
13.783	32.454	0.060000
14.767	32.074	0.060000
15.752	31.720	0.060000
16.736	31.375	0.060000
17.721	31.084	0.060000
18.705	30.772	0.060000
19.689	30.494	0.060000
20.674	30.242	0.060000
21.658	29.953	0.060000
22.643	29.618	0.060000
23.627	29.355	0.060000
24.612	29.336	0.060000
25.596	29.449	0.060000
26.581	29.488	0.060000
27.565	29.425	0.060000
28.550	29.378	0.060000
29.534	29.329	0.060000
30.519	29.442	0.060000
31.503	29.667	0.060000
32.488	29.849	0.060000
33.472	30.057	0.060000
34.457	30.312	0.060000
35.441	30.582	0.060000
36.426	30.859	0.060000
37.410	31.181	0.060000
38.395	31.488	0.060000
39.379	31.826	0.060000
40.363	32.138	0.060000
41.348	32.394	0.060000
42.332	32.686	0.060000
43.317	33.007	0.060000
44.301	33.286	0.060000
45.286	33.472	0.060000
46.270	33.548	0.060000
47.255	33.551	0.060000
48.239	33.538	0.060000
49.224	33.513	0.060000
50.208	33.459	0.060000
51.193	33.389	0.060000
52.177	33.332	0.060000
53.162	33.289	0.060000
54.146	33.262	0.060000
55.131	33.236	0.060000
56.115	33.196	0.060000
57.100	33.169	0.060000
58.084	33.179	0.060000
59.068	33.198	0.060000
60.053	33.213	0.060000
61.037	33.211	0.060000
62.022	33.203	0.060000

Name: X024 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 61.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	36.763	0.060000
1.000	36.414	0.060000
1.999	36.107	0.060000
2.999	35.829	0.060000
3.998	35.498	0.060000
4.998	35.034	0.060000
5.997	34.553	0.060000
6.997	34.113	0.060000
7.996	33.652	0.060000
8.996	33.200	0.060000
9.995	32.727	0.060000
10.995	32.278	0.060000
11.994	31.917	0.060000
12.994	31.571	0.060000
13.993	31.261	0.060000

14.993	30.978	0.060000
15.992	30.677	0.060000
16.992	30.379	0.060000
17.991	30.097	0.060000
18.991	29.825	0.060000
19.990	29.532	0.060000
20.990	29.226	0.060000
21.989	28.931	0.060000
22.989	28.563	0.060000
23.988	28.168	0.060000
24.988	27.857	0.060000
25.987	27.569	0.060000
26.987	27.231	0.060000
27.986	26.882	0.060000
28.986	26.572	0.060000
29.985	26.320	0.060000
30.985	26.159	0.060000
31.984	26.065	0.060000
32.984	26.026	0.060000
33.983	26.032	0.060000
34.983	26.050	0.060000
35.982	26.083	0.060000
36.982	26.116	0.060000
37.981	26.149	0.060000
38.981	26.145	0.060000
39.980	26.086	0.060000
40.980	26.018	0.060000
41.979	25.985	0.060000
42.979	25.989	0.060000
43.978	26.042	0.060000
44.978	26.210	0.060000
45.977	26.299	0.060000
46.977	26.308	0.060000
47.976	26.412	0.060000
48.976	26.569	0.060000
49.975	26.745	0.060000
50.975	26.953	0.060000
51.974	27.217	0.060000
52.974	27.518	0.060000
53.973	27.811	0.060000
54.973	28.063	0.060000
55.972	28.254	0.060000
56.972	28.462	0.060000
57.971	28.724	0.060000
58.971	28.963	0.060000
59.970	29.128	0.060000
60.970	29.199	0.060000
61.969	29.182	0.060000
62.969	29.125	0.060000
63.968	29.069	0.060000
64.968	29.003	0.060000
65.967	28.923	0.060000
66.967	28.852	0.060000
67.966	28.807	0.060000
68.966	28.775	0.060000
69.965	28.758	0.060000
70.965	28.757	0.060000
71.964	28.733	0.060000
72.964	28.684	0.060000
73.964	28.649	0.060000
74.963	28.634	0.060000
75.963	28.624	0.060000

Name: X025 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	33.522	0.060000
1.000	33.249	0.060000
1.999	32.965	0.060000
2.999	32.586	0.060000
3.998	32.204	0.060000
4.998	31.936	0.060000
5.997	31.685	0.060000
6.997	31.401	0.060000
7.996	31.090	0.060000
8.996	30.737	0.060000
9.995	30.390	0.060000
10.995	30.079	0.060000
11.994	29.795	0.060000
12.994	29.514	0.060000
13.993	29.236	0.060000
14.993	28.960	0.060000
15.992	28.675	0.060000
16.992	28.310	0.060000

17.991	27.935	0.060000
18.991	27.609	0.060000
19.990	27.319	0.060000
20.990	27.054	0.060000
21.989	26.763	0.060000
22.989	26.486	0.060000
23.988	26.272	0.060000
24.988	26.105	0.060000
25.987	26.001	0.060000
26.987	25.987	0.060000
27.986	25.963	0.060000
28.986	25.911	0.060000
29.985	25.905	0.060000
30.985	25.963	0.060000
31.984	26.082	0.060000
32.984	26.302	0.060000
33.983	26.646	0.060000
34.983	26.893	0.060000
35.982	26.927	0.060000
36.982	26.825	0.060000
37.981	26.660	0.060000
38.981	26.518	0.060000
39.980	26.341	0.060000
40.980	26.201	0.060000
41.979	26.162	0.060000
42.979	26.209	0.060000
43.978	26.161	0.060000
44.978	26.174	0.060000
45.977	26.306	0.060000
46.977	26.388	0.060000
47.976	26.585	0.060000
48.976	26.917	0.060000
49.975	27.168	0.060000
50.975	27.410	0.060000
51.974	27.746	0.060000
52.974	28.021	0.060000
53.973	28.285	0.060000
54.973	28.569	0.060000
55.972	28.841	0.060000
56.972	29.063	0.060000
57.971	29.199	0.060000
58.971	29.252	0.060000
59.970	29.247	0.060000
60.970	29.190	0.060000
61.969	29.097	0.060000
62.969	29.003	0.060000
63.968	28.940	0.060000
64.968	28.911	0.060000
65.967	28.900	0.060000
66.967	28.904	0.060000
67.966	28.903	0.060000
68.966	28.883	0.060000
69.965	28.855	0.060000
70.965	28.842	0.060000
71.964	28.849	0.060000
72.964	28.879	0.060000
73.964	28.912	0.060000
74.963	28.943	0.060000
75.963	28.934	0.060000

Name: X026 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	31.579	0.060000
0.994	31.188	0.060000
1.988	30.776	0.060000
2.983	30.457	0.060000
3.977	30.196	0.060000
4.971	29.964	0.060000
5.965	29.728	0.060000
6.959	29.478	0.060000
7.953	29.216	0.060000
8.948	28.933	0.060000
9.942	28.677	0.060000
10.936	28.475	0.060000
11.930	28.230	0.060000
12.924	27.896	0.060000
13.919	27.581	0.060000
14.913	27.293	0.060000
15.907	27.036	0.060000
16.901	26.805	0.060000
17.895	26.506	0.060000
18.889	26.229	0.060000
19.884	26.008	0.060000

20.878	25.784	0.060000
21.872	25.587	0.060000
22.866	25.388	0.060000
23.860	25.201	0.060000
24.854	25.093	0.060000
25.849	25.077	0.060000
26.843	25.131	0.060000
27.837	25.205	0.060000
28.831	25.277	0.060000
29.825	25.331	0.060000
30.820	25.350	0.060000
31.814	25.328	0.060000
32.808	25.286	0.060000
33.802	25.305	0.060000
34.796	25.401	0.060000
35.790	25.467	0.060000
36.785	25.494	0.060000
37.779	25.474	0.060000
38.773	25.448	0.060000
39.767	25.369	0.060000
40.761	25.278	0.060000
41.756	25.304	0.060000
42.750	25.333	0.060000
43.744	25.398	0.060000
44.738	25.561	0.060000
45.732	25.777	0.060000
46.726	25.935	0.060000
47.721	26.112	0.060000
48.715	26.315	0.060000
49.709	26.550	0.060000
50.703	26.808	0.060000
51.697	26.997	0.060000
52.692	27.129	0.060000
53.686	27.268	0.060000
54.680	27.520	0.060000
55.674	27.933	0.060000
56.668	28.404	0.060000
57.662	28.728	0.060000
58.657	28.896	0.060000
59.651	28.961	0.060000
60.645	28.957	0.060000
61.639	28.892	0.060000
62.633	28.824	0.060000
63.627	28.775	0.060000
64.622	28.774	0.060000
65.616	28.779	0.060000
66.610	28.768	0.060000
67.604	28.736	0.060000
68.598	28.709	0.060000

Name: X027W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	31.100	0.000000
1.000	30.860	0.000000
2.000	30.570	0.000000
2.990	30.170	0.000000
3.990	29.780	0.000000
4.990	29.550	0.000000
5.990	29.360	0.000000
6.990	29.110	0.000000
7.980	28.810	0.000000
8.980	28.520	0.000000
9.980	28.230	0.000000
10.980	27.950	0.000000
11.980	27.690	0.000000
12.970	27.440	0.000000
13.970	27.160	0.000000
14.970	26.880	0.000000
15.970	26.590	0.000000
16.970	26.340	0.000000
17.970	26.150	0.000000
18.960	25.970	0.000000
19.960	25.810	0.000000
20.960	25.630	0.000000
21.960	25.450	0.000000
22.960	25.310	0.000000
23.950	25.180	0.000000
24.950	25.100	0.000000
25.950	25.070	0.000000
26.950	25.160	0.000000
27.950	25.210	0.000000
28.940	25.200	0.000000
29.940	25.170	0.000000

30.940	25.140	0.000000
31.940	25.150	0.000000
32.940	25.160	0.000000
33.930	25.110	0.000000
34.930	25.050	0.000000
35.930	25.050	0.000000
36.930	25.060	0.000000
37.930	25.060	0.000000
38.920	25.070	0.000000
39.920	25.060	0.000000
40.920	25.050	0.000000
41.920	25.030	0.000000
42.920	25.000	0.000000
43.910	24.980	0.000000
44.910	24.960	0.000000
45.910	24.960	0.000000
46.910	25.080	0.000000
47.910	25.270	0.000000
48.900	25.500	0.000000
49.900	25.780	0.000000
50.900	26.120	0.000000
51.900	26.490	0.000000
52.900	26.840	0.000000
53.900	27.140	0.000000
54.890	27.390	0.000000
55.890	27.670	0.000000
56.890	28.030	0.000000
57.890	28.380	0.000000
58.890	28.680	0.000000
59.880	28.890	0.000000
60.880	29.030	0.000000
61.880	29.150	0.000000

Name: X029 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 66.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	20.931	0.060000
0.997	20.682	0.060000
1.994	20.441	0.060000
2.990	20.143	0.060000
3.987	19.838	0.060000
4.984	19.532	0.060000
5.981	19.286	0.060000
6.978	19.094	0.060000
7.974	18.902	0.060000
8.971	18.695	0.060000
9.968	18.417	0.060000
10.965	18.189	0.060000
11.961	18.053	0.060000
12.958	17.970	0.060000
13.955	17.958	0.060000
14.952	17.811	0.060000
15.949	17.485	0.060000
16.945	17.290	0.060000
17.942	17.133	0.060000
18.939	17.044	0.060000
19.936	16.986	0.060000
20.933	17.236	0.060000
21.929	17.362	0.060000
22.926	17.463	0.060000
23.923	17.501	0.060000
24.920	17.432	0.060000
25.917	17.280	0.060000
26.913	17.178	0.060000
27.910	17.094	0.060000
28.907	17.105	0.060000
29.904	17.087	0.060000
30.900	17.058	0.060000
31.897	17.079	0.060000
32.894	17.071	0.060000
33.891	17.047	0.060000
34.888	16.996	0.060000
35.884	17.043	0.060000
36.881	17.218	0.060000
37.878	17.227	0.060000
38.875	17.212	0.060000
39.872	17.196	0.060000
40.868	17.087	0.060000
41.865	16.830	0.060000
42.862	16.801	0.060000
43.859	16.870	0.060000
44.856	17.007	0.060000
45.852	17.187	0.060000

46.849	17.369	0.060000
47.846	17.491	0.060000
48.843	17.568	0.060000
49.839	17.615	0.060000
50.836	17.636	0.060000
51.833	17.621	0.060000
52.830	17.612	0.060000
53.827	17.629	0.060000
54.823	17.673	0.060000
55.820	17.720	0.060000
56.817	17.761	0.060000
57.814	17.771	0.060000
58.811	17.774	0.060000
59.807	17.786	0.060000
60.804	17.784	0.060000
61.801	17.790	0.060000
62.798	17.821	0.060000
63.795	17.838	0.060000
64.791	17.826	0.060000
65.788	17.808	0.060000
66.785	17.780	0.060000
67.782	17.718	0.060000
68.778	17.616	0.060000
69.775	17.459	0.060000
70.772	17.271	0.060000
71.769	17.037	0.060000
72.766	16.768	0.060000
73.762	16.499	0.060000
74.759	16.232	0.060000
75.756	15.988	0.060000
76.753	15.763	0.060000
77.750	15.538	0.060000

Name: X030 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	21.847	0.060000
0.997	21.640	0.060000
1.994	21.457	0.060000
2.991	21.291	0.060000
3.988	21.095	0.060000
4.985	20.870	0.060000
5.981	20.672	0.060000
6.978	20.577	0.060000
7.975	20.573	0.060000
8.972	20.453	0.060000
9.969	20.293	0.060000
10.966	20.127	0.060000
11.963	19.857	0.060000
12.960	19.586	0.060000
13.957	19.290	0.060000
14.954	19.111	0.060000
15.951	18.936	0.060000
16.948	18.674	0.060000
17.944	18.577	0.060000
18.941	18.511	0.060000
19.938	18.244	0.060000
20.935	18.008	0.060000
21.932	17.823	0.060000
22.929	17.685	0.060000
23.926	17.473	0.060000
24.923	17.217	0.060000
25.920	17.000	0.060000
26.917	17.001	0.060000
27.914	17.102	0.060000
28.910	17.103	0.060000
29.907	16.944	0.060000
30.904	16.745	0.060000
31.901	16.569	0.060000
32.898	16.437	0.060000
33.895	16.297	0.060000
34.892	16.273	0.060000
35.889	16.295	0.060000
36.886	16.335	0.060000
37.883	16.399	0.060000
38.880	16.467	0.060000
39.877	16.496	0.060000
40.873	16.501	0.060000
41.870	16.474	0.060000
42.867	16.428	0.060000
43.864	16.380	0.060000
44.861	16.334	0.060000
45.858	16.290	0.060000
46.855	16.261	0.060000

47.852	16.260	0.060000
48.849	16.242	0.060000
49.846	16.302	0.060000
50.843	16.385	0.060000
51.839	16.435	0.060000
52.836	16.448	0.060000
53.833	16.463	0.060000
54.830	16.504	0.060000
55.827	16.519	0.060000
56.824	16.513	0.060000
57.821	16.536	0.060000
58.818	16.648	0.060000
59.815	16.818	0.060000
60.812	17.021	0.060000
61.809	17.193	0.060000
62.806	17.305	0.060000
63.802	17.308	0.060000
64.799	17.275	0.060000
65.796	17.259	0.060000
66.793	17.319	0.060000
67.790	17.386	0.060000
68.787	17.407	0.060000
69.784	17.394	0.060000
70.781	17.372	0.060000
71.778	17.365	0.060000
72.775	17.372	0.060000
73.772	17.415	0.060000
74.768	17.431	0.060000
75.765	17.430	0.060000
76.762	17.446	0.060000
77.759	17.431	0.060000
78.756	17.367	0.060000

Name: X031 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 68.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	23.424	0.060000
0.991	23.127	0.060000
1.982	22.829	0.060000
2.973	22.540	0.060000
3.963	22.352	0.060000
4.954	22.221	0.060000
5.945	21.937	0.060000
6.936	21.680	0.060000
7.927	21.475	0.060000
8.918	21.274	0.060000
9.909	21.057	0.060000
10.899	20.872	0.060000
11.890	20.722	0.060000
12.881	20.517	0.060000
13.872	20.252	0.060000
14.863	19.978	0.060000
15.854	19.746	0.060000
16.845	19.545	0.060000
17.835	19.284	0.060000
18.826	19.018	0.060000
19.817	18.730	0.060000
20.808	18.385	0.060000
21.799	18.102	0.060000
22.790	17.912	0.060000
23.780	17.708	0.060000
24.771	17.421	0.060000
25.762	17.089	0.060000
26.753	16.888	0.060000
27.744	16.892	0.060000
28.735	16.967	0.060000
29.726	17.096	0.060000
30.716	17.210	0.060000
31.707	17.296	0.060000
32.698	17.364	0.060000
33.689	17.271	0.060000
34.680	16.942	0.060000
35.671	16.637	0.060000
36.662	16.456	0.060000
37.652	16.370	0.060000
38.643	16.326	0.060000
39.634	16.289	0.060000
40.625	16.277	0.060000
41.616	16.263	0.060000
42.607	16.256	0.060000
43.598	16.281	0.060000
44.588	16.307	0.060000
45.579	16.328	0.060000

46.570	16.363	0.060000
47.561	16.368	0.060000
48.552	16.337	0.060000
49.543	16.325	0.060000
50.534	16.358	0.060000
51.524	16.355	0.060000
52.515	16.399	0.060000
53.506	16.441	0.060000
54.497	16.381	0.060000
55.488	16.373	0.060000
56.479	16.351	0.060000
57.470	16.301	0.060000
58.460	16.303	0.060000
59.451	16.351	0.060000
60.442	16.432	0.060000
61.433	16.538	0.060000
62.424	16.664	0.060000
63.415	16.798	0.060000
64.405	16.933	0.060000
65.396	17.042	0.060000
66.387	17.106	0.060000
67.378	17.161	0.060000
68.369	17.201	0.060000
69.360	17.117	0.060000
70.351	16.999	0.060000
71.341	16.960	0.060000
72.332	16.909	0.060000
73.323	16.905	0.060000
74.314	16.931	0.060000
75.305	16.951	0.060000
76.296	16.971	0.060000
77.287	16.901	0.060000
78.277	16.746	0.060000
79.268	16.705	0.060000
80.259	16.738	0.060000
81.250	16.711	0.060000

Name: X033 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	27.474	0.060000
0.993	27.106	0.060000
1.987	26.659	0.060000
2.980	26.257	0.060000
3.973	25.904	0.060000
4.967	25.567	0.060000
5.960	25.271	0.060000
6.953	24.973	0.060000
7.947	24.718	0.060000
8.940	24.486	0.060000
9.933	24.229	0.060000
10.927	23.904	0.060000
11.920	23.515	0.060000
12.913	23.185	0.060000
13.907	22.829	0.060000
14.900	22.459	0.060000
15.894	22.116	0.060000
16.887	21.750	0.060000
17.880	21.384	0.060000
18.874	21.042	0.060000
19.867	20.649	0.060000
20.860	20.193	0.060000
21.854	19.722	0.060000
22.847	19.295	0.060000
23.840	18.928	0.060000
24.834	18.546	0.060000
25.827	18.222	0.060000
26.820	17.943	0.060000
27.814	17.503	0.060000
28.807	17.260	0.060000
29.800	16.918	0.060000
30.794	16.642	0.060000
31.787	16.515	0.060000
32.780	16.551	0.060000
33.774	16.521	0.060000
34.767	16.553	0.060000
35.760	16.391	0.060000
36.754	16.291	0.060000
37.747	16.136	0.060000
38.740	16.042	0.060000
39.734	16.014	0.060000
40.727	16.036	0.060000
41.720	16.145	0.060000
42.714	16.140	0.060000

43.707	16.036	0.060000
44.700	15.998	0.060000
45.694	15.979	0.060000
46.687	15.952	0.060000
47.680	15.925	0.060000
48.674	15.900	0.060000
49.667	15.885	0.060000
50.661	15.888	0.060000
51.654	15.895	0.060000
52.647	15.902	0.060000
53.641	15.909	0.060000
54.634	15.919	0.060000
55.627	15.932	0.060000
56.621	15.948	0.060000
57.614	15.970	0.060000
58.607	15.991	0.060000
59.601	16.013	0.060000
60.594	16.031	0.060000
61.587	16.038	0.060000
62.581	16.040	0.060000
63.574	16.038	0.060000
64.567	16.028	0.060000
65.561	16.070	0.060000
66.554	16.144	0.060000
67.547	16.151	0.060000
68.541	16.195	0.060000
69.534	16.207	0.060000
70.527	16.234	0.060000
71.521	16.309	0.060000
72.514	16.283	0.060000
73.507	16.205	0.060000
74.501	16.157	0.060000
75.494	16.161	0.060000
76.487	16.207	0.060000
77.481	16.406	0.060000
78.474	16.656	0.060000
79.467	16.794	0.060000
80.461	16.911	0.060000
81.454	16.992	0.060000
82.448	16.972	0.060000
83.441	16.919	0.060000
84.434	16.950	0.060000
85.428	17.055	0.060000
86.421	17.206	0.060000
87.414	17.359	0.060000
88.408	17.433	0.060000
89.401	17.374	0.060000
90.394	17.334	0.060000
91.388	17.319	0.060000
92.381	17.275	0.060000
93.374	17.278	0.060000
94.368	17.281	0.060000
95.361	17.259	0.060000
96.354	17.204	0.060000
97.348	17.182	0.060000
98.341	17.208	0.060000
99.334	17.243	0.060000
100.328	17.260	0.060000

Name: X035 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	24.846	0.060000
0.993	24.787	0.060000
1.987	24.742	0.060000
2.980	24.765	0.060000
3.973	24.784	0.060000
4.966	24.676	0.060000
5.960	24.475	0.060000
6.953	24.239	0.060000
7.946	24.017	0.060000
8.940	23.724	0.060000
9.933	23.336	0.060000
10.926	22.955	0.060000
11.920	22.637	0.060000
12.913	22.277	0.060000
13.906	22.008	0.060000
14.899	21.690	0.060000
15.893	21.229	0.060000
16.886	20.876	0.060000
17.879	20.705	0.060000
18.873	20.485	0.060000
19.866	20.027	0.060000
20.859	19.520	0.060000

21.852	19.043	0.060000
22.846	18.752	0.060000
23.839	18.540	0.060000
24.832	18.322	0.060000
25.826	17.965	0.060000
26.819	17.534	0.060000
27.812	17.078	0.060000
28.805	16.662	0.060000
29.799	16.390	0.060000
30.792	16.183	0.060000
31.785	15.950	0.060000
32.779	15.800	0.060000
33.772	15.612	0.060000
34.765	15.277	0.060000
35.759	15.013	0.060000
36.752	14.926	0.060000
37.745	14.859	0.060000
38.738	14.686	0.060000
39.732	14.576	0.060000
40.725	14.446	0.060000
41.718	14.457	0.060000
42.712	14.505	0.060000
43.705	14.550	0.060000
44.698	14.578	0.060000
45.691	14.684	0.060000
46.685	14.734	0.060000
47.678	14.788	0.060000
48.671	14.847	0.060000
49.665	14.904	0.060000
50.658	14.934	0.060000
51.651	14.950	0.060000
52.644	14.957	0.060000
53.638	14.951	0.060000
54.631	14.771	0.060000
55.624	14.800	0.060000
56.618	14.946	0.060000
57.611	14.888	0.060000
58.604	14.817	0.060000
59.598	14.955	0.060000
60.591	15.226	0.060000
61.584	15.602	0.060000
62.577	15.915	0.060000
63.571	16.066	0.060000
64.564	16.128	0.060000
65.557	16.172	0.060000
66.551	16.235	0.060000
67.544	16.360	0.060000
68.537	16.525	0.060000
69.530	16.676	0.060000
70.524	16.775	0.060000
71.517	16.816	0.060000
72.510	16.815	0.060000
73.504	16.777	0.060000
74.497	16.735	0.060000
75.490	16.730	0.060000
76.484	16.756	0.060000
77.477	16.786	0.060000
78.470	16.806	0.060000

Name: X039 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	24.575	0.060000
0.992	24.606	0.060000
1.984	24.619	0.060000
2.975	24.609	0.060000
3.967	24.620	0.060000
4.959	24.659	0.060000
5.951	24.649	0.060000
6.943	24.605	0.060000
7.934	24.571	0.060000
8.926	24.451	0.060000
9.918	24.280	0.060000
10.910	24.136	0.060000
11.902	24.036	0.060000
12.893	23.922	0.060000
13.885	23.679	0.060000
14.877	23.283	0.060000
15.869	22.886	0.060000
16.861	22.517	0.060000
17.852	22.185	0.060000
18.844	21.839	0.060000
19.836	21.467	0.060000
20.828	21.087	0.060000

21.820	20.650	0.060000
22.811	20.317	0.060000
23.803	20.055	0.060000
24.795	19.806	0.060000
25.787	19.522	0.060000
26.779	19.217	0.060000
27.770	18.837	0.060000
28.762	18.507	0.060000
29.754	18.228	0.060000
30.746	17.890	0.060000
31.738	17.500	0.060000
32.729	17.232	0.060000
33.721	16.847	0.060000
34.713	16.466	0.060000
35.705	16.196	0.060000
36.697	15.985	0.060000
37.688	15.760	0.060000
38.680	15.453	0.060000
39.672	15.158	0.060000
40.664	14.860	0.060000
41.656	14.648	0.060000
42.647	14.410	0.060000
43.639	14.174	0.060000
44.631	14.147	0.060000
45.623	14.055	0.060000
46.615	13.881	0.060000
47.606	13.713	0.060000
48.598	13.613	0.060000
49.590	13.672	0.060000
50.582	13.760	0.060000
51.574	13.745	0.060000
52.565	13.752	0.060000
53.557	13.803	0.060000
54.549	13.817	0.060000
55.541	13.825	0.060000
56.533	13.829	0.060000
57.524	13.822	0.060000
58.516	13.787	0.060000
59.508	13.823	0.060000
60.500	13.893	0.060000
61.492	13.880	0.060000
62.483	13.888	0.060000
63.475	13.919	0.060000
64.467	13.967	0.060000
65.459	14.230	0.060000
66.451	14.525	0.060000
67.442	14.796	0.060000
68.434	15.235	0.060000
69.426	15.602	0.060000
70.418	15.880	0.060000
71.410	16.068	0.060000
72.401	16.230	0.060000
73.393	16.388	0.060000
74.385	16.472	0.060000
75.377	16.549	0.060000
76.368	16.650	0.060000
77.360	16.669	0.060000
78.352	16.678	0.060000
79.344	16.712	0.060000
80.336	16.776	0.060000
81.328	16.862	0.060000
82.319	16.943	0.060000
83.311	16.985	0.060000
84.303	16.971	0.060000
85.295	16.980	0.060000
86.286	17.059	0.060000
87.278	17.157	0.060000
88.270	17.181	0.060000
89.262	17.165	0.060000
90.254	17.169	0.060000
91.245	17.197	0.060000
92.237	17.190	0.060000

Name: X040W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.020	0.000000
1.000	14.020	0.000000
1.990	14.040	0.000000
2.990	14.060	0.000000
3.990	14.050	0.000000
4.980	14.040	0.000000
5.980	14.090	0.000000
6.980	14.100	0.000000

7.980	14.080	0.000000
8.970	14.170	0.000000
9.970	14.260	0.000000
10.970	14.220	0.000000
11.960	13.940	0.000000
12.960	13.710	0.000000
13.960	13.630	0.000000
14.950	13.550	0.000000
15.950	13.480	0.000000
16.950	13.410	0.000000
17.940	13.360	0.000000
18.940	13.360	0.000000
19.940	13.340	0.000000
20.930	13.320	0.000000
21.930	13.290	0.000000
22.930	13.250	0.000000
23.930	13.210	0.000000
24.920	13.180	0.000000
25.920	13.170	0.000000
26.920	13.180	0.000000
27.910	13.220	0.000000
28.910	13.310	0.000000
29.910	13.350	0.000000
30.900	13.330	0.000000
31.900	13.340	0.000000
32.900	13.340	0.000000
33.890	13.360	0.000000
34.890	13.390	0.000000
35.890	13.420	0.000000
36.880	13.440	0.000000
37.880	13.430	0.000000
38.880	13.420	0.000000
39.880	13.420	0.000000
40.870	13.440	0.000000
41.870	13.470	0.000000
42.870	13.460	0.000000
43.860	13.420	0.000000
44.860	13.400	0.000000
45.860	13.410	0.000000
46.850	13.400	0.000000
47.850	13.370	0.000000
48.850	13.360	0.000000
49.840	13.410	0.000000
50.840	13.470	0.000000
51.840	13.480	0.000000
52.830	13.430	0.000000
53.830	13.400	0.000000
54.830	13.390	0.000000
55.830	13.390	0.000000
56.820	13.390	0.000000
57.820	13.390	0.000000
58.820	13.410	0.000000
59.810	13.420	0.000000
60.810	13.380	0.000000
61.810	13.340	0.000000
62.800	13.320	0.000000
63.800	13.300	0.000000
64.800	13.280	0.000000
65.790	13.270	0.000000
66.790	13.280	0.000000
67.790	13.280	0.000000
68.780	13.260	0.000000
69.780	13.270	0.000000
70.780	13.280	0.000000
71.780	13.280	0.000000
72.770	13.320	0.000000
73.770	13.340	0.000000
74.770	13.320	0.000000
75.770	13.290	0.000000
76.770	13.270	0.000000
77.770	13.270	0.000000
78.770	13.290	0.000000
79.770	13.300	0.000000
80.760	13.310	0.000000
81.760	13.300	0.000000
82.760	13.280	0.000000
83.760	13.270	0.000000
84.760	13.270	0.000000
85.760	13.280	0.000000
86.760	13.260	0.000000
87.760	13.240	0.000000
88.760	13.250	0.000000
89.750	13.260	0.000000
90.750	13.240	0.000000
91.750	13.240	0.000000
92.750	13.250	0.000000
93.750	13.260	0.000000
94.750	13.260	0.000000
95.750	13.250	0.000000

96.750	13.260	0.000000
97.740	13.290	0.000000
98.740	13.390	0.000000
99.740	13.510	0.000000
100.740	13.600	0.000000
101.740	13.660	0.000000
102.740	13.650	0.000000
103.740	13.560	0.000000
104.740	13.460	0.000000
105.740	13.460	0.000000
106.730	13.480	0.000000
107.730	13.430	0.000000
108.730	13.350	0.000000
109.730	13.300	0.000000
110.730	13.280	0.000000
111.730	13.270	0.000000
112.730	13.280	0.000000
113.730	13.280	0.000000
114.730	13.280	0.000000
115.720	13.280	0.000000
116.720	13.280	0.000000
117.720	13.280	0.000000
118.720	13.280	0.000000
119.720	13.280	0.000000
120.720	13.280	0.000000
121.720	13.280	0.000000
122.720	13.290	0.000000
123.710	13.280	0.000000
124.710	13.280	0.000000
125.710	13.280	0.000000
126.710	13.290	0.000000
127.710	13.280	0.000000
128.710	13.280	0.000000
129.710	13.270	0.000000
130.710	13.270	0.000000
131.710	13.280	0.000000
132.700	13.290	0.000000
133.700	13.280	0.000000
134.700	13.270	0.000000
135.700	13.280	0.000000
136.700	13.290	0.000000
137.700	13.280	0.000000
138.700	13.280	0.000000
139.700	13.270	0.000000
140.690	13.270	0.000000
141.690	13.280	0.000000
142.690	13.270	0.000000
143.690	13.260	0.000000
144.690	13.260	0.000000
145.690	13.270	0.000000
146.690	13.290	0.000000
147.690	13.290	0.000000
148.690	13.280	0.000000
149.680	13.290	0.000000
150.680	13.280	0.000000
151.680	13.270	0.000000
152.680	13.260	0.000000
153.680	13.270	0.000000
154.680	13.280	0.000000
155.680	13.280	0.000000
156.680	13.280	0.000000
157.670	13.290	0.000000
158.670	13.300	0.000000
159.670	13.320	0.000000
160.670	13.360	0.000000
161.670	13.370	0.000000
162.670	13.360	0.000000
163.670	13.380	0.000000
164.670	13.400	0.000000
165.670	13.420	0.000000
166.660	13.440	0.000000
167.660	13.460	0.000000
168.660	13.470	0.000000
169.660	13.520	0.000000
170.660	13.680	0.000000
171.660	13.800	0.000000
172.660	13.680	0.000000
173.660	13.520	0.000000
174.660	13.490	0.000000
175.650	13.490	0.000000
176.650	13.460	0.000000
177.650	13.450	0.000000
178.650	13.430	0.000000
179.650	13.410	0.000000
180.650	13.410	0.000000
181.650	13.430	0.000000
182.650	13.530	0.000000
183.640	13.700	0.000000
184.640	13.820	0.000000

185.640	13.810	0.000000
186.640	13.780	0.000000
187.640	13.730	0.000000
188.640	13.620	0.000000
189.640	13.470	0.000000
190.640	13.380	0.000000
191.640	13.350	0.000000
192.630	13.340	0.000000
193.630	13.340	0.000000
194.630	13.360	0.000000
195.630	13.410	0.000000
196.630	13.510	0.000000
197.630	13.660	0.000000
198.630	13.840	0.000000
199.630	14.030	0.000000
200.620	14.250	0.000000
201.620	14.600	0.000000
202.620	14.990	0.000000
203.620	15.230	0.000000
204.620	15.350	0.000000
205.620	15.520	0.000000
206.620	15.780	0.000000
207.620	16.010	0.000000
208.620	16.160	0.000000
209.610	16.300	0.000000
210.610	16.430	0.000000
211.610	16.520	0.000000
212.610	16.550	0.000000
213.610	16.530	0.000000
214.610	16.450	0.000000
215.610	16.360	0.000000

Name: X042W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.130	0.000000
0.990	14.140	0.000000
1.980	14.120	0.000000
2.980	14.140	0.000000
3.970	14.160	0.000000
4.960	14.130	0.000000
5.950	14.110	0.000000
6.940	14.100	0.000000
7.940	14.090	0.000000
8.930	14.060	0.000000
9.920	14.030	0.000000
10.910	14.000	0.000000
11.900	13.970	0.000000
12.900	13.980	0.000000
13.890	14.010	0.000000
14.880	14.020	0.000000
15.870	14.010	0.000000
16.860	14.000	0.000000
17.860	13.970	0.000000
18.850	13.950	0.000000
19.840	13.940	0.000000
20.830	13.920	0.000000
21.820	13.900	0.000000
22.820	13.890	0.000000
23.810	13.880	0.000000
24.800	13.870	0.000000
25.790	13.860	0.000000
26.780	13.890	0.000000
27.780	13.920	0.000000
28.770	13.910	0.000000
29.760	13.880	0.000000
30.750	13.890	0.000000
31.740	13.910	0.000000
32.740	13.930	0.000000
33.730	13.950	0.000000
34.720	13.950	0.000000
35.710	13.920	0.000000
36.700	13.890	0.000000
37.700	13.870	0.000000
38.690	13.870	0.000000
39.690	13.870	0.000000
40.680	13.830	0.000000
41.680	13.840	0.000000
42.680	13.840	0.000000
43.670	13.830	0.000000
44.670	13.830	0.000000
45.660	13.850	0.000000
46.660	13.890	0.000000
47.660	13.900	0.000000

48.650	13.870	0.000000
49.650	13.850	0.000000
50.640	13.860	0.000000
51.640	13.930	0.000000
52.640	13.970	0.000000
53.630	13.920	0.000000
54.630	13.930	0.000000
55.620	13.950	0.000000
56.620	13.990	0.000000
57.620	14.000	0.000000
58.610	14.010	0.000000
59.610	14.010	0.000000
60.600	14.010	0.000000
61.600	14.030	0.000000
62.600	14.030	0.000000
63.590	14.020	0.000000
64.590	14.040	0.000000
65.580	14.140	0.000000
66.580	14.200	0.000000
67.580	14.170	0.000000
68.570	14.130	0.000000
69.570	14.170	0.000000
70.560	14.210	0.000000
71.560	14.160	0.000000
72.560	14.130	0.000000
73.550	14.110	0.000000
74.550	14.130	0.000000
75.540	14.120	0.000000
76.540	14.110	0.000000
77.540	14.060	0.000000
78.530	14.090	0.000000
79.530	14.080	0.000000
80.520	14.080	0.000000
81.520	14.080	0.000000
82.520	14.070	0.000000
83.510	14.040	0.000000
84.510	14.030	0.000000
85.500	14.090	0.000000
86.500	14.100	0.000000
87.500	14.090	0.000000
88.490	14.080	0.000000
89.490	14.080	0.000000
90.490	14.090	0.000000
91.480	14.110	0.000000
92.480	14.180	0.000000
93.480	14.230	0.000000
94.470	14.230	0.000000
95.470	14.250	0.000000
96.460	14.240	0.000000
97.460	14.240	0.000000
98.460	14.220	0.000000
99.450	14.250	0.000000
100.450	14.270	0.000000
101.450	14.290	0.000000
102.440	14.310	0.000000
103.440	14.330	0.000000
104.440	14.380	0.000000
105.430	14.440	0.000000
106.430	14.440	0.000000
107.430	14.420	0.000000
108.420	14.390	0.000000
109.420	14.430	0.000000
110.410	14.470	0.000000
111.410	14.440	0.000000
112.410	14.430	0.000000
113.400	14.470	0.000000
114.400	14.480	0.000000
115.400	14.470	0.000000
116.390	14.480	0.000000
117.390	14.520	0.000000
118.390	14.530	0.000000
119.380	14.530	0.000000
120.380	14.530	0.000000
121.380	14.490	0.000000
122.370	14.480	0.000000
123.370	14.510	0.000000
124.360	14.530	0.000000
125.360	14.470	0.000000
126.360	14.430	0.000000
127.350	14.410	0.000000
128.330	14.410	0.000000
129.310	14.420	0.000000
130.290	14.420	0.000000
131.270	14.400	0.000000
132.250	14.380	0.000000
133.230	14.390	0.000000
134.210	14.400	0.000000
135.190	14.400	0.000000
136.170	14.400	0.000000

137.150	14.420	0.000000
138.130	14.470	0.000000
139.110	14.540	0.000000
140.090	14.580	0.000000
141.070	14.550	0.000000
142.050	14.500	0.000000
143.030	14.480	0.000000
144.010	14.470	0.000000
144.990	14.460	0.000000
145.970	14.450	0.000000
146.950	14.450	0.000000
147.930	14.440	0.000000
148.910	14.420	0.000000
149.890	14.410	0.000000
150.870	14.400	0.000000
151.850	14.400	0.000000
152.830	14.390	0.000000
153.810	14.460	0.000000
154.790	14.550	0.000000
155.770	14.630	0.000000
156.760	14.680	0.000000
157.760	14.680	0.000000
158.760	14.670	0.000000
159.750	14.680	0.000000
160.750	14.710	0.000000
161.740	14.750	0.000000
162.740	14.770	0.000000
163.740	14.800	0.000000
164.730	14.760	0.000000
165.730	14.670	0.000000
166.720	14.640	0.000000
167.720	14.730	0.000000
168.720	14.870	0.000000
169.710	14.870	0.000000
170.710	14.790	0.000000
171.700	14.730	0.000000
172.700	14.770	0.000000
173.690	14.810	0.000000
174.690	14.820	0.000000
175.690	14.880	0.000000
176.680	14.910	0.000000
177.680	14.910	0.000000
178.670	14.880	0.000000
179.670	14.890	0.000000
180.670	14.940	0.000000
181.660	14.970	0.000000
182.660	14.990	0.000000
183.650	15.040	0.000000
184.650	15.090	0.000000
185.650	15.000	0.000000
186.640	14.930	0.000000
187.640	14.880	0.000000
188.630	14.880	0.000000
189.630	14.880	0.000000
190.620	14.880	0.000000
191.620	14.830	0.000000
192.620	14.780	0.000000
193.610	14.840	0.000000
194.610	14.860	0.000000
195.600	14.850	0.000000
196.600	14.810	0.000000
197.600	14.790	0.000000
198.590	14.800	0.000000
199.590	14.870	0.000000
200.580	14.910	0.000000
201.580	14.910	0.000000
202.580	14.850	0.000000
203.570	14.840	0.000000
204.570	14.910	0.000000
205.560	15.010	0.000000
206.560	15.060	0.000000
207.550	15.090	0.000000
208.550	15.020	0.000000
209.540	14.970	0.000000
210.530	14.920	0.000000
211.530	14.900	0.000000
212.520	14.920	0.000000
213.510	14.920	0.000000
214.500	14.930	0.000000
215.500	14.880	0.000000
216.490	14.900	0.000000
217.480	14.960	0.000000
218.470	14.970	0.000000
219.470	14.940	0.000000
220.460	14.910	0.000000
221.450	14.930	0.000000
222.440	14.900	0.000000
223.430	14.920	0.000000
224.430	14.960	0.000000

225.420	14.980	0.000000
226.410	14.970	0.000000
227.400	14.940	0.000000
228.400	14.930	0.000000
229.390	14.920	0.000000
230.380	14.910	0.000000
231.370	14.920	0.000000
232.360	14.950	0.000000
233.360	14.970	0.000000
234.350	15.050	0.000000
235.340	15.070	0.000000
236.330	15.020	0.000000
237.330	14.950	0.000000
238.320	14.890	0.000000
239.310	14.840	0.000000
240.300	14.820	0.000000
241.300	14.820	0.000000
242.290	14.840	0.000000
243.280	14.880	0.000000
244.270	14.910	0.000000
245.260	14.910	0.000000
246.260	14.910	0.000000
247.250	14.910	0.000000
248.240	14.930	0.000000
249.230	14.960	0.000000
250.230	14.960	0.000000
251.220	14.960	0.000000
252.210	14.960	0.000000
253.200	14.950	0.000000
254.190	14.930	0.000000
255.190	14.910	0.000000
256.180	14.880	0.000000
257.170	14.850	0.000000
258.160	14.810	0.000000
259.160	14.740	0.000000
260.150	14.690	0.000000
261.140	14.670	0.000000
262.130	14.670	0.000000
263.120	14.690	0.000000
264.120	14.720	0.000000
265.110	14.720	0.000000
266.100	14.710	0.000000
267.090	14.720	0.000000
268.090	14.700	0.000000
269.080	14.690	0.000000
270.070	14.720	0.000000
271.060	14.730	0.000000
272.060	14.710	0.000000
273.050	14.700	0.000000
274.040	14.740	0.000000
275.030	14.810	0.000000
276.020	14.830	0.000000
277.020	14.790	0.000000
278.010	14.710	0.000000
279.000	14.620	0.000000
279.990	14.570	0.000000
280.990	14.610	0.000000
281.980	14.650	0.000000
282.970	14.670	0.000000
283.960	14.670	0.000000
284.950	14.660	0.000000
285.950	14.660	0.000000
286.940	14.660	0.000000
287.930	14.660	0.000000
288.920	14.670	0.000000
289.920	14.680	0.000000
290.910	14.700	0.000000
291.900	14.700	0.000000
292.890	14.720	0.000000
293.880	14.770	0.000000
294.880	14.790	0.000000
295.870	14.770	0.000000
296.860	14.780	0.000000
297.850	14.760	0.000000
298.850	14.760	0.000000
299.840	14.790	0.000000
300.830	14.810	0.000000
301.820	14.790	0.000000
302.820	14.780	0.000000
303.810	14.790	0.000000
304.800	14.820	0.000000
305.790	14.820	0.000000
306.780	14.800	0.000000
307.780	14.800	0.000000
308.770	14.840	0.000000
309.760	14.900	0.000000
310.750	14.900	0.000000
311.750	14.880	0.000000
312.740	14.880	0.000000

313.730	14.880	0.000000
314.720	14.900	0.000000
315.710	14.920	0.000000
316.710	14.930	0.000000
317.700	14.920	0.000000
318.690	14.920	0.000000
319.680	14.890	0.000000
320.680	14.900	0.000000
321.670	14.960	0.000000
322.660	15.010	0.000000
323.650	15.050	0.000000
324.640	15.080	0.000000
325.640	15.110	0.000000

Name: X042W2 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	13.880	0.000000
0.990	13.880	0.000000
1.980	13.900	0.000000
2.970	13.900	0.000000
3.960	13.870	0.000000
4.950	13.850	0.000000
5.940	13.840	0.000000
6.930	13.830	0.000000
7.930	13.800	0.000000
8.920	13.760	0.000000
9.910	13.720	0.000000
10.900	13.670	0.000000
11.890	13.650	0.000000
12.880	13.620	0.000000
13.870	13.570	0.000000
14.860	13.540	0.000000
15.850	13.510	0.000000
16.840	13.490	0.000000
17.830	13.470	0.000000
18.820	13.450	0.000000
19.810	13.420	0.000000
20.800	13.400	0.000000
21.790	13.400	0.000000
22.780	13.410	0.000000
23.780	13.420	0.000000
24.770	13.450	0.000000
25.760	13.460	0.000000
26.750	13.430	0.000000
27.740	13.410	0.000000
28.730	13.400	0.000000
29.720	13.400	0.000000
30.710	13.390	0.000000
31.700	13.370	0.000000
32.690	13.350	0.000000
33.680	13.350	0.000000
34.670	13.350	0.000000
35.660	13.340	0.000000
36.650	13.310	0.000000
37.640	13.280	0.000000
38.630	13.260	0.000000
39.630	13.250	0.000000
40.620	13.260	0.000000
41.610	13.260	0.000000
42.600	13.250	0.000000
43.590	13.250	0.000000
44.580	13.270	0.000000
45.570	13.270	0.000000
46.560	13.260	0.000000
47.550	13.260	0.000000
48.540	13.270	0.000000
49.530	13.270	0.000000
50.520	13.260	0.000000
51.510	13.250	0.000000
52.500	13.270	0.000000
53.490	13.300	0.000000
54.480	13.320	0.000000
55.480	13.350	0.000000
56.470	13.350	0.000000
57.460	13.360	0.000000
58.450	13.360	0.000000
59.440	13.350	0.000000
60.430	13.310	0.000000
61.420	13.280	0.000000
62.410	13.270	0.000000
63.400	13.270	0.000000
64.390	13.300	0.000000
65.380	13.300	0.000000

66.370	13.300	0.000000
67.360	13.300	0.000000
68.350	13.290	0.000000
69.340	13.280	0.000000
70.330	13.270	0.000000
71.330	13.270	0.000000
72.320	13.260	0.000000
73.310	13.270	0.000000
74.300	13.260	0.000000
75.290	13.270	0.000000
76.280	13.270	0.000000
77.270	13.270	0.000000
78.260	13.270	0.000000
79.250	13.270	0.000000
80.250	13.260	0.000000
81.250	13.240	0.000000
82.250	13.230	0.000000
83.250	13.230	0.000000
84.250	13.230	0.000000
85.240	13.230	0.000000
86.240	13.250	0.000000
87.240	13.270	0.000000
88.240	13.280	0.000000
89.240	13.290	0.000000
90.240	13.290	0.000000
91.240	13.280	0.000000
92.240	13.280	0.000000
93.240	13.280	0.000000
94.240	13.300	0.000000
95.240	13.320	0.000000
96.230	13.300	0.000000
97.230	13.280	0.000000
98.230	13.270	0.000000
99.230	13.270	0.000000
100.230	13.290	0.000000
101.230	13.290	0.000000
102.230	13.310	0.000000
103.230	13.360	0.000000
104.230	13.360	0.000000
105.230	13.340	0.000000
106.220	13.300	0.000000
107.220	13.280	0.000000
108.220	13.270	0.000000
109.220	13.260	0.000000
110.220	13.270	0.000000
111.220	13.270	0.000000
112.220	13.270	0.000000
113.220	13.270	0.000000
114.220	13.270	0.000000
115.220	13.270	0.000000
116.220	13.260	0.000000
117.210	13.250	0.000000
118.210	13.250	0.000000
119.210	13.250	0.000000
120.210	13.250	0.000000
121.210	13.270	0.000000
122.210	13.270	0.000000
123.210	13.270	0.000000
124.210	13.270	0.000000
125.210	13.280	0.000000
126.210	13.270	0.000000
127.200	13.270	0.000000
128.200	13.280	0.000000
129.200	13.290	0.000000
130.200	13.310	0.000000
131.200	13.330	0.000000
132.200	13.350	0.000000
133.200	13.340	0.000000
134.200	13.340	0.000000
135.200	13.320	0.000000
136.200	13.310	0.000000
137.200	13.300	0.000000
138.190	13.280	0.000000
139.190	13.280	0.000000
140.190	13.280	0.000000
141.190	13.280	0.000000
142.190	13.280	0.000000
143.190	13.270	0.000000
144.190	13.260	0.000000
145.190	13.240	0.000000
146.190	13.230	0.000000
147.190	13.230	0.000000
148.180	13.240	0.000000
149.180	13.240	0.000000
150.180	13.220	0.000000
151.180	13.220	0.000000
152.180	13.220	0.000000
153.180	13.220	0.000000
154.180	13.230	0.000000

155.180	13.240	0.000000
156.180	13.250	0.000000
157.180	13.240	0.000000
158.180	13.230	0.000000
159.170	13.250	0.000000
160.170	13.270	0.000000
161.170	13.280	0.000000
162.170	13.260	0.000000
163.170	13.270	0.000000
164.170	13.280	0.000000
165.170	13.300	0.000000
166.170	13.310	0.000000
167.170	13.310	0.000000
168.170	13.300	0.000000
169.170	13.290	0.000000
170.170	13.300	0.000000
171.170	13.310	0.000000
172.170	13.300	0.000000
173.170	13.310	0.000000
174.170	13.300	0.000000
175.170	13.300	0.000000
176.170	13.300	0.000000
177.170	13.300	0.000000
178.170	13.320	0.000000
179.170	13.290	0.000000
180.170	13.280	0.000000
181.170	13.300	0.000000
182.170	13.300	0.000000
183.170	13.300	0.000000
184.170	13.300	0.000000
185.170	13.310	0.000000
186.170	13.290	0.000000
187.170	13.280	0.000000
188.170	13.250	0.000000
189.170	13.250	0.000000
190.170	13.280	0.000000
191.170	13.310	0.000000
192.170	13.320	0.000000
193.170	13.290	0.000000
194.170	13.290	0.000000
195.170	13.280	0.000000
196.170	13.270	0.000000
197.170	13.260	0.000000
198.170	13.250	0.000000
199.170	13.250	0.000000
200.170	13.240	0.000000
201.170	13.270	0.000000
202.160	13.290	0.000000
203.160	13.300	0.000000
204.160	13.290	0.000000
205.160	13.290	0.000000
206.160	13.290	0.000000
207.160	13.280	0.000000
208.160	13.270	0.000000
209.160	13.260	0.000000
210.160	13.260	0.000000
211.160	13.260	0.000000
212.160	13.240	0.000000
213.160	13.230	0.000000
214.160	13.230	0.000000
215.160	13.230	0.000000
216.160	13.240	0.000000
217.160	13.230	0.000000
218.160	13.230	0.000000
219.160	13.240	0.000000
220.160	13.250	0.000000
221.160	13.270	0.000000
222.160	13.340	0.000000
223.160	13.420	0.000000
224.160	13.390	0.000000
225.160	13.350	0.000000
226.160	13.370	0.000000
227.160	13.350	0.000000
228.160	13.370	0.000000
229.160	13.340	0.000000
230.160	13.320	0.000000
231.160	13.290	0.000000
232.160	13.290	0.000000
233.160	13.270	0.000000
234.160	13.240	0.000000
235.160	13.230	0.000000
236.160	13.240	0.000000
237.160	13.250	0.000000
238.160	13.250	0.000000
239.160	13.260	0.000000
240.160	13.260	0.000000
241.160	13.270	0.000000
242.160	13.290	0.000000
243.160	13.300	0.000000

244.160	13.280	0.000000
245.160	13.260	0.000000
246.160	13.250	0.000000
247.160	13.250	0.000000
248.160	13.310	0.000000
249.160	13.290	0.000000
250.160	13.270	0.000000
251.160	13.320	0.000000
252.160	13.380	0.000000
253.160	13.380	0.000000
254.160	13.400	0.000000
255.160	13.440	0.000000
256.160	13.440	0.000000
257.160	13.360	0.000000
258.150	13.310	0.000000
259.150	13.300	0.000000
260.150	13.280	0.000000
261.150	13.280	0.000000
262.150	13.270	0.000000
263.150	13.290	0.000000
264.150	13.300	0.000000
265.150	13.300	0.000000
266.150	13.300	0.000000
267.150	13.300	0.000000
268.150	13.300	0.000000
269.150	13.300	0.000000
270.150	13.310	0.000000
271.150	13.310	0.000000
272.150	13.320	0.000000
273.150	13.340	0.000000
274.150	13.340	0.000000
275.150	13.340	0.000000
276.150	13.340	0.000000
277.150	13.310	0.000000
278.150	13.280	0.000000
279.150	13.300	0.000000
280.150	13.360	0.000000
281.150	13.490	0.000000
282.150	13.620	0.000000
283.150	13.780	0.000000
284.150	13.910	0.000000
285.150	14.010	0.000000
286.150	13.930	0.000000
287.150	13.700	0.000000
288.150	13.860	0.000000
289.150	13.850	0.000000
290.150	13.810	0.000000
291.150	13.790	0.000000
292.150	13.810	0.000000
293.150	13.790	0.000000
294.150	13.830	0.000000
295.150	13.880	0.000000
296.150	13.860	0.000000
297.150	13.770	0.000000
298.150	13.720	0.000000
299.150	13.680	0.000000
300.150	13.670	0.000000
301.150	13.730	0.000000
302.150	13.770	0.000000
303.150	13.700	0.000000
304.130	13.780	0.000000
305.120	13.880	0.000000
306.110	13.890	0.000000
307.100	13.810	0.000000
308.090	13.710	0.000000
309.070	13.680	0.000000
310.060	13.640	0.000000
311.050	13.530	0.000000
312.040	13.540	0.000000
313.020	13.600	0.000000
314.010	13.600	0.000000
315.000	13.590	0.000000
315.990	13.620	0.000000
316.970	13.670	0.000000
317.960	13.710	0.000000
318.950	13.660	0.000000
319.940	13.670	0.000000
320.920	13.640	0.000000
321.910	13.630	0.000000
322.900	13.640	0.000000
323.890	13.540	0.000000
324.880	13.510	0.000000
325.860	13.500	0.000000
326.850	13.490	0.000000
327.840	13.480	0.000000
328.830	13.410	0.000000
329.810	13.410	0.000000
330.800	13.410	0.000000
331.790	13.390	0.000000

332.780	13.380	0.000000
333.760	13.400	0.000000
334.750	13.410	0.000000
335.740	13.420	0.000000
336.730	13.450	0.000000
337.710	13.490	0.000000
338.700	13.570	0.000000
339.690	13.620	0.000000
340.680	13.530	0.000000
341.670	13.440	0.000000
342.650	13.420	0.000000
343.640	13.430	0.000000
344.630	13.470	0.000000
345.620	13.490	0.000000
346.600	13.500	0.000000
347.590	13.510	0.000000
348.580	13.520	0.000000
349.570	13.510	0.000000
350.550	13.510	0.000000
351.540	13.520	0.000000
352.530	13.510	0.000000
353.520	13.520	0.000000
354.500	13.570	0.000000
355.490	13.630	0.000000
356.480	13.580	0.000000
357.470	13.530	0.000000
358.460	13.520	0.000000
359.440	13.510	0.000000
360.430	13.500	0.000000
361.420	13.540	0.000000
362.410	13.560	0.000000
363.390	13.550	0.000000
364.380	13.540	0.000000
365.370	13.540	0.000000
366.360	13.540	0.000000
367.340	13.560	0.000000
368.330	13.570	0.000000
369.320	13.570	0.000000
370.310	13.570	0.000000
371.290	13.590	0.000000
372.280	13.630	0.000000
373.270	13.640	0.000000
374.260	13.630	0.000000
375.250	13.610	0.000000
376.230	13.620	0.000000
377.220	13.660	0.000000
378.210	13.670	0.000000
379.200	13.630	0.000000
380.190	13.580	0.000000
381.180	13.570	0.000000
382.180	13.570	0.000000
383.170	13.560	0.000000
384.160	13.580	0.000000
385.150	13.580	0.000000
386.150	13.550	0.000000
387.140	13.490	0.000000
388.130	13.430	0.000000
389.130	13.420	0.000000
390.120	13.400	0.000000
391.110	13.380	0.000000
392.110	13.380	0.000000
393.100	13.350	0.000000
394.090	13.380	0.000000
395.090	13.390	0.000000
396.080	13.370	0.000000
397.070	13.370	0.000000
398.070	13.400	0.000000
399.060	13.440	0.000000
400.050	13.500	0.000000
401.040	13.540	0.000000
402.040	13.510	0.000000
403.030	13.430	0.000000
404.020	13.370	0.000000
405.020	13.330	0.000000
406.010	13.310	0.000000
407.000	13.300	0.000000
408.000	13.320	0.000000
408.990	13.350	0.000000
409.980	13.390	0.000000
410.980	13.410	0.000000
411.970	13.420	0.000000
412.960	13.430	0.000000
413.960	13.450	0.000000
414.950	13.510	0.000000
415.940	13.540	0.000000
416.930	13.560	0.000000
417.930	13.560	0.000000
418.920	13.570	0.000000
419.910	13.600	0.000000

420.910	13.610	0.000000
421.900	13.570	0.000000
422.890	13.570	0.000000
423.890	13.550	0.000000
424.880	13.560	0.000000
425.870	13.580	0.000000
426.870	13.580	0.000000
427.860	13.580	0.000000
428.850	13.580	0.000000
429.850	13.550	0.000000
430.840	13.540	0.000000
431.830	13.580	0.000000
432.820	13.620	0.000000
433.820	13.640	0.000000
434.810	13.660	0.000000
435.800	13.680	0.000000

Name: X043W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.190	0.000000
0.980	14.180	0.000000
1.970	14.190	0.000000
2.950	14.160	0.000000
3.940	14.130	0.000000
4.920	14.110	0.000000
5.900	14.100	0.000000
6.890	14.100	0.000000
7.870	14.090	0.000000
8.860	14.060	0.000000
9.840	14.040	0.000000
10.830	14.020	0.000000
11.810	14.000	0.000000
12.790	14.000	0.000000
13.780	14.000	0.000000
14.760	14.000	0.000000
15.750	13.990	0.000000
16.730	13.980	0.000000
17.710	13.990	0.000000
18.700	13.970	0.000000
19.680	13.950	0.000000
20.670	13.960	0.000000
21.650	13.970	0.000000
22.630	13.970	0.000000
23.620	13.960	0.000000
24.600	13.940	0.000000
25.590	13.920	0.000000
26.570	13.940	0.000000
27.550	13.940	0.000000
28.540	13.940	0.000000
29.520	13.960	0.000000
30.510	13.960	0.000000
31.490	13.960	0.000000
32.480	13.940	0.000000
33.460	13.910	0.000000
34.440	13.910	0.000000
35.430	13.910	0.000000
36.410	13.890	0.000000
37.400	13.880	0.000000
38.380	13.870	0.000000
39.360	13.850	0.000000
40.350	13.860	0.000000
41.330	13.880	0.000000
42.320	13.870	0.000000
43.300	13.860	0.000000
44.280	13.850	0.000000
45.270	13.830	0.000000
46.250	13.820	0.000000
47.240	13.830	0.000000
48.220	13.830	0.000000
49.210	13.840	0.000000
50.190	13.870	0.000000
51.170	13.880	0.000000
52.160	13.900	0.000000
53.150	13.910	0.000000
54.140	13.910	0.000000
55.140	13.950	0.000000
56.130	14.000	0.000000
57.120	13.970	0.000000
58.110	13.920	0.000000
59.110	13.880	0.000000
60.100	13.860	0.000000
61.090	13.820	0.000000
62.090	13.800	0.000000

63.080	13.800	0.000000
64.070	13.790	0.000000
65.060	13.800	0.000000
66.060	13.800	0.000000
67.050	13.790	0.000000
68.040	13.780	0.000000
69.040	13.790	0.000000
70.030	13.790	0.000000
71.020	13.780	0.000000
72.010	13.760	0.000000
73.010	13.750	0.000000
74.000	13.750	0.000000
74.990	13.770	0.000000
75.990	13.780	0.000000
76.980	13.800	0.000000
77.970	13.770	0.000000
78.970	13.750	0.000000
79.960	13.750	0.000000
80.950	13.750	0.000000
81.940	13.740	0.000000
82.940	13.730	0.000000
83.930	13.710	0.000000
84.920	13.690	0.000000
85.920	13.690	0.000000
86.910	13.700	0.000000
87.900	13.700	0.000000
88.890	13.700	0.000000
89.890	13.720	0.000000
90.880	13.750	0.000000
91.870	13.760	0.000000
92.870	13.770	0.000000
93.860	13.800	0.000000
94.850	13.830	0.000000
95.840	13.830	0.000000
96.840	13.810	0.000000
97.830	13.800	0.000000
98.820	13.760	0.000000
99.820	13.760	0.000000
100.810	13.750	0.000000
101.800	13.740	0.000000
102.790	13.750	0.000000
103.790	13.770	0.000000
104.780	13.820	0.000000
105.770	13.850	0.000000
106.760	13.810	0.000000
107.750	13.750	0.000000
108.730	13.720	0.000000
109.720	13.750	0.000000
110.710	13.810	0.000000
111.700	13.820	0.000000
112.680	13.770	0.000000
113.670	13.710	0.000000
114.660	13.680	0.000000
115.650	13.660	0.000000
116.630	13.660	0.000000
117.620	13.670	0.000000
118.610	13.650	0.000000
119.590	13.640	0.000000
120.580	13.650	0.000000
121.570	13.720	0.000000
122.560	13.800	0.000000
123.540	13.790	0.000000
124.530	13.770	0.000000
125.520	13.770	0.000000
126.510	13.750	0.000000
127.490	13.730	0.000000
128.480	13.750	0.000000
129.470	13.770	0.000000
130.450	13.750	0.000000
131.440	13.730	0.000000
132.430	13.700	0.000000
133.420	13.710	0.000000
134.400	13.720	0.000000
135.390	13.720	0.000000
136.380	13.740	0.000000
137.370	13.780	0.000000
138.350	13.830	0.000000
139.340	13.870	0.000000
140.330	13.850	0.000000
141.310	13.790	0.000000
142.300	13.760	0.000000
143.290	13.730	0.000000
144.280	13.680	0.000000
145.260	13.650	0.000000
146.250	13.630	0.000000
147.240	13.620	0.000000
148.230	13.630	0.000000
149.210	13.620	0.000000
150.200	13.610	0.000000

151.190	13.630	0.000000
152.170	13.630	0.000000
153.160	13.630	0.000000
154.150	13.650	0.000000
155.140	13.670	0.000000
156.120	13.680	0.000000
157.110	13.690	0.000000
158.100	13.690	0.000000
159.090	13.710	0.000000
160.070	13.730	0.000000
161.060	13.740	0.000000
162.050	13.760	0.000000
163.030	13.780	0.000000
164.020	13.830	0.000000
165.010	13.850	0.000000
166.000	13.840	0.000000
166.980	13.800	0.000000
167.970	13.780	0.000000
168.960	13.770	0.000000
169.950	13.760	0.000000
170.930	13.770	0.000000
171.920	13.790	0.000000
172.910	13.820	0.000000
173.890	13.840	0.000000
174.880	13.850	0.000000
175.880	13.830	0.000000
176.870	13.790	0.000000
177.860	13.740	0.000000
178.850	13.720	0.000000
179.840	13.710	0.000000
180.830	13.690	0.000000
181.820	13.670	0.000000
182.810	13.660	0.000000
183.800	13.670	0.000000
184.790	13.670	0.000000
185.780	13.670	0.000000
186.770	13.670	0.000000
187.760	13.670	0.000000
188.750	13.680	0.000000
189.750	13.680	0.000000
190.740	13.670	0.000000
191.730	13.670	0.000000
192.720	13.670	0.000000
193.710	13.660	0.000000
194.700	13.670	0.000000
195.690	13.670	0.000000
196.680	13.660	0.000000
197.670	13.650	0.000000
198.660	13.650	0.000000
199.650	13.660	0.000000
200.640	13.660	0.000000
201.630	13.670	0.000000
202.620	13.680	0.000000
203.610	13.670	0.000000
204.610	13.670	0.000000
205.600	13.660	0.000000
206.590	13.680	0.000000
207.580	13.700	0.000000
208.570	13.720	0.000000
209.560	13.730	0.000000
210.550	13.750	0.000000
211.540	13.790	0.000000
212.530	13.800	0.000000
213.520	13.780	0.000000
214.510	13.750	0.000000
215.500	13.730	0.000000
216.490	13.730	0.000000
217.480	13.730	0.000000
218.480	13.720	0.000000
219.470	13.690	0.000000
220.460	13.680	0.000000
221.450	13.660	0.000000
222.440	13.650	0.000000
223.430	13.630	0.000000
224.420	13.620	0.000000
225.410	13.640	0.000000
226.400	13.680	0.000000
227.390	13.680	0.000000
228.380	13.660	0.000000
229.370	13.670	0.000000
230.360	13.680	0.000000
231.350	13.690	0.000000
232.340	13.710	0.000000
233.340	13.710	0.000000
234.330	13.720	0.000000
235.320	13.710	0.000000
236.310	13.700	0.000000
237.300	13.690	0.000000
238.290	13.720	0.000000

239.280	13.740	0.000000
240.270	13.730	0.000000
241.260	13.710	0.000000
242.250	13.700	0.000000
243.240	13.690	0.000000
244.230	13.720	0.000000
245.220	13.740	0.000000
246.210	13.740	0.000000
247.210	13.720	0.000000
248.200	13.710	0.000000
249.180	13.740	0.000000
250.160	13.750	0.000000
251.140	13.750	0.000000
252.120	13.750	0.000000
253.100	13.760	0.000000
254.090	13.760	0.000000
255.070	13.760	0.000000
256.050	13.770	0.000000
257.030	13.810	0.000000
258.010	13.830	0.000000
259.000	13.840	0.000000
259.980	13.860	0.000000
260.960	13.860	0.000000
261.940	13.840	0.000000
262.920	13.810	0.000000
263.900	13.810	0.000000
264.890	13.820	0.000000
265.870	13.840	0.000000
266.850	13.860	0.000000
267.830	13.900	0.000000
268.810	13.910	0.000000
269.790	13.910	0.000000
270.780	13.910	0.000000
271.760	13.890	0.000000
272.740	13.880	0.000000
273.720	13.890	0.000000
274.700	13.900	0.000000
275.680	13.910	0.000000
276.670	13.920	0.000000
277.650	13.920	0.000000
278.630	13.940	0.000000
279.610	13.950	0.000000
280.590	13.960	0.000000
281.570	13.970	0.000000
282.560	13.950	0.000000
283.540	13.920	0.000000
284.520	13.920	0.000000
285.500	13.930	0.000000
286.480	13.930	0.000000
287.470	13.940	0.000000
288.450	13.950	0.000000
289.430	13.970	0.000000
290.410	13.980	0.000000
291.390	13.990	0.000000
292.390	13.990	0.000000
293.390	13.990	0.000000
294.380	14.000	0.000000
295.380	14.000	0.000000
296.380	14.000	0.000000
297.370	14.010	0.000000
298.370	14.010	0.000000
299.370	14.010	0.000000
300.360	14.010	0.000000
301.360	13.990	0.000000
302.360	13.970	0.000000
303.350	13.970	0.000000
304.350	13.990	0.000000
305.350	14.000	0.000000
306.340	13.980	0.000000
307.340	13.980	0.000000
308.340	13.990	0.000000
309.330	14.000	0.000000
310.330	13.980	0.000000
311.330	13.980	0.000000
312.320	13.990	0.000000
313.320	14.020	0.000000
314.320	14.030	0.000000
315.320	14.010	0.000000
316.310	14.010	0.000000
317.310	14.010	0.000000
318.310	14.010	0.000000
319.300	14.000	0.000000
320.300	14.010	0.000000
321.300	14.060	0.000000
322.290	14.080	0.000000
323.290	14.080	0.000000
324.280	14.080	0.000000
325.270	14.070	0.000000
326.270	14.060	0.000000

327.260	14.050	0.000000
328.260	14.040	0.000000
329.250	14.050	0.000000
330.240	14.050	0.000000
331.240	14.040	0.000000
332.230	14.060	0.000000
333.220	14.090	0.000000
334.220	14.100	0.000000
335.210	14.080	0.000000
336.210	14.080	0.000000
337.200	14.090	0.000000
338.190	14.120	0.000000
339.190	14.170	0.000000
340.180	14.260	0.000000
341.180	14.310	0.000000
342.170	14.220	0.000000
343.160	14.090	0.000000
344.160	13.980	0.000000
345.150	13.930	0.000000
346.140	13.970	0.000000

Name: X044W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.010	0.000000
0.990	14.010	0.000000
1.980	13.970	0.000000
2.970	13.940	0.000000
3.950	13.910	0.000000
4.940	13.900	0.000000
5.930	13.890	0.000000
6.920	13.870	0.000000
7.910	13.850	0.000000
8.900	13.830	0.000000
9.890	13.810	0.000000
10.870	13.800	0.000000
11.860	13.780	0.000000
12.850	13.770	0.000000
13.840	13.750	0.000000
14.830	13.730	0.000000
15.820	13.710	0.000000
16.810	13.690	0.000000
17.790	13.670	0.000000
18.780	13.660	0.000000
19.770	13.650	0.000000
20.760	13.640	0.000000
21.750	13.620	0.000000
22.740	13.600	0.000000
23.730	13.590	0.000000
24.710	13.590	0.000000
25.700	13.580	0.000000
26.690	13.570	0.000000
27.680	13.570	0.000000
28.670	13.570	0.000000
29.660	13.560	0.000000
30.650	13.540	0.000000
31.630	13.550	0.000000
32.620	13.560	0.000000
33.610	13.560	0.000000
34.600	13.560	0.000000
35.590	13.560	0.000000
36.580	13.550	0.000000
37.570	13.530	0.000000
38.560	13.520	0.000000
39.540	13.520	0.000000
40.520	13.520	0.000000
41.500	13.520	0.000000
42.480	13.510	0.000000
43.460	13.510	0.000000
44.440	13.510	0.000000
45.410	13.510	0.000000
46.390	13.510	0.000000
47.370	13.520	0.000000
48.350	13.530	0.000000
49.330	13.540	0.000000
50.300	13.540	0.000000
51.280	13.560	0.000000
52.260	13.570	0.000000
53.240	13.560	0.000000
54.220	13.560	0.000000
55.200	13.570	0.000000
56.170	13.590	0.000000
57.150	13.600	0.000000
58.130	13.600	0.000000

59.110	13.600	0.000000
60.090	13.590	0.000000
61.070	13.590	0.000000
62.040	13.590	0.000000
63.020	13.590	0.000000
64.000	13.590	0.000000
64.980	13.590	0.000000
65.960	13.590	0.000000
66.940	13.580	0.000000
67.910	13.570	0.000000
68.890	13.570	0.000000
69.870	13.550	0.000000
70.850	13.530	0.000000
71.830	13.510	0.000000
72.810	13.500	0.000000
73.780	13.510	0.000000
74.760	13.500	0.000000
75.740	13.500	0.000000
76.720	13.500	0.000000
77.700	13.500	0.000000
78.680	13.500	0.000000
79.670	13.480	0.000000
80.660	13.460	0.000000
81.640	13.440	0.000000
82.630	13.430	0.000000
83.620	13.420	0.000000
84.600	13.410	0.000000
85.590	13.390	0.000000
86.580	13.370	0.000000
87.560	13.370	0.000000
88.550	13.360	0.000000
89.540	13.350	0.000000
90.520	13.340	0.000000
91.510	13.330	0.000000
92.500	13.330	0.000000
93.480	13.330	0.000000
94.470	13.330	0.000000
95.450	13.320	0.000000
96.440	13.310	0.000000
97.430	13.310	0.000000
98.410	13.310	0.000000
99.390	13.320	0.000000
100.370	13.330	0.000000
101.350	13.350	0.000000
102.330	13.350	0.000000
103.310	13.350	0.000000
104.290	13.350	0.000000
105.270	13.350	0.000000
106.250	13.350	0.000000
107.230	13.350	0.000000
108.210	13.330	0.000000
109.200	13.300	0.000000
110.180	13.270	0.000000
111.160	13.280	0.000000
112.140	13.290	0.000000
113.120	13.300	0.000000
114.100	13.330	0.000000
115.080	13.360	0.000000
116.060	13.390	0.000000
117.040	13.420	0.000000
118.020	13.440	0.000000
119.000	13.450	0.000000
119.980	13.440	0.000000
120.960	13.420	0.000000
121.940	13.420	0.000000
122.920	13.420	0.000000
123.900	13.420	0.000000
124.880	13.410	0.000000
125.860	13.410	0.000000
126.840	13.410	0.000000
127.820	13.410	0.000000
128.800	13.420	0.000000
129.780	13.430	0.000000
130.760	13.440	0.000000
131.740	13.450	0.000000
132.720	13.430	0.000000
133.700	13.420	0.000000
134.680	13.440	0.000000
135.660	13.440	0.000000
136.640	13.430	0.000000
137.620	13.430	0.000000
138.600	13.420	0.000000
139.580	13.390	0.000000
140.560	13.370	0.000000
141.540	13.350	0.000000
142.520	13.330	0.000000
143.490	13.320	0.000000
144.450	13.320	0.000000
145.420	13.340	0.000000

146.390	13.340	0.000000
147.360	13.360	0.000000
148.330	13.350	0.000000
149.300	13.350	0.000000
150.270	13.360	0.000000
151.240	13.360	0.000000
152.200	13.340	0.000000
153.170	13.340	0.000000
154.140	13.350	0.000000
155.110	13.360	0.000000
156.080	13.380	0.000000
157.050	13.420	0.000000
158.020	13.440	0.000000
158.980	13.410	0.000000
159.950	13.390	0.000000
160.920	13.390	0.000000
161.890	13.410	0.000000
162.860	13.420	0.000000
163.830	13.440	0.000000
164.800	13.460	0.000000
165.770	13.480	0.000000
166.730	13.500	0.000000
167.700	13.540	0.000000
168.670	13.570	0.000000
169.640	13.590	0.000000
170.610	13.620	0.000000
171.580	13.660	0.000000
172.540	13.690	0.000000
173.510	13.730	0.000000
174.480	13.770	0.000000
175.450	13.820	0.000000
176.420	13.880	0.000000
177.390	13.930	0.000000
178.350	13.990	0.000000
179.320	14.060	0.000000
180.290	14.130	0.000000
181.260	14.220	0.000000
182.230	14.300	0.000000
183.190	14.390	0.000000
184.160	14.460	0.000000
185.130	14.540	0.000000
186.100	14.620	0.000000
187.070	14.710	0.000000
188.040	14.790	0.000000
189.000	14.890	0.000000
189.970	14.990	0.000000
190.940	15.100	0.000000

Name: X045W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	17.460	0.000000
0.950	17.360	0.000000
1.910	17.300	0.000000
2.860	17.250	0.000000
3.810	17.230	0.000000
4.760	17.230	0.000000
5.720	17.230	0.000000
6.670	17.190	0.000000
7.620	17.140	0.000000
8.570	17.100	0.000000
9.530	17.030	0.000000
10.480	16.980	0.000000
11.430	17.000	0.000000
12.380	17.040	0.000000
13.340	17.250	0.000000
14.290	17.640	0.000000
15.240	17.900	0.000000
16.190	17.940	0.000000
17.150	17.810	0.000000
18.100	17.750	0.000000
19.050	17.890	0.000000
20.030	17.990	0.000000
21.010	17.990	0.000000
21.990	17.670	0.000000
22.970	17.010	0.000000
23.950	16.400	0.000000
24.930	16.110	0.000000
25.910	16.020	0.000000
26.890	16.030	0.000000
27.870	15.960	0.000000
28.840	15.900	0.000000
29.820	15.890	0.000000
30.800	15.860	0.000000

31.780	15.760	0.000000
32.760	15.770	0.000000
33.740	15.830	0.000000
34.670	15.900	0.000000
35.600	15.950	0.000000
36.530	15.900	0.000000
37.460	15.870	0.000000
38.390	15.820	0.000000
39.320	15.690	0.000000
40.250	15.690	0.000000
41.180	15.660	0.000000
42.110	15.660	0.000000
43.050	15.720	0.000000
43.980	15.780	0.000000
44.910	15.860	0.000000
45.840	15.890	0.000000
46.770	15.960	0.000000
47.710	16.080	0.000000
48.640	16.230	0.000000
49.570	16.410	0.000000
50.510	16.530	0.000000
51.440	16.570	0.000000
52.380	16.600	0.000000
53.310	16.570	0.000000
54.250	16.540	0.000000
55.180	16.450	0.000000
56.120	16.260	0.000000
57.050	16.080	0.000000
57.980	15.810	0.000000
58.920	15.620	0.000000
59.850	15.550	0.000000
60.850	15.570	0.000000
61.840	15.520	0.000000
62.830	15.430	0.000000
63.830	15.420	0.000000
64.820	15.440	0.000000
65.810	15.490	0.000000
66.810	15.550	0.000000
67.800	15.520	0.000000
68.790	15.450	0.000000
69.790	15.450	0.000000
70.780	15.430	0.000000
71.770	15.410	0.000000
72.770	15.370	0.000000
73.760	15.320	0.000000
74.750	15.270	0.000000
75.740	15.220	0.000000
76.740	15.230	0.000000
77.730	15.270	0.000000
78.720	15.260	0.000000
79.720	15.210	0.000000
80.710	15.170	0.000000
81.700	15.190	0.000000
82.700	15.190	0.000000
83.690	15.180	0.000000
84.680	15.150	0.000000
85.680	15.140	0.000000
86.670	15.140	0.000000
87.660	15.130	0.000000
88.660	15.110	0.000000
89.650	15.130	0.000000
90.640	15.210	0.000000
91.640	15.250	0.000000
92.630	15.300	0.000000
93.620	15.430	0.000000
94.590	15.480	0.000000
95.560	15.430	0.000000
96.540	15.340	0.000000
97.510	15.240	0.000000
98.480	15.210	0.000000
99.450	15.250	0.000000
100.420	15.280	0.000000
101.390	15.250	0.000000
102.360	15.220	0.000000
103.340	15.170	0.000000
104.310	15.100	0.000000
105.280	15.080	0.000000
106.250	15.090	0.000000
107.220	15.120	0.000000
108.190	15.140	0.000000
109.160	15.150	0.000000
110.130	15.130	0.000000
111.110	15.150	0.000000
112.080	15.170	0.000000
113.050	15.180	0.000000
114.020	15.200	0.000000
114.990	15.240	0.000000
115.960	15.280	0.000000
116.930	15.310	0.000000

117.900	15.290	0.000000
118.880	15.250	0.000000
119.850	15.230	0.000000
120.820	15.240	0.000000
121.790	15.240	0.000000
122.790	15.230	0.000000
123.780	15.210	0.000000
124.780	15.170	0.000000
125.770	15.170	0.000000
126.770	15.200	0.000000
127.770	15.210	0.000000
128.760	15.200	0.000000
129.760	15.190	0.000000
130.750	15.220	0.000000
131.750	15.280	0.000000
132.750	15.330	0.000000
133.740	15.340	0.000000
134.740	15.380	0.000000
135.730	15.610	0.000000
136.730	15.950	0.000000
137.720	16.130	0.000000
138.720	16.150	0.000000
139.720	16.000	0.000000
140.710	15.930	0.000000
141.710	16.050	0.000000
142.700	16.160	0.000000
143.700	16.390	0.000000
144.700	16.640	0.000000
145.690	16.910	0.000000
146.690	17.250	0.000000
147.680	17.600	0.000000

Name: X3B Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.000	0.000000
0.980	13.920	0.000000
1.960	13.890	0.000000
2.940	13.860	0.000000
3.920	13.830	0.000000
4.900	13.780	0.000000
5.880	13.740	0.000000
6.860	13.720	0.000000
7.840	13.700	0.000000
8.820	13.650	0.000000
9.800	13.640	0.000000
10.780	13.640	0.000000
11.760	13.640	0.000000
12.740	13.630	0.000000
13.720	13.600	0.000000
14.700	13.590	0.000000
15.680	13.580	0.000000
16.660	13.560	0.000000
17.640	13.560	0.000000
18.620	13.560	0.000000
19.600	13.550	0.000000
20.580	13.550	0.000000
21.560	13.530	0.000000
22.540	13.490	0.000000
23.520	13.460	0.000000
24.500	13.460	0.000000
25.480	13.450	0.000000
26.460	13.430	0.000000
27.420	13.420	0.000000
28.390	13.420	0.000000
29.350	13.420	0.000000
30.320	13.410	0.000000
31.280	13.400	0.000000
32.250	13.390	0.000000
33.210	13.370	0.000000
34.180	13.350	0.000000
35.140	13.360	0.000000
36.110	13.390	0.000000
37.070	13.420	0.000000
38.040	13.450	0.000000
39.000	13.450	0.000000
39.970	13.420	0.000000
40.930	13.410	0.000000
41.900	13.400	0.000000
42.860	13.390	0.000000
43.830	13.360	0.000000
44.790	13.350	0.000000
45.760	13.360	0.000000
46.720	13.360	0.000000

47.690	13.350	0.000000
48.650	13.360	0.000000
49.610	13.380	0.000000
50.580	13.390	0.000000
51.540	13.380	0.000000
52.500	13.370	0.000000
53.470	13.400	0.000000
54.430	13.410	0.000000
55.390	13.420	0.000000
56.350	13.410	0.000000
57.320	13.430	0.000000
58.280	13.430	0.000000
59.240	13.450	0.000000
60.210	13.460	0.000000
61.170	13.460	0.000000
62.130	13.480	0.000000
63.090	13.490	0.000000
64.060	13.510	0.000000
65.020	13.510	0.000000
65.980	13.510	0.000000
66.950	13.500	0.000000
67.910	13.500	0.000000
68.870	13.490	0.000000
69.830	13.470	0.000000
70.800	13.450	0.000000
71.760	13.450	0.000000
72.730	13.480	0.000000
73.690	13.490	0.000000
74.660	13.450	0.000000
75.620	13.400	0.000000
76.590	13.400	0.000000
77.550	13.410	0.000000
78.510	13.390	0.000000
79.480	13.390	0.000000
80.440	13.380	0.000000
81.410	13.360	0.000000
82.370	13.350	0.000000
83.340	13.330	0.000000
84.300	13.300	0.000000
85.270	13.310	0.000000
86.240	13.330	0.000000
87.210	13.320	0.000000
88.180	13.320	0.000000
89.140	13.320	0.000000
90.110	13.290	0.000000
91.080	13.250	0.000000
92.050	13.230	0.000000
93.020	13.220	0.000000
93.990	13.230	0.000000
94.950	13.240	0.000000
95.920	13.240	0.000000
96.890	13.240	0.000000
97.850	13.250	0.000000
98.820	13.270	0.000000
99.780	13.310	0.000000
100.750	13.340	0.000000
101.710	13.340	0.000000
102.670	13.340	0.000000
103.640	13.370	0.000000
104.600	13.340	0.000000
105.570	13.320	0.000000
106.530	13.340	0.000000
107.500	13.370	0.000000
108.460	13.360	0.000000
109.420	13.350	0.000000
110.390	13.350	0.000000
111.350	13.370	0.000000
112.320	13.390	0.000000
113.280	13.430	0.000000
114.240	13.440	0.000000
115.210	13.440	0.000000

==========
==== Operating Tables ==========
==========

Name: Group: BASE
Type: Bottom Clip
Function: Time vs. Depth of Clip

Time(hrs)	Clip Depth(in)

==========
==== Pipes ==========
==========

```
         Name: R001                From Node: 001                Length(ft): 438.00
        Group: BASE                  To Node: BOX_003                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 1.40
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 13.500         10.880                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech and
Construction Plan - Gypsum Stack System Closure, Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 45, 60, and 90 deg Ell


-----------------------------------------------------------------------------------------------
         Name: R007                From Node: 007                Length(ft): 155.00
        Group: BASE                  To Node: 006                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 16.00          16.00                      Entrance Loss Coef: 0.50
     Rise(in): 16.00          16.00                          Exit Loss Coef: 1.00
   Invert(ft): 30.950         30.370                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-----------------------------------------------------------------------------------------------
         Name: R008                From Node: 008A               Length(ft): 132.00
        Group: BASE                  To Node: 007                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 46.400         32.500                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R01                 From Node: 01                 Length(ft): 370.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 48.00          48.00                      Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.830          6.780                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R013                From Node: 013                Length(ft): 62.00
        Group: BASE                  To Node: 007                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 33.300         32.320                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
-----------------------------------------------------------------------------------------------
         Name: R02                 From Node: 02                 Length(ft): 370.00
        Group: BASE                  To Node: 01                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 48.00          48.00                      Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.880          6.830                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R020                From Node: 020                Length(ft): 85.00
        Group: BASE                  To Node: 019                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 19.330         19.820                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
-----------------------------------------------------------------------------------------------
         Name: R03                 From Node: 03                 Length(ft): 118.00
        Group: BASE                  To Node: 02                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                          Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

---

```
         Name: R032A              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.670         13.580                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
         Name: R032B              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.790         13.560                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
         Name: R034               From Node: 034               Length(ft): 93.00
        Group: BASE                 To Node: 035                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 14.00          14.00                      Entrance Loss Coef: 0.50
     Rise(in): 14.00          14.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.350         13.130                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
         Name: R034B              From Node: 034B              Length(ft): 145.00
        Group: BASE                 To Node: 034                    Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.050         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

 Source: 2021 Survey Data by SurvTech for US Inv and Size; and
Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
         Name: R036                From Node: 036                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                          Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                              Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                             Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R037                From Node: 037                Length(ft): 470.00
        Group: BASE                  To Node: 037A                    Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 22.15          22.15                          Entrance Loss Coef: 0.50
     Rise(in): 22.15          22.15                              Exit Loss Coef: 0.00
   Invert(ft): 9.000          8.300                              Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R037A               From Node: 037A               Length(ft): 290.00
        Group: BASE                  To Node: 037B                    Count: 1
                                                               Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                     Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 22.15          22.15                          Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                              Exit Loss Coef: 0.00
   Invert(ft): 8.300          7.820                              Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                         Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                              Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                            Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R037B               From Node: 037B               Length(ft): 220.00
        Group: BASE                  To Node: BASIN_2                  Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                        Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                            Exit Loss Coef: 1.00
   Invert(ft): 7.820          7.500                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R038                From Node: 038                Length(ft): 30.00
        Group: BASE                  To Node: 037                      Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R04                 From Node: 04                 Length(ft): 225.00
        Group: BASE                  To Node: 03                       Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 36.00          36.00                        Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                            Exit Loss Coef: 1.00
   Invert(ft): 7.080          6.980                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R040                From Node: 040                Length(ft): 45.00
        Group: BASE                  To Node: 038                      Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
```

```
   Invert(ft): 13.140         12.510                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R041                From Node: 041                Length(ft): 45.00
        Group: BASE                  To Node: 036                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.160         12.370                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_A              From Node: 042                Length(ft): 40.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.480         13.030                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_B              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.010         13.880                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-------------------------------------------------------------------------------------------------
         Name: R042_C              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
```

```
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 13.640         13.710                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R045                From Node: 045                Length(ft): 62.00
        Group: BASE                  To Node: 046                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 1.00
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 13.500         12.000                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe, 90 deg. ELL at the end


-----------------------------------------------------------------------------------------------
         Name: R046                From Node: 046                Length(ft): 95.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 11.480         9.400                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R05                 From Node: 05                 Length(ft): 205.00
        Group: BASE                  To Node: 02                      Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 42.00          42.00                     Entrance Loss Coef: 0.50
     Rise(in): 42.00          42.00                         Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                         Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

```
-----------------------------------------------------------------------------------------------
         Name: R2                 From Node: 2                 Length(ft): 45.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                       Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                           Exit Loss Coef: 1.00
   Invert(ft): 10.000         9.800                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R3A                From Node: 3                 Length(ft): 70.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                       Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                           Exit Loss Coef: 1.00
   Invert(ft): 11.300         10.300                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe

```
-----------------------------------------------------------------------------------------------
         Name: R4                 From Node: 4                 Length(ft): 34.00
        Group: BASE                 To Node: 1                      Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                  Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 33.00          33.00                       Entrance Loss Coef: 0.50
     Rise(in): 33.00          33.00                           Exit Loss Coef: 1.00
   Invert(ft): 9.330          8.980                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                      Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Existing Pipe in ERP Construction Plan, Allied New Technologies 2 Plant

```
===============================================================================================
==== Channels =================================================================================
===============================================================================================

          Name: R003                From Node: 003                Length(ft): 510.00
         Group: BASE                  To Node: 002                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                 Solution Algorithm: Automatic
    Invert(ft): 25.000         25.000                                   Flow: Both
```

```
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R005                From Node: 005                Length(ft): 569.00
         Group: BASE                  To Node: 004                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R006                From Node: 006                Length(ft): 724.00
         Group: BASE                  To Node: 005                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R011                From Node: 011                Length(ft): 1047.00
         Group: BASE                  To Node: 010                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 48.000         43.900                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
```

```
 Bot Width(ft): 23.400         8.600
  LtSdSlp(h/v): 3.50           3.50
  RtSdSlp(h/v): 3.50           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R012                From Node: 012                Length(ft): 1337.00
         Group: BASE                  To Node: 011                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 53.200         48.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 65.000         40.500
  LtSdSlp(h/v): 3.70           3.50
  RtSdSlp(h/v): 3.60           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R014                From Node: 014                Length(ft): 460.00
         Group: BASE                  To Node: 013                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 34.200         33.000                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R015                From Node: 015                Length(ft): 468.00
         Group: BASE                  To Node: 014                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 35.500         34.200                               Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                   Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                     Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                            Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R017                From Node: 017                Length(ft): 200.00
         Group: BASE                  To Node: 016                     Count: 1
```

```
                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R018                From Node: 018                Length(ft): 672.00
         Group: BASE                  To Node: 017                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R019                From Node: 019                Length(ft): 696.00
         Group: BASE                  To Node: 018                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R021                From Node: 021                Length(ft): 1057.00
         Group: BASE                  To Node: 022                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.300         30.600                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
```

```
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R022                From Node: 022                Length(ft): 762.00
         Group: BASE                  To Node: 023                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.600         29.100                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R024                From Node: 024                Length(ft): 541.00
         Group: BASE                  To Node: 025                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.100         24.600                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R025                From Node: 025                Length(ft): 582.00
         Group: BASE                  To Node: 026                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.600         24.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                        Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                       Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                           Exit Loss Coef: 0.000
     Main XSec:                                              Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                               Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II
```

```
-----------------------------------------------------------------------------------------------------
          Name: R026                From Node: 026                Length(ft): 577.00
         Group: BASE                  To Node: 027                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.000         23.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------------
          Name: R029                From Node: 029                Length(ft): 670.00
         Group: BASE                  To Node: 030                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 15.250         14.700                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R030                From Node: 030                Length(ft): 1035.00
         Group: BASE                  To Node: 031                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 14.700         13.700                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------------
          Name: R031                From Node: 031                Length(ft): 471.00
         Group: BASE                  To Node: 032                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.700         13.300                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
```

```
  Bot Clip(ft): 0.000          0.000                        Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R033                From Node: 033                Length(ft): 287.00
         Group: BASE                  To Node: 034                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.300         13.250                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         20.000
  LtSdSlp(h/v): 4.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R035                From Node: 035                Length(ft): 784.00
         Group: BASE                  To Node: 036                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.000         12.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 13.600         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R039                From Node: 039                Length(ft): 935.00
         Group: BASE                  To Node: 038                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.500         12.500                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 12.800         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00
```

```
Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


==========================================================================================
==== Drop Structures ======================================================================
==========================================================================================

         Name: R0-NE              From Node: 0-NE              Length(ft): 70.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.850                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-NE ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-NW              From Node: 0-NW              Length(ft): 70.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.880                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe

*** Weir 1 of 1 for Drop Structure R0-NW ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-SE              From Node: 0-SE              Length(ft): 80.00
        Group: BASE                 To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.370                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10
```

```
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SE ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 10.350
              Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-SW               From Node: 0-SW               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.080                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SW ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 10.350
              Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R002A               From Node: 002                Length(ft): 125.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                      Entrance Loss Coef: 1.300
   Invert(ft): 13.800         13.800                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
8-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet, butterfly valve, 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R002A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 36.00                       Invert(ft): 17.500
              Rise(in): 36.00                  Control Elev(ft): 17.500


-----------------------------------------------------------------------------------------------
         Name: R002B               From Node: 002                Length(ft): 135.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 22.15          22.15                                  Flow: Both
     Rise(in): 22.15          22.15                     Entrance Loss Coef: 0.500
   Invert(ft): 20.000         13.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 48-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R002B ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
              Rise(in): 48.00                  Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------
         Name: R004                From Node: 004                Length(ft): 75.00
        Group: BASE                  To Node: 003                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.61          16.61                                  Flow: Both
     Rise(in): 16.61          16.61                     Entrance Loss Coef: 0.500
   Invert(ft): 26.000         25.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
18-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R004 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 30.500
              Rise(in): 36.00                  Control Elev(ft): 30.500


-----------------------------------------------------------------------------------------------
         Name: R005B               From Node: 005B               Length(ft): 215.00
        Group: BASE                  To Node: 005                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                  Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.500
   Invert(ft): 69.610         30.950                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

*** Weir 1 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 76.160
              Rise(in): 6.00                   Control Elev(ft): 76.160

*** Weir 2 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 79.410
              Rise(in): 30.00                  Control Elev(ft): 79.410


-----------------------------------------------------------------------------------------------------
         Name: R009                From Node: 009                Length(ft): 217.50
        Group: BASE                  To Node: 008A                    Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                Flow: Both
     Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
   Invert(ft): 72.900         47.100                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration



*** Weir 1 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 80.300
              Rise(in): 6.00                   Control Elev(ft): 80.300

*** Weir 2 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 81.200
              Rise(in): 30.00                  Control Elev(ft): 81.200


-----------------------------------------------------------------------------------------------------
         Name: R010                From Node: 010                Length(ft): 300.00
        Group: BASE                  To Node: 007                    Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                     Entrance Loss Coef: 1.700
   Invert(ft): 38.620         36.500                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

```
Circular Concrete: Square edge w/ headwall

Source:  2021 Survey Data by SurvTech
5.5 ft X 7.0 ft Inlet Box
Pipe DS Invert per Construction Plan - Gypsum Stack System Closure
NGS-S CAP and NGS-N Relief Ditch


*** Weir 1 of 1 for Drop Structure R010 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 84.00                       Invert(ft): 43.900
               Rise(in): 66.00                  Control Elev(ft): 43.900


-----------------------------------------------------------------------------------------------
         Name: R016                From Node: 016                Length(ft): 420.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 15.710         13.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
Type C Inlet with 12-inch DR21 HDPE Pipe


*** Weir 1 of 1 for Drop Structure R016 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 19.000
               Rise(in): 24.00                  Control Elev(ft): 19.000


-----------------------------------------------------------------------------------------------
         Name: R023                From Node: 023                Length(ft): 71.50
        Group: BASE                  To Node: 024                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                  Flow: Both
     Rise(in): 12.00          12.00                      Entrance Loss Coef: 0.500
   Invert(ft): 25.360         25.590                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


*** Weir 1 of 1 for Drop Structure R023 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 30.00                       Invert(ft): 29.480
               Rise(in): 30.00                  Control Elev(ft): 29.480


-----------------------------------------------------------------------------------------------
         Name: R028A               From Node: 028                Length(ft): 100.00
```

```
        Group: BASE                 To Node: 029                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                  Flow: Both
     Rise(in): 7.96           7.96                     Entrance Loss Coef: 1.350
   Invert(ft): 16.630         15.880                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Clousre Phase II
36-inch HDPE Riser with 8-inch DR26 HDPE Pipe, butterfly valve, 45 deg ell


*** Weir 1 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 22.000
              Rise(in): 36.00                  Control Elev(ft): 22.000

*** Weir 2 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 20.500
              Rise(in): 6.00                   Control Elev(ft): 20.500


-------------------------------------------------------------------------------------------------
         Name: R028B               From Node: 028                Length(ft): 170.00
        Group: BASE                 To Node: 029                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 21.17          21.17                                 Flow: Both
     Rise(in): 21.17          21.17                    Entrance Loss Coef: 1.100
   Invert(ft): 20.000         15.800                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Closure Phase II
48-inch HDPE Riser with 24-inch DR17 HDPE Pipe, 3x 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R028B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
              Rise(in): 48.00                  Control Elev(ft): 27.000


-------------------------------------------------------------------------------------------------
         Name: R042                From Node: 042                Length(ft): 25.00
        Group: BASE                 To Node: 037A                   Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.700
   Invert(ft): 9.500          8.790                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
```

```
 Bot Clip(in): 0.000         0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R042 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R042 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R043                From Node: 043                Length(ft): 25.00
        Group: BASE                  To Node: 037B                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.700
   Invert(ft): 8.770          8.320                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R043 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R043 ***
                                                                                TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R1                  From Node: 1                  Length(ft): 75.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.500
   Invert(ft): 8.000          7.200                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
TYpe C Inlet Box with 12-inch DR21 HDPE Pipe



*** Weir 1 of 2 for Drop Structure R1 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 11.000
               Rise(in): 24.00                  Control Elev(ft): 11.000

*** Weir 2 of 2 for Drop Structure R1 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 8.000
               Rise(in): 6.00                   Control Elev(ft): 8.000


-----------------------------------------------------------------------------------------------
         Name: RBASIN_2            From Node: BASIN_2            Length(ft): 95.00
        Group: BASE                  To Node: BOX_001                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.600
   Invert(ft): 2.980          1.960                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Gate valve in the discharge line

*** Weir 1 of 2 for Drop Structure RBASIN_2 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 6.00                        Invert(ft): 6.280
               Rise(in): 6.00                   Control Elev(ft): 6.280

*** Weir 2 of 2 for Drop Structure RBASIN_2 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 37.20                       Invert(ft): 7.280
               Rise(in): 27.60                  Control Elev(ft): 7.280


-----------------------------------------------------------------------------------------------
         Name: RCOLLING_P          From Node: NCOLLING_P         Length(ft): 61.00
        Group: BASE                  To Node: 020                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 15.88          15.88                                Flow: Both
     Rise(in): 15.88          15.88                     Entrance Loss Coef: 0.700
   Invert(ft): 22.500         21.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
```

```
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Drawings - Gypsum Stack Closure - North Cooling Pond
Modified Type "E" Inlet with 18-inch DR-17 HDPE Pipe, 45 deg. Ell


*** Weir 1 of 2 for Drop Structure RCOLLING_P ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Vertical: Mavis           Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 54.00                       Invert(ft): 27.200
               Rise(in): 45.60                  Control Elev(ft): 27.200

*** Weir 2 of 2 for Drop Structure RCOLLING_P ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 54.00                       Invert(ft): 31.000
               Rise(in): 36.00                  Control Elev(ft): 31.000


-----------------------------------------------------------------------------------------------------
         Name: RNGS-N              From Node: NGS-N              Length(ft): 350.00
        Group: BASE                  To Node: 029                    Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 14.73          14.73                                  Flow: None
     Rise(in): 14.73          14.73                      Entrance Loss Coef: 1.600
   Invert(ft): 30.070         28.360                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

No flow in Current (2021) Condition
Source: Gypsum Stack Syatem Closure - Phase I Construction Drawings
18-inch DR-11 HDPE Pipe, 2 butteerfly valves, 1 Tee


*** Weir 1 of 1 for Drop Structure RNGS-N ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 14.73                       Invert(ft): 37.500
               Rise(in): 14.73                  Control Elev(ft): 37.500


-----------------------------------------------------------------------------------------------------
         Name: RNGS-S              From Node: NGS-S              Length(ft): 3000.00
        Group: BASE                  To Node: BOX_003                Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                  Flow: None
     Rise(in): 14.72          14.72                      Entrance Loss Coef: 1.100
   Invert(ft): 31.170         13.300                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

No flow in current (2021) Condition
```

```
Future outlet based on currently installed structure
Source: Construction Plan - Gypsum Stack System Closure
Closure Modifications - OGS and NGS-S Ponds
18-inch DR11 HDPE Pipe with 2 gate values, 90 deg Ell, DS inv inferred - Outfall 3 Top El.

*** Weir 1 of 1 for Drop Structure RNGS-S ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 14.72                       Invert(ft): 36.000
               Rise(in): 14.72                  Control Elev(ft): 36.000


-----------------------------------------------------------------------------------------------------
         Name: RNGS-S_CAP          From Node: NGS-S_CAP          Length(ft): 120.00
        Group: BASE                  To Node: 011                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.10          11.10                                  Flow: Both
     Rise(in): 11.10          11.10                      Entrance Loss Coef: 0.500
   Invert(ft): 54.000         52.300                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
NGS-N CAP and NGS-N Relief Ditch
12-inch DR15.5 HDPE Pipe with Type C Inlet Box


*** Weir 1 of 1 for Drop Structure RNGS-S_CAP ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 56.500
               Rise(in): 24.00                  Control Elev(ft): 56.500


-----------------------------------------------------------------------------------------------------
         Name: ROGS-N              From Node: OGS-N              Length(ft): 600.00
        Group: BASE                  To Node: 020                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                  Flow: None
     Rise(in): 18.00          18.00                      Entrance Loss Coef: 0.500
   Invert(ft): 73.000         23.000                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Inferred Element - No flow current (2021) condition
This outlet needs to be re-designed for the closure

*** Weir 1 of 1 for Drop Structure ROGS-N ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 77.000
               Rise(in): 48.00                  Control Elev(ft): 77.000


-----------------------------------------------------------------------------------------------------
         Name: ROGS-S              From Node: OGS-S              Length(ft): 300.00
        Group: BASE                  To Node: 004                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
```

```
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                  Flow: None
     Rise(in): 18.00          18.00                     Entrance Loss Coef: 0.500
   Invert(ft): 71.000         31.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Inferred Element - No flow current (2021) condition
This outlet needs to be re-designed for the closure

*** Weir 1 of 1 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 75.000
              Rise(in): 36.00                  Control Elev(ft): 75.000


==========================================================================================
==== Weirs ===============================================================================
==========================================================================================

         Name: R008_O              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
                 Invert(ft): 55.200
       Control Elevation(ft): 55.200
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration


-------------------------------------------------------------------------------------------------------
         Name: R008_W              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Circular

                   Span(in): 30.00
                   Rise(in): 30.00
                 Invert(ft): 56.700
       Control Elevation(ft): 56.700
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------------
         Name: R013W               From Node: 013
        Group: BASE                  To Node: 007
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                       XSec: X013W
                 Invert(ft): 38.110
       Control Elevation(ft): 38.110
      Struct Opening Dim(ft): 9999.00
                                        TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-------------------------------------------------------------------------------------------------------
```

```
         Name: R027W               From Node: 027
        Group: BASE                  To Node: 028
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
       Left Side Slope(h/v): 3.00
      Right Side Slope(h/v): 3.00
                  Invert(ft): 23.500
      Control Elevation(ft): 23.500
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
         Name: R040W               From Node: 040
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X040W
                  Invert(ft): 13.170
      Control Elevation(ft): 13.170
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W               From Node: 042
        Group: BASE                  To Node: 040
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W
                  Invert(ft): 13.830
      Control Elevation(ft): 13.830
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W2              From Node: 042
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W2
                  Invert(ft): 13.220
      Control Elevation(ft): 13.220
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R043W               From Node: 043
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X043W
                  Invert(ft): 13.610
      Control Elevation(ft): 13.610
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
```

```
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: R044W               From Node: 044
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X044W
                  Invert(ft): 13.270
       Control Elevation(ft): 13.270
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: R3B                 From Node: 3
        Group: BASE                  To Node: 2
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X3B
                  Invert(ft): 13.220
       Control Elevation(ft): 13.220
      Struct Opening Dim(ft): 9999.00
                                          TABLE
             Bottom Clip(ft): 0.000
                Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
         Name: W_001               From Node: BOX_001
        Group: BASE                  To Node: TW_001
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 38.40
                    Rise(in): 9999.00
                  Invert(ft): 3.000
       Control Elevation(ft): 3.000
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.2 ft wide weir

-----------------------------------------------------------------------------------------------
         Name: W_003               From Node: BOX_003
        Group: BASE                  To Node: TW_003
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                    Span(in): 38.64
                    Rise(in): 9999.00
                  Invert(ft): 7.500
       Control Elevation(ft): 7.500
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.22 ft wide weir

==============================================================================================
==== Hydrology Simulations ===================================================================
==============================================================================================

         Name: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\25YR_24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.50
```

```
Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.70

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

=========================================================================================
==== Routing Simulations ================================================================
=========================================================================================

         Name: 25YR_24HR           Hydrology Sim: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\25YR_24HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes


-----------------------------------------------------------------------------------------------------
         Name: Mean                Hydrology Sim: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\2021_Existing\Mean.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
0-NE	BASE	25YR_24HR	15.11	10.77	13.00	0.0013	345510	12.08	64.21	15.11	4.76
0-NW	BASE	25YR_24HR	14.16	11.17	13.00	0.0016	195589	12.17	35.32	14.16	5.89
0-SE	BASE	25YR_24HR	13.39	10.74	13.00	-0.0500	145704	12.08	28.59	13.39	5.11
0-SW	BASE	25YR_24HR	14.49	11.16	13.00	0.0016	229142	12.25	36.18	13.94	5.87
001	BASE	25YR_24HR	32.58	15.14	18.50	0.0028	404	32.48	8.85	32.58	8.86
002	BASE	25YR_24HR	35.72	25.61	29.00	0.0023	228768	12.00	127.02	35.91	3.56
003	BASE	25YR_24HR	12.04	26.52	29.00	0.0016	7123	12.00	33.05	12.04	32.27
004	BASE	25YR_24HR	12.58	32.47	33.50	0.0017	10034	12.00	24.26	12.58	17.34
005	BASE	25YR_24HR	12.58	32.49	34.00	0.0015	22715	12.00	30.82	13.67	15.73
005B	BASE	25YR_24HR	14.67	79.11	82.00	0.0019	56793	12.00	30.84	14.67	1.55
006	BASE	25YR_24HR	12.59	32.51	33.50	0.0014	12794	12.00	19.46	17.91	12.47
007	BASE	25YR_24HR	16.33	35.48	37.00	0.0026	48254	12.00	34.98	17.99	11.86
008	BASE	25YR_24HR	13.63	56.76	59.50	0.0010	42800	12.00	18.91	13.63	1.40
008A	BASE	25YR_24HR	13.72	47.16	55.50	0.0036	205	13.71	2.50	13.69	2.50
009	BASE	25YR_24HR	14.13	81.26	83.50	0.0006	67263	12.00	18.19	14.13	1.12
01	BASE	25YR_24HR	12.22	10.31	14.48	0.0050	1099	12.20	38.41	12.22	38.36
010	BASE	25YR_24HR	16.89	50.39	76.00	0.0050	26574	12.00	54.72	16.89	7.99
011	BASE	25YR_24HR	16.88	50.39	75.00	0.0025	62567	12.00	62.94	12.03	30.25
012	BASE	25YR_24HR	12.09	53.52	63.00	-0.0005	42067	12.00	22.14	12.09	18.68
013	BASE	25YR_24HR	12.41	36.56	38.50	0.0027	5760	12.00	11.26	12.16	6.12
014	BASE	25YR_24HR	12.41	36.56	39.00	0.0022	8969	12.00	12.29	12.12	4.07
015	BASE	25YR_24HR	12.40	36.58	38.50	-0.0013	3247	12.00	5.16	12.01	3.97
016	BASE	25YR_24HR	30.11	23.43	23.50	0.0018	33722	12.03	19.80	29.97	5.34
017	BASE	25YR_24HR	30.11	23.43	24.00	0.0018	16075	12.06	18.15	12.07	14.03
018	BASE	25YR_24HR	30.10	23.44	24.50	0.0023	25157	12.00	18.96	12.09	13.82
019	BASE	25YR_24HR	30.10	23.44	24.50	0.0029	12858	12.00	11.70	12.10	9.14
02	BASE	25YR_24HR	12.21	10.78	12.48	0.0049	435	12.17	38.52	12.20	38.41
020	BASE	25YR_24HR	24.02	27.34	25.00	0.0042	60252	12.00	32.11	18.35	7.72
021	BASE	25YR_24HR	12.04	36.27	38.00	0.0015	6314	12.00	13.03	12.05	12.17
022	BASE	25YR_24HR	12.53	32.83	34.00	-0.0023	18245	12.00	29.43	11.99	15.83
023	BASE	25YR_24HR	12.54	32.82	32.50	-0.0040	11567	12.00	25.01	12.54	9.26
024	BASE	25YR_24HR	12.12	26.74	29.50	-0.0025	5592	12.00	17.81	12.09	16.03
025	BASE	25YR_24HR	12.13	26.52	29.40	0.0019	12166	12.00	30.18	12.12	26.13
026	BASE	25YR_24HR	12.15	26.13	29.20	0.0017	13130	12.05	39.57	12.13	36.10
027	BASE	25YR_24HR	23.61	26.13	29.00	0.0026	7331	12.09	43.53	12.11	41.25
028	BASE	25YR_24HR	23.65	26.13	28.50	0.0036	485481	12.00	171.39	23.65	3.66
029	BASE	25YR_24HR	12.39	16.41	17.80	0.0047	6459	12.00	9.37	12.05	7.61
03	BASE	25YR_24HR	12.22	10.94	15.13	-0.0049	139	12.25	15.06	12.25	15.08
030	BASE	25YR_24HR	12.66	16.35	17.50	0.0019	19060	12.00	20.04	12.09	12.29
031	BASE	25YR_24HR	12.76	16.31	17.00	0.0021	20675	12.01	20.83	12.15	9.05
032	BASE	25YR_24HR	12.77	16.30	17.00	0.0023	7255	12.06	12.45	12.21	8.62
033	BASE	25YR_24HR	12.86	16.14	16.50	-0.0047	4677	12.08	9.88	13.59	16.91
034	BASE	25YR_24HR	12.86	16.14	17.80	0.0041	5213	13.59	15.31	13.86	6.02
034B	BASE	25YR_24HR	18.91	15.93	16.30	0.0031	178235	12.08	21.71	28.89	1.47
035	BASE	25YR_24HR	12.60	14.76	16.50	0.0014	9513	12.00	10.31	12.59	6.78
036	BASE	25YR_24HR	12.60	14.73	16.50	0.0025	9368	12.00	8.40	12.60	4.59
037	BASE	25YR_24HR	15.66	11.71	19.00	-0.0047	158	12.37	8.21	12.39	8.20
037A	BASE	25YR_24HR	15.85	11.29	11.70	0.0114	148	15.14	9.85	15.19	9.84
037B	BASE	25YR_24HR	16.11	10.59	11.70	0.0049	178	16.11	13.83	16.11	13.83
038	BASE	25YR_24HR	12.31	14.15	16.00	0.0011	9139	12.00	8.12	12.31	3.66
039	BASE	25YR_24HR	12.21	14.28	16.50	-0.0008	8548	12.00	6.96	12.07	4.35
04	BASE	25YR_24HR	12.22	11.12	12.48	0.0049	130	12.25	14.25	12.25	14.26
040	BASE	25YR_24HR	12.57	13.86	16.30	0.0006	71249	12.25	11.92	12.61	10.39
041	BASE	25YR_24HR	12.57	13.86	16.50	0.0006	88994	12.08	13.74	9.44	0.04
042	BASE	25YR_24HR	16.60	13.71	14.00	0.0013	164087	12.08	40.52	12.80	13.64
043	BASE	25YR_24HR	16.60	13.71	13.50	0.0019	237387	12.08	51.92	19.18	0.98
044	BASE	25YR_24HR	16.59	13.71	12.70	0.0015	15515	12.08	12.24	12.09	12.10
045	BASE	25YR_24HR	13.59	14.77	16.00	0.0009	105518	12.08	23.27	13.59	2.45
046	BASE	25YR_24HR	12.80	12.73	13.20	0.0008	5737	12.09	3.79	12.80	2.85
05	BASE	25YR_24HR	12.21	10.90	11.98	0.0037	131	12.17	16.68	12.17	16.61
1	BASE	25YR_24HR	13.23	11.39	13.00	0.0023	31872	12.08	14.12	13.23	5.75
2	BASE	25YR_24HR	12.82	12.05	13.00	0.0016	44120	12.03	27.73	12.23	3.90
3	BASE	25YR_24HR	12.03	13.52	13.20	0.0050	14205	12.00	18.59	12.03	18.01
4	BASE	25YR_24HR	13.23	11.39	11.30	0.0023	4839	12.08	2.27	12.00	0.94
BASIN_2	BASE	25YR_24HR	26.78	9.27	13.00	0.0011	832688	12.00	204.49	26.78	14.55
BOX_001	BASE	25YR_24HR	26.79	4.32	8.10	0.0021	113	26.78	14.55	26.79	14.55
BOX_003	BASE	25YR_24HR	32.59	8.44	12.90	0.0018	479	32.58	8.86	32.59	8.85
LPWS	BASE	25YR_24HR	24.50	20.97	23.50	0.0004	466860	12.00	72.52	0.00	0.00
NCOLLING_P	BASE	25YR_24HR	13.05	29.45	33.00	-0.0184	284696	12.00	145.64	12.06	15.58
NGS-N	BASE	25YR_24HR	24.50	68.46	73.00	0.0003	1400575	12.00	214.32	0.00	0.00
NGS-S	BASE	25YR_24HR	24.50	58.07	74.00	0.0004	2575572	12.00	448.71	0.00	0.00
NGS-S_CAP	BASE	25YR_24HR	12.97	57.18	63.00	0.0005	187233	12.00	51.25	12.97	5.34
OGS-N	BASE	25YR_24HR	24.50	78.14	86.00	0.0006	914668	12.00	218.98	0.00	0.00
OGS-S	BASE	25YR_24HR	24.50	76.84	85.00	0.0008	431638	12.00	145.08	0.00	0.00
TW_001	BASE	25YR_24HR	0.00	1.30	1.30	0.0000	0	26.79	14.55	0.00	0.00
TW_003	BASE	25YR_24HR	0.00	1.30	1.30	0.0000	0	32.59	8.85	0.00	0.00
0-NE	BASE	Mean	24.14	10.42	13.00	0.0013	262315	12.08	27.83	24.14	0.61
0-NW	BASE	Mean	14.04	10.57	13.00	0.0017	110846	12.25	15.33	14.04	3.16
0-SE	BASE	Mean	19.96	10.42	13.00	-0.0500	108327	12.08	12.36	19.96	0.55
0-SW	BASE	Mean	14.27	10.58	13.00	0.0019	123382	12.25	15.63	14.27	3.33
001	BASE	Mean	23.72	14.98	18.50	0.0034	456	23.64	7.54	23.49	7.54
002	BASE	Mean	26.61	21.75	29.00	0.0019	173504	12.00	62.96	33.55	2.97
003	BASE	Mean	12.12	26.24	29.00	0.0018	6754	12.07	21.49	12.12	20.68
004	BASE	Mean	12.35	31.24	33.50	0.0011	7984	12.10	16.20	12.35	15.00
005	BASE	Mean	12.35	31.38	34.00	0.0014	18385	12.08	16.77	12.36	13.24
005B	BASE	Mean	13.57	78.01	82.00	0.0025	30778	12.00	13.67	13.57	1.19
006	BASE	Mean	12.36	31.45	33.50	0.0015	10521	12.05	10.61	16.56	9.01
007	BASE	Mean	16.79	33.81	37.00	-0.0032	38304	12.00	20.56	16.79	8.79
008	BASE	Mean	13.62	55.99	59.50	0.0010	31683	12.00	8.38	13.62	0.69
008A	BASE	Mean	13.99	46.85	55.50	0.0032	196	13.94	1.08	13.94	1.08
009	BASE	Mean	15.58	80.80	83.50	0.0006	52761	12.00	8.06	15.58	0.39
01	BASE	Mean	12.29	9.23	14.48	0.0038	1550	12.26	19.83	12.29	19.75
010	BASE	Mean	13.75	48.30	76.00	0.0050	19195	12.08	29.29	13.75	7.33
011	BASE	Mean	12.37	48.69	75.00	0.0011	49165	12.02	28.93	12.15	19.58
012	BASE	Mean	12.11	53.39	63.00	0.0004	40915	12.00	10.61	12.11	8.33
013	BASE	Mean	12.31	35.28	38.50	0.0033	4021	12.00	6.87	12.31	4.52
014	BASE	Mean	12.31	35.33	39.00	-0.0021	5721	12.00	6.12	12.05	3.45
015	BASE	Mean	12.09	35.97	38.50	0.0009	2132	12.00	2.47	12.05	2.21
016	BASE	Mean	21.72	21.43	23.50	0.0017	26366	12.10	10.21	21.56	4.72
017	BASE	Mean	21.72	21.43	24.00	0.0020	10841	12.12	9.20	12.27	8.42
018	BASE	Mean	21.69	21.44	24.50	0.0027	16965	12.03	10.07	12.32	7.97
019	BASE	Mean	21.64	21.45	24.50	0.0028	8699	15.02	7.56	15.05	7.15

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
02	BASE	Mean	12.28	9.50	12.48	0.0037	1254	12.24	19.94	12.26	19.83
020	BASE	Mean	15.43	25.05	25.00	0.0049	46150	12.00	22.59	15.02	7.43
021	BASE	Mean	12.06	35.96	38.00	0.0012	5023	12.00	6.25	12.08	5.76
022	BASE	Mean	12.18	31.54	34.00	0.0018	11879	12.00	13.80	12.10	10.61
023	BASE	Mean	12.42	31.12	32.50	-0.0035	7885	12.08	14.44	12.42	7.94
024	BASE	Mean	12.13	26.30	29.50	-0.0031	4833	12.00	11.76	12.10	10.95
025	BASE	Mean	12.17	25.96	29.40	-0.0027	10292	12.01	17.47	12.16	14.92
026	BASE	Mean	12.22	25.48	29.20	0.0024	10706	12.08	20.90	12.22	18.79
027	BASE	Mean	17.63	25.10	29.00	0.0014	5561	12.14	21.48	12.19	21.36
028	BASE	Mean	17.65	25.10	28.50	0.0042	219591	12.00	82.02	17.65	3.46
029	BASE	Mean	12.11	16.05	17.80	0.0017	5413	12.00	5.92	12.09	5.43
03	BASE	Mean	12.27	9.55	15.13	-0.0049	476	12.25	7.88	12.26	7.84
030	BASE	Mean	12.28	15.65	17.50	0.0016	14628	12.00	11.20	12.18	7.89
031	BASE	Mean	12.91	15.27	17.00	0.0022	15436	12.08	11.35	12.31	6.32
032	BASE	Mean	12.95	15.25	17.00	0.0021	5537	12.23	7.25	12.39	5.97
033	BASE	Mean	14.61	15.18	16.50	0.0049	3742	12.33	6.29	20.66	8.00
034	BASE	Mean	14.99	15.17	17.80	-0.0041	4350	20.66	8.80	14.99	4.90
034B	BASE	Mean	16.63	15.21	16.30	0.0026	95225	12.17	9.44	48.01	0.81
035	BASE	Mean	15.64	14.18	16.50	0.0015	8139	12.08	5.48	15.51	5.00
036	BASE	Mean	15.66	14.11	16.50	0.0027	7931	12.02	4.97	15.66	3.59
037	BASE	Mean	12.73	10.22	19.00	0.0022	551	12.72	5.51	5.35	7.72
037A	BASE	Mean	12.82	9.63	11.70	0.0114	785	5.35	7.72	12.80	6.35
037B	BASE	Mean	12.86	9.37	11.70	0.0024	533	12.84	6.94	12.86	6.93
038	BASE	Mean	12.56	13.52	16.00	0.0014	7510	12.05	4.56	12.54	2.24
039	BASE	Mean	12.15	13.91	16.50	0.0008	7273	12.00	3.34	12.11	2.27
04	BASE	Mean	12.27	9.60	12.48	0.0050	358	12.25	7.49	12.25	7.46
040	BASE	Mean	14.04	13.73	16.30	0.0006	62170	12.33	5.16	13.84	1.64
041	BASE	Mean	14.05	13.73	16.50	0.0006	80766	12.25	6.45	51.34	0.44
042	BASE	Mean	17.58	12.90	14.00	0.0011	106999	12.08	17.69	17.58	0.92
043	BASE	Mean	24.64	12.87	13.50	0.0007	170259	12.08	22.77	40.23	0.77
044	BASE	Mean	12.10	13.45	12.70	0.0018	9550	12.08	5.36	12.10	5.24
045	BASE	Mean	13.26	14.27	16.00	0.0009	64870	12.08	10.26	13.25	1.37
046	BASE	Mean	13.16	12.25	13.20	0.0008	4302	12.33	1.66	13.12	1.49
05	BASE	Mean	12.27	9.54	11.98	-0.0038	429	12.17	8.76	12.23	8.61
1	BASE	Mean	14.73	10.73	13.00	0.0026	27163	12.15	9.25	14.73	1.34
2	BASE	Mean	12.72	10.99	13.00	0.0011	23434	12.08	6.60	12.97	2.04
3	BASE	Mean	12.19	13.34	13.20	0.0050	11235	12.00	8.21	12.19	5.15
4	BASE	Mean	14.74	10.73	11.30	0.0019	3361	12.08	1.00	12.15	1.29
BASIN_2	BASE	Mean	24.70	7.71	13.00	0.0008	686222	12.00	106.64	24.70	10.31
BOX_001	BASE	Mean	24.70	4.05	8.10	0.0010	113	24.70	10.31	24.70	10.31
BOX_003	BASE	Mean	23.70	8.35	12.90	0.0022	495	23.49	7.54	23.70	7.54
LPWS	BASE	Mean	24.50	20.63	23.50	0.0003	464373	12.00	40.10	0.00	0.00
NCOLLING_P	BASE	Mean	12.50	28.69	33.00	-0.0110	171264	12.00	64.56	12.50	15.38
NGS-N	BASE	Mean	24.50	68.12	73.00	0.0003	1396033	12.00	118.49	0.00	0.00
NGS-S	BASE	Mean	24.50	57.68	74.00	0.0003	2569898	12.00	248.08	0.00	0.00
NGS-S_CAP	BASE	Mean	12.59	56.78	63.00	0.0004	161240	12.00	22.72	12.59	4.50
OGS-N	BASE	Mean	24.50	77.60	86.00	0.0004	899590	12.00	118.27	0.00	0.00
OGS-S	BASE	Mean	24.50	76.04	85.00	0.0008	381026	12.00	78.36	0.00	0.00
TW_001	BASE	Mean	0.00	1.30	1.30	0.0000	0	24.70	10.31	0.00	0.00
TW_003	BASE	Mean	0.00	1.30	1.30	0.0000	0	23.70	7.54	0.00	0.00

```
==========================================================================================
==== Basins ==============================================================================
==========================================================================================

         Name: B0-NE                    Node: 0-NE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 15.29
            Area(ac): 18.110                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-NW                    Node: 0-NW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 24.38
            Area(ac): 12.592                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SE                    Node: 0-SE                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 16.04
            Area(ac): 8.242                      Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B0-SW                    Node: 0-SW                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 27.75
            Area(ac): 13.732                     Time Shift(hrs): 0.00
         Curve Number: 80.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B002                     Node: 002                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 16.907                     Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B003                     Node: 003                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.962                      Time Shift(hrs): 0.00
         Curve Number: 85.00               Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-------------------------------------------------------------------------------------------
         Name: B004                     Node: 004                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
```

```
              Area(ac): 1.743                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005                     Node: 005                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.331                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B005B                    Node: 005B                   Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 5.877                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B006                     Node: 006                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 2.121                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B007                     Node: 007                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.711                  Time Shift(hrs): 0.00
           Curve Number: 85.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B008                     Node: 008                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.603                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B009                     Node: 009                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
              Area(ac): 3.465                  Time Shift(hrs): 0.00
           Curve Number: 80.00              Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B010                     Node: 010                    Status: Onsite
        Group: BASE                     Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
```

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         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 4.399                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B011                    Node: 011                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 7.248                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B012                    Node: 012                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 3.931                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B013                    Node: 013                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.297                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B014                    Node: 014                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.479                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B015                    Node: 015                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 0.916                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B016                    Node: 016                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
             Area(ac): 1.101                   Time Shift(hrs): 0.00
         Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
              DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B017                    Node: 017                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.869                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B018                    Node: 018                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.810                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B019                    Node: 019                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.965                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B02                     Node: 02                     Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.45
            Area(ac): 1.874                    Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B020                    Node: 020                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.936                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B021                    Node: 021                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.314                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------------
        Name: B022                    Node: 022                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                  Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 3.146                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


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        Name: B023                    Node: 023                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.632                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B024                    Node: 024                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.694                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B025                    Node: 025                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.608                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B026                    Node: 026                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 2.765                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B027                    Node: 027                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.700                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B028                    Node: 028                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 24.355                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-------------------------------------------------------------------------------------------
        Name: B029                    Node: 029                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.051                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

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-----------------------------------------------------------------------------------------------------
        Name: B03                     Node: 03                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.219                    Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B030                    Node: 030                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 2.234                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B031                    Node: 031                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 1.636                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B032                    Node: 032                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.724                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B033                    Node: 033                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.318                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034                    Node: 034                   Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
            Area(ac): 0.586                    Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------------
        Name: B034B                   Node: 034B                  Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                    Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                Time of Conc(min): 17.90
            Area(ac): 6.673                    Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00
```

```
-----------------------------------------------------------------------------------------------
        Name: B035                    Node: 035                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.909                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B036                    Node: 036                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.755                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B038                    Node: 038                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 0.886                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B039                    Node: 039                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                   Peaking Factor: 484.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 10.00
            Area(ac): 1.236                     Time Shift(hrs): 0.00
        Curve Number: 85.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B04                     Node: 04                     Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 27.56
            Area(ac): 4.524                     Time Shift(hrs): 0.00
        Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B040                    Node: 040                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 31.64
            Area(ac): 4.868                     Time Shift(hrs): 0.00
        Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: B041                    Node: 041                    Status: Onsite
       Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                   Peaking Factor: 256.0
         Rainfall File:                     Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                 Time of Conc(min): 18.58
            Area(ac): 5.137                     Time Shift(hrs): 0.00
```

```
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042_B                  Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 11.27
             Area(ac): 2.239                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B042A                   Node: 042                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 13.56
             Area(ac): 8.431                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B043                    Node: 043                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 9.704                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B044                    Node: 044                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 12.33
             Area(ac): 3.148                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B045                    Node: 045                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 5.663                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B046                    Node: 046                    Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000               Time of Conc(min): 10.00
             Area(ac): 0.465                  Time Shift(hrs): 0.00
          Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
               DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B05                     Node: 05                     Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh256                  Peaking Factor: 256.0
         Rainfall File:                   Storm Duration(hrs): 0.00
```

```
    Rainfall Amount(in): 0.000                Time of Conc(min): 24.88
               Area(ac): 5.013                  Time Shift(hrs): 0.00
           Curve Number: 93.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B1                      Node: 1                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 1.344                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B2                      Node: 2                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 3.486                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B3                      Node: 3                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.93
               Area(ac): 3.600                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: B4                      Node: 4                      Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh256                   Peaking Factor: 256.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 0.553                  Time Shift(hrs): 0.00
           Curve Number: 80.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BBASIN_2                Node: BASIN_2                Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 26.822                 Time Shift(hrs): 0.00
           Curve Number: 95.00             Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BLPWS                   Node: LPWS                   Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN

        Unit Hydrograph: Uh484                   Peaking Factor: 484.0
          Rainfall File:                     Storm Duration(hrs): 0.00
    Rainfall Amount(in): 0.000                Time of Conc(min): 10.00
               Area(ac): 11.656                 Time Shift(hrs): 0.00
           Curve Number: 100.00            Max Allowable Q(cfs): 999999.000
                DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
         Name: BNCOLLING_P             Node: NCOLLING_P             Status: Onsite
        Group: BASE                    Type: SCS Unit Hydrograph CN
```

```
       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 27.750                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-N                    Node: NGS-N                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 34.446                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S                    Node: NGS-S                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 48.890                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S2                   Node: NGS-S2                  Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.230                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BNGS-S_CAP                Node: NGS-S_CAP               Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 9.766                      Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-N                    Node: OGS-N                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 35.637                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


-----------------------------------------------------------------------------------------------
        Name: BOGS-S                    Node: OGS-S                   Status: Onsite
       Group: BASE                      Type: SCS Unit Hydrograph CN

       Unit Hydrograph: Uh484                    Peaking Factor: 484.0
         Rainfall File:                       Storm Duration(hrs): 0.00
   Rainfall Amount(in): 0.000                   Time of Conc(min): 10.00
             Area(ac): 23.611                     Time Shift(hrs): 0.00
        Curve Number: 80.00                 Max Allowable Q(cfs): 999999.000
             DCIA(%): 0.00


===============================================================================================
==== Nodes ====================================================================================
```

==========

Name: 0-NE Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.700	0.0000
9.700	1.9353
10.700	7.5750
11.700	12.8416
12.700	15.7512
13.700	16.5189
14.700	16.7168
15.700	16.8417
16.700	16.9569
17.700	17.0643
18.700	17.1677
19.700	17.2726
20.700	17.3781
21.700	17.4871
22.700	17.5933
23.700	17.6920
24.700	17.8044
25.700	18.0903
26.700	18.1110
27.520	18.1114

Name: 0-NW Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.960	0.0000
9.960	0.9966
10.960	3.5226
11.960	8.0966
12.960	11.8522
13.960	12.5666
14.960	12.5930
15.370	12.5931

Name: 0-SE Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
0.000	0.0000
9.050	0.0001
10.050	1.4902
11.050	4.1887
12.050	6.2550
13.050	7.0393
14.050	7.2425
15.050	7.3425
16.050	7.4203
17.050	7.4910
18.050	7.5614
19.050	7.6287
20.050	7.6934
21.050	7.7614
22.050	7.8276
23.050	7.8972
24.050	7.9633
25.050	8.0819
26.050	8.2410
26.690	8.2417

Name: 0-SW Base Flow(cfs): 0.000 Init Stage(ft): 9.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
8.820	0.0000

9.820	0.7520
10.820	3.4854
11.820	8.6541
12.820	12.7281
13.820	13.6629
14.820	13.7300
15.290	13.7303

Name: 001 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 18.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 002 Base Flow(cfs): 0.000 Init Stage(ft): 17.500
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)
16.480	0.0000
17.480	0.8465
18.480	2.3918
19.480	3.0914
20.480	3.4540
21.480	3.7725
22.480	4.0917
23.480	4.4203
24.480	4.7447
25.480	5.0727
26.480	5.3905
27.480	5.7169
28.480	6.0806
29.480	6.4178
30.480	6.6524
31.480	6.8462
32.480	7.0136
33.480	7.1677
34.480	7.3151
35.480	7.4683
36.480	7.6192
37.480	7.7618
38.480	7.8991
39.480	8.0352
40.480	8.1720
41.480	8.3092
42.480	8.4576
43.480	8.6048
44.480	8.7601
45.480	8.9182
46.480	9.0779
47.480	9.2334
48.480	9.3936
49.480	9.5514
50.480	9.7137
51.480	9.8738
52.480	10.0354
53.480	10.1966
54.480	10.3568
55.480	10.5164
56.480	10.6740
57.480	10.8303
58.480	10.9867
59.480	11.1417
60.480	11.3013
61.480	11.4644
62.480	11.6300
63.480	11.7923
64.480	11.9512
65.480	12.1116
66.480	12.2753
67.480	12.4394
68.480	12.6036
69.480	12.7660
70.480	12.9301
71.480	13.0910
72.480	13.2507
73.480	13.4117
74.480	13.5715
75.480	13.7473
76.480	13.9285
77.480	14.0981

78.480	14.2643
79.480	14.4300
80.480	14.5995
81.480	14.7764
82.480	14.9779
83.480	15.1728
84.480	15.2790
85.480	15.4114
86.480	16.2870
87.480	16.4206
88.480	16.5302
89.480	16.6528
90.480	16.7484
91.480	16.8595
92.480	16.9005
93.240	16.9095

Name: 003 Base Flow(cfs): 0.000 Init Stage(ft): 25.000
Group: BASE Warn Stage(ft): 29.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 004 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 005 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 34.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 005B Base Flow(cfs): 0.000 Init Stage(ft): 76.160
Group: BASE Warn Stage(ft): 82.000
Type: Stage/Area

Stage(ft)	Area(ac)
75.460	0.0000
76.460	0.2122
77.460	0.4066
78.460	0.9553
79.460	1.4878
80.460	2.0940
81.460	2.7105
82.460	3.3906
83.460	4.0673
84.460	4.6060
85.460	4.8908
86.460	5.0713
87.460	5.3024
88.460	5.6746
89.460	5.7884
90.460	5.8467
91.460	5.8746
92.460	5.8764
92.610	5.8764

Name: 006 Base Flow(cfs): 0.000 Init Stage(ft): 30.500
Group: BASE Warn Stage(ft): 33.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 007 Base Flow(cfs): 0.000 Init Stage(ft): 30.950
Group: BASE Warn Stage(ft): 37.000

Type: Stage/Area

Stage(ft)	Area(ac)
29.700	0.0003
30.700	0.2348
31.700	0.5205
32.700	0.7105
33.700	0.8616
34.700	1.0000
35.700	1.1362
36.700	1.4003
37.700	1.6724
38.700	1.7573
39.700	1.8290
40.700	1.9013
41.700	1.9713
42.700	2.0374
43.700	2.1024
44.700	2.1734
45.700	2.2410
46.700	2.3106
47.700	2.3764
48.700	2.4462
49.700	2.5108
50.700	2.5756
51.700	2.6441
52.700	2.7113
53.700	2.7789
54.700	2.8459
55.700	2.9146
56.700	2.9823
57.700	3.0489
58.700	3.1217
59.700	3.2305
60.700	3.3445
61.700	3.4190
62.700	3.4429
63.700	3.4561
64.700	3.4667
65.700	3.4766
66.700	3.4868
67.700	3.4979
68.700	3.5085
69.700	3.5185
70.700	3.5286
71.700	3.5386
72.700	3.5516
73.700	3.5639
74.700	3.5748
75.700	3.6119
76.700	3.6998
77.700	3.7083
78.400	3.7110

Name: 008 Base Flow(cfs): 0.000 Init Stage(ft): 55.200
Group: BASE Warn Stage(ft): 59.500
Type: Stage/Area

Stage(ft)	Area(ac)
53.880	0.0000
54.880	0.2202
55.880	0.6918
56.880	1.0233
57.880	1.1896
58.880	1.3431
59.880	1.5155
60.880	1.6559
61.880	1.7608
62.880	1.8412
63.880	1.9170
64.880	1.9969
65.880	2.0717
66.880	2.1443
67.880	2.2175
68.880	2.2852
69.880	2.3524
70.880	2.4193
71.880	2.4892
72.880	2.5566
73.880	2.6226
74.880	2.6915
75.880	2.7537

76.880	2.8407
77.880	2.9242
78.880	3.0003
79.880	3.0654
80.880	3.1295
81.880	3.1944
82.880	3.2869
83.880	3.5208
84.880	3.5931
85.880	3.6024
86.170	3.6026

Name: 008A Base Flow(cfs): 0.000 Init Stage(ft): 46.400
Group: BASE Warn Stage(ft): 55.500
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 009 Base Flow(cfs): 0.000 Init Stage(ft): 80.300
Group: BASE Warn Stage(ft): 83.500
Type: Stage/Area

Stage(ft)	Area(ac)
78.970	0.0000
79.970	0.4152
80.970	1.3790
81.970	1.9540
82.970	2.2372
83.970	2.4893
84.970	2.6691
85.970	2.8333
86.970	3.1062
87.970	3.4281
88.970	3.4642
89.970	3.4655
90.360	3.4657

Name: 01 Base Flow(cfs): 0.000 Init Stage(ft): 6.830
Group: BASE Warn Stage(ft): 14.480
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 010 Base Flow(cfs): 0.000 Init Stage(ft): 43.900
Group: BASE Warn Stage(ft): 76.000
Type: Stage/Area

Liner El. = 54.0 per construction plan

Stage(ft)	Area(ac)

Name: 011 Base Flow(cfs): 0.000 Init Stage(ft): 48.000
Group: BASE Warn Stage(ft): 75.000
Type: Stage/Area

Liner El. = 54.0 per construction plan

Stage(ft)	Area(ac)

Name: 012 Base Flow(cfs): 0.000 Init Stage(ft): 53.200
Group: BASE Warn Stage(ft): 63.000
Type: Stage/Area

Liner El. = 57.2 per construction plan

Stage(ft)	Area(ac)

Name: 013 Base Flow(cfs): 0.000 Init Stage(ft): 33.300
Group: BASE Warn Stage(ft): 38.500
Type: Stage/Area

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 014                 Base Flow(cfs): 0.000          Init Stage(ft): 34.200
     Group: BASE                                               Warn Stage(ft): 39.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 015                 Base Flow(cfs): 0.000          Init Stage(ft): 35.500
     Group: BASE                                               Warn Stage(ft): 38.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 016                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 23.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         17.610          0.0000
         18.610          0.3218
         19.610          0.4302
         20.610          0.5008
         21.610          0.5593
         22.610          0.6294
         23.610          0.7030
         24.610          0.8875
         25.610          0.9387
         26.610          0.9532
         27.610          0.9690
         28.610          0.9928
         29.480          1.1002
-------------------------------------------------------------------------------------------
      Name: 017                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 018                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 019                 Base Flow(cfs): 0.000          Init Stage(ft): 19.000
     Group: BASE                                               Warn Stage(ft): 24.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 02                  Base Flow(cfs): 0.000          Init Stage(ft): 6.880
     Group: BASE                                               Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
```

```
-------------------------------------------------------------------------------------------
      Name: 020                 Base Flow(cfs): 0.000          Init Stage(ft): 19.820
     Group: BASE                                               Warn Stage(ft): 25.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         18.630          0.0000
         19.630          0.0914
         20.630          0.2376
         21.630          0.4010
         22.630          0.6186
         23.630          0.8277
         24.630          0.9948
         25.630          1.1502
         26.630          1.2915
         27.630          1.4197
         28.630          1.5445
         29.630          1.6686
         30.630          1.7981
         31.630          1.9240
         32.630          2.0286
         33.630          2.3002
         34.630          2.4753
         35.630          2.5440
         36.630          2.6354
         37.630          2.8971
         38.630          2.9365
         38.900          2.9369

-------------------------------------------------------------------------------------------
      Name: 021                 Base Flow(cfs): 0.000          Init Stage(ft): 35.300
     Group: BASE                                               Warn Stage(ft): 38.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 022                 Base Flow(cfs): 0.000          Init Stage(ft): 30.600
     Group: BASE                                               Warn Stage(ft): 34.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 023                 Base Flow(cfs): 0.000          Init Stage(ft): 29.480
     Group: BASE                                               Warn Stage(ft): 32.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 024                 Base Flow(cfs): 0.000          Init Stage(ft): 25.100
     Group: BASE                                               Warn Stage(ft): 29.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 025                 Base Flow(cfs): 0.000          Init Stage(ft): 24.600
     Group: BASE                                               Warn Stage(ft): 29.400
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 026                 Base Flow(cfs): 0.000          Init Stage(ft): 24.000
     Group: BASE                                               Warn Stage(ft): 29.200
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 027                 Base Flow(cfs): 0.000          Init Stage(ft): 23.500
     Group: BASE                                               Warn Stage(ft): 29.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 028                 Base Flow(cfs): 0.000          Init Stage(ft): 20.500
     Group: BASE                                               Warn Stage(ft): 28.500
      Type: Stage/Area

Storage below LIDAR El. 25.3 estimated from the Design

      Stage(ft)        Area(ac)
--------------- ---------------
         20.500          0.1000
         25.000          2.6500
         25.300          9.7042
         26.300         11.4477
         27.300         12.0331
         28.300         12.6026
         29.300         13.3008
         30.300         13.5739
         31.300         13.8299
         32.300         14.1049
         33.300         14.3780
         34.300         14.6358
         35.300         14.8904
         36.300         15.1472
         37.300         15.4050
         38.300         15.6724
         39.300         15.9405
         40.300         16.2058
         41.300         16.4608
         42.300         16.7007
         43.300         16.9338
         44.300         17.1620
         45.300         17.4048
         46.300         17.6509
         47.300         17.8896
         48.300         18.1348
         49.300         18.3722
         50.300         18.6043
         51.300         18.8395
         52.300         19.0622
         53.300         19.2821
         54.300         19.5003
         55.300         19.7247
         56.300         19.9467
         57.300         20.1671
         58.300         20.3885
         59.300         20.6070
         60.300         20.8241
         61.300         21.0444
         62.300         21.2632
         63.300         21.5239
         64.300         22.0542
         65.300         22.2391
         66.300         22.4196
         67.300         22.5921
         68.300         22.7528
         69.300         22.9029
         70.300         23.0388
         71.300         23.1711
         72.300         23.3306
         73.300         23.7533
         74.300         24.2280
         75.300         24.3146
         76.170         24.3501

-------------------------------------------------------------------------------------------
      Name: 029                 Base Flow(cfs): 0.000          Init Stage(ft): 15.250
     Group: BASE                                               Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 03                  Base Flow(cfs): 0.000          Init Stage(ft): 6.980
```

```
     Group: BASE                                            Warn Stage(ft): 15.130
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 030                Base Flow(cfs): 0.000         Init Stage(ft): 14.700
     Group: BASE                                            Warn Stage(ft): 17.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 031                Base Flow(cfs): 0.000         Init Stage(ft): 13.700
     Group: BASE                                            Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 032                Base Flow(cfs): 0.000         Init Stage(ft): 13.670
     Group: BASE                                            Warn Stage(ft): 17.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 033                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 034                Base Flow(cfs): 0.000         Init Stage(ft): 13.350
     Group: BASE                                            Warn Stage(ft): 17.800
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 034B               Base Flow(cfs): 0.000         Init Stage(ft): 14.000
     Group: BASE                                            Warn Stage(ft): 16.300
      Type: Stage/Area

Bottom contour areas for the closure.

      Stage(ft)        Area(ac)
--------------- ---------------
         14.000          1.6600
         15.000          4.1900
         16.000          4.6000
         18.000          4.7000

-------------------------------------------------------------------------------------
      Name: 035                Base Flow(cfs): 0.000         Init Stage(ft): 13.000
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------
      Name: 036                Base Flow(cfs): 0.000         Init Stage(ft): 12.500
     Group: BASE                                            Warn Stage(ft): 16.500
      Type: Stage/Area
```

```
      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037                Base Flow(cfs): 0.000          Init Stage(ft): 9.000
     Group: BASE                                              Warn Stage(ft): 19.000
      Type: Stage/Area

48-inch Dia Manhole

      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037A               Base Flow(cfs): 0.000          Init Stage(ft): 8.300
     Group: BASE                                              Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 037B               Base Flow(cfs): 0.000          Init Stage(ft): 7.820
     Group: BASE                                              Warn Stage(ft): 11.700
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 038                Base Flow(cfs): 0.000          Init Stage(ft): 12.500
     Group: BASE                                              Warn Stage(ft): 16.000
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 039                Base Flow(cfs): 0.000          Init Stage(ft): 13.500
     Group: BASE                                              Warn Stage(ft): 16.500
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 04                 Base Flow(cfs): 0.000          Init Stage(ft): 7.080
     Group: BASE                                              Warn Stage(ft): 12.480
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------

-------------------------------------------------------------------------------------------
      Name: 040                Base Flow(cfs): 0.000          Init Stage(ft): 13.140
     Group: BASE                                              Warn Stage(ft): 16.300
      Type: Stage/Area


      Stage(ft)        Area(ac)
--------------- ---------------
         12.650          0.0001
         13.650          1.3042
         14.650          2.8713
         15.650          4.0654
         16.650          4.5393
         17.650          4.7536
         18.650          4.7902
         19.650          4.8116
         20.650          4.8274
         21.650          4.8380
         22.650          4.8487
         23.650          4.8615
         24.640          4.8687

-------------------------------------------------------------------------------------------
      Name: 041                Base Flow(cfs): 0.000          Init Stage(ft): 13.160
     Group: BASE                                              Warn Stage(ft): 16.500
```

Type: Stage/Area

Stage(ft)	Area(ac)
12.770	0.0001
13.770	1.9350
14.770	3.1670
15.770	4.2380
16.770	4.8959
17.770	5.0785
18.770	5.1064
19.770	5.1317
20.750	5.1358

Name: 042 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 14.000
Type: Stage/Area

Stage(ft)	Area(ac)
11.160	0.0001
12.160	0.8978
13.160	3.0166
14.160	4.3885
15.160	5.4963
16.160	6.3647
17.160	6.8052
18.160	7.0177
19.160	7.1529
20.160	7.2571
21.160	7.3411
22.160	7.4371
23.160	7.5892
24.160	8.1239
25.160	8.3570
26.160	8.4305
26.180	8.4305

Name: 043 Base Flow(cfs): 0.000 Init Stage(ft): 11.700
Group: BASE Warn Stage(ft): 13.500
Type: Stage/Area

Stage(ft)	Area(ac)
10.430	0.0001
11.430	1.3729
12.430	3.1506
13.430	4.8630
14.430	6.9806
15.430	8.3948
16.430	9.3829
17.430	9.6960
17.670	9.7055

Name: 044 Base Flow(cfs): 0.000 Init Stage(ft): 12.700
Group: BASE Warn Stage(ft): 12.700
Type: Stage/Area

Stage(ft)	Area(ac)
12.480	0.0001
13.480	0.2257
14.480	0.7996
15.480	1.4866
16.480	2.2975
17.480	3.0542
18.480	3.1375
19.480	3.1413
20.480	3.1461
20.960	3.1474

Name: 045 Base Flow(cfs): 0.000 Init Stage(ft): 13.500
Group: BASE Warn Stage(ft): 16.000
Type: Stage/Area

Stage(ft)	Area(ac)
12.820	0.0000
13.820	0.6587
14.820	2.5233
15.820	3.2643
16.820	3.5009
17.820	3.6994
18.820	4.2301
19.820	4.5500
20.820	4.7070
21.820	4.8326
22.820	4.9455
23.820	5.0906
24.820	5.2863
25.820	5.3421
26.820	5.3866
27.820	5.4362
28.820	5.6058
29.350	5.6633

Name: 046 Base Flow(cfs): 0.000 Init Stage(ft): 11.480
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

Stage(ft)	Area(ac)
11.000	0.0015
12.000	0.0800
13.000	0.1500
14.000	0.2300

Name: 05 Base Flow(cfs): 0.000 Init Stage(ft): 6.980
Group: BASE Warn Stage(ft): 11.980
Type: Stage/Area

Stage(ft)	Area(ac)

Name: 1 Base Flow(cfs): 0.000 Init Stage(ft): 8.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Stage(ft)	Area(ac)
7.720	0.0000
8.720	0.1141
9.720	0.3956
10.720	0.6195
11.720	0.7843
12.720	0.9468
13.720	1.2929
14.400	1.3449

Name: 2 Base Flow(cfs): 0.000 Init Stage(ft): 10.000
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

DEM areas adjusted assuming regrading this area for the closure scenario

Stage(ft)	Area(ac)
10.000	1.1700
11.000	1.4600
12.000	1.7200
13.000	1.9100

Name: 3 Base Flow(cfs): 0.000 Init Stage(ft): 11.300
Group: BASE Warn Stage(ft): 13.200
Type: Stage/Area

Stage(ft)	Area(ac)
11.300	0.0001
11.680	0.0001
12.680	0.0069

13.680	0.3857
14.680	1.7427
15.680	2.8830
16.680	3.2278
17.680	3.5154
18.680	3.5625
19.680	3.5872
20.680	3.5958
21.680	3.5991
22.110	3.5995

Name: 4 Base Flow(cfs): 0.000 Init Stage(ft): 9.330
Group: BASE Warn Stage(ft): 11.300
Type: Stage/Area

Stage(ft)	Area(ac)
8.350	0.0000
9.350	0.0171
10.350	0.0567
11.350	0.1072
12.350	0.1796
13.350	0.3602
14.350	0.5108
15.350	0.5341
16.350	0.5415
17.350	0.5459
18.350	0.5494
19.350	0.5517
20.350	0.5525
21.350	0.5530
21.530	0.5531

Name: BASIN_2 Base Flow(cfs): 0.000 Init Stage(ft): 6.280
Group: BASE Warn Stage(ft): 13.000
Type: Stage/Area

Pond Initial stage was set to the orifice invert level

Stage(ft)	Area(ac)
5.750	13.0000
7.210	14.5540
8.210	16.9331
9.210	19.0328
10.210	20.0919
11.210	20.9577
12.210	21.7667
13.210	23.9547
14.210	25.3767
15.210	25.5168
16.210	25.6311
17.210	25.7334
18.210	25.8340
19.210	25.9225
20.210	26.0140
21.210	26.1166
22.210	26.2508
23.210	26.5192
24.210	26.7546
25.210	26.7962
26.210	26.8112
27.210	26.8122
27.590	26.8124

Name: BOX_001 Base Flow(cfs): 0.000 Init Stage(ft): 3.000
Group: BASE Warn Stage(ft): 8.100
Type: Stage/Area

Stage(ft)	Area(ac)
0.260	0.0014
8.100	0.0014

Name: BOX_003 Base Flow(cfs): 0.000 Init Stage(ft): 7.500
Group: BASE Warn Stage(ft): 12.900
Type: Stage/Area

Stage(ft)	Area(ac)

6.530	0.0020
12.900	0.0020

Name: LPWS Base Flow(cfs): 0.000 Init Stage(ft): 20.200
Group: BASE Warn Stage(ft): 23.500
Type: Stage/Area

Stage(ft)	Area(ac)
20.160	10.5829
21.160	10.7484
22.160	10.9322
23.160	11.1223
24.160	11.3931
25.160	11.5225
26.160	11.6577
26.850	11.6602

Name: NCOLLING_P Base Flow(cfs): 0.000 Init Stage(ft): 27.200
Group: BASE Warn Stage(ft): 33.000
Type: Stage/Area

Stage(ft)	Area(ac)
27.200	0.0001
27.770	0.0001
28.770	4.2938
29.770	7.5798
30.770	11.1430
31.770	15.2281
32.770	18.8204
33.770	21.9343
34.770	23.5564
35.770	25.2042
36.770	26.4725
37.770	27.1428
38.770	27.5476
39.770	27.7520
39.820	27.7522

Name: NGS-N Base Flow(cfs): 0.000 Init Stage(ft): 37.700
Group: BASE Warn Stage(ft): 73.000
Type: Stage/Area

Initial = 37.7 feet - Dry

Stage(ft)	Area(ac)
37.700	0.0000
38.000	0.2621
39.000	0.8717
40.000	1.7827
41.000	3.5774
42.000	5.8255
43.000	8.5274
44.000	11.6836
45.000	14.9643
46.000	18.6272
47.000	20.8411
48.000	23.1649
49.000	24.0175
50.000	24.5331
51.000	24.8411
52.000	25.1503
53.000	25.4609
54.000	25.7726
55.000	26.0857
56.000	26.4000
57.000	26.7156
58.000	27.0324
59.000	27.3505
60.000	27.6698
61.000	27.9904
62.000	28.3122
63.000	28.6353
64.000	28.9597
65.000	29.2853
66.000	29.6122
67.000	29.9404
68.000	30.2698
69.000	30.6004

70.000	30.9323
71.000	31.2655
72.000	31.5999
73.000	31.9356
74.000	32.2726
75.000	32.6108
76.000	32.9503
77.000	33.2910

Name: NGS-S Base Flow(cfs): 0.000 Init Stage(ft): 54.000
Group: BASE Warn Stage(ft): 74.000
Type: Stage/Area

Stage(ft)	Area(ac)
54.000	0.4200
55.000	1.3400
56.000	2.7800
57.000	4.7000
58.000	7.1000
59.000	9.9500
60.000	13.1100
61.000	16.4000
62.000	19.8800

Name: NGS-S2 Base Flow(cfs): 0.000 Init Stage(ft): 54.000
Group: BASE Warn Stage(ft): 74.000
Type: Stage/Area

Stage(ft)	Area(ac)
54.000	0.0900
55.000	0.7100
56.000	1.8800
57.000	3.5600
58.000	5.3600
59.000	7.1000
60.000	8.9000

Name: NGS-S_CAP Base Flow(cfs): 0.000 Init Stage(ft): 56.500
Group: BASE Warn Stage(ft): 63.000
Type: Stage/Area

Stage(ft)	Area(ac)
54.160	0.0000
55.160	0.8622
56.160	2.7473
57.160	4.2805
58.160	5.3020
59.160	6.0027
60.160	6.6035
61.160	7.0431
62.160	7.2603
63.160	7.4732
64.160	7.9721
65.160	8.0772
66.160	8.1747
67.160	8.2691
68.160	8.3574
69.160	8.4400
70.160	8.5202
71.160	8.5951
72.160	8.6691
73.160	8.7451
74.160	8.8226
75.160	8.8951
76.160	9.0056
77.160	9.6275
78.160	9.7510
79.160	9.7638
79.730	9.7655

Name: OGS-N Base Flow(cfs): 0.000 Init Stage(ft): 53.530
Group: BASE Warn Stage(ft): 86.000
Type: Stage/Area

Stage(ft)	Area(ac)
53.530	0.0000
54.030	0.2070
55.030	0.3701
56.030	0.5725
57.030	1.1502
58.030	1.7692
59.030	2.8210
60.030	3.9958
61.030	5.3236
62.030	6.7749
63.030	8.2367
64.030	9.2867
65.030	10.4172
66.030	12.4614
67.030	14.3071
68.030	15.4194
69.030	15.8895
70.030	16.3657
71.030	16.8482
72.030	17.3373
73.030	17.8058
74.030	18.2777
75.030	18.7530
76.030	19.2318
77.030	19.7139
78.030	20.2460
79.030	20.9095
80.030	21.5469
81.030	22.3515
82.030	23.0231
83.030	23.5238
84.030	24.0801
85.030	24.6598
86.030	26.4585
87.030	32.0278

Name: OGS-S Base Flow(cfs): 0.000 Init Stage(ft): 72.000
Group: BASE Warn Stage(ft): 85.000
Type: Stage/Area

Stage(ft)	Area(ac)
72.000	0.0000
73.000	0.0100
74.000	0.0200
75.000	0.0300
76.000	6.6900
77.000	8.6500
78.000	10.1000
79.000	11.3600
80.000	12.6200
81.000	13.4900
82.000	14.0500
83.000	14.5800
84.000	14.9700
85.000	15.4100
86.000	16.1900

Name: TW_001 Base Flow(cfs): 0.000 Init Stage(ft): 1.300
Group: BASE Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level (NGVD29)

Time(hrs)	Stage(ft)
0.00	1.300
999.00	1.300

Name: TW_003 Base Flow(cfs): 0.000 Init Stage(ft): 1.300
Group: BASE Warn Stage(ft): 1.300
Type: Time/Stage

Mean High Tide Level

Time(hrs)	Stage(ft)
0.00	1.300
999.00	1.300

==========
==== Cross Sections ==========

==========

Name: X003 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	36.114	0.060000
0.998	35.788	0.060000
1.997	35.389	0.060000
2.995	34.990	0.060000
3.994	34.648	0.060000
4.992	34.353	0.060000
5.991	34.066	0.060000
6.989	33.726	0.060000
7.988	33.251	0.060000
8.986	32.788	0.060000
9.985	32.434	0.060000
10.983	32.164	0.060000
11.981	31.844	0.060000
12.980	31.441	0.060000
13.978	31.062	0.060000
14.977	30.775	0.060000
15.975	30.556	0.060000
16.974	30.334	0.060000
17.972	30.046	0.060000
18.971	29.669	0.060000
19.969	29.291	0.060000
20.968	29.025	0.060000
21.966	28.798	0.060000
22.964	28.582	0.060000
23.963	28.374	0.060000
24.961	28.144	0.060000
25.960	27.847	0.060000
26.958	27.603	0.060000
27.957	27.381	0.060000
28.955	27.060	0.060000
29.954	26.739	0.060000
30.952	26.348	0.060000
31.951	26.075	0.060000
32.949	25.859	0.060000
33.947	25.663	0.060000
34.946	25.625	0.060000
35.944	25.610	0.060000
36.943	25.418	0.060000
37.941	25.086	0.060000
38.940	24.818	0.060000
39.938	24.675	0.060000
40.937	24.606	0.060000
41.935	24.567	0.060000
42.934	24.542	0.060000
43.932	24.507	0.060000
44.931	24.468	0.060000
45.929	24.336	0.060000
46.927	24.265	0.060000
47.926	24.230	0.060000
48.924	24.467	0.060000
49.923	24.819	0.060000
50.921	25.304	0.060000
51.920	25.788	0.060000
52.918	26.076	0.060000
53.917	25.924	0.060000
54.915	25.521	0.060000
55.914	25.463	0.060000
56.912	25.619	0.060000
57.910	25.715	0.060000
58.909	26.230	0.060000
59.907	26.792	0.060000
60.906	27.400	0.060000
61.904	27.963	0.060000
62.903	28.187	0.060000
63.901	28.135	0.060000
64.900	28.099	0.060000
65.898	28.203	0.060000
66.897	28.334	0.060000
67.895	28.512	0.060000
68.893	28.718	0.060000
69.892	28.877	0.060000
70.890	28.978	0.060000
71.889	28.996	0.060000
72.887	28.963	0.060000
73.886	28.959	0.060000
74.884	28.971	0.060000
75.883	28.965	0.060000
76.881	28.921	0.060000
77.880	28.860	0.060000
78.878	28.808	0.060000

79.876	28.792	0.060000
80.875	28.791	0.060000
81.873	28.803	0.060000
82.872	28.826	0.060000
83.870	28.843	0.060000
84.869	28.825	0.060000
85.867	28.780	0.060000

Name: X005 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	37.840	0.060000
0.988	37.495	0.060000
1.976	37.204	0.060000
2.964	36.954	0.060000
3.952	36.669	0.060000
4.940	36.244	0.060000
5.928	35.768	0.060000
6.916	35.375	0.060000
7.904	35.018	0.060000
8.892	34.676	0.060000
9.879	34.380	0.060000
10.867	34.045	0.060000
11.855	33.707	0.060000
12.843	33.485	0.060000
13.831	33.271	0.060000
14.819	33.004	0.060000
15.807	32.749	0.060000
16.795	32.529	0.060000
17.783	32.282	0.060000
18.771	31.970	0.060000
19.759	31.758	0.060000
20.747	31.629	0.060000
21.735	31.297	0.060000
22.723	30.822	0.060000
23.711	30.452	0.060000
24.699	30.255	0.060000
25.687	30.058	0.060000
26.675	29.858	0.060000
27.663	29.699	0.060000
28.650	29.653	0.060000
29.638	29.630	0.060000
30.626	29.528	0.060000
31.614	29.424	0.060000
32.602	29.344	0.060000
33.590	29.328	0.060000
34.578	29.340	0.060000
35.566	29.335	0.060000
36.554	29.324	0.060000
37.542	29.335	0.060000
38.530	29.353	0.060000
39.518	29.356	0.060000
40.506	29.371	0.060000
41.494	29.361	0.060000
42.482	29.345	0.060000
43.470	29.333	0.060000
44.458	29.327	0.060000
45.446	29.322	0.060000
46.434	29.394	0.060000
47.421	29.582	0.060000
48.409	30.408	0.060000
49.397	31.012	0.060000
50.385	31.496	0.060000
51.373	31.913	0.060000
52.361	32.243	0.060000
53.349	32.375	0.060000
54.337	32.647	0.060000
55.325	32.904	0.060000
56.313	33.035	0.060000
57.301	33.170	0.060000
58.289	33.425	0.060000
59.277	33.666	0.060000
60.265	33.871	0.060000
61.253	34.044	0.060000
62.241	34.148	0.060000
63.229	34.196	0.060000
64.217	34.190	0.060000
65.205	34.150	0.060000
66.192	34.083	0.060000
67.180	34.015	0.060000
68.168	33.985	0.060000
69.156	34.002	0.060000
70.144	34.010	0.060000

Name: X006 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	39.776	0.060000
0.995	39.417	0.060000
1.989	38.973	0.060000
2.984	38.513	0.060000
3.978	38.151	0.060000
4.973	37.864	0.060000
5.967	37.600	0.060000
6.962	37.315	0.060000
7.957	36.949	0.060000
8.951	36.596	0.060000
9.946	36.339	0.060000
10.940	36.078	0.060000
11.935	35.693	0.060000
12.930	35.367	0.060000
13.924	35.134	0.060000
14.919	34.887	0.060000
15.913	34.544	0.060000
16.908	34.124	0.060000
17.902	33.777	0.060000
18.897	33.389	0.060000
19.892	33.030	0.060000
20.886	32.743	0.060000
21.881	32.535	0.060000
22.875	32.302	0.060000
23.870	32.001	0.060000
24.865	31.663	0.060000
25.859	31.415	0.060000
26.854	31.225	0.060000
27.848	31.050	0.060000
28.843	31.120	0.060000
29.837	31.332	0.060000
30.832	31.507	0.060000
31.827	31.295	0.060000
32.821	30.726	0.060000
33.816	30.069	0.060000
34.810	29.618	0.060000
35.805	29.423	0.060000
36.799	29.356	0.060000
37.794	29.347	0.060000
38.789	29.332	0.060000
39.783	29.302	0.060000
40.778	29.285	0.060000
41.772	29.288	0.060000
42.767	29.297	0.060000
43.762	29.306	0.060000
44.756	29.343	0.060000
45.751	29.441	0.060000
46.745	29.749	0.060000
47.740	30.226	0.060000
48.734	30.661	0.060000
49.729	31.104	0.060000
50.724	31.441	0.060000
51.718	31.628	0.060000
52.713	31.980	0.060000
53.707	32.545	0.060000
54.702	33.021	0.060000
55.696	33.268	0.060000
56.691	33.462	0.060000
57.686	33.716	0.060000
58.680	34.039	0.060000
59.675	34.333	0.060000
60.669	34.447	0.060000
61.664	34.413	0.060000
62.659	34.274	0.060000
63.653	34.129	0.060000
64.648	34.057	0.060000
65.642	33.999	0.060000
66.637	33.930	0.060000
67.631	33.873	0.060000
68.626	33.841	0.060000
69.621	33.830	0.060000
70.615	33.818	0.060000
71.610	33.788	0.060000
72.604	33.751	0.060000
73.599	33.709	0.060000
74.593	33.697	0.060000
75.588	33.717	0.060000
76.583	33.741	0.060000
77.577	33.746	0.060000
78.572	33.695	0.060000
79.566	33.636	0.060000

80.561	33.610	0.060000

Name: X007 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	51.214	0.060000
0.995	51.096	0.060000
1.990	50.780	0.060000
2.984	50.434	0.060000
3.979	50.132	0.060000
4.974	49.792	0.060000
5.969	49.392	0.060000
6.963	48.985	0.060000
7.958	48.573	0.060000
8.953	48.197	0.060000
9.948	47.909	0.060000
10.942	47.623	0.060000
11.937	47.268	0.060000
12.932	46.930	0.060000
13.927	46.748	0.060000
14.921	46.433	0.060000
15.916	45.900	0.060000
16.911	45.187	0.060000
17.906	44.740	0.060000
18.900	44.655	0.060000
19.895	44.376	0.060000
20.890	43.930	0.060000
21.885	43.310	0.060000
22.879	42.687	0.060000
23.874	42.238	0.060000
24.869	41.921	0.060000
25.864	41.539	0.060000
26.858	41.180	0.060000
27.853	40.806	0.060000
28.848	40.343	0.060000
29.843	39.896	0.060000
30.837	39.544	0.060000
31.832	39.140	0.060000
32.827	38.655	0.060000
33.822	38.216	0.060000
34.816	37.879	0.060000
35.811	37.607	0.060000
36.806	37.228	0.060000
37.801	36.870	0.060000
38.795	36.657	0.060000
39.790	36.411	0.060000
40.785	35.947	0.060000
41.780	35.454	0.060000
42.775	35.125	0.060000
43.769	34.851	0.060000
44.764	34.595	0.060000
45.759	34.323	0.060000
46.754	34.059	0.060000
47.748	33.779	0.060000
48.743	33.482	0.060000
49.738	33.178	0.060000
50.733	33.080	0.060000
51.727	32.793	0.060000
52.722	32.558	0.060000
53.717	32.354	0.060000
54.712	32.030	0.060000
55.706	31.692	0.060000
56.701	31.351	0.060000
57.696	31.211	0.060000
58.691	31.251	0.060000
59.685	31.252	0.060000
60.680	31.253	0.060000
61.675	31.274	0.060000
62.670	31.417	0.060000
63.664	31.501	0.060000
64.659	31.563	0.060000
65.654	31.640	0.060000
66.649	31.719	0.060000
67.643	31.737	0.060000
68.638	31.642	0.060000
69.633	31.662	0.060000
70.628	31.707	0.060000
71.622	31.827	0.060000
72.617	31.827	0.060000
73.612	31.645	0.060000
74.607	31.534	0.060000
75.601	31.435	0.060000
76.596	31.324	0.060000
77.591	31.184	0.060000

78.586	30.973	0.060000
79.580	30.752	0.060000
80.575	30.764	0.060000
81.570	30.653	0.060000
82.565	30.785	0.060000
83.559	30.920	0.060000
84.554	31.177	0.060000
85.549	31.507	0.060000
86.544	32.362	0.060000
87.539	32.974	0.060000
88.533	33.108	0.060000
89.528	33.447	0.060000
90.523	34.351	0.060000
91.518	35.192	0.060000
92.512	35.456	0.060000
93.507	35.724	0.060000
94.502	35.965	0.060000
95.497	36.122	0.060000
96.491	36.232	0.060000
97.486	36.303	0.060000
98.481	36.365	0.060000
99.476	36.394	0.060000
100.470	36.423	0.060000
101.465	36.434	0.060000
102.460	36.360	0.060000
103.455	36.228	0.060000
104.449	36.165	0.060000
105.444	36.148	0.060000
106.439	36.174	0.060000
107.434	36.263	0.060000
108.428	36.375	0.060000
109.423	36.425	0.060000
110.418	36.444	0.060000

Name: X011 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	61.013	0.060000
0.994	60.768	0.060000
1.989	60.359	0.060000
2.983	60.016	0.060000
3.978	59.663	0.060000
4.972	59.264	0.060000
5.967	58.861	0.060000
6.961	58.564	0.060000
7.956	58.233	0.060000
8.950	57.948	0.060000
9.944	57.630	0.060000
10.939	57.359	0.060000
11.933	57.079	0.060000
12.928	56.855	0.060000
13.922	56.688	0.060000
14.917	56.425	0.060000
15.911	56.170	0.060000
16.906	56.001	0.060000
17.900	55.900	0.060000
18.894	55.631	0.060000
19.889	55.144	0.060000
20.883	54.753	0.060000
21.878	54.567	0.060000
22.872	54.367	0.060000
23.867	54.079	0.060000
24.861	53.675	0.060000
25.856	53.330	0.060000
26.850	53.040	0.060000
27.844	52.809	0.060000
28.839	52.549	0.060000
29.833	52.238	0.060000
30.828	51.912	0.060000
31.822	51.646	0.060000
32.817	51.345	0.060000
33.811	50.958	0.060000
34.806	50.708	0.060000
35.800	50.641	0.060000
36.794	50.505	0.060000
37.789	50.271	0.060000
38.783	50.102	0.060000
39.778	49.902	0.060000
40.772	49.638	0.060000
41.767	49.361	0.060000
42.761	49.038	0.060000
43.756	48.608	0.060000
44.750	48.273	0.060000
45.744	48.049	0.060000

46.739	47.743	0.060000
47.733	47.349	0.060000
48.728	47.109	0.060000
49.722	47.052	0.060000
50.717	46.999	0.060000
51.711	46.892	0.060000
52.706	46.846	0.060000
53.700	46.808	0.060000
54.694	46.632	0.060000
55.689	46.430	0.060000
56.683	46.399	0.060000
57.678	46.381	0.060000
58.672	46.335	0.060000
59.667	46.364	0.060000
60.661	46.426	0.060000
61.656	46.381	0.060000
62.650	46.250	0.060000
63.644	46.246	0.060000
64.639	46.259	0.060000
65.633	46.256	0.060000
66.628	46.218	0.060000
67.622	46.244	0.060000
68.617	46.258	0.060000
69.611	46.190	0.060000
70.606	46.196	0.060000
71.600	46.267	0.060000
72.594	46.330	0.060000
73.589	46.429	0.060000
74.583	46.495	0.060000
75.578	46.466	0.060000
76.572	46.399	0.060000
77.567	46.290	0.060000
78.561	46.069	0.060000
79.556	45.866	0.060000
80.550	45.985	0.060000
81.544	46.345	0.060000
82.539	46.666	0.060000
83.533	46.902	0.060000
84.528	47.131	0.060000
85.522	47.367	0.060000
86.517	47.570	0.060000
87.511	47.957	0.060000
88.506	48.548	0.060000
89.500	48.998	0.060000
90.494	49.275	0.060000
91.489	49.504	0.060000
92.483	49.682	0.060000
93.478	49.846	0.060000
94.472	50.134	0.060000
95.467	50.639	0.060000
96.461	51.098	0.060000
97.456	51.241	0.060000
98.450	51.322	0.060000
99.444	51.671	0.060000
100.439	52.252	0.060000
101.433	52.723	0.060000
102.428	53.032	0.060000
103.422	53.298	0.060000
104.417	53.578	0.060000
105.411	53.748	0.060000
106.406	53.903	0.060000
107.400	54.156	0.060000
108.394	54.520	0.060000
109.389	54.886	0.060000
110.383	55.192	0.060000
111.378	55.514	0.060000

Name: X012 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	59.976	0.060000
0.995	59.748	0.060000
1.989	59.629	0.060000
2.984	59.376	0.060000
3.979	59.087	0.060000
4.973	58.903	0.060000
5.968	58.651	0.060000
6.963	58.339	0.060000
7.957	58.001	0.060000
8.952	57.572	0.060000
9.946	57.218	0.060000
10.941	56.888	0.060000
11.936	56.664	0.060000
12.930	56.457	0.060000

13.925	56.217	0.060000
14.920	55.930	0.060000
15.914	55.608	0.060000
16.909	55.306	0.060000
17.904	55.006	0.060000
18.898	54.791	0.060000
19.893	54.519	0.060000
20.888	54.222	0.060000
21.882	53.974	0.060000
22.877	53.764	0.060000
23.872	53.499	0.060000
24.866	53.270	0.060000
25.861	53.005	0.060000
26.856	52.696	0.060000
27.850	52.399	0.060000
28.845	52.131	0.060000
29.839	51.900	0.060000
30.834	51.630	0.060000
31.829	51.390	0.060000
32.823	51.183	0.060000
33.818	51.063	0.060000
34.813	50.893	0.060000
35.807	50.628	0.060000
36.802	50.324	0.060000
37.797	50.050	0.060000
38.791	49.955	0.060000
39.786	49.934	0.060000
40.781	50.105	0.060000
41.775	50.145	0.060000
42.770	50.105	0.060000
43.765	50.076	0.060000
44.759	49.905	0.060000
45.754	49.636	0.060000
46.748	49.428	0.060000
47.743	49.465	0.060000
48.738	49.749	0.060000
49.732	49.921	0.060000
50.727	50.068	0.060000
51.722	50.109	0.060000
52.716	50.059	0.060000
53.711	49.938	0.060000
54.706	49.808	0.060000
55.700	49.723	0.060000
56.695	49.602	0.060000
57.690	49.637	0.060000
58.684	49.894	0.060000
59.679	49.985	0.060000
60.674	50.016	0.060000
61.668	50.016	0.060000
62.663	49.921	0.060000
63.658	49.807	0.060000
64.652	49.817	0.060000
65.647	49.843	0.060000
66.641	49.865	0.060000
67.636	49.839	0.060000
68.631	49.735	0.060000
69.625	49.740	0.060000
70.620	49.826	0.060000
71.615	49.824	0.060000
72.609	49.698	0.060000
73.604	49.595	0.060000
74.599	49.505	0.060000
75.593	49.406	0.060000
76.588	49.336	0.060000
77.583	49.405	0.060000
78.577	49.464	0.060000
79.572	49.655	0.060000
80.567	49.853	0.060000
81.561	49.886	0.060000
82.556	49.728	0.060000
83.550	49.574	0.060000
84.545	49.400	0.060000
85.540	49.328	0.060000
86.534	49.322	0.060000
87.529	49.445	0.060000
88.524	49.638	0.060000
89.518	49.839	0.060000
90.513	50.083	0.060000
91.508	50.350	0.060000
92.502	50.688	0.060000
93.497	50.955	0.060000
94.492	51.159	0.060000
95.486	51.365	0.060000
96.481	51.589	0.060000
97.476	51.984	0.060000
98.470	52.371	0.060000
99.465	52.545	0.060000
100.460	52.435	0.060000
101.454	52.621	0.060000

102.449	52.933	0.060000
103.443	53.338	0.060000
104.438	53.705	0.060000
105.433	54.014	0.060000
106.427	54.306	0.060000
107.422	54.601	0.060000
108.417	54.942	0.060000
109.411	55.284	0.060000
110.406	55.524	0.060000
111.401	55.784	0.060000
112.395	56.093	0.060000
113.390	56.438	0.060000
114.385	56.798	0.060000
115.379	57.166	0.060000
116.374	57.513	0.060000
117.369	57.934	0.060000
118.363	58.330	0.060000
119.358	58.710	0.060000
120.352	59.123	0.060000
121.347	59.468	0.060000
122.342	59.712	0.060000
123.336	59.960	0.060000
124.331	60.289	0.060000
125.326	60.803	0.060000
126.320	61.357	0.060000

Name: X013W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	40.320	0.000000
0.990	39.790	0.000000
1.990	39.570	0.000000
2.980	39.400	0.000000
3.970	39.330	0.000000
4.960	39.120	0.000000
5.960	38.760	0.000000
6.950	38.260	0.000000
7.940	38.330	0.000000
8.930	38.450	0.000000
9.930	38.440	0.000000
10.920	38.430	0.000000
11.890	38.420	0.000000
12.860	38.450	0.000000
13.830	38.360	0.000000
14.800	38.210	0.000000
15.770	38.110	0.000000
16.750	38.160	0.000000
17.720	38.260	0.000000
18.690	38.410	0.000000
19.660	38.560	0.000000
20.630	38.540	0.000000
21.600	38.410	0.000000
22.570	38.300	0.000000
23.540	38.300	0.000000
24.510	38.310	0.000000
25.480	38.350	0.000000
26.460	38.340	0.000000
27.430	38.240	0.000000

Name: X015 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	46.010	0.060000
0.988	45.571	0.060000
1.975	44.994	0.060000
2.963	44.367	0.060000
3.950	43.887	0.060000
4.938	43.527	0.060000
5.925	43.178	0.060000
6.913	42.837	0.060000
7.900	42.468	0.060000
8.888	42.033	0.060000
9.875	41.666	0.060000
10.863	41.356	0.060000
11.850	41.008	0.060000
12.838	40.606	0.060000
13.825	40.233	0.060000
14.813	39.924	0.060000
15.800	39.615	0.060000

16.788	39.248	0.060000
17.775	38.844	0.060000
18.763	38.466	0.060000
19.750	38.108	0.060000
20.738	37.784	0.060000
21.725	37.520	0.060000
22.713	37.276	0.060000
23.700	37.046	0.060000
24.688	36.845	0.060000
25.675	36.689	0.060000
26.663	36.554	0.060000
27.650	36.329	0.060000
28.638	35.997	0.060000
29.625	35.656	0.060000
30.613	35.283	0.060000
31.600	34.864	0.060000
32.588	34.557	0.060000
33.575	34.473	0.060000
34.563	34.388	0.060000
35.550	34.034	0.060000
36.538	33.872	0.060000
37.525	34.133	0.060000
38.513	34.470	0.060000
39.500	34.820	0.060000
40.488	35.058	0.060000
41.475	35.342	0.060000
42.463	35.607	0.060000
43.450	35.826	0.060000
44.438	36.058	0.060000
45.425	36.285	0.060000
46.413	36.315	0.060000
47.400	36.290	0.060000
48.388	36.369	0.060000
49.375	36.942	0.060000
50.363	37.471	0.060000
51.350	37.869	0.060000
52.338	38.264	0.060000
53.325	38.720	0.060000
54.313	39.169	0.060000
55.300	39.420	0.060000
56.288	39.479	0.060000
57.275	39.524	0.060000
58.263	39.572	0.060000
59.250	39.609	0.060000
60.238	39.557	0.060000
61.225	39.491	0.060000
62.213	39.480	0.060000
63.200	39.431	0.060000
64.188	39.298	0.060000
65.175	39.114	0.060000
66.163	38.986	0.060000
67.150	39.017	0.060000
68.138	39.090	0.060000
69.125	39.110	0.060000
70.113	39.056	0.060000
71.100	38.973	0.060000
72.088	38.966	0.060000
73.075	39.044	0.060000
74.063	39.118	0.060000
75.050	39.120	0.060000
76.038	39.069	0.060000

Name: X017 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	30.478	0.060000
0.993	30.030	0.060000
1.986	29.596	0.060000
2.979	29.218	0.060000
3.972	28.776	0.060000
4.965	28.298	0.060000
5.958	27.983	0.060000
6.951	27.717	0.060000
7.944	27.407	0.060000
8.937	27.069	0.060000
9.930	26.722	0.060000
10.923	26.280	0.060000
11.916	25.846	0.060000
12.909	25.515	0.060000
13.902	25.270	0.060000
14.895	25.018	0.060000
15.888	24.737	0.060000
16.881	24.422	0.060000
17.874	24.126	0.060000

18.867	23.639	0.060000
19.860	23.210	0.060000
20.853	22.900	0.060000
21.846	22.740	0.060000
22.839	22.568	0.060000
23.833	22.325	0.060000
24.826	22.126	0.060000
25.819	21.832	0.060000
26.812	21.490	0.060000
27.805	21.063	0.060000
28.798	20.883	0.060000
29.791	20.824	0.060000
30.784	20.841	0.060000
31.777	20.805	0.060000
32.770	20.347	0.060000
33.763	19.553	0.060000
34.756	19.125	0.060000
35.749	18.867	0.060000
36.742	18.778	0.060000
37.735	18.666	0.060000
38.728	18.668	0.060000
39.721	18.903	0.060000
40.714	18.905	0.060000
41.707	19.045	0.060000
42.700	19.119	0.060000
43.693	19.156	0.060000
44.686	19.141	0.060000
45.679	19.381	0.060000
46.672	20.038	0.060000
47.665	20.884	0.060000
48.658	21.631	0.060000
49.651	22.113	0.060000
50.644	22.254	0.060000
51.637	22.371	0.060000
52.630	22.573	0.060000
53.623	22.675	0.060000
54.616	22.688	0.060000
55.609	22.738	0.060000
56.602	22.760	0.060000
57.595	22.774	0.060000
58.588	22.732	0.060000
59.581	22.709	0.060000
60.574	22.844	0.060000
61.567	23.079	0.060000
62.560	23.314	0.060000
63.553	23.497	0.060000
64.546	23.676	0.060000
65.539	23.860	0.060000
66.532	24.073	0.060000
67.525	24.352	0.060000
68.518	24.538	0.060000
69.511	24.617	0.060000
70.504	24.631	0.060000
71.497	24.592	0.060000
72.491	24.666	0.060000
73.484	24.752	0.060000
74.477	24.776	0.060000
75.470	24.764	0.060000
76.463	24.721	0.060000
77.456	24.734	0.060000
78.449	24.840	0.060000
79.442	24.945	0.060000
80.435	24.923	0.060000
81.428	24.839	0.060000
82.421	24.778	0.060000

Name: X018 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	33.783	0.060000
0.991	33.814	0.060000
1.982	33.870	0.060000
2.973	33.882	0.060000
3.964	33.893	0.060000
4.955	33.911	0.060000
5.946	33.873	0.060000
6.937	33.758	0.060000
7.928	33.618	0.060000
8.920	33.462	0.060000
9.911	33.237	0.060000
10.902	32.975	0.060000
11.893	32.719	0.060000
12.884	32.511	0.060000
13.875	32.308	0.060000

14.866	32.069	0.060000
15.857	31.764	0.060000
16.848	31.372	0.060000
17.839	30.916	0.060000
18.830	30.617	0.060000
19.821	30.341	0.060000
20.812	30.107	0.060000
21.803	29.879	0.060000
22.794	29.597	0.060000
23.785	29.124	0.060000
24.776	28.737	0.060000
25.767	28.278	0.060000
26.759	27.884	0.060000
27.750	27.509	0.060000
28.741	27.153	0.060000
29.732	26.861	0.060000
30.723	26.555	0.060000
31.714	26.269	0.060000
32.705	26.001	0.060000
33.696	25.704	0.060000
34.687	25.378	0.060000
35.678	24.886	0.060000
36.669	24.510	0.060000
37.660	24.307	0.060000
38.651	24.164	0.060000
39.642	23.944	0.060000
40.633	23.407	0.060000
41.624	22.974	0.060000
42.615	22.746	0.060000
43.606	22.616	0.060000
44.598	22.461	0.060000
45.589	22.303	0.060000
46.580	22.080	0.060000
47.571	21.757	0.060000
48.562	21.389	0.060000
49.553	21.211	0.060000
50.544	21.381	0.060000
51.535	21.091	0.060000
52.526	20.906	0.060000
53.517	20.732	0.060000
54.508	20.404	0.060000
55.499	20.166	0.060000
56.490	19.916	0.060000
57.481	19.626	0.060000
58.472	19.474	0.060000
59.463	19.388	0.060000
60.454	19.338	0.060000
61.446	19.321	0.060000
62.437	19.267	0.060000
63.428	19.215	0.060000
64.419	19.199	0.060000
65.410	19.271	0.060000
66.401	19.444	0.060000
67.392	19.724	0.060000
68.383	19.959	0.060000
69.374	20.155	0.060000
70.365	20.517	0.060000
71.356	21.000	0.060000
72.347	21.332	0.060000
73.338	21.704	0.060000
74.329	22.103	0.060000
75.320	22.545	0.060000
76.311	22.906	0.060000
77.302	23.082	0.060000
78.293	23.218	0.060000
79.285	23.312	0.060000
80.276	23.372	0.060000
81.267	23.445	0.060000
82.258	23.580	0.060000
83.249	23.744	0.060000
84.240	23.983	0.060000
85.231	24.247	0.060000
86.222	24.396	0.060000
87.213	24.479	0.060000
88.204	24.476	0.060000
89.195	24.415	0.060000
90.186	24.365	0.060000
91.177	24.356	0.060000
92.168	24.391	0.060000
93.159	24.427	0.060000
94.150	24.428	0.060000
95.141	24.406	0.060000

Name: X019 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	26.287	0.060000
0.992	25.881	0.060000
1.984	25.638	0.060000
2.976	25.519	0.060000
3.969	25.244	0.060000
4.961	24.921	0.060000
5.953	24.473	0.060000
6.945	24.015	0.060000
7.937	23.541	0.060000
8.929	23.322	0.060000
9.921	23.126	0.060000
10.913	22.870	0.060000
11.906	22.706	0.060000
12.898	22.425	0.060000
13.890	21.954	0.060000
14.882	21.485	0.060000
15.874	21.140	0.060000
16.866	20.946	0.060000
17.858	20.948	0.060000
18.851	20.836	0.060000
19.843	20.300	0.060000
20.835	19.696	0.060000
21.827	19.365	0.060000
22.819	19.242	0.060000
23.811	19.241	0.060000
24.803	19.293	0.060000
25.795	19.459	0.060000
26.788	19.498	0.060000
27.780	19.500	0.060000
28.772	19.500	0.060000
29.764	19.533	0.060000
30.756	19.571	0.060000
31.748	19.637	0.060000
32.740	19.788	0.060000
33.732	19.789	0.060000
34.725	20.091	0.060000
35.717	20.425	0.060000
36.709	20.575	0.060000
37.701	20.702	0.060000
38.693	20.991	0.060000
39.685	21.342	0.060000
40.677	21.584	0.060000
41.670	21.786	0.060000
42.662	21.825	0.060000
43.654	21.927	0.060000
44.646	22.041	0.060000
45.638	22.202	0.060000
46.630	22.440	0.060000
47.622	22.763	0.060000
48.614	23.113	0.060000
49.607	23.378	0.060000
50.599	23.568	0.060000
51.591	23.762	0.060000
52.583	23.996	0.060000
53.575	24.224	0.060000
54.567	24.381	0.060000
55.559	24.435	0.060000
56.551	24.421	0.060000
57.544	24.446	0.060000
58.536	24.505	0.060000
59.528	24.575	0.060000

Name: X020 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	37.372	0.060000
0.997	37.385	0.060000
1.995	37.372	0.060000
2.992	37.316	0.060000
3.989	37.233	0.060000
4.987	37.164	0.060000
5.984	37.128	0.060000
6.982	37.158	0.060000
7.979	37.004	0.060000
8.976	36.693	0.060000
9.974	36.301	0.060000
10.971	35.919	0.060000
11.968	35.532	0.060000
12.966	35.132	0.060000
13.963	34.718	0.060000
14.961	34.378	0.060000
15.958	34.077	0.060000

16.955	33.770	0.060000
17.953	33.411	0.060000
18.950	33.005	0.060000
19.947	32.619	0.060000
20.945	32.162	0.060000
21.942	31.785	0.060000
22.939	31.489	0.060000
23.937	31.158	0.060000
24.934	30.817	0.060000
25.932	30.454	0.060000
26.929	30.162	0.060000
27.926	29.678	0.060000
28.924	29.136	0.060000
29.921	28.642	0.060000
30.918	28.219	0.060000
31.916	27.934	0.060000
32.913	27.743	0.060000
33.910	27.498	0.060000
34.908	27.156	0.060000
35.905	26.767	0.060000
36.903	26.341	0.060000
37.900	25.912	0.060000
38.897	25.525	0.060000
39.895	25.334	0.060000
40.892	25.074	0.060000
41.889	24.698	0.060000
42.887	24.323	0.060000
43.884	23.980	0.060000
44.882	23.676	0.060000
45.879	23.397	0.060000
46.876	23.387	0.060000
47.874	23.340	0.060000
48.871	22.943	0.060000
49.868	22.683	0.060000
50.866	22.506	0.060000
51.863	22.408	0.060000
52.860	22.248	0.060000
53.858	22.032	0.060000
54.855	21.745	0.060000
55.853	21.426	0.060000
56.850	21.057	0.060000
57.847	20.750	0.060000
58.845	20.411	0.060000
59.842	20.229	0.060000
60.839	20.208	0.060000
61.837	20.305	0.060000
62.834	20.330	0.060000
63.832	20.291	0.060000
64.829	20.254	0.060000
65.826	20.219	0.060000
66.824	20.178	0.060000
67.821	20.136	0.060000
68.818	20.088	0.060000
69.816	20.032	0.060000
70.813	19.960	0.060000
71.810	19.975	0.060000
72.808	20.299	0.060000
73.805	20.657	0.060000
74.803	20.953	0.060000
75.800	21.146	0.060000
76.797	21.501	0.060000
77.795	21.812	0.060000
78.792	22.180	0.060000
79.789	22.477	0.060000
80.787	22.607	0.060000
81.784	22.902	0.060000
82.781	23.357	0.060000
83.779	23.734	0.060000
84.776	24.029	0.060000
85.774	24.348	0.060000
86.771	24.776	0.060000
87.768	25.253	0.060000
88.766	25.642	0.060000
89.763	25.964	0.060000
90.760	26.257	0.060000
91.758	26.615	0.060000
92.755	27.026	0.060000
93.753	27.392	0.060000
94.750	27.748	0.060000
95.747	28.153	0.060000
96.745	28.633	0.060000
97.742	29.129	0.060000
98.739	29.558	0.060000
99.737	29.892	0.060000
100.734	30.172	0.060000
101.731	30.443	0.060000
102.729	30.706	0.060000
103.726	30.903	0.060000
104.724	30.989	0.060000

105.721	31.268	0.060000
106.718	31.814	0.060000
107.716	32.301	0.060000
108.713	32.869	0.060000
109.710	33.542	0.060000
110.708	33.972	0.060000
111.705	33.911	0.060000
112.703	33.611	0.060000
113.700	33.482	0.060000
114.697	33.399	0.060000
115.695	33.264	0.060000
116.692	33.166	0.060000

Name: X021 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	43.508	0.060000
0.993	43.273	0.060000
1.987	42.996	0.060000
2.980	42.667	0.060000
3.974	42.301	0.060000
4.967	41.957	0.060000
5.961	41.671	0.060000
6.954	41.400	0.060000
7.948	41.080	0.060000
8.941	40.685	0.060000
9.935	40.281	0.060000
10.928	39.912	0.060000
11.922	39.498	0.060000
12.915	39.178	0.060000
13.909	38.965	0.060000
14.902	38.673	0.060000
15.896	38.279	0.060000
16.889	37.830	0.060000
17.883	37.370	0.060000
18.876	36.835	0.060000
19.870	36.414	0.060000
20.863	36.220	0.060000
21.857	35.949	0.060000
22.850	35.559	0.060000
23.844	35.172	0.060000
24.837	34.782	0.060000
25.831	34.504	0.060000
26.824	34.294	0.060000
27.818	34.088	0.060000
28.811	33.800	0.060000
29.805	33.372	0.060000
30.798	32.957	0.060000
31.792	32.651	0.060000
32.785	32.545	0.060000
33.779	32.389	0.060000
34.772	32.094	0.060000
35.766	31.992	0.060000
36.759	31.842	0.060000
37.753	31.821	0.060000
38.746	31.955	0.060000
39.740	32.069	0.060000
40.733	31.951	0.060000
41.727	32.162	0.060000
42.720	32.336	0.060000
43.714	32.469	0.060000
44.707	32.754	0.060000
45.701	33.100	0.060000
46.694	33.496	0.060000
47.688	33.842	0.060000
48.681	34.145	0.060000
49.675	34.448	0.060000
50.668	34.749	0.060000
51.662	35.024	0.060000
52.655	35.207	0.060000
53.649	35.311	0.060000
54.642	35.381	0.060000
55.636	35.426	0.060000
56.629	35.429	0.060000
57.623	35.369	0.060000
58.616	35.250	0.060000
59.610	35.147	0.060000
60.603	35.101	0.060000
61.597	35.113	0.060000
62.590	35.113	0.060000
63.584	35.077	0.060000
64.577	35.013	0.060000
65.570	34.922	0.060000
66.564	34.863	0.060000

67.557	34.853	0.060000
68.551	34.811	0.060000
69.544	34.702	0.060000
70.538	34.557	0.060000

Name: X022 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	36.881	0.060000
0.984	36.509	0.060000
1.969	36.162	0.060000
2.953	35.871	0.060000
3.938	35.665	0.060000
4.922	35.459	0.060000
5.907	35.196	0.060000
6.891	34.857	0.060000
7.876	34.413	0.060000
8.860	33.999	0.060000
9.845	33.678	0.060000
10.829	33.483	0.060000
11.814	33.258	0.060000
12.798	32.857	0.060000
13.783	32.454	0.060000
14.767	32.074	0.060000
15.752	31.720	0.060000
16.736	31.375	0.060000
17.721	31.084	0.060000
18.705	30.772	0.060000
19.689	30.494	0.060000
20.674	30.242	0.060000
21.658	29.953	0.060000
22.643	29.618	0.060000
23.627	29.355	0.060000
24.612	29.336	0.060000
25.596	29.449	0.060000
26.581	29.488	0.060000
27.565	29.425	0.060000
28.550	29.378	0.060000
29.534	29.329	0.060000
30.519	29.442	0.060000
31.503	29.667	0.060000
32.488	29.849	0.060000
33.472	30.057	0.060000
34.457	30.312	0.060000
35.441	30.582	0.060000
36.426	30.859	0.060000
37.410	31.181	0.060000
38.395	31.488	0.060000
39.379	31.826	0.060000
40.363	32.138	0.060000
41.348	32.394	0.060000
42.332	32.686	0.060000
43.317	33.007	0.060000
44.301	33.286	0.060000
45.286	33.472	0.060000
46.270	33.548	0.060000
47.255	33.551	0.060000
48.239	33.538	0.060000
49.224	33.513	0.060000
50.208	33.459	0.060000
51.193	33.389	0.060000
52.177	33.332	0.060000
53.162	33.289	0.060000
54.146	33.262	0.060000
55.131	33.236	0.060000
56.115	33.196	0.060000
57.100	33.169	0.060000
58.084	33.179	0.060000
59.068	33.198	0.060000
60.053	33.213	0.060000
61.037	33.211	0.060000
62.022	33.203	0.060000

Name: X024 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 61.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	36.763	0.060000
1.000	36.414	0.060000

1.999	36.107	0.060000
2.999	35.829	0.060000
3.998	35.498	0.060000
4.998	35.034	0.060000
5.997	34.553	0.060000
6.997	34.113	0.060000
7.996	33.652	0.060000
8.996	33.200	0.060000
9.995	32.727	0.060000
10.995	32.278	0.060000
11.994	31.917	0.060000
12.994	31.571	0.060000
13.993	31.261	0.060000
14.993	30.978	0.060000
15.992	30.677	0.060000
16.992	30.379	0.060000
17.991	30.097	0.060000
18.991	29.825	0.060000
19.990	29.532	0.060000
20.990	29.226	0.060000
21.989	28.931	0.060000
22.989	28.563	0.060000
23.988	28.168	0.060000
24.988	27.857	0.060000
25.987	27.569	0.060000
26.987	27.231	0.060000
27.986	26.882	0.060000
28.986	26.572	0.060000
29.985	26.320	0.060000
30.985	26.159	0.060000
31.984	26.065	0.060000
32.984	26.026	0.060000
33.983	26.032	0.060000
34.983	26.050	0.060000
35.982	26.083	0.060000
36.982	26.116	0.060000
37.981	26.149	0.060000
38.981	26.145	0.060000
39.980	26.086	0.060000
40.980	26.018	0.060000
41.979	25.985	0.060000
42.979	25.989	0.060000
43.978	26.042	0.060000
44.978	26.210	0.060000
45.977	26.299	0.060000
46.977	26.308	0.060000
47.976	26.412	0.060000
48.976	26.569	0.060000
49.975	26.745	0.060000
50.975	26.953	0.060000
51.974	27.217	0.060000
52.974	27.518	0.060000
53.973	27.811	0.060000
54.973	28.063	0.060000
55.972	28.254	0.060000
56.972	28.462	0.060000
57.971	28.724	0.060000
58.971	28.963	0.060000
59.970	29.128	0.060000
60.970	29.199	0.060000
61.969	29.182	0.060000
62.969	29.125	0.060000
63.968	29.069	0.060000
64.968	29.003	0.060000
65.967	28.923	0.060000
66.967	28.852	0.060000
67.966	28.807	0.060000
68.966	28.775	0.060000
69.965	28.758	0.060000
70.965	28.757	0.060000
71.964	28.733	0.060000
72.964	28.684	0.060000
73.964	28.649	0.060000
74.963	28.634	0.060000
75.963	28.624	0.060000

Name: X025 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	33.522	0.060000
1.000	33.249	0.060000
1.999	32.965	0.060000
2.999	32.586	0.060000
3.998	32.204	0.060000

4.998	31.936	0.060000
5.997	31.685	0.060000
6.997	31.401	0.060000
7.996	31.090	0.060000
8.996	30.737	0.060000
9.995	30.390	0.060000
10.995	30.079	0.060000
11.994	29.795	0.060000
12.994	29.514	0.060000
13.993	29.236	0.060000
14.993	28.960	0.060000
15.992	28.675	0.060000
16.992	28.310	0.060000
17.991	27.935	0.060000
18.991	27.609	0.060000
19.990	27.319	0.060000
20.990	27.054	0.060000
21.989	26.763	0.060000
22.989	26.486	0.060000
23.988	26.272	0.060000
24.988	26.105	0.060000
25.987	26.001	0.060000
26.987	25.987	0.060000
27.986	25.963	0.060000
28.986	25.911	0.060000
29.985	25.905	0.060000
30.985	25.963	0.060000
31.984	26.082	0.060000
32.984	26.302	0.060000
33.983	26.646	0.060000
34.983	26.893	0.060000
35.982	26.927	0.060000
36.982	26.825	0.060000
37.981	26.660	0.060000
38.981	26.518	0.060000
39.980	26.341	0.060000
40.980	26.201	0.060000
41.979	26.162	0.060000
42.979	26.209	0.060000
43.978	26.161	0.060000
44.978	26.174	0.060000
45.977	26.306	0.060000
46.977	26.388	0.060000
47.976	26.585	0.060000
48.976	26.917	0.060000
49.975	27.168	0.060000
50.975	27.410	0.060000
51.974	27.746	0.060000
52.974	28.021	0.060000
53.973	28.285	0.060000
54.973	28.569	0.060000
55.972	28.841	0.060000
56.972	29.063	0.060000
57.971	29.199	0.060000
58.971	29.252	0.060000
59.970	29.247	0.060000
60.970	29.190	0.060000
61.969	29.097	0.060000
62.969	29.003	0.060000
63.968	28.940	0.060000
64.968	28.911	0.060000
65.967	28.900	0.060000
66.967	28.904	0.060000
67.966	28.903	0.060000
68.966	28.883	0.060000
69.965	28.855	0.060000
70.965	28.842	0.060000
71.964	28.849	0.060000
72.964	28.879	0.060000
73.964	28.912	0.060000
74.963	28.943	0.060000
75.963	28.934	0.060000

Name: X026 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	31.579	0.060000
0.994	31.188	0.060000
1.988	30.776	0.060000
2.983	30.457	0.060000
3.977	30.196	0.060000
4.971	29.964	0.060000
5.965	29.728	0.060000
6.959	29.478	0.060000

7.953	29.216	0.060000
8.948	28.933	0.060000
9.942	28.677	0.060000
10.936	28.475	0.060000
11.930	28.230	0.060000
12.924	27.896	0.060000
13.919	27.581	0.060000
14.913	27.293	0.060000
15.907	27.036	0.060000
16.901	26.805	0.060000
17.895	26.506	0.060000
18.889	26.229	0.060000
19.884	26.008	0.060000
20.878	25.784	0.060000
21.872	25.587	0.060000
22.866	25.388	0.060000
23.860	25.201	0.060000
24.854	25.093	0.060000
25.849	25.077	0.060000
26.843	25.131	0.060000
27.837	25.205	0.060000
28.831	25.277	0.060000
29.825	25.331	0.060000
30.820	25.350	0.060000
31.814	25.328	0.060000
32.808	25.286	0.060000
33.802	25.305	0.060000
34.796	25.401	0.060000
35.790	25.467	0.060000
36.785	25.494	0.060000
37.779	25.474	0.060000
38.773	25.448	0.060000
39.767	25.369	0.060000
40.761	25.278	0.060000
41.756	25.304	0.060000
42.750	25.333	0.060000
43.744	25.398	0.060000
44.738	25.561	0.060000
45.732	25.777	0.060000
46.726	25.935	0.060000
47.721	26.112	0.060000
48.715	26.315	0.060000
49.709	26.550	0.060000
50.703	26.808	0.060000
51.697	26.997	0.060000
52.692	27.129	0.060000
53.686	27.268	0.060000
54.680	27.520	0.060000
55.674	27.933	0.060000
56.668	28.404	0.060000
57.662	28.728	0.060000
58.657	28.896	0.060000
59.651	28.961	0.060000
60.645	28.957	0.060000
61.639	28.892	0.060000
62.633	28.824	0.060000
63.627	28.775	0.060000
64.622	28.774	0.060000
65.616	28.779	0.060000
66.610	28.768	0.060000
67.604	28.736	0.060000
68.598	28.709	0.060000

Name: X027W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	31.100	0.000000
1.000	30.860	0.000000
2.000	30.570	0.000000
2.990	30.170	0.000000
3.990	29.780	0.000000
4.990	29.550	0.000000
5.990	29.360	0.000000
6.990	29.110	0.000000
7.980	28.810	0.000000
8.980	28.520	0.000000
9.980	28.230	0.000000
10.980	27.950	0.000000
11.980	27.690	0.000000
12.970	27.440	0.000000
13.970	27.160	0.000000
14.970	26.880	0.000000
15.970	26.590	0.000000
16.970	26.340	0.000000

17.970	26.150	0.000000
18.960	25.970	0.000000
19.960	25.810	0.000000
20.960	25.630	0.000000
21.960	25.450	0.000000
22.960	25.310	0.000000
23.950	25.180	0.000000
24.950	25.100	0.000000
25.950	25.070	0.000000
26.950	25.160	0.000000
27.950	25.210	0.000000
28.940	25.200	0.000000
29.940	25.170	0.000000
30.940	25.140	0.000000
31.940	25.150	0.000000
32.940	25.160	0.000000
33.930	25.110	0.000000
34.930	25.050	0.000000
35.930	25.050	0.000000
36.930	25.060	0.000000
37.930	25.060	0.000000
38.920	25.070	0.000000
39.920	25.060	0.000000
40.920	25.050	0.000000
41.920	25.030	0.000000
42.920	25.000	0.000000
43.910	24.980	0.000000
44.910	24.960	0.000000
45.910	24.960	0.000000
46.910	25.080	0.000000
47.910	25.270	0.000000
48.900	25.500	0.000000
49.900	25.780	0.000000
50.900	26.120	0.000000
51.900	26.490	0.000000
52.900	26.840	0.000000
53.900	27.140	0.000000
54.890	27.390	0.000000
55.890	27.670	0.000000
56.890	28.030	0.000000
57.890	28.380	0.000000
58.890	28.680	0.000000
59.880	28.890	0.000000
60.880	29.030	0.000000
61.880	29.150	0.000000

Name: X029 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 66.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	20.931	0.060000
0.997	20.682	0.060000
1.994	20.441	0.060000
2.990	20.143	0.060000
3.987	19.838	0.060000
4.984	19.532	0.060000
5.981	19.286	0.060000
6.978	19.094	0.060000
7.974	18.902	0.060000
8.971	18.695	0.060000
9.968	18.417	0.060000
10.965	18.189	0.060000
11.961	18.053	0.060000
12.958	17.970	0.060000
13.955	17.958	0.060000
14.952	17.811	0.060000
15.949	17.485	0.060000
16.945	17.290	0.060000
17.942	17.133	0.060000
18.939	17.044	0.060000
19.936	16.986	0.060000
20.933	17.236	0.060000
21.929	17.362	0.060000
22.926	17.463	0.060000
23.923	17.501	0.060000
24.920	17.432	0.060000
25.917	17.280	0.060000
26.913	17.178	0.060000
27.910	17.094	0.060000
28.907	17.105	0.060000
29.904	17.087	0.060000
30.900	17.058	0.060000
31.897	17.079	0.060000
32.894	17.071	0.060000

33.891	17.047	0.060000
34.888	16.996	0.060000
35.884	17.043	0.060000
36.881	17.218	0.060000
37.878	17.227	0.060000
38.875	17.212	0.060000
39.872	17.196	0.060000
40.868	17.087	0.060000
41.865	16.830	0.060000
42.862	16.801	0.060000
43.859	16.870	0.060000
44.856	17.007	0.060000
45.852	17.187	0.060000
46.849	17.369	0.060000
47.846	17.491	0.060000
48.843	17.568	0.060000
49.839	17.615	0.060000
50.836	17.636	0.060000
51.833	17.621	0.060000
52.830	17.612	0.060000
53.827	17.629	0.060000
54.823	17.673	0.060000
55.820	17.720	0.060000
56.817	17.761	0.060000
57.814	17.771	0.060000
58.811	17.774	0.060000
59.807	17.786	0.060000
60.804	17.784	0.060000
61.801	17.790	0.060000
62.798	17.821	0.060000
63.795	17.838	0.060000
64.791	17.826	0.060000
65.788	17.808	0.060000
66.785	17.780	0.060000
67.782	17.718	0.060000
68.778	17.616	0.060000
69.775	17.459	0.060000
70.772	17.271	0.060000
71.769	17.037	0.060000
72.766	16.768	0.060000
73.762	16.499	0.060000
74.759	16.232	0.060000
75.756	15.988	0.060000
76.753	15.763	0.060000
77.750	15.538	0.060000

Name: X030 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	21.847	0.060000
0.997	21.640	0.060000
1.994	21.457	0.060000
2.991	21.291	0.060000
3.988	21.095	0.060000
4.985	20.870	0.060000
5.981	20.672	0.060000
6.978	20.577	0.060000
7.975	20.573	0.060000
8.972	20.453	0.060000
9.969	20.293	0.060000
10.966	20.127	0.060000
11.963	19.857	0.060000
12.960	19.586	0.060000
13.957	19.290	0.060000
14.954	19.111	0.060000
15.951	18.936	0.060000
16.948	18.674	0.060000
17.944	18.577	0.060000
18.941	18.511	0.060000
19.938	18.244	0.060000
20.935	18.008	0.060000
21.932	17.823	0.060000
22.929	17.685	0.060000
23.926	17.473	0.060000
24.923	17.217	0.060000
25.920	17.000	0.060000
26.917	17.001	0.060000
27.914	17.102	0.060000
28.910	17.103	0.060000
29.907	16.944	0.060000
30.904	16.745	0.060000
31.901	16.569	0.060000
32.898	16.437	0.060000
33.895	16.297	0.060000

34.892	16.273	0.060000
35.889	16.295	0.060000
36.886	16.335	0.060000
37.883	16.399	0.060000
38.880	16.467	0.060000
39.877	16.496	0.060000
40.873	16.501	0.060000
41.870	16.474	0.060000
42.867	16.428	0.060000
43.864	16.380	0.060000
44.861	16.334	0.060000
45.858	16.290	0.060000
46.855	16.261	0.060000
47.852	16.260	0.060000
48.849	16.242	0.060000
49.846	16.302	0.060000
50.843	16.385	0.060000
51.839	16.435	0.060000
52.836	16.448	0.060000
53.833	16.463	0.060000
54.830	16.504	0.060000
55.827	16.519	0.060000
56.824	16.513	0.060000
57.821	16.536	0.060000
58.818	16.648	0.060000
59.815	16.818	0.060000
60.812	17.021	0.060000
61.809	17.193	0.060000
62.806	17.305	0.060000
63.802	17.308	0.060000
64.799	17.275	0.060000
65.796	17.259	0.060000
66.793	17.319	0.060000
67.790	17.386	0.060000
68.787	17.407	0.060000
69.784	17.394	0.060000
70.781	17.372	0.060000
71.778	17.365	0.060000
72.775	17.372	0.060000
73.772	17.415	0.060000
74.768	17.431	0.060000
75.765	17.430	0.060000
76.762	17.446	0.060000
77.759	17.431	0.060000
78.756	17.367	0.060000

Name: X031 Group: BASE
Encroachment: Yes
Left Station(ft): 0.000 Right Station(ft): 68.000

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	23.424	0.060000
0.991	23.127	0.060000
1.982	22.829	0.060000
2.973	22.540	0.060000
3.963	22.352	0.060000
4.954	22.221	0.060000
5.945	21.937	0.060000
6.936	21.680	0.060000
7.927	21.475	0.060000
8.918	21.274	0.060000
9.909	21.057	0.060000
10.899	20.872	0.060000
11.890	20.722	0.060000
12.881	20.517	0.060000
13.872	20.252	0.060000
14.863	19.978	0.060000
15.854	19.746	0.060000
16.845	19.545	0.060000
17.835	19.284	0.060000
18.826	19.018	0.060000
19.817	18.730	0.060000
20.808	18.385	0.060000
21.799	18.102	0.060000
22.790	17.912	0.060000
23.780	17.708	0.060000
24.771	17.421	0.060000
25.762	17.089	0.060000
26.753	16.888	0.060000
27.744	16.892	0.060000
28.735	16.967	0.060000
29.726	17.096	0.060000
30.716	17.210	0.060000
31.707	17.296	0.060000
32.698	17.364	0.060000

33.689	17.271	0.060000
34.680	16.942	0.060000
35.671	16.637	0.060000
36.662	16.456	0.060000
37.652	16.370	0.060000
38.643	16.326	0.060000
39.634	16.289	0.060000
40.625	16.277	0.060000
41.616	16.263	0.060000
42.607	16.256	0.060000
43.598	16.281	0.060000
44.588	16.307	0.060000
45.579	16.328	0.060000
46.570	16.363	0.060000
47.561	16.368	0.060000
48.552	16.337	0.060000
49.543	16.325	0.060000
50.534	16.358	0.060000
51.524	16.355	0.060000
52.515	16.399	0.060000
53.506	16.441	0.060000
54.497	16.381	0.060000
55.488	16.373	0.060000
56.479	16.351	0.060000
57.470	16.301	0.060000
58.460	16.303	0.060000
59.451	16.351	0.060000
60.442	16.432	0.060000
61.433	16.538	0.060000
62.424	16.664	0.060000
63.415	16.798	0.060000
64.405	16.933	0.060000
65.396	17.042	0.060000
66.387	17.106	0.060000
67.378	17.161	0.060000
68.369	17.201	0.060000
69.360	17.117	0.060000
70.351	16.999	0.060000
71.341	16.960	0.060000
72.332	16.909	0.060000
73.323	16.905	0.060000
74.314	16.931	0.060000
75.305	16.951	0.060000
76.296	16.971	0.060000
77.287	16.901	0.060000
78.277	16.746	0.060000
79.268	16.705	0.060000
80.259	16.738	0.060000
81.250	16.711	0.060000

Name: X033 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	27.474	0.060000
0.993	27.106	0.060000
1.987	26.659	0.060000
2.980	26.257	0.060000
3.973	25.904	0.060000
4.967	25.567	0.060000
5.960	25.271	0.060000
6.953	24.973	0.060000
7.947	24.718	0.060000
8.940	24.486	0.060000
9.933	24.229	0.060000
10.927	23.904	0.060000
11.920	23.515	0.060000
12.913	23.185	0.060000
13.907	22.829	0.060000
14.900	22.459	0.060000
15.894	22.116	0.060000
16.887	21.750	0.060000
17.880	21.384	0.060000
18.874	21.042	0.060000
19.867	20.649	0.060000
20.860	20.193	0.060000
21.854	19.722	0.060000
22.847	19.295	0.060000
23.840	18.928	0.060000
24.834	18.546	0.060000
25.827	18.222	0.060000
26.820	17.943	0.060000
27.814	17.503	0.060000
28.807	17.260	0.060000
29.800	16.918	0.060000

30.794	16.642	0.060000
31.787	16.515	0.060000
32.780	16.551	0.060000
33.774	16.521	0.060000
34.767	16.553	0.060000
35.760	16.391	0.060000
36.754	16.291	0.060000
37.747	16.136	0.060000
38.740	16.042	0.060000
39.734	16.014	0.060000
40.727	16.036	0.060000
41.720	16.145	0.060000
42.714	16.140	0.060000
43.707	16.036	0.060000
44.700	15.998	0.060000
45.694	15.979	0.060000
46.687	15.952	0.060000
47.680	15.925	0.060000
48.674	15.900	0.060000
49.667	15.885	0.060000
50.661	15.888	0.060000
51.654	15.895	0.060000
52.647	15.902	0.060000
53.641	15.909	0.060000
54.634	15.919	0.060000
55.627	15.932	0.060000
56.621	15.948	0.060000
57.614	15.970	0.060000
58.607	15.991	0.060000
59.601	16.013	0.060000
60.594	16.031	0.060000
61.587	16.038	0.060000
62.581	16.040	0.060000
63.574	16.038	0.060000
64.567	16.028	0.060000
65.561	16.070	0.060000
66.554	16.144	0.060000
67.547	16.151	0.060000
68.541	16.195	0.060000
69.534	16.207	0.060000
70.527	16.234	0.060000
71.521	16.309	0.060000
72.514	16.283	0.060000
73.507	16.205	0.060000
74.501	16.157	0.060000
75.494	16.161	0.060000
76.487	16.207	0.060000
77.481	16.406	0.060000
78.474	16.656	0.060000
79.467	16.794	0.060000
80.461	16.911	0.060000
81.454	16.992	0.060000
82.448	16.972	0.060000
83.441	16.919	0.060000
84.434	16.950	0.060000
85.428	17.055	0.060000
86.421	17.206	0.060000
87.414	17.359	0.060000
88.408	17.433	0.060000
89.401	17.374	0.060000
90.394	17.334	0.060000
91.388	17.319	0.060000
92.381	17.275	0.060000
93.374	17.278	0.060000
94.368	17.281	0.060000
95.361	17.259	0.060000
96.354	17.204	0.060000
97.348	17.182	0.060000
98.341	17.208	0.060000
99.334	17.243	0.060000
100.328	17.260	0.060000

Name: X035 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	24.846	0.060000
0.993	24.787	0.060000
1.987	24.742	0.060000
2.980	24.765	0.060000
3.973	24.784	0.060000
4.966	24.676	0.060000
5.960	24.475	0.060000
6.953	24.239	0.060000
7.946	24.017	0.060000

8.940	23.724	0.060000
9.933	23.336	0.060000
10.926	22.955	0.060000
11.920	22.637	0.060000
12.913	22.277	0.060000
13.906	22.008	0.060000
14.899	21.690	0.060000
15.893	21.229	0.060000
16.886	20.876	0.060000
17.879	20.705	0.060000
18.873	20.485	0.060000
19.866	20.027	0.060000
20.859	19.520	0.060000
21.852	19.043	0.060000
22.846	18.752	0.060000
23.839	18.540	0.060000
24.832	18.322	0.060000
25.826	17.965	0.060000
26.819	17.534	0.060000
27.812	17.078	0.060000
28.805	16.662	0.060000
29.799	16.390	0.060000
30.792	16.183	0.060000
31.785	15.950	0.060000
32.779	15.800	0.060000
33.772	15.612	0.060000
34.765	15.277	0.060000
35.759	15.013	0.060000
36.752	14.926	0.060000
37.745	14.859	0.060000
38.738	14.686	0.060000
39.732	14.576	0.060000
40.725	14.446	0.060000
41.718	14.457	0.060000
42.712	14.505	0.060000
43.705	14.550	0.060000
44.698	14.578	0.060000
45.691	14.684	0.060000
46.685	14.734	0.060000
47.678	14.788	0.060000
48.671	14.847	0.060000
49.665	14.904	0.060000
50.658	14.934	0.060000
51.651	14.950	0.060000
52.644	14.957	0.060000
53.638	14.951	0.060000
54.631	14.771	0.060000
55.624	14.800	0.060000
56.618	14.946	0.060000
57.611	14.888	0.060000
58.604	14.817	0.060000
59.598	14.955	0.060000
60.591	15.226	0.060000
61.584	15.602	0.060000
62.577	15.915	0.060000
63.571	16.066	0.060000
64.564	16.128	0.060000
65.557	16.172	0.060000
66.551	16.235	0.060000
67.544	16.360	0.060000
68.537	16.525	0.060000
69.530	16.676	0.060000
70.524	16.775	0.060000
71.517	16.816	0.060000
72.510	16.815	0.060000
73.504	16.777	0.060000
74.497	16.735	0.060000
75.490	16.730	0.060000
76.484	16.756	0.060000
77.477	16.786	0.060000
78.470	16.806	0.060000

Name: X039 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	24.575	0.060000
0.992	24.606	0.060000
1.984	24.619	0.060000
2.975	24.609	0.060000
3.967	24.620	0.060000
4.959	24.659	0.060000
5.951	24.649	0.060000
6.943	24.605	0.060000
7.934	24.571	0.060000

8.926	24.451	0.060000
9.918	24.280	0.060000
10.910	24.136	0.060000
11.902	24.036	0.060000
12.893	23.922	0.060000
13.885	23.679	0.060000
14.877	23.283	0.060000
15.869	22.886	0.060000
16.861	22.517	0.060000
17.852	22.185	0.060000
18.844	21.839	0.060000
19.836	21.467	0.060000
20.828	21.087	0.060000
21.820	20.650	0.060000
22.811	20.317	0.060000
23.803	20.055	0.060000
24.795	19.806	0.060000
25.787	19.522	0.060000
26.779	19.217	0.060000
27.770	18.837	0.060000
28.762	18.507	0.060000
29.754	18.228	0.060000
30.746	17.890	0.060000
31.738	17.500	0.060000
32.729	17.232	0.060000
33.721	16.847	0.060000
34.713	16.466	0.060000
35.705	16.196	0.060000
36.697	15.985	0.060000
37.688	15.760	0.060000
38.680	15.453	0.060000
39.672	15.158	0.060000
40.664	14.860	0.060000
41.656	14.648	0.060000
42.647	14.410	0.060000
43.639	14.174	0.060000
44.631	14.147	0.060000
45.623	14.055	0.060000
46.615	13.881	0.060000
47.606	13.713	0.060000
48.598	13.613	0.060000
49.590	13.672	0.060000
50.582	13.760	0.060000
51.574	13.745	0.060000
52.565	13.752	0.060000
53.557	13.803	0.060000
54.549	13.817	0.060000
55.541	13.825	0.060000
56.533	13.829	0.060000
57.524	13.822	0.060000
58.516	13.787	0.060000
59.508	13.823	0.060000
60.500	13.893	0.060000
61.492	13.880	0.060000
62.483	13.888	0.060000
63.475	13.919	0.060000
64.467	13.967	0.060000
65.459	14.230	0.060000
66.451	14.525	0.060000
67.442	14.796	0.060000
68.434	15.235	0.060000
69.426	15.602	0.060000
70.418	15.880	0.060000
71.410	16.068	0.060000
72.401	16.230	0.060000
73.393	16.388	0.060000
74.385	16.472	0.060000
75.377	16.549	0.060000
76.368	16.650	0.060000
77.360	16.669	0.060000
78.352	16.678	0.060000
79.344	16.712	0.060000
80.336	16.776	0.060000
81.328	16.862	0.060000
82.319	16.943	0.060000
83.311	16.985	0.060000
84.303	16.971	0.060000
85.295	16.980	0.060000
86.286	17.059	0.060000
87.278	17.157	0.060000
88.270	17.181	0.060000
89.262	17.165	0.060000
90.254	17.169	0.060000
91.245	17.197	0.060000
92.237	17.190	0.060000

Name: X040W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.020	0.000000
1.000	14.020	0.000000
1.990	14.040	0.000000
2.990	14.060	0.000000
3.990	14.050	0.000000
4.980	14.040	0.000000
5.980	14.090	0.000000
6.980	14.100	0.000000
7.980	14.080	0.000000
8.970	14.170	0.000000
9.970	14.260	0.000000
10.970	14.220	0.000000
11.960	13.940	0.000000
12.960	13.710	0.000000
13.960	13.630	0.000000
14.950	13.550	0.000000
15.950	13.480	0.000000
16.950	13.410	0.000000
17.940	13.360	0.000000
18.940	13.360	0.000000
19.940	13.340	0.000000
20.930	13.320	0.000000
21.930	13.290	0.000000
22.930	13.250	0.000000
23.930	13.210	0.000000
24.920	13.180	0.000000
25.920	13.170	0.000000
26.920	13.180	0.000000
27.910	13.220	0.000000
28.910	13.310	0.000000
29.910	13.350	0.000000
30.900	13.330	0.000000
31.900	13.340	0.000000
32.900	13.340	0.000000
33.890	13.360	0.000000
34.890	13.390	0.000000
35.890	13.420	0.000000
36.880	13.440	0.000000
37.880	13.430	0.000000
38.880	13.420	0.000000
39.880	13.420	0.000000
40.870	13.440	0.000000
41.870	13.470	0.000000
42.870	13.460	0.000000
43.860	13.420	0.000000
44.860	13.400	0.000000
45.860	13.410	0.000000
46.850	13.400	0.000000
47.850	13.370	0.000000
48.850	13.360	0.000000
49.840	13.410	0.000000
50.840	13.470	0.000000
51.840	13.480	0.000000
52.830	13.430	0.000000
53.830	13.400	0.000000
54.830	13.390	0.000000
55.830	13.390	0.000000
56.820	13.390	0.000000
57.820	13.390	0.000000
58.820	13.410	0.000000
59.810	13.420	0.000000
60.810	13.380	0.000000
61.810	13.340	0.000000
62.800	13.320	0.000000
63.800	13.300	0.000000
64.800	13.280	0.000000
65.790	13.270	0.000000
66.790	13.280	0.000000
67.790	13.280	0.000000
68.780	13.260	0.000000
69.780	13.270	0.000000
70.780	13.280	0.000000
71.780	13.280	0.000000
72.770	13.320	0.000000
73.770	13.340	0.000000
74.770	13.320	0.000000
75.770	13.290	0.000000
76.770	13.270	0.000000
77.770	13.270	0.000000
78.770	13.290	0.000000
79.770	13.300	0.000000
80.760	13.310	0.000000
81.760	13.300	0.000000
82.760	13.280	0.000000

83.760	13.270	0.000000
84.760	13.270	0.000000
85.760	13.280	0.000000
86.760	13.260	0.000000
87.760	13.240	0.000000
88.760	13.250	0.000000
89.750	13.260	0.000000
90.750	13.240	0.000000
91.750	13.240	0.000000
92.750	13.250	0.000000
93.750	13.260	0.000000
94.750	13.260	0.000000
95.750	13.250	0.000000
96.750	13.260	0.000000
97.740	13.290	0.000000
98.740	13.390	0.000000
99.740	13.510	0.000000
100.740	13.600	0.000000
101.740	13.660	0.000000
102.740	13.650	0.000000
103.740	13.560	0.000000
104.740	13.460	0.000000
105.740	13.460	0.000000
106.730	13.480	0.000000
107.730	13.430	0.000000
108.730	13.350	0.000000
109.730	13.300	0.000000
110.730	13.280	0.000000
111.730	13.270	0.000000
112.730	13.280	0.000000
113.730	13.280	0.000000
114.730	13.280	0.000000
115.720	13.280	0.000000
116.720	13.280	0.000000
117.720	13.280	0.000000
118.720	13.280	0.000000
119.720	13.280	0.000000
120.720	13.280	0.000000
121.720	13.280	0.000000
122.720	13.290	0.000000
123.710	13.280	0.000000
124.710	13.280	0.000000
125.710	13.280	0.000000
126.710	13.290	0.000000
127.710	13.280	0.000000
128.710	13.280	0.000000
129.710	13.270	0.000000
130.710	13.270	0.000000
131.710	13.280	0.000000
132.700	13.290	0.000000
133.700	13.280	0.000000
134.700	13.270	0.000000
135.700	13.280	0.000000
136.700	13.290	0.000000
137.700	13.280	0.000000
138.700	13.280	0.000000
139.700	13.270	0.000000
140.690	13.270	0.000000
141.690	13.280	0.000000
142.690	13.270	0.000000
143.690	13.260	0.000000
144.690	13.260	0.000000
145.690	13.270	0.000000
146.690	13.290	0.000000
147.690	13.290	0.000000
148.690	13.280	0.000000
149.680	13.290	0.000000
150.680	13.280	0.000000
151.680	13.270	0.000000
152.680	13.260	0.000000
153.680	13.270	0.000000
154.680	13.280	0.000000
155.680	13.280	0.000000
156.680	13.280	0.000000
157.670	13.290	0.000000
158.670	13.300	0.000000
159.670	13.320	0.000000
160.670	13.360	0.000000
161.670	13.370	0.000000
162.670	13.360	0.000000
163.670	13.380	0.000000
164.670	13.400	0.000000
165.670	13.420	0.000000
166.660	13.440	0.000000
167.660	13.460	0.000000
168.660	13.470	0.000000
169.660	13.520	0.000000
170.660	13.680	0.000000
171.660	13.800	0.000000

172.660	13.680	0.000000
173.660	13.520	0.000000
174.660	13.490	0.000000
175.650	13.490	0.000000
176.650	13.460	0.000000
177.650	13.450	0.000000
178.650	13.430	0.000000
179.650	13.410	0.000000
180.650	13.410	0.000000
181.650	13.430	0.000000
182.650	13.530	0.000000
183.640	13.700	0.000000
184.640	13.820	0.000000
185.640	13.810	0.000000
186.640	13.780	0.000000
187.640	13.730	0.000000
188.640	13.620	0.000000
189.640	13.470	0.000000
190.640	13.380	0.000000
191.640	13.350	0.000000
192.630	13.340	0.000000
193.630	13.340	0.000000
194.630	13.360	0.000000
195.630	13.410	0.000000
196.630	13.510	0.000000
197.630	13.660	0.000000
198.630	13.840	0.000000
199.630	14.030	0.000000
200.620	14.250	0.000000
201.620	14.600	0.000000
202.620	14.990	0.000000
203.620	15.230	0.000000
204.620	15.350	0.000000
205.620	15.520	0.000000
206.620	15.780	0.000000
207.620	16.010	0.000000
208.620	16.160	0.000000
209.610	16.300	0.000000
210.610	16.430	0.000000
211.610	16.520	0.000000
212.610	16.550	0.000000
213.610	16.530	0.000000
214.610	16.450	0.000000
215.610	16.360	0.000000

Name: X042W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.130	0.000000
0.990	14.140	0.000000
1.980	14.120	0.000000
2.980	14.140	0.000000
3.970	14.160	0.000000
4.960	14.130	0.000000
5.950	14.110	0.000000
6.940	14.100	0.000000
7.940	14.090	0.000000
8.930	14.060	0.000000
9.920	14.030	0.000000
10.910	14.000	0.000000
11.900	13.970	0.000000
12.900	13.980	0.000000
13.890	14.010	0.000000
14.880	14.020	0.000000
15.870	14.010	0.000000
16.860	14.000	0.000000
17.860	13.970	0.000000
18.850	13.950	0.000000
19.840	13.940	0.000000
20.830	13.920	0.000000
21.820	13.900	0.000000
22.820	13.890	0.000000
23.810	13.880	0.000000
24.800	13.870	0.000000
25.790	13.860	0.000000
26.780	13.890	0.000000
27.780	13.920	0.000000
28.770	13.910	0.000000
29.760	13.880	0.000000
30.750	13.890	0.000000
31.740	13.910	0.000000
32.740	13.930	0.000000
33.730	13.950	0.000000
34.720	13.950	0.000000

35.710	13.920	0.000000
36.700	13.890	0.000000
37.700	13.870	0.000000
38.690	13.870	0.000000
39.690	13.870	0.000000
40.680	13.830	0.000000
41.680	13.840	0.000000
42.680	13.840	0.000000
43.670	13.830	0.000000
44.670	13.830	0.000000
45.660	13.850	0.000000
46.660	13.890	0.000000
47.660	13.900	0.000000
48.650	13.870	0.000000
49.650	13.850	0.000000
50.640	13.860	0.000000
51.640	13.930	0.000000
52.640	13.970	0.000000
53.630	13.920	0.000000
54.630	13.930	0.000000
55.620	13.950	0.000000
56.620	13.990	0.000000
57.620	14.000	0.000000
58.610	14.010	0.000000
59.610	14.010	0.000000
60.600	14.010	0.000000
61.600	14.030	0.000000
62.600	14.030	0.000000
63.590	14.020	0.000000
64.590	14.040	0.000000
65.580	14.140	0.000000
66.580	14.200	0.000000
67.580	14.170	0.000000
68.570	14.130	0.000000
69.570	14.170	0.000000
70.560	14.210	0.000000
71.560	14.160	0.000000
72.560	14.130	0.000000
73.550	14.110	0.000000
74.550	14.130	0.000000
75.540	14.120	0.000000
76.540	14.110	0.000000
77.540	14.060	0.000000
78.530	14.090	0.000000
79.530	14.080	0.000000
80.520	14.080	0.000000
81.520	14.080	0.000000
82.520	14.070	0.000000
83.510	14.040	0.000000
84.510	14.030	0.000000
85.500	14.090	0.000000
86.500	14.100	0.000000
87.500	14.090	0.000000
88.490	14.080	0.000000
89.490	14.080	0.000000
90.490	14.090	0.000000
91.480	14.110	0.000000
92.480	14.180	0.000000
93.480	14.230	0.000000
94.470	14.230	0.000000
95.470	14.250	0.000000
96.460	14.240	0.000000
97.460	14.240	0.000000
98.460	14.220	0.000000
99.450	14.250	0.000000
100.450	14.270	0.000000
101.450	14.290	0.000000
102.440	14.310	0.000000
103.440	14.330	0.000000
104.440	14.380	0.000000
105.430	14.440	0.000000
106.430	14.440	0.000000
107.430	14.420	0.000000
108.420	14.390	0.000000
109.420	14.430	0.000000
110.410	14.470	0.000000
111.410	14.440	0.000000
112.410	14.430	0.000000
113.400	14.470	0.000000
114.400	14.480	0.000000
115.400	14.470	0.000000
116.390	14.480	0.000000
117.390	14.520	0.000000
118.390	14.530	0.000000
119.380	14.530	0.000000
120.380	14.530	0.000000
121.380	14.490	0.000000
122.370	14.480	0.000000
123.370	14.510	0.000000

124.360	14.530	0.000000
125.360	14.470	0.000000
126.360	14.430	0.000000
127.350	14.410	0.000000
128.330	14.410	0.000000
129.310	14.420	0.000000
130.290	14.420	0.000000
131.270	14.400	0.000000
132.250	14.380	0.000000
133.230	14.390	0.000000
134.210	14.400	0.000000
135.190	14.400	0.000000
136.170	14.400	0.000000
137.150	14.420	0.000000
138.130	14.470	0.000000
139.110	14.540	0.000000
140.090	14.580	0.000000
141.070	14.550	0.000000
142.050	14.500	0.000000
143.030	14.480	0.000000
144.010	14.470	0.000000
144.990	14.460	0.000000
145.970	14.450	0.000000
146.950	14.450	0.000000
147.930	14.440	0.000000
148.910	14.420	0.000000
149.890	14.410	0.000000
150.870	14.400	0.000000
151.850	14.400	0.000000
152.830	14.390	0.000000
153.810	14.460	0.000000
154.790	14.550	0.000000
155.770	14.630	0.000000
156.760	14.680	0.000000
157.760	14.680	0.000000
158.760	14.670	0.000000
159.750	14.680	0.000000
160.750	14.710	0.000000
161.740	14.750	0.000000
162.740	14.770	0.000000
163.740	14.800	0.000000
164.730	14.760	0.000000
165.730	14.670	0.000000
166.720	14.640	0.000000
167.720	14.730	0.000000
168.720	14.870	0.000000
169.710	14.870	0.000000
170.710	14.790	0.000000
171.700	14.730	0.000000
172.700	14.770	0.000000
173.690	14.810	0.000000
174.690	14.820	0.000000
175.690	14.880	0.000000
176.680	14.910	0.000000
177.680	14.910	0.000000
178.670	14.880	0.000000
179.670	14.890	0.000000
180.670	14.940	0.000000
181.660	14.970	0.000000
182.660	14.990	0.000000
183.650	15.040	0.000000
184.650	15.090	0.000000
185.650	15.000	0.000000
186.640	14.930	0.000000
187.640	14.880	0.000000
188.630	14.880	0.000000
189.630	14.880	0.000000
190.620	14.880	0.000000
191.620	14.830	0.000000
192.620	14.780	0.000000
193.610	14.840	0.000000
194.610	14.860	0.000000
195.600	14.850	0.000000
196.600	14.810	0.000000
197.600	14.790	0.000000
198.590	14.800	0.000000
199.590	14.870	0.000000
200.580	14.910	0.000000
201.580	14.910	0.000000
202.580	14.850	0.000000
203.570	14.840	0.000000
204.570	14.910	0.000000
205.560	15.010	0.000000
206.560	15.060	0.000000
207.550	15.090	0.000000
208.550	15.020	0.000000
209.540	14.970	0.000000
210.530	14.920	0.000000
211.530	14.900	0.000000

212.520	14.920	0.000000
213.510	14.920	0.000000
214.500	14.930	0.000000
215.500	14.880	0.000000
216.490	14.900	0.000000
217.480	14.960	0.000000
218.470	14.970	0.000000
219.470	14.940	0.000000
220.460	14.910	0.000000
221.450	14.930	0.000000
222.440	14.900	0.000000
223.430	14.920	0.000000
224.430	14.960	0.000000
225.420	14.980	0.000000
226.410	14.970	0.000000
227.400	14.940	0.000000
228.400	14.930	0.000000
229.390	14.920	0.000000
230.380	14.910	0.000000
231.370	14.920	0.000000
232.360	14.950	0.000000
233.360	14.970	0.000000
234.350	15.050	0.000000
235.340	15.070	0.000000
236.330	15.020	0.000000
237.330	14.950	0.000000
238.320	14.890	0.000000
239.310	14.840	0.000000
240.300	14.820	0.000000
241.300	14.820	0.000000
242.290	14.840	0.000000
243.280	14.880	0.000000
244.270	14.910	0.000000
245.260	14.910	0.000000
246.260	14.910	0.000000
247.250	14.910	0.000000
248.240	14.930	0.000000
249.230	14.960	0.000000
250.230	14.960	0.000000
251.220	14.960	0.000000
252.210	14.960	0.000000
253.200	14.950	0.000000
254.190	14.930	0.000000
255.190	14.910	0.000000
256.180	14.880	0.000000
257.170	14.850	0.000000
258.160	14.810	0.000000
259.160	14.740	0.000000
260.150	14.690	0.000000
261.140	14.670	0.000000
262.130	14.670	0.000000
263.120	14.690	0.000000
264.120	14.720	0.000000
265.110	14.720	0.000000
266.100	14.710	0.000000
267.090	14.720	0.000000
268.090	14.700	0.000000
269.080	14.690	0.000000
270.070	14.720	0.000000
271.060	14.730	0.000000
272.060	14.710	0.000000
273.050	14.700	0.000000
274.040	14.740	0.000000
275.030	14.810	0.000000
276.020	14.830	0.000000
277.020	14.790	0.000000
278.010	14.710	0.000000
279.000	14.620	0.000000
279.990	14.570	0.000000
280.990	14.610	0.000000
281.980	14.650	0.000000
282.970	14.670	0.000000
283.960	14.670	0.000000
284.950	14.660	0.000000
285.950	14.660	0.000000
286.940	14.660	0.000000
287.930	14.660	0.000000
288.920	14.670	0.000000
289.920	14.680	0.000000
290.910	14.700	0.000000
291.900	14.700	0.000000
292.890	14.720	0.000000
293.880	14.770	0.000000
294.880	14.790	0.000000
295.870	14.770	0.000000
296.860	14.780	0.000000
297.850	14.760	0.000000
298.850	14.760	0.000000
299.840	14.790	0.000000

300.830	14.810	0.000000
301.820	14.790	0.000000
302.820	14.780	0.000000
303.810	14.790	0.000000
304.800	14.820	0.000000
305.790	14.820	0.000000
306.780	14.800	0.000000
307.780	14.800	0.000000
308.770	14.840	0.000000
309.760	14.900	0.000000
310.750	14.900	0.000000
311.750	14.880	0.000000
312.740	14.880	0.000000
313.730	14.880	0.000000
314.720	14.900	0.000000
315.710	14.920	0.000000
316.710	14.930	0.000000
317.700	14.920	0.000000
318.690	14.920	0.000000
319.680	14.890	0.000000
320.680	14.900	0.000000
321.670	14.960	0.000000
322.660	15.010	0.000000
323.650	15.050	0.000000
324.640	15.080	0.000000
325.640	15.110	0.000000

Name: X042W2 Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	13.880	0.000000
0.990	13.880	0.000000
1.980	13.900	0.000000
2.970	13.900	0.000000
3.960	13.870	0.000000
4.950	13.850	0.000000
5.940	13.840	0.000000
6.930	13.830	0.000000
7.930	13.800	0.000000
8.920	13.760	0.000000
9.910	13.720	0.000000
10.900	13.670	0.000000
11.890	13.650	0.000000
12.880	13.620	0.000000
13.870	13.570	0.000000
14.860	13.540	0.000000
15.850	13.510	0.000000
16.840	13.490	0.000000
17.830	13.470	0.000000
18.820	13.450	0.000000
19.810	13.420	0.000000
20.800	13.400	0.000000
21.790	13.400	0.000000
22.780	13.410	0.000000
23.780	13.420	0.000000
24.770	13.450	0.000000
25.760	13.460	0.000000
26.750	13.430	0.000000
27.740	13.410	0.000000
28.730	13.400	0.000000
29.720	13.400	0.000000
30.710	13.390	0.000000
31.700	13.370	0.000000
32.690	13.350	0.000000
33.680	13.350	0.000000
34.670	13.350	0.000000
35.660	13.340	0.000000
36.650	13.310	0.000000
37.640	13.280	0.000000
38.630	13.260	0.000000
39.630	13.250	0.000000
40.620	13.260	0.000000
41.610	13.260	0.000000
42.600	13.250	0.000000
43.590	13.250	0.000000
44.580	13.270	0.000000
45.570	13.270	0.000000
46.560	13.260	0.000000
47.550	13.260	0.000000
48.540	13.270	0.000000
49.530	13.270	0.000000
50.520	13.260	0.000000
51.510	13.250	0.000000
52.500	13.270	0.000000

53.490	13.300	0.000000
54.480	13.320	0.000000
55.480	13.350	0.000000
56.470	13.350	0.000000
57.460	13.360	0.000000
58.450	13.360	0.000000
59.440	13.350	0.000000
60.430	13.310	0.000000
61.420	13.280	0.000000
62.410	13.270	0.000000
63.400	13.270	0.000000
64.390	13.300	0.000000
65.380	13.300	0.000000
66.370	13.300	0.000000
67.360	13.300	0.000000
68.350	13.290	0.000000
69.340	13.280	0.000000
70.330	13.270	0.000000
71.330	13.270	0.000000
72.320	13.260	0.000000
73.310	13.270	0.000000
74.300	13.260	0.000000
75.290	13.270	0.000000
76.280	13.270	0.000000
77.270	13.270	0.000000
78.260	13.270	0.000000
79.250	13.270	0.000000
80.250	13.260	0.000000
81.250	13.240	0.000000
82.250	13.230	0.000000
83.250	13.230	0.000000
84.250	13.230	0.000000
85.240	13.230	0.000000
86.240	13.250	0.000000
87.240	13.270	0.000000
88.240	13.280	0.000000
89.240	13.290	0.000000
90.240	13.290	0.000000
91.240	13.280	0.000000
92.240	13.280	0.000000
93.240	13.280	0.000000
94.240	13.300	0.000000
95.240	13.320	0.000000
96.230	13.300	0.000000
97.230	13.280	0.000000
98.230	13.270	0.000000
99.230	13.270	0.000000
100.230	13.290	0.000000
101.230	13.290	0.000000
102.230	13.310	0.000000
103.230	13.360	0.000000
104.230	13.360	0.000000
105.230	13.340	0.000000
106.220	13.300	0.000000
107.220	13.280	0.000000
108.220	13.270	0.000000
109.220	13.260	0.000000
110.220	13.270	0.000000
111.220	13.270	0.000000
112.220	13.270	0.000000
113.220	13.270	0.000000
114.220	13.270	0.000000
115.220	13.270	0.000000
116.220	13.260	0.000000
117.210	13.250	0.000000
118.210	13.250	0.000000
119.210	13.250	0.000000
120.210	13.250	0.000000
121.210	13.270	0.000000
122.210	13.270	0.000000
123.210	13.270	0.000000
124.210	13.270	0.000000
125.210	13.280	0.000000
126.210	13.270	0.000000
127.200	13.270	0.000000
128.200	13.280	0.000000
129.200	13.290	0.000000
130.200	13.310	0.000000
131.200	13.330	0.000000
132.200	13.350	0.000000
133.200	13.340	0.000000
134.200	13.340	0.000000
135.200	13.320	0.000000
136.200	13.310	0.000000
137.200	13.300	0.000000
138.190	13.280	0.000000
139.190	13.280	0.000000
140.190	13.280	0.000000
141.190	13.280	0.000000

142.190	13.280	0.000000
143.190	13.270	0.000000
144.190	13.260	0.000000
145.190	13.240	0.000000
146.190	13.230	0.000000
147.190	13.230	0.000000
148.180	13.240	0.000000
149.180	13.240	0.000000
150.180	13.220	0.000000
151.180	13.220	0.000000
152.180	13.220	0.000000
153.180	13.220	0.000000
154.180	13.230	0.000000
155.180	13.240	0.000000
156.180	13.250	0.000000
157.180	13.240	0.000000
158.180	13.230	0.000000
159.170	13.250	0.000000
160.170	13.270	0.000000
161.170	13.280	0.000000
162.170	13.260	0.000000
163.170	13.270	0.000000
164.170	13.280	0.000000
165.170	13.300	0.000000
166.170	13.310	0.000000
167.170	13.310	0.000000
168.170	13.300	0.000000
169.170	13.290	0.000000
170.170	13.300	0.000000
171.170	13.310	0.000000
172.170	13.300	0.000000
173.170	13.310	0.000000
174.170	13.300	0.000000
175.170	13.300	0.000000
176.170	13.300	0.000000
177.170	13.300	0.000000
178.170	13.320	0.000000
179.170	13.290	0.000000
180.170	13.280	0.000000
181.170	13.300	0.000000
182.170	13.300	0.000000
183.170	13.300	0.000000
184.170	13.300	0.000000
185.170	13.310	0.000000
186.170	13.290	0.000000
187.170	13.280	0.000000
188.170	13.250	0.000000
189.170	13.250	0.000000
190.170	13.280	0.000000
191.170	13.310	0.000000
192.170	13.320	0.000000
193.170	13.290	0.000000
194.170	13.290	0.000000
195.170	13.280	0.000000
196.170	13.270	0.000000
197.170	13.260	0.000000
198.170	13.250	0.000000
199.170	13.250	0.000000
200.170	13.240	0.000000
201.170	13.270	0.000000
202.160	13.290	0.000000
203.160	13.300	0.000000
204.160	13.290	0.000000
205.160	13.290	0.000000
206.160	13.290	0.000000
207.160	13.280	0.000000
208.160	13.270	0.000000
209.160	13.260	0.000000
210.160	13.260	0.000000
211.160	13.260	0.000000
212.160	13.240	0.000000
213.160	13.230	0.000000
214.160	13.230	0.000000
215.160	13.230	0.000000
216.160	13.240	0.000000
217.160	13.230	0.000000
218.160	13.230	0.000000
219.160	13.240	0.000000
220.160	13.250	0.000000
221.160	13.270	0.000000
222.160	13.340	0.000000
223.160	13.420	0.000000
224.160	13.390	0.000000
225.160	13.350	0.000000
226.160	13.370	0.000000
227.160	13.350	0.000000
228.160	13.370	0.000000
229.160	13.340	0.000000
230.160	13.320	0.000000

231.160	13.290	0.000000
232.160	13.290	0.000000
233.160	13.270	0.000000
234.160	13.240	0.000000
235.160	13.230	0.000000
236.160	13.240	0.000000
237.160	13.250	0.000000
238.160	13.250	0.000000
239.160	13.260	0.000000
240.160	13.260	0.000000
241.160	13.270	0.000000
242.160	13.290	0.000000
243.160	13.300	0.000000
244.160	13.280	0.000000
245.160	13.260	0.000000
246.160	13.250	0.000000
247.160	13.250	0.000000
248.160	13.310	0.000000
249.160	13.290	0.000000
250.160	13.270	0.000000
251.160	13.320	0.000000
252.160	13.380	0.000000
253.160	13.380	0.000000
254.160	13.400	0.000000
255.160	13.440	0.000000
256.160	13.440	0.000000
257.160	13.360	0.000000
258.150	13.310	0.000000
259.150	13.300	0.000000
260.150	13.280	0.000000
261.150	13.280	0.000000
262.150	13.270	0.000000
263.150	13.290	0.000000
264.150	13.300	0.000000
265.150	13.300	0.000000
266.150	13.300	0.000000
267.150	13.300	0.000000
268.150	13.300	0.000000
269.150	13.300	0.000000
270.150	13.310	0.000000
271.150	13.310	0.000000
272.150	13.320	0.000000
273.150	13.340	0.000000
274.150	13.340	0.000000
275.150	13.340	0.000000
276.150	13.340	0.000000
277.150	13.310	0.000000
278.150	13.280	0.000000
279.150	13.300	0.000000
280.150	13.360	0.000000
281.150	13.490	0.000000
282.150	13.620	0.000000
283.150	13.780	0.000000
284.150	13.910	0.000000
285.150	14.010	0.000000
286.150	13.930	0.000000
287.150	13.700	0.000000
288.150	13.860	0.000000
289.150	13.850	0.000000
290.150	13.810	0.000000
291.150	13.790	0.000000
292.150	13.810	0.000000
293.150	13.790	0.000000
294.150	13.830	0.000000
295.150	13.880	0.000000
296.150	13.860	0.000000
297.150	13.770	0.000000
298.150	13.720	0.000000
299.150	13.680	0.000000
300.150	13.670	0.000000
301.150	13.730	0.000000
302.150	13.770	0.000000
303.150	13.700	0.000000
304.130	13.780	0.000000
305.120	13.880	0.000000
306.110	13.890	0.000000
307.100	13.810	0.000000
308.090	13.710	0.000000
309.070	13.680	0.000000
310.060	13.640	0.000000
311.050	13.530	0.000000
312.040	13.540	0.000000
313.020	13.600	0.000000
314.010	13.600	0.000000
315.000	13.590	0.000000
315.990	13.620	0.000000
316.970	13.670	0.000000
317.960	13.710	0.000000
318.950	13.660	0.000000

319.940	13.670	0.000000
320.920	13.640	0.000000
321.910	13.630	0.000000
322.900	13.640	0.000000
323.890	13.540	0.000000
324.880	13.510	0.000000
325.860	13.500	0.000000
326.850	13.490	0.000000
327.840	13.480	0.000000
328.830	13.410	0.000000
329.810	13.410	0.000000
330.800	13.410	0.000000
331.790	13.390	0.000000
332.780	13.380	0.000000
333.760	13.400	0.000000
334.750	13.410	0.000000
335.740	13.420	0.000000
336.730	13.450	0.000000
337.710	13.490	0.000000
338.700	13.570	0.000000
339.690	13.620	0.000000
340.680	13.530	0.000000
341.670	13.440	0.000000
342.650	13.420	0.000000
343.640	13.430	0.000000
344.630	13.470	0.000000
345.620	13.490	0.000000
346.600	13.500	0.000000
347.590	13.510	0.000000
348.580	13.520	0.000000
349.570	13.510	0.000000
350.550	13.510	0.000000
351.540	13.520	0.000000
352.530	13.510	0.000000
353.520	13.520	0.000000
354.500	13.570	0.000000
355.490	13.630	0.000000
356.480	13.580	0.000000
357.470	13.530	0.000000
358.460	13.520	0.000000
359.440	13.510	0.000000
360.430	13.500	0.000000
361.420	13.540	0.000000
362.410	13.560	0.000000
363.390	13.550	0.000000
364.380	13.540	0.000000
365.370	13.540	0.000000
366.360	13.540	0.000000
367.340	13.560	0.000000
368.330	13.570	0.000000
369.320	13.570	0.000000
370.310	13.570	0.000000
371.290	13.590	0.000000
372.280	13.630	0.000000
373.270	13.640	0.000000
374.260	13.630	0.000000
375.250	13.610	0.000000
376.230	13.620	0.000000
377.220	13.660	0.000000
378.210	13.670	0.000000
379.200	13.630	0.000000
380.190	13.580	0.000000
381.180	13.570	0.000000
382.180	13.570	0.000000
383.170	13.560	0.000000
384.160	13.580	0.000000
385.150	13.580	0.000000
386.150	13.550	0.000000
387.140	13.490	0.000000
388.130	13.430	0.000000
389.130	13.420	0.000000
390.120	13.400	0.000000
391.110	13.380	0.000000
392.110	13.380	0.000000
393.100	13.350	0.000000
394.090	13.380	0.000000
395.090	13.390	0.000000
396.080	13.370	0.000000
397.070	13.370	0.000000
398.070	13.400	0.000000
399.060	13.440	0.000000
400.050	13.500	0.000000
401.040	13.540	0.000000
402.040	13.510	0.000000
403.030	13.430	0.000000
404.020	13.370	0.000000
405.020	13.330	0.000000
406.010	13.310	0.000000
407.000	13.300	0.000000

408.000	13.320	0.000000
408.990	13.350	0.000000
409.980	13.390	0.000000
410.980	13.410	0.000000
411.970	13.420	0.000000
412.960	13.430	0.000000
413.960	13.450	0.000000
414.950	13.510	0.000000
415.940	13.540	0.000000
416.930	13.560	0.000000
417.930	13.560	0.000000
418.920	13.570	0.000000
419.910	13.600	0.000000
420.910	13.610	0.000000
421.900	13.570	0.000000
422.890	13.570	0.000000
423.890	13.550	0.000000
424.880	13.560	0.000000
425.870	13.580	0.000000
426.870	13.580	0.000000
427.860	13.580	0.000000
428.850	13.580	0.000000
429.850	13.550	0.000000
430.840	13.540	0.000000
431.830	13.580	0.000000
432.820	13.620	0.000000
433.820	13.640	0.000000
434.810	13.660	0.000000
435.800	13.680	0.000000

Name: X043W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.190	0.000000
0.980	14.180	0.000000
1.970	14.190	0.000000
2.950	14.160	0.000000
3.940	14.130	0.000000
4.920	14.110	0.000000
5.900	14.100	0.000000
6.890	14.100	0.000000
7.870	14.090	0.000000
8.860	14.060	0.000000
9.840	14.040	0.000000
10.830	14.020	0.000000
11.810	14.000	0.000000
12.790	14.000	0.000000
13.780	14.000	0.000000
14.760	14.000	0.000000
15.750	13.990	0.000000
16.730	13.980	0.000000
17.710	13.990	0.000000
18.700	13.970	0.000000
19.680	13.950	0.000000
20.670	13.960	0.000000
21.650	13.970	0.000000
22.630	13.970	0.000000
23.620	13.960	0.000000
24.600	13.940	0.000000
25.590	13.920	0.000000
26.570	13.940	0.000000
27.550	13.940	0.000000
28.540	13.940	0.000000
29.520	13.960	0.000000
30.510	13.960	0.000000
31.490	13.960	0.000000
32.480	13.940	0.000000
33.460	13.910	0.000000
34.440	13.910	0.000000
35.430	13.910	0.000000
36.410	13.890	0.000000
37.400	13.880	0.000000
38.380	13.870	0.000000
39.360	13.850	0.000000
40.350	13.860	0.000000
41.330	13.880	0.000000
42.320	13.870	0.000000
43.300	13.860	0.000000
44.280	13.850	0.000000
45.270	13.830	0.000000
46.250	13.820	0.000000
47.240	13.830	0.000000
48.220	13.830	0.000000
49.210	13.840	0.000000

50.190	13.870	0.000000
51.170	13.880	0.000000
52.160	13.900	0.000000
53.150	13.910	0.000000
54.140	13.910	0.000000
55.140	13.950	0.000000
56.130	14.000	0.000000
57.120	13.970	0.000000
58.110	13.920	0.000000
59.110	13.880	0.000000
60.100	13.860	0.000000
61.090	13.820	0.000000
62.090	13.800	0.000000
63.080	13.800	0.000000
64.070	13.790	0.000000
65.060	13.800	0.000000
66.060	13.800	0.000000
67.050	13.790	0.000000
68.040	13.780	0.000000
69.040	13.790	0.000000
70.030	13.790	0.000000
71.020	13.780	0.000000
72.010	13.760	0.000000
73.010	13.750	0.000000
74.000	13.750	0.000000
74.990	13.770	0.000000
75.990	13.780	0.000000
76.980	13.800	0.000000
77.970	13.770	0.000000
78.970	13.750	0.000000
79.960	13.750	0.000000
80.950	13.750	0.000000
81.940	13.740	0.000000
82.940	13.730	0.000000
83.930	13.710	0.000000
84.920	13.690	0.000000
85.920	13.690	0.000000
86.910	13.700	0.000000
87.900	13.700	0.000000
88.890	13.700	0.000000
89.890	13.720	0.000000
90.880	13.750	0.000000
91.870	13.760	0.000000
92.870	13.770	0.000000
93.860	13.800	0.000000
94.850	13.830	0.000000
95.840	13.830	0.000000
96.840	13.810	0.000000
97.830	13.800	0.000000
98.820	13.760	0.000000
99.820	13.760	0.000000
100.810	13.750	0.000000
101.800	13.740	0.000000
102.790	13.750	0.000000
103.790	13.770	0.000000
104.780	13.820	0.000000
105.770	13.850	0.000000
106.760	13.810	0.000000
107.750	13.750	0.000000
108.730	13.720	0.000000
109.720	13.750	0.000000
110.710	13.810	0.000000
111.700	13.820	0.000000
112.680	13.770	0.000000
113.670	13.710	0.000000
114.660	13.680	0.000000
115.650	13.660	0.000000
116.630	13.660	0.000000
117.620	13.670	0.000000
118.610	13.650	0.000000
119.590	13.640	0.000000
120.580	13.650	0.000000
121.570	13.720	0.000000
122.560	13.800	0.000000
123.540	13.790	0.000000
124.530	13.770	0.000000
125.520	13.770	0.000000
126.510	13.750	0.000000
127.490	13.730	0.000000
128.480	13.750	0.000000
129.470	13.770	0.000000
130.450	13.750	0.000000
131.440	13.730	0.000000
132.430	13.700	0.000000
133.420	13.710	0.000000
134.400	13.720	0.000000
135.390	13.720	0.000000
136.380	13.740	0.000000
137.370	13.780	0.000000

138.350	13.830	0.000000
139.340	13.870	0.000000
140.330	13.850	0.000000
141.310	13.790	0.000000
142.300	13.760	0.000000
143.290	13.730	0.000000
144.280	13.680	0.000000
145.260	13.650	0.000000
146.250	13.630	0.000000
147.240	13.620	0.000000
148.230	13.630	0.000000
149.210	13.620	0.000000
150.200	13.610	0.000000
151.190	13.630	0.000000
152.170	13.630	0.000000
153.160	13.630	0.000000
154.150	13.650	0.000000
155.140	13.670	0.000000
156.120	13.680	0.000000
157.110	13.690	0.000000
158.100	13.690	0.000000
159.090	13.710	0.000000
160.070	13.730	0.000000
161.060	13.740	0.000000
162.050	13.760	0.000000
163.030	13.780	0.000000
164.020	13.830	0.000000
165.010	13.850	0.000000
166.000	13.840	0.000000
166.980	13.800	0.000000
167.970	13.780	0.000000
168.960	13.770	0.000000
169.950	13.760	0.000000
170.930	13.770	0.000000
171.920	13.790	0.000000
172.910	13.820	0.000000
173.890	13.840	0.000000
174.880	13.850	0.000000
175.880	13.830	0.000000
176.870	13.790	0.000000
177.860	13.740	0.000000
178.850	13.720	0.000000
179.840	13.710	0.000000
180.830	13.690	0.000000
181.820	13.670	0.000000
182.810	13.660	0.000000
183.800	13.670	0.000000
184.790	13.670	0.000000
185.780	13.670	0.000000
186.770	13.670	0.000000
187.760	13.670	0.000000
188.750	13.680	0.000000
189.750	13.680	0.000000
190.740	13.670	0.000000
191.730	13.670	0.000000
192.720	13.670	0.000000
193.710	13.660	0.000000
194.700	13.670	0.000000
195.690	13.670	0.000000
196.680	13.660	0.000000
197.670	13.650	0.000000
198.660	13.650	0.000000
199.650	13.660	0.000000
200.640	13.660	0.000000
201.630	13.670	0.000000
202.620	13.680	0.000000
203.610	13.670	0.000000
204.610	13.670	0.000000
205.600	13.660	0.000000
206.590	13.680	0.000000
207.580	13.700	0.000000
208.570	13.720	0.000000
209.560	13.730	0.000000
210.550	13.750	0.000000
211.540	13.790	0.000000
212.530	13.800	0.000000
213.520	13.780	0.000000
214.510	13.750	0.000000
215.500	13.730	0.000000
216.490	13.730	0.000000
217.480	13.730	0.000000
218.480	13.720	0.000000
219.470	13.690	0.000000
220.460	13.680	0.000000
221.450	13.660	0.000000
222.440	13.650	0.000000
223.430	13.630	0.000000
224.420	13.620	0.000000
225.410	13.640	0.000000

226.400	13.680	0.000000
227.390	13.680	0.000000
228.380	13.660	0.000000
229.370	13.670	0.000000
230.360	13.680	0.000000
231.350	13.690	0.000000
232.340	13.710	0.000000
233.340	13.710	0.000000
234.330	13.720	0.000000
235.320	13.710	0.000000
236.310	13.700	0.000000
237.300	13.690	0.000000
238.290	13.720	0.000000
239.280	13.740	0.000000
240.270	13.730	0.000000
241.260	13.710	0.000000
242.250	13.700	0.000000
243.240	13.690	0.000000
244.230	13.720	0.000000
245.220	13.740	0.000000
246.210	13.740	0.000000
247.210	13.720	0.000000
248.200	13.710	0.000000
249.180	13.740	0.000000
250.160	13.750	0.000000
251.140	13.750	0.000000
252.120	13.750	0.000000
253.100	13.760	0.000000
254.090	13.760	0.000000
255.070	13.760	0.000000
256.050	13.770	0.000000
257.030	13.810	0.000000
258.010	13.830	0.000000
259.000	13.840	0.000000
259.980	13.860	0.000000
260.960	13.860	0.000000
261.940	13.840	0.000000
262.920	13.810	0.000000
263.900	13.810	0.000000
264.890	13.820	0.000000
265.870	13.840	0.000000
266.850	13.860	0.000000
267.830	13.900	0.000000
268.810	13.910	0.000000
269.790	13.910	0.000000
270.780	13.910	0.000000
271.760	13.890	0.000000
272.740	13.880	0.000000
273.720	13.890	0.000000
274.700	13.900	0.000000
275.680	13.910	0.000000
276.670	13.920	0.000000
277.650	13.920	0.000000
278.630	13.940	0.000000
279.610	13.950	0.000000
280.590	13.960	0.000000
281.570	13.970	0.000000
282.560	13.950	0.000000
283.540	13.920	0.000000
284.520	13.920	0.000000
285.500	13.930	0.000000
286.480	13.930	0.000000
287.470	13.940	0.000000
288.450	13.950	0.000000
289.430	13.970	0.000000
290.410	13.980	0.000000
291.390	13.990	0.000000
292.390	13.990	0.000000
293.390	13.990	0.000000
294.380	14.000	0.000000
295.380	14.000	0.000000
296.380	14.000	0.000000
297.370	14.010	0.000000
298.370	14.010	0.000000
299.370	14.010	0.000000
300.360	14.010	0.000000
301.360	13.990	0.000000
302.360	13.970	0.000000
303.350	13.970	0.000000
304.350	13.990	0.000000
305.350	14.000	0.000000
306.340	13.980	0.000000
307.340	13.980	0.000000
308.340	13.990	0.000000
309.330	14.000	0.000000
310.330	13.980	0.000000
311.330	13.980	0.000000
312.320	13.990	0.000000
313.320	14.020	0.000000

314.320	14.030	0.000000
315.320	14.010	0.000000
316.310	14.010	0.000000
317.310	14.010	0.000000
318.310	14.010	0.000000
319.300	14.000	0.000000
320.300	14.010	0.000000
321.300	14.060	0.000000
322.290	14.080	0.000000
323.290	14.080	0.000000
324.280	14.080	0.000000
325.270	14.070	0.000000
326.270	14.060	0.000000
327.260	14.050	0.000000
328.260	14.040	0.000000
329.250	14.050	0.000000
330.240	14.050	0.000000
331.240	14.040	0.000000
332.230	14.060	0.000000
333.220	14.090	0.000000
334.220	14.100	0.000000
335.210	14.080	0.000000
336.210	14.080	0.000000
337.200	14.090	0.000000
338.190	14.120	0.000000
339.190	14.170	0.000000
340.180	14.260	0.000000
341.180	14.310	0.000000
342.170	14.220	0.000000
343.160	14.090	0.000000
344.160	13.980	0.000000
345.150	13.930	0.000000
346.140	13.970	0.000000

Name: X044W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.010	0.000000
0.990	14.010	0.000000
1.980	13.970	0.000000
2.970	13.940	0.000000
3.950	13.910	0.000000
4.940	13.900	0.000000
5.930	13.890	0.000000
6.920	13.870	0.000000
7.910	13.850	0.000000
8.900	13.830	0.000000
9.890	13.810	0.000000
10.870	13.800	0.000000
11.860	13.780	0.000000
12.850	13.770	0.000000
13.840	13.750	0.000000
14.830	13.730	0.000000
15.820	13.710	0.000000
16.810	13.690	0.000000
17.790	13.670	0.000000
18.780	13.660	0.000000
19.770	13.650	0.000000
20.760	13.640	0.000000
21.750	13.620	0.000000
22.740	13.600	0.000000
23.730	13.590	0.000000
24.710	13.590	0.000000
25.700	13.580	0.000000
26.690	13.570	0.000000
27.680	13.570	0.000000
28.670	13.570	0.000000
29.660	13.560	0.000000
30.650	13.540	0.000000
31.630	13.550	0.000000
32.620	13.560	0.000000
33.610	13.560	0.000000
34.600	13.560	0.000000
35.590	13.560	0.000000
36.580	13.550	0.000000
37.570	13.530	0.000000
38.560	13.520	0.000000
39.540	13.520	0.000000
40.520	13.520	0.000000
41.500	13.520	0.000000
42.480	13.510	0.000000
43.460	13.510	0.000000
44.440	13.510	0.000000
45.410	13.510	0.000000

46.390	13.510	0.000000
47.370	13.520	0.000000
48.350	13.530	0.000000
49.330	13.540	0.000000
50.300	13.540	0.000000
51.280	13.560	0.000000
52.260	13.570	0.000000
53.240	13.560	0.000000
54.220	13.560	0.000000
55.200	13.570	0.000000
56.170	13.590	0.000000
57.150	13.600	0.000000
58.130	13.600	0.000000
59.110	13.600	0.000000
60.090	13.590	0.000000
61.070	13.590	0.000000
62.040	13.590	0.000000
63.020	13.590	0.000000
64.000	13.590	0.000000
64.980	13.590	0.000000
65.960	13.590	0.000000
66.940	13.580	0.000000
67.910	13.570	0.000000
68.890	13.570	0.000000
69.870	13.550	0.000000
70.850	13.530	0.000000
71.830	13.510	0.000000
72.810	13.500	0.000000
73.780	13.510	0.000000
74.760	13.500	0.000000
75.740	13.500	0.000000
76.720	13.500	0.000000
77.700	13.500	0.000000
78.680	13.500	0.000000
79.670	13.480	0.000000
80.660	13.460	0.000000
81.640	13.440	0.000000
82.630	13.430	0.000000
83.620	13.420	0.000000
84.600	13.410	0.000000
85.590	13.390	0.000000
86.580	13.370	0.000000
87.560	13.370	0.000000
88.550	13.360	0.000000
89.540	13.350	0.000000
90.520	13.340	0.000000
91.510	13.330	0.000000
92.500	13.330	0.000000
93.480	13.330	0.000000
94.470	13.330	0.000000
95.450	13.320	0.000000
96.440	13.310	0.000000
97.430	13.310	0.000000
98.410	13.310	0.000000
99.390	13.320	0.000000
100.370	13.330	0.000000
101.350	13.350	0.000000
102.330	13.350	0.000000
103.310	13.350	0.000000
104.290	13.350	0.000000
105.270	13.350	0.000000
106.250	13.350	0.000000
107.230	13.350	0.000000
108.210	13.330	0.000000
109.200	13.300	0.000000
110.180	13.270	0.000000
111.160	13.280	0.000000
112.140	13.290	0.000000
113.120	13.300	0.000000
114.100	13.330	0.000000
115.080	13.360	0.000000
116.060	13.390	0.000000
117.040	13.420	0.000000
118.020	13.440	0.000000
119.000	13.450	0.000000
119.980	13.440	0.000000
120.960	13.420	0.000000
121.940	13.420	0.000000
122.920	13.420	0.000000
123.900	13.420	0.000000
124.880	13.410	0.000000
125.860	13.410	0.000000
126.840	13.410	0.000000
127.820	13.410	0.000000
128.800	13.420	0.000000
129.780	13.430	0.000000
130.760	13.440	0.000000
131.740	13.450	0.000000
132.720	13.430	0.000000

133.700	13.420	0.000000
134.680	13.440	0.000000
135.660	13.440	0.000000
136.640	13.430	0.000000
137.620	13.430	0.000000
138.600	13.420	0.000000
139.580	13.390	0.000000
140.560	13.370	0.000000
141.540	13.350	0.000000
142.520	13.330	0.000000
143.490	13.320	0.000000
144.450	13.320	0.000000
145.420	13.340	0.000000
146.390	13.340	0.000000
147.360	13.360	0.000000
148.330	13.350	0.000000
149.300	13.350	0.000000
150.270	13.360	0.000000
151.240	13.360	0.000000
152.200	13.340	0.000000
153.170	13.340	0.000000
154.140	13.350	0.000000
155.110	13.360	0.000000
156.080	13.380	0.000000
157.050	13.420	0.000000
158.020	13.440	0.000000
158.980	13.410	0.000000
159.950	13.390	0.000000
160.920	13.390	0.000000
161.890	13.410	0.000000
162.860	13.420	0.000000
163.830	13.440	0.000000
164.800	13.460	0.000000
165.770	13.480	0.000000
166.730	13.500	0.000000
167.700	13.540	0.000000
168.670	13.570	0.000000
169.640	13.590	0.000000
170.610	13.620	0.000000
171.580	13.660	0.000000
172.540	13.690	0.000000
173.510	13.730	0.000000
174.480	13.770	0.000000
175.450	13.820	0.000000
176.420	13.880	0.000000
177.390	13.930	0.000000
178.350	13.990	0.000000
179.320	14.060	0.000000
180.290	14.130	0.000000
181.260	14.220	0.000000
182.230	14.300	0.000000
183.190	14.390	0.000000
184.160	14.460	0.000000
185.130	14.540	0.000000
186.100	14.620	0.000000
187.070	14.710	0.000000
188.040	14.790	0.000000
189.000	14.890	0.000000
189.970	14.990	0.000000
190.940	15.100	0.000000

Name: X045W Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	17.460	0.000000
0.950	17.360	0.000000
1.910	17.300	0.000000
2.860	17.250	0.000000
3.810	17.230	0.000000
4.760	17.230	0.000000
5.720	17.230	0.000000
6.670	17.190	0.000000
7.620	17.140	0.000000
8.570	17.100	0.000000
9.530	17.030	0.000000
10.480	16.980	0.000000
11.430	17.000	0.000000
12.380	17.040	0.000000
13.340	17.250	0.000000
14.290	17.640	0.000000
15.240	17.900	0.000000
16.190	17.940	0.000000
17.150	17.810	0.000000
18.100	17.750	0.000000

19.050	17.890	0.000000
20.030	17.990	0.000000
21.010	17.990	0.000000
21.990	17.670	0.000000
22.970	17.010	0.000000
23.950	16.400	0.000000
24.930	16.110	0.000000
25.910	16.020	0.000000
26.890	16.030	0.000000
27.870	15.960	0.000000
28.840	15.900	0.000000
29.820	15.890	0.000000
30.800	15.860	0.000000
31.780	15.760	0.000000
32.760	15.770	0.000000
33.740	15.830	0.000000
34.670	15.900	0.000000
35.600	15.950	0.000000
36.530	15.900	0.000000
37.460	15.870	0.000000
38.390	15.820	0.000000
39.320	15.690	0.000000
40.250	15.690	0.000000
41.180	15.660	0.000000
42.110	15.660	0.000000
43.050	15.720	0.000000
43.980	15.780	0.000000
44.910	15.860	0.000000
45.840	15.890	0.000000
46.770	15.960	0.000000
47.710	16.080	0.000000
48.640	16.230	0.000000
49.570	16.410	0.000000
50.510	16.530	0.000000
51.440	16.570	0.000000
52.380	16.600	0.000000
53.310	16.570	0.000000
54.250	16.540	0.000000
55.180	16.450	0.000000
56.120	16.260	0.000000
57.050	16.080	0.000000
57.980	15.810	0.000000
58.920	15.620	0.000000
59.850	15.550	0.000000
60.850	15.570	0.000000
61.840	15.520	0.000000
62.830	15.430	0.000000
63.830	15.420	0.000000
64.820	15.440	0.000000
65.810	15.490	0.000000
66.810	15.550	0.000000
67.800	15.520	0.000000
68.790	15.450	0.000000
69.790	15.450	0.000000
70.780	15.430	0.000000
71.770	15.410	0.000000
72.770	15.370	0.000000
73.760	15.320	0.000000
74.750	15.270	0.000000
75.740	15.220	0.000000
76.740	15.230	0.000000
77.730	15.270	0.000000
78.720	15.260	0.000000
79.720	15.210	0.000000
80.710	15.170	0.000000
81.700	15.190	0.000000
82.700	15.190	0.000000
83.690	15.180	0.000000
84.680	15.150	0.000000
85.680	15.140	0.000000
86.670	15.140	0.000000
87.660	15.130	0.000000
88.660	15.110	0.000000
89.650	15.130	0.000000
90.640	15.210	0.000000
91.640	15.250	0.000000
92.630	15.300	0.000000
93.620	15.430	0.000000
94.590	15.480	0.000000
95.560	15.430	0.000000
96.540	15.340	0.000000
97.510	15.240	0.000000
98.480	15.210	0.000000
99.450	15.250	0.000000
100.420	15.280	0.000000
101.390	15.250	0.000000
102.360	15.220	0.000000
103.340	15.170	0.000000
104.310	15.100	0.000000

105.280	15.080	0.000000
106.250	15.090	0.000000
107.220	15.120	0.000000
108.190	15.140	0.000000
109.160	15.150	0.000000
110.130	15.130	0.000000
111.110	15.150	0.000000
112.080	15.170	0.000000
113.050	15.180	0.000000
114.020	15.200	0.000000
114.990	15.240	0.000000
115.960	15.280	0.000000
116.930	15.310	0.000000
117.900	15.290	0.000000
118.880	15.250	0.000000
119.850	15.230	0.000000
120.820	15.240	0.000000
121.790	15.240	0.000000
122.790	15.230	0.000000
123.780	15.210	0.000000
124.780	15.170	0.000000
125.770	15.170	0.000000
126.770	15.200	0.000000
127.770	15.210	0.000000
128.760	15.200	0.000000
129.760	15.190	0.000000
130.750	15.220	0.000000
131.750	15.280	0.000000
132.750	15.330	0.000000
133.740	15.340	0.000000
134.740	15.380	0.000000
135.730	15.610	0.000000
136.730	15.950	0.000000
137.720	16.130	0.000000
138.720	16.150	0.000000
139.720	16.000	0.000000
140.710	15.930	0.000000
141.710	16.050	0.000000
142.700	16.160	0.000000
143.700	16.390	0.000000
144.700	16.640	0.000000
145.690	16.910	0.000000
146.690	17.250	0.000000
147.680	17.600	0.000000

Name: X2_W Group: BASE
Encroachment: No

Source: LIDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	13.060	0.000000
0.990	13.050	0.000000
1.980	13.030	0.000000
2.970	12.980	0.000000
3.960	12.950	0.000000
4.950	12.960	0.000000
5.950	12.990	0.000000
6.940	13.010	0.000000
7.930	13.010	0.000000
8.920	13.010	0.000000
9.910	13.030	0.000000
10.900	13.030	0.000000
11.890	13.030	0.000000
12.880	13.020	0.000000
13.870	13.020	0.000000
14.860	13.000	0.000000
15.850	12.980	0.000000
16.850	12.980	0.000000
17.840	12.990	0.000000
18.830	12.980	0.000000
19.820	12.970	0.000000
20.810	12.980	0.000000
21.800	13.000	0.000000
22.790	12.990	0.000000
23.780	13.000	0.000000
24.770	13.000	0.000000
25.760	12.990	0.000000
26.750	12.980	0.000000
27.740	12.950	0.000000
28.740	12.930	0.000000
29.730	12.920	0.000000
30.720	12.890	0.000000
31.710	12.880	0.000000
32.700	12.870	0.000000
33.690	12.860	0.000000
34.680	12.870	0.000000

35.670	12.880	0.000000
36.660	12.890	0.000000
37.650	12.890	0.000000
38.640	12.900	0.000000
39.640	12.900	0.000000
40.630	12.910	0.000000
41.620	12.940	0.000000
42.610	12.970	0.000000
43.600	12.980	0.000000
44.590	12.970	0.000000
45.580	12.970	0.000000
46.570	12.970	0.000000
47.560	12.990	0.000000
48.550	12.990	0.000000
49.540	12.970	0.000000
50.530	12.980	0.000000
51.520	13.000	0.000000
52.510	13.010	0.000000
53.500	13.020	0.000000
54.490	13.040	0.000000
55.480	13.050	0.000000
56.470	13.060	0.000000
57.460	13.090	0.000000
58.450	13.120	0.000000
59.440	13.120	0.000000
60.430	13.110	0.000000
61.420	13.120	0.000000
62.410	13.160	0.000000
63.400	13.180	0.000000
64.390	13.180	0.000000
65.380	13.190	0.000000
66.370	13.180	0.000000
67.360	13.180	0.000000
68.350	13.190	0.000000
69.340	13.190	0.000000
70.330	13.190	0.000000
71.310	13.190	0.000000
72.300	13.180	0.000000
73.290	13.170	0.000000
74.280	13.180	0.000000
75.270	13.200	0.000000
76.260	13.210	0.000000
77.250	13.200	0.000000
78.240	13.170	0.000000
79.230	13.150	0.000000
80.220	13.150	0.000000
81.210	13.170	0.000000
82.200	13.160	0.000000
83.190	13.140	0.000000
84.180	13.130	0.000000
85.170	13.130	0.000000
86.160	13.140	0.000000
87.150	13.150	0.000000
88.140	13.160	0.000000
89.130	13.160	0.000000
90.120	13.160	0.000000
91.110	13.150	0.000000
92.100	13.150	0.000000
93.090	13.170	0.000000
94.070	13.200	0.000000
95.060	13.200	0.000000
96.050	13.190	0.000000
97.040	13.190	0.000000
98.030	13.200	0.000000
99.020	13.200	0.000000
100.010	13.200	0.000000
101.000	13.200	0.000000
101.990	13.200	0.000000
102.980	13.190	0.000000
103.970	13.180	0.000000
104.960	13.170	0.000000
105.950	13.160	0.000000
106.940	13.150	0.000000
107.930	13.140	0.000000
108.920	13.120	0.000000
109.910	13.110	0.000000
110.900	13.100	0.000000
111.890	13.070	0.000000
112.880	13.050	0.000000
113.870	13.030	0.000000
114.860	13.030	0.000000
115.850	13.040	0.000000
116.830	13.030	0.000000
117.820	13.020	0.000000
118.810	13.020	0.000000
119.800	13.010	0.000000
120.790	13.010	0.000000
121.780	13.020	0.000000
122.770	13.020	0.000000

123.760	13.000	0.000000
124.750	13.010	0.000000
125.740	13.030	0.000000
126.730	13.040	0.000000
127.720	13.020	0.000000
128.710	12.990	0.000000
129.700	12.990	0.000000
130.690	13.010	0.000000
131.680	13.020	0.000000
132.670	13.010	0.000000
133.660	12.990	0.000000
134.650	13.030	0.000000
135.640	13.050	0.000000
136.630	13.060	0.000000
137.620	13.050	0.000000
138.610	13.010	0.000000
139.590	13.010	0.000000
140.580	13.020	0.000000
141.570	13.030	0.000000
142.560	13.030	0.000000
143.550	13.040	0.000000
144.540	13.040	0.000000
145.530	13.040	0.000000
146.520	13.040	0.000000
147.510	13.040	0.000000
148.500	13.030	0.000000
149.490	13.020	0.000000
150.480	13.020	0.000000
151.470	13.030	0.000000
152.460	13.040	0.000000
153.450	13.050	0.000000
154.440	13.080	0.000000
155.430	13.100	0.000000
156.420	13.120	0.000000
157.410	13.140	0.000000
158.400	13.180	0.000000
159.400	13.180	0.000000
160.390	13.170	0.000000
161.390	13.190	0.000000
162.380	13.210	0.000000
163.370	13.220	0.000000
164.370	13.240	0.000000
165.360	13.250	0.000000
166.360	13.250	0.000000
167.350	13.250	0.000000
168.350	13.260	0.000000
169.340	13.260	0.000000
170.340	13.260	0.000000
171.330	13.260	0.000000
172.330	13.280	0.000000
173.320	13.310	0.000000
174.310	13.310	0.000000
175.310	13.280	0.000000
176.300	13.280	0.000000
177.300	13.300	0.000000
178.290	13.330	0.000000
179.290	13.300	0.000000
180.280	13.260	0.000000
181.280	13.260	0.000000
182.270	13.270	0.000000
183.260	13.280	0.000000
184.260	13.280	0.000000
185.250	13.290	0.000000
186.250	13.300	0.000000
187.240	13.290	0.000000
188.240	13.290	0.000000
189.230	13.300	0.000000
190.230	13.300	0.000000
191.220	13.300	0.000000
192.220	13.310	0.000000
193.210	13.290	0.000000
194.200	13.270	0.000000
195.200	13.270	0.000000
196.190	13.280	0.000000
197.190	13.300	0.000000
198.180	13.310	0.000000
199.180	13.310	0.000000
200.170	13.300	0.000000
201.170	13.300	0.000000
202.160	13.320	0.000000
203.150	13.340	0.000000
204.150	13.340	0.000000
205.140	13.330	0.000000
206.140	13.320	0.000000
207.130	13.320	0.000000
208.130	13.310	0.000000
209.120	13.320	0.000000
210.120	13.340	0.000000
211.110	13.350	0.000000

212.110	13.350	0.000000
213.100	13.360	0.000000
214.090	13.350	0.000000
215.090	13.340	0.000000
216.080	13.330	0.000000
217.080	13.330	0.000000
218.070	13.330	0.000000
219.070	13.340	0.000000
220.060	13.340	0.000000
221.060	13.330	0.000000
222.050	13.310	0.000000
223.040	13.310	0.000000
224.040	13.330	0.000000
225.030	13.360	0.000000
226.030	13.380	0.000000
227.020	13.390	0.000000
228.020	13.390	0.000000
229.010	13.370	0.000000
230.010	13.350	0.000000
231.000	13.350	0.000000
232.000	13.340	0.000000
232.990	13.340	0.000000
233.980	13.360	0.000000
234.980	13.360	0.000000
235.970	13.340	0.000000
236.970	13.320	0.000000
237.960	13.330	0.000000
238.960	13.330	0.000000
239.950	13.320	0.000000
240.950	13.310	0.000000
241.940	13.280	0.000000
242.930	13.270	0.000000
243.930	13.250	0.000000
244.920	13.250	0.000000
245.920	13.240	0.000000
246.910	13.230	0.000000
247.910	13.240	0.000000
248.900	13.230	0.000000
249.900	13.220	0.000000
250.890	13.220	0.000000
251.880	13.230	0.000000
252.870	13.240	0.000000
253.870	13.250	0.000000
254.860	13.250	0.000000
255.850	13.240	0.000000
256.840	13.220	0.000000
257.830	13.220	0.000000
258.830	13.230	0.000000
259.820	13.230	0.000000
260.810	13.230	0.000000
261.800	13.230	0.000000
262.800	13.230	0.000000
263.790	13.250	0.000000
264.780	13.250	0.000000
265.770	13.230	0.000000
266.770	13.230	0.000000
267.760	13.220	0.000000
268.750	13.200	0.000000
269.740	13.180	0.000000
270.730	13.180	0.000000
271.730	13.190	0.000000
272.720	13.230	0.000000
273.710	13.240	0.000000
274.700	13.220	0.000000
275.700	13.190	0.000000
276.690	13.180	0.000000
277.680	13.200	0.000000
278.670	13.210	0.000000
279.670	13.230	0.000000
280.660	13.240	0.000000
281.650	13.230	0.000000
282.640	13.220	0.000000
283.630	13.210	0.000000
284.630	13.220	0.000000
285.620	13.220	0.000000
286.610	13.220	0.000000
287.600	13.230	0.000000
288.600	13.250	0.000000
289.590	13.250	0.000000
290.580	13.250	0.000000
291.570	13.230	0.000000
292.570	13.220	0.000000
293.560	13.230	0.000000
294.550	13.240	0.000000
295.540	13.220	0.000000
296.540	13.190	0.000000
297.530	13.190	0.000000
298.520	13.200	0.000000
299.510	13.190	0.000000

300.500	13.190	0.000000
301.500	13.180	0.000000
302.490	13.190	0.000000
303.480	13.200	0.000000
304.460	13.210	0.000000
305.450	13.200	0.000000
306.430	13.190	0.000000
307.410	13.170	0.000000
308.390	13.140	0.000000
309.380	13.140	0.000000
310.360	13.140	0.000000
311.340	13.130	0.000000
312.320	13.100	0.000000
313.310	13.080	0.000000
314.290	13.070	0.000000
315.270	13.070	0.000000
316.250	13.060	0.000000
317.230	13.040	0.000000
318.220	13.040	0.000000
319.200	13.050	0.000000
320.180	13.060	0.000000
321.160	13.060	0.000000
322.150	13.070	0.000000
323.130	13.080	0.000000
324.110	13.090	0.000000
325.090	13.090	0.000000
326.080	13.080	0.000000
327.060	13.090	0.000000
328.040	13.100	0.000000
329.020	13.110	0.000000
330.010	13.120	0.000000
330.990	13.140	0.000000
331.970	13.170	0.000000
332.950	13.180	0.000000
333.940	13.160	0.000000
334.920	13.160	0.000000
335.900	13.150	0.000000
336.880	13.150	0.000000
337.860	13.140	0.000000
338.850	13.150	0.000000
339.830	13.160	0.000000
340.810	13.160	0.000000
341.790	13.160	0.000000
342.780	13.160	0.000000
343.760	13.160	0.000000

Name: X3_W Group: BASE
Encroachment: No

Source: LIDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	13.300	0.000000
0.970	13.300	0.000000
1.940	13.310	0.000000
2.920	13.320	0.000000
3.890	13.330	0.000000
4.860	13.350	0.000000
5.830	13.360	0.000000
6.800	13.370	0.000000
7.770	13.350	0.000000
8.750	13.330	0.000000
9.720	13.320	0.000000
10.690	13.320	0.000000
11.660	13.330	0.000000
12.630	13.350	0.000000
13.600	13.370	0.000000
14.580	13.380	0.000000
15.550	13.390	0.000000
16.520	13.410	0.000000
17.490	13.430	0.000000
18.460	13.440	0.000000
19.440	13.440	0.000000
20.430	13.440	0.000000
21.420	13.460	0.000000
22.420	13.490	0.000000
23.410	13.490	0.000000
24.400	13.470	0.000000
25.400	13.460	0.000000
26.390	13.450	0.000000
27.380	13.420	0.000000
28.380	13.400	0.000000
29.370	13.390	0.000000
30.360	13.380	0.000000
31.360	13.380	0.000000
32.350	13.390	0.000000
33.340	13.390	0.000000

34.340	13.390	0.000000
35.330	13.380	0.000000
36.320	13.390	0.000000
37.290	13.400	0.000000
38.260	13.420	0.000000
39.220	13.450	0.000000
40.190	13.490	0.000000
41.160	13.520	0.000000
42.130	13.540	0.000000
43.090	13.550	0.000000
44.060	13.550	0.000000
45.030	13.550	0.000000
46.000	13.560	0.000000
46.960	13.570	0.000000
47.930	13.560	0.000000
48.900	13.560	0.000000
49.870	13.550	0.000000
50.830	13.530	0.000000
51.800	13.500	0.000000
52.770	13.470	0.000000
53.730	13.470	0.000000
54.700	13.450	0.000000
55.690	13.440	0.000000
56.670	13.430	0.000000
57.650	13.430	0.000000
58.640	13.430	0.000000
59.620	13.390	0.000000
60.610	13.360	0.000000
61.590	13.340	0.000000
62.570	13.340	0.000000
63.560	13.350	0.000000
64.540	13.350	0.000000
65.530	13.330	0.000000
66.510	13.330	0.000000
67.500	13.330	0.000000
68.480	13.360	0.000000
69.460	13.390	0.000000
70.450	13.420	0.000000
71.430	13.450	0.000000
72.420	13.460	0.000000
73.400	13.460	0.000000
74.380	13.470	0.000000
75.370	13.500	0.000000
76.350	13.540	0.000000
77.340	13.610	0.000000
78.320	13.660	0.000000
79.300	13.700	0.000000
80.290	13.720	0.000000
81.270	13.750	0.000000
82.260	13.800	0.000000
83.240	13.850	0.000000
84.230	13.890	0.000000
85.210	13.960	0.000000
86.190	14.060	0.000000
87.180	14.170	0.000000
88.160	14.240	0.000000
89.150	14.300	0.000000
90.130	14.370	0.000000
91.110	14.460	0.000000
92.100	14.570	0.000000
93.080	14.690	0.000000
94.070	14.820	0.000000
95.050	14.930	0.000000
96.030	15.050	0.000000
97.020	15.140	0.000000

Name: X3B Group: BASE
Encroachment: No

Source: LiDAR DEM

Station(ft)	Elevation(ft)	Manning's N
0.000	14.000	0.000000
0.980	13.920	0.000000
1.960	13.890	0.000000
2.940	13.860	0.000000
3.920	13.830	0.000000
4.900	13.780	0.000000
5.880	13.740	0.000000
6.860	13.720	0.000000
7.840	13.700	0.000000
8.820	13.650	0.000000
9.800	13.640	0.000000
10.780	13.640	0.000000
11.760	13.640	0.000000
12.740	13.630	0.000000
13.720	13.600	0.000000

14.700	13.590	0.000000
15.680	13.580	0.000000
16.660	13.560	0.000000
17.640	13.560	0.000000
18.620	13.560	0.000000
19.600	13.550	0.000000
20.580	13.550	0.000000
21.560	13.530	0.000000
22.540	13.490	0.000000
23.520	13.460	0.000000
24.500	13.460	0.000000
25.480	13.450	0.000000
26.460	13.430	0.000000
27.420	13.420	0.000000
28.390	13.420	0.000000
29.350	13.420	0.000000
30.320	13.410	0.000000
31.280	13.400	0.000000
32.250	13.390	0.000000
33.210	13.370	0.000000
34.180	13.350	0.000000
35.140	13.360	0.000000
36.110	13.390	0.000000
37.070	13.420	0.000000
38.040	13.450	0.000000
39.000	13.450	0.000000
39.970	13.420	0.000000
40.930	13.410	0.000000
41.900	13.400	0.000000
42.860	13.390	0.000000
43.830	13.360	0.000000
44.790	13.350	0.000000
45.760	13.360	0.000000
46.720	13.360	0.000000
47.690	13.350	0.000000
48.650	13.360	0.000000
49.610	13.380	0.000000
50.580	13.390	0.000000
51.540	13.380	0.000000
52.500	13.370	0.000000
53.470	13.400	0.000000
54.430	13.410	0.000000
55.390	13.420	0.000000
56.350	13.410	0.000000
57.320	13.430	0.000000
58.280	13.430	0.000000
59.240	13.450	0.000000
60.210	13.460	0.000000
61.170	13.460	0.000000
62.130	13.480	0.000000
63.090	13.490	0.000000
64.060	13.510	0.000000
65.020	13.510	0.000000
65.980	13.510	0.000000
66.950	13.500	0.000000
67.910	13.500	0.000000
68.870	13.490	0.000000
69.830	13.470	0.000000
70.800	13.450	0.000000
71.760	13.450	0.000000
72.730	13.480	0.000000
73.690	13.490	0.000000
74.660	13.450	0.000000
75.620	13.400	0.000000
76.590	13.400	0.000000
77.550	13.410	0.000000
78.510	13.390	0.000000
79.480	13.390	0.000000
80.440	13.380	0.000000
81.410	13.360	0.000000
82.370	13.350	0.000000
83.340	13.330	0.000000
84.300	13.300	0.000000
85.270	13.310	0.000000
86.240	13.330	0.000000
87.210	13.320	0.000000
88.180	13.320	0.000000
89.140	13.320	0.000000
90.110	13.290	0.000000
91.080	13.250	0.000000
92.050	13.230	0.000000
93.020	13.220	0.000000
93.990	13.230	0.000000
94.950	13.240	0.000000
95.920	13.240	0.000000
96.890	13.240	0.000000
97.850	13.250	0.000000
98.820	13.270	0.000000
99.780	13.310	0.000000

```
        100.750          13.340        0.000000
        101.710          13.340        0.000000
        102.670          13.340        0.000000
        103.640          13.370        0.000000
        104.600          13.340        0.000000
        105.570          13.320        0.000000
        106.530          13.340        0.000000
        107.500          13.370        0.000000
        108.460          13.360        0.000000
        109.420          13.350        0.000000
        110.390          13.350        0.000000
        111.350          13.370        0.000000
        112.320          13.390        0.000000
        113.280          13.430        0.000000
        114.240          13.440        0.000000
        115.210          13.440        0.000000

==========================================================================================
==== Operating Tables ====================================================================
==========================================================================================

      Name:                      Group: BASE
      Type: Bottom Clip
  Function: Time vs. Depth of Clip


      Time(hrs)  Clip Depth(in)
--------------- ---------------

==========================================================================================
==== Pipes ===============================================================================
==========================================================================================

         Name: R001                From Node: 001                Length(ft): 438.00
        Group: BASE                  To Node: BOX_003                 Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 1.40
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 13.500         10.880                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech and
Construction Plan - Gypsum Stack System Closure, Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 45, 60, and 90 deg Ell


-------------------------------------------------------------------------------------------------
         Name: R007                From Node: 007                Length(ft): 155.00
        Group: BASE                  To Node: 006                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 16.00          16.00                      Entrance Loss Coef: 0.50
     Rise(in): 16.00          16.00                          Exit Loss Coef: 1.00
   Invert(ft): 30.950         30.370                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------
         Name: R008                From Node: 008A               Length(ft): 132.00
        Group: BASE                  To Node: 007                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
```

```
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 46.400         32.500                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R01                 From Node: 01                 Length(ft): 370.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 48.00          48.00                        Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                            Exit Loss Coef: 1.00
   Invert(ft): 6.830          6.780                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R013                From Node: 013                Length(ft): 62.00
        Group: BASE                  To Node: 007                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 33.300         32.320                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R02                 From Node: 02                 Length(ft): 370.00
        Group: BASE                  To Node: 01                      Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 48.00          48.00                        Entrance Loss Coef: 0.50
     Rise(in): 48.00          48.00                            Exit Loss Coef: 1.00
   Invert(ft): 6.880          6.830                            Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R020                From Node: 020                Length(ft): 85.00
        Group: BASE                  To Node: 019                     Count: 1
```

```
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 12.00          12.00                    Entrance Loss Coef: 0.50
     Rise(in): 12.00          12.00                        Exit Loss Coef: 1.00
   Invert(ft): 19.330         19.820                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------------
         Name: R03                 From Node: 03                 Length(ft): 118.00
        Group: BASE                  To Node: 02                      Count: 1
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 36.00          36.00                    Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                        Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                        Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------------
         Name: R032_NEW            From Node: 032                Length(ft): 100.00
        Group: BASE                  To Node: 034B                    Count: 2
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                    Entrance Loss Coef: 0.70
     Rise(in): 18.00          18.00                        Exit Loss Coef: 1.00
   Invert(ft): 14.000         14.000                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Proposed Culverts 2x18 inch HDPE

-----------------------------------------------------------------------------------------------------
         Name: R032A               From Node: 032                Length(ft): 57.00
        Group: BASE                  To Node: 033                     Count: 1
                                                        Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                               Flow: Both
     Span(in): 18.00          18.00                    Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                        Exit Loss Coef: 1.00
   Invert(ft): 13.670         13.580                       Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
```

```
-----------------------------------------------------------------------------------------------
         Name: R032B              From Node: 032               Length(ft): 57.00
        Group: BASE                 To Node: 033                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.790         13.560                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R034               From Node: 034               Length(ft): 93.00
        Group: BASE                 To Node: 035                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 14.00          14.00                      Entrance Loss Coef: 0.50
     Rise(in): 14.00          14.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.350         13.130                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech


-----------------------------------------------------------------------------------------------
         Name: R034_new_pipe      From Node: 034B              Length(ft): 145.00
        Group: BASE                 To Node: 043                    Count: 2
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 18.00          18.00                      Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.000         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

(2) new 18-inch pipes

-----------------------------------------------------------------------------------------------
         Name: R034B              From Node: 034               Length(ft): 145.00
        Group: BASE                 To Node: 034B                   Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 14.050         13.450                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
```

Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech for US Inv and Size; (12-inch HDPE Pipe) and
Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

```
         Name: R036                From Node: 036                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                      Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                          Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe

```
         Name: R037                From Node: 037                Length(ft): 470.00
        Group: BASE                  To Node: 037A                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.50
     Rise(in): 22.15          22.15                          Exit Loss Coef: 0.00
   Invert(ft): 9.000          8.300                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
         Name: R037A               From Node: 037A               Length(ft): 290.00
        Group: BASE                  To Node: 037B                    Count: 1
                                                          Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                          Exit Loss Coef: 0.00
   Invert(ft): 8.300          7.820                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe

```
         Name: R037B               From Node: 037B               Length(ft): 220.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
```

```
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 22.15          22.15                      Entrance Loss Coef: 0.00
     Rise(in): 22.15          22.15                          Exit Loss Coef: 1.00
   Invert(ft): 7.820          7.500                          Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
24-inch DR26 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R038                From Node: 038                Length(ft): 30.00
        Group: BASE                  To Node: 037                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 11.53          11.53                      Entrance Loss Coef: 0.70
     Rise(in): 11.53          11.53                          Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.000                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R04                 From Node: 04                 Length(ft): 225.00
        Group: BASE                  To Node: 03                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 36.00          36.00                      Entrance Loss Coef: 0.50
     Rise(in): 36.00          36.00                          Exit Loss Coef: 1.00
   Invert(ft): 7.080          6.980                          Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------
         Name: R040                From Node: 040                Length(ft): 45.00
        Group: BASE                  To Node: 038                     Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                Flow: Both
     Span(in): 12.00          12.00                      Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                          Exit Loss Coef: 1.00
   Invert(ft): 13.140         12.510                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                          Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R041                From Node: 041                Length(ft): 45.00
        Group: BASE                  To Node: 036                     Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 12.00          12.00                        Entrance Loss Coef: 0.70
     Rise(in): 12.00          12.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.160         12.370                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_A              From Node: 042                Length(ft): 40.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.480         13.030                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_B              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 20.00          20.00                        Entrance Loss Coef: 0.50
     Rise(in): 20.00          20.00                            Exit Loss Coef: 1.00
   Invert(ft): 14.010         13.880                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

```
---------------------------------------------------------------------------------------------------
         Name: R042_C              From Node: 042                Length(ft): 35.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                             Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 18.00          18.00                        Entrance Loss Coef: 0.50
     Rise(in): 18.00          18.00                            Exit Loss Coef: 1.00
   Invert(ft): 13.640         13.710                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                       Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                            Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Stabilizer Option: None
```

```
Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech

-----------------------------------------------------------------------------------------------
         Name: R043_NEW            From Node: 043                Length(ft): 180.00
        Group: BASE                  To Node: 2                       Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 18.00          18.00                     Entrance Loss Coef: 0.70
     Rise(in): 18.00          18.00                         Exit Loss Coef: 1.00
   Invert(ft): 12.500         12.500                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

1x18-inch Proposed Culvert

-----------------------------------------------------------------------------------------------
         Name: R045                From Node: 045                Length(ft): 62.00
        Group: BASE                  To Node: 046                     Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 1.00
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 13.500         12.000                        Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular CMP: Mitered to slope

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe, 90 deg. ELL at the end


-----------------------------------------------------------------------------------------------
         Name: R046                From Node: 046                Length(ft): 95.00
        Group: BASE                  To Node: BASIN_2                 Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
     Span(in): 11.53          11.53                     Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                         Exit Loss Coef: 1.00
   Invert(ft): 11.480         9.400                         Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                       Stabilizer Option: None


Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------
         Name: R05                 From Node: 05                 Length(ft): 205.00
        Group: BASE                  To Node: 02                      Count: 1
                                                          Friction Equation: Automatic
              UPSTREAM       DOWNSTREAM                 Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                 Flow: Both
```

```
     Span(in): 42.00          42.00                     Entrance Loss Coef: 0.50
     Rise(in): 42.00          42.00                         Exit Loss Coef: 1.00
   Invert(ft): 6.980          6.880                         Bend Loss Coef: 0.00
  Manning's N: 0.012000       0.012000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: ERP Construction Plan, Allied New Technologies 2 Plant

-----------------------------------------------------------------------------------------------------
         Name: R2                  From Node: 2                  Length(ft): 45.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 10.000         9.800                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------------
         Name: R3A                 From Node: 3                  Length(ft): 70.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 11.53          11.53                        Entrance Loss Coef: 0.50
     Rise(in): 11.53          11.53                            Exit Loss Coef: 1.00
   Invert(ft): 11.300         10.300                           Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
12-inch DR21 HDPE Pipe


-----------------------------------------------------------------------------------------------------
         Name: R4                  From Node: 4                  Length(ft): 34.00
        Group: BASE                  To Node: 1                       Count: 1
                                                             Friction Equation: Automatic
               UPSTREAM       DOWNSTREAM                   Solution Algorithm: Most Restrictive
     Geometry: Circular       Circular                                  Flow: Both
     Span(in): 33.00          33.00                        Entrance Loss Coef: 0.50
     Rise(in): 33.00          33.00                            Exit Loss Coef: 1.00
   Invert(ft): 9.330          8.980                            Bend Loss Coef: 0.00
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                      Stabilizer Option: None



Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Source: Existing Pipe in ERP Construction Plan, Allied New Technologies 2 Plant

==========================================================================================
==== Channels ============================================================================
==========================================================================================

          Name: R003                From Node: 003                Length(ft): 510.00
         Group: BASE                  To Node: 002                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.000         25.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R005                From Node: 005                Length(ft): 569.00
         Group: BASE                  To Node: 004                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R006                From Node: 006                Length(ft): 724.00
         Group: BASE                  To Node: 005                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.000         30.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 20.000         20.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-------------------------------------------------------------------------------------------------
          Name: R011                From Node: 011                Length(ft): 1047.00
         Group: BASE                  To Node: 010                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
```

```
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 48.000         43.900                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 23.400         8.600
  LtSdSlp(h/v): 3.50           3.50
  RtSdSlp(h/v): 3.50           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R012                From Node: 012                Length(ft): 1337.00
         Group: BASE                  To Node: 011                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 53.200         48.000                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 65.000         40.500
  LtSdSlp(h/v): 3.70           3.50
  RtSdSlp(h/v): 3.60           3.50

Source: Construction Plan - Gypsum Stack System Closure
NGS-S Cap and NGS-N Relief Ditch


-----------------------------------------------------------------------------------------------
          Name: R014                From Node: 014                Length(ft): 460.00
         Group: BASE                  To Node: 013                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 34.200         33.000                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R015                From Node: 015                Length(ft): 468.00
         Group: BASE                  To Node: 014                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.500         34.200                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
```

```
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I


-----------------------------------------------------------------------------------------------
          Name: R017                From Node: 017                Length(ft): 200.00
         Group: BASE                  To Node: 016                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R018                From Node: 018                Length(ft): 672.00
         Group: BASE                  To Node: 017                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
          Name: R019                From Node: 019                Length(ft): 696.00
         Group: BASE                  To Node: 018                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 19.000         19.000                                Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-----------------------------------------------------------------------------------------------
```

```
          Name: R021                From Node: 021                Length(ft): 1057.00
         Group: BASE                  To Node: 022                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 35.300         30.600                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 5.000          5.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R022                From Node: 022                Length(ft): 762.00
         Group: BASE                  To Node: 023                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 30.600         29.100                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R024                From Node: 024                Length(ft): 541.00
         Group: BASE                  To Node: 025                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 25.100         24.600                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
          Name: R025                From Node: 025                Length(ft): 582.00
         Group: BASE                  To Node: 026                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 24.600         24.000                                  Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
```

```
  AuxElev1(ft):                                          Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-------------------------------------------------------------------------------------------------
          Name: R026                From Node: 026                Length(ft): 577.00
         Group: BASE                  To Node: 027                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 24.000         23.500                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-------------------------------------------------------------------------------------------------
          Name: R029                From Node: 029                Length(ft): 670.00
         Group: BASE                  To Node: 030                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 15.250         14.700                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


-------------------------------------------------------------------------------------------------
          Name: R030                From Node: 030                Length(ft): 1035.00
         Group: BASE                  To Node: 031                     Count: 1

                UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal               Solution Algorithm: Automatic
    Invert(ft): 14.700         13.700                                 Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                    Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                     Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                         Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                         Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
```

Seepage and Return Ditches

```
-----------------------------------------------------------------------------------------------------
          Name: R031                From Node: 031                Length(ft): 471.00
         Group: BASE                  To Node: 032                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.700         13.300                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         10.000
  LtSdSlp(h/v): 4.00           4.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R033                From Node: 033                Length(ft): 287.00
         Group: BASE                  To Node: 034                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.300         13.250                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 10.000         20.000
  LtSdSlp(h/v): 4.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R035                From Node: 035                Length(ft): 784.00
         Group: BASE                  To Node: 036                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.000         12.500                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
   Manning's N: 0.060000       0.060000                       Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                             Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                              Inlet Ctrl Spec: Use dc
     Aux XSec1:                                             Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 13.600         10.000
  LtSdSlp(h/v): 3.00           3.00
  RtSdSlp(h/v): 3.00           3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches

-----------------------------------------------------------------------------------------------------
          Name: R039                From Node: 039                Length(ft): 935.00
         Group: BASE                  To Node: 038                     Count: 1

                UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
      Geometry: Trapezoidal    Trapezoidal                Solution Algorithm: Automatic
    Invert(ft): 13.500         12.500                                   Flow: Both
 TClpInitZ(ft): 9999.000       9999.000                     Contraction Coef: 0.100
```

```
   Manning's N: 0.060000       0.060000                      Expansion Coef: 0.300
  Top Clip(ft): 0.000          0.000                      Entrance Loss Coef: 0.000
  Bot Clip(ft): 0.000          0.000                          Exit Loss Coef: 0.000
     Main XSec:                                            Outlet Ctrl Spec: Use dc or tw
  AuxElev1(ft):                                             Inlet Ctrl Spec: Use dc
     Aux XSec1:                                           Stabilizer Option: None
  AuxElev2(ft):
     Aux XSec2:
 Top Width(ft):
     Depth(ft):
 Bot Width(ft): 12.800        10.000
  LtSdSlp(h/v): 3.00          3.00
  RtSdSlp(h/v): 3.00          3.00

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches


==========================================================================================
==== Drop Structures =====================================================================
==========================================================================================

         Name: R0-NE               From Node: 0-NE              Length(ft): 70.00
        Group: BASE                  To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.850                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-NE ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-------------------------------------------------------------------------------------------------
         Name: R0-NW               From Node: 0-NW              Length(ft): 70.00
        Group: BASE                  To Node: BASIN_2                Count: 1

               UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.880                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe

*** Weir 1 of 1 for Drop Structure R0-NW ***
                                                                                   TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350
```

```
-----------------------------------------------------------------------------------------------
         Name: R0-SE               From Node: 0-SE               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 7.850          7.370                          Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SE ***
                                                                                    TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                        Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-----------------------------------------------------------------------------------------------
         Name: R0-SW               From Node: 0-SW               Length(ft): 80.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                  Flow: Both
     Rise(in): 11.53          11.53                      Entrance Loss Coef: 0.500
   Invert(ft): 7.850          6.080                          Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
South Cooling Pond Closure
Type "C" Inlet with 12-inch DR21 Pipe


*** Weir 1 of 1 for Drop Structure R0-SW ***
                                                                                    TABLE
                  Count: 1                       Bottom Clip(in): 0.000
                   Type: Horizontal                 Top Clip(in): 0.000
                   Flow: Both                     Weir Disc Coef: 3.000
               Geometry: Rectangular           Orifice Disc Coef: 0.600

               Span(in): 36.00                        Invert(ft): 10.350
               Rise(in): 24.00                  Control Elev(ft): 10.350


-----------------------------------------------------------------------------------------------
         Name: R002A               From Node: 002                Length(ft): 125.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                       Entrance Loss Coef: 1.300
   Invert(ft): 13.800         13.800                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall
```

```
Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
8-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet, butterfly valve, 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R002A ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 17.500
               Rise(in): 36.00                  Control Elev(ft): 17.500


-----------------------------------------------------------------------------------------------
         Name: R002B               From Node: 002                Length(ft): 135.00
        Group: BASE                  To Node: 001                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 22.15          22.15                                  Flow: Both
     Rise(in): 22.15          22.15                      Entrance Loss Coef: 0.500
   Invert(ft): 20.000         13.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
24-inch DR26 HDPE Pipe with 48-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R002B ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 48.00                       Invert(ft): 27.000
               Rise(in): 48.00                  Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------
         Name: R004                From Node: 004                Length(ft): 75.00
        Group: BASE                  To Node: 003                     Count: 1

               UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                   Solution Algorithm: Most Restrictive
     Span(in): 16.61          16.61                                  Flow: Both
     Rise(in): 16.61          16.61                      Entrance Loss Coef: 0.500
   Invert(ft): 26.000         25.500                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                     Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                         Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                           Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-I
18-inch DR26 HDPE Pipe with 36-inch HDPE Riser/Inlet


*** Weir 1 of 1 for Drop Structure R004 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
               Geometry: Circular              Orifice Disc Coef: 0.600

               Span(in): 36.00                       Invert(ft): 30.500
               Rise(in): 36.00                  Control Elev(ft): 30.500


-----------------------------------------------------------------------------------------------
         Name: R005B               From Node: 005B               Length(ft): 507.00
```

```
        Group: BASE                 To Node: 040                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                 Flow: Both
     Rise(in): 16.00          16.00                    Entrance Loss Coef: 0.500
   Invert(ft): 69.610         13.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech, updated for the closure design

*** Weir 1 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 76.160
              Rise(in): 6.00                  Control Elev(ft): 76.160

*** Weir 2 of 2 for Drop Structure R005B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 79.410
              Rise(in): 30.00                 Control Elev(ft): 79.410


-----------------------------------------------------------------------------------------------
         Name: R009                From Node: 009                Length(ft): 217.50
        Group: BASE                  To Node: 008A                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 18.00          18.00                                 Flow: Both
     Rise(in): 18.00          18.00                    Entrance Loss Coef: 0.500
   Invert(ft): 72.900         47.100                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration



*** Weir 1 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 80.300
              Rise(in): 6.00                  Control Elev(ft): 80.300

*** Weir 2 of 2 for Drop Structure R009 ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 81.200
              Rise(in): 30.00                 Control Elev(ft): 81.200


-----------------------------------------------------------------------------------------------
         Name: R010                From Node: 010                Length(ft): 300.00
        Group: BASE                  To Node: 007                    Count: 1
```

```
              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                    Entrance Loss Coef: 1.700
   Invert(ft): 38.620         36.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 6.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source:  2021 Survey Data by SurvTech
5.5 ft X 7.0 ft Inlet Box
Pipe DS Invert per Construction Plan - Gypsum Stack System Closure
NGS-S CAP and NGS-N Relief Ditch
PIpe clipped at US end for the closure scenario


*** Weir 1 of 1 for Drop Structure R010 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 84.00                       Invert(ft): 43.900
              Rise(in): 66.00                  Control Elev(ft): 43.900


-------------------------------------------------------------------------------------------------
         Name: R016                From Node: 016                Length(ft): 420.00
        Group: BASE                  To Node: 001                     Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                Flow: Both
     Rise(in): 11.53          11.53                    Entrance Loss Coef: 0.500
   Invert(ft): 15.710         13.500                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
Type C Inlet with 12-inch DR21 HDPE Pipe


*** Weir 1 of 1 for Drop Structure R016 ***
                                                                                    TABLE
                  Count: 1                      Bottom Clip(in): 0.000
                   Type: Horizontal                Top Clip(in): 0.000
                   Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 19.000
              Rise(in): 24.00                  Control Elev(ft): 19.000


-------------------------------------------------------------------------------------------------
         Name: R023                From Node: 023                Length(ft): 71.50
        Group: BASE                  To Node: 024                     Count: 3

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 12.00          12.00                                Flow: Both
     Rise(in): 12.00          12.00                    Entrance Loss Coef: 0.500
   Invert(ft): 25.360         25.590                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Note: This drop inlet will be redesigned for the closure scenario IV. The inlet capacity was trippled for this scenario.
```

```
*** Weir 1 of 1 for Drop Structure R023 ***
                                                                                    TABLE
                 Count: 3                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 30.00                       Invert(ft): 29.480
              Rise(in): 30.00                  Control Elev(ft): 29.480


-----------------------------------------------------------------------------------------------
         Name: R028A               From Node: 028                Length(ft): 100.00
        Group: BASE                  To Node: 029                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 7.96           7.96                                   Flow: Both
     Rise(in): 7.96           7.96                      Entrance Loss Coef: 1.350
   Invert(ft): 16.630         15.880                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Clousre Phase II
36-inch HDPE Riser with 8-inch DR26 HDPE Pipe, butterfly valve, 45 deg ell


*** Weir 1 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 22.000
              Rise(in): 36.00                  Control Elev(ft): 22.000

*** Weir 2 of 2 for Drop Structure R028A ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 20.500
              Rise(in): 6.00                   Control Elev(ft): 20.500


-----------------------------------------------------------------------------------------------
         Name: R028B               From Node: 028                Length(ft): 170.00
        Group: BASE                  To Node: 029                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 21.17          21.17                                  Flow: Both
     Rise(in): 21.17          21.17                     Entrance Loss Coef: 1.100
   Invert(ft): 20.000         15.800                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches, and Slope Closure Phase II
48-inch HDPE Riser with 24-inch DR17 HDPE Pipe, 3x 45 deg. Ell


*** Weir 1 of 1 for Drop Structure R028B ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 48.00                       Invert(ft): 27.000
```

```
              Rise(in): 48.00                 Control Elev(ft): 27.000


-----------------------------------------------------------------------------------------------------
         Name: R042                From Node: 042                Length(ft): 25.00
        Group: BASE                  To Node: 037A                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                   Entrance Loss Coef: 0.700
   Invert(ft): 9.500          8.790                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                  Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R042 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R042 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                 Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------------
         Name: R043                From Node: 043                Length(ft): 25.00
        Group: BASE                  To Node: 037B                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                 Flow: Both
     Rise(in): 11.53          11.53                   Entrance Loss Coef: 0.700
   Invert(ft): 8.770          8.320                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                  Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                      Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                        Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
Seepage and Return Ditches
12-inch DR21 HDPE Pipe with Type C inlet Box


*** Weir 1 of 2 for Drop Structure R043 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 11.700
              Rise(in): 6.00                  Control Elev(ft): 11.700

*** Weir 2 of 2 for Drop Structure R043 ***
                                                                                          TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600
```

```
              Span(in): 36.00                       Invert(ft): 13.500
              Rise(in): 24.00                  Control Elev(ft): 13.500


-----------------------------------------------------------------------------------------------
         Name: R1                  From Node: 1                  Length(ft): 75.00
        Group: BASE                  To Node: BASIN_2                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.53          11.53                                Flow: Both
     Rise(in): 11.53          11.53                     Entrance Loss Coef: 0.500
   Invert(ft): 8.000          7.200                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
First 50% - Plant Watershed Areas
TYpe C Inlet Box with 12-inch DR21 HDPE Pipe



*** Weir 1 of 2 for Drop Structure R1 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 11.000
              Rise(in): 24.00                  Control Elev(ft): 11.000

*** Weir 2 of 2 for Drop Structure R1 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 8.000
              Rise(in): 6.00                   Control Elev(ft): 8.000


-----------------------------------------------------------------------------------------------
         Name: RBASIN_2            From Node: BASIN_2            Length(ft): 95.00
        Group: BASE                  To Node: BOX_001                 Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 16.00          16.00                                Flow: Both
     Rise(in): 16.00          16.00                     Entrance Loss Coef: 0.600
   Invert(ft): 2.980          1.960                         Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 4.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: 2021 Survey Data by SurvTech
Gate valve in the discharge line

*** Weir 1 of 2 for Drop Structure RBASIN_2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 6.280
              Rise(in): 6.00                   Control Elev(ft): 6.280

*** Weir 2 of 2 for Drop Structure RBASIN_2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600
```

```
              Span(in): 37.20                      Invert(ft): 7.280
              Rise(in): 27.60                 Control Elev(ft): 7.280


-----------------------------------------------------------------------------------------------
         Name: RCOLLING_P          From Node: NCOLLING_P         Length(ft): 61.00
        Group: BASE                  To Node: 020                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 15.88          15.88                                 Flow: Both
     Rise(in): 15.88          15.88                     Entrance Loss Coef: 0.700
   Invert(ft): 22.500         21.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Drawings - Gypsum Stack Closure - North Cooling Pond
Modified Type "E" Inlet with 18-inch DR-17 HDPE Pipe, 45 deg. Ell


*** Weir 1 of 2 for Drop Structure RCOLLING_P ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 27.200
              Rise(in): 45.60                 Control Elev(ft): 27.200

*** Weir 2 of 2 for Drop Structure RCOLLING_P ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 54.00                      Invert(ft): 31.000
              Rise(in): 36.00                 Control Elev(ft): 31.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-N              From Node: NGS-N              Length(ft): 300.00
        Group: BASE                  To Node: 028                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 34.600         25.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
Proposed Excess Weir Elevation to treat 1.0-inch RO=40.39 ft



*** Weir 1 of 2 for Drop Structure RNGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                      Invert(ft): 40.390
              Rise(in): 36.00                 Control Elev(ft): 40.390

*** Weir 2 of 2 for Drop Structure RNGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 6.00                        Invert(ft): 37.700
              Rise(in): 6.00                  Control Elev(ft): 37.700


-----------------------------------------------------------------------------------------------
         Name: RNGS-S              From Node: NGS-S              Length(ft): 280.00
        Group: BASE                  To Node: 021                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                    Entrance Loss Coef: 0.500
   Invert(ft): 50.500         35.000                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=56.30 ft

*** Weir 1 of 2 for Drop Structure RNGS-S ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 56.300
              Rise(in): 36.00                  Control Elev(ft): 56.300

*** Weir 2 of 2 for Drop Structure RNGS-S ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 54.000
              Rise(in): 6.00                   Control Elev(ft): 54.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-S2             From Node: NGS-S2             Length(ft): 280.00
        Group: BASE                  To Node: 027                    Count: 1

              UPSTREAM       DOWNSTREAM                 Friction Equation: Automatic
     Geometry: Circular       Circular                 Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                 Flow: Both
     Rise(in): 14.72          14.72                    Entrance Loss Coef: 0.500
   Invert(ft): 50.500         25.000                       Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                   Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                       Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                         Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=56.09 ft

*** Weir 1 of 2 for Drop Structure RNGS-S2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 56.090
              Rise(in): 36.00                  Control Elev(ft): 56.090

*** Weir 2 of 2 for Drop Structure RNGS-S2 ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600
```

```
              Span(in): 6.00                        Invert(ft): 54.000
              Rise(in): 6.00                  Control Elev(ft): 54.000


-----------------------------------------------------------------------------------------------
         Name: RNGS-S_CAP          From Node: NGS-S_CAP          Length(ft): 120.00
        Group: BASE                  To Node: 011                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 11.10          11.10                                  Flow: Both
     Rise(in): 11.10          11.10                     Entrance Loss Coef: 0.500
   Invert(ft): 54.000         52.300                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Source: Construction Plan - Gypsum Stack System Closure
NGS-N CAP and NGS-N Relief Ditch
12-inch DR15.5 HDPE Pipe with Type C Inlet Box


*** Weir 1 of 1 for Drop Structure RNGS-S_CAP ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Rectangular           Orifice Disc Coef: 0.600

              Span(in): 36.00                        Invert(ft): 56.500
              Rise(in): 24.00                  Control Elev(ft): 56.500


-----------------------------------------------------------------------------------------------
         Name: ROGS-N              From Node: OGS-N              Length(ft): 245.00
        Group: BASE                  To Node: 010                     Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
     Span(in): 14.72          14.72                                  Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 51.800         44.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=57.85 feet

*** Weir 1 of 2 for Drop Structure ROGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 36.00                        Invert(ft): 57.850
              Rise(in): 36.00                  Control Elev(ft): 57.850

*** Weir 2 of 2 for Drop Structure ROGS-N ***
                                                                                      TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular              Orifice Disc Coef: 0.600

              Span(in): 6.00                         Invert(ft): 53.530
              Rise(in): 6.00                   Control Elev(ft): 53.530


-----------------------------------------------------------------------------------------------
         Name: ROGS-S              From Node: OGS-S              Length(ft): 220.00
        Group: BASE                  To Node: OGS-N                   Count: 1

              UPSTREAM       DOWNSTREAM                  Friction Equation: Automatic
     Geometry: Circular       Circular                  Solution Algorithm: Most Restrictive
```

```
     Span(in): 14.72          14.72                                  Flow: Both
     Rise(in): 14.72          14.72                     Entrance Loss Coef: 0.500
   Invert(ft): 70.300         68.000                        Exit Loss Coef: 1.000
  Manning's N: 0.010000       0.010000                    Outlet Ctrl Spec: Use dc or tw
 Top Clip(in): 0.000          0.000                        Inlet Ctrl Spec: Use dc
 Bot Clip(in): 0.000          0.000                          Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Future outlet -  Proposed Closure Design
18-inch DR11 HDPE Pipe
Proposed Excess Weir Elevation to treat 1.0-inch RO=75.57 feet

*** Weir 1 of 2 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Horizontal                Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 36.00                       Invert(ft): 75.570
              Rise(in): 36.00                 Control Elev(ft): 75.570

*** Weir 2 of 2 for Drop Structure ROGS-S ***
                                                                                    TABLE
                 Count: 1                      Bottom Clip(in): 0.000
                  Type: Vertical: Mavis           Top Clip(in): 0.000
                  Flow: Both                    Weir Disc Coef: 3.000
              Geometry: Circular             Orifice Disc Coef: 0.600

              Span(in): 6.00                        Invert(ft): 72.000
              Rise(in): 6.00                  Control Elev(ft): 72.000


==================================================================================
==== Weirs =======================================================================
==================================================================================

         Name: R008_O              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Circular

                   Span(in): 6.00
                   Rise(in): 6.00
                 Invert(ft): 55.200
       Control Elevation(ft): 55.200
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
Orifice invert per design configuration


-------------------------------------------------------------------------------------------------
         Name: R008_W              From Node: 008
        Group: BASE                  To Node: 008A
         Flow: Both                    Count: 1
         Type: Horizontal           Geometry: Circular

                   Span(in): 30.00
                   Rise(in): 30.00
                 Invert(ft): 56.700
       Control Elevation(ft): 56.700
                                        TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech


-------------------------------------------------------------------------------------------------
         Name: R013W               From Node: 013
        Group: BASE                  To Node: 007
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                       XSec: X013W
                 Invert(ft): 38.110
       Control Elevation(ft): 38.110
```

```
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R027W               From Node: 027
        Group: BASE                  To Node: 028
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Trapezoidal

            Bottom Width(ft): 10.00
       Left Side Slope(h/v): 3.00
      Right Side Slope(h/v): 3.00
                  Invert(ft): 23.500
      Control Elevation(ft): 23.500
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600

Source: Construction Plan - Gypsum Stack System Closure
Slope Closure Phase-II


-----------------------------------------------------------------------------------------------
         Name: R040W               From Node: 040
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X040W
                  Invert(ft): 13.170
      Control Elevation(ft): 13.170
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W               From Node: 042
        Group: BASE                  To Node: 040
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W
                  Invert(ft): 13.830
      Control Elevation(ft): 13.830
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R042W2              From Node: 042
        Group: BASE                  To Node: 043
         Flow: Both                    Count: 1
         Type: Vertical: Fread      Geometry: Irregular

                        XSec: X042W2
                  Invert(ft): 13.220
      Control Elevation(ft): 13.220
      Struct Opening Dim(ft): 9999.00
                                                TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
         Weir Discharge Coef: 2.600
      Orifice Discharge Coef: 0.600



-----------------------------------------------------------------------------------------------
         Name: R043W               From Node: 043
        Group: BASE                  To Node: 041
         Flow: Both                    Count: 1
```

```
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X043W
                   Invert(ft): 13.610
      Control Elevation(ft): 13.610
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R044W               From Node: 044
       Group: BASE                  To Node: 043
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X044W
                   Invert(ft): 13.270
      Control Elevation(ft): 13.270
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R2_W                From Node: 2
       Group: BASE                  To Node: 1
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X2_W
                   Invert(ft): 12.860
      Control Elevation(ft): 12.860
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R3_W                From Node: 3
       Group: BASE                  To Node: 4
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X3_W
                   Invert(ft): 13.300
      Control Elevation(ft): 13.300
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: R3B                 From Node: 3
       Group: BASE                  To Node: 2
        Flow: Both                    Count: 1
        Type: Vertical: Fread      Geometry: Irregular

                         XSec: X3B
                   Invert(ft): 13.220
      Control Elevation(ft): 13.220
     Struct Opening Dim(ft): 9999.00
                                          TABLE
            Bottom Clip(ft): 0.000
               Top Clip(ft): 0.000
        Weir Discharge Coef: 2.600
     Orifice Discharge Coef: 0.600


-----------------------------------------------------------------------------------------------
        Name: W_001               From Node: BOX_001
       Group: BASE                  To Node: TW_001
```

```
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 38.40
                   Rise(in): 9999.00
                 Invert(ft): 3.000
       Control Elevation(ft): 3.000
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.2 ft wide weir

-----------------------------------------------------------------------------------------------------
         Name: W_003               From Node: BOX_003
        Group: BASE                  To Node: TW_003
         Flow: Both                    Count: 1
         Type: Vertical: Mavis      Geometry: Rectangular

                   Span(in): 38.64
                   Rise(in): 9999.00
                 Invert(ft): 7.500
       Control Elevation(ft): 7.500
                                          TABLE
             Bottom Clip(in): 0.000
                Top Clip(in): 0.000
         Weir Discharge Coef: 3.000
      Orifice Discharge Coef: 0.600

Source: 2021 Survey Data by SurvTech
3.22 ft wide weir

==========================================================================================
==== Hydrology Simulations ===============================================================
==========================================================================================

         Name: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\25YR_24HR.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 8.50

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

-----------------------------------------------------------------------------------------------------
         Name: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\Mean.R32

      Override Defaults: Yes
    Storm Duration(hrs): 24.00
          Rainfall File: Flmod
    Rainfall Amount(in): 4.70

Time(hrs)       Print Inc(min)
--------------- ---------------
30.000          5.00

==========================================================================================
==== Routing Simulations =================================================================
==========================================================================================

         Name: 25YR_24HR           Hydrology Sim: 25YR_24HR
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\25YR_24HR.I32

      Execute: Yes         Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

```
-----------------------------------------------------------------------------------------------
         Name: Mean                Hydrology Sim: Mean
     Filename: W:\Projects\2021\21-13-0031C_Piney_Point\ICPR\Proposed_Scenarios\Scenario_7_Pipe_Clip\Mean.I32

      Execute: No          Restart: No            Patch: No
  Alternative: No

        Max Delta Z(ft): 1.00                     Delta Z Factor: 0.00500
    Time Step Optimizer: 10.000
        Start Time(hrs): 0.000                     End Time(hrs): 72.00
     Min Calc Time(sec): 0.5000               Max Calc Time(sec): 60.0000
        Boundary Stages:                          Boundary Flows:


Time(hrs)       Print Inc(min)
--------------- ---------------
999.000         5.000

Group           Run
--------------- -----
BASE            Yes
```

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
0-NE	BASE	25YR_24HR	15.12	10.77	13.00	0.0010	345506	12.08	64.21	15.12	4.76
0-NW	BASE	25YR_24HR	14.16	11.17	13.00	0.0011	195583	12.17	35.32	14.16	5.89
0-SE	BASE	25YR_24HR	13.40	10.74	13.00	0.0022	145697	12.08	28.58	13.40	5.11
0-SW	BASE	25YR_24HR	14.49	11.16	13.00	0.0011	229129	12.25	36.18	13.97	5.87
001	BASE	25YR_24HR	32.76	15.13	18.50	0.0023	409	32.71	8.75	32.21	8.75
002	BASE	25YR_24HR	72.00	27.04	29.00	0.0020	251031	12.00	126.92	72.00	4.22
003	BASE	25YR_24HR	72.00	27.05	29.00	0.0018	8345	12.00	32.96	12.04	32.19
004	BASE	25YR_24HR	12.49	32.37	33.50	0.0016	9863	12.00	23.96	12.49	17.18
005	BASE	25YR_24HR	12.49	32.40	34.00	0.0014	22332	12.00	29.95	12.96	15.14
005B	BASE	25YR_24HR	14.67	79.11	82.00	0.0023	56792	12.00	30.84	14.67	1.55
006	BASE	25YR_24HR	12.50	32.41	33.50	0.0013	12583	12.00	19.50	15.34	12.47
007	BASE	25YR_24HR	15.15	35.10	37.00	0.0018	46045	12.00	33.61	15.40	11.32
008	BASE	25YR_24HR	13.63	56.76	59.50	0.0010	42800	12.00	18.90	13.63	1.40
008A	BASE	25YR_24HR	13.70	47.16	55.50	-0.0020	205	13.71	2.50	13.70	2.50
009	BASE	25YR_24HR	14.12	81.26	83.50	0.0006	67263	12.00	18.18	14.12	1.12
01	BASE	25YR_24HR	12.22	10.31	14.48	0.0050	1099	12.20	38.41	12.22	38.36
010	BASE	25YR_24HR	41.48	55.36	76.00	0.0050	44807	11.93	52.17	41.48	7.19
011	BASE	25YR_24HR	41.48	55.36	75.00	0.0030	100824	12.00	62.83	15.69	22.45
012	BASE	25YR_24HR	41.46	55.36	63.00	0.0004	56008	12.00	22.13	12.08	18.35
013	BASE	25YR_24HR	12.40	36.55	38.50	0.0032	5755	12.00	11.26	12.18	6.16
014	BASE	25YR_24HR	12.40	36.56	39.00	0.0022	8959	12.00	12.29	12.12	4.07
015	BASE	25YR_24HR	12.39	36.57	38.50	0.0014	3242	12.00	5.16	12.01	3.97
016	BASE	25YR_24HR	30.10	23.43	23.50	0.0016	33717	12.03	19.80	29.96	5.34
017	BASE	25YR_24HR	30.10	23.43	24.00	0.0014	16072	12.06	18.15	12.07	14.03
018	BASE	25YR_24HR	30.10	23.43	24.50	0.0012	25153	12.00	18.96	12.09	13.82
019	BASE	25YR_24HR	30.09	23.44	24.50	0.0017	12856	12.00	11.70	12.10	9.14
02	BASE	25YR_24HR	12.21	10.78	12.48	0.0049	435	12.17	38.52	12.20	38.41
020	BASE	25YR_24HR	24.02	27.34	25.00	0.0027	60252	12.00	32.10	18.35	7.72
021	BASE	25YR_24HR	12.03	36.82	38.00	0.0020	7803	12.00	27.40	12.07	27.04
022	BASE	25YR_24HR	12.44	32.76	34.00	0.0020	18377	12.01	43.92	12.04	36.92
023	BASE	25YR_24HR	12.47	32.58	32.50	0.0046	11122	12.04	45.54	12.56	25.77
024	BASE	25YR_24HR	22.11	27.94	29.50	0.0027	7624	12.08	31.67	12.14	30.38
025	BASE	25YR_24HR	22.11	27.92	29.40	0.0022	16966	12.04	42.93	12.15	39.24
026	BASE	25YR_24HR	22.11	27.90	29.20	0.0020	19432	12.08	51.73	12.15	47.89
027	BASE	25YR_24HR	22.10	27.89	29.00	0.0028	10390	12.12	68.68	12.13	66.14
028	BASE	25YR_24HR	22.10	27.88	28.50	0.0033	538526	12.00	209.61	22.04	33.74
029	BASE	25YR_24HR	24.20	17.84	17.80	0.0027	9764	22.04	33.86	22.10	33.58
03	BASE	25YR_24HR	12.22	10.94	15.13	-0.0049	139	12.25	15.06	12.25	15.08
030	BASE	25YR_24HR	24.47	17.67	17.50	0.0013	26949	22.11	33.84	22.56	32.74
031	BASE	25YR_24HR	24.63	17.55	17.00	-0.0012	27300	22.50	32.93	23.48	31.71
032	BASE	25YR_24HR	24.65	17.53	17.00	-0.0012	9294	23.48	31.78	23.63	31.42
033	BASE	25YR_24HR	24.89	17.21	16.50	0.0013	5712	23.58	11.24	23.80	11.03
034	BASE	25YR_24HR	24.89	17.21	17.80	0.0013	6172	23.79	11.08	24.30	10.91
034B	BASE	25YR_24HR	27.64	16.32	16.30	0.0009	201130	12.17	33.25	27.64	18.54
035	BASE	25YR_24HR	25.27	14.80	16.50	0.0009	9591	12.00	9.77	25.11	7.82
036	BASE	25YR_24HR	25.28	14.76	16.50	0.0013	9436	12.00	8.20	25.28	4.63
037	BASE	25YR_24HR	33.19	13.19	19.00	0.0047	146	12.36	8.06	12.38	8.05
037A	BASE	25YR_24HR	34.34	12.70	11.70	0.0114	148	28.91	11.42	28.93	11.42
037B	BASE	25YR_24HR	36.23	11.80	11.70	-0.0042	137	22.45	17.63	22.44	17.63
038	BASE	25YR_24HR	12.30	14.16	16.00	0.0012	9167	12.00	8.03	12.30	3.68
039	BASE	25YR_24HR	12.21	14.28	16.50	0.0009	8572	12.00	6.96	12.08	4.32
04	BASE	25YR_24HR	12.22	11.12	12.48	0.0050	130	12.25	14.25	12.25	14.26
040	BASE	25YR_24HR	33.12	14.18	16.30	0.0005	93323	12.25	13.38	12.57	12.25
041	BASE	25YR_24HR	33.12	14.19	16.50	0.0005	106567	12.03	13.17	9.82	0.08
042	BASE	25YR_24HR	33.12	14.18	14.00	0.0012	192392	12.08	40.52	12.69	12.42
043	BASE	25YR_24HR	33.12	14.19	13.50	0.0017	281671	12.08	54.37	31.15	10.02
044	BASE	25YR_24HR	33.12	14.19	12.70	0.0008	27457	12.08	12.24	12.09	12.10
045	BASE	25YR_24HR	13.59	14.77	16.00	0.0008	105517	12.08	23.27	13.59	2.45
046	BASE	25YR_24HR	12.80	12.73	13.20	0.0007	5737	12.08	3.79	12.80	2.85
05	BASE	25YR_24HR	12.21	10.90	11.98	0.0037	131	12.17	16.68	12.17	16.61
1	BASE	25YR_24HR	45.35	11.41	13.00	0.0018	31993	12.06	17.29	23.64	3.58
2	BASE	25YR_24HR	40.92	12.32	13.00	0.0010	77665	12.02	23.17	36.93	3.73
3	BASE	25YR_24HR	12.02	13.48	13.20	0.0050	13559	12.00	18.58	12.02	18.20
4	BASE	25YR_24HR	45.31	11.41	11.30	0.0020	4903	12.02	7.07	12.06	6.33
BASIN_2	BASE	25YR_24HR	46.48	10.30	13.00	0.0010	879300	12.00	204.34	46.48	13.88
BOX_001	BASE	25YR_24HR	46.48	4.28	8.10	0.0017	113	46.48	13.88	46.48	13.88
BOX_003	BASE	25YR_24HR	32.61	8.44	12.90	0.0008	481	32.21	8.75	32.61	8.75
LPWS	BASE	25YR_24HR	24.50	20.97	23.50	0.0003	466860	12.00	72.51	0.00	0.00
NCOLLING_P	BASE	25YR_24HR	13.05	29.45	33.00	-0.0183	284696	12.00	145.61	12.06	15.58
NGS-N	BASE	25YR_24HR	13.51	42.10	73.00	0.0024	265968	12.00	180.75	13.51	15.00
NGS-S	BASE	25YR_24HR	14.15	58.35	74.00	0.0024	353119	12.00	256.54	14.15	15.42
NGS-S2	BASE	25YR_24HR	12.84	57.46	74.00	0.0020	191074	12.00	121.89	12.84	14.45
NGS-S_CAP	BASE	25YR_24HR	12.97	57.18	63.00	0.0005	187232	12.00	51.24	12.97	5.34
OGS-N	BASE	25YR_24HR	20.24	61.45	86.00	0.0038	258669	12.00	197.44	11.80	13.96
OGS-S	BASE	25YR_24HR	13.10	76.40	85.00	0.0050	325639	12.00	123.89	13.10	11.83
TW_001	BASE	25YR_24HR	0.00	1.30	1.30	0.0000	0	46.48	13.88	0.00	0.00
TW_003	BASE	25YR_24HR	0.00	1.30	1.30	0.0000	0	32.61	8.75	0.00	0.00
0-NE	BASE	Mean	24.14	10.42	13.00	0.0008	262315	12.08	27.82	24.14	0.61
0-NW	BASE	Mean	14.04	10.57	13.00	0.0012	110846	12.25	15.33	14.04	3.16
0-SE	BASE	Mean	19.97	10.42	13.00	0.0025	108326	12.08	12.36	19.97	0.55
0-SW	BASE	Mean	14.26	10.58	13.00	0.0011	123382	12.25	15.63	14.26	3.33
001	BASE	Mean	24.25	14.97	18.50	-0.0029	458	24.10	7.49	23.97	7.49
002	BASE	Mean	49.90	23.13	29.00	0.0016	192873	12.00	63.43	49.90	3.28
003	BASE	Mean	12.12	26.24	29.00	0.0014	6759	12.06	21.56	12.12	20.82
004	BASE	Mean	12.31	31.22	33.50	0.0009	7946	12.09	16.09	12.31	14.89
005	BASE	Mean	12.31	31.36	34.00	0.0011	18302	12.05	16.22	12.31	12.84
005B	BASE	Mean	13.57	78.01	82.00	0.0021	30778	12.00	13.67	13.57	1.19
006	BASE	Mean	12.31	31.43	33.50	0.0011	10484	12.01	10.81	12.36	8.96
007	BASE	Mean	16.14	33.52	37.00	0.0023	36478	12.00	19.22	16.14	8.10
008	BASE	Mean	13.62	55.99	59.50	0.0008	31683	12.00	8.38	13.62	0.69
008A	BASE	Mean	14.03	46.85	55.50	-0.0021	196	13.94	1.08	14.03	1.08
009	BASE	Mean	15.58	80.80	83.50	0.0005	52761	12.00	8.06	15.58	0.39
01	BASE	Mean	12.29	9.23	14.48	0.0038	1550	12.26	19.83	12.29	19.75
010	BASE	Mean	21.71	51.49	76.00	0.0050	30613	12.24	33.28	21.71	6.40
011	BASE	Mean	21.79	51.49	75.00	0.0031	70428	12.02	28.93	22.49	17.79
012	BASE	Mean	12.11	53.39	63.00	0.0003	40907	12.00	10.61	12.11	8.34
013	BASE	Mean	12.31	35.28	38.50	-0.0030	4021	12.00	6.86	12.31	4.52
014	BASE	Mean	12.31	35.33	39.00	-0.0021	5721	12.00	6.12	12.05	3.45
015	BASE	Mean	12.09	35.97	38.50	0.0009	2132	12.00	2.47	12.05	2.21
016	BASE	Mean	21.72	21.43	23.50	0.0018	26364	12.10	10.21	21.57	4.72
017	BASE	Mean	21.72	21.43	24.00	0.0017	10840	12.12	9.20	12.27	8.42
018	BASE	Mean	21.68	21.44	24.50	0.0015	16964	12.03	10.07	12.32	7.97

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
019	BASE	Mean	21.64	21.45	24.50	0.0022	8698	15.03	7.56	15.05	7.15
02	BASE	Mean	12.28	9.50	12.48	0.0037	1254	12.24	19.94	12.26	19.83
020	BASE	Mean	15.43	25.05	25.00	0.0034	46152	12.00	22.59	15.03	7.43
021	BASE	Mean	13.06	36.37	38.00	0.0011	6196	13.00	12.50	13.07	12.49
022	BASE	Mean	13.09	31.73	34.00	0.0016	12457	12.00	15.24	13.09	13.32
023	BASE	Mean	12.12	29.84	32.50	0.0005	5814	12.09	15.67	12.12	15.55
024	BASE	Mean	12.16	26.64	29.50	0.0019	5343	12.08	19.31	12.14	18.21
025	BASE	Mean	33.97	26.38	29.40	0.0021	11772	12.08	23.76	12.23	21.02
026	BASE	Mean	33.95	26.38	29.20	0.0020	14121	12.13	25.47	12.28	24.02
027	BASE	Mean	33.28	26.37	29.00	0.0027	7757	12.33	30.38	12.25	28.83
028	BASE	Mean	33.38	26.37	28.50	0.0030	500492	12.00	86.36	33.38	3.71
029	BASE	Mean	12.11	16.06	17.80	0.0025	5442	12.00	5.96	12.09	5.47
03	BASE	Mean	12.28	9.55	15.13	-0.0050	476	12.25	7.88	12.26	7.84
030	BASE	Mean	12.22	15.67	17.50	0.0012	14582	12.00	11.30	12.18	8.38
031	BASE	Mean	12.46	15.05	17.00	0.0013	14487	12.08	11.86	12.36	8.51
032	BASE	Mean	12.50	14.95	17.00	0.0012	5271	12.29	9.31	12.41	8.83
033	BASE	Mean	12.53	14.88	16.50	0.0013	3506	12.26	5.53	12.42	5.14
034	BASE	Mean	12.53	14.87	17.80	0.0013	4142	12.31	5.72	12.58	5.46
034B	BASE	Mean	14.71	14.59	16.30	0.0007	137669	12.25	13.71	14.69	2.66
035	BASE	Mean	12.94	13.96	16.50	0.0009	7640	12.08	5.23	12.73	3.98
036	BASE	Mean	13.00	13.89	16.50	0.0013	7405	12.02	4.86	13.00	3.15
037	BASE	Mean	12.66	10.20	19.00	0.0011	553	12.65	5.40	5.35	7.72
037A	BASE	Mean	12.75	9.61	11.70	0.0114	788	5.35	7.72	12.72	6.23
037B	BASE	Mean	12.84	9.35	11.70	0.0014	537	12.81	6.82	12.84	6.82
038	BASE	Mean	12.56	13.54	16.00	0.0012	7558	12.06	4.59	12.55	2.30
039	BASE	Mean	12.15	13.91	16.50	0.0006	7282	12.00	3.33	12.11	2.26
04	BASE	Mean	12.27	9.60	12.48	0.0044	358	12.25	7.49	12.25	7.46
040	BASE	Mean	13.72	13.74	16.30	0.0007	63132	12.33	6.30	13.75	3.16
041	BASE	Mean	13.72	13.74	16.50	0.0007	81905	12.18	7.13	11.86	0.08
042	BASE	Mean	17.58	12.90	14.00	0.0009	106999	12.08	17.69	17.58	0.92
043	BASE	Mean	24.52	13.26	13.50	0.0011	199263	12.08	23.06	28.06	2.10
044	BASE	Mean	12.10	13.45	12.70	0.0010	9550	12.08	5.36	12.10	5.24
045	BASE	Mean	13.26	14.27	16.00	0.0007	64870	12.08	10.26	13.21	1.37
046	BASE	Mean	13.16	12.25	13.20	0.0007	4302	12.33	1.66	13.15	1.49
05	BASE	Mean	12.27	9.54	11.98	-0.0031	429	12.17	8.76	12.23	8.61
1	BASE	Mean	14.69	10.33	13.00	0.0019	23285	12.23	7.81	14.68	1.22
2	BASE	Mean	29.29	10.61	13.00	0.0003	58763	12.08	6.60	29.27	1.01
3	BASE	Mean	12.19	13.34	13.20	0.0050	11216	12.00	8.21	12.19	5.21
4	BASE	Mean	14.78	10.33	11.30	0.0035	2484	12.08	1.00	12.23	1.34
BASIN_2	BASE	Mean	24.90	7.69	13.00	0.0008	684269	12.00	106.42	24.90	9.52
BOX_001	BASE	Mean	24.90	3.99	8.10	0.0011	113	24.90	9.52	24.90	9.52
BOX_003	BASE	Mean	24.22	8.34	12.90	-0.0017	496	23.97	7.49	24.22	7.49
LPWS	BASE	Mean	24.50	20.63	23.50	0.0002	464373	12.00	40.09	0.00	0.00
NCOLLING_P	BASE	Mean	12.50	28.69	33.00	-0.0106	171263	12.00	64.55	12.50	15.38
NGS-N	BASE	Mean	12.91	40.82	73.00	0.0029	141376	12.00	80.12	12.91	9.42
NGS-S	BASE	Mean	13.09	56.82	74.00	0.0026	189920	12.00	113.72	13.09	11.86
NGS-S2	BASE	Mean	12.85	56.42	74.00	0.0022	112884	12.00	54.03	12.85	6.84
NGS-S_CAP	BASE	Mean	12.59	56.78	63.00	0.0003	161240	12.00	22.72	12.59	4.50
OGS-N	BASE	Mean	13.63	58.67	86.00	0.0046	106578	12.00	84.78	12.34	13.47
OGS-S	BASE	Mean	13.04	75.85	85.00	0.0050	247794	12.00	54.92	13.04	5.96
TW_001	BASE	Mean	0.00	1.30	1.30	0.0000	0	24.90	9.52	0.00	0.00
TW_003	BASE	Mean	0.00	1.30	1.30	0.0000	0	24.22	7.49	0.00	0.00