Appendix 2

Flood Mitigation Analysis Support Data – Tables for First Screening

FLOOD SOURCE: Haw Creek
AREA: Marr Road

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	over 6100 Ac-ft of storage at an estimated cost of over $152 million required to eliminate flooding
	Channel Clearing	Y	Y	N			Computer modeling shows this would lower flood elevations by no more than 3/4 ft which is not enough to provide 50-year protection.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project. Increases flood levels on Flatrock River, no location suitable for localize diversion
	Bridge Replacement	Y	Y	Y	Y		Road could potentially be raised and opening increased to make up for the lost road overflow area to provide flood free access. However, road to the north would still be flooded, private drives would also need raised and paths for flow created under the drives in order to allow access to farms.
	2-Stage Ditch Channel Improvement	Y	Y	N			Significant amount of flow outside the channel means that a 2-stage channel would have to be very large to reduce flood elevations.
Flood Protection	Voluntary Buyouts	N/A					no flooded structures
	Floodproofing	N/A					no flooded structures
	Levee/ Floodwall	N					A levee along the road would increase stages upstream since it would eliminate road overflow without providing additional capacity under the road.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 42 Sycamore Bend/Arrowood

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	Y	Y	N	would require a lot of maintenance for infrequent, narrow range of benefit to the area
	Bypass/ Diversion	N					the current flood source is a bypass, there is no room to increase the bypass capacity to reduce flood elevations,
	Bridge Replacement	Y	Y	N			Based on computer modeling, enlarging the Rocky Ford Road bridge would not create significant reductions in flood elevations.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		There is room for creating additional cross sectional flow area that may be sufficient for reducing flood elevations in this immediate reach.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~15 structures flooded to depths beyond floodproof option
	Floodproofing	N					~50 strucutres could be floodproofed
	Levee/ Floodwall	Y	Y	Y	Y		a 900 foot levee along the north side of Sawin Road could protect the area from Haw Creek flows bypassing the channel, mitigation may be required
	Combinations:						

FLOOD SOURCE: Haw Creek
AREA: 41 Northbrook/Candlelight

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Computer modeling shows this would lower flood elevations by no more than 3/4 ft which is not enough to provide 100-year protection.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project, Increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Based on computer modeling, enlarging the Rocky Ford Road bridge would not create significant reductions in flood elevations.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		There is room for creating additional cross sectional flow area that may be sufficient for reducing flood elevations in this immediate reach.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~140 houses and 235 mobile homes flooded
	Floodproofing	N					All but ~ 80 mobile homes have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		Over a 2,200 ft levee could protect all structures from the 100-year flood or a 8,700 ft levee to protect from the 500-year flood without removing significant volume of flood water storage from the system. May be able to mitigate west of Haw Creek, estimated construction costs $1.9 million.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 40 Windsor Place/Hillcrest

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Computer modeling shows this would lower flood elevations by no more than 3/4 ft which is not enough to provide 100-year protection.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project. Increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Enlarging the 25th Street and National Road bridges would not create significant reductions in flood elevations without channel improvements u/s and d/s as well.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		There is room for creating additional cross sectional flow area that may be sufficient for reducing flood elevations in this immediate reach.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~ 10 flooded structures have flood depths beyond that for floodproofing
	Floodproofing	N					~ 95 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		Over a 3,600 ft levee could protect all structures without removing significant volume of flood water storage from the system, estimated construction costs of $1.6 million
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 38 Everoad Park West/Eastbrook

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Lower flood elevations by no more than 3/4 ft which is not enough to provide 100-year protection.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project, increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Enlarging the 25th Street and National Road bridges would not create significant reductions in flood elevations without channel improvements u/s and d/s as well.
	2-Stage Ditch Channel Improvement	Y	Y	N			Channel in this area appears to already have a 2-stage ditch configuration so there is not room for significant additional capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		flood depths allow floodproofing
	Floodproofing	N					~ 150 of structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable.
	Levee/ Floodwall	Y	Y	Y	Y		Over a 5,200 ft levee could protect all structures but would remove a large area of flood water storage from the system. May be able to mitigate for lost storage just upstream, estimated construction cost of $4.3 million
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 37 Everoad Park East

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Lower flood elevations by no more than 3/4 ft which is not enough to provide 100-year protection.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project, increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Enlarging the 25th Street and National Road bridges would not create significant reductions in flood elevations without channel improvements u/s and d/s as well.
	2-Stage Ditch Channel Improvement	Y	Y	N			Channel in this area appears to already have a 2-stage ditch configuration so there is not room for significant additional capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~ 30 flooded structures
	Floodproofing	N					~ 10 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		Over a 4,300 ft levee could protect all structures but would remove a large area of flood water storage from the system, may be able to mitigate for lost storage just upstream, estimated construction costs of $1.8 million
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*
Some structures could be floodproofed but they would still be inaccessible during a flood.

FLOOD SOURCE: Haw Creek
AREA: 36 Midway

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 3650 Ac-ft of storage volume needed at an estimated construction cost of over $91.3 million to eliminate flooding
	Channel Clearing	Y	Y	N			significant cost to protect only 1-2 structures
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project. Increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Enlarging 17th & 18th Street bridges and widening the channel in between may create up to a 1 ft reduction in flood levels in the immediate vicinity which may protect a few buildings.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		Upstream of the hospital, there appears to be room to construct additional channel capacity which may lower flood elevations in this reach.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~ 25 flooded structures
	Floodproofing	N					~20 structures have flood depths that would allow floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		Over a 2,000 ft levee could protect all structures without removing a large area of flood water storage from the system. May be able to mitigate for lost storage just upstream,$1.3 million estimated construction costs
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*
Most of the structures could be floodproofed but they would still be inaccessible during a flood.

FLOOD SOURCE: Haw Creek
AREA: 35 Columbus Regional Hospital

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir						
	Off-line Detention						
	Channel Clearing						
	Bypass/ Diversion						
	Bridge Replacement						
	2-Stage Ditch Channel Improvement						
Flood Protection	Voluntary Buyouts						
	Floodproofing						
	Levee/ Floodwall						
	Combinations:						

Notes: *A floodwall system has been constructed by the hospital to protect its facility.*

FLOOD SOURCE: Haw Creek
AREA: 34 17th & Keller

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			Social	Economic	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 3650 Ac-ft of storage volume needed at an estimated construction cost of over $91.3 million to eliminate flooding
	Channel Clearing	Y	Y	N			May prevent a few structures from flooding.
	Bypass/ Diversion	Y	Y	Y	N		An upstream diversion to Flatrock is on the order of a $83 million project. Increases flood levels on Flatrock River, no location for localized diversion
	Bridge Replacement	Y	Y	N			Enlarging 17th & 18th Street bridges and widening the channel in between may create up to a 1 ft reduction in flood levels in the immediate vicinity which may protect a few buildings.
	2-Stage Ditch Channel Improvement	Y	Y	N			Downstream of golf course may provide area for channel improvement but due to flood depths under existing conditions, is not expected to lower elevations significantly.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~20 flooded structures
	Floodproofing	N					most structures have flood depths that would allow floodproofing.
	Levee/ Floodwall	Y	Y	Y	Y		More than 1,500 ft levee could protect all structures without removing a large area of flood water storage from the system. May be able to mitigate for lost storage just upstream, estimated construction cost of $900,000
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*
Some structures could be floodproofed.

FLOOD SOURCE: Haw Creek
AREA: 33 10th & Central

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Would lower 50-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	Y	Y	Y	Y	N	Even though a large area has been purchased by the City to the east of CTC, the number of structures that would have to be disrupted to construct such a bypass would be more than the number protected by a bypass here.
	Bridge Replacement	Y	Y	N			Replacement of 7th Street bridge may reduce elevations about 1/2 ft here but is little room to make significantly larger.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~ 100 flooded structures
	Floodproofing	N					over 60 homes exceed the maximum flood depths recommended for floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	N				Computer modeling shows such a levee to protect the area would raise flood stages upstream up to 1 1/2 ft, could perhaps raise Central Avenue and 8th Street to protect area north and west of these streets in order to maintain conveyance
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 32 Tech Center/Pleasant Grove

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Would lower 50-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	Y	Y	Y	Y	N	Even though a large area has been purchased by the City to the east of CTC, the number of structures that would have to be disrupted to construct such a bypass would be more than the number protected by a bypass here.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		Reasonable area to buyout since several homes have already been bought out.
	Floodproofing	Y	Y	Y	Y		Homes along the edge of the flooded area could be protected but would remain inaccessible during a flood
	Levee/ Floodwall	Y	N				A levee that would not increase flood stages would protect area where several structures have already been bought out.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*
Some structures could be floodproofed but they would still be inaccessible during a flood.

FLOOD SOURCE: Haw Creek
AREA: 31 CEP/2nd Street

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 2800 Ac-ft of storage volume needed at an estimated construction cost of over $70 million to eliminate flooding
	Channel Clearing	Y	Y	N			Would lower 50-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	Y	Y	Y	Y	N	Even though a large area has been purchased by the City east of Haw Creek and to the east of CTC, the number of structures that would have to be disrupted to construct such a bypass would be more than the number protected by a bypass here.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	~7 flooded commercial structures
	Floodproofing	Y	Y	Y	Y		commercial structures
	Levee/ Floodwall	Y	N				A levee that would block floodwaters from unprotected area south of 3rd Street has been shown to increase stages without compensatory measures
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Haw Creek
AREA: 30 Mariah/Reo Street

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					no good location
	Off-line Detention	Y	Y	Y	Y	N	Over 6100 Ac-ft of storage volume needed at excavation cost of over $152 million to eliminate flooding
	Channel Clearing	Y	Y	N			Would lower 50-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	Y	Y	N			have to acquire as much land as the area it would protect, couldexpose area to increased flooding from East Fork White River
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity.
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~25 flooded structures
	Floodproofing	N					Flood depths exceed maximum recommended for floodproofing on ~20 structures. Since only a few structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		More than 1,500 ft long levee could protect residences at an estimated construction cost of $2.3 million, Levee/floodwall around Mariah must stay close to building to prevent increased flood stages.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 45 Riverside Drive North

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	Y	Y		Widening the US 31 bridge could reduce flood depths by as much as 2 ft in the 500-year flood protecting all but 1 or 2 structures
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		upstream to US31 there appears to be room to construct an additional channel that would likely require about a 5000 sq. ft. cross section, may lower flood elevations in this reach, the excavation portion alone is expected to exceed $18 million, cost far outweighs the benefit
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~5 flooded structures
	Floodproofing	N					at least 3 structures appear to have flood depths that would allow floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		2,200 ft long, ~$1.4 M levee could protect structures and road flooding, portions would be located in the floodway so may increase flood stages unless compensatory measures are also provided
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 22 Long Road

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hudreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	Y	Y		Widening the US 31 bridge could reduce flood depths by as much as 2 ft in the 500-year.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		upstream to US31 there appears to be room to construct an additional channel that would likely require about a 5000 sq. ft. cross section, may lower flood elevations in this reach, the excavation portion alone is expected to exceed $18 million, cost far outweighs the benefit
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	minor flooding of 2-3 commercial structures so no FEMA funds available for buyout
	Floodproofing	Y	Y	Y	Y		all structures have flood depths that would allow floodproofing
	Levee/ Floodwall	Y	Y	Y	Y		4,100 ft long, ~$2.5 M levee could protect structures and road flooding, portions would be located in the floodway so may increase flood stages unless compensatory measures are also provided
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 21 Commerce Park

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			Social	Economic	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			would not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		upstream to US31 there appears to be room to construct an additional channel that would likely require about a 5000 sq. ft. cross section, may lower flood elevations in this reach
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		minor flooding of ~5 structures
	Floodproofing	Y	Y	Y	Y		all structures have flood depths that would allow floodproofing
	Levee/ Floodwall	Y	Y	Y	Y		3,300 ft long, ~$1.1 M levee could protect structures and road flooding, located in the floodway so may increase flood stages unless compensatory measures are also provided
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: US 31

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	Y	Y		Could be raised and additional flow area be added under the road
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y	N	upstream to US31 there appears to be room to construct an additional channel that would likely require about a 5000 sq. ft. cross section, may lower flood elevations in this reach, the excavation portion alone is expected to exceed $18 million, cost far outweighs the benefit
Flood Protection	Voluntary Buyouts	N/A					no structures
	Floodproofing	N/A					no structures
	Levee/ Floodwall	N/A					
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 19 Riverside Drive South

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			would not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y	N	not worth the cost to protect access for which there is and alternate
Flood Protection	Voluntary Buyouts	N/A					no structures
	Floodproofing	N/A					no structures
	Levee/ Floodwall	Y	Y	Y	Y	N	not worth the cost to protect access for which there is and alternate
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 18 Noblitt Falls

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			Would not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity by the quantities needed to reduce the 500-year and 100-year, also controlled by East Fork White River backwater for 500 year, hydraulic model showed negligible decrease with a 500' wide shelf 2 stage ditch from the RR to upstream of Noblitt Falls
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~55 flooded structures
	Floodproofing	N					~10 structures have flood depths that would allow floodproofing, remaining structures would be inaccessible during a flood. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		3,800 ft long, ~$3.0 Million levee could protect structures and road flooding, in floodway so may increase stages without compensatory measures
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River
AREA: 17 Washington Street

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			Social	Economic	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	N	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			Slight reductions in flood elevation may remove ~10 structures from the 500-year floodplain if Indianapolis Road and the railroad bridges were widened. Benefits may be negated by EFK White River backwater however.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity by the quantities needed to reduce the 500-year to 10-year flood elevations, East Fork White River backwater would negate impacts
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~80 flooded structures
	Floodproofing	N					~35 structures have flood depths that would allow floodproofing, remaining structures would still be inaccesible. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		2,400 ft long levee tied into the RR, ~$1.5 M levee could protect structures and road flooding but is in the floodway so would likely haveminor negative impacts without compensation measures
	Combinations:						
	voluntary buyout and levee	Y	Y	Y	Y		construct levee landward of floodway and buyout structures remaining in the floodplain

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River/EFK White River
AREA: 16 Indianapolis Road

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			Social	Economic	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					Most of the flooded structures are on the southern end where East Fork White River backwater would negate impacts of channel improvement, between RR and US 31 (9800 foot reach) adding 4100 sq ft of cross sectional flow area may lower 500 year flood elevations to 100 year levels
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	~25 commercial buildings flooded
	Floodproofing	N					flood depths are in excess of those recommended for floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		15,000 foot long levee with an estimated cost of $6.9 million could protect most structures and Indianapolis Road from flooding, a few structures are too close to the river to protect with a levee or floodwall, levee would require compensatory storage measures if property protection is the goal, if flood free access along Indianapolis Road is the goal then culverts under the road could allow existing storage to be used and structures could be protected individually
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Flatrock River/EFK White River
AREA: 14 Mill Race Park

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No room to divert enough flow around area.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					No room to substantially increase channel capacity, East Fork White River backwater would negate benefits
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		only 1 -2 flooded structures per depth maps but City says the structure is elevated
	Floodproofing	Y	Y	Y	Y		all structures have shallow enough flood depths to be candidates for floodproofing but City says the structure is already elevated
	Levee/ Floodwall	Y	Y	Y	Y		2,200 ft long, ~$1.1 M levee could protect the senior center and road flooding, levee would not need to be in the floodway so therefore it should not limit flow capacity, may need to compensate for lost floodplain storage volume
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 29 Water Street

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No appropriate location.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	N/A					all structures appear to be floodfree
	Floodproofing	N/A					all structures appear to be floodfree
	Levee/ Floodwall	Y	Y	Y	Y		could raise the road to the east if access is needed for flood events, raising the road to create access from the west could raise flood elevations
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: Southern Crossing

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No appropriate location
	Bridge Replacement	Y	Y	Y	Y		Does not lower flood elevations significantly per computer modeling but road could be protected by raising if sufficient flow area can be compensated underneath.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	N/A					no flooded structures
	Floodproofing	N/A					no flooded structures
	Levee/ Floodwall	N/A					
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Driftwood River
AREA: 15 Tellman Camp Road

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Impacts would be negligible.
	Bypass/ Diversion	N					Unrealistic to create a bypass about half of the Driftwood River flow around the area in order to lower the flood elevations
	Bridge Replacement	Y	Y	N			minor reduction in flood elevations
	2-Stage Ditch Channel Improvement	N					Not enough room to construct given overbank topography and slope of stream, East Fork White River backwater would negate any benefits
Flood protection	Voluntary Buyouts	Y	Y	Y	Y		~35 flooded structures
	Floodproofing	N					~5 strutures are candidates for floodproofing but several structures would still be inaccessible. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	N					no good location
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Driftwood River
AREA: 13 Lowell Road

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					cost would be hundreds of millions of dollars, multijurisdictional project,many many years to accomplish
	Off-line Detention	N					cost would be hundreds of millions of dollars, multijurisdictional project,many many years to accomplish
	Channel Clearing	Y	Y	N			Impacts would be negligible.
	Bypass/ Diversion	N					No appropriate location to bypass about half of the Driftwood River flow
	Bridge Replacement	Y	Y	Y	Y		Therortically, raising the roadway and providing a larger bridge opening would provide flood free access
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y	N	excavation costs likely to be significiant to provide the needed reduction in flood depths
Flood Protection	Voluntary Buyouts	N/A					no flooded structures
	Floodproofing	N/A					no flooded structures
	Levee/ Floodwall	N					Within the Driftwood River floodway. Would increase flood stages.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Driftwood River
AREA: CR 325 West

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	N					Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Impacts would be negligible.
	Bypass/ Diversion	N					No appropriate location.
	Bridge Replacement	Y	N				Could raise road if place enough openings under to allow storage but is in floodway so would likely block needed flow area and raise stages without compensatory measures.
	2-Stage Ditch Channel Improvement	N					Not enough room to construct given overbank topography and slope of stream, East Fork White River backwater would negate any benefits
Flood Protection	Voluntary Buyouts	N/A					no flooded structures
	Floodproofing	N/A					no flooded structures
	Levee/ Floodwall	Y	N				Would remove storage and flow area within the Driftwood River floodway causing increased flood elevations.
	Combinations:						
	raise road and channel improvement	Y	Y	Y	Y		

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Driftwood River

AREA: 11 Front Door West/Westhill

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Impacts would be negligible.
	Bypass/ Diversion	N					Unrealistic to create a bypass about half of the Driftwood River flow around the area in order to lower the flood elevations
	Bridge Replacement	Y	Y	N			minor reduction in flood elevations
	2-Stage Ditch Channel Improvement	N					Not enough room to construct given overbank topography and slope of stream, East Fork White River backwater would negate any benefits, even on more frequent floods where White River does not control there is not enough room to create enough additional capacity
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	~20 flooded commercial structures, no FEMA assistance for buyout
	Floodproofing	Y	Y	Y	Y		several structures would still be inaccessible
	Levee/ Floodwall	Y	Y	Y	Y	N	Placement of a 1,000 ft berm along the highway access road would cost around $650,000. Does not include modification of tributary crossing near I-65 that would need backflow prevention or the closure structure under I-65.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Driftwood River
AREA: 10 Front Door East/Jonathan Moore Pike

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	N					Cost would be hundreds of millions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Impacts would be negligible.
	Bypass/ Diversion	N					Unrealistic to create a bypass for about half of the Driftwood River flow around the area in order to lower the flood elevations
	Bridge Replacement	Y	Y	N			minor reduction in flood elevations
	2-Stage Ditch Channel Improvement	N					Not enough room to construct given overbank topography and slope of stream, East Fork White River backwater would negate any benefits, even on more frequent floods where White River does not control there is not enough room to create enough additional capacity
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	~25 flooded commercial structures, no FEMA assistance for buyout
	Floodproofing	Y	Y	Y	Y		commercial strutures are candidates for floodproofing but several structures would still be inaccessible
	Levee/ Floodwall	Y	Y	Y	Y		8,700 foot long levee to protect entire area at estimated construction cost of $4.1 Million
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 30 Mariah/Reo Street

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No good location
	Bridge Replacement	Y	Y	N			Bridge replacement along East Fork White River does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 15 flooded structures.
	Floodproofing	N					About 1/2 of the structures have depths that are within the limits recommended for floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		More than 1,500 ft long levee could protect residences at an estimated construction cost of $2.3 Million, additional levee/ floodwall around Mariah must stay close to building to prevent increased flood stages
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 23 Gladstone Avenue

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No appropriate location
	Bridge Replacement	Y	Y	Y	Y		Does not lower flood elevations significantly per computer modeling but road could be protected by raising if sufficient flow area can be compensated underneath.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	N/A					no flooded structures
	Floodproofing	N/A					no flooded structures
	Levee/ Floodwall	N/A					
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 9 Garden City

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/2 ft.
	Bypass/ Diversion	N					No appropriate location
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N			Y		
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 55 flooded structures, some of which are commercial
	Floodproofing	N					~35 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	N					No good location to provide protection and a continuous levee would block flow area for the overflow from Driftwood River over SR 46 to East Fork White River and increase upstream elevations, levee along Garden Street could protect a few structures.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 8 Huffman Drive/WWTP

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No good location for a bypass
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significanly per computer modeling.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		5 structures with minor flooding
	Floodproofing	Y	Y	Y	Y		All structures have low enough flood depths to be floodproofing candidates. Accesss to these structures would still be unavailable for long periods of time
	Levee/ Floodwall	N					levees around individual areas would be more practical than 1 long one to protect the whole area
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Opossum Creek
AREA: 7 CR 200 South

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	no good location that would control enough of the watershed, large cost to reduce minimal, short term flooding
	Off-line Detention	Y	Y	Y	Y		Requires over 90 Ac-ft of volume at an estimated cost of over $2.3 M to reduce 500 year flood levels to that of 10 year levels
	Channel Clearing	Y	Y	N			Would lower 50-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No good option for placement of bypass.
	Bridge Replacement	Y	Y	Y	Y		SR 11 and RR bridges would need to be replaced to significantly lower flood elevations at CR 150 W, replacing CR 200 S could lower flood elevations just upstream of that bridge and raise the bridge high enough to be flood free if enough flow capacity is added
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		channel improvement from CR 150W upstream to CR 200 South may lower flood elevations at CR 200S enough to make it flood free
Flood Protection	Voluntary Buyouts	N					3 structures may have minimal flooding
	Floodproofing	Y	Y	Y	Y		3 structures that could be protected with floodproofing measures
	Levee/ Floodwall	N					700+ foot long levee east of CR 130W prevents flow into neighborhood and at CR 150 West, does not address CR 200 S
	Combinations:						
	bridge replacement & levee	Y	Y	Y	Y		levee east of CR 130 W to protect neighborhood and replacement of CR 200 S to allow flood free access

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Opossum Creek
AREA: 6 Shadow Creek Farms

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Large cost to reduce minimal short term flooding of access route
	Off-line Detention	Y	Y	Y	Y	N	Large cost to reduce minimal short term flooding of access route
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/10 ft.
	Bypass/ Diversion	N					no good location for bypass, large cost to reduce minimal short term flooding of access route
	Bridge Replacement	Y	Y	Y	Y		The tailwater at theCR 150 W bridge is above the road elevation so must raise the road and enlarge the opening
	2-Stage Ditch Channel Improvement	N					flood elevations controlled by backwater from SR 11 and RR so downstream channel improvement would not change flood elevations without replacement of these structures
Flood Protection	Voluntary Buyouts	N/A					There are no flooded structures.
	Floodproofing	N/A					There are no flooded structures.
	Levee/ Floodwall	N					No structures are flooded so the issue for this creek is overtopping of CR 150 W which can not be protected by a levee
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Denios Creek
AREA: 6 Shadow Creek Farms

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Requires reduction from 5,350 cfs to 2,150 cfs so is large cost for a reduction in minor if any structure flooding and short term road flooding for which alternative access exists
	Off-line Detention	N					Requires reduction from 5,350 cfs to 2,150 cfs so is large cost for a reduction in minor if any structure flooding and short term road flooding for which alternative access exists, possible sites either require excavation of high hills or are already floodplain w/ little room for additional storage volume
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/10 ft.
	Bypass/ Diversion	N					No good location and would require new bridge
	Bridge Replacement	Y	Y	Y	Y		Replacing the CR 150 W bridge could reduce flood elevations on CR 150 W enough to allow flood-free access to all but a few Shadow Creek Farms subdivision structures during the 500-year flood.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y	N	Requires reduction from 5,350 cfs to 2,150 cfs so is large cost for a reduction in minor if any structure flooding and short term road flooding for which alternative access exists
Flood Protection	Voluntary Buyouts	N/A					Structures area already flood free.
	Floodproofing	N/A					Structures area already flood free.
	Levee/ Floodwall	Y	Y	Y	Y	N	3,900 foot long levee could make sure residences are protected but would remove storage along Denios Creek which could raise elevations unless compensation is provided, large cost for small benefit
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 5 SR 11 South

Focus of this table are the impacts/solutions for east and west of SR 11 but only for flooding due to East Fork White River. See Flood Source :Denios Creek, Area: 5 SR11 South for impacts/solutions due to Denios Creek flooding.

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No appropriate location.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	N					
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 10 flooded structures.
	Floodproofing	N					~5 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable however. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		4,500 ft long levee could protect residences along Dawson Street but the space between the homes and the creek would be tight and access to these structures would still be blocked north and south along SR 11, is largely in floodway so compensatory measures would be needed, estimated construction cost of $1.7 Million without compensatory measures
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Denios Creek
AREA: 5 SR 11 South

Focus of this table is the area west of SR 11 and the impacts/solutions only for flooding due to Denios Creek. See Flood Source :East Fork White River, Area: 5 SR11 South for impacts/solutions due to East Fork White River flooding.

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Dam could be constructed just upstream of I-65. Topography at the edge of the current floodplain is steep so significant storage could be obtained with little increase in horizontal flooded area, would do nothing to protect from East Fork White River flooding
	Off-line Detention	N					likely over 2,000 Ac-ft of storage required to reduce flood elevations 3 feet, estimated construction cost is over $50 Million, would do nothing to protect from East Fork White River flooding
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/10 ft.
	Bypass/ Diversion	Y	Y	Y	Y	N	Allow 2,400 cfs to stay in the channel and divert 3,500 cfs straight east to White River, likely to be significant permit issues with adding diversion path under the RR, would do nothing to protect from East Fork White River flooding, cost would be significant as crossings of SR 11 and the RR would be needed
	Bridge Replacement	Y	Y	N			Replacement of SR 11 & RR bridges does not lower flood elevations significantly per computer modeling.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		6,900 foot long reach adding 1,750 sq. ft of cross section flow area to lower flood elevation 5 ft and make Dawson Street area flood free, excavation cost alone of at least $4.5 Million, would do nothing to protect from East Fork White River flooding
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 15 structures.
	Floodproofing	N					~5 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable however. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		4,500 ft long levee could protect residences along Dawson Street but the space between the homes and the creek would be tight, also is largely in the floodway so compensatory measures would be needed , estimated cost without compensatory measures is $1.7 Million
	Combinations:						
	levee and mitigation						buy out structures that would be streamward of a levee that would not increase flood stages

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: East Fork White River
AREA: 4 Bethel Village

Focus of this table are the impacts/solutions only for flooding due to East Fork White River. See Flood Source :Denios Creek, Area: 4 Bethel Village for impacts/solutions due to Denios Creek flooding.

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Off-line Detention	Y	Y	Y	Y	N	Cost would be billions of dollars, multijurisdictional project, many many years to accomplish
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/4 ft.
	Bypass/ Diversion	N					No appropriate location.
	Bridge Replacement	Y	Y	N			Does not lower flood elevations significantly per computer modeling.
	2-Stage Channel Improvement or Additional Channel	N					
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 60 structures flooded to depths less than 2'
	Floodproofing	N					~100 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable however. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		~5,500 foot long levee/floodwall could protect area, channel improvement or detention likely required to offset increased Denios Creek flood elevations, estimated construction cost of $3.0 Million without compensatory measures
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Denios Creek
AREA: 4 Bethel Village

Focus of this table is only for flooding due to Denios Creek. See Flood Source :East Fork White River, Area:4 Bethel Village for impacts/solutions due to East Fork White River flooding.

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			Social	Economic	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	Dam could be constructed just upstream of I-65. Topography at the edge of the current floodplain is steep so significant storage could be obtained with little increase in horizontal flooded area, would do nothing to protect from East Fork White River flooding
	Off-line Detention	N					likely over 2,000 Ac-ft of storage required to reduce flood elevations 3 feet,estimated construction cost is over $50 Million, would do nothing to protect from East Fork White River flooding, possible sites either require excavation of high hills or are already floodplain with little room for additional storage volume, would also need a 1300 foot levee to prevent Opossum Creek flows from entering and negating flow reduction from basin, cost to provide protection from more frequent floods would still be significant and too costly for the benefit
	Channel Clearing	Y	Y	N			Would lower 10-year & higher flood elevations by less than 1/10 ft.
	Bypass/ Diversion	Y	Y	Y	Y	N	Allow 2,400 cfs to stay in the channel and divert 3,500 cfs straight east to White River, likely to be significant permit issues with adding diversion path under the RR, would do nothing to protect from East Fork White River flooding, would require crossings for SR 11 and RR as well which would significantly add to the cost
	Bridge Replacement	Y	Y	N			Replacing the RR and SR 11 bridges would lower flood elevations about 2 feet just upstream of the bridges but to a lesser extent upstream along the subdivision
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		5,200 foot long reach adding 1,750 sq. ft of cross section flow area to lower flood elevation 5 ft and make subdivision flood free, excavation cost alone of at least $3.4 Million, would do nothing to protect from East Fork White River flooding
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		There are approximately 160 structures.
	Floodproofing	N					~100 of the structures have low enough flood depths to be floodproofing candidates. Access to these structures would still be unavailable however. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		~5,500 foot long levee/floodwall could protect area, channel improvement or detention likely required to offset increased flood elevations, additional levee length required if RR is not substantial enough and additional protection is required along the east side, estimated cost without compensatory measures is $3.0 Million
	Combinations:						
	Levee & Mitigation	Y	Y	Y	Y		buyouts so can move levee landward and avoid increased flood elevations

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

a berm has been constrcuted on Strietelmeier Arm of Denios Creek regulated drain which should provide some protection from Denios Creek overflow upstream of Bethel Village. Other projects have or are being considered for addressing flooding in this area as well.

FLOOD SOURCE: Clifty Creek

AREA: 28 Regency Drive

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	land acquisition likely to cost more than buyout of the floodprone areas
	Off-line Detention	Y	Y	Y	Y	N	land acquisition likely to cost more than buyout of the floodprone areas
	Channel Clearing	Y	Y	N			minimal flood elevation reduction
	Bypass/ Diversion	Y	Y	Y	Y	N	costs are substantially more than the benefits ($27 M to protect 2 structures that don't flood until the 500 year level and open up access to about 50 structures that are inaccessible for several hours at the 50 year or higher flood)
	Bridge Replacement	Y	Y	N			replacement of US31 and addition of overflow structure may reduce elevations for a short distance upstream but little benefit likely this far upstream.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		Excavation cost of millions of dollars to protect from short term, minimal flooding
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y	N	Minor flooding of 2 structures
	Floodproofing	Y	Y	Y	Y		all flooded structure are candidates for floodproofing
	Levee/ Floodwall	Y	Y	Y	Y		2- 500 foot segments could provide protection, excavation costs alone likely to exceed $510,000
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Sloan Branch
AREA: 27 Eastridge Manor

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	more costly than off-line detention option
	Off-line Detention	Y	Y	Y	Y		more than an 817 acre-ft pond needed to lower 500-year to 10-year levels, estimated construction cost $20.5 M but would help multiplefloodprone areas, could potentially be located just upstream of Sawin Road
	Channel Clearing	Y	Y	N			Channel is already cleared for the most part.
	Bypass/ Diversion	Y	Y	Y	Y		4,200 foot long bypass around Eastridge Manor to the east of the subdivision may be able to divert 800 cfs with a cross sectional area of about 400 sq ft, excavation costs would be at least $600,000
	Bridge Replacement	N					Talley Road bridge is too far downstream to be able to lower flood elevations in this reach
	2-Stage Ditch Channel Improvement	N					Overbank area is fully developed through the stream corridor not sufficient room to increase flow area significantly
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~30 flooded structures
	Floodproofing	N					~25 structures have flood depths that would allow floodproofing. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	N					would need compensatory measures to prevent increases in flood elevations and there is likely not enough room for such in terms of channel improvement
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Sloan Branch
AREA: 26 Madison/Grant/Flintwood

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	more costly than off-line detention
	Off-line Detention	Y	Y	Y	Y		more than an 817 acre-ft pond needed to lower 500-year to 10-year levels, estimated construction cost is $20.5 M but would help multiplefloodprone areas, could potentially to be located just upstream of Sawin Road
	Channel Clearing	Y	Y	N			Channel is already cleared for the most part.
	Bypass/ Diversion	Y	Y	Y	Y		4,200 foot long bypass around the subdivision to the east of the subdivision may be able to divert 800 cfs with a cross sectional area of about 400 sq ft and excavation costs of at least $600,000
	Bridge Replacement	Y	Y	Y	Y	N	Replacing 25th Street would potentially lower flood elevations in the area, but not enough to prevent flooding of structures.
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		$300,000 for excavation costs for 1600 feet of 500 square feet additional cross sectional flow area (+10'overburden)
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~65 flooded structures, would still leave over 250 other structures without access during a flood
	Floodproofing	Y	Y	Y	Y		Almost all impacted structures are candidates for floodproofing but would still leave over 230 structures inaccessible for a short time during a flood
	Levee/ Floodwall						No good location for a levee to protect whole area, all but a few structures could be protected by short levee reach if field allows enough area to store interior drainage
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Clifty Creek
AREA: 24 Wehmeier/Columbus East

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	land acquisition likely to cost more than buying out the floodprone areas
	Off-line Detention	Y	Y	Y	Y	N	Over 5,500 Acre-ft of storage at an estimated construction cost of over $138 Million would be required to reduce the discharge approximately 8,000 cfs and eliminate structure flooding
	Channel Clearing	Y	Y	N			Channel is already cleared for the most part.
	Bypass/ Diversion	Y	Y	Y	Y	N	only location is through ground significantly higher and therefore significant excavation costs
	Bridge Replacement	Y	Y	Y	Y		replacement of SR46 (State Street) bridge may reduce flood elevations enough to eliminate flooding of ~ half of the structures
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		Flow reduction of over 8,000 cfs required by over 720 acre-ft of additional channel at a cost of $12 M for the excavation part only
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		~65 flooded structures
	Floodproofing	N					~45 structures have low enough flood depths to be floodproofing candidates. Since not all structures can be floodproofed, floodproofing will be carried forward in combination with voluntary buyouts.
	Levee/ Floodwall	Y	Y	Y	Y		A 3,500 foot long levee could protect ~60 residences at a cost in excess of $1 Million.
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*

FLOOD SOURCE: Clifty Creek
AREA: 25 Sandy Hook/Clifty Crossing

	Considered Solution	Satisfies Criteria For Selection as Possible Solution (Yes/No)					Findings/ Comments
		Technical			**Social**	**Economic**	
		Technically Feasible	Legal & Permitable	Provides Consequential* Flood Damage Reduction	Flood Damage is Reduced Without an Increase or Shift of Risk to Other Areas	Project Costs Do Not Significantly Exceed Benefits & are Potentially Fundable	
Flood Prevention/ Reduction	Upstream Reservoir	Y	Y	Y	Y	N	land acquisition likely to cost more than buying out the floodprone areas
	Off-line Detention	Y	Y	Y	Y	N	Over 5,500 Acre-ft of storage at an estimated construction cost of over $138 Million would be required to reduce the discharge approximately 8,000 cfs and eliminate structure flooding
	Channel Clearing	Y	Y	N			Channel is already cleared for the most part.
	Bypass/ Diversion	Y	Y	Y	Y	N	only location is through ground significantly higher than the water surface elevations and therefore significant excavation costs
	Bridge Replacement	Y	Y	Y	Y		replacement of US31 and addition of overflow structure may reduce elevations for a short distance upstream
	2-Stage Ditch Channel Improvement	Y	Y	Y	Y		Flow reduction of over 8,000 cfs required by over 720 acre-ft of additional channel at a cost of $12 M for the excavation part only
Flood Protection	Voluntary Buyouts	Y	Y	Y	Y		shallow flooding of about 10 homes, still leave ~ 50 homes without access during a flood including Sandy Hook Methodist Church Day Care
	Floodproofing	Y	Y	Y	Y		Flood depths are shallow so structures are candidates for floodproofing
	Levee/ Floodwall	Y	Y	Y	Y	**	Estimated Construction cost of $1.4 M to protect 11 homes and a shopping center from infrequent flooding (500-year and higher) only, levee could be constructed on the east side of Taylor Road or Taylor Road could be raised to act as the levee,
	Combinations:						

* Consequential flood damage reduction is defined as more than 1/2 foot of reduction in the 10- and 500-year flood elevations or the ability of the protection measure to protect at least some structures from at least the 100-year flood

** Recommendation is based on costs noted in the Findings/Comments column for permanent, earthen levees and floodwall segments. Temporary levees, such as may be constructed from sand bags or dirt piles, may be used if measures to compensate negative impacts, if any, are addressed and until such time as another alternative is constructed.

Notes: *sand bags or construction of a levee/floodwall close to individual structures may be options in lieu of a project to protect the entire area.*