

SECTION 38

POST-RECLAMATION SURFACE STABILIZATION AND SEDIMENT CONTROL

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LIST OF REVISIONS DURING PERMIT TERM

REV.		DATE
NUMBER	REVISION DESCRIPTION	APPROVED

SECTION 38 POST-RECLAMATION SURFACE STABILIZATION AND SEDIMENT CONTROL

38.1 Surface Stabilization and Sediment Control Plan for Reclaimed Lands

Navajo Transitional Energy Company (NTEC) recognizes that the final surface configuration (FSC), presented in Section 34 Post-Reclamation Topography, may be revised during the operational life of No Name Permit (NNP). The terms FSC and approximate original contours (AOC) may be used interchangeably within this permit application package (PAP). This section serves as the surface stabilization and sediment control plan for the NNP. It describes the measures used to control erosion and sediment transport on reclaimed lands. The control measures and techniques presented in this plan will be the best technology currently available (BTCA) that has been demonstrated as successful in the arid Southwest. The Surface Mining Control and Reclamation Act (SMCRA) uses the term BTCA for sediment and erosion control practices, while the Clean Water Act (CWA) uses the term best management practices. Both terms may be used interchangeably within this PAP. The surface stabilization and sediment control plan relies on sound, scientifically proven, engineering practices that emphasize landform construction and erosion controls that do not rely on the use of water treatment approaches to achieve sediment control goals. The control measures and techniques utilized by NTEC ensure that reclaimed lands will not significantly contribute additional suspended solids to runoff or stream flow outside the permit area beyond what was identified during baseline studies, presented in Section 18 (Water Resources). These measures will also aid in compliance with applicable federal, state, and tribal water quality laws, regulations, and standards as discussed in Section 8. See Section 41 Probable Hydrologic Consequences for detailed analysis and comparison of pre- and post-mining sediment loads.

The drainages within the NNP flow only as a result of precipitation events and/or as a result of snow melt and thus meet the strict definition of an ephemeral drainage. However, drainages with watersheds greater than 1 sq mi are defined as intermittent streams by the Office of Surface Mining Reclamation and Enforcement (OSM).

38.2 Fluvial Geomorphic Reclamation Approach

38.2.1 Fluvial Geomorphic Surface Stabilization Approach for Reclamation

NTEC will reclaim through the implementation of established fluvial geomorphic principles in hydrologic restorations (Dunne and Leopold 1978; Rosgen 1996), unless other designs are required and specified in the PAP. These principles include:

- stabilizing the drainage area through land shaping to achieve geomorphically appropriate slopes, drainage densities, and channel profiles;
- regulating the water channel velocity by constructing channel slopes, channel meander lengths, and cross-sections according to fluvial geomorphic principles; and

- adjusting reclaimed channel configuration based on bed and bank material (substrate) characteristics, as needed.

Implementation of these principles allows NTEC to design, construct, establish, and restore ephemeral streams to appropriate longitudinal plans and profiles, gradients and cross-sections, including aquatic habitats (usually a pattern of riffles, pools, and drops rather than uniform depth) that approximate pre-mining stream channel characteristics. This approach allows the longitudinal profile of the stream, the channel, and the floodplain to remain stable in dynamic equilibrium with channel segments that may be upstream or downstream of reclaimed areas. The channel capacity will be at least equal to that of the unmodified ephemeral stream channel immediately upstream and downstream.

Surface water and groundwater quality will be protected by handling earth materials, mine water inflows, and surface water runoff to minimize adverse impacts to surface water and groundwater quality and to prevent the additional contribution of sediment to ephemeral stream flow outside the permit area. This will be accomplished by utilizing the sediment and drainage control plans presented in Section 25 and Section 26, respectively. Drainages will be reconstructed to approximate pre-mining area and flow length, as practicable. Drainage channels and swales will have fairly gradual gradients with a concave upward configuration to minimize the potential for head cutting and significant erosion loss.

38.2.2 Fluvial Geomorphic Approach to Stream Channel Design, Protection, and Mitigation

A fluvial geomorphologic approach was undertaken to design the drainage areas and drainage channels within the reclamation areas. The following is a discussion of the approach taken in development of the final surface presented in Section 34 Post-Reclamation Topography and is an outline of steps to be taken in the event that future revisions of the FSC are needed. The landforms created with this approach comply with SMCRA, include a variety of slope aspects and drainage meander lengths, are stable, and have low maintenance requirements.

The drainage density, defined as channel length per unit of land area (e.g., mi/sq mi or ft/ac), will be determined for the survey areas. This value will generally provide a lower limit for the reclamation, because the backfilled material is usually less consolidated than the native material and will tend to require a greater drainage density. The soil types (i.e., substrate) and hillside slopes will also be considered when selecting an appropriate reclamation drainage density. This drainage density will generally be accomplished by establishing first- and second-order minor channels on the valley slopes and by constructing major channels in the valley bottom.

NTEC will estimate the discharge through the reclamation reaches and design channels that are hydrologically appropriate for those flows. These designed channels are not expected to support vegetation within their bank full flow area because of natural annual scouring by runoff. The channels will be appropriate for the valley type and slope, channel substrate, sediment soil particle size, and other relevant parameters. Because the channel designs will incorporate the correct channel geometry, the channels will pass the discharge and sediment load supplied to them with erosion comparable to the surrounding terrain.

Generally, NTEC will control soil erosion through the use of shorter, flatter slopes, as compared to traditional reclamation techniques. The FSC design, presented in Section 34 (Post-Reclamation Topography), will have stable drainages by using fluvial geomorphic principles to create channels that are appropriate for the post-mining slope, aspect, substrate, vegetation, and land use. A major drainage is generally defined as a higher-order channel that occupies a valley floor and collects water from lower-order channels draining upland slopes. The backfill and grading plan will show the valley slope and meander belt width that NTEC has determined are necessary for the channel type that will occupy the valley. The backfill and grading plan will depict the drainage density minimum that NTEC has determined necessary for valley wall slopes as “blue lines” on the plan. In summary, the backfill and grading plan will show:

1. The approximate valley location for each major drainage,
2. The valley slope and meander belt width for the channel type that will occupy the valley, and
3. The drainage density minimum for the valley wall slopes represented by for the channel length.

The necessary channel length for each subwatershed area is conceptual and may shift slightly during the construction process. There may be opportunities to install various types of structures to help control erosion and enhance plant diversity or wildlife habitat. The structures will be placed in opportunistic locations that are best suited for the particular structure. The following includes a list of some of the post-reclamation features NTEC may utilize:

1. Small depressions may be opportunistically constructed in the upland areas and drainages to minimize erosion, conserve soil moisture, create or enhance wildlife habitat, and promote the growth of vegetation. The capacities of the depressions will be less than 1 ac-ft. Small depressions are further described in Section 34 (Post-Reclamation Topography).
2. Rock habitat structures will be distributed in various arrangements, sizes, and locations to provide hiding and nesting sites for mammals and perching sites for raptors. In addition, they may be used to harvest water for improving plant production and controlling erosion (Ramsey and Porterfield 1995). Wildlife habitat structures are discussed further in Section 39 (Fish and Wildlife Enhancement).
3. Water harvesting features, such as surface drainage traps, topdressing reservoirs, and root-zone pitting (Ramsey and Porterfield 1995), may be used throughout the landscape primarily for the purpose of improving plant cover, minimizing erosion, and creating wildlife habitat.

4. Talus may be installed to resemble pre-mine or undisturbed conditions. Talus areas will be used primarily in locations of steep slopes to help stabilize the surface when competent rock materials are available. In addition, talus will provide a secondary benefit for wildlife habitat and possible water harvesting if the terrain allows (Ramsey and Porterfield 1995). The rock materials will range in size from 0.5 ft to greater than 10 ft. The overall structure will vary in size from a possible height of 100 to 150 ft to a length up to 300 ft. If NTEC determines there is a need or opportunity to install a talus, there will be discussion with the OSMRE inspector and/or technical staff personnel and approval obtained, if required, before installing.
5. Topographic features will be installed in the FSC as needed to achieve fluvial geomorphic stability. Features such as ridges, mounds or bumps on slopes, and small ephemeral stream valleys will be used to dissect slopes and achieve appropriate drainage densities. These features may often be too small to depict on the 10-ft interval topographic map used to present the FSC.
6. Bluff features may be incorporated into the FSC design to provide cliff type habitats similar to those that existed in the pre-mining topography to replace the bluff/cliffs as potential nesting and perching habitat for many avian species. The ends of the bluff features will be blended into the surrounding topography with slopes that are less than 3 horizontal to 1 vertical (3H: 1V). The bluffs will have a safety factor of 1.3 or greater and will not pose a hazard to persons or wildlife in the area. A geotechnical assessment will be performed by NTEC documenting the safety factor, as required by OSM. If NTEC determines there is a need or opportunity to install a bluff feature, there will be discussion with the OSMRE inspector and/or technical staff personnel and approval obtained, if required, before installing.
7. Permanent impoundments may also be built to increase the potential for long-term water availability, thereby enhancing wildlife habitat and drainage control. These permanent impoundments may also serve to replace water sources as described in Section 35 (Hydrologic Reclamation Plan).

Construction of stream channel segments may require the construction of temporary in-line sediment and drainage control ponds. These structures would be constructed along the perimeter of ramp roads or at the confluence point of reconstructed channels where water flow will interfere with continued mining and reclamation activities or compliance with surface water discharge regulations. This may create segments that have a potential for temporary or minor ponding of surface water flows until the remainder of the channel is constructed. The ponded segments along the channel would be expected to fill relatively quickly with alluvial deposits as the channel re-establishes its grade and moves toward dynamic equilibrium within the full channel reach length. Surface water ponding may continue in the in-line sediment and drainage control ponds even after removal, until the channel obtains dynamic equilibrium. Although this condition is not ideal, it should be expected because the sediment and drainage control is required during reclamation activities to prevent

the untimely release of water and sediment from within the permit area in compliance with SMCRA and National Pollutant Discharge Elimination System permit requirements.

The topographic diversity provided by the FSC will promote diversity within the vegetation communities, thereby increasing suitability of the landscape for post-mining grazing land use. Further information on the post-mining land use and post-reclamation vegetation communities is provided in Section 30 (Post-Reclamation Land Use) and Section 37 (Post-Reclamation Vegetation), respectively.

38.2.3 Fluvial Geomorphic Approach to Hill Slope Design, Protection, and Mitigation

Modeling results show that the FSC designs for the permit area will maintain the hydrologic balance and provide a suitable surface for post-mining grazing land use. The following performance standards and assumptions were used to develop the FSC designs in the PAP:

1. The FSC is shaped to accommodate the designated post-mining land use of grazing.
2. The FSC is designed so that the overall soil loss values for the post-mining topography are similar in magnitude to the pre-mining soil loss values.
3. The FSC supports the incorporation of wildlife habitat enhancement features into the post-mining topography. These features will be placed or incorporated in opportunistic locations during the regrade process. Examples of diversity structures are:
 - a. Rock habitat structures – structures built with rock and ranging from loose piles of durable rock to rocky rims constructed along the contour of slopes.
 - b. Escarpments structures – thin exposed areas of end walls or final pits that provide durable rock or rocky ledges, talus slopes, or rock rims similar in configuration to rock habitat structures. Such structures will be less than 15 ft in height, less than 500 ft in length and blended into the surrounding topography with slopes that are less than 3H: 1V. Escarpment features are discussed further in Section 39 Fish and Wildlife Enhancement.
 - c. Small depressions, with a capacity less than 1 ac-ft. These structures will create microhabitat niches for both the wildlife and vegetation communities. Small depressions are described further in Section 34 Post-Reclamation Topography.
4. Slopes with complex profiles are used when appropriate to minimize soil loss.
5. The post-mining drainage density approximates the pre-mining drainage density as appropriate for the watershed size and slope. Complex slopes with varied aspect support the drainage density, although the drainages are swales instead of channels with defined beds and banks.
6. All exposed mineable coal seams are covered with 4 ft of non-combustible material.
7. The FSC design will have increased topographic diversity that provides high diverse plant community and wildlife habitat, and geomorphically suitable and stable landforms compatible with the post-mine grazing land use.

8. Applying fluvial geomorphic principles allows SEDCAD modeling to utilize a lower curve number of 75.7 instead of 78 for reclaimed lands. A curve number of 75.7 represents a decrease in flow velocity in the main channel that is demonstrated in its sinuosity, slope and drainage density.

38.2.4 Natural Regrade Software

Carlson Natural Regrade was used to design the fluvial surface for the reclamation. The software utilizes several inputs to design the surface to match the pre-mine conditions. The following main inputs were used in the design:

1. Rainfall – Natural Regrade uses the 2-yr, 1-hr storm event to design the bankfull channel dimensions (pilot channel). The flood-prone channel dimensions are calculated using the 50-yr, 6-hr storm event. The rational method is used to calculate the peak discharge. Utilizing the rational method will place the entire 6-hour storm event into an instantaneous discharge event. Below is the rational formula:

$$Q = ciA$$

$$Q = ciA$$

Q = Peak discharge (cubic feet per second)

c = Rational method runoff coefficient (0.89 is used for the design)

i = Rainfall (inch)

A = Drainage Area (Acres)

2. Sinuosity – Natural Regrade uses a ratio to calculate the sinuosity of the channel. The lower the ratio the less the sinuosity. Channels are designed as either an A or C Type Channel. A-Aa+ are used when coming off of highland with a slope greater than 4% and will generally have low sinuosity, 1.15 is generally used. The C channels will be configured with the Pilot and Flood-prone configuration and will have a grade less than 4%. The sinuosity in the C type channels will range from 1.2 to 1.5.
3. Width-to-Depth Ratio - This is used to design the dimensions of the channel. The higher the Width-to-depth ratio the wider the channel will be designed. Natural channels at Navajo Mine at generally narrow and deep, for example the North Fork upstream channel has a ratio of 10:1. Channels will be designed with a Width-to-Depth of 25:1 or less.

38.2.5 Temporary Suitable Material Storage

Suitable topdressing material may be stored in temporary stockpiles (<1 year) to facilitate timely placement activities in order to limit the amount of additional handling required for final placement. These temporary stockpile locations will not be submitted to OSMRE or appear on Exhibit 22-2 Mine Structures Location Map as they will be established in order to complete reclamation activities as appropriate opportunities arise. Temporary locations will be communicated to appropriate OSMRE personnel on an as needed basis. The size of the stockpiles will not significantly exceed (required volume + 20%) the requirements to cover the subwatershed in which it is placed. All temporary stockpiles will be constructed to minimize material loss but will not be revegetated due to their temporary status.

38.3 Reclamation Watersheds

The Navajo Mine has adopted a method of reclamation that focuses on developing watersheds. Exhibit 34.3-1 Reclamation Watershed Overview Map shows the design project boundaries for the individual watersheds in the permit area. These boundaries indicate an approximate final reclamation area. The extents may be modified to meet future design requirements if required.

38.4 Final Surface Contours

38.4.1 No Name

38.4.1.1 No Name Arroyo Reclamation Watershed

The No Name Watershed is approximately 7,345 acres and planned disturbance area is 2,526 acres. The planned reclamation area, final surface contours, main channel alignments can be found on Exhibit 34.3-2 SedCAD Drainage Subdivisions. Exhibit 34.3-2.02 Pinabete Arroyo Stream Channel Plan, Profile, and Typical (Sheet 1 of 3) is a typical cross section, channel plan and profile of main channels. The structure summary and typical cross section represent minimum dimensions to meet the hydrology and sedimentology model. Design calculations for the pilot and flood-plain channel are conducted assuming: Pilot channels is poorly vegetated with a manning coefficient of 0.025 and vegetated along the flood plain with manning coefficient of 0.045. The flood plain limiting velocity will be based on natural conditions to safely pass the 100-yr 6-hr storm flow. The final channel dimensions may vary slightly due to unexpected field modifications due to a number of factors including equipment availability and material balance. These modifications will be minimized to the extent possible and the final channel dimensions will meet the minimums or maximums of the approved final surface configuration (FSC).

38.4.1.1.1 Pre and Post Mining Sediment Yields

The estimated post-mining soil losses for the permit area FSC designs will be estimated using the SEDCAD4™ (SEDCAD) modeling program. By estimating the soil loss over the reclamation areas, designs can be evaluated as to whether or not they will maintain the hydrologic balance and provide a suitable surface for the post-mining land use. SEDCAD surface flow and sediment yield modeling results for pre- and post-mining reclamation watershed areas are discussed in the individual Reclamation Watershed sections.

38.4.1.1.2 No Name Arroyo Reclamation Watershed Pre and Post Mining Comparison

The comparison of pre and post mining peak flow and sediment yield for the No Name Arroyo Reclamation Watershed can be found in Table 38.1-1. A comparison of these modeling results (10-year, 6-hour storm event) indicates a decreased change in surface flows and a slight decrease in sediment yield. Detailed No Name Arroyo Baseline SEDCAD analysis of these areas can be found in Appendix 38.B and Post Mine

SEDCAD can be found within Appendix 38.G No Name Hydrology and Sedimentology for LOM Reclamation Plan.

38.4.1.1.3 Pre and Post Mining Drainage Density

The appropriate drainage density for a reclamation area should be a function of terrain aspect and slope as well as precipitation and soils. Based on the extent and location of the No Name grading limits, a target drainage density of 236 ft/acre (+/- 30%) was used for the FSC design. The post-mining drainage density are shown in Table 38.1-6.

38.4.1.2 Brimhall Wash Reclamation Watershed

The Brimhall Wash Watershed is approximately 54,536 acres and planned disturbance is 1,780 acres. The planned reclamation area, final surface contours, main channel alignments can be found on Exhibit 34.3-2 SedCAD Drainage Subdivisions. Exhibit 34.3-2.02 Pinabete Arroyo Stream Channel Plan, Profile, and Typical (Sheet 1 of 3) is a typical cross section, channel plan and profile of main channels. The structure summary and typical cross section represent minimum dimensions to meet the hydrology and sedimentology model. Design calculations for the pilot and flood-plain channel are conducted assuming: Pilot channels is poorly vegetated with a manning coefficient of 0.025 and vegetated along the flood plain with manning coefficient of 0.045. The flood plain limiting velocity will be based on natural conditions to safely pass the 100-yr 6-hr storm flow. The final channel dimensions may vary slightly due to unexpected field modifications due to a number of factors including equipment availability and material balance. These modifications will be minimized to the extent possible and the final channel dimensions will meet the minimums or maximums of the approved final surface configuration (FSC).

38.4.1.2.1 Pre and Post Mining Sediment Yields

The estimated post-mining soil losses for the permit area FSC designs will be estimated using the SEDCAD4™ (SEDCAD) modeling program. By estimating the soil loss over the reclamation areas, designs can be evaluated as to whether or not they will maintain the hydrologic balance and provide a suitable surface for the post-mining land use. SEDCAD surface flow and sediment yield modeling results for pre- and post-mining reclamation watershed areas are discussed in the individual Reclamation Watershed sections.

38.4.1.2.2 Brimhall Wash Reclamation Watershed Pre and Post Mining Comparison

The comparison of pre and post mining peak flow and sediment yield for the Brimhall Wash Reclamation Watershed can be found in Table 38.1-3. A comparison of these modeling results (10-year, 6-hour storm event) indicates a decreased change in surface flows and a slight decrease in sediment yield. Detailed

Baseline SEDCAD analysis of these areas can be found in Appendix 38.C and Post Mine SEDCAD can be found within Appendix 38.H Brimhall Wash Hydrology and Sedimentology for LOM Reclamation Plan.

38.4.1.2.3 Pre and Post Mining Drainage Density

The appropriate drainage density for a reclamation area should be a function of terrain aspect and slope as well as precipitation and soils. Based on the extent and location of the Brimhall Wash grading limits, a target drainage density of 139 ft/acre (+/- 30%) was used for the FSC design. The post-mining drainage density for Brimhall Wash, are shown in Table 38.1-6.

38.4.1.3 Chaco River Tributary 1 and 2 Reclamation Watershed

The Chaco River Tributary 1 and 2 Reclamation Watersheds are approximately 2,176 acres and 1,777.2 acres, respectively. The combined planned disturbance area is 1,166 acres for Chaco River Tributary 1 and 2. The planned reclamation area, final surface contours, main channel alignments can be found on Exhibit 34.3-2 SedCAD Drainage Subdivisions. Exhibit 34.3-2.02 Pinabete Arroyo Stream Channel Plan, Profile, and Typical (Sheet 1 of 3) is a typical cross section, channel plan and profile of main channels. The structure summary and typical cross section represent minimum dimensions to meet the hydrology and sedimentology model. Design calculations for the pilot and flood-plain channel are conducted assuming: Pilot channels is poorly vegetated with a manning coefficient of 0.025 and vegetated along the flood plain with manning coefficient of 0.045. The flood plain limiting velocity will be based on natural conditions to safely pass the 100-yr 6-hr storm flow. The final channel dimensions may vary slightly due to unexpected field modifications due to a number of factors including equipment availability and material balance. These modifications will be minimized to the extent possible and the final channel dimensions will meet the minimums or maximums of the approved final surface configuration (FSC).

38.4.1.3.1 Pre and Post Mining Sediment Yields

The estimated post-mining soil losses for the permit area FSC designs will be estimated using the SEDCAD4™ (SEDCAD) modeling program. By estimating the soil loss over the reclamation areas, designs can be evaluated as to whether or not they will maintain the hydrologic balance and provide a suitable surface for the post-mining land use. SEDCAD surface flow and sediment yield modeling results for pre- and post-mining reclamation watershed areas are discussed in the individual Reclamation Watershed sections.

38.4.1.3.2 Chaco River Tributary 1 and 2 Reclamation Watershed Pre and Post Mining Comparison

The comparison of pre and post mining peak flow and sediment yield for the Chaco River Tributary 1 and 2 Reclamation Watershed can be found in Tables 38.1-2 and Table 38.1-4. A comparison of these modeling results (10-year, 6-hour storm event) indicates a decreased change in surface flows and a slight decrease in sediment yield. Detailed Baseline SEDCAD analysis of these areas can be found in Appendix 38.D & 38.E

and Post Mine SEDCAD can be found within Appendices 38.I & 38.J Chaco River Unnamed Tributary Hydrology and Sedimentology for LOM Reclamation Plan.

38.4.1.3.3 Pre and Post Mining Drainage Density

The appropriate drainage density for a reclamation area should be a function of terrain aspect and slope as well as precipitation and soils. Based on the extent and location of the Chaco River grading limits, a target drainage density of 90.9ft/acre (+/- 30%) was used for the FSC design. The post-mining drainage for Chaco River, are shown in Table 38.1-6.

38.4.1.4 Pinabete Reclamation Watershed

The Pinabete Watershed is approximately 37,850 acres. The planned disturbance area is 2,955 acres for Pinabete Reclamation Watershed. The planned reclamation area, final surface contours, main channel alignments can be found on Exhibit 34.3-2 SedCAD Drainage Subdivisions. Exhibit 34.3-2.02 Pinabete Arroyo Stream Channel Plan, Profile, and Typical (Sheet 1 of 3) is a typical cross section, channel plan and profile of main channels. The structure summary and typical cross section represent minimum dimensions to meet the hydrology and sedimentology model. Design calculations for the pilot and flood-plain channel are conducted assuming: Pilot channels is poorly vegetated with a manning coefficient of 0.025 and vegetated along the flood plain with manning coefficient of 0.045. The flood plain limiting velocity will be based on natural conditions to safely pass the 100-yr 6-hr storm flow. The final channel dimensions may vary slightly due to unexpected field modifications due to a number of factors including equipment availability and material balance. These modifications will be minimized to the extent possible and the final channel dimensions will meet the minimums or maximums of the approved final surface configuration (FSC).

38.4.1.4.1 Pre and Post Mining Sediment Yields

The estimated post-mining soil losses for the permit area FSC designs will be estimated using the SEDCAD4™ (SEDCAD) modeling program. By estimating the soil loss over the reclamation areas, designs can be evaluated as to whether or not they will maintain the hydrologic balance and provide a suitable surface for the post-mining land use. SEDCAD surface flow and sediment yield modeling results for pre- and post-mining reclamation watershed areas are discussed in the individual Reclamation Watershed sections.

38.4.1.4.2 Pinabete Reclamation Watershed Pre and Post Mining Comparison

The comparison of pre and post mining peak flow and sediment yield for the Pinabete Reclamation Watershed can be found in Tables 38.1-5. A comparison of these modeling results (10-year, 6-hour storm event) indicates a decreased change in surface flows and a decrease in sediment yield. Detailed Baseline

SEDCAD analysis of these areas can be found in Appendix 38.A and Post Mine SEDCAD can be found within Appendix 38.F Pinabete Hydrology and Sedimentology for LOM Reclamation Plan.

38.4.1.4.3 Pre and Post Mining Drainage Density

The appropriate drainage density for a reclamation area should be a function of terrain aspect and slope as well as precipitation and soils. Based on the extent and location of the Pinabete grading limits, a target drainage density of 37.4 ft/acre (+/- 30%) was used for the FSC design. The post-mining drainage for Pinabete, is shown in Table 38.1-6.

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Appendix 38-A

Pinabete Baseline Hydrology and Sedimentology

Pinabete Baseline

Hydrology and Sedimentology

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

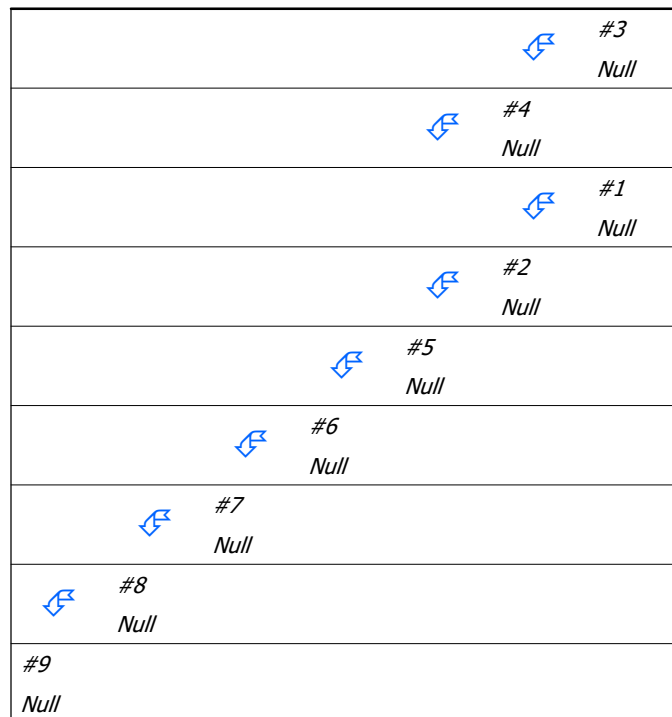
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	1.674	0.331	
Null	#2	==>	#5	4.188	0.295	
Null	#3	==>	#4	1.961	0.319	
Null	#4	==>	#5	3.103	0.304	
Null	#5	==>	#6	1.300	0.273	
Null	#6	==>	#7	0.995	0.281	EAST LEASE BNDY
Null	#7	==>	#8	2.793	0.277	
Null	#8	==>	#9	2.630	0.259	WEST LEASE BNDY
Null	#9	==>	End	0.000	0.000	

**Structure Routing Details:**

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	1.24	249.98	20,136.00	3.34	1.674
#1	Muskingum K:					1.674
#2	8. Large gullies, diversions, and low flowing streams	0.67	245.00	36,791.00	2.44	4.188
#2	Muskingum K:					4.188

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	8. Large gullies, diversions, and low flowing streams	0.99	210.00	21,118.00	2.99	1.961
#3	Muskingum K:					1.961
#4	8. Large gullies, diversions, and low flowing streams	0.77	227.00	29,388.00	2.63	3.103
#4	Muskingum K:					3.103
#5	8. Large gullies, diversions, and low flowing streams	0.47	45.00	9,601.00	2.05	1.300
#5	Muskingum K:					1.300
#6	8. Large gullies, diversions, and low flowing streams	0.54	42.00	7,845.00	2.19	0.995
#6	Muskingum K:					0.995
#7	8. Large gullies, diversions, and low flowing streams	0.49	105.00	21,218.00	2.11	2.793
#7	Muskingum K:					2.793
#8	8. Large gullies, diversions, and low flowing streams	0.37	64.00	17,238.00	1.82	2.630
#8	Muskingum K:					2.630

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	44.69	9.89	175.3	17,652	1.84	1.35
#4	3,216.100	7,194.800	80.78	26.09	491.7	29,240	3.25	1.53
#1	8,477.900	8,477.900	178.02	38.18	685.8	28,634	4.19	1.92
#2	3,838.900	12,316.800	299.00	83.71	1,486.1	28,581	3.20	1.45
#5	5,494.300	25,005.900	375.34	177.74	2,223.6	15,367	1.25	0.74
#6	3,079.300	28,085.200	372.29	209.59	2,099.3	12,393	0.63	0.37
#7	2,671.600	30,756.800	369.80	214.66	2,082.0	13,157	0.63	0.34
#8	4,754.800	35,511.600	364.13	250.43	1,979.2	16,884	1.01	0.35
#9	2,301.000	37,812.600	359.89	257.49	2,018.9	15,304	0.70	0.26

Particle Size Distribution(s) at Each Structure

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	98.786%
0.0100	91.834%
0.0050	35.794%
0.0020	19.829%
0.0010	17.948%
0.0004	16.980%

Structure #4:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	89.786%
0.0050	39.460%
0.0020	22.477%
0.0010	20.543%
0.0004	19.008%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%

Size (mm)	In/Out
0.0100	86.015%
0.0050	28.304%
0.0020	16.957%
0.0010	15.767%
0.0004	13.991%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	99.189%
0.0100	91.074%
0.0050	31.393%
0.0020	19.286%
0.0010	18.133%
0.0004	15.662%

Structure #5:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	98.812%
0.0100	95.142%
0.0050	40.482%
0.0020	24.652%
0.0010	23.094%
0.0004	20.129%

Structure #6 (EAST LEASE BNDY):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	99.326%

Size (mm)	In/Out
0.0050	46.817%
0.0020	28.607%
0.0010	26.827%
0.0004	23.323%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	99.717%
0.0050	47.723%
0.0020	29.141%
0.0010	27.324%
0.0004	23.763%

Structure #8 (WEST LEASE BNDY):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	99.527%
0.0159	99.044%
0.0100	96.582%
0.0050	54.279%
0.0020	33.114%
0.0010	31.018%
0.0004	27.038%

Structure #9:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	98.940%
0.0050	54.576%

Size (mm)	In/Out
0.0020	33.270%
0.0010	31.155%
0.0004	27.178%

Structure Detail:

Structure #3 (Null)

Structure #4 (Null)

Structure #1 (Null)

Structure #2 (Null)

Structure #5 (Null)

Structure #6 (Null)

EAST LEASE BNDY

Structure #7 (Null)

Structure #8 (Null)

WEST LEASE BNDY

Structure #9 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	14.34	2.331
	2	1,079.100	0.919	0.596	0.351	80.800	M	22.47	3.179
	3	450.300	0.571	0.319	0.355	81.300	M	14.63	1.480
	4	742.600	1.122	0.000	0.000	78.500	M	7.00	1.238
	5	915.400	0.725	0.000	0.000	78.800	M	11.96	1.658
	Σ	3,978.700						44.69	9.886
#4	1	546.400	0.725	1.710	0.319	81.700	M	16.82	1.951
	2	441.200	0.814	1.429	0.318	86.000	M	31.47	3.409
	3	889.400	0.919	0.998	0.318	82.100	M	25.88	3.443
	4	1,339.100	0.919	0.000	0.000	84.000	M	59.73	7.400
	Σ	7,194.800						80.78	26.089
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	20.29	3.659
	2	1,662.000	0.217	0.849	0.360	80.300	M	76.30	4.399
	3	1,434.000	1.575	1.241	0.357	81.100	M	22.72	4.509
	4	842.700	1.100	0.977	0.364	81.000	M	16.49	2.594
	5	676.100	1.067	1.113	0.365	81.600	M	15.71	2.364
	6	1,223.200	0.777	0.596	0.352	81.800	M	36.91	4.458
	7	743.100	0.745	0.530	0.354	83.600	M	35.19	3.824
	8	654.500	0.800	0.000	0.000	92.200	M	125.84	12.376
	Σ	8,477.900						178.02	38.180
#2	1	609.500	0.669	1.219	0.340	85.700	M	47.13	4.491
	2	537.100	0.609	1.436	0.329	91.600	M	114.25	9.374
	3	455.000	0.547	1.288	0.324	82.000	M	18.31	1.727
	4	627.000	0.634	0.852	0.324	87.900	M	73.45	6.487
	5	653.100	0.451	0.453	0.315	91.200	M	158.77	10.794
	6	957.200	0.984	0.000	0.000	89.600	M	107.78	12.658
	Σ	12,316.800						299.00	83.712
#5	1	763.100	0.681	3.507	0.293	84.100	M	42.71	4.293
	2	983.300	1.118	2.231	0.289	89.200	M	94.82	12.283
	3	1,022.000	0.997	1.587	0.291	92.000	M	163.15	18.815
	4	688.700	1.905	1.255	0.291	80.800	M	8.90	2.028
	5	754.300	2.303	1.084	0.287	86.200	M	25.41	6.012
	6	628.400	0.540	0.595	0.301	93.000	M	175.53	13.238
	7	654.500	0.562	0.000	0.000	91.500	M	144.70	11.266
	Σ	25,005.900						375.34	177.736
#6	1	901.400	1.150	1.896	0.315	81.100	M	17.58	2.835
	2	1,011.200	1.864	0.166	0.287	83.500	M	24.20	5.106

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.700	1.178	0.000	0.000	92.800	M	184.39	23.912
	Σ	28,085.200						372.29	209.589
#7	1	963.500	0.822	0.665	0.285	82.900	M	36.54	4.357
	2	1,513.200	2.587	0.000	0.000	75.000	M	2.22	0.703
	3	194.900	0.592	0.000	0.000	72.600	M	0.08	0.016
	Σ	30,756.800						369.80	214.665
#8	1	386.400	0.538	2.912	0.280	93.000	M	108.18	8.142
	2	569.700	0.734	2.659	0.279	92.400	M	119.68	11.073
	3	647.700	0.853	2.311	0.280	87.600	M	58.89	6.408
	4	754.800	1.690	2.328	0.277	76.200	M	2.39	0.593
	5	532.600	0.740	1.423	0.277	79.500	M	8.62	1.157
	6	309.700	0.436	1.168	0.285	85.600	M	31.23	2.248
	7	158.300	0.448	0.938	0.279	83.800	M	11.05	0.845
	8	304.300	0.649	0.566	0.296	80.600	M	7.42	0.858
	9	211.900	0.478	0.921	0.320	83.000	M	11.89	0.978
	10	711.200	0.890	0.436	0.300	83.300	M	27.94	3.464
	11	168.200	0.283	0.000	0.000	1.000	0.00	0.000	
	Σ	35,511.600						364.13	250.430
#9	1	466.200	0.574	2.401	0.265	80.800	M	13.09	1.375
	2	427.200	0.633	2.204	0.256	80.300	M	9.65	1.124
	3	361.200	0.686	1.864	0.256	81.100	M	9.81	1.136
	4	573.300	0.655	0.983	0.255	81.000	M	15.61	1.767
	5	473.100	0.668	0.000	0.000	81.600	M	14.99	1.656
	Σ	37,812.600						359.89	257.488

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	41.7	17,636	2.36	1.75
	2	0.181	100.00	10.10	0.3050	1.0000	13	92.9	28,979	6.28	4.61
	3	0.151	200.00	5.50	0.3050	1.0000	18	26.6	18,591	5.35	3.78
	4	0.183	130.00	7.60	0.3160	1.0000	12	22.0	17,226	2.06	1.55
	5	0.185	100.00	8.30	0.2760	1.0000	6	30.1	17,958	2.37	1.75
	Σ							175.3	17,652	1.84	1.35
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	36.5	18,796	4.71	3.42
	2	0.148	100.00	12.00	0.2220	1.0000	5	88.3	26,136	5.64	4.08
	3	0.185	75.00	13.60	0.2740	1.0000	17	121.9	35,184	7.16	5.24

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.213	100.00	10.60	0.2330	1.0000	6	248.4	34,069	6.62	4.74
Σ								491.7	29,240	3.25	1.53
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	29.0	7,808	1.02	0.76
	2	0.202	240.00	3.30	0.2960	1.0000	13	85.3	20,851	9.18	6.24
	3	0.206	280.00	2.60	0.2960	1.0000	13	37.8	8,227	0.83	0.62
	4	0.188	200.00	5.10	0.2960	1.0000	13	43.8	16,705	3.05	2.26
	5	0.124	240.00	3.60	0.3130	1.0000	18	17.6	7,407	1.24	0.92
	6	0.178	130.00	7.90	0.2850	1.0000	7	103.9	23,549	5.63	4.07
	7	0.191	100.00	9.20	0.2540	1.0000	6	98.1	26,170	6.08	4.35
	8	0.199	75.00	15.10	0.1510	1.0000	2	409.4	33,887	6.82	4.84
Σ								685.8	28,634	4.19	1.92
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	87.1	19,891	5.02	3.58
	2	0.199	75.00	12.60	0.1510	1.0000	2	263.1	28,538	7.14	5.11
	3	0.200	100.00	8.60	0.2020	1.0000	11	32.7	19,383	2.67	1.90
	4	0.193	75.00	12.30	0.1730	1.0000	4	179.9	28,527	6.35	4.50
	5	0.187	75.00	14.00	0.1590	1.0000	3	388.4	37,590	11.90	8.28
	6	0.198	75.00	13.70	0.1680	1.0000	4	372.1	29,904	4.34	3.11
Σ								1,486.1	28,581	3.20	1.45
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	87.0	20,103	5.24	3.86
	2	0.209	130.00	7.10	0.1680	1.0000	4	194.4	15,776	1.71	1.26
	3	0.191	100.00	8.40	0.1500	1.0000	2	289.6	15,437	2.15	1.57
	4	0.235	200.00	4.90	0.2870	1.0000	9	31.5	15,114	0.94	0.71
	5	0.220	240.00	3.70	0.1900	1.0000	16	42.8	7,031	0.39	0.29
	6	0.200	130.00	7.30	0.1410	1.0000	1	235.9	18,392	5.09	3.61
	7	0.204	200.00	4.70	0.1560	1.0000	2	178.0	16,682	4.41	3.06
Σ								2,223.6	15,367	1.25	0.74
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	28.1	9,773	1.78	1.32
	2	0.226	280.00	2.40	0.2330	1.0000	6	33.8	6,522	0.37	0.27
	3	0.200	200.00	4.20	0.1460	1.0000	1	256.7	10,914	1.07	0.77
Σ								2,099.3	12,393	0.63	0.37
#7	1	0.197	280.00	2.70	0.2330	1.0000	5	37.7	8,790	1.30	0.93
	2	0.204	420.00	1.80	0.3270	1.0000	19	3.2	4,326	1.49	1.16
	3	0.171	280.00	2.40	0.3380	1.0000	10	0.1	3,233	1.69	1.49
Σ								2,082.0	13,157	0.63	0.34
#8	1	0.200	280.00	2.70	0.1410	1.0000	1	60.4	7,386	2.05	1.51
	2	0.204	280.00	2.30	0.1550	1.0000	3	73.6	6,666	1.62	1.19
	3	0.173	280.00	3.00	0.2220	1.0000	6	56.3	8,832	2.41	1.76
	4	0.204	280.00	3.00	0.3180	1.0000	19	4.2	6,610	1.33	1.04
	5	0.187	200.00	5.90	0.2960	1.0000	12	22.1	18,932	3.89	2.87

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	6	0.167	200.00	4.20	0.2740	1.0000	8	39.5	18,210	7.65	5.40
	7	0.215	100.00	9.40	0.2650	1.0000	20	26.7	32,689	13.18	9.28
	8	0.201	100.00	8.10	0.2960	1.0000	13	17.8	21,010	5.82	4.20
	9	0.208	280.00	2.70	0.2120	1.0000	15	8.4	8,947	2.28	1.60
	10	0.225	200.00	4.50	0.2540	1.0000	14	63.1	18,422	4.68	3.38
	11	0.198	100.00	9.20	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								1,979.2	16,884	1.01	0.35
#9	1	0.206	130.00	7.80	0.1800	1.0000	16	21.7	15,705	2.69	1.98
	2	0.189	100.00	11.10	0.2450	1.0000	6	31.0	27,175	5.09	3.77
	3	0.177	100.00	8.30	0.2320	1.0000	6	17.5	15,383	2.96	2.17
	4	0.161	100.00	10.00	0.2220	1.0000	5	33.7	19,236	2.92	2.11
	5	0.000	200.00	5.90	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								2,018.9	15,304	0.70	0.26

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667
#1	6	Time of Concentration:					0.777
#1	7	5. Nearly bare and untilled, and alluvial valley fans	4.66	43.00	922.01	2.150	0.119
		8. Large gullies, diversions, and low flowing streams	2.67	295.00	11,057.38	4.900	0.626
#1	7	Time of Concentration:					0.745
#1	8	5. Nearly bare and untilled, and alluvial valley fans	7.46	65.00	871.00	2.730	0.088
		8. Large gullies, diversions, and low flowing streams	2.61	324.00	12,433.00	4.840	0.713
#1	8	Time of Concentration:					0.800
#2	1	5. Nearly bare and untilled, and alluvial valley fans	6.24	29.99	481.00	2.490	0.053
		8. Large gullies, diversions, and low flowing streams	3.34	405.99	12,141.00	5.480	0.615
#2	1	Time of Concentration:					0.669
#2	2	5. Nearly bare and untilled, and alluvial valley fans	3.16	30.00	950.00	1.770	0.149
		8. Large gullies, diversions, and low flowing streams	4.22	432.00	10,229.00	6.160	0.461
#2	2	Time of Concentration:					0.609
#2	3	5. Nearly bare and untilled, and alluvial valley fans	2.65	10.00	378.00	1.620	0.064
		8. Large gullies, diversions, and low flowing streams	2.72	234.00	8,592.00	4.950	0.482
#2	3	Time of Concentration:					0.547
#2	4	5. Nearly bare and untilled, and alluvial valley fans	3.07	25.00	815.00	1.750	0.129
		8. Large gullies, diversions, and low flowing streams	3.32	330.00	9,931.00	5.460	0.505
#2	4	Time of Concentration:					0.634
#2	5	5. Nearly bare and untilled, and alluvial valley fans	7.45	45.00	604.00	2.720	0.061
		8. Large gullies, diversions, and low flowing streams	3.78	310.00	8,210.00	5.820	0.391
#2	5	Time of Concentration:					0.451
#2	6	5. Nearly bare and untilled, and alluvial valley fans	9.10	80.00	879.00	3.010	0.081
		8. Large gullies, diversions, and low flowing streams	2.32	344.00	14,831.00	4.560	0.903
#2	6	Time of Concentration:					0.984
#3	1	5. Nearly bare and untilled, and alluvial valley fans	1.29	15.00	1,163.00	1.130	0.285
		8. Large gullies, diversions, and low flowing streams	2.37	338.00	14,280.00	4.610	0.860
#3	1	Time of Concentration:					1.144
#3	2	5. Nearly bare and untilled, and alluvial valley fans	3.04	33.00	1,087.00	1.740	0.173

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	2.06	238.00	11,527.00	4.310	0.742
#3	2	Time of Concentration:					0.919
#3	3	5. Nearly bare and untilled, and alluvial valley fans	5.02	45.00	897.00	2.230	0.111
		8. Large gullies, diversions, and low flowing streams	3.09	270.00	8,741.00	5.270	0.460
#3	3	Time of Concentration:					0.571
#3	4	5. Nearly bare and untilled, and alluvial valley fans	7.41	28.00	378.00	2.720	0.038
		8. Large gullies, diversions, and low flowing streams	3.43	402.00	11,736.00	5.550	0.587
#3	4	Time of Concentration:					1.122
#3	5	5. Nearly bare and untilled, and alluvial valley fans	3.39	30.00	885.00	1.840	0.133
		8. Large gullies, diversions, and low flowing streams	2.58	442.00	17,121.00	4.820	0.986
#3	5	Time of Concentration:					0.725
#4	1	5. Nearly bare and untilled, and alluvial valley fans	6.83	24.99	366.00	2.610	0.038
		8. Large gullies, diversions, and low flowing streams	2.36	181.99	7,708.00	4.600	0.465
#4	1	Time of Concentration:					0.725
#4	2	5. Nearly bare and untilled, and alluvial valley fans	6.83	25.00	366.00	2.610	0.038
		8. Large gullies, diversions, and low flowing streams	2.36	182.00	7,708.00	4.600	0.465
#4	2	Time of Concentration:					0.814
#4	3	5. Nearly bare and untilled, and alluvial valley fans	19.03	47.00	247.00	4.360	0.015
		8. Large gullies, diversions, and low flowing streams	2.13	268.00	12,586.00	4.370	0.800
#4	3	Time of Concentration:					0.919
#4	4	5. Nearly bare and untilled, and alluvial valley fans	14.08	50.00	355.00	3.750	0.026
		8. Large gullies, diversions, and low flowing streams	2.46	372.00	15,119.00	4.700	0.893
#4	4	Time of Concentration:					0.919
#5	1	5. Nearly bare and untilled, and alluvial valley fans	12.55	64.99	518.00	3.540	0.040
		8. Large gullies, diversions, and low flowing streams	1.92	183.99	9,592.00	4.150	0.642
#5	1	Time of Concentration:					0.681
#5	2	5. Nearly bare and untilled, and alluvial valley fans	5.10	30.00	588.00	2.250	0.072
		8. Large gullies, diversions, and low flowing streams	1.77	266.00	15,016.00	3.990	1.045
#5	2	Time of Concentration:					1.118
#5	3	5. Nearly bare and untilled, and alluvial valley fans	1.90	20.00	1,050.00	1.380	0.211

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	2.19	274.00	12,532.00	4.430	0.785
#5	3	Time of Concentration:					0.997
#5	4	5. Nearly bare and untilled, and alluvial valley fans	2.78	32.00	1,152.00	1.660	0.192
		8. Large gullies, diversions, and low flowing streams	0.99	182.00	18,415.00	2.980	1.716
#5	4	Time of Concentration:					1.905
#5	5	5. Nearly bare and untilled, and alluvial valley fans	2.52	23.00	911.00	1.580	0.160
		8. Large gullies, diversions, and low flowing streams	1.07	256.00	23,965.00	3.100	2.147
#5	5	Time of Concentration:					2.303
#5	6	5. Nearly bare and untilled, and alluvial valley fans	6.36	25.00	393.00	2.520	0.043
		8. Large gullies, diversions, and low flowing streams	2.39	198.00	8,272.00	4.640	0.495
#5	6	Time of Concentration:					0.540
#5	7	5. Nearly bare and untilled, and alluvial valley fans	9.66	28.00	290.00	3.100	0.025
		8. Large gullies, diversions, and low flowing streams	2.12	179.00	8,427.00	4.370	0.535
#5	7	Time of Concentration:					0.562
#6	1	5. Nearly bare and untilled, and alluvial valley fans	31.83	120.00	377.00	5.640	0.018
		8. Large gullies, diversions, and low flowing streams	1.38	198.00	14,361.00	3.520	1.133
#6	1	Time of Concentration:					1.150
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.25	40.00	941.00	2.060	0.126
		8. Large gullies, diversions, and low flowing streams	0.96	176.00	18,407.00	2.930	1.745
#6	2	Time of Concentration:					1.864
#6	3	5. Nearly bare and untilled, and alluvial valley fans	4.35	25.00	575.00	2.080	0.076
		8. Large gullies, diversions, and low flowing streams	1.57	224.00	14,223.00	3.760	1.050
#6	3	Time of Concentration:					1.178
#7	1	5. Nearly bare and untilled, and alluvial valley fans	2.51	10.00	399.00	1.580	0.070
		8. Large gullies, diversions, and low flowing streams	1.11	95.00	8,524.00	3.160	0.749
#7	1	Time of Concentration:					0.822
#7	3	5. Nearly bare and untilled, and alluvial valley fans	2.14	13.99	655.00	1.460	0.124
		8. Large gullies, diversions, and low flowing streams	1.07	56.00	5,255.00	3.090	0.472
#7	3	Time of Concentration:					0.592
#8	1	5. Nearly bare and untilled, and alluvial valley fans	1.97	4.99	254.00	1.400	0.050

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	1.64	110.99	6,755.00	3.840	0.488
#8	1	Time of Concentration:					0.538
#8	2	5. Nearly bare and untilled, and alluvial valley fans	2.49	8.00	321.00	1.570	0.056
		8. Large gullies, diversions, and low flowing streams	1.16	91.00	7,866.00	3.220	0.678
#8	2	Time of Concentration:					0.734
#8	3	5. Nearly bare and untilled, and alluvial valley fans	3.58	25.00	698.00	1.890	0.102
		8. Large gullies, diversions, and low flowing streams	1.12	96.00	8,579.00	3.170	0.751
#8	3	Time of Concentration:					0.853
#8	4	5. Nearly bare and untilled, and alluvial valley fans	0.85	10.00	1,181.00	0.920	0.356
		8. Large gullies, diversions, and low flowing streams	0.90	123.00	13,645.00	2.840	1.334
#8	4	Time of Concentration:					1.690
#8	5	5. Nearly bare and untilled, and alluvial valley fans	6.53	39.00	597.00	2.550	0.065
		8. Large gullies, diversions, and low flowing streams	1.42	123.00	8,678.00	3.570	0.675
#8	5	Time of Concentration:					0.740
#8	6	5. Nearly bare and untilled, and alluvial valley fans	1.45	5.00	344.00	1.200	0.079
		8. Large gullies, diversions, and low flowing streams	2.21	127.00	5,746.00	4.460	0.357
#8	6	Time of Concentration:					0.436
#8	7	5. Nearly bare and untilled, and alluvial valley fans	2.98	12.00	403.00	1.720	0.065
		8. Large gullies, diversions, and low flowing streams	1.97	114.00	5,796.00	4.200	0.383
#8	7	Time of Concentration:					0.448
#8	8	5. Nearly bare and untilled, and alluvial valley fans	20.11	105.00	522.00	4.480	0.032
		8. Large gullies, diversions, and low flowing streams	1.77	157.00	8,849.00	3.990	0.616
#8	8	Time of Concentration:					0.649
#8	9	5. Nearly bare and untilled, and alluvial valley fans	43.35	75.00	173.00	6.580	0.007
		8. Large gullies, diversions, and low flowing streams	1.57	100.00	6,387.00	3.750	0.473
#8	9	Time of Concentration:					0.478
#8	10	5. Nearly bare and untilled, and alluvial valley fans	1.85	40.00	2,159.00	1.360	0.440
		8. Large gullies, diversions, and low flowing streams	1.53	92.00	6,011.00	3.710	0.450
#8	10	Time of Concentration:					0.890
#8	11	5. Nearly bare and untilled, and alluvial valley fans	4.84	23.99	496.00	2.190	0.062

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	2.79	110.99	3,980.00	5.000	0.221
#8	11	Time of Concentration:					0.283
#9	1	5. Nearly bare and untilled, and alluvial valley fans	7.42	25.00	337.00	2.720	0.034
		8. Large gullies, diversions, and low flowing streams	1.50	107.00	7,136.18	3.670	0.540
#9	1	Time of Concentration:					0.574
#9	2	5. Nearly bare and untilled, and alluvial valley fans	11.19	15.00	134.00	3.340	0.011
		8. Large gullies, diversions, and low flowing streams	1.96	184.00	9,391.10	4.190	0.622
#9	2	Time of Concentration:					0.633
#9	3	5. Nearly bare and untilled, and alluvial valley fans	3.14	25.00	796.00	1.770	0.124
		8. Large gullies, diversions, and low flowing streams	1.68	132.00	7,862.29	3.880	0.562
#9	3	Time of Concentration:					0.686
#9	4	5. Nearly bare and untilled, and alluvial valley fans	12.82	35.00	273.00	3.580	0.021
		8. Large gullies, diversions, and low flowing streams	1.93	183.00	9,495.14	4.160	0.634
#9	4	Time of Concentration:					0.655
#9	5	5. Nearly bare and untilled, and alluvial valley fans	2.66	15.00	564.03	1.630	0.096
		8. Large gullies, diversions, and low flowing streams	1.68	135.00	8,020.43	3.890	0.572
#9	5	Time of Concentration:					0.668

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1	8. Large gullies, diversions, and low flowing streams	1.44	228.00	15,800.00	3.600	1.219
#2	1	Muskingum K:					1.219
#2	2	8. Large gullies, diversions, and low flowing streams	1.19	201.99	16,912.00	3.270	1.436
#2	2	Muskingum K:					1.436
#2	3	8. Large gullies, diversions, and low flowing streams	1.10	159.98	14,568.00	3.140	1.288
#2	3	Muskingum K:					1.288
#2	4	8. Large gullies, diversions, and low flowing streams	1.09	103.99	9,576.00	3.120	0.852
#2	4	Muskingum K:					0.852
#2	5	8. Large gullies, diversions, and low flowing streams	0.93	43.99	4,715.00	2.890	0.453
#2	5	Muskingum K:					0.453

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	8. Large gullies, diversions, and low flowing streams	1.75	293.99	16,845.00	3.960	1.181
#3	1	Muskingum K:					1.181
#3	2	8. Large gullies, diversions, and low flowing streams	1.79	153.99	8,609.00	4.010	0.596
#3	2	Muskingum K:					0.596
#3	3	8. Large gullies, diversions, and low flowing streams	1.93	91.99	4,778.00	4.160	0.319
#3	3	Muskingum K:					0.319
#3	4	8. Large gullies, diversions, and low flowing streams	0.00	0.00	0.00	0.000	0.000
#3	4	Muskingum K:					0.000
#4	1	8. Large gullies, diversions, and low flowing streams	1.01	186.00	18,477.00	3.000	1.710
#4	1	Muskingum K:					1.710
#4	2	8. Large gullies, diversions, and low flowing streams	0.98	150.00	15,281.00	2.970	1.429
#4	2	Muskingum K:					1.429
#4	3	8. Large gullies, diversions, and low flowing streams	0.98	103.99	10,645.00	2.960	0.998
#4	3	Muskingum K:					0.998
#5	1	8. Large gullies, diversions, and low flowing streams	0.64	194.97	30,309.00	2.400	3.507
#5	1	Muskingum K:					3.507
#5	2	8. Large gullies, diversions, and low flowing streams	0.60	113.00	18,717.00	2.330	2.231
#5	2	Muskingum K:					2.231
#5	3	8. Large gullies, diversions, and low flowing streams	0.63	84.98	13,541.00	2.370	1.587
#5	3	Muskingum K:					1.587
#5	4	8. Large gullies, diversions, and low flowing streams	0.63	66.99	10,710.00	2.370	1.255
#5	4	Muskingum K:					1.255
#5	5	8. Large gullies, diversions, and low flowing streams	0.59	52.99	8,978.00	2.300	1.084
#5	5	Muskingum K:					1.084
#5	6	8. Large gullies, diversions, and low flowing streams	0.74	40.99	5,528.00	2.580	0.595
#5	6	Muskingum K:					0.595
#6	1	8. Large gullies, diversions, and low flowing streams	0.94	185.99	19,797.00	2.900	1.896
#6	1	Muskingum K:					1.896
#6	2	8. Large gullies, diversions, and low flowing streams	0.58	7.99	1,372.00	2.290	0.166
#6	2	Muskingum K:					0.166
#7	1	8. Large gullies, diversions, and low flowing streams	0.57	30.99	5,417.00	2.260	0.665
#7	1	Muskingum K:					0.665
#8	1	8. Large gullies, diversions, and low flowing streams	0.53	119.97	22,753.00	2.170	2.912

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#8	1	Muskingum K:					2.912
#8	2	8. Large gullies, diversions, and low flowing streams	0.51	105.98	20,587.00	2.150	2.659
#8	2	Muskingum K:					2.659
#8	3	8. Large gullies, diversions, and low flowing streams	0.53	94.99	18,060.00	2.170	2.311
#8	3	Muskingum K:					2.311
#8	4	8. Large gullies, diversions, and low flowing streams	0.50	87.98	17,689.00	2.110	2.328
#8	4	Muskingum K:					2.328
#8	5	8. Large gullies, diversions, and low flowing streams	0.50	53.99	10,815.00	2.110	1.423
#8	5	Muskingum K:					1.423
#8	6	8. Large gullies, diversions, and low flowing streams	0.57	53.99	9,503.00	2.260	1.168
#8	6	Muskingum K:					1.168
#8	7	8. Large gullies, diversions, and low flowing streams	0.51	36.99	7,229.00	2.140	0.938
#8	7	Muskingum K:					0.938
#8	8	8. Large gullies, diversions, and low flowing streams	0.68	33.99	5,017.00	2.460	0.566
#8	8	Muskingum K:					0.566
#8	9	8. Large gullies, diversions, and low flowing streams	1.01	100.99	9,985.00	3.010	0.921
#8	9	Muskingum K:					0.921
#8	10	8. Large gullies, diversions, and low flowing streams	0.72	28.99	4,009.00	2.550	0.436
#8	10	Muskingum K:					0.436
#9	1	8. Large gullies, diversions, and low flowing streams	0.41	68.00	16,597.51	1.920	2.401
#9	1	Muskingum K:					2.401
#9	2	8. Large gullies, diversions, and low flowing streams	0.36	50.98	14,204.51	1.790	2.204
#9	2	Muskingum K:					2.204
#9	3	8. Large gullies, diversions, and low flowing streams	0.36	42.98	12,012.29	1.790	1.864
#9	3	Muskingum K:					1.864
#9	4	8. Large gullies, diversions, and low flowing streams	0.35	22.00	6,269.59	1.770	0.983
#9	4	Muskingum K:					0.983

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	222.25	43.66	981.9	22,365	4.04	2.97
#4	3,216.100	7,194.800	340.01	96.24	2,253.8	36,914	5.65	2.61
#1	8,477.900	8,477.900	700.14	125.93	2,519.5	31,853	7.26	3.33
#2	3,838.900	12,316.800	794.82	233.70	4,311.6	31,239	4.00	1.73
#5	5,494.300	25,005.900	1,040.51	486.93	7,844.2	21,032	2.00	1.12
#6	3,079.300	28,085.200	1,035.90	563.16	7,413.4	17,725	1.08	0.59
#7	2,671.600	30,756.800	1,033.16	586.86	7,322.9	17,205	0.97	0.51
#8	4,754.800	35,511.600	1,023.50	680.05	7,092.2	21,269	1.70	0.61
#9	2,301.000	37,812.600	1,015.49	708.44	7,246.6	21,139	1.30	0.46

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	69.46	9.552
	2	1,079.100	0.919	0.596	0.351	80.800	M	111.14	13.030
	3	450.300	0.571	0.319	0.355	81.300	M	68.68	5.777
	4	742.600	1.122	0.000	0.000	78.500	M	47.56	6.701
	5	915.400	0.725	0.000	0.000	78.800	M	83.50	8.603
	Σ	3,978.700						222.25	43.663
#4	1	546.400	0.725	1.710	0.319	81.700	M	74.69	7.341
	2	441.200	0.814	1.429	0.318	86.000	M	92.99	9.458
	3	889.400	0.919	0.998	0.318	82.100	M	108.55	12.510
	4	1,339.100	0.919	0.000	0.000	84.000	M	205.88	23.265
	Σ	7,194.800						340.01	96.237
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	96.56	14.994
	2	1,662.000	0.217	0.849	0.360	80.300	M	397.68	18.994
	3	1,434.000	1.575	1.241	0.357	81.100	M	102.69	17.939
	4	842.700	1.100	0.977	0.364	81.000	M	78.22	10.419
	5	676.100	1.067	1.113	0.365	81.600	M	69.45	8.974
	6	1,223.200	0.777	0.596	0.352	81.800	M	161.50	16.624
	7	743.100	0.745	0.530	0.354	83.600	M	126.09	12.363
	8	654.500	0.800	0.000	0.000	92.200	M	264.65	25.626
	Σ	8,477.900						700.14	125.934
#2	1	609.500	0.669	1.219	0.340	85.700	M	142.61	12.680
	2	537.100	0.609	1.436	0.329	91.600	M	246.19	19.898
	3	455.000	0.547	1.288	0.324	82.000	M	78.27	6.329
	4	627.000	0.634	0.852	0.324	87.900	M	193.07	16.268
	5	653.100	0.451	0.453	0.315	91.200	M	346.05	23.299
	6	957.200	0.984	0.000	0.000	89.600	M	258.34	29.295
	Σ	12,316.800						794.82	233.704
#5	1	763.100	0.681	3.507	0.293	84.100	M	146.54	13.406
	2	983.300	1.118	2.231	0.289	89.200	M	231.69	28.949
	3	1,022.000	0.997	1.587	0.291	92.000	M	347.29	39.281
	4	688.700	1.905	1.255	0.291	80.800	M	40.88	8.311
	5	754.300	2.303	1.084	0.287	86.200	M	72.99	16.493
	6	628.400	0.540	0.595	0.301	93.000	M	356.35	26.534
	7	654.500	0.562	0.000	0.000	91.500	M	312.82	24.014
	Σ	25,005.900						1,040.51	486.930
#6	1	901.400	1.150	1.896	0.315	81.100	M	82.03	11.279
	2	1,011.200	1.864	0.166	0.287	83.500	M	85.56	16.628

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.700	1.178	0.000	0.000	92.800	M	378.86	48.319
	Σ	28,085.200						1,035.90	563.155
#7	1	963.500	0.822	0.665	0.285	82.900	M	140.43	14.840
	2	1,513.200	2.587	0.000	0.000	75.000	M	29.43	8.173
	3	194.900	0.592	0.000	0.000	72.600	M	5.91	0.688
	Σ	30,756.800						1,033.16	586.857
#8	1	386.400	0.538	2.912	0.280	93.000	M	219.62	16.319
	2	569.700	0.734	2.659	0.279	92.400	M	249.50	22.742
	3	647.700	0.853	2.311	0.280	87.600	M	157.23	16.315
	4	754.800	1.690	2.328	0.277	76.200	M	24.61	4.920
	5	532.600	0.740	1.423	0.277	79.500	M	53.16	5.478
	6	309.700	0.436	1.168	0.285	85.600	M	95.03	6.383
	7	158.300	0.448	0.938	0.279	83.800	M	38.92	2.693
	8	304.300	0.649	0.566	0.296	80.600	M	38.79	3.589
	9	211.900	0.478	0.921	0.320	83.000	M	45.35	3.306
	10	711.200	0.890	0.436	0.300	83.300	M	102.94	11.448
	11	168.200	0.283	0.000	0.000	1.000	0.00	0.000	
	Σ	35,511.600						1,023.50	680.050
#9	1	466.200	0.574	2.401	0.265	80.800	M	66.33	5.635
	2	427.200	0.633	2.204	0.256	80.300	M	53.14	4.854
	3	361.200	0.686	1.864	0.256	81.100	M	47.41	4.521
	4	573.300	0.655	0.983	0.255	81.000	M	76.65	7.098
	5	473.100	0.668	0.000	0.000	81.600	M	67.52	6.286
	Σ	37,812.600						1,015.49	708.444

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	222.4	23,272	5.63	4.11
	2	0.181	100.00	10.10	0.3050	1.0000	13	501.0	38,706	12.23	8.82
	3	0.151	200.00	5.50	0.3050	1.0000	18	135.5	24,642	9.29	6.45
	4	0.183	130.00	7.60	0.3160	1.0000	12	165.4	24,863	5.46	3.95
	5	0.185	100.00	8.30	0.2760	1.0000	6	224.4	27,100	7.04	4.94
	Σ							981.9	22,365	4.04	2.97
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	176.5	24,349	8.27	5.96
	2	0.148	100.00	12.00	0.2220	1.0000	5	286.9	30,547	8.57	6.20
	3	0.185	75.00	13.60	0.2740	1.0000	17	560.2	44,761	13.24	9.60

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.213	100.00	10.60	0.2330	1.0000	6	943.3	41,234	11.28	8.04
	Σ							2,253.8	36,914	5.65	2.61
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	153.2	10,209	2.41	1.77
	2	0.202	240.00	3.30	0.2960	1.0000	13	487.9	27,747	13.87	9.36
	3	0.206	280.00	2.60	0.2960	1.0000	13	190.8	10,583	2.13	1.57
	4	0.188	200.00	5.10	0.2960	1.0000	13	228.2	21,982	6.22	4.52
	5	0.124	240.00	3.60	0.3130	1.0000	18	85.2	9,588	2.55	1.85
	6	0.178	130.00	7.90	0.2850	1.0000	7	496.5	30,472	10.03	7.16
	7	0.191	100.00	9.20	0.2540	1.0000	6	386.8	32,019	9.91	7.05
	8	0.199	75.00	15.10	0.1510	1.0000	2	933.2	37,001	8.92	6.38
	Σ							2,519.5	31,853	7.26	3.33
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	289.7	23,359	7.35	5.24
	2	0.199	75.00	12.60	0.1510	1.0000	2	616.4	31,295	9.02	6.49
	3	0.200	100.00	8.60	0.2020	1.0000	11	152.6	24,797	6.09	4.32
	4	0.193	75.00	12.30	0.1730	1.0000	4	517.4	32,524	9.07	6.45
	5	0.187	75.00	14.00	0.1590	1.0000	3	924.4	40,956	14.28	10.04
	6	0.198	75.00	13.70	0.1680	1.0000	4	971.4	33,627	6.88	4.93
	Σ							4,311.6	31,239	4.00	1.73
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	328.3	24,289	8.04	5.91
	2	0.209	130.00	7.10	0.1680	1.0000	4	518.1	17,825	2.97	2.18
	3	0.191	100.00	8.40	0.1500	1.0000	2	667.7	17,020	3.23	2.36
	4	0.235	200.00	4.90	0.2870	1.0000	9	163.2	19,347	2.97	2.20
	5	0.220	240.00	3.70	0.1900	1.0000	16	136.1	8,183	0.49	0.36
	6	0.200	130.00	7.30	0.1410	1.0000	1	517.7	20,026	6.21	4.42
	7	0.204	200.00	4.70	0.1560	1.0000	2	418.9	18,211	5.49	3.84
	Σ							7,844.2	21,032	2.00	1.12
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	144.1	12,757	3.58	2.62
	2	0.226	280.00	2.40	0.2330	1.0000	6	132.7	7,963	0.73	0.54
	3	0.200	200.00	4.20	0.1460	1.0000	1	569.6	11,946	1.63	1.18
	Σ							7,413.4	17,725	1.08	0.59
#7	1	0.197	280.00	2.70	0.2330	1.0000	5	159.2	10,956	2.68	1.92
	2	0.204	420.00	1.80	0.3270	1.0000	19	54.4	6,481	0.25	0.19
	3	0.171	280.00	2.40	0.3380	1.0000	10	5.5	8,119	1.45	1.04
	Σ							7,322.9	17,205	0.97	0.51
#8	1	0.200	280.00	2.70	0.1410	1.0000	1	132.5	8,058	2.50	1.85
	2	0.204	280.00	2.30	0.1550	1.0000	3	166.3	7,305	2.05	1.50
	3	0.173	280.00	3.00	0.2220	1.0000	6	164.8	10,132	3.29	2.40
	4	0.204	280.00	3.00	0.3180	1.0000	19	50.4	10,043	0.77	0.57
	5	0.187	200.00	5.90	0.2960	1.0000	12	146.5	26,969	8.53	6.16

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	6	0.167	200.00	4.20	0.2740	1.0000	8	132.3	21,303	9.87	7.01
	7	0.215	100.00	9.40	0.2650	1.0000	20	103.5	39,530	18.01	12.71
	8	0.201	100.00	8.10	0.2960	1.0000	13	100.2	28,721	10.70	7.58
	9	0.208	280.00	2.70	0.2120	1.0000	15	35.0	11,081	3.69	2.58
	10	0.225	200.00	4.50	0.2540	1.0000	14	256.0	22,715	7.51	5.40
	11	0.198	100.00	9.20	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								7,092.2	21,269	1.70	0.61
#9	1	0.206	130.00	7.80	0.1800	1.0000	16	118.8	21,141	6.05	4.40
	2	0.189	100.00	11.10	0.2450	1.0000	6	182.9	37,560	11.43	8.32
	3	0.177	100.00	8.30	0.2320	1.0000	6	91.7	20,432	6.10	4.42
	4	0.161	100.00	10.00	0.2220	1.0000	5	178.9	25,694	6.89	4.93
	5	0.000	200.00	5.90	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								7,246.6	21,139	1.30	0.46

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	400.14	75.51	1,851.1	24,272	5.23	3.85
#4	3,216.100	7,194.800	585.79	159.52	4,029.3	39,842	6.91	3.19
#1	8,477.900	8,477.900	1,179.07	203.45	4,281.0	33,272	8.71	4.02
#2	3,838.900	12,316.800	1,284.57	359.64	7,009.7	33,000	4.56	1.96
#5	5,494.300	25,005.900	1,602.61	745.19	13,200.4	23,238	2.54	1.42
#6	3,079.300	28,085.200	1,597.17	856.78	12,494.3	19,863	1.29	0.69
#7	2,671.600	30,756.800	1,595.20	899.11	12,314.1	19,171	1.14	0.60
#8	4,754.800	35,511.600	1,586.15	1,039.89	11,994.2	22,979	1.99	0.73
#9	2,301.000	37,812.600	1,577.69	1,087.86	12,256.5	23,208	1.59	0.56

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	121.91	16.211
	2	1,079.100	0.919	0.596	0.351	80.800	M	195.14	22.113
	3	450.300	0.571	0.319	0.355	81.300	M	119.60	9.686
	4	742.600	1.122	0.000	0.000	78.500	M	90.32	12.100
	5	915.400	0.725	0.000	0.000	78.800	M	157.08	15.397
	Σ	3,978.700						400.14	75.508
#4	1	546.400	0.725	1.710	0.319	81.700	M	128.11	12.196
	2	441.200	0.814	1.429	0.318	86.000	M	144.22	14.411
	3	889.400	0.919	0.998	0.318	82.100	M	183.54	20.596
	4	1,339.100	0.919	0.000	0.000	84.000	M	333.27	36.806
	Σ	7,194.800						585.79	159.517
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	169.36	25.446
	2	1,662.000	0.217	0.849	0.360	80.300	M	692.34	32.640
	3	1,434.000	1.575	1.241	0.357	81.100	M	178.31	30.225
	4	842.700	1.100	0.977	0.364	81.000	M	136.50	17.597
	5	676.100	1.067	1.113	0.365	81.600	M	119.10	14.942
	6	1,223.200	0.777	0.596	0.352	81.800	M	275.88	27.555
	7	743.100	0.745	0.530	0.354	83.600	M	206.63	19.715
	8	654.500	0.800	0.000	0.000	92.200	M	367.64	35.328
	Σ	8,477.900						1,179.07	203.448
#2	1	609.500	0.669	1.219	0.340	85.700	M	222.23	19.426
	2	537.100	0.609	1.436	0.329	91.600	M	344.80	27.683
	3	455.000	0.547	1.288	0.324	82.000	M	133.61	10.443
	4	627.000	0.634	0.852	0.324	87.900	M	287.31	23.993
	5	653.100	0.451	0.453	0.315	91.200	M	485.76	32.613
	6	957.200	0.984	0.000	0.000	89.600	M	374.12	42.036
	Σ	12,316.800						1,284.57	359.642
#5	1	763.100	0.681	3.507	0.293	84.100	M	237.01	21.167
	2	983.300	1.118	2.231	0.289	89.200	M	338.07	41.803
	3	1,022.000	0.997	1.587	0.291	92.000	M	482.66	54.318
	4	688.700	1.905	1.255	0.291	80.800	M	71.45	14.104
	5	754.300	2.303	1.084	0.287	86.200	M	112.21	25.042
	6	628.400	0.540	0.595	0.301	93.000	M	486.36	36.142
	7	654.500	0.562	0.000	0.000	91.500	M	438.45	33.459
	Σ	25,005.900						1,602.61	745.194
#6	1	901.400	1.150	1.896	0.315	81.100	M	142.70	19.003
	2	1,011.200	1.864	0.166	0.287	83.500	M	139.47	26.571

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.700	1.178	0.000	0.000	92.800	M	520.41	66.012
	Σ	28,085.200						1,597.17	856.780
#7	1	963.500	0.822	0.665	0.285	82.900	M	233.32	24.011
	2	1,513.200	2.587	0.000	0.000	75.000	M	62.89	16.727
	3	194.900	0.592	0.000	0.000	72.600	M	16.64	1.592
	Σ	30,756.800						1,595.20	899.109
#8	1	386.400	0.538	2.912	0.280	93.000	M	299.73	22.228
	2	569.700	0.734	2.659	0.279	92.400	M	345.25	31.258
	3	647.700	0.853	2.311	0.280	87.600	M	236.11	24.183
	4	754.800	1.690	2.328	0.277	76.200	M	50.97	9.593
	5	532.600	0.740	1.423	0.277	79.500	M	97.42	9.614
	6	309.700	0.436	1.168	0.285	85.600	M	147.03	9.796
	7	158.300	0.448	0.938	0.279	83.800	M	62.92	4.278
	8	304.300	0.649	0.566	0.296	80.600	M	68.69	6.122
	9	211.900	0.478	0.921	0.320	83.000	M	75.02	5.337
	10	711.200	0.890	0.436	0.300	83.300	M	169.23	18.368
	11	168.200	0.283	0.000	0.000	1.000	0.00	0.000	
	Σ	35,511.600						1,586.15	1,039.886
#9	1	466.200	0.574	2.401	0.265	80.800	M	117.06	9.564
	2	427.200	0.633	2.204	0.256	80.300	M	94.97	8.341
	3	361.200	0.686	1.864	0.256	81.100	M	82.71	7.617
	4	573.300	0.655	0.983	0.255	81.000	M	134.19	11.987
	5	473.100	0.668	0.000	0.000	81.600	M	116.31	10.467
	Σ	37,812.600						1,577.69	1,087.862

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	409.8	25,301	6.94	5.06
	2	0.181	100.00	10.10	0.3050	1.0000	13	923.4	42,048	14.49	10.44
	3	0.151	200.00	5.50	0.3050	1.0000	18	246.9	26,667	10.76	7.50
	4	0.183	130.00	7.60	0.3160	1.0000	12	329.8	27,581	7.18	5.17
	5	0.185	100.00	8.30	0.2760	1.0000	6	442.9	29,851	8.87	6.23
	Σ							1,851.1	24,272	5.23	3.85
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	317.3	26,307	9.62	6.93
	2	0.148	100.00	12.00	0.2220	1.0000	5	464.5	32,415	9.82	7.11
	3	0.185	75.00	13.60	0.2740	1.0000	17	993.9	48,229	15.58	11.28

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.213	100.00	10.60	0.2330	1.0000	6	1,597.2	44,042	13.19	9.42
	Σ							4,029.3	39,842	6.91	3.19
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	282.3	11,100	2.99	2.19
	2	0.202	240.00	3.30	0.2960	1.0000	13	901.2	29,548	15.21	10.35
	3	0.206	280.00	2.60	0.2960	1.0000	13	348.0	11,481	2.71	1.99
	4	0.188	200.00	5.10	0.2960	1.0000	13	418.0	23,867	7.48	5.43
	5	0.124	240.00	3.60	0.3130	1.0000	18	153.3	10,366	3.07	2.23
	6	0.178	130.00	7.90	0.2850	1.0000	7	889.3	32,854	11.66	8.33
	7	0.191	100.00	9.20	0.2540	1.0000	6	662.4	34,325	11.50	8.18
	8	0.199	75.00	15.10	0.1510	1.0000	2	1,342.8	38,536	9.95	7.12
	Σ							4,281.0	33,272	8.71	4.02
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	471.6	24,733	8.30	5.94
	2	0.199	75.00	12.60	0.1510	1.0000	2	895.5	32,606	9.90	7.15
	3	0.200	100.00	8.60	0.2020	1.0000	11	272.6	26,761	7.43	5.28
	4	0.193	75.00	12.30	0.1730	1.0000	4	803.4	34,134	10.17	7.25
	5	0.187	75.00	14.00	0.1590	1.0000	3	1,349.3	42,527	15.38	10.85
	6	0.198	75.00	13.70	0.1680	1.0000	4	1,463.0	35,199	7.92	5.69
	Σ							7,009.7	33,000	4.56	1.96
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	554.9	25,955	9.19	6.77
	2	0.209	130.00	7.10	0.1680	1.0000	4	786.5	18,724	3.57	2.62
	3	0.191	100.00	8.40	0.1500	1.0000	2	962.6	17,718	3.68	2.69
	4	0.235	200.00	4.90	0.2870	1.0000	9	300.0	21,001	4.03	2.98
	5	0.220	240.00	3.70	0.1900	1.0000	16	218.8	8,675	0.53	0.39
	6	0.200	130.00	7.30	0.1410	1.0000	1	732.7	20,730	6.69	4.78
	7	0.204	200.00	4.70	0.1560	1.0000	2	609.4	18,948	5.99	4.21
	Σ							13,200.4	23,238	2.54	1.42
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	263.1	13,845	4.31	3.15
	2	0.226	280.00	2.40	0.2330	1.0000	6	226.7	8,541	1.03	0.75
	3	0.200	200.00	4.20	0.1460	1.0000	1	810.4	12,417	1.94	1.41
	Σ							12,494.3	19,863	1.29	0.69
#7	1	0.197	280.00	2.70	0.2330	1.0000	5	277.0	11,781	3.23	2.31
	2	0.204	420.00	1.80	0.3270	1.0000	19	124.3	7,300	0.30	0.23
	3	0.171	280.00	2.40	0.3380	1.0000	10	15.6	10,416	2.68	1.85
	Σ							12,314.1	19,171	1.14	0.60
#8	1	0.200	280.00	2.70	0.1410	1.0000	1	187.5	8,351	2.70	2.00
	2	0.204	280.00	2.30	0.1550	1.0000	3	238.3	7,608	2.25	1.65
	3	0.173	280.00	3.00	0.2220	1.0000	6	257.9	10,687	3.67	2.68
	4	0.204	280.00	3.00	0.3180	1.0000	19	110.0	11,310	1.39	1.03
	5	0.187	200.00	5.90	0.2960	1.0000	12	281.7	29,572	10.28	7.42

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	6	0.167	200.00	4.20	0.2740	1.0000	8	214.7	22,453	10.71	7.63
	7	0.215	100.00	9.40	0.2650	1.0000	20	175.4	41,994	19.80	14.02
	8	0.201	100.00	8.10	0.2960	1.0000	13	186.1	31,269	12.47	8.82
	9	0.208	280.00	2.70	0.2120	1.0000	15	60.7	11,833	4.22	2.97
	10	0.225	200.00	4.50	0.2540	1.0000	14	440.6	24,358	8.63	6.20
	11	0.198	100.00	9.20	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								11,994.2	22,979	1.99	0.73
#9	1	0.206	130.00	7.80	0.1800	1.0000	16	219.6	22,981	7.31	5.33
	2	0.189	100.00	11.10	0.2450	1.0000	6	342.8	40,868	13.70	10.00
	3	0.177	100.00	8.30	0.2320	1.0000	6	167.7	22,141	7.27	5.28
	4	0.161	100.00	10.00	0.2220	1.0000	5	328.2	27,849	8.35	5.98
	5	0.000	200.00	5.90	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								12,256.5	23,208	1.59	0.56

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	572.91	105.68	2,729.2	25,472	5.99	4.43
#4	3,216.100	7,194.800	818.83	218.45	5,776.2	41,671	7.72	3.57
#1	8,477.900	8,477.900	1,624.54	275.06	6,013.8	34,467	9.83	4.55
#2	3,838.900	12,316.800	1,737.37	473.57	9,578.6	34,183	4.99	2.15
#5	5,494.300	25,005.900	2,122.35	978.32	18,442.9	24,802	2.95	1.64
#6	3,079.300	28,085.200	2,108.38	1,121.19	17,437.7	21,175	1.42	0.76
#7	2,671.600	30,756.800	2,106.65	1,181.57	17,154.8	20,417	1.26	0.65
#8	4,754.800	35,511.600	2,101.90	1,365.17	16,768.9	24,052	2.18	0.82
#9	2,301.000	37,812.600	2,092.93	1,431.51	17,127.3	24,438	1.76	0.63

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	171.52	22.466
	2	1,079.100	0.919	0.596	0.351	80.800	M	274.85	30.645
	3	450.300	0.571	0.319	0.355	81.300	M	167.39	13.339
	4	742.600	1.122	0.000	0.000	78.500	M	131.99	17.306
	5	915.400	0.725	0.000	0.000	78.800	M	228.64	21.925
	Σ	3,978.700						572.91	105.681
#4	1	546.400	0.725	1.710	0.319	81.700	M	178.56	16.713
	2	441.200	0.814	1.429	0.318	86.000	M	190.06	18.837
	3	889.400	0.919	0.998	0.318	82.100	M	254.39	28.090
	4	1,339.100	0.919	0.000	0.000	84.000	M	450.30	49.126
	Σ	7,194.800						818.83	218.447
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	238.26	35.264
	2	1,662.000	0.217	0.849	0.360	80.300	M	961.46	45.527
	3	1,434.000	1.575	1.241	0.357	81.100	M	249.67	41.727
	4	842.700	1.100	0.977	0.364	81.000	M	191.48	24.324
	5	676.100	1.067	1.113	0.365	81.600	M	165.85	20.501
	6	1,223.200	0.777	0.596	0.352	81.800	M	384.07	37.716
	7	743.100	0.745	0.530	0.354	83.600	M	280.45	26.430
	8	654.500	0.800	0.000	0.000	92.200	M	455.14	43.570
	Σ	8,477.900						1,624.54	275.060
#2	1	609.500	0.669	1.219	0.340	85.700	M	293.48	25.469
	2	537.100	0.609	1.436	0.329	91.600	M	428.74	34.326
	3	455.000	0.547	1.288	0.324	82.000	M	184.91	14.260
	4	627.000	0.634	0.852	0.324	87.900	M	369.87	30.784
	5	653.100	0.451	0.453	0.315	91.200	M	604.42	40.586
	6	957.200	0.984	0.000	0.000	89.600	M	474.51	53.081
	Σ	12,316.800						1,737.37	473.566
#5	1	763.100	0.681	3.507	0.293	84.100	M	319.36	28.222
	2	983.300	1.118	2.231	0.289	89.200	M	430.73	52.983
	3	1,022.000	0.997	1.587	0.291	92.000	M	599.14	67.111
	4	688.700	1.905	1.255	0.291	80.800	M	100.41	19.546
	5	754.300	2.303	1.084	0.287	86.200	M	147.48	32.667
	6	628.400	0.540	0.595	0.301	93.000	M	595.51	44.255
	7	654.500	0.562	0.000	0.000	91.500	M	545.35	41.527
	Σ	25,005.900						2,122.35	978.323
#6	1	901.400	1.150	1.896	0.315	81.100	M	199.87	26.235
	2	1,011.200	1.864	0.166	0.287	83.500	M	189.02	35.661

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.700	1.178	0.000	0.000	92.800	M	641.00	80.976
	Σ	28,085.200						2,108.38	1,121.194
#7	1	963.500	0.822	0.665	0.285	82.900	M	319.82	32.443
	2	1,513.200	2.587	0.000	0.000	75.000	M	97.81	25.384
	3	194.900	0.592	0.000	0.000	72.600	M	28.34	2.546
	Σ	30,756.800						2,106.65	1,181.567
#8	1	386.400	0.538	2.912	0.280	93.000	M	366.98	27.217
	2	569.700	0.734	2.659	0.279	92.400	M	426.38	38.481
	3	647.700	0.853	2.311	0.280	87.600	M	305.69	31.116
	4	754.800	1.690	2.328	0.277	76.200	M	77.77	14.238
	5	532.600	0.740	1.423	0.277	79.500	M	140.29	13.555
	6	309.700	0.436	1.168	0.285	85.600	M	193.06	12.857
	7	158.300	0.448	0.938	0.279	83.800	M	84.60	5.722
	8	304.300	0.649	0.566	0.296	80.600	M	97.35	8.506
	9	211.900	0.478	0.921	0.320	83.000	M	102.11	7.204
	10	711.200	0.890	0.436	0.300	83.300	M	230.75	24.706
	11	168.200	0.283	0.000	0.000	1.000	0.00	0.000	
	Σ	35,511.600						2,101.90	1,365.170
#9	1	466.200	0.574	2.401	0.265	80.800	M	165.18	13.254
	2	427.200	0.633	2.204	0.256	80.300	M	135.25	11.634
	3	361.200	0.686	1.864	0.256	81.100	M	116.32	10.516
	4	573.300	0.655	0.983	0.255	81.000	M	188.96	16.569
	5	473.100	0.668	0.000	0.000	81.600	M	162.27	14.362
	Σ	37,812.600						2,092.93	1,431.505

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	595.6	26,529	7.77	5.66
	2	0.181	100.00	10.10	0.3050	1.0000	13	1,342.9	44,054	15.88	11.45
	3	0.151	200.00	5.50	0.3050	1.0000	18	356.5	27,891	11.65	8.13
	4	0.183	130.00	7.60	0.3160	1.0000	12	498.3	29,143	8.21	5.91
	5	0.185	100.00	8.30	0.2760	1.0000	6	666.1	31,457	9.98	7.02
	Σ							2,729.2	25,472	5.99	4.43
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	455.9	27,552	10.48	7.56
	2	0.148	100.00	12.00	0.2220	1.0000	5	629.8	33,577	10.61	7.68
	3	0.185	75.00	13.60	0.2740	1.0000	17	1,419.7	50,435	17.09	12.39

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.213	100.00	10.60	0.2330	1.0000	6	2,222.1	45,840	14.42	10.31
Σ								5,776.2	41,671	7.72	3.57
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	410.2	11,649	3.36	2.45
	2	0.202	240.00	3.30	0.2960	1.0000	13	1,305.1	30,415	15.87	10.89
	3	0.206	280.00	2.60	0.2960	1.0000	13	503.4	12,041	3.07	2.25
	4	0.188	200.00	5.10	0.2960	1.0000	13	605.7	25,004	8.24	5.99
	5	0.124	240.00	3.60	0.3130	1.0000	18	220.3	10,862	3.41	2.47
	6	0.178	130.00	7.90	0.2850	1.0000	7	1,276.0	34,427	12.74	9.10
	7	0.191	100.00	9.20	0.2540	1.0000	6	926.1	35,717	12.47	8.89
	8	0.199	75.00	15.10	0.1510	1.0000	2	1,701.9	39,535	10.62	7.61
Σ								6,013.8	34,467	9.83	4.55
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	641.3	25,617	8.91	6.38
	2	0.199	75.00	12.60	0.1510	1.0000	2	1,141.2	33,447	10.48	7.57
	3	0.200	100.00	8.60	0.2020	1.0000	11	389.3	27,939	8.23	5.86
	4	0.193	75.00	12.30	0.1730	1.0000	4	1,064.2	35,137	10.86	7.76
	5	0.187	75.00	14.00	0.1590	1.0000	3	1,723.7	43,507	16.07	11.37
	6	0.198	75.00	13.70	0.1680	1.0000	4	1,904.6	36,211	8.60	6.19
Σ								9,578.6	34,183	4.99	2.15
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	770.4	26,997	9.90	7.30
	2	0.209	130.00	7.10	0.1680	1.0000	4	1,028.7	19,312	3.94	2.90
	3	0.191	100.00	8.40	0.1500	1.0000	2	1,223.1	18,204	3.99	2.92
	4	0.235	200.00	4.90	0.2870	1.0000	9	435.7	22,035	4.67	3.45
	5	0.220	240.00	3.70	0.1900	1.0000	16	295.9	8,999	0.55	0.41
	6	0.200	130.00	7.30	0.1410	1.0000	1	919.2	21,181	6.99	5.01
	7	0.204	200.00	4.70	0.1560	1.0000	2	777.1	19,417	6.31	4.44
Σ								18,442.9	24,802	2.95	1.64
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	380.6	14,502	4.75	3.48
	2	0.226	280.00	2.40	0.2330	1.0000	6	317.0	8,904	1.23	0.90
	3	0.200	200.00	4.20	0.1460	1.0000	1	1,021.1	12,746	2.16	1.57
Σ								17,437.7	21,175	1.42	0.76
#7	1	0.197	280.00	2.70	0.2330	1.0000	5	391.1	12,297	3.57	2.56
	2	0.204	420.00	1.80	0.3270	1.0000	19	201.0	7,825	0.34	0.25
	3	0.171	280.00	2.40	0.3380	1.0000	10	27.4	11,458	3.35	2.30
Σ								17,154.8	20,417	1.26	0.65
#8	1	0.200	280.00	2.70	0.1410	1.0000	1	235.2	8,541	2.82	2.09
	2	0.204	280.00	2.30	0.1550	1.0000	3	301.4	7,805	2.38	1.75
	3	0.173	280.00	3.00	0.2220	1.0000	6	343.2	11,040	3.91	2.86
	4	0.204	280.00	3.00	0.3180	1.0000	19	173.9	12,068	1.89	1.40
	5	0.187	200.00	5.90	0.2960	1.0000	12	418.9	31,127	11.36	8.21

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	6	0.167	200.00	4.20	0.2740	1.0000	8	291.2	23,144	11.20	8.00
	7	0.215	100.00	9.40	0.2650	1.0000	20	243.7	43,416	20.84	14.82
	8	0.201	100.00	8.10	0.2960	1.0000	13	272.0	32,813	13.57	9.62
	9	0.208	280.00	2.70	0.2120	1.0000	15	85.3	12,298	4.54	3.20
	10	0.225	200.00	4.50	0.2540	1.0000	14	618.9	25,415	9.37	6.73
	11	0.198	100.00	9.20	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								16,768.9	24,052	2.18	0.82
#9	1	0.206	130.00	7.80	0.1800	1.0000	16	319.6	24,109	8.09	5.90
	2	0.189	100.00	11.10	0.2450	1.0000	6	503.5	42,991	15.17	11.07
	3	0.177	100.00	8.30	0.2320	1.0000	6	243.2	23,235	8.02	5.83
	4	0.161	100.00	10.00	0.2220	1.0000	5	476.6	29,228	9.29	6.66
	5	0.000	200.00	5.90	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								17,127.3	24,438	1.76	0.63

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	783.57	142.13	3,837.2	26,524	6.66	4.94
#4	3,216.100	7,194.800	1,100.22	288.82	7,947.1	43,284	8.45	3.91
#1	8,477.900	8,477.900	2,155.17	360.15	8,089.8	35,233	10.61	4.93
#2	3,838.900	12,316.800	2,276.90	607.04	12,660.0	35,221	5.37	2.32
#5	5,494.300	25,005.900	2,767.14	1,251.07	25,078.0	26,497	3.63	2.01
#6	3,079.300	28,085.200	2,741.98	1,430.05	23,709.5	22,713	1.57	0.84
#7	2,671.600	30,756.800	2,734.89	1,512.54	23,265.1	21,790	1.39	0.72
#8	4,754.800	35,511.600	2,716.47	1,746.16	22,720.0	24,956	2.34	0.89
#9	2,301.000	37,812.600	2,703.51	1,834.52	23,170.6	25,563	1.92	0.70

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	231.97	29.977
	2	1,079.100	0.919	0.596	0.351	80.800	M	371.96	40.891
	3	450.300	0.571	0.319	0.355	81.300	M	224.52	17.711
	4	742.600	1.122	0.000	0.000	78.500	M	183.17	23.665
	5	915.400	0.725	0.000	0.000	78.800	M	317.39	29.881
	Σ	3,978.700						783.57	142.126
#4	1	546.400	0.725	1.710	0.319	81.700	M	238.91	22.105
	2	441.200	0.814	1.429	0.318	86.000	M	243.30	23.976
	3	889.400	0.919	0.998	0.318	82.100	M	339.11	37.008
	4	1,339.100	0.919	0.000	0.000	84.000	M	588.13	63.608
	Σ	7,194.800						1,100.22	288.822
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	321.72	47.055
	2	1,662.000	0.217	0.849	0.360	80.300	M	1,278.18	61.059
	3	1,434.000	1.575	1.241	0.357	81.100	M	335.61	55.512
	4	842.700	1.100	0.977	0.364	81.000	M	258.51	32.392
	5	676.100	1.067	1.113	0.365	81.600	M	222.36	27.141
	6	1,223.200	0.777	0.596	0.352	81.800	M	513.46	49.833
	7	743.100	0.745	0.530	0.354	83.600	M	367.46	34.343
	8	654.500	0.800	0.000	0.000	92.200	M	553.14	52.812
	Σ	8,477.900						2,155.17	360.147
#2	1	609.500	0.669	1.219	0.340	85.700	M	376.19	32.498
	2	537.100	0.609	1.436	0.329	91.600	M	522.90	41.798
	3	455.000	0.547	1.288	0.324	82.000	M	245.85	18.806
	4	627.000	0.634	0.852	0.324	87.900	M	466.32	38.579
	5	653.100	0.451	0.453	0.315	91.200	M	737.24	49.572
	6	957.200	0.984	0.000	0.000	89.600	M	588.59	65.639
	Σ	12,316.800						2,276.90	607.039
#5	1	763.100	0.681	3.507	0.293	84.100	M	415.98	36.509
	2	983.300	1.118	2.231	0.289	89.200	M	536.36	65.723
	3	1,022.000	0.997	1.587	0.291	92.000	M	729.90	81.469
	4	688.700	1.905	1.255	0.291	80.800	M	135.36	26.081
	5	754.300	2.303	1.084	0.287	86.200	M	188.57	41.509
	6	628.400	0.540	0.595	0.301	93.000	M	716.58	53.314
	7	654.500	0.562	0.000	0.000	91.500	M	665.21	50.604
	Σ	25,005.900						2,767.14	1,251.070
#6	1	901.400	1.150	1.896	0.315	81.100	M	269.49	34.901
	2	1,011.200	1.864	0.166	0.287	83.500	M	247.99	46.379

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.700	1.178	0.000	0.000	92.800	M	775.74	97.702
	Σ	28,085.200						2,741.98	1,430.053
#7	1	963.500	0.822	0.665	0.285	82.900	M	422.42	42.426
	2	1,513.200	2.587	0.000	0.000	75.000	M	142.37	36.284
	3	194.900	0.592	0.000	0.000	72.600	M	43.58	3.779
	Σ	30,756.800						2,734.89	1,512.542
#8	1	386.400	0.538	2.912	0.280	93.000	M	441.57	32.789
	2	569.700	0.734	2.659	0.279	92.400	M	517.05	46.572
	3	647.700	0.853	2.311	0.280	87.600	M	385.66	39.090
	4	754.800	1.690	2.328	0.277	76.200	M	111.44	20.022
	5	532.600	0.740	1.423	0.277	79.500	M	192.90	18.333
	6	309.700	0.436	1.168	0.285	85.600	M	247.67	16.419
	7	158.300	0.448	0.938	0.279	83.800	M	109.87	7.422
	8	304.300	0.649	0.566	0.296	80.600	M	131.87	11.372
	9	211.900	0.478	0.921	0.320	83.000	M	133.93	9.411
	10	711.200	0.890	0.436	0.300	83.300	M	303.57	32.191
	11	168.200	0.283	0.000	0.000	1.000	0.00	0.000	
	Σ	35,511.600						2,716.47	1,746.164
#9	1	466.200	0.574	2.401	0.265	80.800	M	222.92	17.685
	2	427.200	0.633	2.204	0.256	80.300	M	183.86	15.603
	3	361.200	0.686	1.864	0.256	81.100	M	156.68	13.990
	4	573.300	0.655	0.983	0.255	81.000	M	254.74	22.065
	5	473.100	0.668	0.000	0.000	81.600	M	217.24	19.013
	Σ	37,812.600						2,703.51	1,834.520

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	828.9	27,648	8.54	6.22
	2	0.181	100.00	10.10	0.3050	1.0000	13	1,869.8	45,938	17.19	12.39
	3	0.151	200.00	5.50	0.3050	1.0000	18	492.6	28,974	12.42	8.69
	4	0.183	130.00	7.60	0.3160	1.0000	12	713.4	30,476	9.11	6.56
	5	0.185	100.00	8.30	0.2760	1.0000	6	951.9	32,951	11.01	7.75
	Σ							3,837.2	26,524	6.66	4.94
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	627.5	28,626	11.23	8.11
	2	0.148	100.00	12.00	0.2220	1.0000	5	827.9	34,612	11.32	8.21
	3	0.185	75.00	13.60	0.2740	1.0000	17	1,946.1	52,384	18.44	13.38

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.213	100.00	10.60	0.2330	1.0000	6	2,982.3	47,427	15.52	11.11
Σ								7,947.1	43,284	8.45	3.91
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	570.5	12,144	3.69	2.69
	2	0.202	240.00	3.30	0.2960	1.0000	13	1,804.2	31,080	16.38	11.34
	3	0.206	280.00	2.60	0.2960	1.0000	13	697.1	12,539	3.40	2.49
	4	0.188	200.00	5.10	0.2960	1.0000	13	841.2	26,080	8.97	6.51
	5	0.124	240.00	3.60	0.3130	1.0000	18	303.7	11,310	3.72	2.70
	6	0.178	130.00	7.90	0.2850	1.0000	7	1,754.7	35,791	13.68	9.78
	7	0.191	100.00	9.20	0.2540	1.0000	6	1,247.6	36,937	13.32	9.52
	8	0.199	75.00	15.10	0.1510	1.0000	2	2,114.1	40,449	11.23	8.06
Σ								8,089.8	35,233	10.61	4.93
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	844.7	26,414	9.45	6.78
	2	0.199	75.00	12.60	0.1510	1.0000	2	1,424.1	34,209	10.98	7.95
	3	0.200	100.00	8.60	0.2020	1.0000	11	533.1	28,939	8.91	6.36
	4	0.193	75.00	12.30	0.1730	1.0000	4	1,374.9	36,137	11.55	8.28
	5	0.187	75.00	14.00	0.1590	1.0000	3	2,154.8	44,379	16.69	11.84
	6	0.198	75.00	13.70	0.1680	1.0000	4	2,420.2	37,130	9.22	6.65
Σ								12,660.0	35,221	5.37	2.32
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	1,031.8	27,909	10.54	7.77
	2	0.209	130.00	7.10	0.1680	1.0000	4	1,312.2	19,849	4.28	3.15
	3	0.191	100.00	8.40	0.1500	1.0000	2	1,522.7	18,662	4.28	3.14
	4	0.235	200.00	4.90	0.2870	1.0000	9	605.4	22,950	5.26	3.88
	5	0.220	240.00	3.70	0.1900	1.0000	16	388.3	9,295	0.68	0.50
	6	0.200	130.00	7.30	0.1410	1.0000	1	1,131.7	21,591	7.27	5.22
	7	0.204	200.00	4.70	0.1560	1.0000	2	970.3	19,839	6.60	4.66
Σ								25,078.0	26,497	3.63	2.01
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	527.9	15,123	5.18	3.79
	2	0.226	280.00	2.40	0.2330	1.0000	6	427.6	9,237	1.46	1.07
	3	0.200	200.00	4.20	0.1460	1.0000	1	1,262.2	13,049	2.36	1.71
Σ								23,709.5	22,713	1.57	0.84
#7	1	0.197	280.00	2.70	0.2330	1.0000	5	531.1	12,749	3.88	2.79
	2	0.204	420.00	1.80	0.3270	1.0000	19	303.0	8,284	0.43	0.32
	3	0.171	280.00	2.40	0.3380	1.0000	10	43.5	12,231	3.88	2.67
Σ								23,265.1	21,790	1.39	0.72
#8	1	0.200	280.00	2.70	0.1410	1.0000	1	289.5	8,721	2.94	2.18
	2	0.204	280.00	2.30	0.1550	1.0000	3	373.6	7,985	2.50	1.84
	3	0.173	280.00	3.00	0.2220	1.0000	6	444.2	11,361	4.12	3.02
	4	0.204	280.00	3.00	0.3180	1.0000	19	257.5	12,716	2.30	1.70
	5	0.187	200.00	5.90	0.2960	1.0000	12	592.9	32,548	12.36	8.94

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	6	0.167	200.00	4.20	0.2740	1.0000	8	383.9	23,823	11.70	8.38
	7	0.215	100.00	9.40	0.2650	1.0000	20	326.4	44,686	21.76	15.52
	8	0.201	100.00	8.10	0.2960	1.0000	13	379.4	34,138	14.51	10.31
	9	0.208	280.00	2.70	0.2120	1.0000	15	115.3	12,702	4.82	3.41
	10	0.225	200.00	4.50	0.2540	1.0000	14	836.9	26,344	10.02	7.21
	11	0.198	100.00	9.20	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								22,720.0	24,956	2.34	0.89
#9	1	0.206	130.00	7.80	0.1800	1.0000	16	444.3	25,065	8.76	6.40
	2	0.189	100.00	11.10	0.2450	1.0000	6	704.8	44,794	16.41	11.99
	3	0.177	100.00	8.30	0.2320	1.0000	6	337.1	24,185	8.67	6.30
	4	0.161	100.00	10.00	0.2220	1.0000	5	661.4	30,416	10.10	7.25
	5	0.000	200.00	5.90	0.2450	1.0000	6	0.0	1	0.00	0.00
Σ								23,170.6	25,563	1.92	0.70

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111

Appendix 38-B

No Name Arroyo Baseline Hydrology and Sedimentology

No Name Arroyo Baseline **Hydrology and Sedimentology**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

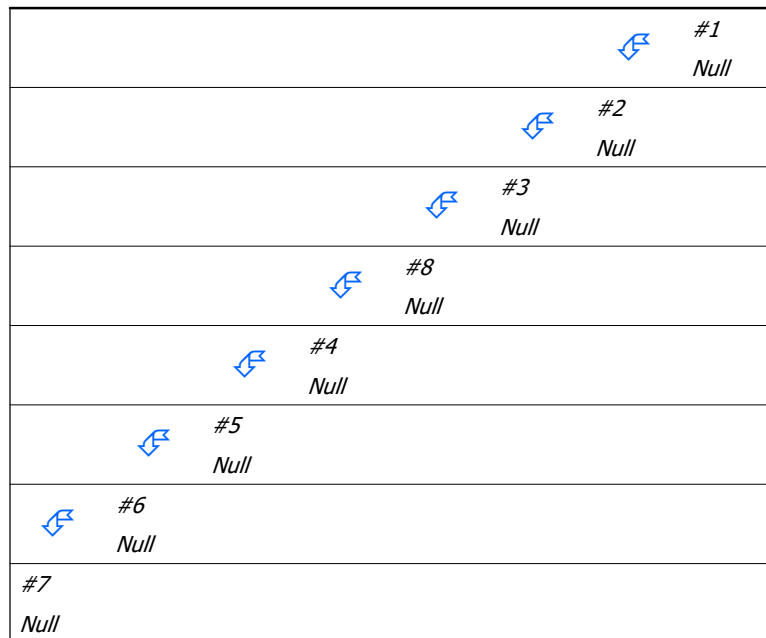
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	0.814	0.291	SWS01
Null	#2	==>	#3	0.656	0.345	SWS02
Null	#3	==>	#8	0.000	0.000	SWS03, 04, 05
Null	#4	==>	#5	0.096	0.358	SWS06, 07
Null	#5	==>	#6	0.681	0.307	SWS08
Null	#6	==>	#7	1.027	0.307	SWS09, 10, 11, 12,13, 14
Null	#7	==>	End	0.000	0.000	SWS15, 16, 17, 18, 19
Null	#8	==>	#4	0.604	0.309	S03 Impoundment Area

**Structure Routing Details:**

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	0.62	42.99	6,923.00	2.36	0.814
#1	Muskingum K:					0.814
#2	8. Large gullies, diversions, and low flowing streams	1.59	141.99	8,936.00	3.78	0.656
#2	Muskingum K:					0.656
#4	8. Large gullies, diversions, and low flowing streams	2.03	29.99	1,480.00	4.27	0.096
#4	Muskingum K:					0.096

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#5	8. Large gullies, diversions, and low flowing streams	0.82	53.99	6,623.00	2.70	0.681
#5	Muskingum K:					0.681
#6	8. Large gullies, diversions, and low flowing streams	0.82	81.99	10,027.00	2.71	1.027
#6	Muskingum K:					1.027

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	21.26	3.57	30.1	8,357	1.24	0.92
#2	856.430	1,855.800	49.00	10.18	28.3	3,413	0.37	0.22
#3	2,374.080	4,229.880	100.53	25.27	125.2	6,995	1.23	0.64
#8	0.000	4,229.880	100.53	25.27	125.2	6,995	1.23	0.64
#4	1,068.640	5,298.520	135.10	35.43	296.7	22,371	4.65	1.28
#5	233.280	5,531.800	141.02	37.84	339.4	22,757	4.59	1.32
#6	1,164.130	6,695.930	155.90	49.00	517.5	23,330	4.09	1.35
#7	648.980	7,344.910	159.08	54.52	618.3	27,360	4.25	1.29

Particle Size Distribution(s) at Each Structure

Structure #1 (SWS01):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	84.866%
0.0050	36.255%
0.0020	21.958%
0.0010	20.227%
0.0004	18.747%

Structure #2 (SWS02):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	90.433%
0.0050	38.633%
0.0020	23.399%
0.0010	21.554%
0.0004	19.977%

Structure #3 (SWS03, 04, 05):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	97.151%

Size (mm)	In/Out
0.0100	81.984%
0.0050	28.610%
0.0020	17.429%
0.0010	15.775%
0.0004	14.607%

Structure #8 (S03 Impoundment Area):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	97.151%
0.0100	81.984%
0.0050	28.610%
0.0020	17.429%
0.0010	15.775%
0.0004	14.607%

Structure #4 (SWS06, 07):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	94.843%
0.0159	89.229%
0.0100	77.969%
0.0050	23.713%
0.0020	14.174%
0.0010	12.823%
0.0004	11.760%

Structure #5 (SWS08):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	98.033%
0.0159	91.187%
0.0100	78.658%

Size (mm)	In/Out
0.0050	23.505%
0.0020	14.031%
0.0010	12.723%
0.0004	11.614%

Structure #6 (SWS09, 10, 11, 12,13, 14):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	95.758%
0.0159	90.768%
0.0100	83.136%
0.0050	24.006%
0.0020	14.107%
0.0010	12.868%
0.0004	11.599%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	99.318%
0.0750	96.670%
0.0159	93.838%
0.0100	85.852%
0.0050	24.412%
0.0020	14.270%
0.0010	13.021%
0.0004	11.724%

Structure Detail:

Structure #1 (Null)

SWS01

Structure #2 (Null)

SWS02

Structure #3 (Null)

SWS03, 04, 05

Structure #8 (Null)

S03 Impoundment Area

Structure #4 (Null)

SWS06, 07

Structure #5 (Null)

SWS08

Structure #6 (Null)

SWS09, 10, 11, 12,13, 14

Structure #7 (Null)

SWS15, 16, 17, 18, 19

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	21.26	3.566
	Σ	999.370						21.26	3.566
#2	1	856.430	2.087	0.000	0.000	86.000	M	30.13	6.613
	Σ	1,855.800						49.00	10.179
#3	1	925.920	2.893	0.409	0.297	79.000	M	5.60	1.767
	2	1,019.220	1.106	0.193	0.261	87.000	M	69.50	9.203
	3	428.940	0.766	0.000	0.000	87.400	M	40.64	4.120
	Σ	4,229.880						100.53	25.269
#8	Σ	4,229.880						100.53	25.269
#4	1	551.860	0.790	0.364	0.292	86.200	M	41.64	4.400
	2	516.780	0.565	0.000	0.000	88.400	M	71.20	5.757
	Σ	5,298.520						135.10	35.426
#5	1	233.280	0.469	0.000	0.000	87.900	M	33.56	2.416
	Σ	5,531.800						141.02	37.842
#6	1	126.980	0.164	0.545	0.308	86.900	M	26.89	1.153
	2	235.630	0.327	0.427	0.341	86.700	M	34.76	2.040
	3	258.380	0.416	0.365	0.294	88.300	M	42.86	2.846
	4	180.930	0.449	0.176	0.301	86.700	M	21.83	1.562
	5	189.850	0.326	0.000	0.000	86.800	M	28.55	1.669
	6	172.360	0.753	0.000	0.000	88.300	M	19.12	1.892
	Σ	6,695.930						155.90	49.004
#7	1	91.450	0.220	0.854	0.310	86.800	M	16.92	0.806
	2	286.490	0.566	0.642	0.312	87.100	M	31.70	2.629
	3	75.280	0.179	0.610	0.308	86.800	M	15.25	0.670
	4	128.700	0.157	0.270	0.325	86.800	M	26.83	1.150
	5	67.060	0.333	0.000	0.000	82.000	M	3.77	0.256
	Σ	7,344.910						159.08	54.515

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	30.1	8,357	1.24	0.92
Σ								30.1	8,357	1.24	0.92
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								28.3	3,413	0.37	0.22
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	7.9	4,307	0.25	0.19
	2	0.204	280.00	2.30	0.2330	1.0000	4	73.7	8,109	2.19	1.58
	3	0.158	240.00	3.80	0.2110	1.0000	5	36.8	9,321	2.35	1.65
Σ								125.2	6,995	1.23	0.64
#8	Σ							125.2	6,995	1.23	0.64
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	72.2	16,816	4.25	3.03
	2	0.183	100.00	9.10	0.1990	1.0000	7	135.1	24,873	8.76	6.03
Σ								296.7	22,371	4.65	1.28
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	58.0	25,857	8.63	5.85
Σ								339.4	22,757	4.59	1.32
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	39.9	37,425	16.51	11.08
	2	0.145	100.00	12.00	0.2110	1.0000	15	65.1	34,491	12.64	8.51
	3	0.171	100.00	8.20	0.1850	1.0000	10	50.4	18,857	6.44	4.42
	4	0.150	75.00	12.10	0.2110	1.0000	11	38.1	26,153	8.47	5.76
	5	0.143	75.00	13.30	0.2110	1.0000	15	49.5	33,056	12.17	7.96
	6	0.164	75.00	13.90	0.1850	1.0000	12	45.3	24,778	5.73	4.04
Σ								517.5	23,330	4.09	1.35
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	20.9	27,516	11.42	7.83
	2	0.162	75.00	15.20	0.2220	1.0000	13	95.8	37,621	11.76	8.28
	3	0.143	75.00	20.10	0.2110	1.0000	15	34.3	54,806	23.78	16.06
	4	0.143	75.00	8.10	0.2110	1.0000	15	18.7	18,237	8.02	5.23
	5	0.215	100.00	8.20	0.2760	1.0000	14	6.3	27,821	11.04	7.11
Σ								618.3	27,360	4.25	1.29

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	1.06	11.00	1,041.07	1.020	0.283

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	0.58	68.00	11,655.81	2.290	1.413
		8. Large gullies, diversions, and low flowing streams	0.66	22.53	3,425.57	2.430	0.391
#2	1	Time of Concentration:					2.087
#3	1	5. Nearly bare and untilled, and alluvial valley fans	0.36	8.10	2,266.36	0.590	1.067
		8. Large gullies, diversions, and low flowing streams	0.58	67.79	11,655.77	2.280	1.420
		8. Large gullies, diversions, and low flowing streams	0.76	29.00	3,819.81	2.610	0.406
#3	1	Time of Concentration:					2.893
#3	2	5. Nearly bare and untilled, and alluvial valley fans	3.79	40.00	1,056.00	1.940	0.151
		8. Large gullies, diversions, and low flowing streams	1.20	135.00	11,282.00	3.280	0.955
#3	2	Time of Concentration:					1.106
#3	3	5. Nearly bare and untilled, and alluvial valley fans	1.48	14.00	945.00	1.210	0.216
		8. Large gullies, diversions, and low flowing streams	1.68	129.00	7,691.00	3.880	0.550
#3	3	Time of Concentration:					0.766
#4	1	5. Nearly bare and untilled, and alluvial valley fans	0.96	7.00	731.00	0.970	0.209
		8. Large gullies, diversions, and low flowing streams	1.94	169.00	8,725.00	4.170	0.581
#4	1	Time of Concentration:					0.790
#4	2	5. Nearly bare and untilled, and alluvial valley fans	4.40	43.00	978.00	2.090	0.129
		8. Large gullies, diversions, and low flowing streams	2.35	170.00	7,224.00	4.600	0.436
#4	2	Time of Concentration:					0.565
#5	1	5. Nearly bare and untilled, and alluvial valley fans	2.11	22.00	1,044.00	1.450	0.200
		8. Large gullies, diversions, and low flowing streams	3.14	162.00	5,158.00	5.310	0.269
#5	1	Time of Concentration:					0.469
#6	1	5. Nearly bare and untilled, and alluvial valley fans	4.94	12.00	243.00	2.220	0.030
		8. Large gullies, diversions, and low flowing streams	4.62	144.00	3,117.00	6.440	0.134
#6	1	Time of Concentration:					0.164
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.52	46.00	1,017.00	2.120	0.133
		8. Large gullies, diversions, and low flowing streams	3.40	132.00	3,879.00	5.530	0.194
#6	2	Time of Concentration:					0.327
#6	3	5. Nearly bare and untilled, and alluvial valley fans	2.83	22.99	813.00	1.680	0.134
		8. Large gullies, diversions, and low flowing streams	2.68	133.99	4,999.00	4.910	0.282

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#6	3	Time of Concentration:					0.416
#6	4	5. Nearly bare and untilled, and alluvial valley fans	4.43	28.00	632.00	2.100	0.083
		8. Large gullies, diversions, and low flowing streams	2.77	182.00	6,575.00	4.990	0.366
#6	4	Time of Concentration:					0.449
#6	5	5. Nearly bare and untilled, and alluvial valley fans	6.63	41.00	618.00	2.570	0.066
		8. Large gullies, diversions, and low flowing streams	2.36	102.00	4,321.00	4.600	0.260
#6	5	Time of Concentration:					0.326
#6	6	5. Nearly bare and untilled, and alluvial valley fans	0.41	4.00	979.00	0.630	0.431
		8. Large gullies, diversions, and low flowing streams	2.88	170.00	5,907.00	5.080	0.322
#6	6	Time of Concentration:					0.753
#7	1	5. Nearly bare and untilled, and alluvial valley fans	18.35	60.00	327.00	4.280	0.021
		8. Large gullies, diversions, and low flowing streams	3.36	133.00	3,954.00	5.500	0.199
#7	1	Time of Concentration:					0.220
#7	2	5. Nearly bare and untilled, and alluvial valley fans	2.42	20.00	826.00	1.550	0.148
		8. Large gullies, diversions, and low flowing streams	2.59	188.00	7,257.00	4.820	0.418
#7	2	Time of Concentration:					0.566
#7	3	5. Nearly bare and untilled, and alluvial valley fans	10.34	74.00	716.00	3.210	0.061
		8. Large gullies, diversions, and low flowing streams	4.74	132.00	2,785.00	6.530	0.118
#7	3	Time of Concentration:					0.179
#7	4	5. Nearly bare and untilled, and alluvial valley fans	17.05	37.00	217.00	4.120	0.014
		8. Large gullies, diversions, and low flowing streams	3.52	102.00	2,899.00	5.620	0.143
#7	4	Time of Concentration:					0.157
#7	5	5. Nearly bare and untilled, and alluvial valley fans	0.95	2.00	211.00	0.970	0.060
		8. Large gullies, diversions, and low flowing streams	1.06	32.00	3,028.00	3.080	0.273
#7	5	Time of Concentration:					0.333

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	8. Large gullies, diversions, and low flowing streams	0.68	24.99	3,656.00	2.480	0.409
#3	1	Muskingum K:					0.409

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	2	8. Large gullies, diversions, and low flowing streams	0.39	4.99	1,298.00	1.860	0.193
#3	2	Muskingum K:					0.193
#4	1	8. Large gullies, diversions, and low flowing streams	0.64	19.99	3,139.00	2.390	0.364
#4	1	Muskingum K:					0.364
#6	1	8. Large gullies, diversions, and low flowing streams	0.82	43.99	5,337.00	2.720	0.545
#6	1	Muskingum K:					0.545
#6	2	8. Large gullies, diversions, and low flowing streams	1.47	81.99	5,593.00	3.630	0.427
#6	2	Muskingum K:					0.427
#6	3	8. Large gullies, diversions, and low flowing streams	0.66	20.99	3,199.00	2.430	0.365
#6	3	Muskingum K:					0.365
#6	4	8. Large gullies, diversions, and low flowing streams	0.74	11.99	1,631.00	2.570	0.176
#6	4	Muskingum K:					0.176
#7	1	8. Large gullies, diversions, and low flowing streams	0.86	72.99	8,524.00	2.770	0.854
#7	1	Muskingum K:					0.854
#7	2	8. Large gullies, diversions, and low flowing streams	0.89	57.99	6,527.00	2.820	0.642
#7	2	Muskingum K:					0.642
#7	3	8. Large gullies, diversions, and low flowing streams	0.83	49.99	5,997.00	2.730	0.610
#7	3	Muskingum K:					0.610
#7	4	8. Large gullies, diversions, and low flowing streams	1.11	33.99	3,071.00	3.150	0.270
#7	4	Muskingum K:					0.270

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	91.76	13.42	143.4	10,828	2.69	1.94
#2	856.430	1,855.800	168.95	31.77	137.5	5,402	1.22	0.00
#3	2,374.080	4,229.880	278.94	75.46	424.1	7,878	1.57	0.82
#8	0.000	4,229.880	278.94	75.46	424.1	7,878	1.57	0.82
#4	1,068.640	5,298.520	368.23	101.62	927.0	24,724	5.90	1.59
#5	233.280	5,531.800	382.25	107.68	1,047.5	25,397	5.99	1.68
#6	1,164.130	6,695.930	414.91	136.41	1,564.6	25,729	5.29	1.72
#7	648.980	7,344.910	420.90	151.19	1,867.2	30,531	5.74	1.70

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	91.76	13.419
	Σ	999.370						91.76	13.419
#2	1	856.430	2.087	0.000	0.000	86.000	M	87.88	18.348
	Σ	1,855.800						168.95	31.767
#3	1	925.920	2.893	0.409	0.297	79.000	M	30.88	8.922
	2	1,019.220	1.106	0.193	0.261	87.000	M	191.87	24.171
	3	428.940	0.766	0.000	0.000	87.400	M	109.99	10.596
	Σ	4,229.880						278.94	75.456
#8	Σ	4,229.880						278.94	75.456
#4	1	551.860	0.790	0.364	0.292	86.200	M	121.46	12.071
	2	516.780	0.565	0.000	0.000	88.400	M	180.82	14.089
	Σ	5,298.520						368.23	101.616
#5	1	233.280	0.469	0.000	0.000	87.900	M	87.15	6.061
	Σ	5,531.800						382.25	107.677
#6	1	126.980	0.164	0.545	0.308	86.900	M	69.27	3.043
	2	235.630	0.327	0.427	0.341	86.700	M	95.26	5.445
	3	258.380	0.416	0.365	0.294	88.300	M	107.74	6.998
	4	180.930	0.449	0.176	0.301	86.700	M	61.32	4.168
	5	189.850	0.326	0.000	0.000	86.800	M	77.63	4.431
	6	172.360	0.753	0.000	0.000	88.300	M	49.19	4.653
	Σ	6,695.930						414.91	136.415
#7	1	91.450	0.220	0.854	0.310	86.800	M	44.51	2.140
	2	286.490	0.566	0.642	0.312	87.100	M	87.47	6.868
	3	75.280	0.179	0.610	0.308	86.800	M	39.66	1.780
	4	128.700	0.157	0.270	0.325	86.800	M	69.57	3.054
	5	67.060	0.333	0.000	0.000	82.000	M	15.90	0.937
	Σ	7,344.910						420.90	151.194

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	143.4	10,828	2.69	1.94
Σ								143.4	10,828	2.69	1.94
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								137.5	5,402	1.22	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	50.9	5,606	0.35	0.26
	2	0.204	280.00	2.30	0.2330	1.0000	4	223.4	9,379	3.04	2.20
	3	0.158	240.00	3.80	0.2110	1.0000	5	109.2	10,701	3.28	2.32
Σ								424.1	7,878	1.57	0.82
#8	Σ							424.1	7,878	1.57	0.82
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	231.4	19,625	6.12	4.37
	2	0.183	100.00	9.10	0.1990	1.0000	7	375.9	27,978	10.98	7.63
Σ								927.0	24,724	5.90	1.59
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	165.6	29,012	10.90	7.48
Σ								1,047.5	25,397	5.99	1.68
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	116.6	40,261	18.71	12.93
	2	0.145	100.00	12.00	0.2110	1.0000	15	198.4	38,661	15.72	10.76
	3	0.171	100.00	8.20	0.1850	1.0000	10	139.8	21,052	7.98	5.53
	4	0.150	75.00	12.10	0.2110	1.0000	11	117.7	29,897	11.12	7.65
	5	0.143	75.00	13.30	0.2110	1.0000	15	149.9	36,685	14.95	10.02
	6	0.164	75.00	13.90	0.1850	1.0000	12	127.2	28,183	8.04	5.68
Σ								1,564.6	25,729	5.29	1.72
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	62.0	30,210	13.40	9.36
	2	0.162	75.00	15.20	0.2220	1.0000	13	289.7	43,270	15.67	11.08
	3	0.143	75.00	20.10	0.2110	1.0000	15	101.3	59,434	27.28	18.85
	4	0.143	75.00	8.10	0.2110	1.0000	15	55.2	19,681	9.13	6.12
	5	0.215	100.00	8.20	0.2760	1.0000	14	29.1	34,469	15.76	10.34
Σ								1,867.2	30,531	5.74	1.70

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	1.06	11.00	1,041.07	1.020	0.283

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	0.58	68.00	11,655.81	2.290	1.413
		8. Large gullies, diversions, and low flowing streams	0.66	22.53	3,425.57	2.430	0.391
#2	1	Time of Concentration:					2.087
#3	1	5. Nearly bare and untilled, and alluvial valley fans	0.36	8.10	2,266.36	0.590	1.067
		8. Large gullies, diversions, and low flowing streams	0.58	67.79	11,655.77	2.280	1.420
		8. Large gullies, diversions, and low flowing streams	0.76	29.00	3,819.81	2.610	0.406
#3	1	Time of Concentration:					2.893
#3	2	5. Nearly bare and untilled, and alluvial valley fans	3.79	40.00	1,056.00	1.940	0.151
		8. Large gullies, diversions, and low flowing streams	1.20	135.00	11,282.00	3.280	0.955
#3	2	Time of Concentration:					1.106
#3	3	5. Nearly bare and untilled, and alluvial valley fans	1.48	14.00	945.00	1.210	0.216
		8. Large gullies, diversions, and low flowing streams	1.68	129.00	7,691.00	3.880	0.550
#3	3	Time of Concentration:					0.766
#4	1	5. Nearly bare and untilled, and alluvial valley fans	0.96	7.00	731.00	0.970	0.209
		8. Large gullies, diversions, and low flowing streams	1.94	169.00	8,725.00	4.170	0.581
#4	1	Time of Concentration:					0.790
#4	2	5. Nearly bare and untilled, and alluvial valley fans	4.40	43.00	978.00	2.090	0.129
		8. Large gullies, diversions, and low flowing streams	2.35	170.00	7,224.00	4.600	0.436
#4	2	Time of Concentration:					0.565
#5	1	5. Nearly bare and untilled, and alluvial valley fans	2.11	22.00	1,044.00	1.450	0.200
		8. Large gullies, diversions, and low flowing streams	3.14	162.00	5,158.00	5.310	0.269
#5	1	Time of Concentration:					0.469
#6	1	5. Nearly bare and untilled, and alluvial valley fans	4.94	12.00	243.00	2.220	0.030
		8. Large gullies, diversions, and low flowing streams	4.62	144.00	3,117.00	6.440	0.134
#6	1	Time of Concentration:					0.164
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.52	46.00	1,017.00	2.120	0.133
		8. Large gullies, diversions, and low flowing streams	3.40	132.00	3,879.00	5.530	0.194
#6	2	Time of Concentration:					0.327
#6	3	5. Nearly bare and untilled, and alluvial valley fans	2.83	22.99	813.00	1.680	0.134
		8. Large gullies, diversions, and low flowing streams	2.68	133.99	4,999.00	4.910	0.282

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#6	3	Time of Concentration:					0.416
#6	4	5. Nearly bare and untilled, and alluvial valley fans	4.43	28.00	632.00	2.100	0.083
		8. Large gullies, diversions, and low flowing streams	2.77	182.00	6,575.00	4.990	0.366
#6	4	Time of Concentration:					0.449
#6	5	5. Nearly bare and untilled, and alluvial valley fans	6.63	41.00	618.00	2.570	0.066
		8. Large gullies, diversions, and low flowing streams	2.36	102.00	4,321.00	4.600	0.260
#6	5	Time of Concentration:					0.326
#6	6	5. Nearly bare and untilled, and alluvial valley fans	0.41	4.00	979.00	0.630	0.431
		8. Large gullies, diversions, and low flowing streams	2.88	170.00	5,907.00	5.080	0.322
#6	6	Time of Concentration:					0.753
#7	1	5. Nearly bare and untilled, and alluvial valley fans	18.35	60.00	327.00	4.280	0.021
		8. Large gullies, diversions, and low flowing streams	3.36	133.00	3,954.00	5.500	0.199
#7	1	Time of Concentration:					0.220
#7	2	5. Nearly bare and untilled, and alluvial valley fans	2.42	20.00	826.00	1.550	0.148
		8. Large gullies, diversions, and low flowing streams	2.59	188.00	7,257.00	4.820	0.418
#7	2	Time of Concentration:					0.566
#7	3	5. Nearly bare and untilled, and alluvial valley fans	10.34	74.00	716.00	3.210	0.061
		8. Large gullies, diversions, and low flowing streams	4.74	132.00	2,785.00	6.530	0.118
#7	3	Time of Concentration:					0.179
#7	4	5. Nearly bare and untilled, and alluvial valley fans	17.05	37.00	217.00	4.120	0.014
		8. Large gullies, diversions, and low flowing streams	3.52	102.00	2,899.00	5.620	0.143
#7	4	Time of Concentration:					0.157
#7	5	5. Nearly bare and untilled, and alluvial valley fans	0.95	2.00	211.00	0.970	0.060
		8. Large gullies, diversions, and low flowing streams	1.06	32.00	3,028.00	3.080	0.273
#7	5	Time of Concentration:					0.333

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	8. Large gullies, diversions, and low flowing streams	0.68	24.99	3,656.00	2.480	0.409
#3	1	Muskingum K:					0.409

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	156.87	22.29	257.3	11,706	3.27	2.40
#2	856.430	1,855.800	274.92	50.25	249.4	6,210	1.63	0.00
#3	2,374.080	4,229.880	425.63	118.08	699.4	8,242	1.69	0.89
#8	0.000	4,229.880	425.63	118.08	699.4	8,242	1.69	0.89
#4	1,068.640	5,298.520	558.42	157.01	1,483.6	25,672	6.41	1.73
#5	233.280	5,531.800	578.75	165.95	1,670.1	26,489	6.57	1.83
#6	1,164.130	6,695.930	624.34	208.71	2,476.5	26,485	5.83	1.91
#7	648.980	7,344.910	632.06	231.00	2,954.1	31,590	6.44	1.90

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	156.87	22.293
	Σ	999.370						156.87	22.293
#2	1	856.430	2.087	0.000	0.000	86.000	M	135.69	27.957
	Σ	1,855.800						274.92	50.250
#3	1	925.920	2.893	0.409	0.297	79.000	M	56.59	15.878
	2	1,019.220	1.106	0.193	0.261	87.000	M	291.77	36.192
	3	428.940	0.766	0.000	0.000	87.400	M	165.68	15.758
	Σ	4,229.880						425.63	118.078
#8	Σ	4,229.880						425.63	118.078
#4	1	551.860	0.790	0.364	0.292	86.200	M	187.55	18.328
	2	516.780	0.565	0.000	0.000	88.400	M	265.95	20.608
	Σ	5,298.520						558.42	157.014
#5	1	233.280	0.469	0.000	0.000	87.900	M	128.88	8.938
	Σ	5,531.800						578.75	165.953
#6	1	126.980	0.164	0.545	0.308	86.900	M	101.69	4.565
	2	235.630	0.327	0.427	0.341	86.700	M	142.50	8.195
	3	258.380	0.416	0.365	0.294	88.300	M	158.36	10.253
	4	180.930	0.449	0.176	0.301	86.700	M	92.73	6.273
	5	189.850	0.326	0.000	0.000	86.800	M	115.97	6.657
	6	172.360	0.753	0.000	0.000	88.300	M	72.81	6.817
	Σ	6,695.930						624.34	208.713
#7	1	91.450	0.220	0.854	0.310	86.800	M	65.70	3.216
	2	286.490	0.566	0.642	0.312	87.100	M	131.98	10.267
	3	75.280	0.179	0.610	0.308	86.800	M	58.38	2.674
	4	128.700	0.157	0.270	0.325	86.800	M	102.31	4.588
	5	67.060	0.333	0.000	0.000	82.000	M	26.74	1.546
	Σ	7,344.910						632.06	231.003

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	257.3	11,706	3.27	2.36
Σ								257.3	11,706	3.27	2.40
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								249.4	6,210	1.63	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	98.7	6,138	0.60	0.44
	2	0.204	280.00	2.30	0.2330	1.0000	4	354.1	9,925	3.41	2.47
	3	0.158	240.00	3.80	0.2110	1.0000	5	171.6	11,268	3.67	2.60
Σ								699.4	8,242	1.69	0.89
#8	Σ							699.4	8,242	1.69	0.89
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	372.9	20,797	6.92	4.94
	2	0.183	100.00	9.10	0.1990	1.0000	7	577.3	29,178	11.84	8.28
Σ								1,483.6	25,672	6.41	1.73
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	256.3	30,181	11.76	8.14
Σ								1,670.1	26,489	6.57	1.83
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	181.4	41,403	19.56	13.62
	2	0.145	100.00	12.00	0.2110	1.0000	15	312.5	40,130	16.81	11.59
	3	0.171	100.00	8.20	0.1850	1.0000	10	214.8	21,913	8.61	6.01
	4	0.150	75.00	12.10	0.2110	1.0000	11	186.5	31,318	12.14	8.39
	5	0.143	75.00	13.30	0.2110	1.0000	15	235.7	37,867	15.90	10.79
	6	0.164	75.00	13.90	0.1850	1.0000	12	196.2	29,556	8.99	6.37
Σ								2,476.5	26,485	5.83	1.91
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	96.9	31,059	14.05	9.92
	2	0.162	75.00	15.20	0.2220	1.0000	13	456.8	45,401	17.18	12.20
	3	0.143	75.00	20.10	0.2110	1.0000	15	158.0	60,870	28.42	19.88
	4	0.143	75.00	8.10	0.2110	1.0000	15	86.0	20,122	9.49	6.46
	5	0.215	100.00	8.20	0.2760	1.0000	14	51.6	36,552	17.33	11.49
Σ								2,954.1	31,590	6.44	1.90

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	1.06	11.00	1,041.07	1.020	0.283

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	217.86	30.55	369.0	12,242	3.63	2.67
#2	856.430	1,855.800	372.98	67.09	359.7	6,716	1.91	0.00
#3	2,374.080	4,229.880	559.89	156.79	962.3	8,487	1.77	0.94
#8	0.000	4,229.880	559.89	156.79	962.3	8,487	1.77	0.94
#4	1,068.640	5,298.520	728.37	207.02	2,002.4	26,310	6.74	1.81
#5	233.280	5,531.800	753.71	218.49	2,248.7	27,207	6.94	1.92
#6	1,164.130	6,695.930	810.65	273.63	3,321.3	27,001	6.17	2.03
#7	648.980	7,344.910	819.70	302.60	3,959.7	32,391	6.91	2.04

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	217.86	30.550
	Σ	999.370						217.86	30.550
#2	1	856.430	2.087	0.000	0.000	86.000	M	178.83	36.544
	Σ	1,855.800						372.98	67.093
#3	1	925.920	2.893	0.409	0.297	79.000	M	81.53	22.544
	2	1,019.220	1.106	0.193	0.261	87.000	M	380.55	46.840
	3	428.940	0.766	0.000	0.000	87.400	M	214.83	20.316
	Σ	4,229.880						559.89	156.794
#8	Σ	4,229.880						559.89	156.794
#4	1	551.860	0.790	0.364	0.292	86.200	M	246.55	23.909
	2	516.780	0.565	0.000	0.000	88.400	M	341.55	26.316
	Σ	5,298.520						728.37	207.019
#5	1	233.280	0.469	0.000	0.000	87.900	M	166.33	11.468
	Σ	5,531.800						753.71	218.487
#6	1	126.980	0.164	0.545	0.308	86.900	M	129.67	5.913
	2	235.630	0.327	0.427	0.341	86.700	M	185.31	10.637
	3	258.380	0.416	0.365	0.294	88.300	M	203.09	13.106
	4	180.930	0.449	0.176	0.301	86.700	M	120.70	8.142
	5	189.850	0.326	0.000	0.000	86.800	M	150.61	8.633
	6	172.360	0.753	0.000	0.000	88.300	M	93.48	8.714
	Σ	6,695.930						810.65	273.632
#7	1	91.450	0.220	0.854	0.310	86.800	M	84.05	4.170
	2	286.490	0.566	0.642	0.312	87.100	M	171.15	13.274
	3	75.280	0.179	0.610	0.308	86.800	M	74.55	3.467
	4	128.700	0.157	0.270	0.325	86.800	M	130.59	5.949
	5	67.060	0.333	0.000	0.000	82.000	M	36.58	2.111
	Σ	7,344.910						819.70	302.605

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	369.0	12,242	3.63	2.62
Σ								369.0	12,242	3.63	2.67
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								359.7	6,716	1.91	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	147.3	6,470	0.77	0.57
	2	0.204	280.00	2.30	0.2330	1.0000	4	474.7	10,273	3.65	2.64
	3	0.158	240.00	3.80	0.2110	1.0000	5	228.8	11,624	3.92	2.78
Σ								962.3	8,487	1.77	0.94
#8	Σ							962.3	8,487	1.77	0.94
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	504.4	21,542	7.43	5.31
	2	0.183	100.00	9.10	0.1990	1.0000	7	761.5	30,062	12.46	8.74
Σ								2,002.4	26,310	6.74	1.81
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	340.0	31,109	12.41	8.61
Σ								2,248.7	27,207	6.94	1.92
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	240.3	42,062	20.04	14.04
	2	0.145	100.00	12.00	0.2110	1.0000	15	419.0	41,185	17.61	12.22
	3	0.171	100.00	8.20	0.1850	1.0000	10	283.3	22,493	9.02	6.33
	4	0.150	75.00	12.10	0.2110	1.0000	11	250.2	32,221	12.80	8.88
	5	0.143	75.00	13.30	0.2110	1.0000	15	315.5	38,893	16.66	11.37
	6	0.164	75.00	13.90	0.1850	1.0000	12	259.0	30,422	9.58	6.81
Σ								3,321.3	27,001	6.17	2.03
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	128.6	31,668	14.49	10.27
	2	0.162	75.00	15.20	0.2220	1.0000	13	610.1	46,807	18.15	12.91
	3	0.143	75.00	20.10	0.2110	1.0000	15	209.6	61,778	29.12	20.53
	4	0.143	75.00	8.10	0.2110	1.0000	15	114.0	20,376	9.69	6.66
	5	0.215	100.00	8.20	0.2760	1.0000	14	73.1	37,617	18.16	12.16
Σ								3,959.7	32,391	6.91	2.04

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	1.06	11.00	1,041.07	1.020	0.283

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	0.58	68.00	11,655.81	2.290	1.413
		8. Large gullies, diversions, and low flowing streams	0.66	22.53	3,425.57	2.430	0.391
#2	1	Time of Concentration:					2.087
#3	1	5. Nearly bare and untilled, and alluvial valley fans	0.36	8.10	2,266.36	0.590	1.067
		8. Large gullies, diversions, and low flowing streams	0.58	67.79	11,655.77	2.280	1.420
		8. Large gullies, diversions, and low flowing streams	0.76	29.00	3,819.81	2.610	0.406
#3	1	Time of Concentration:					2.893
#3	2	5. Nearly bare and untilled, and alluvial valley fans	3.79	40.00	1,056.00	1.940	0.151
		8. Large gullies, diversions, and low flowing streams	1.20	135.00	11,282.00	3.280	0.955
#3	2	Time of Concentration:					1.106
#3	3	5. Nearly bare and untilled, and alluvial valley fans	1.48	14.00	945.00	1.210	0.216
		8. Large gullies, diversions, and low flowing streams	1.68	129.00	7,691.00	3.880	0.550
#3	3	Time of Concentration:					0.766
#4	1	5. Nearly bare and untilled, and alluvial valley fans	0.96	7.00	731.00	0.970	0.209
		8. Large gullies, diversions, and low flowing streams	1.94	169.00	8,725.00	4.170	0.581
#4	1	Time of Concentration:					0.790
#4	2	5. Nearly bare and untilled, and alluvial valley fans	4.40	43.00	978.00	2.090	0.129
		8. Large gullies, diversions, and low flowing streams	2.35	170.00	7,224.00	4.600	0.436
#4	2	Time of Concentration:					0.565
#5	1	5. Nearly bare and untilled, and alluvial valley fans	2.11	22.00	1,044.00	1.450	0.200
		8. Large gullies, diversions, and low flowing streams	3.14	162.00	5,158.00	5.310	0.269
#5	1	Time of Concentration:					0.469
#6	1	5. Nearly bare and untilled, and alluvial valley fans	4.94	12.00	243.00	2.220	0.030
		8. Large gullies, diversions, and low flowing streams	4.62	144.00	3,117.00	6.440	0.134
#6	1	Time of Concentration:					0.164
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.52	46.00	1,017.00	2.120	0.133
		8. Large gullies, diversions, and low flowing streams	3.40	132.00	3,879.00	5.530	0.194
#6	2	Time of Concentration:					0.327
#6	3	5. Nearly bare and untilled, and alluvial valley fans	2.83	22.99	813.00	1.680	0.134
		8. Large gullies, diversions, and low flowing streams	2.68	133.99	4,999.00	4.910	0.282

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#6	3	Time of Concentration:					0.416
#6	4	5. Nearly bare and untilled, and alluvial valley fans	4.43	28.00	632.00	2.100	0.083
		8. Large gullies, diversions, and low flowing streams	2.77	182.00	6,575.00	4.990	0.366
#6	4	Time of Concentration:					0.449
#6	5	5. Nearly bare and untilled, and alluvial valley fans	6.63	41.00	618.00	2.570	0.066
		8. Large gullies, diversions, and low flowing streams	2.36	102.00	4,321.00	4.600	0.260
#6	5	Time of Concentration:					0.326
#6	6	5. Nearly bare and untilled, and alluvial valley fans	0.41	4.00	979.00	0.630	0.431
		8. Large gullies, diversions, and low flowing streams	2.88	170.00	5,907.00	5.080	0.322
#6	6	Time of Concentration:					0.753
#7	1	5. Nearly bare and untilled, and alluvial valley fans	18.35	60.00	327.00	4.280	0.021
		8. Large gullies, diversions, and low flowing streams	3.36	133.00	3,954.00	5.500	0.199
#7	1	Time of Concentration:					0.220
#7	2	5. Nearly bare and untilled, and alluvial valley fans	2.42	20.00	826.00	1.550	0.148
		8. Large gullies, diversions, and low flowing streams	2.59	188.00	7,257.00	4.820	0.418
#7	2	Time of Concentration:					0.566
#7	3	5. Nearly bare and untilled, and alluvial valley fans	10.34	74.00	716.00	3.210	0.061
		8. Large gullies, diversions, and low flowing streams	4.74	132.00	2,785.00	6.530	0.118
#7	3	Time of Concentration:					0.179
#7	4	5. Nearly bare and untilled, and alluvial valley fans	17.05	37.00	217.00	4.120	0.014
		8. Large gullies, diversions, and low flowing streams	3.52	102.00	2,899.00	5.620	0.143
#7	4	Time of Concentration:					0.157
#7	5	5. Nearly bare and untilled, and alluvial valley fans	0.95	2.00	211.00	0.970	0.060
		8. Large gullies, diversions, and low flowing streams	1.06	32.00	3,028.00	3.080	0.273
#7	5	Time of Concentration:					0.333

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	8. Large gullies, diversions, and low flowing streams	0.68	24.99	3,656.00	2.480	0.409
#3	1	Muskingum K:					0.409

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	291.72	40.40	508.2	12,752	3.98	2.92
#2	856.430	1,855.800	489.26	86.92	496.9	7,163	2.16	0.00
#3	2,374.080	4,229.880	731.99	202.27	1,294.0	8,762	1.86	1.00
#8	0.000	4,229.880	731.99	202.27	1,294.0	8,762	1.86	1.00
#4	1,068.640	5,298.520	925.33	265.50	2,621.6	26,822	6.94	1.87
#5	233.280	5,531.800	956.37	279.87	2,938.5	27,808	7.19	1.98
#6	1,164.130	6,695.930	1,026.06	349.28	4,326.7	27,549	6.46	2.12
#7	648.980	7,344.910	1,036.53	385.98	5,157.3	33,165	7.31	2.15

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	291.72	40.404
	Σ	999.370						291.72	40.404
#2	1	856.430	2.087	0.000	0.000	86.000	M	229.10	46.512
	Σ	1,855.800						489.26	86.916
#3	1	925.920	2.893	0.409	0.297	79.000	M	112.04	30.657
	2	1,019.220	1.106	0.193	0.261	87.000	M	483.17	59.129
	3	428.940	0.766	0.000	0.000	87.400	M	271.34	25.563
	Σ	4,229.880						731.99	202.265
#8	Σ	4,229.880						731.99	202.265
#4	1	551.860	0.790	0.364	0.292	86.200	M	314.96	30.380
	2	516.780	0.565	0.000	0.000	88.400	M	428.26	32.850
	Σ	5,298.520						925.33	265.495
#5	1	233.280	0.469	0.000	0.000	87.900	M	209.12	14.372
	Σ	5,531.800						956.37	279.868
#6	1	126.980	0.164	0.545	0.308	86.900	M	161.32	7.471
	2	235.630	0.327	0.427	0.341	86.700	M	234.24	13.461
	3	258.380	0.416	0.365	0.294	88.300	M	253.93	16.372
	4	180.930	0.449	0.176	0.301	86.700	M	153.43	10.304
	5	189.850	0.326	0.000	0.000	86.800	M	190.19	10.916
	6	172.360	0.753	0.000	0.000	88.300	M	117.29	10.886
	Σ	6,695.930						1,026.06	349.277
#7	1	91.450	0.220	0.854	0.310	86.800	M	105.40	5.273
	2	286.490	0.566	0.642	0.312	87.100	M	217.14	16.743
	3	75.280	0.179	0.610	0.308	86.800	M	92.86	4.384
	4	128.700	0.157	0.270	0.325	86.800	M	162.61	7.523
	5	67.060	0.333	0.000	0.000	82.000	M	48.09	2.784
	Σ	7,344.910						1,036.53	385.984

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	508.2	12,752	3.98	2.87
Σ								508.2	12,752	3.98	2.92
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								496.9	7,163	2.16	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	209.1	6,765	0.92	0.68
	2	0.204	280.00	2.30	0.2330	1.0000	4	618.3	10,587	3.87	2.80
	3	0.158	240.00	3.80	0.2110	1.0000	5	296.5	11,942	4.14	2.94
Σ								1,294.0	8,762	1.86	1.00
#8	Σ							1,294.0	8,762	1.86	1.00
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	661.6	22,205	7.88	5.64
	2	0.183	100.00	9.10	0.1990	1.0000	7	978.7	30,879	13.04	9.16
Σ								2,621.6	26,822	6.94	1.87
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	438.6	31,920	12.98	9.03
Σ								2,938.5	27,808	7.19	1.98
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	309.6	42,618	20.46	14.42
	2	0.145	100.00	12.00	0.2110	1.0000	15	545.0	42,073	18.30	12.77
	3	0.171	100.00	8.20	0.1850	1.0000	10	363.7	23,059	9.42	6.62
	4	0.150	75.00	12.10	0.2110	1.0000	11	326.5	33,077	13.44	9.36
	5	0.143	75.00	13.30	0.2110	1.0000	15	410.1	39,750	17.31	11.88
	6	0.164	75.00	13.90	0.1850	1.0000	12	333.1	31,250	10.15	7.23
Σ								4,326.7	27,549	6.46	2.12
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	166.5	32,290	14.94	10.63
	2	0.162	75.00	15.20	0.2220	1.0000	13	793.9	48,195	19.11	13.61
	3	0.143	75.00	20.10	0.2110	1.0000	15	270.3	62,705	29.80	21.10
	4	0.143	75.00	8.10	0.2110	1.0000	15	147.0	20,587	9.87	6.84
	5	0.215	100.00	8.20	0.2760	1.0000	14	99.6	38,447	18.83	12.72
Σ								5,157.3	33,165	7.31	2.15

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	1.06	11.00	1,041.07	1.020	0.283

Appendix 38-C

Brimhall Wash Baseline Hydrology and Sedimentology

Brimhall Wash Baseline **Hydrology and Sedimentology**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#4	7.026	0.289	
Null	#2	==>	#4	6.888	0.289	
Null	#3	==>	#6	2.906	0.256	
Null	#4	==>	#6	1.008	0.263	
Null	#5	==>	#6	0.075	0.263	
Null	#6	==>	#12	3.138	0.266	
Null	#7	==>	#9	1.050	0.280	
Null	#8	==>	#9	0.683	0.314	
Null	#9	==>	#12	2.860	0.269	
Null	#10	==>	#12	1.670	0.267	
Null	#11	==>	#12	1.194	0.263	
Null	#12	==>	End	0.000	0.000	

	#11 Null
	#10 Null
	#8 Null
	#7 Null
	#9 Null
	#5 Null
	#2 Null
	#1 Null
	#4 Null
	#3 Null
	#6 Null
	#12 Null

Structure Routing Details:

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	0.60	354.00	58,687.00	2.32	7.026
#1	Muskingum K:					7.026
#2	8. Large gullies, diversions, and low flowing streams	0.61	350.00	57,784.38	2.33	6.888
#2	Muskingum K:					6.888
#3	8. Large gullies, diversions, and low flowing streams	0.35	66.00	18,623.02	1.78	2.906
#3	Muskingum K:					2.906
#4	8. Large gullies, diversions, and low flowing streams	0.40	27.00	6,828.00	1.88	1.008
#4	Muskingum K:					1.008
#5	8. Large gullies, diversions, and low flowing streams	0.39	2.00	509.00	1.88	0.075
#5	Muskingum K:					0.075
#6	8. Large gullies, diversions, and low flowing streams	0.42	92.00	21,916.00	1.94	3.138
#6	Muskingum K:					3.138
#7	8. Large gullies, diversions, and low flowing streams	0.52	43.00	8,206.00	2.17	1.050
#7	Muskingum K:					1.050
#8	8. Large gullies, diversions, and low flowing streams	0.92	65.00	7,064.00	2.87	0.683
#8	Muskingum K:					0.683
#9	8. Large gullies, diversions, and low flowing streams	0.44	89.00	20,387.00	1.98	2.860
#9	Muskingum K:					2.860
#10	8. Large gullies, diversions, and low flowing streams	0.43	50.00	11,726.07	1.95	1.670
#10	Muskingum K:					1.670
#11	8. Large gullies, diversions, and low flowing streams	0.40	32.00	8,087.00	1.88	1.194
#11	Muskingum K:					1.194

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	30.07	3.08	47.7	16,290	4.15	2.89
#10	621.200	621.200	29.21	2.79	39.4	15,085	4.35	2.98
#8	782.600	782.600	26.65	3.88	28.6	7,440	1.62	1.18
#7	1,648.200	1,648.200	99.27	15.24	107.6	6,993	1.61	1.19
#9	652.600	3,083.400	117.87	24.49	205.0	12,924	3.26	1.55
#5	7,064.500	7,064.500	64.64	35.67	275.1	7,636	0.23	0.17
#2	6,633.800	6,633.800	97.09	30.54	430.8	13,738	0.63	0.47
#1	4,622.300	4,622.300	114.32	28.82	354.7	12,094	0.65	0.48
#4	12,415.200	23,671.300	237.64	102.73	1,089.4	11,547	0.44	0.32
#3	9,427.600	9,427.600	170.88	75.13	1,118.5	14,671	0.56	0.42
#6	7,063.800	47,227.200	373.33	299.26	3,239.4	10,293	0.39	0.31
#12	2,976.500	54,536.200	385.16	355.28	3,793.6	11,730	0.64	0.44

Particle Size Distribution(s) at Each Structure

Structure #11:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	97.013%
0.0159	86.375%
0.0100	71.891%
0.0050	19.963%
0.0020	10.617%
0.0010	9.571%
0.0004	8.844%

Structure #10:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	90.728%
0.0159	80.779%
0.0100	67.235%
0.0050	18.675%
0.0020	9.936%
0.0010	8.957%
0.0004	8.277%

Structure #8:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	96.755%

Size (mm)	In/Out
0.0100	76.711%
0.0050	24.595%
0.0020	13.680%
0.0010	12.132%
0.0004	11.664%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	74.910%
0.0050	24.059%
0.0020	15.649%
0.0010	14.043%
0.0004	13.128%

Structure #9:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	95.735%
0.0100	72.122%
0.0050	23.127%
0.0020	14.511%
0.0010	13.017%
0.0004	12.203%

Structure #5:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%

Size (mm)	In/Out
0.0050	65.246%
0.0020	37.242%
0.0010	34.514%
0.0004	31.143%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	48.023%
0.0020	27.411%
0.0010	25.403%
0.0004	22.922%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	39.585%
0.0020	22.383%
0.0010	20.795%
0.0004	18.480%

Structure #4:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.274%

Size (mm)	In/Out
0.0020	31.641%
0.0010	29.345%
0.0004	26.457%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.147%
0.0020	33.552%
0.0010	31.567%
0.0004	27.480%

Structure #6:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.061%
0.0020	33.012%
0.0010	30.890%
0.0004	27.192%

Structure #12:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	99.869%
0.0159	99.415%
0.0100	97.816%
0.0050	52.337%
0.0020	30.895%

Size (mm)	In/Out
0.0010	28.823%
0.0004	25.476%

Structure Detail:

Structure #11 (Null)

Structure #10 (Null)

Structure #8 (Null)

Structure #7 (Null)

Structure #9 (Null)

Structure #5 (Null)

Structure #2 (Null)

Structure #1 (Null)

Structure #4 (Null)

Structure #3 (Null)

Structure #6 (Null)

Structure #12 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.220	0.378	0.366	76.900	M	1.20	0.133
	2	497.600	0.677	0.000	0.000	84.400	M	29.73	2.950
	Σ	627.900						30.07	3.084
#10	1	179.800	0.284	0.426	0.348	78.000	M	2.76	0.261
	2	441.400	0.558	0.000	0.000	84.200	M	28.90	2.528
	Σ	621.200						29.21	2.789
#8	1	782.600	1.123	0.000	0.000	83.400	M	26.65	3.880
	Σ	782.600						26.65	3.880
#7	1	791.100	1.267	0.448	0.311	90.100	M	79.56	11.222
	2	857.100	1.460	0.000	0.000	83.100	M	22.58	4.020
	Σ	1,648.200						99.27	15.242
#9	1	652.600	0.936	0.000	0.000	86.400	M	45.32	5.371
	Σ	3,083.400						117.87	24.493
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	64.64	35.666
	Σ	7,064.500						64.64	35.666
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	97.09	30.538
	Σ	6,633.800						97.09	30.538
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	114.32	28.816
	Σ	4,622.300						114.32	28.816
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	53.61	43.376
	Σ	23,671.300						237.64	102.730
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	170.88	75.135
	Σ	9,427.600						170.88	75.135
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	185.13	85.725
	Σ	47,227.200						373.33	299.256
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	73.52	25.655
	Σ	54,536.200						385.16	355.276

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	1.7	12,578	3.84	2.90
	2	0.140	130.00	7.40	0.2520	1.0000	13	47.7	16,970	4.33	3.02
Σ								47.7	16,290	4.15	2.89
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	4.0	15,749	4.54	3.25
	2	0.139	130.00	6.50	0.2630	1.0000	13	39.4	16,676	4.81	3.29
Σ								39.4	15,085	4.35	2.98
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	28.6	7,440	1.62	1.18
Σ								28.6	7,440	1.62	1.18
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	80.4	7,229	2.26	1.65
	2	0.209	280.00	2.70	0.2762	1.0000	6	34.6	8,547	1.33	0.99
Σ								107.6	6,993	1.61	1.19
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	68.9	13,194	3.94	2.81
Σ								205.0	12,924	3.26	1.55
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	275.1	7,636	0.23	0.17
Σ								275.1	7,636	0.23	0.17
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	430.8	13,738	0.63	0.47
Σ								430.8	13,738	0.63	0.47
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	354.7	12,094	0.65	0.48
Σ								354.7	12,094	0.65	0.48
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	307.8	7,077	0.06	0.05
Σ								1,089.4	11,547	0.44	0.32
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	1,118.5	14,671	0.56	0.42
Σ								1,118.5	14,671	0.56	0.42
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	758.8	8,800	0.37	0.28
Σ								3,239.4	10,293	0.39	0.31
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	269.5	10,345	0.56	0.42
Σ								3,793.6	11,730	0.64	0.44

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.24	25.00	589.00	2.060	0.079
		8. Large gullies, diversions, and low flowing streams	1.47	585.00	39,874.00	3.630	3.051
#2	1	Time of Concentration:					3.130
#3	1	5. Nearly bare and untilled, and alluvial valley fans	5.58	30.00	538.00	2.360	0.063
		8. Large gullies, diversions, and low flowing streams	1.41	876.00	62,341.00	3.550	4.878
#3	1	Time of Concentration:					4.941
#4	1	5. Nearly bare and untilled, and alluvial valley fans	2.90	40.00	1,380.00	1.700	0.225
		8. Large gullies, diversions, and low flowing streams	0.88	855.00	96,614.00	2.820	9.516
#4	1	Time of Concentration:					9.741
#5	1	5. Nearly bare and untilled, and alluvial valley fans	1.19	13.00	1,096.00	1.080	0.281
		8. Large gullies, diversions, and low flowing streams	0.93	590.00	63,262.00	2.890	6.080
#5	1	Time of Concentration:					6.361
#6	1	5. Nearly bare and untilled, and alluvial valley fans	5.43	45.00	829.00	2.320	0.099
		8. Large gullies, diversions, and low flowing streams	1.03	597.00	57,726.00	3.050	5.257
#6	1	Time of Concentration:					5.356
#7	1	5. Nearly bare and untilled, and alluvial valley fans	2.18	25.00	1,147.00	1.470	0.216
		8. Large gullies, diversions, and low flowing streams	0.94	103.00	10,979.00	2.900	1.051
#7	1	Time of Concentration:					1.267
#7	2	5. Nearly bare and untilled, and alluvial valley fans	0.73	8.00	1,097.00	0.850	0.358
		8. Large gullies, diversions, and low flowing streams	1.02	122.00	11,984.00	3.020	1.102
#7	2	Time of Concentration:					1.460
#8	1	5. Nearly bare and untilled, and alluvial valley fans	1.08	5.00	465.02	1.030	0.125
		8. Large gullies, diversions, and low flowing streams	1.19	140.00	11,748.90	3.270	0.998
#8	1	Time of Concentration:					1.123
#9	1	5. Nearly bare and untilled, and alluvial valley fans	1.20	5.00	417.00	1.090	0.106
		8. Large gullies, diversions, and low flowing streams	1.38	145.00	10,519.00	3.520	0.830
#9	1	Time of Concentration:					0.936
#10	1	5. Nearly bare and untilled, and alluvial valley fans	2.98	25.00	839.01	1.720	0.135
		8. Large gullies, diversions, and low flowing streams	3.86	122.00	3,162.01	5.890	0.149
#10	1	Time of Concentration:					0.284

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#10	2	5. Nearly bare and untilled, and alluvial valley fans	2.92	20.00	686.00	1.700	0.112
		8. Large gullies, diversions, and low flowing streams	2.26	164.00	7,248.00	4.510	0.446
#10	2	Time of Concentration:					0.558
#11	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	5.00	386.00	1.130	0.094
		8. Large gullies, diversions, and low flowing streams	4.01	110.00	2,743.00	6.000	0.126
#11	1	Time of Concentration:					0.220
#11	2	5. Nearly bare and untilled, and alluvial valley fans	0.71	5.00	706.00	0.840	0.233
		8. Large gullies, diversions, and low flowing streams	3.10	262.00	8,453.00	5.280	0.444
#11	2	Time of Concentration:					0.677
#12	1	5. Nearly bare and untilled, and alluvial valley fans	2.61	20.00	766.00	1.610	0.132
		8. Large gullies, diversions, and low flowing streams	0.49	134.00	27,333.00	2.100	3.615
#12	1	Time of Concentration:					3.747

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#7	1	8. Large gullies, diversions, and low flowing streams	0.87	39.00	4,508.00	2.790	0.448
#7	1	Muskingum K:					0.448
#10	1	8. Large gullies, diversions, and low flowing streams	1.70	102.00	6,003.17	3.910	0.426
#10	1	Muskingum K:					0.426
#11	1	8. Large gullies, diversions, and low flowing streams	2.40	152.00	6,329.00	4.640	0.378
#11	1	Muskingum K:					0.378

General Information***Storm Information:***

Storm Type:	Type II-70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	110.20	9.98	175.6	18,272	5.90	4.16
#10	621.200	621.200	106.12	9.36	151.4	16,141	5.59	4.10
#8	782.600	782.600	96.81	12.73	114.6	9,188	2.73	1.96
#7	1,648.200	1,648.200	258.26	38.88	325.4	8,219	2.28	1.71
#9	652.600	3,083.400	314.55	66.18	657.3	14,846	4.54	2.23
#5	7,064.500	7,064.500	215.25	116.15	1,045.4	8,965	0.32	0.24
#2	6,633.800	6,633.800	347.24	103.21	1,739.5	16,623	0.85	0.63
#1	4,622.300	4,622.300	363.64	86.49	1,254.9	14,421	0.83	0.61
#4	12,415.200	23,671.300	804.20	354.39	4,362.7	13,724	0.58	0.41
#3	9,427.600	9,427.600	480.21	206.12	3,510.7	16,888	0.73	0.54
#6	7,063.800	47,227.200	1,064.31	880.59	10,929.3	12,217	0.52	0.40
#12	2,976.500	54,536.200	1,091.71	1,034.58	12,710.2	13,643	0.86	0.59

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.220	0.378	0.366	76.900	M	18.67	0.949
	2	497.600	0.677	0.000	0.000	84.400	M	99.43	9.030
	Σ	627.900						110.20	9.978
#10	1	179.800	0.284	0.426	0.348	78.000	M	26.60	1.524
	2	441.400	0.558	0.000	0.000	84.200	M	98.43	7.840
	Σ	621.200						106.12	9.364
#8	1	782.600	1.123	0.000	0.000	83.400	M	96.81	12.729
	Σ	782.600						96.81	12.729
#7	1	791.100	1.267	0.448	0.311	90.100	M	185.77	25.399
	2	857.100	1.460	0.000	0.000	83.100	M	83.73	13.485
	Σ	1,648.200						258.26	38.884
#9	1	652.600	0.936	0.000	0.000	86.400	M	130.12	14.570
	Σ	3,083.400						314.55	66.184
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	215.25	116.149
	Σ	7,064.500						215.25	116.149
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	347.24	103.213
	Σ	6,633.800						347.24	103.213
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	363.64	86.488
	Σ	4,622.300						363.64	86.488
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	206.77	164.686
	Σ	23,671.300						804.20	354.387
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	480.21	206.121
	Σ	9,427.600						480.21	206.121
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	447.04	203.930
	Σ	47,227.200						1,064.31	880.586
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	202.40	68.467
	Σ	54,536.200						1,091.71	1,034.579

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	24.1	28,765	12.57	8.10
	2	0.140	130.00	7.40	0.2520	1.0000	13	175.6	20,329	6.57	4.59
Σ								175.6	18,272	5.90	4.16
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	38.4	27,809	11.47	7.59
	2	0.139	130.00	6.50	0.2630	1.0000	13	147.6	19,998	7.11	4.89
Σ								151.4	16,141	5.59	4.10
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	114.6	9,188	2.73	1.96
Σ								114.6	9,188	2.73	1.96
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	204.3	8,113	2.87	2.08
	2	0.209	280.00	2.70	0.2762	1.0000	6	142.1	10,624	2.60	1.89
Σ								325.4	8,219	2.28	1.71
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	217.6	15,319	5.41	3.86
Σ								657.3	14,846	4.54	2.23
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	1,045.4	8,965	0.32	0.24
Σ								1,045.4	8,965	0.32	0.24
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	1,739.5	16,623	0.85	0.63
Σ								1,739.5	16,623	0.85	0.63
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	1,254.9	14,421	0.83	0.61
Σ								1,254.9	14,421	0.83	0.61
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	1,383.9	8,421	0.15	0.11
Σ								4,362.7	13,724	0.58	0.41
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	3,510.7	16,888	0.73	0.54
Σ								3,510.7	16,888	0.73	0.54
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	2,019.8	9,885	0.45	0.34
Σ								10,929.3	12,217	0.52	0.40
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	823.4	11,931	0.69	0.51
Σ								12,710.2	13,643	0.86	0.59

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	183.62	15.98	303.7	19,859	6.68	4.67
#10	621.200	621.200	177.04	15.15	267.7	17,615	6.18	4.53
#8	782.600	782.600	158.51	20.38	196.7	9,836	3.17	2.28
#7	1,648.200	1,648.200	387.08	57.89	518.2	8,769	2.60	1.95
#9	652.600	3,083.400	475.99	100.32	1,063.5	15,653	5.11	2.54
#5	7,064.500	7,064.500	346.73	185.60	1,775.1	9,549	0.37	0.27
#2	6,633.800	6,633.800	570.09	166.65	3,002.8	17,830	0.94	0.70
#1	4,622.300	4,622.300	576.17	134.98	2,083.5	15,369	0.91	0.67
#4	12,415.200	23,671.300	1,300.33	575.85	7,517.6	14,633	0.65	0.45
#3	9,427.600	9,427.600	734.57	312.96	5,627.7	17,859	0.80	0.59
#6	7,063.800	47,227.200	1,639.89	1,369.83	17,971.9	13,103	0.58	0.44
#12	2,976.500	54,536.200	1,679.40	1,604.32	20,870.3	14,755	0.98	0.65

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.220	0.378	0.366	76.900	M	37.46	1.803
	2	497.600	0.677	0.000	0.000	84.400	M	159.64	14.174
	Σ	627.900						183.62	15.977
#10	1	179.800	0.284	0.426	0.348	78.000	M	51.49	2.794
	2	441.400	0.558	0.000	0.000	84.200	M	158.35	12.354
	Σ	621.200						177.04	15.148
#8	1	782.600	1.123	0.000	0.000	83.400	M	158.51	20.383
	Σ	782.600						158.51	20.383
#7	1	791.100	1.267	0.448	0.311	90.100	M	266.87	36.160
	2	857.100	1.460	0.000	0.000	83.100	M	137.95	21.727
	Σ	1,648.200						387.08	57.888
#9	1	652.600	0.936	0.000	0.000	86.400	M	200.23	22.045
	Σ	3,083.400						475.99	100.315
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	346.73	185.604
	Σ	7,064.500						346.73	185.604
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	570.09	166.647
	Σ	6,633.800						570.09	166.647
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	576.17	134.979
	Σ	4,622.300						576.17	134.979
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	346.38	274.222
	Σ	23,671.300						1,300.33	575.848
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	734.57	312.958
	Σ	9,427.600						734.57	312.958
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	650.62	295.419
	Σ	47,227.200						1,639.89	1,369.830
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	307.36	103.049
	Σ	54,536.200						1,679.40	1,604.319

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	51.1	31,572	14.64	9.56
	2	0.140	130.00	7.40	0.2520	1.0000	13	294.6	21,671	7.52	5.27
Σ								303.7	19,859	6.68	4.67
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	78.1	30,513	13.46	8.98
	2	0.139	130.00	6.50	0.2630	1.0000	13	248.5	21,264	8.02	5.54
Σ								267.7	17,615	6.18	4.53
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	196.7	9,836	3.17	2.28
Σ								196.7	9,836	3.17	2.28
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	305.0	8,502	3.13	2.28
	2	0.209	280.00	2.70	0.2762	1.0000	6	245.5	11,400	3.11	2.26
Σ								518.2	8,769	2.60	1.95
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	349.3	16,229	6.04	4.31
Σ								1,063.5	15,653	5.11	2.54
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	1,775.1	9,549	0.37	0.27
Σ								1,775.1	9,549	0.37	0.27
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	3,002.8	17,830	0.94	0.70
Σ								3,002.8	17,830	0.94	0.70
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	2,083.5	15,369	0.91	0.67
Σ								2,083.5	15,369	0.91	0.67
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	2,458.0	9,000	0.19	0.15
Σ								7,517.6	14,633	0.65	0.45
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	5,627.7	17,859	0.80	0.59
Σ								5,627.7	17,859	0.80	0.59
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	3,067.1	10,371	0.49	0.37
Σ								17,971.9	13,103	0.58	0.44
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	1,308.1	12,614	0.74	0.55
Σ								20,870.3	14,755	0.98	0.65

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	251.69	21.48	427.9	20,805	7.16	5.01
#10	621.200	621.200	243.53	20.48	380.5	18,537	6.57	4.82
#8	782.600	782.600	215.86	27.39	275.9	10,268	3.46	2.49
#7	1,648.200	1,648.200	501.19	74.74	697.4	9,129	2.82	2.11
#9	652.600	3,083.400	620.30	130.83	1,443.9	16,142	5.47	2.74
#5	7,064.500	7,064.500	467.27	249.10	2,473.7	9,926	0.40	0.30
#2	6,633.800	6,633.800	775.95	224.91	4,221.1	18,596	1.00	0.74
#1	4,622.300	4,622.300	769.23	178.82	2,867.4	15,974	0.96	0.70
#4	12,415.200	23,671.300	1,756.24	779.98	10,560.4	15,215	0.69	0.48
#3	9,427.600	9,427.600	962.07	408.25	7,596.2	18,492	0.85	0.63
#6	7,063.800	47,227.200	2,158.29	1,812.45	24,622.6	13,669	0.62	0.47
#12	2,976.500	54,536.200	2,208.42	2,119.01	28,570.3	15,474	1.06	0.70

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.220	0.378	0.366	76.900	M	55.68	2.644
	2	497.600	0.677	0.000	0.000	84.400	M	214.26	18.837
	Σ	627.900						251.69	21.481
#10	1	179.800	0.284	0.426	0.348	78.000	M	75.33	4.026
	2	441.400	0.558	0.000	0.000	84.200	M	212.62	16.454
	Σ	621.200						243.53	20.480
#8	1	782.600	1.123	0.000	0.000	83.400	M	215.86	27.386
	Σ	782.600						215.86	27.386
#7	1	791.100	1.267	0.448	0.311	90.100	M	337.01	45.453
	2	857.100	1.460	0.000	0.000	83.100	M	188.15	29.291
	Σ	1,648.200						501.19	74.744
#9	1	652.600	0.936	0.000	0.000	86.400	M	262.82	28.700
	Σ	3,083.400						620.30	130.829
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	467.27	249.096
	Σ	7,064.500						467.27	249.096
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	775.95	224.914
	Σ	6,633.800						775.95	224.914
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	769.23	178.815
	Σ	4,622.300						769.23	178.815
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	476.81	376.249
	Σ	23,671.300						1,756.24	779.979
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	962.07	408.255
	Σ	9,427.600						962.07	408.255
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	828.36	375.124
	Σ	47,227.200						2,158.29	1,812.453
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	400.87	133.762
	Σ	54,536.200						2,208.42	2,119.006

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	79.0	32,839	15.64	10.35
	2	0.140	130.00	7.40	0.2520	1.0000	13	407.3	22,483	8.10	5.69
Σ								427.9	20,805	7.16	5.01
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	118.6	31,804	14.46	9.75
	2	0.139	130.00	6.50	0.2630	1.0000	13	344.1	22,015	8.56	5.94
Σ								380.5	18,537	6.57	4.82
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	275.9	10,268	3.46	2.49
Σ								275.9	10,268	3.46	2.49
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	395.0	8,755	3.31	2.41
	2	0.209	280.00	2.70	0.2762	1.0000	6	345.3	11,893	3.44	2.50
Σ								697.4	9,129	2.82	2.11
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	471.5	16,801	6.44	4.60
Σ								1,443.9	16,142	5.47	2.74
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	2,473.7	9,926	0.40	0.30
Σ								2,473.7	9,926	0.40	0.30
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	4,221.1	18,596	1.00	0.74
Σ								4,221.1	18,596	1.00	0.74
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	2,867.4	15,974	0.96	0.70
Σ								2,867.4	15,974	0.96	0.70
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	3,509.3	9,375	0.22	0.17
Σ								10,560.4	15,215	0.69	0.48
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	7,596.2	18,492	0.85	0.63
Σ								7,596.2	18,492	0.85	0.63
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	4,013.8	10,693	0.52	0.39
Σ								24,622.6	13,669	0.62	0.47
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	1,756.7	13,059	0.78	0.57
Σ								28,570.3	15,474	1.06	0.70

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	332.39	27.99	581.0	21,653	7.58	5.30
#10	621.200	621.200	323.06	26.80	520.6	19,369	6.91	5.06
#8	782.600	782.600	283.78	35.65	372.7	10,652	3.72	2.68
#7	1,648.200	1,648.200	633.23	94.22	912.1	9,467	3.02	2.26
#9	652.600	3,083.400	788.37	166.28	1,901.2	16,580	5.79	2.92
#5	7,064.500	7,064.500	609.68	323.97	3,326.2	10,271	0.42	0.31
#2	6,633.800	6,633.800	1,020.35	293.85	5,715.2	19,287	1.06	0.78
#1	4,622.300	4,622.300	996.68	230.12	3,817.9	16,537	1.00	0.74
#4	12,415.200	23,671.300	2,296.63	1,022.06	14,294.3	15,749	0.73	0.51
#3	9,427.600	9,427.600	1,226.34	518.76	9,951.4	19,074	0.90	0.66
#6	7,063.800	47,227.200	2,796.56	2,330.84	32,668.6	14,185	0.66	0.49
#12	2,976.500	54,536.200	2,825.86	2,721.18	37,770.6	16,091	1.12	0.73

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.220	0.378	0.366	76.900	M	77.60	3.686
	2	497.600	0.677	0.000	0.000	84.400	M	278.22	24.304
	Σ	627.900						332.39	27.990
#10	1	179.800	0.284	0.426	0.348	78.000	M	103.95	5.538
	2	441.400	0.558	0.000	0.000	84.200	M	276.03	21.267
	Σ	621.200						323.06	26.805
#8	1	782.600	1.123	0.000	0.000	83.400	M	283.78	35.649
	Σ	782.600						283.78	35.649
#7	1	791.100	1.267	0.448	0.311	90.100	M	416.57	55.988
	2	857.100	1.460	0.000	0.000	83.100	M	248.10	38.233
	Σ	1,648.200						633.23	94.222
#9	1	652.600	0.936	0.000	0.000	86.400	M	335.38	36.408
	Σ	3,083.400						788.37	166.279
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	609.68	323.968
	Σ	7,064.500						609.68	323.968
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	1,020.35	293.849
	Σ	6,633.800						1,020.35	293.849
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	996.68	230.116
	Σ	4,622.300						996.68	230.116
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	632.80	498.098
	Σ	23,671.300						2,296.63	1,022.063
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	1,226.34	518.757
	Σ	9,427.600						1,226.34	518.757
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	1,031.68	466.048
	Σ	47,227.200						2,796.56	2,330.836
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	509.41	169.269
	Σ	54,536.200						2,825.86	2,721.178

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	114.6	33,848	16.42	10.97
	2	0.140	130.00	7.40	0.2520	1.0000	13	543.8	23,193	8.61	6.06
Σ								581.0	21,653	7.58	5.30
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	169.9	32,961	15.31	10.36
	2	0.139	130.00	6.50	0.2630	1.0000	13	459.8	22,661	9.04	6.30
Σ								520.6	19,369	6.91	5.06
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	372.7	10,652	3.72	2.68
Σ								372.7	10,652	3.72	2.68
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	499.9	8,986	3.47	2.53
	2	0.209	280.00	2.70	0.2762	1.0000	6	468.0	12,353	3.75	2.72
Σ								912.1	9,467	3.02	2.26
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	617.5	17,314	6.80	4.87
Σ								1,901.2	16,580	5.79	2.92
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	3,326.2	10,271	0.42	0.31
Σ								3,326.2	10,271	0.42	0.31
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	5,715.2	19,287	1.06	0.78
Σ								5,715.2	19,287	1.06	0.78
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	3,817.9	16,537	1.00	0.74
Σ								3,817.9	16,537	1.00	0.74
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	4,811.6	9,717	0.24	0.19
Σ								14,294.3	15,749	0.73	0.51
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	9,951.4	19,074	0.90	0.66
Σ								9,951.4	19,074	0.90	0.66
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	5,125.3	10,996	0.54	0.40
Σ								32,668.6	14,185	0.66	0.49
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	2,292.0	13,474	0.81	0.60
Σ								37,770.6	16,091	1.12	0.73

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

Appendix 38-D

Chaco River Tributary 1 Baseline Hydrology and Sedimentology

Chaco River Tributary 1 Baseline **Hydrology and Sedimentology**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

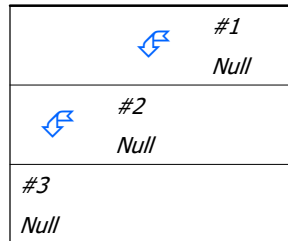
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	0.195	0.373	
Null	#2	==>	#3	0.616	0.336	
Null	#3	==>	End	0.000	0.000	

***Structure Routing Details:***

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	2.78	97.99	3,526.72	5.00	0.195
#1	Muskingum K:					0.195
#2	8. Large gullies, diversions, and low flowing streams	1.35	103.99	7,726.00	3.48	0.616
#2	Muskingum K:					0.616

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	53.56	8.96	56.9	7,558	1.89	1.17
#2	308.400	1,438.400	59.19	11.63	141.4	36,797	9.94	2.40
#3	738.200	2,176.600	65.85	15.22	244.1	38,354	7.53	2.29

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	97.111%
0.0159	87.016%
0.0100	72.253%
0.0050	22.576%
0.0020	13.130%
0.0010	11.577%
0.0004	11.019%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	85.908%
0.0159	79.173%
0.0100	70.085%
0.0050	19.701%
0.0020	11.218%
0.0010	10.092%
0.0004	9.275%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	98.648%
0.0159	92.281%

Size (mm)	In/Out
0.0100	79.400%
0.0050	24.127%
0.0020	13.678%
0.0010	12.457%
0.0004	11.389%

Structure Detail:

Structure #1 (Null)

Structure #2 (Null)

Structure #3 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	37.14	4.153
	2	575.100	0.956	0.000	0.000	86.500	M	40.03	4.807
	Σ	1,130.000						53.56	8.960
#2	1	308.400	0.366	0.000	0.000	86.700	M	42.45	2.666
	Σ	1,438.400						59.19	11.626
#3	1	738.200	0.569	0.000	0.000	83.300	M	39.38	3.599
	Σ	2,176.600						65.85	15.225

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	26.7	6,559	1.74	1.25
	2	0.178	280.00	2.70	0.2630	1.0000	2	42.8	9,152	2.95	2.10
	Σ							56.9	7,558	1.89	1.17
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	100.2	41,282	14.79	9.77
	Σ							141.4	36,797	9.94	2.40
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	135.6	39,764	10.64	7.32
	Σ							244.1	38,354	7.53	2.29

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	3.24	163.00	5,025.00	5.400	0.258
#2	1	Time of Concentration:					0.366
#3	1	5. Nearly bare and untilled, and alluvial valley fans	3.08	9.99	325.00	1.750	0.051
		8. Large gullies, diversions, and low flowing streams	3.11	306.99	9,872.00	5.290	0.518
#3	1	Time of Concentration:					0.569

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	8. Large gullies, diversions, and low flowing streams	1.19	108.00	9,039.00	3.270	0.767
#1	1	Muskingum K:					0.767

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	111.16	11.657
	2	575.100	0.956	0.000	0.000	86.500	M	114.17	12.969
	Σ	1,130.000						154.36	24.625
#2	1	308.400	0.366	0.000	0.000	86.700	M	117.56	7.115
	Σ	1,438.400						167.90	31.741
#3	1	738.200	0.569	0.000	0.000	83.300	M	145.76	11.892
	Σ	2,176.600						191.98	43.633

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	87.8	7,699	2.51	1.80
	2	0.178	280.00	2.70	0.2630	1.0000	2	134.1	10,617	3.95	2.82
	Σ							180.8	8,659	2.46	1.53
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	307.2	46,401	18.61	12.55
	Σ							438.6	40,584	12.65	3.14
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	551.0	48,614	16.62	11.47
	Σ							852.8	46,690	11.89	3.62

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	154.36	24.63	180.8	8,659	2.46	1.53
#2	308.400	1,438.400	167.90	31.74	438.6	40,584	12.65	3.14
#3	738.200	2,176.600	191.98	43.63	852.8	46,690	11.89	3.62

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	111.16	11.657
	2	575.100	0.956	0.000	0.000	86.500	M	114.17	12.969
	Σ	1,130.000						154.36	24.625
#2	1	308.400	0.366	0.000	0.000	86.700	M	117.56	7.115
	Σ	1,438.400						167.90	31.741
#3	1	738.200	0.569	0.000	0.000	83.300	M	145.76	11.892
	Σ	2,176.600						191.98	43.633

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	87.8	7,699	2.51	1.80
	2	0.178	280.00	2.70	0.2630	1.0000	2	134.1	10,617	3.95	2.82
	Σ							180.8	8,659	2.46	1.53
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	307.2	46,401	18.61	12.55
	Σ							438.6	40,584	12.65	3.14
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	551.0	48,614	16.62	11.47
	Σ							852.8	46,690	11.89	3.62

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	3.24	163.00	5,025.00	5.400	0.258
#2	1	Time of Concentration:					0.366
#3	1	5. Nearly bare and untilled, and alluvial valley fans	3.08	9.99	325.00	1.750	0.051
		8. Large gullies, diversions, and low flowing streams	3.11	306.99	9,872.00	5.290	0.518
#3	1	Time of Concentration:					0.569

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	8. Large gullies, diversions, and low flowing streams	1.19	108.00	9,039.00	3.270	0.767
#1	1	Muskingum K:					0.767

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	237.60	37.41	290.7	9,132	2.72	1.70
#2	308.400	1,438.400	257.25	48.12	697.4	41,689	13.55	3.43
#3	738.200	2,176.600	297.74	67.20	1,413.0	49,913	13.79	4.22

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	173.19	17.825
	2	575.100	0.956	0.000	0.000	86.500	M	175.34	19.587
	Σ	1,130.000						237.60	37.412
#2	1	308.400	0.366	0.000	0.000	86.700	M	176.44	10.709
	Σ	1,438.400						257.25	48.122
#3	1	738.200	0.569	0.000	0.000	83.300	M	240.05	19.082
	Σ	2,176.600						297.74	67.203

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	142.7	8,171	2.83	2.03
	2	0.178	280.00	2.70	0.2630	1.0000	2	214.8	11,246	4.39	3.14
	Σ							290.7	9,132	2.72	1.70
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	484.8	48,031	19.90	13.58
	Σ							697.4	41,689	13.55	3.43
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	949.5	51,965	18.96	13.13
	Σ							1,413.0	49,913	13.79	4.22

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	312.34	48.82	392.9	9,428	2.88	1.80
#2	308.400	1,438.400	337.31	62.72	938.5	42,697	14.26	3.64
#3	738.200	2,176.600	393.56	88.39	1,944.1	51,748	14.98	4.62

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	228.82	23.347
	2	575.100	0.956	0.000	0.000	86.500	M	229.89	25.475
	Σ	1,130.000						312.34	48.822
#2	1	308.400	0.366	0.000	0.000	86.700	M	229.85	13.901
	Σ	1,438.400						337.31	62.723
#3	1	738.200	0.569	0.000	0.000	83.300	M	326.30	25.666
	Σ	2,176.600						393.56	88.390

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	194.0	8,472	3.04	2.19
	2	0.178	280.00	2.70	0.2630	1.0000	2	289.7	11,642	4.67	3.34
	Σ							392.9	9,428	2.88	1.80
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	650.6	49,426	20.93	14.34
	Σ							938.5	42,697	14.26	3.64
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	1,331.2	53,933	20.37	14.15
	Σ							1,944.1	51,748	14.98	4.62

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	399.64	62.06	515.5	9,695	3.02	1.90
#2	308.400	1,438.400	430.64	79.65	1,226.0	43,525	14.86	3.83
#3	738.200	2,176.600	505.11	113.09	2,585.2	53,679	16.12	4.98

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	0.847	0.767	0.329	85.800	M	293.53	29.766
	2	575.100	0.956	0.000	0.000	86.500	M	293.11	32.290
	Σ	1,130.000						399.64	62.056
#2	1	308.400	0.366	0.000	0.000	86.700	M	291.23	17.591
	Σ	1,438.400						430.64	79.647
#3	1	738.200	0.569	0.000	0.000	83.300	M	427.77	33.442
	Σ	2,176.600						505.11	113.088

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	255.6	8,748	3.23	2.32
	2	0.178	280.00	2.70	0.2630	1.0000	2	379.0	11,998	4.91	3.52
	Σ							515.5	9,695	3.02	1.90
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	847.5	50,640	21.84	15.03
	Σ							1,226.0	43,525	14.86	3.83
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	1,796.6	55,617	21.60	15.07
	Σ							2,585.2	53,679	16.12	4.98

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.64	29.99	1,134.65	1.620	0.194
		8. Large gullies, diversions, and low flowing streams	0.87	56.99	6,567.93	2.790	0.653
#1	1	Time of Concentration:					0.847
#1	2	5. Nearly bare and untilled, and alluvial valley fans	1.16	9.99	861.00	1.070	0.223
		8. Large gullies, diversions, and low flowing streams	1.32	119.98	9,080.00	3.440	0.733
#1	2	Time of Concentration:					0.956
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108

Appendix 38-E

Chaco River Tributary 2 Baseline Hydrology and Sedimentology

Chaco River Tributary 2 Baseline **Hydrology and Sedimentology**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#3	0.770	0.336	
Null	#2	==>	#3	0.806	0.339	
Null	#3	==>	End	0.000	0.000	

	#2 Null
	#1 Null
	#3 Null

Structure Routing Details:

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	1.34	129.00	9,631.00	3.47	0.770
#1	Muskingum K:					0.770
#2	8. Large gullies, diversions, and low flowing streams	1.42	147.00	10,368.00	3.57	0.806
#2	Muskingum K:					0.806

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	68.49	3.36	109.2	36,542	17.02	11.02
#1	450.000	450.000	8.49	0.86	14.7	17,819	2.44	1.70
#3	1,037.500	1,777.200	116.70	14.33	359.8	27,162	9.30	6.27

Particle Size Distribution(s) at Each Structure

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	86.567%
0.0750	64.512%
0.0159	55.699%
0.0100	43.215%
0.0050	11.799%
0.0020	7.064%
0.0010	6.396%
0.0004	5.820%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	87.878%
0.0050	23.038%
0.0020	13.775%
0.0010	12.845%
0.0004	11.117%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	95.950%
0.0750	88.614%
0.0159	77.065%

Size (mm)	In/Out
0.0100	60.214%
0.0050	16.401%
0.0020	9.819%
0.0010	8.905%
0.0004	8.080%

Structure Detail:

Structure #2 (Null)

Structure #1 (Null)

Structure #3 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	68.49	3.355
	Σ	289.700						68.49	3.355
#1	1	450.000	0.414	0.000	0.000	79.000	M	8.49	0.863
	Σ	450.000						8.49	0.863
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	101.03	10.115
	Σ	1,777.200						116.70	14.333

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	109.2	36,542	17.02	11.02
	Σ							109.2	36,542	17.02	11.02
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	14.7	17,819	2.44	1.70
	Σ							14.7	17,819	2.44	1.70
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	236.0	24,197	7.21	5.07
	Σ							359.8	27,162	9.30	6.27

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.41	10.00	707.00	1.180	0.166
		8. Large gullies, diversions, and low flowing streams	4.02	216.00	5,371.00	6.010	0.248
#1	1	Time of Concentration:					0.414
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	Time of Concentration:					0.754

General Information***Storm Information:***

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	162.02	8.13	290.4	38,588	18.73	12.59
#1	450.000	450.000	61.59	4.36	110.3	27,755	7.94	5.28
#3	1,037.500	1,777.200	316.04	38.37	1,095.7	29,027	10.97	7.86

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	162.02	8.134
Σ		289.700						162.02	8.134
#1	1	450.000	0.414	0.000	0.000	79.000	M	61.59	4.355
Σ		450.000						61.59	4.355
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	271.90	25.883
Σ		1,777.200						316.04	38.372

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	290.4	38,588	18.73	12.59
Σ								290.4	38,588	18.73	12.59
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	110.3	27,755	7.94	5.28
Σ								110.3	27,755	7.94	5.28
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	695.3	27,728	9.64	6.81
Σ								1,095.7	29,027	10.97	7.86

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.41	10.00	707.00	1.180	0.166
		8. Large gullies, diversions, and low flowing streams	4.02	216.00	5,371.00	6.010	0.248
#1	1	Time of Concentration:					0.414
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735

General Information***Storm Information:***

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	232.74	11.86	439.3	39,437	19.43	13.25
#1	450.000	450.000	115.26	7.75	216.3	30,396	9.77	6.53
#3	1,037.500	1,777.200	483.05	58.04	1,745.1	29,912	11.72	8.58

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	232.74	11.859
Σ		289.700						232.74	11.859
#1	1	450.000	0.414	0.000	0.000	79.000	M	115.26	7.751
Σ		450.000						115.26	7.751
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	408.70	38.429
Σ		1,777.200						483.05	58.038

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	439.3	39,437	19.43	13.25
Σ								439.3	39,437	19.43	13.25
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	216.3	30,396	9.77	6.53
Σ								216.3	30,396	9.77	6.53
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,090.0	29,169	10.66	7.55
Σ								1,745.1	29,912	11.72	8.58

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.41	10.00	707.00	1.180	0.166
		8. Large gullies, diversions, and low flowing streams	4.02	216.00	5,371.00	6.010	0.248
#1	1	Time of Concentration:					0.414
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	294.97	15.11	574.7	40,181	20.01	13.74
#1	450.000	450.000	167.07	11.00	324.0	31,911	10.85	7.28
#3	1,037.500	1,777.200	633.60	75.61	2,349.6	30,698	12.28	9.05

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	294.97	15.115
Σ		289.700						294.97	15.115
#1	1	450.000	0.414	0.000	0.000	79.000	M	167.07	11.005
Σ		450.000						167.07	11.005
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	529.31	49.495
Σ		1,777.200						633.60	75.614

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	574.7	40,181	20.01	13.74
Σ								574.7	40,181	20.01	13.74
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	324.0	31,911	10.85	7.28
Σ								324.0	31,911	10.85	7.28
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,451.7	30,072	11.30	8.02
Σ								2,349.6	30,698	12.28	9.05

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.41	10.00	707.00	1.180	0.166
		8. Large gullies, diversions, and low flowing streams	4.02	216.00	5,371.00	6.010	0.248
#1	1	Time of Concentration:					0.414
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	365.14	18.84	732.6	40,817	20.51	14.18
#1	450.000	450.000	229.62	14.96	459.9	33,109	11.72	7.91
#3	1,037.500	1,777.200	809.26	96.03	3,071.1	31,408	12.79	9.48

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	365.14	18.838
Σ		289.700						365.14	18.838
#1	1	450.000	0.414	0.000	0.000	79.000	M	229.62	14.965
Σ		450.000						229.62	14.965
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	667.86	62.228
Σ		1,777.200						809.26	96.030

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	732.6	40,817	20.51	14.18
Σ								732.6	40,817	20.51	14.18
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	459.9	33,109	11.72	7.91
Σ								459.9	33,109	11.72	7.91
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,879.7	30,880	11.87	8.45
Σ								3,071.1	31,408	12.79	9.48

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.41	10.00	707.00	1.180	0.166
		8. Large gullies, diversions, and low flowing streams	4.02	216.00	5,371.00	6.010	0.248
#1	1	Time of Concentration:					0.414
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735

Appendix 38-F

Pinabete Hydrology and Sedimentology for LOM

Pinabete Hydrology and Sedimentology **for LOM Reclamation Plan**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

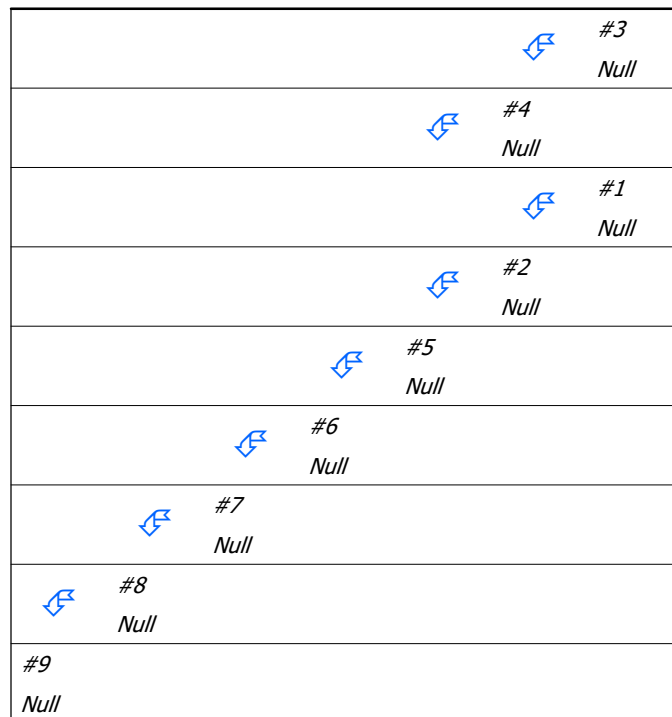
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	1.674	0.331	
Null	#2	==>	#5	4.188	0.295	
Null	#3	==>	#4	1.961	0.319	
Null	#4	==>	#5	3.103	0.304	
Null	#5	==>	#6	1.323	0.273	
Null	#6	==>	#7	2.502	0.273	EAST LEASE BNDY
Null	#7	==>	#8	1.503	0.279	
Null	#8	==>	#9	2.695	0.258	WEST LEASE BNDY
Null	#9	==>	End	0.000	0.000	

**Structure Routing Details:**

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	1.24	249.98	20,136.00	3.34	1.674
#1	Muskingum K:					1.674
#2	8. Large gullies, diversions, and low flowing streams	0.67	245.00	36,791.00	2.44	4.188
#2	Muskingum K:					4.188

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	8. Large gullies, diversions, and low flowing streams	0.99	210.00	21,118.00	2.99	1.961
#3	Muskingum K:					1.961
#4	8. Large gullies, diversions, and low flowing streams	0.77	227.00	29,388.00	2.63	3.103
#4	Muskingum K:					3.103
#5	8. Large gullies, diversions, and low flowing streams	0.46	45.00	9,722.43	2.04	1.323
#5	Muskingum K:					1.323
#6	8. Large gullies, diversions, and low flowing streams	0.47	86.98	18,471.41	2.05	2.502
#6	Muskingum K:					2.502
#7	8. Large gullies, diversions, and low flowing streams	0.52	60.00	11,633.46	2.15	1.503
#7	Muskingum K:					1.503
#8	8. Large gullies, diversions, and low flowing streams	0.36	64.00	17,564.84	1.81	2.695
#8	Muskingum K:					2.695

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	44.69	9.89	175.3	17,652	1.84	1.35
#4	3,216.100	7,194.800	80.78	26.09	491.7	29,240	3.25	1.53
#1	8,477.900	8,477.900	178.02	38.18	685.8	28,634	4.19	1.92
#2	3,838.900	12,316.800	299.00	83.71	1,486.1	28,581	3.20	1.45
#5	5,494.300	25,005.900	375.34	177.74	2,223.6	15,367	1.25	0.74
#6	3,079.000	28,084.900	372.18	209.58	2,098.5	12,291	0.62	0.37
#7	3,035.760	31,120.660	366.28	211.67	2,098.5	12,660	0.60	0.34
#8	4,401.790	35,522.450	363.91	216.17	2,107.3	14,803	0.71	0.34
#9	2,327.100	37,849.550	359.61	233.03	2,223.5	22,004	1.60	0.51

Particle Size Distribution(s) at Each Structure

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	98.786%
0.0100	91.834%
0.0050	35.794%
0.0020	19.829%
0.0010	17.948%
0.0004	16.980%

Structure #4:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	89.786%
0.0050	39.460%
0.0020	22.477%
0.0010	20.543%
0.0004	19.008%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%

Size (mm)	In/Out
0.0100	86.015%
0.0050	28.304%
0.0020	16.957%
0.0010	15.767%
0.0004	13.991%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	99.189%
0.0100	91.074%
0.0050	31.393%
0.0020	19.286%
0.0010	18.133%
0.0004	15.662%

Structure #5:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	98.812%
0.0100	95.142%
0.0050	40.482%
0.0020	24.652%
0.0010	23.094%
0.0004	20.129%

Structure #6 (EAST LEASE BNDY):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	99.326%

Size (mm)	In/Out
0.0050	46.834%
0.0020	28.617%
0.0010	26.836%
0.0004	23.331%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	99.864%
0.0050	47.044%
0.0020	28.730%
0.0010	26.939%
0.0004	23.428%

Structure #8 (WEST LEASE BNDY):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	99.616%
0.0050	47.513%
0.0020	28.996%
0.0010	27.190%
0.0004	23.655%

Structure #9:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	99.094%
0.0159	97.883%
0.0100	95.477%
0.0050	49.204%

Size (mm)	In/Out
0.0020	29.828%
0.0010	27.947%
0.0004	24.413%

Structure Detail:

Structure #3 (Null)

Structure #4 (Null)

Structure #1 (Null)

Structure #2 (Null)

Structure #5 (Null)

Structure #6 (Null)

EAST LEASE BNDY

Structure #7 (Null)

Structure #8 (Null)

WEST LEASE BNDY

Structure #9 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	14.34	2.331
	2	1,079.100	0.919	0.596	0.351	80.800	M	22.47	3.179
	3	450.300	0.571	0.319	0.355	81.300	M	14.63	1.480
	4	742.600	1.122	0.000	0.000	78.500	M	7.00	1.238
	5	915.400	0.725	0.000	0.000	78.800	M	11.96	1.658
	Σ	3,978.700						44.69	9.886
#4	1	546.400	0.725	1.710	0.319	81.700	M	16.82	1.951
	2	441.200	0.814	1.429	0.318	86.000	M	31.47	3.409
	3	889.400	0.919	0.998	0.318	82.100	M	25.88	3.443
	4	1,339.100	0.919	0.000	0.000	84.000	M	59.73	7.400
	Σ	7,194.800						80.78	26.089
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	20.29	3.659
	2	1,662.000	0.217	0.849	0.360	80.300	M	76.30	4.399
	3	1,434.000	1.575	1.241	0.357	81.100	M	22.72	4.509
	4	842.700	1.100	0.977	0.364	81.000	M	16.49	2.594
	5	676.100	1.067	1.113	0.365	81.600	M	15.71	2.364
	6	1,223.200	0.777	0.596	0.352	81.800	M	36.91	4.458
	7	743.100	0.745	0.530	0.354	83.600	M	35.19	3.824
	8	654.500	0.800	0.000	0.000	92.200	M	125.84	12.376
	Σ	8,477.900						178.02	38.180
#2	1	609.500	0.669	1.219	0.340	85.700	M	47.13	4.491
	2	537.100	0.609	1.436	0.329	91.600	M	114.25	9.374
	3	455.000	0.547	1.288	0.324	82.000	M	18.31	1.727
	4	627.000	0.634	0.852	0.324	87.900	M	73.45	6.487
	5	653.100	0.451	0.453	0.315	91.200	M	158.77	10.794
	6	957.200	0.984	0.000	0.000	89.600	M	107.78	12.658
	Σ	12,316.800						299.00	83.712
#5	1	763.100	0.681	3.507	0.293	84.100	M	42.71	4.293
	2	983.300	1.118	2.231	0.289	89.200	M	94.82	12.283
	3	1,022.000	0.997	1.587	0.291	92.000	M	163.15	18.815
	4	688.700	1.905	1.255	0.291	80.800	M	8.90	2.028
	5	754.300	2.303	1.084	0.287	86.200	M	25.41	6.012
	6	628.400	0.540	0.595	0.301	93.000	M	175.53	13.238
	7	654.500	0.562	0.000	0.000	91.500	M	144.70	11.266
	Σ	25,005.900						375.34	177.736
#6	1	901.350	1.150	1.896	0.315	81.100	M	17.58	2.835
	2	1,011.200	1.864	0.166	0.287	83.500	M	24.20	5.106

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.450	1.178	0.000	0.000	92.800	M	184.35	23.907
	Σ	28,084.900						372.18	209.584
#7	1	935.150	0.763	2.250	0.267	77.500	M	7.52	1.159
	2	386.880	1.710	3.116	0.265	79.000	M	3.31	0.738
	3	244.890	1.321	2.285	0.262	72.900	M	0.11	0.027
	4	369.500	0.705	2.283	0.262	72.900	M	0.19	0.041
	5	492.930	0.715	1.466	0.268	72.900	M	0.25	0.054
	6	606.410	1.158	2.654	0.280	72.900	M	0.29	0.067
	Σ	31,120.660						366.28	211.671
#8	1	1,637.130	2.598	2.654	0.280	74.300	M	1.66	0.521
	2	753.660	2.086	1.900	0.281	79.000	M	5.68	1.439
	3	320.510	0.755	0.850	0.294	72.900	M	0.16	0.035
	4	643.270	1.067	0.597	0.299	73.100	M	0.36	0.086
	5	451.720	1.104	0.486	0.309	75.600	M	1.33	0.277
	6	357.060	0.657	0.486	0.309	83.400	M	17.65	1.773
	7	238.440	0.607	0.000	0.000	78.200	M	2.73	0.366
	Σ	35,522.450						363.91	216.167
#9	1	484.600	0.681	2.383	0.256	88.900	M	63.57	5.804
	2	434.900	0.634	2.155	0.259	82.000	M	15.83	1.650
	3	361.200	0.686	1.864	0.256	84.900	M	23.61	2.331
	4	573.300	0.655	0.983	0.255	85.700	M	44.97	4.225
	5	473.100	0.668	0.000	0.000	84.500	M	29.11	2.855
	Σ	37,849.550						359.61	233.032

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	41.7	17,636	2.36	1.75
	2	0.181	100.00	10.10	0.3050	1.0000	13	92.9	28,979	6.28	4.61
	3	0.151	200.00	5.50	0.3050	1.0000	18	26.6	18,591	5.35	3.78
	4	0.183	130.00	7.60	0.3160	1.0000	12	22.0	17,226	2.06	1.55
	5	0.185	100.00	8.30	0.2760	1.0000	6	30.1	17,958	2.37	1.75
	Σ							175.3	17,652	1.84	1.35
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	36.5	18,796	4.71	3.42
	2	0.148	100.00	12.00	0.2220	1.0000	5	88.3	26,136	5.64	4.08
	3	0.185	75.00	13.60	0.2740	1.0000	17	121.9	35,184	7.16	5.24
	4	0.213	100.00	10.60	0.2330	1.0000	6	248.4	34,069	6.62	4.74

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
Σ								491.7	29,240	3.25	1.53
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	29.0	7,808	1.02	0.76
	2	0.202	240.00	3.30	0.2960	1.0000	13	85.3	20,851	9.18	6.24
	3	0.206	280.00	2.60	0.2960	1.0000	13	37.8	8,227	0.83	0.62
	4	0.188	200.00	5.10	0.2960	1.0000	13	43.8	16,705	3.05	2.26
	5	0.124	240.00	3.60	0.3130	1.0000	18	17.6	7,407	1.24	0.92
	6	0.178	130.00	7.90	0.2850	1.0000	7	103.9	23,549	5.63	4.07
	7	0.191	100.00	9.20	0.2540	1.0000	6	98.1	26,170	6.08	4.35
	8	0.199	75.00	15.10	0.1510	1.0000	2	409.4	33,887	6.82	4.84
Σ								685.8	28,634	4.19	1.92
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	87.1	19,891	5.02	3.58
	2	0.199	75.00	12.60	0.1510	1.0000	2	263.1	28,538	7.14	5.11
	3	0.200	100.00	8.60	0.2020	1.0000	11	32.7	19,383	2.67	1.90
	4	0.193	75.00	12.30	0.1730	1.0000	4	179.9	28,527	6.35	4.50
	5	0.187	75.00	14.00	0.1590	1.0000	3	388.4	37,590	11.90	8.28
	6	0.198	75.00	13.70	0.1680	1.0000	4	372.1	29,904	4.34	3.11
Σ								1,486.1	28,581	3.20	1.45
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	87.0	20,103	5.24	3.86
	2	0.209	130.00	7.10	0.1680	1.0000	4	194.4	15,776	1.71	1.26
	3	0.191	100.00	8.40	0.1500	1.0000	2	289.6	15,437	2.15	1.57
	4	0.235	200.00	4.90	0.2870	1.0000	9	31.5	15,114	0.94	0.71
	5	0.220	240.00	3.70	0.1900	1.0000	16	42.8	7,031	0.39	0.29
	6	0.200	130.00	7.30	0.1410	1.0000	1	235.9	18,392	5.09	3.61
	7	0.204	200.00	4.70	0.1560	1.0000	2	178.0	16,682	4.41	3.06
Σ								2,223.6	15,367	1.25	0.74
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	28.1	9,773	1.78	1.32
	2	0.226	280.00	2.40	0.2330	1.0000	6	33.8	6,522	0.37	0.27
	3	0.200	200.00	4.20	0.1460	1.0000	1	256.6	10,914	1.07	0.77
Σ								2,098.5	12,291	0.62	0.37
#7	1	0.189	280.00	2.70	0.2330	1.0000	10	7.1	5,899	0.76	0.58
	2	0.193	280.00	2.60	0.3270	1.0000	8	4.8	6,318	0.42	0.32
	3	0.164	280.00	3.00	0.3320	1.0000	8	0.1	3,726	1.94	1.60
	4	0.165	280.00	2.10	0.1790	1.0000	8	0.1	1,538	0.83	0.72
	5	0.164	280.00	2.70	0.3150	1.0000	8	0.2	3,466	1.86	1.63
	6	0.164	240.00	3.80	0.3380	1.0000	8	0.4	4,990	2.62	2.19
Σ								2,098.5	12,660	0.60	0.34
#8	1	0.195	420.00	1.80	0.3050	1.0000	8	2.1	3,764	1.39	1.08
	2	0.183	280.00	2.70	0.2500	1.0000	15	7.1	4,778	0.21	0.16
	3	0.164	130.00	6.40	0.2220	1.0000	8	0.2	4,610	2.47	2.17

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.166	130.00	7.10	0.1790	1.0000	8	0.5	4,547	2.37	2.02
	5	0.172	240.00	3.10	0.2960	1.0000	8	1.5	5,097	2.17	1.71
	6	0.233	240.00	3.60	0.2650	1.0000	15	25.4	14,735	2.88	2.05
	7	0.185	100.00	11.60	0.1810	1.0000	10	6.3	16,972	2.55	1.88
Σ								2,107.3	14,803	0.71	0.34
#9	1	0.204	130.00	7.90	0.1860	1.0000	19	122.2	21,047	7.89	5.77
	2	0.178	100.00	10.70	0.2320	1.0000	10	43.0	25,925	5.78	4.24
	3	0.177	100.00	8.30	0.2320	1.0000	6	42.8	18,496	5.05	3.67
	4	0.161	100.00	10.00	0.2220	1.0000	5	99.2	23,950	6.14	4.40
	5	0.175	200.00	5.90	0.2450	1.0000	6	56.2	20,646	5.61	3.90
Σ								2,223.5	22,004	1.60	0.51

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	6	Time of Concentration:					0.777
#1	7	5. Nearly bare and untilled, and alluvial valley fans	4.66	43.00	922.01	2.150	0.119
		8. Large gullies, diversions, and low flowing streams	2.67	295.00	11,057.38	4.900	0.626
#1	7	Time of Concentration:					0.745
#1	8	5. Nearly bare and untilled, and alluvial valley fans	7.46	65.00	871.00	2.730	0.088
		8. Large gullies, diversions, and low flowing streams	2.61	324.00	12,433.00	4.840	0.713
#1	8	Time of Concentration:					0.800
#2	1	5. Nearly bare and untilled, and alluvial valley fans	6.24	29.99	481.00	2.490	0.053
		8. Large gullies, diversions, and low flowing streams	3.34	405.99	12,141.00	5.480	0.615
#2	1	Time of Concentration:					0.669
#2	2	5. Nearly bare and untilled, and alluvial valley fans	3.16	30.00	950.00	1.770	0.149
		8. Large gullies, diversions, and low flowing streams	4.22	432.00	10,229.00	6.160	0.461
#2	2	Time of Concentration:					0.609
#2	3	5. Nearly bare and untilled, and alluvial valley fans	2.65	10.00	378.00	1.620	0.064
		8. Large gullies, diversions, and low flowing streams	2.72	234.00	8,592.00	4.950	0.482
#2	3	Time of Concentration:					0.547
#2	4	5. Nearly bare and untilled, and alluvial valley fans	3.07	25.00	815.00	1.750	0.129
		8. Large gullies, diversions, and low flowing streams	3.32	330.00	9,931.00	5.460	0.505
#2	4	Time of Concentration:					0.634
#2	5	5. Nearly bare and untilled, and alluvial valley fans	7.45	45.00	604.00	2.720	0.061
		8. Large gullies, diversions, and low flowing streams	3.78	310.00	8,210.00	5.820	0.391
#2	5	Time of Concentration:					0.451
#2	6	5. Nearly bare and untilled, and alluvial valley fans	9.10	80.00	879.00	3.010	0.081
		8. Large gullies, diversions, and low flowing streams	2.32	344.00	14,831.00	4.560	0.903
#2	6	Time of Concentration:					0.984
#3	1	5. Nearly bare and untilled, and alluvial valley fans	1.29	15.00	1,163.00	1.130	0.285
		8. Large gullies, diversions, and low flowing streams	2.37	338.00	14,280.00	4.610	0.860
#3	1	Time of Concentration:					1.144
#3	2	5. Nearly bare and untilled, and alluvial valley fans	3.04	33.00	1,087.00	1.740	0.173
		8. Large gullies, diversions, and low flowing streams	2.06	238.00	11,527.00	4.310	0.742
#3	2	Time of Concentration:					0.919

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	3	5. Nearly bare and untilled, and alluvial valley fans	5.02	45.00	897.00	2.230	0.111
		8. Large gullies, diversions, and low flowing streams	3.09	270.00	8,741.00	5.270	0.460
#3	3	Time of Concentration:					0.571
#3	4	5. Nearly bare and untilled, and alluvial valley fans	7.41	28.00	378.00	2.720	0.038
		8. Large gullies, diversions, and low flowing streams	3.43	402.00	11,736.00	5.550	0.587
#3	4	Time of Concentration:					1.122
#3	5	5. Nearly bare and untilled, and alluvial valley fans	3.39	30.00	885.00	1.840	0.133
		8. Large gullies, diversions, and low flowing streams	2.58	442.00	17,121.00	4.820	0.986
#3	5	Time of Concentration:					0.725
#4	1	5. Nearly bare and untilled, and alluvial valley fans	6.83	24.99	366.00	2.610	0.038
		8. Large gullies, diversions, and low flowing streams	2.36	181.99	7,708.00	4.600	0.465
#4	1	Time of Concentration:					0.725
#4	2	5. Nearly bare and untilled, and alluvial valley fans	6.83	25.00	366.00	2.610	0.038
		8. Large gullies, diversions, and low flowing streams	2.36	182.00	7,708.00	4.600	0.465
#4	2	Time of Concentration:					0.814
#4	3	5. Nearly bare and untilled, and alluvial valley fans	19.03	47.00	247.00	4.360	0.015
		8. Large gullies, diversions, and low flowing streams	2.13	268.00	12,586.00	4.370	0.800
#4	3	Time of Concentration:					0.919
#4	4	5. Nearly bare and untilled, and alluvial valley fans	14.08	50.00	355.00	3.750	0.026
		8. Large gullies, diversions, and low flowing streams	2.46	372.00	15,119.00	4.700	0.893
#4	4	Time of Concentration:					0.919
#5	1	5. Nearly bare and untilled, and alluvial valley fans	12.55	64.99	518.00	3.540	0.040
		8. Large gullies, diversions, and low flowing streams	1.92	183.99	9,592.00	4.150	0.642
#5	1	Time of Concentration:					0.681
#5	2	5. Nearly bare and untilled, and alluvial valley fans	5.10	30.00	588.00	2.250	0.072
		8. Large gullies, diversions, and low flowing streams	1.77	266.00	15,016.00	3.990	1.045
#5	2	Time of Concentration:					1.118
#5	3	5. Nearly bare and untilled, and alluvial valley fans	1.90	20.00	1,050.00	1.380	0.211
		8. Large gullies, diversions, and low flowing streams	2.19	274.00	12,532.00	4.430	0.785
#5	3	Time of Concentration:					0.997

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#5	4	5. Nearly bare and untilled, and alluvial valley fans	2.78	32.00	1,152.00	1.660	0.192
		8. Large gullies, diversions, and low flowing streams	0.99	182.00	18,415.00	2.980	1.716
#5	4	Time of Concentration:					1.905
#5	5	5. Nearly bare and untilled, and alluvial valley fans	2.52	23.00	911.00	1.580	0.160
		8. Large gullies, diversions, and low flowing streams	1.07	256.00	23,965.00	3.100	2.147
#5	5	Time of Concentration:					2.303
#5	6	5. Nearly bare and untilled, and alluvial valley fans	6.36	25.00	393.00	2.520	0.043
		8. Large gullies, diversions, and low flowing streams	2.39	198.00	8,272.00	4.640	0.495
#5	6	Time of Concentration:					0.540
#5	7	5. Nearly bare and untilled, and alluvial valley fans	9.66	28.00	290.00	3.100	0.025
		8. Large gullies, diversions, and low flowing streams	2.12	179.00	8,427.00	4.370	0.535
#5	7	Time of Concentration:					0.562
#6	1	5. Nearly bare and untilled, and alluvial valley fans	31.83	120.00	377.00	5.640	0.018
		8. Large gullies, diversions, and low flowing streams	1.38	198.00	14,361.00	3.520	1.133
#6	1	Time of Concentration:					1.150
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.25	40.00	941.00	2.060	0.126
		8. Large gullies, diversions, and low flowing streams	0.96	176.00	18,407.00	2.930	1.745
#6	2	Time of Concentration:					1.864
#6	3	5. Nearly bare and untilled, and alluvial valley fans	4.35	25.00	575.00	2.080	0.076
		8. Large gullies, diversions, and low flowing streams	1.57	224.00	14,223.00	3.760	1.050
#6	3	Time of Concentration:					1.178
#7	1	5. Nearly bare and untilled, and alluvial valley fans	2.76	10.99	399.20	1.650	0.067
		8. Large gullies, diversions, and low flowing streams	1.24	104.00	8,380.33	3.340	0.696
#7	1	Time of Concentration:					0.763
#7	2	5. Nearly bare and untilled, and alluvial valley fans	0.32	1.99	620.15	0.560	0.307
		8. Large gullies, diversions, and low flowing streams	0.43	42.00	9,854.51	1.950	1.403
#7	2	Time of Concentration:					1.710
#7	3	5. Nearly bare and untilled, and alluvial valley fans	1.82	9.99	548.42	1.350	0.112
		8. Large gullies, diversions, and low flowing streams	0.53	51.00	9,538.05	2.190	1.209
#7	3	Time of Concentration:					1.321

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#7	4	5. Nearly bare and untilled, and alluvial valley fans	3.00	22.00	733.16	1.730	0.117
		8. Large gullies, diversions, and low flowing streams	1.08	70.99	6,592.99	3.110	0.588
#7	4	Time of Concentration:					0.705
#7	5	5. Nearly bare and untilled, and alluvial valley fans	3.10	21.99	708.78	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	1.38	105.99	7,656.74	3.520	0.604
#7	5	Time of Concentration:					0.715
#7	6	5. Nearly bare and untilled, and alluvial valley fans	2.97	11.99	403.48	1.720	0.065
		8. Large gullies, diversions, and low flowing streams	0.71	70.99	9,963.51	2.530	1.093
#7	6	Time of Concentration:					1.158
#8	1	5. Nearly bare and untilled, and alluvial valley fans	0.85	6.99	821.00	0.920	0.247
		8. Large gullies, diversions, and low flowing streams	1.00	254.00	25,397.46	3.000	2.351
#8	1	Time of Concentration:					2.598
#8	2	5. Nearly bare and untilled, and alluvial valley fans	0.76	8.99	1,180.93	0.870	0.377
		8. Large gullies, diversions, and low flowing streams	0.80	132.00	16,491.75	2.680	1.709
#8	2	Time of Concentration:					2.086
#8	3	5. Nearly bare and untilled, and alluvial valley fans	1.91	9.99	523.25	1.380	0.105
		8. Large gullies, diversions, and low flowing streams	1.20	92.00	7,678.18	3.280	0.650
#8	3	Time of Concentration:					0.755
#8	4	5. Nearly bare and untilled, and alluvial valley fans	0.35	1.99	572.24	0.590	0.269
		8. Large gullies, diversions, and low flowing streams	1.46	152.00	10,412.38	3.620	0.798
#8	4	Time of Concentration:					1.067
#8	5	5. Nearly bare and untilled, and alluvial valley fans	18.94	81.99	432.84	4.350	0.027
		8. Large gullies, diversions, and low flowing streams	1.19	150.00	12,649.68	3.260	1.077
#8	5	Time of Concentration:					1.104
#8	6	5. Nearly bare and untilled, and alluvial valley fans	0.65	1.99	307.69	0.800	0.106
		8. Large gullies, diversions, and low flowing streams	1.32	90.00	6,829.56	3.440	0.551
#8	6	Time of Concentration:					0.657
#8	7	5. Nearly bare and untilled, and alluvial valley fans	1.40	9.99	715.05	1.180	0.168
		8. Large gullies, diversions, and low flowing streams	0.75	31.00	4,116.31	2.600	0.439
#8	7	Time of Concentration:					0.607

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#9	1	5. Nearly bare and untilled, and alluvial valley fans	6.54	21.99	336.56	2.550	0.036
		8. Large gullies, diversions, and low flowing streams	1.44	120.00	8,343.18	3.590	0.645
#9	1	Time of Concentration:					0.681
#9	2	5. Nearly bare and untilled, and alluvial valley fans	8.94	11.99	134.17	2.990	0.012
		8. Large gullies, diversions, and low flowing streams	1.94	182.00	9,369.84	4.180	0.622
#9	2	Time of Concentration:					0.634
#9	3	5. Nearly bare and untilled, and alluvial valley fans	3.14	25.00	796.00	1.770	0.124
		8. Large gullies, diversions, and low flowing streams	1.68	132.00	7,862.29	3.880	0.562
#9	3	Time of Concentration:					0.686
#9	4	5. Nearly bare and untilled, and alluvial valley fans	12.82	35.00	273.00	3.580	0.021
		8. Large gullies, diversions, and low flowing streams	1.93	183.00	9,495.14	4.160	0.634
#9	4	Time of Concentration:					0.655
#9	5	5. Nearly bare and untilled, and alluvial valley fans	2.66	15.00	564.03	1.630	0.096
		8. Large gullies, diversions, and low flowing streams	1.68	135.00	8,020.43	3.890	0.572
#9	5	Time of Concentration:					0.668

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1	8. Large gullies, diversions, and low flowing streams	1.44	228.00	15,800.00	3.600	1.219
#2	1	Muskingum K:					1.219
#2	2	8. Large gullies, diversions, and low flowing streams	1.19	201.99	16,912.00	3.270	1.436
#2	2	Muskingum K:					1.436
#2	3	8. Large gullies, diversions, and low flowing streams	1.10	159.98	14,568.00	3.140	1.288
#2	3	Muskingum K:					1.288
#2	4	8. Large gullies, diversions, and low flowing streams	1.09	103.99	9,576.00	3.120	0.852
#2	4	Muskingum K:					0.852
#2	5	8. Large gullies, diversions, and low flowing streams	0.93	43.99	4,715.00	2.890	0.453
#2	5	Muskingum K:					0.453
#3	1	8. Large gullies, diversions, and low flowing streams	1.75	293.99	16,845.00	3.960	1.181
#3	1	Muskingum K:					1.181

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	2	8. Large gullies, diversions, and low flowing streams	1.79	153.99	8,609.00	4.010	0.596
#3	2	Muskingum K:					0.596
#3	3	8. Large gullies, diversions, and low flowing streams	1.93	91.99	4,778.00	4.160	0.319
#3	3	Muskingum K:					0.319
#3	4	8. Large gullies, diversions, and low flowing streams	0.00	0.00	0.00	0.000	0.000
#3	4	Muskingum K:					0.000
#4	1	8. Large gullies, diversions, and low flowing streams	1.01	186.00	18,477.00	3.000	1.710
#4	1	Muskingum K:					1.710
#4	2	8. Large gullies, diversions, and low flowing streams	0.98	150.00	15,281.00	2.970	1.429
#4	2	Muskingum K:					1.429
#4	3	8. Large gullies, diversions, and low flowing streams	0.98	103.99	10,645.00	2.960	0.998
#4	3	Muskingum K:					0.998
#5	1	8. Large gullies, diversions, and low flowing streams	0.64	194.97	30,309.00	2.400	3.507
#5	1	Muskingum K:					3.507
#5	2	8. Large gullies, diversions, and low flowing streams	0.60	113.00	18,717.00	2.330	2.231
#5	2	Muskingum K:					2.231
#5	3	8. Large gullies, diversions, and low flowing streams	0.63	84.98	13,541.00	2.370	1.587
#5	3	Muskingum K:					1.587
#5	4	8. Large gullies, diversions, and low flowing streams	0.63	66.99	10,710.00	2.370	1.255
#5	4	Muskingum K:					1.255
#5	5	8. Large gullies, diversions, and low flowing streams	0.59	52.99	8,978.00	2.300	1.084
#5	5	Muskingum K:					1.084
#5	6	8. Large gullies, diversions, and low flowing streams	0.74	40.99	5,528.00	2.580	0.595
#5	6	Muskingum K:					0.595
#6	1	8. Large gullies, diversions, and low flowing streams	0.94	185.99	19,797.00	2.900	1.896
#6	1	Muskingum K:					1.896
#6	2	8. Large gullies, diversions, and low flowing streams	0.58	7.99	1,372.00	2.290	0.166
#6	2	Muskingum K:					0.166
#7	1	8. Large gullies, diversions, and low flowing streams	0.42	67.00	15,801.88	1.950	2.250
#7	1	Muskingum K:					2.250
#7	2	8. Large gullies, diversions, and low flowing streams	0.41	89.00	21,539.20	1.920	3.116
#7	2	Muskingum K:					3.116
#7	3	8. Large gullies, diversions, and low flowing streams	0.39	60.00	15,388.56	1.870	2.285

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#7	3	Muskingum K:					2.285
#7	4	8. Large gullies, diversions, and low flowing streams	0.39	60.00	15,372.79	1.870	2.283
#7	4	Muskingum K:					2.283
#7	5	8. Large gullies, diversions, and low flowing streams	0.43	45.00	10,399.80	1.970	1.466
#7	5	Muskingum K:					1.466
#7	6	8. Large gullies, diversions, and low flowing streams	0.52	107.00	20,640.43	2.160	2.654
#7	6	Muskingum K:					2.654
#8	1	8. Large gullies, diversions, and low flowing streams	0.52	107.00	20,640.43	2.160	2.654
#8	1	Muskingum K:					2.654
#8	2	8. Large gullies, diversions, and low flowing streams	0.53	79.00	14,916.91	2.180	1.900
#8	2	Muskingum K:					1.900
#8	3	8. Large gullies, diversions, and low flowing streams	0.66	48.99	7,437.76	2.430	0.850
#8	3	Muskingum K:					0.850
#8	4	8. Large gullies, diversions, and low flowing streams	0.72	39.00	5,442.36	2.530	0.597
#8	4	Muskingum K:					0.597
#8	5	8. Large gullies, diversions, and low flowing streams	0.85	41.00	4,831.48	2.760	0.486
#8	5	Muskingum K:					0.486
#8	6	8. Large gullies, diversions, and low flowing streams	0.85	41.00	4,831.48	2.760	0.486
#8	6	Muskingum K:					0.486
#9	1	8. Large gullies, diversions, and low flowing streams	0.36	55.00	15,358.83	1.790	2.383
#9	1	Muskingum K:					2.383
#9	2	8. Large gullies, diversions, and low flowing streams	0.37	53.00	14,201.50	1.830	2.155
#9	2	Muskingum K:					2.155
#9	3	8. Large gullies, diversions, and low flowing streams	0.36	42.98	12,012.29	1.790	1.864
#9	3	Muskingum K:					1.864
#9	4	8. Large gullies, diversions, and low flowing streams	0.35	22.00	6,269.59	1.770	0.983
#9	4	Muskingum K:					0.983

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	222.25	43.66	981.9	22,365	4.04	2.97
#4	3,216.100	7,194.800	340.01	96.24	2,253.8	36,914	5.65	2.61
#1	8,477.900	8,477.900	700.14	125.93	2,519.5	31,853	7.26	3.33
#2	3,838.900	12,316.800	794.82	233.70	4,311.6	31,239	4.00	1.73
#5	5,494.300	25,005.900	1,040.51	486.93	7,844.2	21,032	2.00	1.12
#6	3,079.000	28,084.900	1,035.65	563.14	7,411.1	17,491	1.06	0.59
#7	3,035.760	31,120.660	1,025.88	580.64	7,388.1	17,360	0.97	0.52
#8	4,401.790	35,522.450	1,023.30	610.04	7,426.6	25,027	1.45	0.52
#9	2,327.100	37,849.550	1,015.09	657.48	7,759.3	26,315	2.27	0.75

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	69.46	9.552
	2	1,079.100	0.919	0.596	0.351	80.800	M	111.14	13.030
	3	450.300	0.571	0.319	0.355	81.300	M	68.68	5.777
	4	742.600	1.122	0.000	0.000	78.500	M	47.56	6.701
	5	915.400	0.725	0.000	0.000	78.800	M	83.50	8.603
	Σ	3,978.700						222.25	43.663
#4	1	546.400	0.725	1.710	0.319	81.700	M	74.69	7.341
	2	441.200	0.814	1.429	0.318	86.000	M	92.99	9.458
	3	889.400	0.919	0.998	0.318	82.100	M	108.55	12.510
	4	1,339.100	0.919	0.000	0.000	84.000	M	205.88	23.265
	Σ	7,194.800						340.01	96.237
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	96.56	14.994
	2	1,662.000	0.217	0.849	0.360	80.300	M	397.68	18.994
	3	1,434.000	1.575	1.241	0.357	81.100	M	102.69	17.939
	4	842.700	1.100	0.977	0.364	81.000	M	78.22	10.419
	5	676.100	1.067	1.113	0.365	81.600	M	69.45	8.974
	6	1,223.200	0.777	0.596	0.352	81.800	M	161.50	16.624
	7	743.100	0.745	0.530	0.354	83.600	M	126.09	12.363
	8	654.500	0.800	0.000	0.000	92.200	M	264.65	25.626
	Σ	8,477.900						700.14	125.934
#2	1	609.500	0.669	1.219	0.340	85.700	M	142.61	12.680
	2	537.100	0.609	1.436	0.329	91.600	M	246.19	19.898
	3	455.000	0.547	1.288	0.324	82.000	M	78.27	6.329
	4	627.000	0.634	0.852	0.324	87.900	M	193.07	16.268
	5	653.100	0.451	0.453	0.315	91.200	M	346.05	23.299
	6	957.200	0.984	0.000	0.000	89.600	M	258.34	29.295
	Σ	12,316.800						794.82	233.704
#5	1	763.100	0.681	3.507	0.293	84.100	M	146.54	13.406
	2	983.300	1.118	2.231	0.289	89.200	M	231.69	28.949
	3	1,022.000	0.997	1.587	0.291	92.000	M	347.29	39.281
	4	688.700	1.905	1.255	0.291	80.800	M	40.88	8.311
	5	754.300	2.303	1.084	0.287	86.200	M	72.99	16.493
	6	628.400	0.540	0.595	0.301	93.000	M	356.35	26.534
	7	654.500	0.562	0.000	0.000	91.500	M	312.82	24.014
	Σ	25,005.900						1,040.51	486.930
#6	1	901.350	1.150	1.896	0.315	81.100	M	82.03	11.278
	2	1,011.200	1.864	0.166	0.287	83.500	M	85.56	16.628

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.450	1.178	0.000	0.000	92.800	M	378.78	48.308
	Σ	28,084.900						1,035.65	563.144
#7	1	935.150	0.763	2.250	0.267	77.500	M	67.00	7.370
	2	386.880	1.710	3.116	0.265	79.000	M	19.45	3.728
	3	244.890	1.321	2.285	0.262	72.900	M	5.01	0.915
	4	369.500	0.705	2.283	0.262	72.900	M	10.95	1.381
	5	492.930	0.715	1.466	0.268	72.900	M	14.49	1.842
	6	606.410	1.158	2.654	0.280	72.900	M	13.45	2.265
	Σ	31,120.660						1,025.88	580.645
#8	1	1,637.130	2.598	2.654	0.280	74.300	M	27.98	7.869
	2	753.660	2.086	1.900	0.281	79.000	M	32.48	7.263
	3	320.510	0.755	0.850	0.294	72.900	M	9.15	1.198
	4	643.270	1.067	0.597	0.299	73.100	M	15.67	2.496
	5	451.720	1.104	0.486	0.309	75.600	M	17.89	2.686
	6	357.060	0.657	0.486	0.309	83.400	M	64.60	5.817
	7	238.440	0.607	0.000	0.000	78.200	M	22.39	2.070
	Σ	35,522.450						1,023.30	610.042
#9	1	484.600	0.681	2.383	0.256	88.900	M	157.67	13.871
	2	434.900	0.634	2.155	0.259	82.000	M	67.64	6.047
	3	361.200	0.686	1.864	0.256	84.900	M	75.81	6.907
	4	573.300	0.655	0.983	0.255	85.700	M	136.12	11.929
	5	473.100	0.668	0.000	0.000	84.500	M	96.56	8.680
	Σ	37,849.550						1,015.09	657.476

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	222.4	23,272	5.63	4.11
	2	0.181	100.00	10.10	0.3050	1.0000	13	501.0	38,706	12.23	8.82
	3	0.151	200.00	5.50	0.3050	1.0000	18	135.5	24,642	9.29	6.45
	4	0.183	130.00	7.60	0.3160	1.0000	12	165.4	24,863	5.46	3.95
	5	0.185	100.00	8.30	0.2760	1.0000	6	224.4	27,100	7.04	4.94
	Σ							981.9	22,365	4.04	2.97
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	176.5	24,349	8.27	5.96
	2	0.148	100.00	12.00	0.2220	1.0000	5	286.9	30,547	8.57	6.20
	3	0.185	75.00	13.60	0.2740	1.0000	17	560.2	44,761	13.24	9.60
	4	0.213	100.00	10.60	0.2330	1.0000	6	943.3	41,234	11.28	8.04

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
Σ								2,253.8	36,914	5.65	2.61
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	153.2	10,209	2.41	1.77
	2	0.202	240.00	3.30	0.2960	1.0000	13	487.9	27,747	13.87	9.36
	3	0.206	280.00	2.60	0.2960	1.0000	13	190.8	10,583	2.13	1.57
	4	0.188	200.00	5.10	0.2960	1.0000	13	228.2	21,982	6.22	4.52
	5	0.124	240.00	3.60	0.3130	1.0000	18	85.2	9,588	2.55	1.85
	6	0.178	130.00	7.90	0.2850	1.0000	7	496.5	30,472	10.03	7.16
	7	0.191	100.00	9.20	0.2540	1.0000	6	386.8	32,019	9.91	7.05
	8	0.199	75.00	15.10	0.1510	1.0000	2	933.2	37,001	8.92	6.38
Σ								2,519.5	31,853	7.26	3.33
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	289.7	23,359	7.35	5.24
	2	0.199	75.00	12.60	0.1510	1.0000	2	616.4	31,295	9.02	6.49
	3	0.200	100.00	8.60	0.2020	1.0000	11	152.6	24,797	6.09	4.32
	4	0.193	75.00	12.30	0.1730	1.0000	4	517.4	32,524	9.07	6.45
	5	0.187	75.00	14.00	0.1590	1.0000	3	924.4	40,956	14.28	10.04
	6	0.198	75.00	13.70	0.1680	1.0000	4	971.4	33,627	6.88	4.93
Σ								4,311.6	31,239	4.00	1.73
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	328.3	24,289	8.04	5.91
	2	0.209	130.00	7.10	0.1680	1.0000	4	518.1	17,825	2.97	2.18
	3	0.191	100.00	8.40	0.1500	1.0000	2	667.7	17,020	3.23	2.36
	4	0.235	200.00	4.90	0.2870	1.0000	9	163.2	19,347	2.97	2.20
	5	0.220	240.00	3.70	0.1900	1.0000	16	136.1	8,183	0.49	0.36
	6	0.200	130.00	7.30	0.1410	1.0000	1	517.7	20,026	6.21	4.42
	7	0.204	200.00	4.70	0.1560	1.0000	2	418.9	18,211	5.49	3.84
Σ								7,844.2	21,032	2.00	1.12
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	144.1	12,757	3.58	2.62
	2	0.226	280.00	2.40	0.2330	1.0000	6	132.7	7,963	0.73	0.54
	3	0.200	200.00	4.20	0.1460	1.0000	1	569.5	11,945	1.63	1.18
Σ								7,411.1	17,491	1.06	0.59
#7	1	0.189	280.00	2.70	0.2330	1.0000	10	68.2	9,284	2.06	1.50
	2	0.193	280.00	2.60	0.3270	1.0000	8	32.3	8,519	1.22	0.91
	3	0.164	280.00	3.00	0.3320	1.0000	8	6.8	7,207	0.89	0.67
	4	0.165	280.00	2.10	0.1790	1.0000	8	5.2	3,717	0.92	0.68
	5	0.164	280.00	2.70	0.3150	1.0000	8	15.6	8,466	2.08	1.53
	6	0.164	240.00	3.80	0.3380	1.0000	8	23.6	10,182	1.54	1.15
Σ								7,388.1	17,360	0.97	0.52
#8	1	0.195	420.00	1.80	0.3050	1.0000	8	46.1	5,698	0.35	0.26
	2	0.183	280.00	2.70	0.2500	1.0000	15	46.9	6,353	0.31	0.23
	3	0.164	130.00	6.40	0.2220	1.0000	8	13.4	11,195	2.65	1.94

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.166	130.00	7.10	0.1790	1.0000	8	24.6	9,736	1.68	1.25
	5	0.172	240.00	3.10	0.2960	1.0000	8	23.2	8,618	1.75	1.29
	6	0.233	240.00	3.60	0.2650	1.0000	15	102.0	18,140	5.08	3.59
	7	0.185	100.00	11.60	0.1810	1.0000	10	53.7	27,386	7.66	5.29
Σ								7,426.6	25,027	1.45	0.52
#9	1	0.204	130.00	7.90	0.1860	1.0000	19	331.0	23,759	9.82	7.19
	2	0.178	100.00	10.70	0.2320	1.0000	10	200.5	33,150	10.51	7.65
	3	0.177	100.00	8.30	0.2320	1.0000	6	151.2	22,006	7.43	5.40
	4	0.161	100.00	10.00	0.2220	1.0000	5	329.9	28,119	8.95	6.42
	5	0.175	200.00	5.90	0.2450	1.0000	6	205.0	24,673	8.35	5.83
Σ								7,759.3	26,315	2.27	0.75

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	400.14	75.51	1,851.1	24,272	5.23	3.85
#4	3,216.100	7,194.800	585.79	159.52	4,029.3	39,842	6.91	3.19
#1	8,477.900	8,477.900	1,179.07	203.45	4,281.0	33,272	8.71	4.02
#2	3,838.900	12,316.800	1,284.57	359.64	7,009.7	33,000	4.56	1.96
#5	5,494.300	25,005.900	1,602.61	745.19	13,200.4	23,238	2.54	1.42
#6	3,079.000	28,084.900	1,596.48	856.76	12,489.1	19,638	1.27	0.69
#7	3,035.760	31,120.660	1,586.43	891.68	12,408.9	19,192	1.16	0.61
#8	4,401.790	35,522.450	1,586.20	948.00	12,462.9	27,680	1.72	0.60
#9	2,327.100	37,849.550	1,577.26	1,020.71	12,996.8	28,120	2.55	0.85

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	121.91	16.211
	2	1,079.100	0.919	0.596	0.351	80.800	M	195.14	22.113
	3	450.300	0.571	0.319	0.355	81.300	M	119.60	9.686
	4	742.600	1.122	0.000	0.000	78.500	M	90.32	12.100
	5	915.400	0.725	0.000	0.000	78.800	M	157.08	15.397
	Σ	3,978.700						400.14	75.508
#4	1	546.400	0.725	1.710	0.319	81.700	M	128.11	12.196
	2	441.200	0.814	1.429	0.318	86.000	M	144.22	14.411
	3	889.400	0.919	0.998	0.318	82.100	M	183.54	20.596
	4	1,339.100	0.919	0.000	0.000	84.000	M	333.27	36.806
	Σ	7,194.800						585.79	159.517
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	169.36	25.446
	2	1,662.000	0.217	0.849	0.360	80.300	M	692.34	32.640
	3	1,434.000	1.575	1.241	0.357	81.100	M	178.31	30.225
	4	842.700	1.100	0.977	0.364	81.000	M	136.50	17.597
	5	676.100	1.067	1.113	0.365	81.600	M	119.10	14.942
	6	1,223.200	0.777	0.596	0.352	81.800	M	275.88	27.555
	7	743.100	0.745	0.530	0.354	83.600	M	206.63	19.715
	8	654.500	0.800	0.000	0.000	92.200	M	367.64	35.328
	Σ	8,477.900						1,179.07	203.448
#2	1	609.500	0.669	1.219	0.340	85.700	M	222.23	19.426
	2	537.100	0.609	1.436	0.329	91.600	M	344.80	27.683
	3	455.000	0.547	1.288	0.324	82.000	M	133.61	10.443
	4	627.000	0.634	0.852	0.324	87.900	M	287.31	23.993
	5	653.100	0.451	0.453	0.315	91.200	M	485.76	32.613
	6	957.200	0.984	0.000	0.000	89.600	M	374.12	42.036
	Σ	12,316.800						1,284.57	359.642
#5	1	763.100	0.681	3.507	0.293	84.100	M	237.01	21.167
	2	983.300	1.118	2.231	0.289	89.200	M	338.07	41.803
	3	1,022.000	0.997	1.587	0.291	92.000	M	482.66	54.318
	4	688.700	1.905	1.255	0.291	80.800	M	71.45	14.104
	5	754.300	2.303	1.084	0.287	86.200	M	112.21	25.042
	6	628.400	0.540	0.595	0.301	93.000	M	486.36	36.142
	7	654.500	0.562	0.000	0.000	91.500	M	438.45	33.459
	Σ	25,005.900						1,602.61	745.194
#6	1	901.350	1.150	1.896	0.315	81.100	M	142.70	19.002
	2	1,011.200	1.864	0.166	0.287	83.500	M	139.47	26.571

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.450	1.178	0.000	0.000	92.800	M	520.30	65.998
	Σ	28,084.900						1,596.48	856.765
#7	1	935.150	0.763	2.250	0.267	77.500	M	133.18	13.729
	2	386.880	1.710	3.116	0.265	79.000	M	36.05	6.634
	3	244.890	1.321	2.285	0.262	72.900	M	12.54	2.078
	4	369.500	0.705	2.283	0.262	72.900	M	29.38	3.137
	5	492.930	0.715	1.466	0.268	72.900	M	38.82	4.185
	6	606.410	1.158	2.654	0.280	72.900	M	34.17	5.147
	Σ	31,120.660						1,586.43	891.675
#8	1	1,637.130	2.598	2.654	0.280	74.300	M	61.83	16.621
	2	753.660	2.086	1.900	0.281	79.000	M	60.00	12.925
	3	320.510	0.755	0.850	0.294	72.900	M	24.33	2.722
	4	643.270	1.067	0.597	0.299	73.100	M	39.67	5.607
	5	451.720	1.104	0.486	0.309	75.600	M	38.92	5.360
	6	357.060	0.657	0.486	0.309	83.400	M	106.31	9.314
	7	238.440	0.607	0.000	0.000	78.200	M	43.09	3.771
	Σ	35,522.450						1,586.20	947.995
#9	1	484.600	0.681	2.383	0.256	88.900	M	230.50	20.126
	2	434.900	0.634	2.155	0.259	82.000	M	115.49	9.978
	3	361.200	0.686	1.864	0.256	84.900	M	120.31	10.739
	4	573.300	0.655	0.983	0.255	85.700	M	212.06	18.274
	5	473.100	0.668	0.000	0.000	84.500	M	154.64	13.598
	Σ	37,849.550						1,577.26	1,020.712

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	409.8	25,301	6.94	5.06
	2	0.181	100.00	10.10	0.3050	1.0000	13	923.4	42,048	14.49	10.44
	3	0.151	200.00	5.50	0.3050	1.0000	18	246.9	26,667	10.76	7.50
	4	0.183	130.00	7.60	0.3160	1.0000	12	329.8	27,581	7.18	5.17
	5	0.185	100.00	8.30	0.2760	1.0000	6	442.9	29,851	8.87	6.23
	Σ							1,851.1	24,272	5.23	3.85
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	317.3	26,307	9.62	6.93
	2	0.148	100.00	12.00	0.2220	1.0000	5	464.5	32,415	9.82	7.11
	3	0.185	75.00	13.60	0.2740	1.0000	17	993.9	48,229	15.58	11.28
	4	0.213	100.00	10.60	0.2330	1.0000	6	1,597.2	44,042	13.19	9.42

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
Σ								4,029.3	39,842	6.91	3.19
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	282.3	11,100	2.99	2.19
	2	0.202	240.00	3.30	0.2960	1.0000	13	901.2	29,548	15.21	10.35
	3	0.206	280.00	2.60	0.2960	1.0000	13	348.0	11,481	2.71	1.99
	4	0.188	200.00	5.10	0.2960	1.0000	13	418.0	23,867	7.48	5.43
	5	0.124	240.00	3.60	0.3130	1.0000	18	153.3	10,366	3.07	2.23
	6	0.178	130.00	7.90	0.2850	1.0000	7	889.3	32,854	11.66	8.33
	7	0.191	100.00	9.20	0.2540	1.0000	6	662.4	34,325	11.50	8.18
	8	0.199	75.00	15.10	0.1510	1.0000	2	1,342.8	38,536	9.95	7.12
Σ								4,281.0	33,272	8.71	4.02
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	471.6	24,733	8.30	5.94
	2	0.199	75.00	12.60	0.1510	1.0000	2	895.5	32,606	9.90	7.15
	3	0.200	100.00	8.60	0.2020	1.0000	11	272.6	26,761	7.43	5.28
	4	0.193	75.00	12.30	0.1730	1.0000	4	803.4	34,134	10.17	7.25
	5	0.187	75.00	14.00	0.1590	1.0000	3	1,349.3	42,527	15.38	10.85
	6	0.198	75.00	13.70	0.1680	1.0000	4	1,463.0	35,199	7.92	5.69
Σ								7,009.7	33,000	4.56	1.96
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	554.9	25,955	9.19	6.77
	2	0.209	130.00	7.10	0.1680	1.0000	4	786.5	18,724	3.57	2.62
	3	0.191	100.00	8.40	0.1500	1.0000	2	962.6	17,718	3.68	2.69
	4	0.235	200.00	4.90	0.2870	1.0000	9	300.0	21,001	4.03	2.98
	5	0.220	240.00	3.70	0.1900	1.0000	16	218.8	8,675	0.53	0.39
	6	0.200	130.00	7.30	0.1410	1.0000	1	732.7	20,730	6.69	4.78
	7	0.204	200.00	4.70	0.1560	1.0000	2	609.4	18,948	5.99	4.21
Σ								13,200.4	23,238	2.54	1.42
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	263.1	13,845	4.31	3.15
	2	0.226	280.00	2.40	0.2330	1.0000	6	226.7	8,541	1.03	0.75
	3	0.200	200.00	4.20	0.1460	1.0000	1	810.2	12,417	1.94	1.41
Σ								12,489.1	19,638	1.27	0.69
#7	1	0.189	280.00	2.70	0.2330	1.0000	10	141.9	10,395	2.78	2.03
	2	0.193	280.00	2.60	0.3270	1.0000	8	63.0	9,365	1.78	1.32
	3	0.164	280.00	3.00	0.3320	1.0000	8	17.9	8,494	1.50	1.12
	4	0.165	280.00	2.10	0.1790	1.0000	8	14.3	4,565	1.42	1.03
	5	0.164	280.00	2.70	0.3150	1.0000	8	42.9	10,383	3.19	2.31
	6	0.164	240.00	3.80	0.3380	1.0000	8	63.0	12,098	2.54	1.88
Σ								12,408.9	19,192	1.16	0.61
#8	1	0.195	420.00	1.80	0.3050	1.0000	8	109.4	6,440	0.40	0.30
	2	0.183	280.00	2.70	0.2500	1.0000	15	91.3	6,977	0.36	0.27
	3	0.164	130.00	6.40	0.2220	1.0000	8	36.6	13,684	4.08	2.93

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.166	130.00	7.10	0.1790	1.0000	8	65.1	11,632	2.68	1.96
	5	0.172	240.00	3.10	0.2960	1.0000	8	52.7	9,907	2.53	1.84
	6	0.233	240.00	3.60	0.2650	1.0000	15	175.5	19,462	5.98	4.23
	7	0.185	100.00	11.60	0.1810	1.0000	10	108.4	30,256	9.64	6.67
Σ								12,462.9	27,680	1.72	0.60
#9	1	0.204	130.00	7.90	0.1860	1.0000	19	504.4	24,900	10.63	7.80
	2	0.178	100.00	10.70	0.2320	1.0000	10	358.2	35,807	12.37	9.01
	3	0.177	100.00	8.30	0.2320	1.0000	6	250.8	23,439	8.41	6.11
	4	0.161	100.00	10.00	0.2220	1.0000	5	537.0	29,803	10.11	7.26
	5	0.175	200.00	5.90	0.2450	1.0000	6	343.1	26,279	9.47	6.63
Σ								12,996.8	28,120	2.55	0.85

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	572.91	105.68	2,729.2	25,472	5.99	4.43
#4	3,216.100	7,194.800	818.83	218.45	5,776.2	41,671	7.72	3.57
#1	8,477.900	8,477.900	1,624.54	275.06	6,013.8	34,467	9.83	4.55
#2	3,838.900	12,316.800	1,737.37	473.57	9,578.6	34,183	4.99	2.15
#5	5,494.300	25,005.900	2,122.35	978.32	18,442.9	24,802	2.95	1.64
#6	3,079.000	28,084.900	2,107.74	1,121.18	17,431.7	21,045	1.41	0.76
#7	3,035.760	31,120.660	2,099.07	1,173.64	17,281.2	20,309	1.28	0.68
#8	4,401.790	35,522.450	2,102.09	1,256.73	17,342.3	29,261	1.90	0.66
#9	2,327.100	37,849.550	2,092.35	1,352.14	18,060.4	29,225	2.72	0.91

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	171.52	22.466
	2	1,079.100	0.919	0.596	0.351	80.800	M	274.85	30.645
	3	450.300	0.571	0.319	0.355	81.300	M	167.39	13.339
	4	742.600	1.122	0.000	0.000	78.500	M	131.99	17.306
	5	915.400	0.725	0.000	0.000	78.800	M	228.64	21.925
	Σ	3,978.700						572.91	105.681
#4	1	546.400	0.725	1.710	0.319	81.700	M	178.56	16.713
	2	441.200	0.814	1.429	0.318	86.000	M	190.06	18.837
	3	889.400	0.919	0.998	0.318	82.100	M	254.39	28.090
	4	1,339.100	0.919	0.000	0.000	84.000	M	450.30	49.126
	Σ	7,194.800						818.83	218.447
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	238.26	35.264
	2	1,662.000	0.217	0.849	0.360	80.300	M	961.46	45.527
	3	1,434.000	1.575	1.241	0.357	81.100	M	249.67	41.727
	4	842.700	1.100	0.977	0.364	81.000	M	191.48	24.324
	5	676.100	1.067	1.113	0.365	81.600	M	165.85	20.501
	6	1,223.200	0.777	0.596	0.352	81.800	M	384.07	37.716
	7	743.100	0.745	0.530	0.354	83.600	M	280.45	26.430
	8	654.500	0.800	0.000	0.000	92.200	M	455.14	43.570
	Σ	8,477.900						1,624.54	275.060
#2	1	609.500	0.669	1.219	0.340	85.700	M	293.48	25.469
	2	537.100	0.609	1.436	0.329	91.600	M	428.74	34.326
	3	455.000	0.547	1.288	0.324	82.000	M	184.91	14.260
	4	627.000	0.634	0.852	0.324	87.900	M	369.87	30.784
	5	653.100	0.451	0.453	0.315	91.200	M	604.42	40.586
	6	957.200	0.984	0.000	0.000	89.600	M	474.51	53.081
	Σ	12,316.800						1,737.37	473.566
#5	1	763.100	0.681	3.507	0.293	84.100	M	319.36	28.222
	2	983.300	1.118	2.231	0.289	89.200	M	430.73	52.983
	3	1,022.000	0.997	1.587	0.291	92.000	M	599.14	67.111
	4	688.700	1.905	1.255	0.291	80.800	M	100.41	19.546
	5	754.300	2.303	1.084	0.287	86.200	M	147.48	32.667
	6	628.400	0.540	0.595	0.301	93.000	M	595.51	44.255
	7	654.500	0.562	0.000	0.000	91.500	M	545.35	41.527
	Σ	25,005.900						2,122.35	978.323
#6	1	901.350	1.150	1.896	0.315	81.100	M	199.86	26.233
	2	1,011.200	1.864	0.166	0.287	83.500	M	189.02	35.661

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.450	1.178	0.000	0.000	92.800	M	640.86	80.959
	Σ	28,084.900						2,107.74	1,121.175
#7	1	935.150	0.763	2.250	0.267	77.500	M	198.36	19.938
	2	386.880	1.710	3.116	0.265	79.000	M	52.14	9.419
	3	244.890	1.321	2.285	0.262	72.900	M	20.94	3.301
	4	369.500	0.705	2.283	0.262	72.900	M	49.50	4.982
	5	492.930	0.715	1.466	0.268	72.900	M	65.40	6.646
	6	606.410	1.158	2.654	0.280	72.900	M	57.21	8.174
	Σ	31,120.660						2,099.07	1,173.635
#8	1	1,637.130	2.598	2.654	0.280	74.300	M	97.62	25.582
	2	753.660	2.086	1.900	0.281	79.000	M	86.68	18.351
	3	320.510	0.755	0.850	0.294	72.900	M	40.98	4.323
	4	643.270	1.067	0.597	0.299	73.100	M	66.07	8.862
	5	451.720	1.104	0.486	0.309	75.600	M	60.43	8.043
	6	357.060	0.657	0.486	0.309	83.400	M	144.54	12.514
	7	238.440	0.607	0.000	0.000	78.200	M	63.57	5.418
	Σ	35,522.450						2,102.09	1,256.728
#9	1	484.600	0.681	2.383	0.256	88.900	M	294.28	25.580
	2	434.900	0.634	2.155	0.259	82.000	M	160.09	13.625
	3	361.200	0.686	1.864	0.256	84.900	M	160.47	14.197
	4	573.300	0.655	0.983	0.255	85.700	M	279.98	23.960
	5	473.100	0.668	0.000	0.000	84.500	M	207.25	18.053
	Σ	37,849.550						2,092.35	1,352.143

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	595.6	26,529	7.77	5.66
	2	0.181	100.00	10.10	0.3050	1.0000	13	1,342.9	44,054	15.88	11.45
	3	0.151	200.00	5.50	0.3050	1.0000	18	356.5	27,891	11.65	8.13
	4	0.183	130.00	7.60	0.3160	1.0000	12	498.3	29,143	8.21	5.91
	5	0.185	100.00	8.30	0.2760	1.0000	6	666.1	31,457	9.98	7.02
	Σ							2,729.2	25,472	5.99	4.43
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	455.9	27,552	10.48	7.56
	2	0.148	100.00	12.00	0.2220	1.0000	5	629.8	33,577	10.61	7.68
	3	0.185	75.00	13.60	0.2740	1.0000	17	1,419.7	50,435	17.09	12.39
	4	0.213	100.00	10.60	0.2330	1.0000	6	2,222.1	45,840	14.42	10.31

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
Σ								5,776.2	41,671	7.72	3.57
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	410.2	11,649	3.36	2.45
	2	0.202	240.00	3.30	0.2960	1.0000	13	1,305.1	30,415	15.87	10.89
	3	0.206	280.00	2.60	0.2960	1.0000	13	503.4	12,041	3.07	2.25
	4	0.188	200.00	5.10	0.2960	1.0000	13	605.7	25,004	8.24	5.99
	5	0.124	240.00	3.60	0.3130	1.0000	18	220.3	10,862	3.41	2.47
	6	0.178	130.00	7.90	0.2850	1.0000	7	1,276.0	34,427	12.74	9.10
	7	0.191	100.00	9.20	0.2540	1.0000	6	926.1	35,717	12.47	8.89
	8	0.199	75.00	15.10	0.1510	1.0000	2	1,701.9	39,535	10.62	7.61
Σ								6,013.8	34,467	9.83	4.55
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	641.3	25,617	8.91	6.38
	2	0.199	75.00	12.60	0.1510	1.0000	2	1,141.2	33,447	10.48	7.57
	3	0.200	100.00	8.60	0.2020	1.0000	11	389.3	27,939	8.23	5.86
	4	0.193	75.00	12.30	0.1730	1.0000	4	1,064.2	35,137	10.86	7.76
	5	0.187	75.00	14.00	0.1590	1.0000	3	1,723.7	43,507	16.07	11.37
	6	0.198	75.00	13.70	0.1680	1.0000	4	1,904.6	36,211	8.60	6.19
Σ								9,578.6	34,183	4.99	2.15
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	770.4	26,997	9.90	7.30
	2	0.209	130.00	7.10	0.1680	1.0000	4	1,028.7	19,312	3.94	2.90
	3	0.191	100.00	8.40	0.1500	1.0000	2	1,223.1	18,204	3.99	2.92
	4	0.235	200.00	4.90	0.2870	1.0000	9	435.7	22,035	4.67	3.45
	5	0.220	240.00	3.70	0.1900	1.0000	16	295.9	8,999	0.55	0.41
	6	0.200	130.00	7.30	0.1410	1.0000	1	919.2	21,181	6.99	5.01
	7	0.204	200.00	4.70	0.1560	1.0000	2	777.1	19,417	6.31	4.44
Σ								18,442.9	24,802	2.95	1.64
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	380.5	14,502	4.75	3.48
	2	0.226	280.00	2.40	0.2330	1.0000	6	317.0	8,904	1.23	0.90
	3	0.200	200.00	4.20	0.1460	1.0000	1	1,020.9	12,746	2.16	1.57
Σ								17,431.7	21,045	1.41	0.76
#7	1	0.189	280.00	2.70	0.2330	1.0000	10	218.6	11,026	3.21	2.34
	2	0.193	280.00	2.60	0.3270	1.0000	8	94.2	9,876	2.11	1.57
	3	0.164	280.00	3.00	0.3320	1.0000	8	30.9	9,266	1.98	1.46
	4	0.165	280.00	2.10	0.1790	1.0000	8	24.7	5,002	1.70	1.24
	5	0.164	280.00	2.70	0.3150	1.0000	8	74.5	11,370	3.84	2.77
	6	0.164	240.00	3.80	0.3380	1.0000	8	108.9	13,216	3.22	2.38
Σ								17,281.2	20,309	1.28	0.68
#8	1	0.195	420.00	1.80	0.3050	1.0000	8	179.8	6,900	0.44	0.33
	2	0.183	280.00	2.70	0.2500	1.0000	15	136.5	7,358	0.39	0.29
	3	0.164	130.00	6.40	0.2220	1.0000	8	63.5	15,012	4.93	3.53

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.166	130.00	7.10	0.1790	1.0000	8	111.9	12,710	3.36	2.44
	5	0.172	240.00	3.10	0.2960	1.0000	8	84.7	10,630	3.00	2.18
	6	0.233	240.00	3.60	0.2650	1.0000	15	245.9	20,251	6.53	4.63
	7	0.185	100.00	11.60	0.1810	1.0000	10	165.1	32,009	10.87	7.53
Σ								17,342.3	29,261	1.90	0.66
#9	1	0.204	130.00	7.90	0.1860	1.0000	19	661.5	25,647	11.16	8.20
	2	0.178	100.00	10.70	0.2320	1.0000	10	512.0	37,429	13.51	9.85
	3	0.177	100.00	8.30	0.2320	1.0000	6	344.5	24,314	9.02	6.56
	4	0.161	100.00	10.00	0.2220	1.0000	5	730.2	30,833	10.82	7.79
	5	0.175	200.00	5.90	0.2450	1.0000	6	473.8	27,251	10.15	7.12
Σ								18,060.4	29,225	2.72	0.91

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	P1	P2	P3	P4	P5	P6	P7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	85.529%	83.954%	83.494%	79.684%	74.336%	71.800%	68.824%
0.1500	72.267%	70.070%	68.714%	64.718%	55.514%	53.158%	47.671%
0.0750	58.134%	56.187%	54.477%	51.673%	42.977%	40.816%	35.579%
0.0159	49.962%	48.376%	46.844%	44.689%	37.721%	35.600%	31.445%
0.0100	38.953%	37.808%	36.471%	35.083%	30.403%	28.065%	25.380%
0.0050	9.675%	9.683%	9.177%	10.018%	9.205%	9.529%	8.929%
0.0020	6.279%	6.204%	5.875%	6.237%	5.303%	5.591%	4.938%
0.0010	6.010%	5.917%	5.567%	5.908%	4.905%	5.155%	4.462%
0.0004	4.942%	4.914%	4.659%	5.035%	4.387%	4.686%	4.216%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#3	3,978.700	3,978.700	783.57	142.13	3,837.2	26,524	6.66	4.94
#4	3,216.100	7,194.800	1,100.22	288.82	7,947.1	43,284	8.45	3.91
#1	8,477.900	8,477.900	2,155.17	360.15	8,089.8	35,233	10.61	4.93
#2	3,838.900	12,316.800	2,276.90	607.04	12,660.0	35,221	5.37	2.32
#5	5,494.300	25,005.900	2,767.14	1,251.07	25,078.0	26,497	3.63	2.01
#6	3,079.000	28,084.900	2,741.20	1,430.03	23,701.8	22,551	1.56	0.84
#7	3,035.760	31,120.660	2,716.19	1,504.53	23,354.1	21,680	1.42	0.74
#8	4,401.790	35,522.450	2,716.03	1,620.98	23,379.2	30,553	2.06	0.71
#9	2,327.100	37,849.550	2,702.58	1,742.84	24,301.4	30,188	2.87	0.97

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#3	1	791.300	1.144	1.181	0.350	80.800	M	231.97	29.977
	2	1,079.100	0.919	0.596	0.351	80.800	M	371.96	40.891
	3	450.300	0.571	0.319	0.355	81.300	M	224.52	17.711
	4	742.600	1.122	0.000	0.000	78.500	M	183.17	23.665
	5	915.400	0.725	0.000	0.000	78.800	M	317.39	29.881
	Σ	3,978.700						783.57	142.126
#4	1	546.400	0.725	1.710	0.319	81.700	M	238.91	22.105
	2	441.200	0.814	1.429	0.318	86.000	M	243.30	23.976
	3	889.400	0.919	0.998	0.318	82.100	M	339.11	37.008
	4	1,339.100	0.919	0.000	0.000	84.000	M	588.13	63.608
	Σ	7,194.800						1,100.22	288.822
#1	1	1,242.300	1.344	1.345	0.354	80.800	M	321.72	47.055
	2	1,662.000	0.217	0.849	0.360	80.300	M	1,278.18	61.059
	3	1,434.000	1.575	1.241	0.357	81.100	M	335.61	55.512
	4	842.700	1.100	0.977	0.364	81.000	M	258.51	32.392
	5	676.100	1.067	1.113	0.365	81.600	M	222.36	27.141
	6	1,223.200	0.777	0.596	0.352	81.800	M	513.46	49.833
	7	743.100	0.745	0.530	0.354	83.600	M	367.46	34.343
	8	654.500	0.800	0.000	0.000	92.200	M	553.14	52.812
	Σ	8,477.900						2,155.17	360.147
#2	1	609.500	0.669	1.219	0.340	85.700	M	376.19	32.498
	2	537.100	0.609	1.436	0.329	91.600	M	522.90	41.798
	3	455.000	0.547	1.288	0.324	82.000	M	245.85	18.806
	4	627.000	0.634	0.852	0.324	87.900	M	466.32	38.579
	5	653.100	0.451	0.453	0.315	91.200	M	737.24	49.572
	6	957.200	0.984	0.000	0.000	89.600	M	588.59	65.639
	Σ	12,316.800						2,276.90	607.039
#5	1	763.100	0.681	3.507	0.293	84.100	M	415.98	36.509
	2	983.300	1.118	2.231	0.289	89.200	M	536.36	65.723
	3	1,022.000	0.997	1.587	0.291	92.000	M	729.90	81.469
	4	688.700	1.905	1.255	0.291	80.800	M	135.36	26.081
	5	754.300	2.303	1.084	0.287	86.200	M	188.57	41.509
	6	628.400	0.540	0.595	0.301	93.000	M	716.58	53.314
	7	654.500	0.562	0.000	0.000	91.500	M	665.21	50.604
	Σ	25,005.900						2,767.14	1,251.070
#6	1	901.350	1.150	1.896	0.315	81.100	M	269.47	34.899
	2	1,011.200	1.864	0.166	0.287	83.500	M	247.99	46.379

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
	3	1,166.450	1.178	0.000	0.000	92.800	M	775.58	97.682
	Σ	28,084.900						2,741.20	1,430.031
#7	1	935.150	0.763	2.250	0.267	77.500	M	279.81	27.585
	2	386.880	1.710	3.116	0.265	79.000	M	71.85	12.809
	3	244.890	1.321	2.285	0.262	72.900	M	31.92	4.873
	4	369.500	0.705	2.283	0.262	72.900	M	75.68	7.355
	5	492.930	0.715	1.466	0.268	72.900	M	100.00	9.813
	6	606.410	1.158	2.654	0.280	72.900	M	87.30	12.068
	Σ	31,120.660						2,716.19	1,504.535
#8	1	1,637.130	2.598	2.654	0.280	74.300	M	143.79	36.943
	2	753.660	2.086	1.900	0.281	79.000	M	119.33	24.955
	3	320.510	0.755	0.850	0.294	72.900	M	62.65	6.382
	4	643.270	1.067	0.597	0.299	73.100	M	100.45	13.040
	5	451.720	1.104	0.486	0.309	75.600	M	87.59	11.401
	6	357.060	0.657	0.486	0.309	83.400	M	189.59	16.291
	7	238.440	0.607	0.000	0.000	78.200	M	88.92	7.434
	Σ	35,522.450						2,716.03	1,620.981
#9	1	484.600	0.681	2.383	0.256	88.900	M	367.82	31.806
	2	434.900	0.634	2.155	0.259	82.000	M	213.22	17.968
	3	361.200	0.686	1.864	0.256	84.900	M	207.36	18.239
	4	573.300	0.655	0.983	0.255	85.700	M	358.82	30.572
	5	473.100	0.668	0.000	0.000	84.500	M	268.81	23.272
	Σ	37,849.550						2,702.58	1,742.837

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#3	1	0.150	100.00	9.10	0.3050	1.0000	18	828.9	27,648	8.54	6.22
	2	0.181	100.00	10.10	0.3050	1.0000	13	1,869.8	45,938	17.19	12.39
	3	0.151	200.00	5.50	0.3050	1.0000	18	492.6	28,974	12.42	8.69
	4	0.183	130.00	7.60	0.3160	1.0000	12	713.4	30,476	9.11	6.56
	5	0.185	100.00	8.30	0.2760	1.0000	6	951.9	32,951	11.01	7.75
	Σ							3,837.2	26,524	6.66	4.94
#4	1	0.173	130.00	7.00	0.2850	1.0000	7	627.5	28,626	11.23	8.11
	2	0.148	100.00	12.00	0.2220	1.0000	5	827.9	34,612	11.32	8.21
	3	0.185	75.00	13.60	0.2740	1.0000	17	1,946.1	52,384	18.44	13.38
	4	0.213	100.00	10.60	0.2330	1.0000	6	2,982.3	47,427	15.52	11.11

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
Σ								7,947.1	43,284	8.45	3.91
#1	1	0.220	280.00	2.20	0.2960	1.0000	13	570.5	12,144	3.69	2.69
	2	0.202	240.00	3.30	0.2960	1.0000	13	1,804.2	31,080	16.38	11.34
	3	0.206	280.00	2.60	0.2960	1.0000	13	697.1	12,539	3.40	2.49
	4	0.188	200.00	5.10	0.2960	1.0000	13	841.2	26,080	8.97	6.51
	5	0.124	240.00	3.60	0.3130	1.0000	18	303.7	11,310	3.72	2.70
	6	0.178	130.00	7.90	0.2850	1.0000	7	1,754.7	35,791	13.68	9.78
	7	0.191	100.00	9.20	0.2540	1.0000	6	1,247.6	36,937	13.32	9.52
	8	0.199	75.00	15.10	0.1510	1.0000	2	2,114.1	40,449	11.23	8.06
Σ								8,089.8	35,233	10.61	4.93
#2	1	0.188	130.00	7.30	0.2120	1.0000	5	844.7	26,414	9.45	6.78
	2	0.199	75.00	12.60	0.1510	1.0000	2	1,424.1	34,209	10.98	7.95
	3	0.200	100.00	8.60	0.2020	1.0000	11	533.1	28,939	8.91	6.36
	4	0.193	75.00	12.30	0.1730	1.0000	4	1,374.9	36,137	11.55	8.28
	5	0.187	75.00	14.00	0.1590	1.0000	3	2,154.8	44,379	16.69	11.84
	6	0.198	75.00	13.70	0.1680	1.0000	4	2,420.2	37,130	9.22	6.65
Σ								12,660.0	35,221	5.37	2.32
#5	1	0.213	130.00	6.30	0.2330	1.0000	6	1,031.8	27,909	10.54	7.77
	2	0.209	130.00	7.10	0.1680	1.0000	4	1,312.2	19,849	4.28	3.15
	3	0.191	100.00	8.40	0.1500	1.0000	2	1,522.7	18,662	4.28	3.14
	4	0.235	200.00	4.90	0.2870	1.0000	9	605.4	22,950	5.26	3.88
	5	0.220	240.00	3.70	0.1900	1.0000	16	388.3	9,295	0.68	0.50
	6	0.200	130.00	7.30	0.1410	1.0000	1	1,131.7	21,591	7.27	5.22
	7	0.204	200.00	4.70	0.1560	1.0000	2	970.3	19,839	6.60	4.66
Σ								25,078.0	26,497	3.63	2.01
#6	1	0.228	280.00	2.70	0.2870	1.0000	9	527.9	15,123	5.18	3.79
	2	0.226	280.00	2.40	0.2330	1.0000	6	427.6	9,237	1.46	1.07
	3	0.200	200.00	4.20	0.1460	1.0000	1	1,261.9	13,049	2.36	1.71
Σ								23,701.8	22,551	1.56	0.84
#7	1	0.189	280.00	2.70	0.2330	1.0000	10	317.9	11,577	3.59	2.62
	2	0.193	280.00	2.60	0.3270	1.0000	8	133.9	10,332	2.40	1.78
	3	0.164	280.00	3.00	0.3320	1.0000	8	48.6	9,906	2.38	1.76
	4	0.165	280.00	2.10	0.1790	1.0000	8	39.0	5,348	1.94	1.41
	5	0.164	280.00	2.70	0.3150	1.0000	8	117.5	12,167	4.38	3.15
	6	0.164	240.00	3.80	0.3380	1.0000	8	171.7	14,131	3.82	2.81
Σ								23,354.1	21,680	1.42	0.74
#8	1	0.195	420.00	1.80	0.3050	1.0000	8	274.4	7,307	0.57	0.43
	2	0.183	280.00	2.70	0.2500	1.0000	15	193.9	7,694	0.42	0.31
	3	0.164	130.00	6.40	0.2220	1.0000	8	100.2	16,044	5.63	4.03

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
	4	0.166	130.00	7.10	0.1790	1.0000	8	175.7	13,579	3.93	2.85
	5	0.172	240.00	3.10	0.2960	1.0000	8	126.7	11,238	3.40	2.47
	6	0.233	240.00	3.60	0.2650	1.0000	15	331.8	20,933	7.00	4.97
	7	0.185	100.00	11.60	0.1810	1.0000	10	237.9	33,539	11.95	8.30
Σ								23,379.2	30,553	2.06	0.71
#9	1	0.204	130.00	7.90	0.1860	1.0000	19	846.7	26,354	11.67	8.59
	2	0.178	100.00	10.70	0.2320	1.0000	10	701.9	38,823	14.51	10.60
	3	0.177	100.00	8.30	0.2320	1.0000	6	457.6	25,084	9.55	6.97
	4	0.161	100.00	10.00	0.2220	1.0000	5	961.8	31,754	11.46	8.26
	5	0.175	200.00	5.90	0.2450	1.0000	6	631.8	28,099	10.75	7.57
Σ								24,301.4	30,188	2.87	0.97

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	22.00	736.00	1.720	0.118
		8. Large gullies, diversions, and low flowing streams	0.63	66.21	10,511.00	2.380	1.226
#1	1	Time of Concentration:					1.344
#1	2	8. Large gullies, diversions, and low flowing streams	1.48	241.99	16,353.00	3.640	1.247
		5. Nearly bare and untilled, and alluvial valley fans	1.02	8.00	785.00	1.000	0.218
#1	2	Time of Concentration:					0.217
#1	3	5. Nearly bare and untilled, and alluvial valley fans	0.88	10.00	1,136.10	0.930	0.339
		8. Large gullies, diversions, and low flowing streams	1.31	200.00	15,244.00	3.430	1.234
#1	3	Time of Concentration:					1.575
#1	4	5. Nearly bare and untilled, and alluvial valley fans	1.85	10.00	542.00	1.350	0.111
		8. Large gullies, diversions, and low flowing streams	1.62	220.00	13,595.00	3.810	0.991
#1	4	Time of Concentration:					1.100
#1	5	5. Nearly bare and untilled, and alluvial valley fans	1.23	10.00	812.00	1.100	0.205
		8. Large gullies, diversions, and low flowing streams	1.41	156.00	11,049.00	3.560	0.862
#1	5	Time of Concentration:					1.067
#1	6	5. Nearly bare and untilled, and alluvial valley fans	3.12	22.00	706.00	1.760	0.111
		8. Large gullies, diversions, and low flowing streams	2.85	346.00	12,152.00	5.060	0.667

Appendix 38-G

No Name Hydrology and Sedimentology for LOM Reclamation Plan

No Name Hydrology and Sedimentology **for LOM Reclamation Plan**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

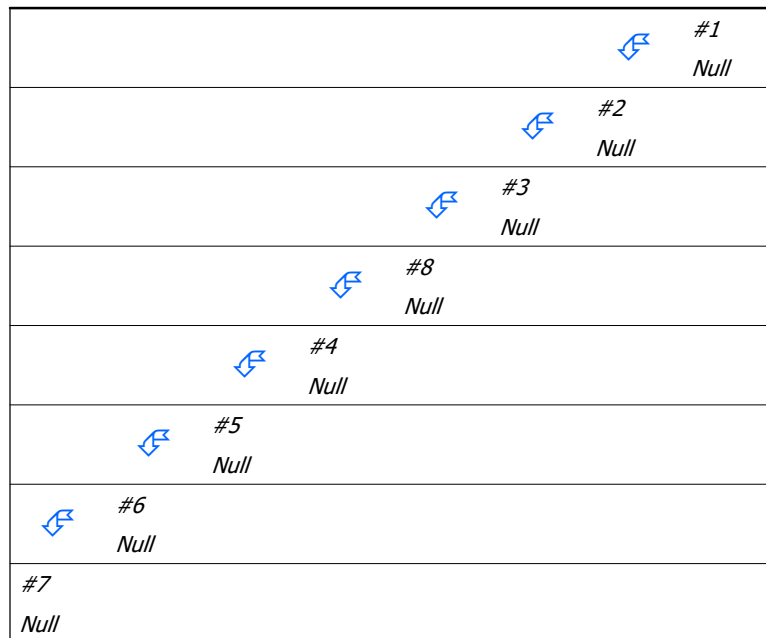
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	0.814	0.291	SWS01
Null	#2	==>	#3	0.656	0.345	SWS02
Null	#3	==>	#8	0.000	0.000	SWS03, 04, 05
Null	#4	==>	#5	0.096	0.358	SWS06, 07
Null	#5	==>	#6	0.681	0.307	SWS08
Null	#6	==>	#7	1.027	0.307	SWS09, 10, 11, 12,13, 14
Null	#7	==>	End	0.000	0.000	SWS15, 16, 17, 18, 19
Null	#8	==>	#4	0.604	0.309	S03 Impoundment Area

**Structure Routing Details:**

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	0.62	42.99	6,923.00	2.36	0.814
#1	Muskingum K:					0.814
#2	8. Large gullies, diversions, and low flowing streams	1.59	141.99	8,936.00	3.78	0.656
#2	Muskingum K:					0.656
#4	8. Large gullies, diversions, and low flowing streams	2.03	29.99	1,480.00	4.27	0.096
#4	Muskingum K:					0.096

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#5	8. Large gullies, diversions, and low flowing streams	0.82	53.99	6,623.00	2.70	0.681
#5	Muskingum K:					0.681
#6	8. Large gullies, diversions, and low flowing streams	0.82	81.99	10,027.00	2.71	1.027
#6	Muskingum K:					1.027

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	21.26	3.57	30.1	8,357	1.24	0.93
#2	856.430	1,855.800	31.73	7.51	14.0	2,640	0.05	0.00
#3	2,374.080	4,229.880	45.67	12.06	38.7	6,200	0.40	0.15
#8	0.000	4,229.880	45.67	12.06	38.7	6,200	0.40	0.15
#4	1,068.640	5,298.520	52.50	14.82	77.0	17,700	2.01	0.43
#5	233.280	5,531.800	54.28	16.62	109.3	24,320	4.06	0.80
#6	1,164.130	6,695.930	141.23	27.78	380.2	25,117	6.82	2.71
#7	648.980	7,344.910	143.36	33.29	479.9	26,802	6.03	2.37

Particle Size Distribution(s) at Each Structure

Structure #1 (SWS01):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	84.866%
0.0050	36.255%
0.0020	21.958%
0.0010	20.227%
0.0004	18.747%

Structure #2 (SWS02):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	77.910%
0.0020	47.187%
0.0010	43.467%
0.0004	40.287%

Structure #3 (SWS03, 04, 05):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%

Size (mm)	In/Out
0.0100	96.819%
0.0050	45.836%
0.0020	27.827%
0.0010	25.395%
0.0004	23.494%

Structure #8 (S03 Impoundment Area):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	96.819%
0.0050	45.836%
0.0020	27.827%
0.0010	25.395%
0.0004	23.494%

Structure #4 (SWS06, 07):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	90.101%
0.0050	34.923%
0.0020	21.057%
0.0010	19.166%
0.0004	17.604%

Structure #5 (SWS08):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	94.519%
0.0159	89.970%
0.0100	83.728%

Size (mm)	In/Out
0.0050	31.051%
0.0020	18.646%
0.0010	17.019%
0.0004	15.500%

Structure #6 (SWS09, 10, 11, 12,13, 14):

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	99.178%
0.0750	88.950%
0.0159	81.481%
0.0100	69.298%
0.0050	20.620%
0.0020	12.038%
0.0010	11.050%
0.0004	9.877%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	99.336%
0.0750	96.151%
0.0159	90.516%
0.0100	75.871%
0.0050	21.905%
0.0020	12.711%
0.0010	11.656%
0.0004	10.424%

Structure Detail:

Structure #1 (Null)

SWS01

Structure #2 (Null)

SWS02

Structure #3 (Null)

SWS03, 04, 05

Structure #8 (Null)

S03 Impoundment Area

Structure #4 (Null)

SWS06, 07

Structure #5 (Null)

SWS08

Structure #6 (Null)

SWS09, 10, 11, 12,13, 14

Structure #7 (Null)

SWS15, 16, 17, 18, 19

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	21.26	3.566
	Σ	999.370						21.26	3.566
#2	1	856.430	0.990	0.000	0.000	83.000	M	29.23	3.944
	Σ	1,855.800						31.73	7.511
#3	1	925.920	2.893	0.409	0.297	77.000	M	2.95	0.973
	2	1,019.220	1.453	0.193	0.261	79.000	M	9.66	1.946
	3	428.940	0.843	0.000	0.000	82.000	M	12.90	1.628
	Σ	4,229.880						45.67	12.057
#8	Σ	4,229.880						45.67	12.057
#4	1	551.860	1.104	0.364	0.292	78.000	M	4.45	0.797
	2	516.780	0.665	0.000	0.000	82.000	M	18.22	1.963
	Σ	5,298.520						52.50	14.816
#5	1	233.280	0.374	0.000	0.000	86.000	M	27.93	1.803
	Σ	5,531.800						54.28	16.620
#6	1	126.980	0.164	0.545	0.308	86.900	M	26.89	1.153
	2	235.630	0.327	0.427	0.341	86.700	M	34.76	2.040
	3	258.380	0.416	0.365	0.294	88.300	M	42.86	2.846
	4	180.930	0.449	0.176	0.301	86.700	M	21.83	1.562
	5	189.850	0.326	0.000	0.000	86.800	M	28.55	1.669
	6	172.360	0.753	0.000	0.000	88.300	M	19.12	1.892
	Σ	6,695.930						141.23	27.781
#7	1	91.450	0.220	0.854	0.310	86.800	M	16.92	0.806
	2	286.490	0.566	0.642	0.312	87.100	M	31.70	2.629
	3	75.280	0.179	0.610	0.308	86.800	M	15.25	0.670
	4	128.700	0.157	0.270	0.325	86.800	M	26.83	1.150
	5	67.060	0.333	0.000	0.000	82.000	M	3.77	0.256
	Σ	7,344.910						143.36	33.293

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	30.1	8,357	1.24	0.92
Σ								30.1	8,357	1.24	0.93
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								14.0	2,640	0.05	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	4.0	3,874	0.25	0.19
	2	0.204	280.00	2.30	0.2330	1.0000	4	10.2	5,106	0.40	0.30
	3	0.158	240.00	3.80	0.2110	1.0000	5	11.5	7,212	0.87	0.63
Σ								38.7	6,200	0.40	0.15
#8	Σ							38.7	6,200	0.40	0.15
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	7.9	9,644	0.63	0.48
	2	0.183	100.00	9.10	0.1990	1.0000	7	34.5	18,227	3.90	2.75
Σ								77.0	17,700	2.01	0.43
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	44.4	27,211	9.36	6.18
Σ								109.3	24,320	4.06	0.80
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	39.9	37,425	16.51	11.08
	2	0.145	100.00	12.00	0.2110	1.0000	15	65.1	34,491	12.64	8.51
	3	0.171	100.00	8.20	0.1850	1.0000	10	50.4	18,857	6.44	4.42
	4	0.150	75.00	12.10	0.2110	1.0000	11	38.1	26,153	8.47	5.76
	5	0.143	75.00	13.30	0.2110	1.0000	15	49.5	33,056	12.17	7.96
	6	0.164	75.00	13.90	0.1850	1.0000	12	45.3	24,778	5.73	4.04
Σ								380.2	25,117	6.82	2.71
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	20.9	27,516	11.42	7.83
	2	0.162	75.00	15.20	0.2220	1.0000	13	95.8	37,621	11.76	8.28
	3	0.143	75.00	20.10	0.2110	1.0000	15	34.3	54,806	23.78	16.06
	4	0.143	75.00	8.10	0.2110	1.0000	15	18.7	18,237	8.02	5.23
	5	0.215	100.00	8.20	0.2760	1.0000	14	6.3	27,821	11.04	7.11
Σ								479.9	26,802	6.03	2.37

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.25	16.06	712.25	1.500	0.131

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	0.90	43.05	4,784.92	2.840	0.468
		8. Large gullies, diversions, and low flowing streams	0.66	22.54	3,425.53	2.430	0.391
#2	1	Time of Concentration:					0.990
#3	1	5. Nearly bare and untilled, and alluvial valley fans	0.36	8.10	2,266.36	0.590	1.067
		8. Large gullies, diversions, and low flowing streams	0.58	67.79	11,655.77	2.280	1.420
		8. Large gullies, diversions, and low flowing streams	0.76	29.00	3,819.81	2.610	0.406
#3	1	Time of Concentration:					2.893
#3	2	5. Nearly bare and untilled, and alluvial valley fans	1.30	17.12	1,314.29	1.140	0.320
		8. Large gullies, diversions, and low flowing streams	1.20	62.27	5,173.64	3.290	0.436
		8. Large gullies, diversions, and low flowing streams	1.02	45.50	4,462.09	3.020	0.410
		8. Large gullies, diversions, and low flowing streams	0.98	30.00	3,063.72	2.960	0.287
#3	2	Time of Concentration:					1.453
#3	3	5. Nearly bare and untilled, and alluvial valley fans	2.19	31.92	1,460.13	1.470	0.275
		8. Large gullies, diversions, and low flowing streams	1.48	83.08	5,599.13	3.650	0.426
		8. Large gullies, diversions, and low flowing streams	1.19	20.00	1,681.09	3.270	0.142
#3	3	Time of Concentration:					0.843
#4	1	5. Nearly bare and untilled, and alluvial valley fans	0.34	2.73	799.18	0.580	0.382
		8. Large gullies, diversions, and low flowing streams	1.64	128.50	7,818.68	3.840	0.565
		8. Large gullies, diversions, and low flowing streams	1.11	20.00	1,795.81	3.160	0.157
#4	1	Time of Concentration:					1.104
#4	2	5. Nearly bare and untilled, and alluvial valley fans	7.50	37.90	505.38	2.730	0.051
		8. Large gullies, diversions, and low flowing streams	2.07	121.70	5,892.60	4.310	0.379
		8. Large gullies, diversions, and low flowing streams	1.11	29.60	2,674.86	3.150	0.235
#4	2	Time of Concentration:					0.665
#5	1	5. Nearly bare and untilled, and alluvial valley fans	1.28	6.43	502.18	1.130	0.123
		8. Large gullies, diversions, and low flowing streams	3.80	72.83	1,918.14	5.840	0.091
		8. Large gullies, diversions, and low flowing streams	2.42	65.00	2,687.83	4.660	0.160
#5	1	Time of Concentration:					0.374
#6	1	5. Nearly bare and untilled, and alluvial valley fans	4.94	12.00	243.00	2.220	0.030

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	4.62	144.00	3,117.00	6.440	0.134
#6	1	Time of Concentration:					0.164
#6	2	5. Nearly bare and untilled, and alluvial valley fans	4.52	46.00	1,017.00	2.120	0.133
		8. Large gullies, diversions, and low flowing streams	3.40	132.00	3,879.00	5.530	0.194
#6	2	Time of Concentration:					0.327
#6	3	5. Nearly bare and untilled, and alluvial valley fans	2.83	22.99	813.00	1.680	0.134
		8. Large gullies, diversions, and low flowing streams	2.68	133.99	4,999.00	4.910	0.282
#6	3	Time of Concentration:					0.416
#6	4	5. Nearly bare and untilled, and alluvial valley fans	4.43	28.00	632.00	2.100	0.083
		8. Large gullies, diversions, and low flowing streams	2.77	182.00	6,575.00	4.990	0.366
#6	4	Time of Concentration:					0.449
#6	5	5. Nearly bare and untilled, and alluvial valley fans	6.63	41.00	618.00	2.570	0.066
		8. Large gullies, diversions, and low flowing streams	2.36	102.00	4,321.00	4.600	0.260
#6	5	Time of Concentration:					0.326
#6	6	5. Nearly bare and untilled, and alluvial valley fans	0.41	4.00	979.00	0.630	0.431
		8. Large gullies, diversions, and low flowing streams	2.88	170.00	5,907.00	5.080	0.322
#6	6	Time of Concentration:					0.753
#7	1	5. Nearly bare and untilled, and alluvial valley fans	18.35	60.00	327.00	4.280	0.021
		8. Large gullies, diversions, and low flowing streams	3.36	133.00	3,954.00	5.500	0.199
#7	1	Time of Concentration:					0.220
#7	2	5. Nearly bare and untilled, and alluvial valley fans	2.42	20.00	826.00	1.550	0.148
		8. Large gullies, diversions, and low flowing streams	2.59	188.00	7,257.00	4.820	0.418
#7	2	Time of Concentration:					0.566
#7	3	5. Nearly bare and untilled, and alluvial valley fans	10.34	74.00	716.00	3.210	0.061
		8. Large gullies, diversions, and low flowing streams	4.74	132.00	2,785.00	6.530	0.118
#7	3	Time of Concentration:					0.179
#7	4	5. Nearly bare and untilled, and alluvial valley fans	17.05	37.00	217.00	4.120	0.014
		8. Large gullies, diversions, and low flowing streams	3.52	102.00	2,899.00	5.620	0.143
#7	4	Time of Concentration:					0.157
#7	5	5. Nearly bare and untilled, and alluvial valley fans	0.95	2.00	211.00	0.970	0.060

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	1.06	32.00	3,028.00	3.080	0.273
#7	5	Time of Concentration:					0.333

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	8. Large gullies, diversions, and low flowing streams	0.68	24.99	3,656.00	2.480	0.409
#3	1	Muskingum K:					0.409
#3	2	8. Large gullies, diversions, and low flowing streams	0.39	4.99	1,298.00	1.860	0.193
#3	2	Muskingum K:					0.193
#4	1	8. Large gullies, diversions, and low flowing streams	0.64	19.99	3,139.00	2.390	0.364
#4	1	Muskingum K:					0.364
#6	1	8. Large gullies, diversions, and low flowing streams	0.82	43.99	5,337.00	2.720	0.545
#6	1	Muskingum K:					0.545
#6	2	8. Large gullies, diversions, and low flowing streams	1.47	81.99	5,593.00	3.630	0.427
#6	2	Muskingum K:					0.427
#6	3	8. Large gullies, diversions, and low flowing streams	0.66	20.99	3,199.00	2.430	0.365
#6	3	Muskingum K:					0.365
#6	4	8. Large gullies, diversions, and low flowing streams	0.74	11.99	1,631.00	2.570	0.176
#6	4	Muskingum K:					0.176
#7	1	8. Large gullies, diversions, and low flowing streams	0.86	72.99	8,524.00	2.770	0.854
#7	1	Muskingum K:					0.854
#7	2	8. Large gullies, diversions, and low flowing streams	0.89	57.99	6,527.00	2.820	0.642
#7	2	Muskingum K:					0.642
#7	3	8. Large gullies, diversions, and low flowing streams	0.83	49.99	5,997.00	2.730	0.610
#7	3	Muskingum K:					0.610
#7	4	8. Large gullies, diversions, and low flowing streams	1.11	33.99	3,071.00	3.150	0.270
#7	4	Muskingum K:					0.270

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	91.76	13.42	143.4	10,828	2.69	1.97
#2	856.430	1,855.800	121.51	26.75	67.0	3,676	0.11	0.00
#3	2,374.080	4,229.880	195.20	49.33	216.9	7,448	0.85	0.37
#8	0.000	4,229.880	195.20	49.33	216.9	7,448	0.85	0.37
#4	1,068.640	5,298.520	222.57	61.18	413.1	21,868	3.28	0.74
#5	233.280	5,531.800	226.50	66.18	515.5	26,365	4.45	0.96
#6	1,164.130	6,695.930	382.84	94.92	1,236.8	26,841	6.85	2.43
#7	648.980	7,344.910	389.01	109.70	1,544.5	30,117	6.81	2.32

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	91.76	13.419
	Σ	999.370						91.76	13.419
#2	1	856.430	0.990	0.000	0.000	83.000	M	110.78	13.331
	Σ	1,855.800						121.51	26.750
#3	1	925.920	2.893	0.409	0.297	77.000	M	23.02	6.789
	2	1,019.220	1.453	0.193	0.261	79.000	M	58.00	9.822
	3	428.940	0.843	0.000	0.000	82.000	M	54.93	5.967
	Σ	4,229.880						195.20	49.328
#8	Σ	4,229.880						195.20	49.328
#4	1	551.860	1.104	0.364	0.292	78.000	M	33.09	4.656
	2	516.780	0.665	0.000	0.000	82.000	M	77.85	7.193
	Σ	5,298.520						222.57	61.178
#5	1	233.280	0.374	0.000	0.000	86.000	M	81.72	5.003
	Σ	5,531.800						226.50	66.181
#6	1	126.980	0.164	0.545	0.308	86.900	M	69.27	3.043
	2	235.630	0.327	0.427	0.341	86.700	M	95.26	5.445
	3	258.380	0.416	0.365	0.294	88.300	M	107.74	6.998
	4	180.930	0.449	0.176	0.301	86.700	M	61.32	4.168
	5	189.850	0.326	0.000	0.000	86.800	M	77.63	4.431
	6	172.360	0.753	0.000	0.000	88.300	M	49.19	4.653
	Σ	6,695.930						382.84	94.919
#7	1	91.450	0.220	0.854	0.310	86.800	M	44.51	2.140
	2	286.490	0.566	0.642	0.312	87.100	M	87.47	6.868
	3	75.280	0.179	0.610	0.308	86.800	M	39.66	1.780
	4	128.700	0.157	0.270	0.325	86.800	M	69.57	3.054
	5	67.060	0.333	0.000	0.000	82.000	M	15.90	0.937
	Σ	7,344.910						389.01	109.698

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	143.4	10,828	2.69	1.94
Σ								143.4	10,828	2.69	1.97
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								67.0	3,676	0.11	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	37.1	5,341	0.32	0.24
	2	0.204	280.00	2.30	0.2330	1.0000	4	69.0	7,014	1.18	0.87
	3	0.158	240.00	3.80	0.2110	1.0000	5	53.7	9,322	2.13	1.51
Σ								216.9	7,448	0.85	0.37
#8	Σ							216.9	7,448	0.85	0.37
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	65.5	14,127	1.88	1.37
	2	0.183	100.00	9.10	0.1990	1.0000	7	160.9	23,414	7.20	5.02
Σ								413.1	21,868	3.28	0.74
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	143.6	31,117	12.18	8.18
Σ								515.5	26,365	4.45	0.96
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	116.6	40,261	18.71	12.93
	2	0.145	100.00	12.00	0.2110	1.0000	15	198.4	38,661	15.72	10.76
	3	0.171	100.00	8.20	0.1850	1.0000	10	139.8	21,052	7.98	5.53
	4	0.150	75.00	12.10	0.2110	1.0000	11	117.7	29,897	11.12	7.65
	5	0.143	75.00	13.30	0.2110	1.0000	15	149.9	36,685	14.95	10.02
	6	0.164	75.00	13.90	0.1850	1.0000	12	127.2	28,183	8.04	5.68
Σ								1,236.8	26,841	6.85	2.43
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	62.0	30,210	13.40	9.36
	2	0.162	75.00	15.20	0.2220	1.0000	13	289.7	43,270	15.67	11.08
	3	0.143	75.00	20.10	0.2110	1.0000	15	101.3	59,434	27.28	18.85
	4	0.143	75.00	8.10	0.2110	1.0000	15	55.2	19,681	9.13	6.12
	5	0.215	100.00	8.20	0.2760	1.0000	14	29.1	34,469	15.76	10.34
Σ								1,544.5	30,117	6.81	2.32

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.25	16.06	712.25	1.500	0.131

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	156.87	22.29	257.3	11,706	3.27	2.40
#2	856.430	1,855.800	202.62	43.82	121.6	4,117	0.14	0.00
#3	2,374.080	4,229.880	336.21	84.00	408.5	7,871	1.06	0.48
#8	0.000	4,229.880	336.21	84.00	408.5	7,871	1.06	0.48
#4	1,068.640	5,298.520	383.12	104.41	768.9	23,302	3.93	0.91
#5	233.280	5,531.800	388.52	112.03	931.5	27,092	4.93	1.11
#6	1,164.130	6,695.930	579.86	154.79	2,009.2	27,351	6.93	2.40
#7	648.980	7,344.910	588.03	177.08	2,496.4	31,219	7.19	2.37

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	156.87	22.293
	Σ	999.370						156.87	22.293
#2	1	856.430	0.990	0.000	0.000	83.000	M	183.21	21.525
	Σ	1,855.800						202.62	43.818
#3	1	925.920	2.893	0.409	0.297	77.000	M	45.10	12.862
	2	1,019.220	1.453	0.193	0.261	79.000	M	107.78	17.480
	3	428.940	0.843	0.000	0.000	82.000	M	93.18	9.845
	Σ	4,229.880						336.21	84.004
#8	Σ	4,229.880						336.21	84.004
#4	1	551.860	1.104	0.364	0.292	78.000	M	64.11	8.537
	2	516.780	0.665	0.000	0.000	82.000	M	132.79	11.869
	Σ	5,298.520						383.12	104.410
#5	1	233.280	0.374	0.000	0.000	86.000	M	124.61	7.623
	Σ	5,531.800						388.52	112.033
#6	1	126.980	0.164	0.545	0.308	86.900	M	101.69	4.565
	2	235.630	0.327	0.427	0.341	86.700	M	142.50	8.195
	3	258.380	0.416	0.365	0.294	88.300	M	158.36	10.253
	4	180.930	0.449	0.176	0.301	86.700	M	92.73	6.273
	5	189.850	0.326	0.000	0.000	86.800	M	115.97	6.657
	6	172.360	0.753	0.000	0.000	88.300	M	72.81	6.817
	Σ	6,695.930						579.86	154.793
#7	1	91.450	0.220	0.854	0.310	86.800	M	65.70	3.216
	2	286.490	0.566	0.642	0.312	87.100	M	131.98	10.267
	3	75.280	0.179	0.610	0.308	86.800	M	58.38	2.674
	4	128.700	0.157	0.270	0.325	86.800	M	102.31	4.588
	5	67.060	0.333	0.000	0.000	82.000	M	26.74	1.546
	Σ	7,344.910						588.03	177.083

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	257.3	11,706	3.27	2.36
Σ								257.3	11,706	3.27	2.40
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								121.6	4,117	0.14	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	77.2	5,914	0.46	0.34
	2	0.204	280.00	2.30	0.2330	1.0000	4	134.9	7,738	1.64	1.20
	3	0.158	240.00	3.80	0.2110	1.0000	5	95.5	10,030	2.61	1.85
Σ								408.5	7,871	1.06	0.48
#8	Σ							408.5	7,871	1.06	0.48
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	133.3	15,747	2.91	2.11
	2	0.183	100.00	9.10	0.1990	1.0000	7	287.1	25,275	8.48	5.92
Σ								768.9	23,302	3.93	0.91
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	230.2	32,348	13.10	8.90
Σ								931.5	27,092	4.93	1.11
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	181.4	41,403	19.56	13.62
	2	0.145	100.00	12.00	0.2110	1.0000	15	312.5	40,130	16.81	11.59
	3	0.171	100.00	8.20	0.1850	1.0000	10	214.8	21,913	8.61	6.01
	4	0.150	75.00	12.10	0.2110	1.0000	11	186.5	31,318	12.14	8.39
	5	0.143	75.00	13.30	0.2110	1.0000	15	235.7	37,867	15.90	10.79
	6	0.164	75.00	13.90	0.1850	1.0000	12	196.2	29,556	8.99	6.37
Σ								2,009.2	27,351	6.93	2.40
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	96.9	31,059	14.05	9.92
	2	0.162	75.00	15.20	0.2220	1.0000	13	456.8	45,401	17.18	12.20
	3	0.143	75.00	20.10	0.2110	1.0000	15	158.0	60,870	28.42	19.88
	4	0.143	75.00	8.10	0.2110	1.0000	15	86.0	20,122	9.49	6.46
	5	0.215	100.00	8.20	0.2760	1.0000	14	51.6	36,552	17.33	11.49
Σ								2,496.4	31,219	7.19	2.37

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.25	16.06	712.25	1.500	0.131

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	217.86	30.55	369.0	12,242	3.63	2.67
#2	856.430	1,855.800	278.32	59.60	175.2	4,389	0.16	0.00
#3	2,374.080	4,229.880	470.17	116.69	601.3	8,149	1.19	0.55
#8	0.000	4,229.880	470.17	116.69	601.3	8,149	1.19	0.55
#4	1,068.640	5,298.520	535.32	145.20	1,124.6	24,151	4.38	1.03
#5	233.280	5,531.800	542.12	155.16	1,343.4	27,601	5.32	1.22
#6	1,164.130	6,695.930	754.93	210.31	2,734.3	27,704	7.04	2.41
#7	648.980	7,344.910	766.27	239.28	3,389.9	32,070	7.52	2.42

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	217.86	30.550
	Σ	999.370						217.86	30.550
#2	1	856.430	0.990	0.000	0.000	83.000	M	250.84	29.051
	Σ	1,855.800						278.32	59.601
#3	1	925.920	2.893	0.409	0.297	77.000	M	67.28	18.831
	2	1,019.220	1.453	0.193	0.261	79.000	M	156.02	24.819
	3	428.940	0.843	0.000	0.000	82.000	M	129.37	13.443
	Σ	4,229.880						470.17	116.693
#8	Σ	4,229.880						470.17	116.693
#4	1	551.860	1.104	0.364	0.292	78.000	M	94.57	12.302
	2	516.780	0.665	0.000	0.000	82.000	M	184.15	16.206
	Σ	5,298.520						535.32	145.201
#5	1	233.280	0.374	0.000	0.000	86.000	M	162.97	9.964
	Σ	5,531.800						542.12	155.165
#6	1	126.980	0.164	0.545	0.308	86.900	M	129.67	5.913
	2	235.630	0.327	0.427	0.341	86.700	M	185.31	10.637
	3	258.380	0.416	0.365	0.294	88.300	M	203.09	13.106
	4	180.930	0.449	0.176	0.301	86.700	M	120.70	8.142
	5	189.850	0.326	0.000	0.000	86.800	M	150.61	8.633
	6	172.360	0.753	0.000	0.000	88.300	M	93.48	8.714
	Σ	6,695.930						754.93	210.310
#7	1	91.450	0.220	0.854	0.310	86.800	M	84.05	4.170
	2	286.490	0.566	0.642	0.312	87.100	M	171.15	13.274
	3	75.280	0.179	0.610	0.308	86.800	M	74.55	3.467
	4	128.700	0.157	0.270	0.325	86.800	M	130.59	5.949
	5	67.060	0.333	0.000	0.000	82.000	M	36.58	2.111
	Σ	7,344.910						766.27	239.283

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	369.0	12,242	3.63	2.62
Σ								369.0	12,242	3.63	2.67
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								175.2	4,389	0.16	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	119.6	6,275	0.63	0.47
	2	0.204	280.00	2.30	0.2330	1.0000	4	201.9	8,174	1.91	1.39
	3	0.158	240.00	3.80	0.2110	1.0000	5	136.6	10,505	2.93	2.07
Σ								601.3	8,149	1.19	0.55
#8	Σ							601.3	8,149	1.19	0.55
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	203.3	16,688	3.51	2.54
	2	0.183	100.00	9.10	0.1990	1.0000	7	410.6	26,410	9.28	6.49
Σ								1,124.6	24,151	4.38	1.03
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	310.8	33,200	13.73	9.39
Σ								1,343.4	27,601	5.32	1.22
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	240.3	42,062	20.04	14.04
	2	0.145	100.00	12.00	0.2110	1.0000	15	419.0	41,185	17.61	12.22
	3	0.171	100.00	8.20	0.1850	1.0000	10	283.3	22,493	9.02	6.33
	4	0.150	75.00	12.10	0.2110	1.0000	11	250.2	32,221	12.80	8.88
	5	0.143	75.00	13.30	0.2110	1.0000	15	315.5	38,893	16.66	11.37
	6	0.164	75.00	13.90	0.1850	1.0000	12	259.0	30,422	9.58	6.81
Σ								2,734.3	27,704	7.04	2.41
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	128.6	31,668	14.49	10.27
	2	0.162	75.00	15.20	0.2220	1.0000	13	610.1	46,807	18.15	12.91
	3	0.143	75.00	20.10	0.2110	1.0000	15	209.6	61,778	29.12	20.53
	4	0.143	75.00	8.10	0.2110	1.0000	15	114.0	20,376	9.69	6.66
	5	0.215	100.00	8.20	0.2760	1.0000	14	73.1	37,617	18.16	12.16
Σ								3,389.9	32,070	7.52	2.42

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.25	16.06	712.25	1.500	0.131

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	N1	N2	N3	N4	N5	N6	N7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	67.238%	70.939%	74.655%	74.155%	77.281%	75.578%	77.393%
0.1500	49.361%	52.171%	54.870%	54.074%	57.254%	54.286%	57.877%
0.0750	37.563%	37.728%	38.718%	39.358%	43.405%	40.591%	43.197%
0.0159	32.342%	31.597%	32.157%	33.572%	37.974%	35.722%	37.191%
0.0100	24.314%	22.169%	22.246%	25.073%	30.556%	29.049%	28.724%
0.0050	10.387%	8.316%	6.741%	7.496%	7.842%	7.567%	7.539%
0.0020	6.291%	5.386%	4.536%	4.624%	4.493%	4.182%	4.580%
0.0010	5.795%	4.854%	4.004%	4.140%	4.097%	3.764%	4.153%
0.0004	5.371%	4.575%	3.806%	3.867%	3.665%	3.448%	3.748%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	999.370	999.370	291.72	40.40	508.2	12,752	3.98	2.92
#2	856.430	1,855.800	368.61	78.36	242.2	4,641	0.18	0.00
#3	2,374.080	4,229.880	631.81	156.05	844.7	8,408	1.33	0.63
#8	0.000	4,229.880	631.81	156.05	844.7	8,408	1.33	0.63
#4	1,068.640	5,298.520	719.23	194.34	1,571.6	24,847	4.82	1.15
#5	233.280	5,531.800	727.27	207.02	1,857.3	28,123	5.75	1.34
#6	1,164.130	6,695.930	957.34	276.43	3,607.7	28,159	7.20	2.44
#7	648.980	7,344.910	972.87	313.14	4,465.9	32,928	7.87	2.49

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	999.370	1.261	0.000	0.000	81.700	M	291.72	40.404
	Σ	999.370						291.72	40.404
#2	1	856.430	0.990	0.000	0.000	83.000	M	331.12	37.955
	Σ	1,855.800						368.61	78.359
#3	1	925.920	2.893	0.409	0.297	77.000	M	94.91	26.212
	2	1,019.220	1.453	0.193	0.261	79.000	M	215.07	33.750
	3	428.940	0.843	0.000	0.000	82.000	M	172.61	17.728
	Σ	4,229.880						631.81	156.049
#8	Σ	4,229.880						631.81	156.049
#4	1	551.860	1.104	0.364	0.292	78.000	M	132.14	16.919
	2	516.780	0.665	0.000	0.000	82.000	M	245.37	21.372
	Σ	5,298.520						719.23	194.340
#5	1	233.280	0.374	0.000	0.000	86.000	M	208.02	12.682
	Σ	5,531.800						727.27	207.023
#6	1	126.980	0.164	0.545	0.308	86.900	M	161.32	7.471
	2	235.630	0.327	0.427	0.341	86.700	M	234.24	13.461
	3	258.380	0.416	0.365	0.294	88.300	M	253.93	16.372
	4	180.930	0.449	0.176	0.301	86.700	M	153.43	10.304
	5	189.850	0.326	0.000	0.000	86.800	M	190.19	10.916
	6	172.360	0.753	0.000	0.000	88.300	M	117.29	10.886
	Σ	6,695.930						957.34	276.432
#7	1	91.450	0.220	0.854	0.310	86.800	M	105.40	5.273
	2	286.490	0.566	0.642	0.312	87.100	M	217.14	16.743
	3	75.280	0.179	0.610	0.308	86.800	M	92.86	4.384
	4	128.700	0.157	0.270	0.325	86.800	M	162.61	7.523
	5	67.060	0.333	0.000	0.000	82.000	M	48.09	2.784
	Σ	7,344.910						972.87	313.139

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.233	280.00	2.40	0.2650	1.0000	1	508.2	12,752	3.98	2.87
Σ								508.2	12,752	3.98	2.92
#2	1	0.000	420.00	1.03	0.2450	1.0000	2	0.0	1	0.00	0.00
Σ								242.2	4,641	0.18	0.00
#3	1	0.235	280.00	2.20	0.2330	1.0000	3	174.5	6,594	0.79	0.59
	2	0.204	280.00	2.30	0.2330	1.0000	4	287.1	8,550	2.16	1.57
	3	0.158	240.00	3.80	0.2110	1.0000	5	187.5	10,918	3.21	2.28
Σ								844.7	8,408	1.33	0.63
#8	Σ							844.7	8,408	1.33	0.63
#4	1	0.150	200.00	6.00	0.2320	1.0000	6	293.1	17,505	4.04	2.92
	2	0.183	100.00	9.10	0.1990	1.0000	7	563.0	27,384	9.96	6.99
Σ								1,571.6	24,847	4.82	1.15
#5	1	0.170	100.00	10.10	0.1890	1.0000	8	407.9	34,089	14.38	9.87
Σ								1,857.3	28,123	5.75	1.34
#6	1	0.160	100.00	11.50	0.1990	1.0000	9	309.6	42,618	20.46	14.42
	2	0.145	100.00	12.00	0.2110	1.0000	15	545.0	42,073	18.30	12.77
	3	0.171	100.00	8.20	0.1850	1.0000	10	363.7	23,059	9.42	6.62
	4	0.150	75.00	12.10	0.2110	1.0000	11	326.5	33,077	13.44	9.36
	5	0.143	75.00	13.30	0.2110	1.0000	15	410.1	39,750	17.31	11.88
	6	0.164	75.00	13.90	0.1850	1.0000	12	333.1	31,250	10.15	7.23
Σ								3,607.7	28,159	7.20	2.44
#7	1	0.143	100.00	10.40	0.2110	1.0000	15	166.5	32,290	14.94	10.63
	2	0.162	75.00	15.20	0.2220	1.0000	13	793.9	48,195	19.11	13.61
	3	0.143	75.00	20.10	0.2110	1.0000	15	270.3	62,705	29.80	21.10
	4	0.143	75.00	8.10	0.2110	1.0000	15	147.0	20,587	9.87	6.84
	5	0.215	100.00	8.20	0.2760	1.0000	14	99.6	38,447	18.83	12.72
Σ								4,465.9	32,928	7.87	2.49

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	1.30	8.99	691.27	1.140	0.168
		8. Large gullies, diversions, and low flowing streams	1.35	185.99	13,735.32	3.490	1.093
#1	1	Time of Concentration:					1.261
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.25	16.06	712.25	1.500	0.131

Appendix 38-H

Brimhall Wash Hydrology and Sedimentology for LOM Reclamation Plan

Brimhall Wash Hydrology and Sedimentology for LOM Reclamation Plan

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#4	7.026	0.289	
Null	#2	==>	#4	6.888	0.289	
Null	#3	==>	#6	2.906	0.256	
Null	#4	==>	#6	1.008	0.263	
Null	#5	==>	#6	0.075	0.263	
Null	#6	==>	#12	3.138	0.266	
Null	#7	==>	#9	1.050	0.280	
Null	#8	==>	#9	0.683	0.314	
Null	#9	==>	#12	2.860	0.269	
Null	#10	==>	#12	1.670	0.267	
Null	#11	==>	#12	1.194	0.263	
Null	#12	==>	End	0.000	0.000	

	#11 Null
	#10 Null
	#8 Null
	#7 Null
	#9 Null
	#5 Null
	#2 Null
	#1 Null
	#4 Null
	#3 Null
	#6 Null
	#12 Null

Structure Routing Details:

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	0.60	354.00	58,687.00	2.32	7.026
#1	Muskingum K:					7.026
#2	8. Large gullies, diversions, and low flowing streams	0.61	350.00	57,784.38	2.33	6.888
#2	Muskingum K:					6.888
#3	8. Large gullies, diversions, and low flowing streams	0.35	66.00	18,623.02	1.78	2.906
#3	Muskingum K:					2.906
#4	8. Large gullies, diversions, and low flowing streams	0.40	27.00	6,828.00	1.88	1.008
#4	Muskingum K:					1.008
#5	8. Large gullies, diversions, and low flowing streams	0.39	2.00	509.00	1.88	0.075
#5	Muskingum K:					0.075
#6	8. Large gullies, diversions, and low flowing streams	0.42	92.00	21,916.00	1.94	3.138
#6	Muskingum K:					3.138
#7	8. Large gullies, diversions, and low flowing streams	0.52	43.00	8,206.00	2.17	1.050
#7	Muskingum K:					1.050
#8	8. Large gullies, diversions, and low flowing streams	0.92	65.00	7,064.00	2.87	0.683
#8	Muskingum K:					0.683
#9	8. Large gullies, diversions, and low flowing streams	0.44	89.00	20,387.00	1.98	2.860
#9	Muskingum K:					2.860
#10	8. Large gullies, diversions, and low flowing streams	0.43	50.00	11,726.07	1.95	1.670
#10	Muskingum K:					1.670
#11	8. Large gullies, diversions, and low flowing streams	0.40	32.00	8,087.00	1.88	1.194
#11	Muskingum K:					1.194

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	4.49	0.66	6.6	9,751	1.42	1.07
#10	621.200	621.200	28.97	2.79	39.4	15,411	4.44	2.98
#8	782.600	782.600	15.10	1.92	14.0	7,377	1.78	1.29
#7	1,648.200	1,648.200	8.36	2.38	11.8	6,107	0.97	0.58
#9	652.600	3,083.400	45.98	9.67	94.8	13,035	3.56	1.96
#5	7,064.500	7,064.500	64.64	35.67	275.1	7,636	0.23	0.17
#2	6,633.800	6,633.800	97.09	30.54	430.8	13,738	0.63	0.47
#1	4,622.300	4,622.300	114.32	28.82	354.7	12,094	0.65	0.48
#4	12,415.200	23,671.300	237.64	102.73	1,089.4	11,547	0.44	0.32
#3	9,427.600	9,427.600	170.88	75.13	1,118.5	14,671	0.56	0.42
#6	7,063.800	47,227.200	373.33	299.26	3,239.4	10,293	0.39	0.31
#12	2,976.500	54,536.200	378.98	338.03	3,548.7	11,177	0.51	0.36

Particle Size Distribution(s) at Each Structure

Structure #11:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	86.293%
0.0050	26.590%
0.0020	14.184%
0.0010	12.887%
0.0004	11.927%

Structure #10:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	90.728%
0.0159	80.779%
0.0100	67.235%
0.0050	18.674%
0.0020	9.934%
0.0010	8.955%
0.0004	8.275%

Structure #8:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	92.868%

Size (mm)	In/Out
0.0100	73.630%
0.0050	23.607%
0.0020	13.131%
0.0010	11.645%
0.0004	11.195%

Structure #7:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	83.717%
0.0050	35.399%
0.0020	22.094%
0.0010	19.901%
0.0004	18.673%

Structure #9:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	90.690%
0.0100	69.172%
0.0050	23.206%
0.0020	14.200%
0.0010	12.764%
0.0004	11.962%

Structure #5:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%

Size (mm)	In/Out
0.0050	65.246%
0.0020	37.242%
0.0010	34.514%
0.0004	31.143%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	48.023%
0.0020	27.411%
0.0010	25.403%
0.0004	22.922%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	39.585%
0.0020	22.383%
0.0010	20.795%
0.0004	18.480%

Structure #4:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.274%

Size (mm)	In/Out
0.0020	31.641%
0.0010	29.345%
0.0004	26.457%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.147%
0.0020	33.552%
0.0010	31.567%
0.0004	27.480%

Structure #6:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	56.061%
0.0020	33.012%
0.0010	30.890%
0.0004	27.192%

Structure #12:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	99.656%
0.0100	98.908%
0.0050	55.013%
0.0020	32.451%

Size (mm)	In/Out
0.0010	30.296%
0.0004	26.752%

Structure Detail:

Structure #11 (Null)

Structure #10 (Null)

Structure #8 (Null)

Structure #7 (Null)

Structure #9 (Null)

Structure #5 (Null)

Structure #2 (Null)

Structure #1 (Null)

Structure #4 (Null)

Structure #3 (Null)

Structure #6 (Null)

Structure #12 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.303	0.378	0.366	77.000	M	1.07	0.137
	2	497.600	0.677	0.000	0.000	77.000	M	3.45	0.523
	Σ	627.900						4.49	0.661
#10	1	179.800	0.606	0.426	0.348	78.000	M	1.92	0.260
	2	441.400	0.558	0.000	0.000	84.200	M	28.90	2.528
	Σ	621.200						28.97	2.788
#8	1	782.600	0.708	0.000	0.000	80.000	M	15.10	1.919
	Σ	782.600						15.10	1.919
#7	1	791.100	2.222	0.448	0.311	78.000	M	4.20	1.142
	2	857.100	0.948	0.000	0.000	78.000	M	7.46	1.238
	Σ	1,648.200						8.36	2.380
#9	1	652.600	0.936	0.000	0.000	86.400	M	45.32	5.371
	Σ	3,083.400						45.98	9.670
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	64.64	35.666
	Σ	7,064.500						64.64	35.666
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	97.09	30.538
	Σ	6,633.800						97.09	30.538
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	114.32	28.816
	Σ	4,622.300						114.32	28.816
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	53.61	43.376
	Σ	23,671.300						237.64	102.730
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	170.88	75.135
	Σ	9,427.600						170.88	75.135
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	185.13	85.725
	Σ	47,227.200						373.33	299.256
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	73.52	25.655
	Σ	54,536.200						378.98	338.029

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	1.7	11,596	2.96	2.25
	2	0.140	130.00	7.40	0.2520	1.0000	13	5.4	10,134	1.73	1.30
Σ								6.6	9,751	1.42	1.07
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	3.3	12,497	2.23	1.65
	2	0.139	130.00	6.50	0.2630	1.0000	13	39.4	16,676	4.81	3.29
Σ								39.4	15,411	4.44	2.98
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	14.0	7,377	1.78	1.29
Σ								14.0	7,377	1.78	1.29
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	4.3	3,618	0.22	0.17
	2	0.209	280.00	2.70	0.2762	1.0000	6	9.6	7,590	1.44	1.09
Σ								11.8	6,107	0.97	0.58
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	68.9	13,194	3.94	2.81
Σ								94.8	13,035	3.56	1.96
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	275.1	7,636	0.23	0.17
Σ								275.1	7,636	0.23	0.17
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	430.8	13,738	0.63	0.47
Σ								430.8	13,738	0.63	0.47
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	354.7	12,094	0.65	0.48
Σ								354.7	12,094	0.65	0.48
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	307.8	7,077	0.06	0.05
Σ								1,089.4	11,547	0.44	0.32
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	1,118.5	14,671	0.56	0.42
Σ								1,118.5	14,671	0.56	0.42
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	758.8	8,800	0.37	0.28
Σ								3,239.4	10,293	0.39	0.31
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	269.5	10,345	0.56	0.42
Σ								3,548.7	11,177	0.51	0.36

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.24	25.00	589.00	2.060	0.079
		8. Large gullies, diversions, and low flowing streams	1.47	585.00	39,874.00	3.630	3.051
#2	1	Time of Concentration:					3.130
#3	1	5. Nearly bare and untilled, and alluvial valley fans	5.58	30.00	538.00	2.360	0.063
		8. Large gullies, diversions, and low flowing streams	1.41	876.00	62,341.00	3.550	4.878
#3	1	Time of Concentration:					4.941
#4	1	5. Nearly bare and untilled, and alluvial valley fans	2.90	40.00	1,380.00	1.700	0.225
		8. Large gullies, diversions, and low flowing streams	0.88	855.00	96,614.00	2.820	9.516
#4	1	Time of Concentration:					9.741
#5	1	5. Nearly bare and untilled, and alluvial valley fans	1.19	13.00	1,096.00	1.080	0.281
		8. Large gullies, diversions, and low flowing streams	0.93	590.00	63,262.00	2.890	6.080
#5	1	Time of Concentration:					6.361
#6	1	5. Nearly bare and untilled, and alluvial valley fans	5.43	45.00	829.00	2.320	0.099
		8. Large gullies, diversions, and low flowing streams	1.03	597.00	57,726.00	3.050	5.257
#6	1	Time of Concentration:					5.356
#7	1	5. Nearly bare and untilled, and alluvial valley fans	0.12	1.00	844.59	0.340	0.690
		8. Large gullies, diversions, and low flowing streams	0.85	20.08	2,373.24	2.750	0.239
		8. Large gullies, diversions, and low flowing streams	0.66	72.01	10,854.68	2.440	1.235
		8. Large gullies, diversions, and low flowing streams	0.85	5.00	586.09	2.770	0.058
#7	1	Time of Concentration:					2.222
#7	2	5. Nearly bare and untilled, and alluvial valley fans	0.10	0.50	506.58	0.310	0.453
		8. Large gullies, diversions, and low flowing streams	1.46	65.51	4,482.38	3.620	0.343
		8. Large gullies, diversions, and low flowing streams	1.50	30.00	2,006.68	3.660	0.152
#7	2	Time of Concentration:					0.948
#8	1	5. Nearly bare and untilled, and alluvial valley fans	5.01	47.00	938.81	2.230	0.116
		8. Large gullies, diversions, and low flowing streams	1.59	99.85	6,277.50	3.780	0.461
		8. Large gullies, diversions, and low flowing streams	1.53	26.90	1,754.95	3.710	0.131
#8	1	Time of Concentration:					0.708
#9	1	5. Nearly bare and untilled, and alluvial valley fans	1.20	5.00	417.00	1.090	0.106

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
		8. Large gullies, diversions, and low flowing streams	1.38	145.00	10,519.00	3.520	0.830
#9	1	Time of Concentration:					0.936
#10	1	5. Nearly bare and untilled, and alluvial valley fans	0.30	1.98	654.11	0.550	0.330
		8. Large gullies, diversions, and low flowing streams	2.06	60.54	2,939.40	4.300	0.189
		8. Large gullies, diversions, and low flowing streams	3.28	56.28	1,715.33	5.430	0.087
#10	1	Time of Concentration:					0.606
#10	2	5. Nearly bare and untilled, and alluvial valley fans	2.92	20.00	686.00	1.700	0.112
		8. Large gullies, diversions, and low flowing streams	2.26	164.00	7,248.00	4.510	0.446
#10	2	Time of Concentration:					0.558
#11	1	5. Nearly bare and untilled, and alluvial valley fans	1.91	4.04	211.29	1.380	0.042
		8. Large gullies, diversions, and low flowing streams	1.53	26.35	1,722.78	3.710	0.128
		8. Large gullies, diversions, and low flowing streams	1.24	12.72	1,028.79	3.330	0.085
		8. Large gullies, diversions, and low flowing streams	5.06	59.83	1,182.06	6.740	0.048
#11	1	Time of Concentration:					0.303
#11	2	5. Nearly bare and untilled, and alluvial valley fans	0.71	5.00	706.00	0.840	0.233
		8. Large gullies, diversions, and low flowing streams	3.10	262.00	8,453.00	5.280	0.444
#11	2	Time of Concentration:					0.677
#12	1	5. Nearly bare and untilled, and alluvial valley fans	2.61	20.00	766.00	1.610	0.132
		8. Large gullies, diversions, and low flowing streams	0.49	134.00	27,333.00	2.100	3.615
#12	1	Time of Concentration:					3.747

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#7	1	8. Large gullies, diversions, and low flowing streams	0.87	39.00	4,508.00	2.790	0.448
#7	1	Muskingum K:					0.448
#10	1	8. Large gullies, diversions, and low flowing streams	1.70	102.00	6,003.17	3.910	0.426
#10	1	Muskingum K:					0.426
#11	1	8. Large gullies, diversions, and low flowing streams	2.40	152.00	6,329.00	4.640	0.378
#11	1	Muskingum K:					0.378

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	46.73	4.61	72.4	16,856	3.61	2.46
#10	621.200	621.200	99.66	9.36	147.6	16,662	5.92	4.10
#8	782.600	782.600	86.46	8.57	86.2	10,549	3.65	2.55
#7	1,648.200	1,648.200	60.12	13.91	97.1	9,431	2.21	1.20
#9	652.600	3,083.400	164.22	37.04	400.7	14,875	4.80	2.56
#5	7,064.500	7,064.500	215.25	116.15	1,045.4	8,965	0.32	0.24
#2	6,633.800	6,633.800	347.24	103.21	1,739.5	16,623	0.85	0.63
#1	4,622.300	4,622.300	363.64	86.49	1,254.9	14,421	0.83	0.61
#4	12,415.200	23,671.300	804.20	354.39	4,362.7	13,724	0.58	0.41
#3	9,427.600	9,427.600	480.21	206.12	3,510.7	16,888	0.73	0.54
#6	7,063.800	47,227.200	1,064.31	880.59	10,929.3	12,217	0.52	0.40
#12	2,976.500	54,536.200	1,080.53	1,000.07	12,197.5	13,196	0.74	0.51

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.303	0.378	0.366	77.000	M	15.83	0.959
	2	497.600	0.677	0.000	0.000	77.000	M	35.55	3.653
	Σ	627.900						46.73	4.613
#10	1	179.800	0.606	0.426	0.348	78.000	M	16.37	1.519
	2	441.400	0.558	0.000	0.000	84.200	M	98.43	7.840
	Σ	621.200						99.66	9.359
#8	1	782.600	0.708	0.000	0.000	80.000	M	86.46	8.568
	Σ	782.600						86.46	8.568
#7	1	791.100	2.222	0.448	0.311	78.000	M	28.03	6.673
	2	857.100	0.948	0.000	0.000	78.000	M	57.34	7.233
	Σ	1,648.200						60.12	13.906
#9	1	652.600	0.936	0.000	0.000	86.400	M	130.12	14.570
	Σ	3,083.400						164.22	37.044
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	215.25	116.149
	Σ	7,064.500						215.25	116.149
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	347.24	103.213
	Σ	6,633.800						347.24	103.213
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	363.64	86.488
	Σ	4,622.300						363.64	86.488
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	206.77	164.686
	Σ	23,671.300						804.20	354.387
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	480.21	206.121
	Σ	9,427.600						480.21	206.121
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	447.04	203.930
	Σ	47,227.200						1,064.31	880.586
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	202.40	68.467
	Σ	54,536.200						1,080.53	1,000.069

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	22.2	25,537	10.21	6.74
	2	0.140	130.00	7.40	0.2520	1.0000	13	59.5	17,020	3.99	2.79
Σ								72.4	16,856	3.61	2.46
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	29.3	20,078	5.91	4.15
	2	0.139	130.00	6.50	0.2630	1.0000	13	147.6	19,998	7.11	4.89
Σ								147.6	16,662	5.92	4.10
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	86.2	10,549	3.65	2.55
Σ								86.2	10,549	3.65	2.55
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	33.5	4,946	0.41	0.31
	2	0.209	280.00	2.70	0.2762	1.0000	6	81.1	11,462	3.17	2.27
Σ								97.1	9,431	2.21	1.20
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	217.6	15,319	5.41	3.86
Σ								400.7	14,875	4.80	2.56
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	1,045.4	8,965	0.32	0.24
Σ								1,045.4	8,965	0.32	0.24
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	1,739.5	16,623	0.85	0.63
Σ								1,739.5	16,623	0.85	0.63
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	1,254.9	14,421	0.83	0.61
Σ								1,254.9	14,421	0.83	0.61
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	1,383.9	8,421	0.15	0.11
Σ								4,362.7	13,724	0.58	0.41
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	3,510.7	16,888	0.73	0.54
Σ								3,510.7	16,888	0.73	0.54
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	2,019.8	9,885	0.45	0.34
Σ								10,929.3	12,217	0.52	0.40
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	823.4	11,931	0.69	0.51
Σ								12,197.5	13,196	0.74	0.51

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	94.54	8.74	153.5	18,711	4.86	3.33
#10	621.200	621.200	162.01	15.14	251.3	17,242	6.43	4.52
#8	782.600	782.600	155.65	14.84	162.9	11,482	4.30	3.01
#7	1,648.200	1,648.200	117.47	25.49	198.1	10,549	2.82	1.52
#9	652.600	3,083.400	277.77	62.38	710.0	15,650	5.38	2.86
#5	7,064.500	7,064.500	346.73	185.60	1,775.1	9,549	0.37	0.27
#2	6,633.800	6,633.800	570.09	166.65	3,002.8	17,830	0.94	0.70
#1	4,622.300	4,622.300	576.17	134.98	2,083.5	15,369	0.91	0.67
#4	12,415.200	23,671.300	1,300.33	575.85	7,517.6	14,633	0.65	0.45
#3	9,427.600	9,427.600	734.57	312.96	5,627.7	17,859	0.80	0.59
#6	7,063.800	47,227.200	1,639.89	1,369.83	17,971.9	13,103	0.58	0.44
#12	2,976.500	54,536.200	1,665.07	1,559.13	20,202.8	14,057	0.84	0.59

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.303	0.378	0.366	77.000	M	31.90	1.817
	2	497.600	0.677	0.000	0.000	77.000	M	72.38	6.921
	Σ	627.900						94.54	8.739
#10	1	179.800	0.606	0.426	0.348	78.000	M	31.79	2.785
	2	441.400	0.558	0.000	0.000	84.200	M	158.35	12.354
	Σ	621.200						162.01	15.139
#8	1	782.600	0.708	0.000	0.000	80.000	M	155.65	14.837
	Σ	782.600						155.65	14.837
#7	1	791.100	2.222	0.448	0.311	78.000	M	53.51	12.234
	2	857.100	0.948	0.000	0.000	78.000	M	111.29	13.261
	Σ	1,648.200						117.47	25.495
#9	1	652.600	0.936	0.000	0.000	86.400	M	200.23	22.045
	Σ	3,083.400						277.77	62.377
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	346.73	185.604
	Σ	7,064.500						346.73	185.604
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	570.09	166.647
	Σ	6,633.800						570.09	166.647
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	576.17	134.979
	Σ	4,622.300						576.17	134.979
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	346.38	274.222
	Σ	23,671.300						1,300.33	575.848
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	734.57	312.958
	Σ	9,427.600						734.57	312.958
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	650.62	295.419
	Σ	47,227.200						1,639.89	1,369.830
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	307.36	103.049
	Σ	54,536.200						1,665.07	1,559.133

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	46.9	28,390	12.23	8.11
	2	0.140	130.00	7.40	0.2520	1.0000	13	126.6	19,193	5.38	3.75
Σ								153.5	18,711	4.86	3.33
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	59.6	22,334	7.41	5.19
	2	0.139	130.00	6.50	0.2630	1.0000	13	248.5	21,264	8.02	5.54
Σ								251.3	17,242	6.43	4.52
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	162.9	11,482	4.30	3.01
Σ								162.9	11,482	4.30	3.01
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	67.6	5,474	0.67	0.49
	2	0.209	280.00	2.70	0.2762	1.0000	6	165.1	12,790	4.04	2.88
Σ								198.1	10,549	2.82	1.52
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	349.3	16,229	6.04	4.31
Σ								710.0	15,650	5.38	2.86
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	1,775.1	9,549	0.37	0.27
Σ								1,775.1	9,549	0.37	0.27
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	3,002.8	17,830	0.94	0.70
Σ								3,002.8	17,830	0.94	0.70
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	2,083.5	15,369	0.91	0.67
Σ								2,083.5	15,369	0.91	0.67
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	2,458.0	9,000	0.19	0.15
Σ								7,517.6	14,633	0.65	0.45
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	5,627.7	17,859	0.80	0.59
Σ								5,627.7	17,859	0.80	0.59
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	3,067.1	10,371	0.49	0.37
Σ								17,971.9	13,103	0.58	0.44
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	1,308.1	12,614	0.74	0.55
Σ								20,202.8	14,057	0.84	0.59

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information***Storm Information:***

Storm Type:	Type II-70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	142.32	12.79	239.0	19,828	5.61	3.86
#10	621.200	621.200	219.35	20.47	352.4	17,668	6.71	4.78
#8	782.600	782.600	222.85	20.78	240.5	12,099	4.72	3.31
#7	1,648.200	1,648.200	174.17	36.74	302.8	11,196	3.17	1.71
#9	652.600	3,083.400	385.58	86.22	1,014.3	16,070	5.71	3.06
#5	7,064.500	7,064.500	467.27	249.10	2,473.7	9,926	0.40	0.30
#2	6,633.800	6,633.800	775.95	224.91	4,221.1	18,596	1.00	0.74
#1	4,622.300	4,622.300	769.23	178.82	2,867.4	15,974	0.96	0.70
#4	12,415.200	23,671.300	1,756.24	779.98	10,560.4	15,215	0.69	0.48
#3	9,427.600	9,427.600	962.07	408.25	7,596.2	18,492	0.85	0.63
#6	7,063.800	47,227.200	2,158.29	1,812.45	24,622.6	13,669	0.62	0.47
#12	2,976.500	54,536.200	2,191.63	2,065.69	27,802.0	14,721	0.92	0.64

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.303	0.378	0.366	77.000	M	47.89	2.661
	2	497.600	0.677	0.000	0.000	77.000	M	108.87	10.133
	Σ	627.900						142.32	12.794
#10	1	179.800	0.606	0.426	0.348	78.000	M	47.04	4.013
	2	441.400	0.558	0.000	0.000	84.200	M	212.62	16.454
	Σ	621.200						219.35	20.467
#8	1	782.600	0.708	0.000	0.000	80.000	M	222.85	20.777
	Σ	782.600						222.85	20.777
#7	1	791.100	2.222	0.448	0.311	78.000	M	78.60	17.629
	2	857.100	0.948	0.000	0.000	78.000	M	164.19	19.109
	Σ	1,648.200						174.17	36.738
#9	1	652.600	0.936	0.000	0.000	86.400	M	262.82	28.700
	Σ	3,083.400						385.58	86.216
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	467.27	249.096
	Σ	7,064.500						467.27	249.096
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	775.95	224.914
	Σ	6,633.800						775.95	224.914
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	769.23	178.815
	Σ	4,622.300						769.23	178.815
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	476.81	376.249
	Σ	23,671.300						1,756.24	779.979
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	962.07	408.255
	Σ	9,427.600						962.07	408.255
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	828.36	375.124
	Σ	47,227.200						2,158.29	1,812.453
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	400.87	133.762
	Σ	54,536.200						2,191.63	2,065.692

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	73.0	29,853	13.34	8.93
	2	0.140	130.00	7.40	0.2520	1.0000	13	197.0	20,344	6.15	4.29
Σ								239.0	19,828	5.61	3.86
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	91.1	23,670	8.34	5.84
	2	0.139	130.00	6.50	0.2630	1.0000	13	344.1	22,015	8.56	5.94
Σ								352.4	17,668	6.71	4.78
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	240.5	12,099	4.72	3.31
Σ								240.5	12,099	4.72	3.31
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	102.9	5,796	0.85	0.63
	2	0.209	280.00	2.70	0.2762	1.0000	6	251.8	13,536	4.54	3.24
Σ								302.8	11,196	3.17	1.71
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	471.5	16,801	6.44	4.60
Σ								1,014.3	16,070	5.71	3.06
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	2,473.7	9,926	0.40	0.30
Σ								2,473.7	9,926	0.40	0.30
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	4,221.1	18,596	1.00	0.74
Σ								4,221.1	18,596	1.00	0.74
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	2,867.4	15,974	0.96	0.70
Σ								2,867.4	15,974	0.96	0.70
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	3,509.3	9,375	0.22	0.17
Σ								10,560.4	15,215	0.69	0.48
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	7,596.2	18,492	0.85	0.63
Σ								7,596.2	18,492	0.85	0.63
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	4,013.8	10,693	0.52	0.39
Σ								24,622.6	13,669	0.62	0.47
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	1,756.7	13,059	0.78	0.57
Σ								27,802.0	14,721	0.92	0.64

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

General Information

Storm Information:

Storm Type:	Type II-70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	B1	B2	B3	B4	B5	B6	B7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	74.410%	76.157%	69.997%	79.508%	76.475%	69.135%	70.448%
0.1500	55.605%	59.686%	50.748%	64.050%	57.775%	49.241%	48.380%
0.0750	43.516%	47.428%	39.813%	50.694%	41.347%	36.360%	35.105%
0.0159	38.456%	41.399%	35.485%	43.752%	34.236%	31.386%	30.759%
0.0100	31.531%	33.052%	29.389%	34.156%	23.595%	23.861%	24.387%
0.0050	9.472%	10.126%	10.232%	9.667%	6.873%	8.915%	7.819%
0.0020	5.356%	6.051%	5.668%	6.037%	4.758%	5.288%	4.349%
0.0010	4.976%	5.693%	5.255%	5.694%	4.247%	4.786%	3.857%
0.0004	4.422%	4.956%	4.771%	4.879%	3.949%	4.512%	3.708%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#11	627.900	627.900	202.26	17.81	350.0	20,735	6.26	4.34
#10	621.200	621.200	287.19	26.79	477.1	18,136	6.97	5.00
#8	782.600	782.600	304.37	27.95	338.2	12,626	5.09	3.57
#7	1,648.200	1,648.200	244.37	50.53	437.2	11,736	3.48	1.88
#9	652.600	3,083.400	516.03	114.89	1,392.2	16,514	6.03	3.24
#5	7,064.500	7,064.500	609.68	323.97	3,326.2	10,271	0.42	0.31
#2	6,633.800	6,633.800	1,020.35	293.85	5,715.2	19,287	1.06	0.78
#1	4,622.300	4,622.300	996.68	230.12	3,817.9	16,537	1.00	0.74
#4	12,415.200	23,671.300	2,296.63	1,022.06	14,294.3	15,749	0.73	0.51
#3	9,427.600	9,427.600	1,226.34	518.76	9,951.4	19,074	0.90	0.66
#6	7,063.800	47,227.200	2,796.56	2,330.84	32,668.6	14,185	0.66	0.49
#12	2,976.500	54,536.200	2,806.50	2,659.59	36,760.5	15,274	0.99	0.67

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#11	1	130.300	0.303	0.378	0.366	77.000	M	67.32	3.704
	2	497.600	0.677	0.000	0.000	77.000	M	155.00	14.105
	Σ	627.900						202.26	17.809
#10	1	179.800	0.606	0.426	0.348	78.000	M	65.99	5.520
	2	441.400	0.558	0.000	0.000	84.200	M	276.03	21.267
	Σ	621.200						287.19	26.786
#8	1	782.600	0.708	0.000	0.000	80.000	M	304.37	27.953
	Σ	782.600						304.37	27.953
#7	1	791.100	2.222	0.448	0.311	78.000	M	109.58	24.247
	2	857.100	0.948	0.000	0.000	78.000	M	229.36	26.282
	Σ	1,648.200						244.37	50.528
#9	1	652.600	0.936	0.000	0.000	86.400	M	335.38	36.408
	Σ	3,083.400						516.03	114.889
#5	1	7,064.500	6.361	0.000	0.000	83.500	M	609.68	323.968
	Σ	7,064.500						609.68	323.968
#2	1	6,633.800	3.130	0.000	0.000	83.000	M	1,020.35	293.849
	Σ	6,633.800						1,020.35	293.849
#1	1	4,622.300	2.422	0.000	0.000	84.700	M	996.68	230.116
	Σ	4,622.300						996.68	230.116
#4	1	12,415.200	9.741	0.000	0.000	81.600	M	632.80	498.098
	Σ	23,671.300						2,296.63	1,022.063
#3	1	9,427.600	4.941	0.000	0.000	86.200	M	1,226.34	518.757
	Σ	9,427.600						1,226.34	518.757
#6	1	7,063.800	5.356	0.000	0.000	89.000	M	1,031.68	466.048
	Σ	47,227.200						2,796.56	2,330.836
#12	1	2,976.500	3.747	0.000	0.000	86.700	M	509.41	169.269
	Σ	54,536.200						2,806.50	2,659.589

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#11	1	0.176	200.00	4.60	0.3157	1.0000	10	106.3	30,969	14.20	9.58
	2	0.140	130.00	7.40	0.2520	1.0000	13	289.0	21,413	6.88	4.81
Σ								350.0	20,735	6.26	4.34
#10	1	0.184	200.00	4.70	0.2962	1.0000	9	131.7	24,809	9.16	6.43
	2	0.139	130.00	6.50	0.2630	1.0000	13	459.8	22,661	9.04	6.30
Σ								477.1	18,136	6.97	5.00
#8	1	0.173	280.00	2.40	0.2851	1.0000	7	338.2	12,626	5.09	3.57
Σ								338.2	12,626	5.09	3.57
#7	1	0.243	280.00	2.00	0.2006	1.0000	5	148.1	6,078	1.04	0.77
	2	0.209	280.00	2.70	0.2762	1.0000	6	363.0	14,164	4.98	3.55
Σ								437.2	11,736	3.48	1.88
#9	1	0.212	240.00	3.70	0.2445	1.0000	8	617.5	17,314	6.80	4.87
Σ								1,392.2	16,514	6.03	3.24
#5	1	0.180	200.00	4.30	0.2445	1.0000	12	3,326.2	10,271	0.42	0.31
Σ								3,326.2	10,271	0.42	0.31
#2	1	0.179	100.00	8.40	0.2427	1.0000	12	5,715.2	19,287	1.06	0.78
Σ								5,715.2	19,287	1.06	0.78
#1	1	0.164	100.00	8.00	0.2219	1.0000	1	3,817.9	16,537	1.00	0.74
Σ								3,817.9	16,537	1.00	0.74
#4	1	0.170	200.00	4.70	0.2651	1.0000	3	4,811.6	9,717	0.24	0.19
Σ								14,294.3	15,749	0.73	0.51
#3	1	0.190	100.00	10.30	0.1857	1.0000	2	9,951.4	19,074	0.90	0.66
Σ								9,951.4	19,074	0.90	0.66
#6	1	0.200	130.00	6.50	0.1727	1.0000	4	5,125.3	10,996	0.54	0.40
Σ								32,668.6	14,185	0.66	0.49
#12	1	0.196	200.00	4.80	0.2219	1.0000	11	2,292.0	13,474	0.81	0.60
Σ								36,760.5	15,274	0.99	0.67

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	3.13	25.00	799.00	1.760	0.126
		8. Large gullies, diversions, and low flowing streams	1.77	581.00	32,908.52	3.980	2.296
#1	1	Time of Concentration:					2.422

Appendix 38-I

Chaco River Unnamed Tributary 1 Hydrology and Sedimentology for LOM Reclamation Plan

Chaco River Unnamed Tributary 1

Hydrology and Sedimentology

for LOM Reclamation Plan

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information***Storm Information:***

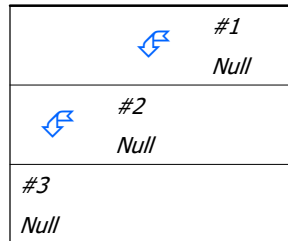
Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#2	0.195	0.373	
Null	#2	==>	#3	0.616	0.336	
Null	#3	==>	End	0.000	0.000	

***Structure Routing Details:***

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	2.78	97.99	3,526.72	5.00	0.195
#1	Muskingum K:					0.195
#2	8. Large gullies, diversions, and low flowing streams	1.35	103.99	7,726.00	3.48	0.616
#2	Muskingum K:					0.616

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	3.44	1.01	3.8	4,203	0.78	0.51
#2	308.400	1,438.400	42.45	3.67	102.0	41,281	14.54	7.10
#3	738.200	2,176.600	58.46	7.27	205.2	38,355	8.78	4.70

Particle Size Distribution(s) at Each Structure

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	81.024%
0.0050	25.768%
0.0020	14.993%
0.0010	13.143%
0.0004	12.603%

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	80.467%
0.0159	71.131%
0.0100	58.571%
0.0050	15.656%
0.0020	8.773%
0.0010	8.011%
0.0004	7.169%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	98.392%
0.0159	90.819%

Size (mm)	In/Out
0.0100	75.270%
0.0050	22.906%
0.0020	12.901%
0.0010	11.846%
0.0004	10.720%

Structure Detail:

Structure #1 (Null)

Structure #2 (Null)

Structure #3 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	1.665	0.767	0.329	76.000	M	1.62	0.403
	2	575.100	1.127	0.000	0.000	77.000	M	3.17	0.604
	Σ	1,130.000						3.44	1.007
#2	1	308.400	0.366	0.000	0.000	86.700	M	42.45	2.666
	Σ	1,438.400						42.45	3.673
#3	1	738.200	0.569	0.000	0.000	83.300	M	39.38	3.599
	Σ	2,176.600						58.46	7.272

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	1.2	2,912	0.64	0.50
	2	0.178	280.00	2.70	0.2630	1.0000	2	3.2	5,148	1.09	0.84
	Σ							3.8	4,203	0.78	0.51
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	100.2	41,282	14.79	9.77
	Σ							102.0	41,281	14.54	7.10
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	135.6	39,764	10.64	7.32
	Σ							205.2	38,355	8.78	4.70

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.33	4.80	1,471.03	0.570	0.716
		8. Large gullies, diversions, and low flowing streams	0.63	27.14	4,327.16	2.370	0.507
		8. Large gullies, diversions, and low flowing streams	0.45	14.45	3,203.99	2.010	0.442
#1	1	Time of Concentration:					1.665
#1	2	5. Nearly bare and untilled, and alluvial valley fans	2.35	33.08	1,406.22	1.530	0.255
		8. Large gullies, diversions, and low flowing streams	0.82	69.69	8,510.19	2.710	0.872
#1	2	Time of Concentration:					1.127

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#2	1	5. Nearly bare and untilled, and alluvial valley fans	2.99	20.00	669.00	1.720	0.108
		8. Large gullies, diversions, and low flowing streams	3.24	163.00	5,025.00	5.400	0.258
#2	1	Time of Concentration:					0.366
#3	1	5. Nearly bare and untilled, and alluvial valley fans	3.08	9.99	325.00	1.750	0.051
		8. Large gullies, diversions, and low flowing streams	3.11	306.99	9,872.00	5.290	0.518
#3	1	Time of Concentration:					0.569

Subwatershed Muskingum Routing Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	8. Large gullies, diversions, and low flowing streams	1.19	108.00	9,039.00	3.270	0.767
#1	1	Muskingum K:					0.767

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	30.91	7.73	39.8	6,404	1.27	0.75
#2	308.400	1,438.400	118.80	14.84	338.8	45,933	16.95	6.12
#3	738.200	2,176.600	175.42	26.73	759.7	46,692	12.91	5.71

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	1.665	0.767	0.329	76.000	M	17.67	3.509
	2	575.100	1.127	0.000	0.000	77.000	M	28.83	4.217
	Σ	1,130.000						30.91	7.726
#2	1	308.400	0.366	0.000	0.000	86.700	M	117.56	7.115
	Σ	1,438.400						118.80	14.842
#3	1	738.200	0.569	0.000	0.000	83.300	M	145.76	11.892
	Σ	2,176.600						175.42	26.734

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	16.0	4,501	0.28	0.21
	2	0.178	280.00	2.70	0.2630	1.0000	2	33.1	7,907	1.87	1.36
	Σ							39.8	6,404	1.27	0.75
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	307.2	46,401	18.61	12.55
	Σ							338.8	45,933	16.95	6.12
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	551.0	48,614	16.62	11.47
	Σ							759.7	46,692	12.91	5.71

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.33	4.80	1,471.03	0.570	0.716
		8. Large gullies, diversions, and low flowing streams	0.63	27.14	4,327.16	2.370	0.507
		8. Large gullies, diversions, and low flowing streams	0.45	14.45	3,203.99	2.010	0.442
#1	1	Time of Concentration:					1.665
#1	2	5. Nearly bare and untilled, and alluvial valley fans	2.35	33.08	1,406.22	1.530	0.255
		8. Large gullies, diversions, and low flowing streams	0.82	69.69	8,510.19	2.710	0.872
#1	2	Time of Concentration:					1.127

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	61.37	14.88	84.4	7,111	1.67	0.98
#2	308.400	1,438.400	180.42	25.59	551.9	47,471	17.83	5.88
#3	738.200	2,176.600	273.73	44.67	1,284.5	49,913	14.88	6.22

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	1.665	0.767	0.329	76.000	M	36.95	6.894
	2	575.100	1.127	0.000	0.000	77.000	M	58.35	7.989
	Σ	1,130.000						61.37	14.883
#2	1	308.400	0.366	0.000	0.000	86.700	M	176.44	10.709
	Σ	1,438.400						180.42	25.593
#3	1	738.200	0.569	0.000	0.000	83.300	M	240.05	19.082
	Σ	2,176.600						273.73	44.674

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	35.3	5,093	0.47	0.34
	2	0.178	280.00	2.70	0.2630	1.0000	2	70.2	8,945	2.51	1.81
	Σ							84.4	7,111	1.67	0.98
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	484.8	48,031	19.90	13.58
	Σ							551.9	47,471	17.83	5.88
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	949.5	51,965	18.96	13.13
	Σ							1,284.5	49,913	14.88	6.22

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.33	4.80	1,471.03	0.570	0.716
		8. Large gullies, diversions, and low flowing streams	0.63	27.14	4,327.16	2.370	0.507
		8. Large gullies, diversions, and low flowing streams	0.45	14.45	3,203.99	2.010	0.442
#1	1	Time of Concentration:					1.665
#1	2	5. Nearly bare and untilled, and alluvial valley fans	2.35	33.08	1,406.22	1.530	0.255
		8. Large gullies, diversions, and low flowing streams	0.82	69.69	8,510.19	2.710	0.872
#1	2	Time of Concentration:					1.127

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	91.97	21.97	131.6	7,530	1.92	1.12
#2	308.400	1,438.400	235.22	35.87	751.0	48,558	18.41	5.76
#3	738.200	2,176.600	363.00	61.53	1,786.6	51,747	16.08	6.54

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	1.665	0.767	0.329	76.000	M	56.63	10.269
	2	575.100	1.127	0.000	0.000	77.000	M	87.79	11.697
	Σ	1,130.000						91.97	21.966
#2	1	308.400	0.366	0.000	0.000	86.700	M	229.85	13.901
	Σ	1,438.400						235.22	35.867
#3	1	738.200	0.569	0.000	0.000	83.300	M	326.30	25.666
	Σ	2,176.600						363.00	61.533

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	56.1	5,443	0.64	0.47
	2	0.178	280.00	2.70	0.2630	1.0000	2	109.3	9,525	2.90	2.08
	Σ							131.6	7,530	1.92	1.12
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	650.6	49,426	20.93	14.34
	Σ							751.0	48,558	18.41	5.76
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	1,331.2	53,933	20.37	14.15
	Σ							1,786.6	51,747	16.08	6.54

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.33	4.80	1,471.03	0.570	0.716
		8. Large gullies, diversions, and low flowing streams	0.63	27.14	4,327.16	2.370	0.507
		8. Large gullies, diversions, and low flowing streams	0.45	14.45	3,203.99	2.010	0.442
#1	1	Time of Concentration:					1.665
#1	2	5. Nearly bare and untilled, and alluvial valley fans	2.35	33.08	1,406.22	1.530	0.255
		8. Large gullies, diversions, and low flowing streams	0.82	69.69	8,510.19	2.710	0.872
#1	2	Time of Concentration:					1.127

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#1	1,130.000	1,130.000	130.55	30.76	193.2	7,888	2.12	1.24
#2	308.400	1,438.400	298.86	48.35	992.7	49,405	18.91	5.70
#3	738.200	2,176.600	468.17	81.79	2,400.7	53,679	17.27	6.84

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#1	1	554.900	1.665	0.767	0.329	76.000	M	81.42	14.478
	2	575.100	1.127	0.000	0.000	77.000	M	124.46	16.282
	Σ	1,130.000						130.55	30.760
#2	1	308.400	0.366	0.000	0.000	86.700	M	291.23	17.591
	Σ	1,438.400						298.86	48.351
#3	1	738.200	0.569	0.000	0.000	83.300	M	427.77	33.442
	Σ	2,176.600						468.17	81.793

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#1	1	0.178	280.00	2.00	0.2427	1.0000	1	83.3	5,747	0.81	0.60
	2	0.178	280.00	2.70	0.2630	1.0000	2	159.9	10,013	3.22	2.32
	Σ							193.2	7,888	2.12	1.24
#2	1	0.147	75.00	15.50	0.2106	1.0000	3	847.5	50,640	21.84	15.03
	Σ							992.7	49,405	18.91	5.70
#3	1	0.173	75.00	13.50	0.2539	1.0000	4	1,796.6	55,617	21.60	15.07
	Σ							2,400.7	53,679	17.27	6.84

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.33	4.80	1,471.03	0.570	0.716
		8. Large gullies, diversions, and low flowing streams	0.63	27.14	4,327.16	2.370	0.507
		8. Large gullies, diversions, and low flowing streams	0.45	14.45	3,203.99	2.010	0.442
#1	1	Time of Concentration:					1.665
#1	2	5. Nearly bare and untilled, and alluvial valley fans	2.35	33.08	1,406.22	1.530	0.255
		8. Large gullies, diversions, and low flowing streams	0.82	69.69	8,510.19	2.710	0.872
#1	2	Time of Concentration:					1.127

Appendix 38-J

Chaco River Unnamed Tributary 2 Hydrology and Sedimentology for LOM Reclamation Plan

Chaco River Unnamed Tributary 2 **Hydrology and Sedimentology** **for LOM Reclamation Plan**

2-year, 6-hour Precipitation Event
10-year, 6-hour Precipitation Event
25-year, 6-hour Precipitation Event
50-year, 6-hour Precipitation Event
100-year, 6-hour Precipitation Event

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	2 yr - 6 hr
Rainfall Depth:	0.823 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Networking:

Type	Stru #	(flows into)	Stru #	Musk. K (hrs)	Musk. X	Description
Null	#1	==>	#3	0.770	0.336	
Null	#2	==>	#3	0.806	0.339	
Null	#3	==>	End	0.000	0.000	

	#2 Null
	#1 Null
	#3 Null

Structure Routing Details:

Stru #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	8. Large gullies, diversions, and low flowing streams	1.34	129.00	9,631.00	3.47	0.770
#1	Muskingum K:					0.770
#2	8. Large gullies, diversions, and low flowing streams	1.42	147.00	10,368.00	3.57	0.806
#2	Muskingum K:					0.806

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	68.49	3.36	109.2	36,542	17.02	11.02
#1	450.000	450.000	4.45	0.65	8.7	13,235	0.85	0.64
#3	1,037.500	1,777.200	113.91	14.12	353.8	27,507	9.45	6.28

Particle Size Distribution(s) at Each Structure

Structure #2:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	86.567%
0.0750	64.512%
0.0159	55.699%
0.0100	43.215%
0.0050	11.799%
0.0020	7.064%
0.0010	6.396%
0.0004	5.820%

Structure #1:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	100.000%
0.0750	100.000%
0.0159	100.000%
0.0100	100.000%
0.0050	27.299%
0.0020	16.323%
0.0010	15.221%
0.0004	13.174%

Structure #3:

Size (mm)	In/Out
0.4500	100.000%
0.2500	100.000%
0.1500	95.882%
0.0750	88.423%
0.0159	76.680%

Size (mm)	In/Out
0.0100	60.048%
0.0050	16.395%
0.0020	9.815%
0.0010	8.898%
0.0004	8.080%

Structure Detail:

Structure #2 (Null)

Structure #1 (Null)

Structure #3 (Null)

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	68.49	3.355
Σ		289.700						68.49	3.355
#1	1	450.000	0.727	0.000	0.000	78.000	M	4.45	0.650
Σ		450.000						4.45	0.650
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	101.03	10.115
Σ		1,777.200						113.91	14.120

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	109.2	36,542	17.02	11.02
Σ								109.2	36,542	17.02	11.02
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	8.7	13,235	0.85	0.64
Σ								8.7	13,235	0.85	0.64
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	236.0	24,197	7.21	5.07
Σ								353.8	27,507	9.45	6.28

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.72	7.34	1,024.99	0.840	0.338
		8. Large gullies, diversions, and low flowing streams	1.86	57.03	3,059.71	4.090	0.207
		8. Large gullies, diversions, and low flowing streams	0.94	2.03	216.07	2.900	0.020
		8. Large gullies, diversions, and low flowing streams	3.68	123.60	3,357.05	5.750	0.162
#1	1	Time of Concentration:					0.727
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#3	1	5. Nearly bare and untilled, and alluvial valley fans	10.96	25.00	228.00	3.310	0.019
		8. Large gullies, diversions, and low flowing streams	2.35	285.00	12,151.00	4.590	0.735
#3	1	Time of Concentration:					0.754

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	10 yr - 6 hr
Rainfall Depth:	1.230 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	162.02	8.13	290.4	38,588	18.73	12.59
#1	450.000	450.000	36.16	3.80	76.0	20,787	3.11	2.18
#3	1,037.500	1,777.200	293.64	37.82	1,061.4	28,417	10.55	7.59

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	162.02	8.134
Σ		289.700						162.02	8.134
#1	1	450.000	0.727	0.000	0.000	78.000	M	36.16	3.800
Σ		450.000						36.16	3.800
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	271.90	25.883
Σ		1,777.200						293.64	37.817

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	290.4	38,588	18.73	12.59
Σ								290.4	38,588	18.73	12.59
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	76.0	20,787	3.11	2.18
Σ								76.0	20,787	3.11	2.18
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	695.3	27,728	9.64	6.81
Σ								1,061.4	28,417	10.55	7.59

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.72	7.34	1,024.99	0.840	0.338
		8. Large gullies, diversions, and low flowing streams	1.86	57.03	3,059.71	4.090	0.207
		8. Large gullies, diversions, and low flowing streams	0.94	2.03	216.07	2.900	0.020
		8. Large gullies, diversions, and low flowing streams	3.68	123.60	3,357.05	5.750	0.162
#1	1	Time of Concentration:					0.727
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	25 yr - 6 hr
Rainfall Depth:	1.500 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	232.74	11.86	439.3	39,437	19.43	13.25
#1	450.000	450.000	70.30	6.97	154.8	23,128	4.66	3.26
#3	1,037.500	1,777.200	438.38	57.25	1,683.6	28,971	11.11	8.21

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	232.74	11.859
Σ		289.700						232.74	11.859
#1	1	450.000	0.727	0.000	0.000	78.000	M	70.30	6.966
Σ		450.000						70.30	6.966
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	408.70	38.429
Σ		1,777.200						438.38	57.254

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	439.3	39,437	19.43	13.25
Σ								439.3	39,437	19.43	13.25
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	154.8	23,128	4.66	3.26
Σ								154.8	23,128	4.66	3.26
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,090.0	29,169	10.66	7.55
Σ								1,683.6	28,971	11.11	8.21

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.72	7.34	1,024.99	0.840	0.338
		8. Large gullies, diversions, and low flowing streams	1.86	57.03	3,059.71	4.090	0.207
		8. Large gullies, diversions, and low flowing streams	0.94	2.03	216.07	2.900	0.020
		8. Large gullies, diversions, and low flowing streams	3.68	123.60	3,357.05	5.750	0.162
#1	1	Time of Concentration:					0.727
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235

General Information***Storm Information:***

Storm Type:	Type II- 70
Design Storm:	50 yr - 6 hr
Rainfall Depth:	1.720 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	294.97	15.11	574.7	40,181	20.01	13.74
#1	450.000	450.000	103.64	10.04	236.0	24,407	5.51	3.87
#3	1,037.500	1,777.200	567.71	74.65	2,261.6	29,721	11.62	8.62

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	294.97	15.115
	Σ	289.700						294.97	15.115
#1	1	450.000	0.727	0.000	0.000	78.000	M	103.64	10.039
	Σ	450.000						103.64	10.039
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	529.31	49.495
	Σ	1,777.200						567.71	74.648

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	574.7	40,181	20.01	13.74
	Σ							574.7	40,181	20.01	13.74
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	236.0	24,407	5.51	3.87
	Σ							236.0	24,407	5.51	3.87
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,451.7	30,072	11.30	8.02
	Σ							2,261.6	29,721	11.62	8.62

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.72	7.34	1,024.99	0.840	0.338
		8. Large gullies, diversions, and low flowing streams	1.86	57.03	3,059.71	4.090	0.207
		8. Large gullies, diversions, and low flowing streams	0.94	2.03	216.07	2.900	0.020
		8. Large gullies, diversions, and low flowing streams	3.68	123.60	3,357.05	5.750	0.162
#1	1	Time of Concentration:					0.727
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235

General Information

Storm Information:

Storm Type:	Type II- 70
Design Storm:	100 yr - 6 hr
Rainfall Depth:	1.960 inches

Particle Size Distribution:

Size (mm)	C1	C2	C3	C4	C5	C6	C7
0.4500	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%	100.000%
0.2500	73.959%	73.616%	76.935%	71.698%	79.271%	76.186%	76.186%
0.1500	53.513%	51.156%	56.809%	52.203%	61.614%	56.371%	56.371%
0.0750	39.786%	36.094%	43.470%	40.227%	48.027%	42.009%	42.009%
0.0159	34.594%	31.049%	38.314%	35.500%	41.810%	36.270%	36.270%
0.0100	27.184%	23.672%	31.377%	28.812%	33.358%	28.141%	28.141%
0.0050	7.949%	6.458%	8.122%	9.441%	8.745%	7.683%	7.683%
0.0020	4.615%	3.761%	4.540%	5.331%	5.229%	4.600%	4.600%
0.0010	4.166%	3.257%	4.157%	4.909%	4.876%	4.165%	4.165%
0.0004	3.847%	3.172%	3.703%	4.467%	4.220%	3.790%	3.790%

Structure Summary:

	Immediate Contributing Area (ac)	Total Contributing Area (ac)	Peak Discharge (cfs)	Total Runoff Volume (ac-ft)	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc. (ml/l)	24VW (ml/l)
#2	289.700	289.700	365.14	18.84	732.6	40,817	20.51	14.18
#1	450.000	450.000	145.51	13.81	341.2	25,637	6.33	4.45
#3	1,037.500	1,777.200	717.28	94.87	2,856.8	30,557	11.75	8.43

Subwatershed Hydrology Detail:

Stru #	SWS #	SWS Area (ac)	Time of Conc (hrs)	Musk K (hrs)	Musk X	Curve Number	UHS	Peak Discharge (cfs)	Runoff Volume (ac-ft)
#2	1	289.700	0.235	0.000	0.000	88.600	M	365.14	18.838
Σ		289.700						365.14	18.838
#1	1	450.000	0.727	0.000	0.000	78.000	M	145.51	13.807
Σ		450.000						145.51	13.807
#3	1	1,037.500	0.754	0.000	0.000	87.500	M	667.86	62.228
Σ		1,777.200						717.28	94.872

Subwatershed Sedimentology Detail:

Stru #	SWS #	Soil K	L (ft)	S (%)	C	P	PS #	Sediment (tons)	Peak Sediment Conc. (mg/l)	Peak Settleable Conc (ml/l)	24VW (ml/l)
#2	1	0.172	75.00	12.20	0.1802	1.0000	6	732.6	40,817	20.51	14.18
Σ								732.6	40,817	20.51	14.18
#1	1	0.176	130.00	6.40	0.2851	1.0000	5	341.2	25,637	6.33	4.45
Σ								341.2	25,637	6.33	4.45
#3	1	0.181	100.00	8.80	0.2219	1.0000	7	1,879.7	30,880	11.87	8.45
Σ								2,856.8	30,557	11.75	8.43

Subwatershed Time of Concentration Details:

Stru #	SWS #	Land Flow Condition	Slope (%)	Vert. Dist. (ft)	Horiz. Dist. (ft)	Velocity (fps)	Time (hrs)
#1	1	5. Nearly bare and untilled, and alluvial valley fans	0.72	7.34	1,024.99	0.840	0.338
		8. Large gullies, diversions, and low flowing streams	1.86	57.03	3,059.71	4.090	0.207
		8. Large gullies, diversions, and low flowing streams	0.94	2.03	216.07	2.900	0.020
		8. Large gullies, diversions, and low flowing streams	3.68	123.60	3,357.05	5.750	0.162
#1	1	Time of Concentration:					0.727
#2	1	5. Nearly bare and untilled, and alluvial valley fans	4.02	21.00	522.00	2.000	0.072
		8. Large gullies, diversions, and low flowing streams	3.55	118.00	3,325.00	5.650	0.163
#2	1	Time of Concentration:					0.235

Table 38.1-5 Final Surface Configuration Drainage Densities

Final Surface Configuration Drainage Densities			
Drainage	Area (ac.)	Channel Length (ft.)	Drainage Density (ft./ac.)
No Name Arroyo	2,526	293,475.1	116.2
Chaco River	1,166	105,987.0	90.9
Brimhall Wash	1,780	248,122.7	139.4
Pinabete	2,955	110,447.3	37.4
Total	8,427	758,032.1	383.9