

Ellison Wetlands: Parking and Access Area Cost Estimate

EDR Job No. 08016

Prepared for: Monroe County Parks, Monroe County, NY

NOTE: Conceptual estimate for budgeting purposes only.



ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL AMOUNT
1	SITE PREPARATION				
1.1	Mobilization/Demobilization	LS	1	\$5,000	\$5,000
1.2	Clearing and grubbing	LS	1	\$3,500	\$3,500
2	STRUCTURAL				
2.1	Dock structure	SF	200	\$40	\$8,000
2.2	Concrete ramp (car top boat launch)	LS	1	\$12,500	\$12,500
2.3	Aluminum ramp to dock	SF	100	\$40	\$4,000
2.4	Concrete retaining wall (6' Ht.)	LF	30	\$175	\$5,250
3	PAVING				
3.1	6' wide stone dust pathway	LF	700	\$12	\$8,400
3.2	5' wide concrete walk (4" thick conc.)	LF	68	\$30	\$2,040
3.3	Gravel parking lot and lower road portion	SF	6,000	\$2	\$12,000
3.4	Asphalt road (18' width)	SF	8,300	\$4	\$29,050
4	SIGNAGE				
4.1	Directional/Informational signage	Each	1	\$1,000	\$1,000
5	SITE FURNITURE				
5.1	Benches	Each	2	\$700	\$1,400
5.2	Bike Racks	Each	1	\$700	\$700
6	PLANTINGS				
6.1	Specimen Deciduous Trees (2.5-3" cal.)	Each	2	\$500	\$1,000
6.2	Seeding/Mulching	LS	1	\$2,000	\$2,000
				SUBTOTAL	<u>\$95,840</u>
8	DESIGN AND PERMITTING FEES (10%)				\$9,584
9	CONTINGENCY (10%)				\$9,584
				TOTAL	<u>\$115,008</u>

Abraham Lincoln Park: 1559 Empire Blvd. Cost Estimate

EDR Job No. 08016

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ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL AMOUNT
1	SITE PREPARATION				
1.1	Mobilization/Demobilization	LS	1	\$3,500	\$3,500
1.2	Clearing and grubbing	LS	1	\$4,000	\$4,000
1.3	Asbestos abatement & demolition (for existing house and barn)	LS	1	\$55,000	\$55,000
2	STRUCTURAL				
2.1	Park Shelter	LS	1	\$25,000	\$25,000
2.2	ADA Play Area includes all play equipment and surfacing	LS	1	\$45,000	\$45,000
3	PAVING				
3.1	6' wide stone dust pathway (ADA compliant)	LF	2,050	\$14	\$28,700
3.5	Asphalt driveway and parking lot (20 cars) (includes 2 ADA spaces)	SF	9,500	3.50	\$33,250
4	SIGNAGE				
4.1	Park Entry Signage	Each	1	\$2,000	\$2,000
4.2	Trailhead Signage	Each	1	\$1,500	\$1,500
5	SITE FURNITURE				
5.1	Benches	Each	6	\$700	\$4,200
5.2	Bike Racks	Each	1	\$700	\$700
6	PLANTINGS				
6.1	Native Deciduous Trees (2.5-3" cal.)	Each	13	\$650	\$8,450
6.2	Native Shrubs	Each	15	\$75	\$1,125
6.3	Lawn Seeding/Mulching, site repair	LS	1	\$2,000	\$2,000
6.4	Meadow Plantings	LS	1	\$8,500	\$8,500
				SUBTOTAL	<u>\$222,925</u>
8	DESIGN AND PERMITTING FEES (15%)				\$33,439
9	CONTINGENCY (20%)				\$44,585
				TOTAL	<u>\$300,949</u>

Abraham Lincoln Park: Cost Estimate for Waterfront Lodge

EDR Job No. 08016

Prepared for: Monroe County Parks, Monroe County, NY

NOTE: Conceptual estimate for budgeting purposes only.



ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL AMOUNT
1	SITE PREPARATION				
1.1	Mobilization/Demobilization	LS	1	\$10,000	\$10,000
1.2	Clearing and grubbing	LS	1	\$5,000	\$5,000
2	STRUCTURAL				
2.1	Lodge building	SF	2,400	\$150	\$360,000
2.2	Improvements to existing structure	LS	1	\$10,000	\$10,000
2.3	Dock structure	SF	560	\$40	\$22,400
2.4	Gathering area deck (recycled material)	SF	400	\$18	\$7,200
3	PAVING				
3.1	6' wide stone dust multi-use trail or path	LF	675	\$15	\$10,125
3.2	5' wide concrete walk (4" thick conc.)	LF	191	\$30	\$5,730
3.3	Existing road improvements (20' width)	LF	1,050	\$40	\$42,000
3.4	Concrete pavers for patio and lodge entrance	SF	1,224	\$5	\$6,120
3.5	Gravel parking lot	SF	14,000	\$2	\$28,000
4	SIGNAGE				
4.1	Directional/Informational signage	Each	2	\$1,500	\$3,000
5	SITE FURNITURE				
5.1	Benches	Each	3	\$700	\$2,100
5.2	Bike Racks	Each	1	\$700	\$700
6	SITE UTILITIES				
6.1	14' Pole Lights	Each	4	\$2,000	\$8,000
6.2	Site electrical	LS	1	\$5,000	\$5,000
6.3	Water service, trenching & backfill	LF	900	\$70	\$63,000
6.4	Water supply hookup	LS	1	\$1,000	\$1,000
6.5	Hydrant installation	LS	1	\$5,000	\$5,000
6.6	Gas, 2" pvc, trenching & backfill	LF	900	\$12	\$10,800
6.7	Raised filter bed	LS	1	\$20,000	\$20,000
6.8	Reinforced concrete retaining walls	LF	100	\$124	\$12,400
7	PLANTINGS AND ECO-SWALE				
7.1	Specimen Deciduous Trees (2.5-3" cal.)	Each	8	\$500	\$4,000
7.2	Shrubs	Each	10	\$60	\$600
7.3	Seeding/Mulching	LS	1	\$2,000	\$2,000
7.4	Eco-Swale	LS	1	\$20,000	\$20,000
				SUBTOTAL	<u>\$644,175</u>
8	DESIGN AND PERMITTING FEES (15%)				\$96,626
9	CONTINGENCY (20%)				\$128,835
				TOTAL	<u>\$869,636</u>

Tryon Park: Parking and Access Area Cost Estimate

EDR Job No. 08016

Prepared for: Monroe County Parks, Monroe County, NY

NOTE: Conceptual estimate for budgeting purposes only.



ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT COST	TOTAL AMOUNT
1	SITE PREPARATION				
1.1	Mobilization/Demobilization	LS	1	\$10,000	\$10,000
1.2	Clearing and grubbing	LS	1	\$3,000	\$3,000
2	DEMOLITION				
2.1	Fence removal (by others)	LS	1	\$0	\$0
3	PAVING				
3.4	4' packed dirt trails	LF	728	\$8	\$5,824
3.5	Gravel parking lot	SF	7,788	\$2	\$15,576
4	SIGNAGE				
4.1	Entry sign	Each	1	\$1,500	\$1,500
4.2	Trailhead Kiosk	Each	1	\$4,000	\$4,000
5	SITE FURNITURE				
5.1	Limestone Boulders	Each	5	\$400	\$2,000
5.2	Bike Racks	Each	1	\$700	\$700
5.3	Steel Pipe Bollards, concrete filled	1	11	\$950	\$10,450
5.4	Timber Guide Rail: Monroe County Parks Detail	LF	386	\$26	\$10,036
6	SITE UTILITIES				
6.1	Light Fixture (by others)	Each	1	\$0	\$0
6.2	Security Camera (by others)	Each	1	\$0	\$0
7	PLANTINGS AND ECO-SWALE				
7.1	Specimen Deciduous Trees (2.5-3" cal.)	Each	7	\$500	\$3,500
7.3	Seeding/Mulching	LS	1	\$500	\$500
				SUBTOTAL	<u>\$67,086</u>
8	DESIGN AND PERMITTING FEES (15%)				\$10,063
9	CONTINGENCY (20%)				\$13,417
				TOTAL	<u>\$90,566</u>



**Ellison Park
Area Master
Plans**

Monroe County, New York

Appendix B
Existing Conditions:
Devil's Cove Park

Sheet 1 of 6

January, 2009



Ellison Park Area Master Plans

Monroe County, New York

Appendix B
Existing Conditions:
Ellison Park

Sheet 2 of 6

January, 2009



**Ellison Park
Area Master
Plans**

Monroe County, New York

Appendix B
Existing Conditions:
Ellison Wetlands

Sheet 3 of 6

January, 2009



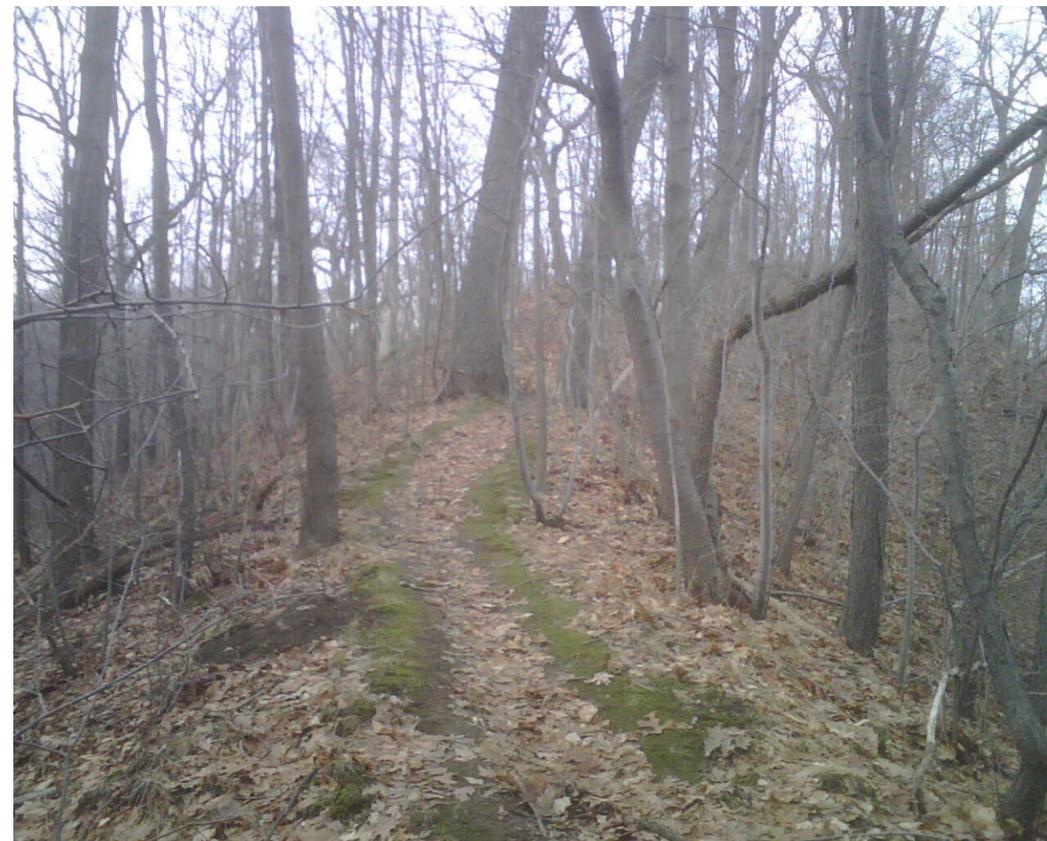
**Ellison Park
Area Master
Plans**

Monroe County, New York

Appendix B
Existing Conditions:
Abraham Lincoln Park

Sheet 4 of 6

January, 2009



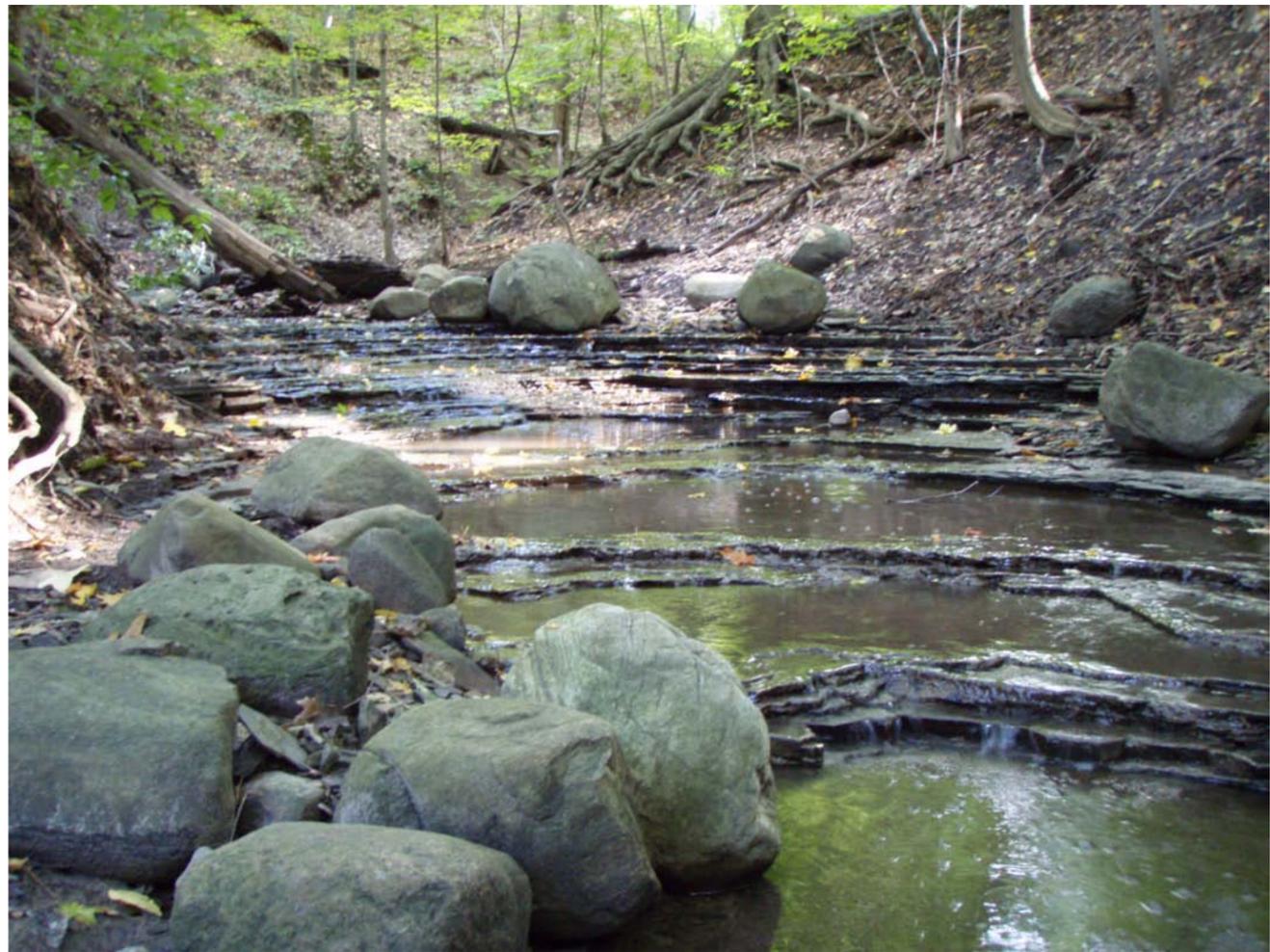
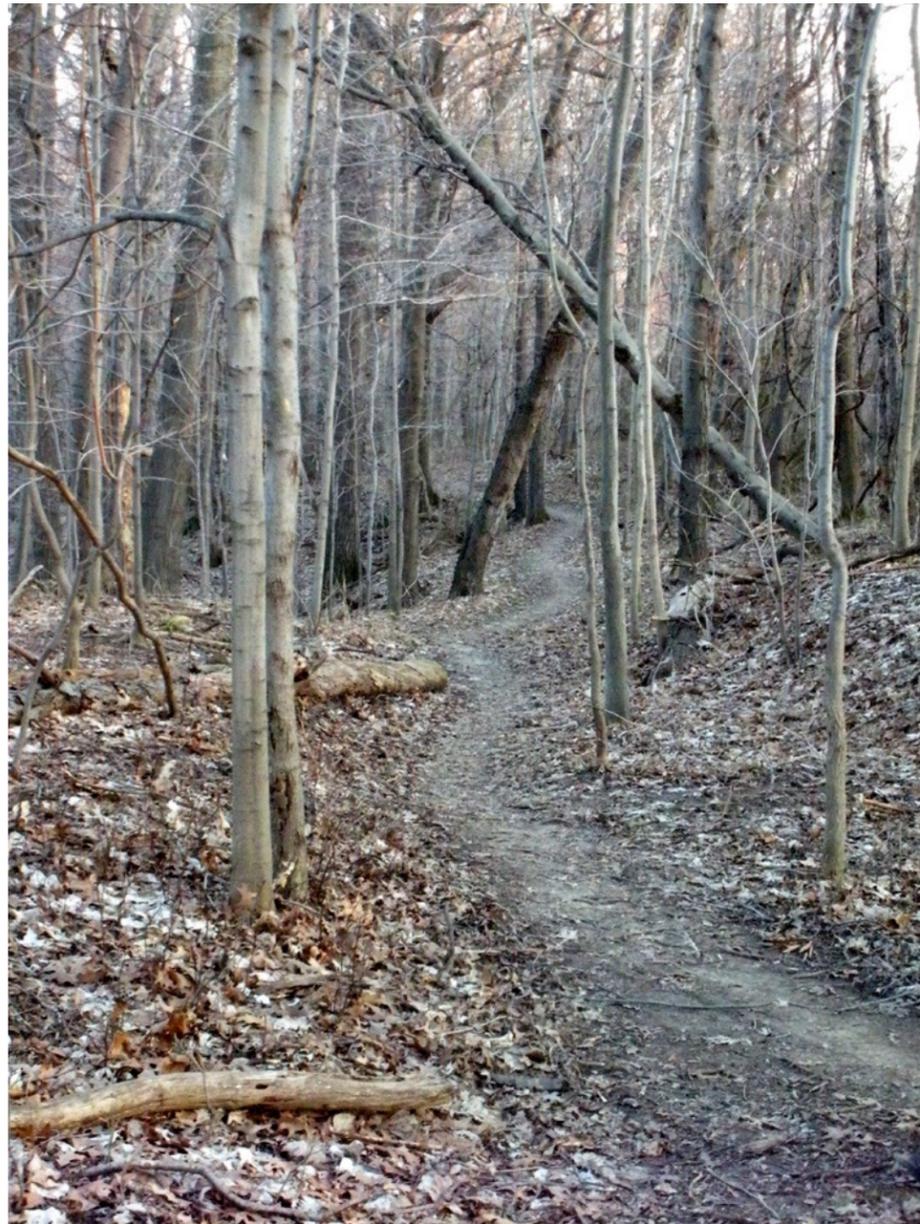
**Ellison Park
Area Master
Plans**

Monroe County, New York

Appendix B
Existing Conditions:
Irondequoit Bay
Park West

Sheet 5 of 6

January, 2009



**Ellison Park
Area Master
Plans**

Monroe County, New York

Appendix B
Existing Conditions:
Tryon Park

Sheet 6 of 6

January, 2009

 <small> Carrigis Place 267 North Goodman Street Rochester, New York 14607 Phone: 585-442-6550 Fax: 585-442-8442 </small>		
ESTIMATE - FEASIBILITY PHASE		
Date	9/9/2008	
Park	Ellison Park	
Structure	Description of work	Estimated cost
Canoe Launch	Repair siding and fascias, repaint building, power wash roof	\$ 6,000
Circle Shelter	New concrete slab at higher elevation, repair columns that are rotted tear off and replace roof, general painting	\$ 23,000
Creekside Toilet Building	Tear off and replace roof, complete painting for entire exterior exhaust fan repair, modify handicapped stall to make code compliant epoxy coat sink where pitted	\$ 20,000
Creekside Pavilion	Replace damaged siding & fascia, repoint & clean masonry fireplace	\$ 15,000
Fort Schuyler	Repair areas damaged by dry rot, insects and graffiti	\$ 25,000
Hazelwood Lodge	Replace concrete floor at porch, add concrete walk to side, provide accessible hardware at entry doors, replace light fixtures, refinish wood in selected areas, masonry cleaning and repointing	\$ 29,000
Hazelwood Toilet Building	Repair damaged fascias, repaint doors due to graffiti, extend sidewalk in front of three doors	\$ 3,200
Island Shelter	New concrete slab at higher elevation, tear off roof and replace	\$ 20,000
Old Meadow Shelter	Replace slab, smooth out walkway to shelter for HC access, minor painting	\$ 27,000
Orchard Grove Shelter	Tear off and replace roof, overall painting, repair columns fill in or grind down slab at cracks where a tripping hazard	\$ 20,000
Pavilion Lodge	Stone chimney repointing, masonry chimney rebuild and repointing, exterior painting, replace basement stairs, replace exterior stone stair and railing, replace gutters and downspouts, see note 3	\$ 65,000
Roadside Shelter	New concrete slab at higher elevation, repair columns that are rotted tear off and replace roof, general painting	\$ 23,000
South Lodge	repair fascias and soffits, replace gutters and downspouts	\$ 10,000
Spruce Shelter	Tear off and replace roof	\$ 4,000
Sycamore Shelter	Demolish existing shelter, provide new stock shelter, provide raised work area and new slab	\$ 80,000
continued		

Sycamore Toilet	Tear off and replace roof, complete painting for entire exterior exhaust fan repair, modify handicapped stall to make code compliant	\$ 20,000
Notes:		
1. Costs are base on 2008 pricing. Assumed publicly bid at prevailing wage rates. No architectural or engineering fees are included.		
2. A prefab unit most likely will be more cost effective over site built due to the structural engineering required to design a field built shelter. The manufacturer indicated that the materials would be 40 % less (-\$9,600) if the roof is gabled in lieu of a hipped roof.		
3. At the time of this study, the park was going to be updating the toilets in Pavilion Lodge to make them handicapped accessible. Therefore, no cost has been included for this work. Even though the ramp into the main door is not to code, we have not allocated funding to make a code compliant ramp at this time.		

BUILDING CONDITION SURVEY

Date	4/15/2008
Park	Ellison Park
Structure	Canoe Launch
Year constructed	1990 +/-
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	85 sf +/-
Plans available	Assumed yes
Exterior wall type	Painted wood clapboard siding, minor repairs and painting needed
Structural system	Wood timber
Found./Floor Slab	Concrete foundation and concrete slab assumed good condition
Roof	Asphalt shingles; fair to good condition, moss is causing premature damage; consider power washing
Soffits / Cornice	Have insect damage on soffit; also has been hit and is damaged for people; requires repair
Interior Finishes	did not view
Plumbing	NA
HVAC	NA
Electrical	Yes
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces, however no paved area at windows (dirt path)
Toilet facilities	NA
General Notes	Graffiti exists, but appears that paint will cover it; foot traffic has created a dirt area at booth access, may become an erosion problem in the future.
Condition Rating	Good



BUILDING CONDITION SURVEY

Date	4/15/2008
Park	Ellison Park
Structure	Circle Shelter
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	648 sf +/- (18' x 36')
Plans available	NA
Exterior wall type	Open Structure, paint is in fair to good condition
Structural system	Heavy Timber / wood roof framing
Found./Floor Slab	Foundation at column bases is above slab / slab has some cracks, perimeter slab slopes toward interior
Roof	Asphalt shingles; poor condition should be replaced
Soffits / Cornice	Okay
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA
General Notes	This structure has been subjected to flooding. Slab and base of columns are subject to water, therefore bottom of a few columns are rotted, recommend repair
Condition Rating	Fair; short term repair recommended



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Creekside Toilet Building
Year constructed	1986
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	565 sf +/-
Plans available	Yes
Exterior wall type	Painted clapboard siding; some repair needed; needs painting along with trim
Structural system	Masonry wall with wood frame
Found./Floor Slab	Concrete block foundation assumed, slab on grade
Roof	Asphalt shingles; Poor condition: Shingles should be removed and new installed
Soffits / Cornice	Wood soffit have some damage and require painting; no gutters
Interior Finishes	All finishes are in excellent condition: FRP ceilings, glazed block walls, tile floor
Plumbing	Multiperson sink is showing some pitting in the bowl; Toilets good. Non-automated flush
HVAC	6 toilets women, 2 toilet, 1 trough urinal men
Electrical	Exhaust fans; should be further evaluated for their effectiveness
Stairs and Railings	Good
Doors	NA
Windows	Doors require painting, closers are rusted, should be replaced or painted
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	9" batt insulation in the roof, 6" in the walls
Toilet facilities	Handicapped stall size is outdated (3'-0" wide), removal of a stall could provide for a larger HC stall
General Notes	yes
	The exterior of the building needs repair. The roof, immediately. Recommend tear off due to moss growth.
Condition Rating	Pruning of adjacent plants could help with premature aging of exterior
	Interior: good to excellent; Exterior: Fair



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Carnegie Plaza
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BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Creekside Pavilion
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	730 sf +/-
Plans available	NA
Exterior wall type	Wood frame with log siding; paint is in fair condition; repair and repainting needed due to water damage
Structural system	Wood wall and roof framing (not sure if flooding has effect wall construction)
Found./Floor Slab	Slab on grade, in good condition
Roof	Asphalt shingles; Excellent condition (new)
Soffits / Cornice	Wood fascias have some insect damage
Interior Finishes	Painted drywall, good to excellent condition
Plumbing	NA
HVAC	small electrical units, fair to good condition
Electrical	Yes; lighting and electrical range
Stairs and Railings	NA
Doors	Fair to good
Windows	Good
Chimneys	Masonry has many cracks that appear to be caused by settling of the foundation on the exterior, and undersized lintel on the interior; masonry could use a good cleaning
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA
General Notes	This structure has been subjected to flooding. Wood siding could use replacement at the lower few boards and repainting
Condition Rating	Good ; recommend repairing the masonry work



BUILDING CONDITION SURVEY

Date 5/28/2008
Park Ellison Park
Structure Creekside Pavilion - Page 2



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Fort Schuyler - Trading Post
Year constructed	1938
Arch. Significant	Recreated Fort (a pre-existing building approximate location, dated 1721+/-)
No. of stories	1; cathedral ceiling
Sprinklers	NA
Gross SF +/-	750 sf +/-
Plans available	NA
Exterior wall type	Log wall construction, has some damage from: Dry rot, insects and graffiti carvings
Structural system	Heavy timber
Found./Floor Slab	Stone floor, excellent condition
Roof	Cedar shake shingles; good condition
Soffits / Cornice	The rake edge trim has some damage, some birds are nesting between siding and soffit
Interior Finishes	Logs are in good condition; some insect damage, but appears not to effect structural integrity
Plumbing	NA
HVAC	NA
Electrical	Interior lights illuminate structure in a sensitive way, low light level; hardwired smoke detectors exist.
Stairs and Railings	NA
Doors	Doors has some wear, operationally good
Windows	NA
Chimneys	Working wood fireplace, limited use. Stonework is in good condition
Energy Utilization	NA
Handicapped Accessible	Door width is okay, hardware is not accessible (with assistance, yes)
Toilet facilities	NA
General Notes	The building was refurbished in 1986; Repairs to the siding should occur soon, especially on the dry rot, and bird nests.
Condition Rating	Good



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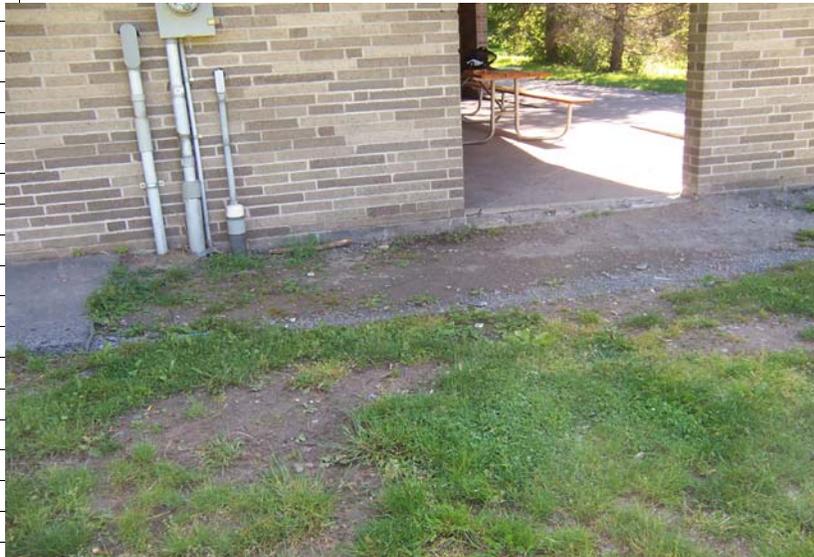
BUILDING CONDITION SURVEY

Date	4/17/2008
Park	Ellison Park
Structure	Hazelwood Lodge
Year constructed	1970
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	1,600 sf (includes 410 sf covered porch)
Plans available	NA
Exterior wall type	Brick masonry walls
Structural system	Glue-lam roof beams; wood ceiling (cathedral)
Found./Floor Slab	Concrete slab on grade; at porch some erosion has occurred creating large cracks; interior slightly pitted
Roof	Asphalt shingles; Good to excellent condition
Soffits / Cornice	Wood soffits in good condition, refinishing required in near future; no gutters or down spouts
Interior Finishes	Brick and stained wood. Stained wood could use a little refurbishing
Plumbing	NA
HVAC	Wood burning stove, good condition (2 years old)
Electrical	Electrical cook top; incandescent lights through out
Stairs and Railings	NA
Doors	Double metal leaves 2'-6" wide each
Windows	Metal single pane sliders, good condition
Chimneys	Masonry repointing needed: exterior fireplace has been blocked in
Energy Utilization	Building is not insulated
Handicapped Accessible	Allocated parking spaces; Doors are accessible when both leaves are open; hardware is knob type or missing
Toilet facilities	Adjacent building, see Hazelwood Toilet Survey
General Notes	The brick has weathered well. Some minor repair/repointing needed on chimney on the interior, also masonry cleaning at same location; regrading at eastern corner could help with redirecting water that is effecting the sidewalk and could eventually be detrimental to the corner of the structure.
	Perimeter asphalt sidewalk should be extended at the southern corner where there is a lot of traffic and has eradicated the lawn; horizontal exterior beams need refinishing
Condition Rating	Good



BUILDING CONDITION SURVEY

Date 4/17/2008
Park Ellison Park
Structure Hazelwood Lodge - Page 2



BUILDING CONDITION SURVEY

Date	4/17/2008
Park	Ellison Park
Structure	Hazelwood Toilet Building
Year constructed	1980's
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	300 sf
Plans available	Yes
Exterior wall type	Brick exterior face, painted block interior
Structural system	Masonry with wood framed roof
Found./Floor Slab	Concrete block foundation, slab on grade
Roof	Asphalt shingles; Fair to good condition
Soffits / Cornice	Wood soffit needs painting, no gutters
Interior Finishes	All finishes are in excellent condition: FRP ceilings, glazed block walls, tile floor
Plumbing	Sinks and toilets are good. Non-automated flush
HVAC	Exhaust fans only
Electrical	Lighting in god condition
Stairs and Railings	NA
Doors	Doors require painting, back side doors are subjected to graffiti
Windows	NA
Chimneys	NA
Energy Utilization	9" batt insulation in roof; 2" rigid insulation in wall
Handicapped Accessible	Handicapped stall size is undersized compared to today's standards (5'-0" x 5'-6" w/ sink)
Toilet facilities	6 individual toilet rooms with sinks
General Notes	Sidewalk should be extended to be in front of three doors on the back side (presently there is none)
Condition Rating	Interior: good to excellent; Exterior: Good



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BUILDING CONDITION SURVEY

Date	4/15/2008
Park	Ellison Park
Structure	Island Shelter
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	
Plans available	NA
Exterior wall type	Open Structure, paint is in fair to good condition
Structural system	Heavy Timber / wood roof framing
Found./Floor Slab	Foundation at column bases is above slab / slab has large cracks, perimeter slab slopes toward interior
Roof	Asphalt shingles; poor condition should be replaced
Soffits / Cornice	Okay
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA
General Notes	This structure has been subjected to flooding. Slab cracks are significant, and grade is higher than slab
Condition Rating	Fair; short term repair recommended, specifically replacing the slab to be level with the footing tops.



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Old Meadow Shelter
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	1152 sf +/- (24' x 48')
Plans available	NA
Exterior wall type	Open Structure, paint is in fair to good condition: minor painting required
Structural system	Heavy Timber / wood roof framing - a few columns exhibited rot at the bottom near footing
Found./Floor Slab	Foundation at column bases is above slab / slab has cracks, perimeter slab slopes toward interior
Roof	Asphalt shingles fair to good
Soffits / Cornice	Fair to good
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Allocated parking spaces, however the distance is greater than any other shelter, and the pathway is very uneven, and varies in materials
Toilet facilities	NA
General Notes	This structure has been subjected to flooding. Has slab cracks, and grade is higher than slab
Condition Rating	Good
	It is our assumption that this is a replacement slab due to the lesser clearance at beams (7'-3") and therefore, in the future a new slab could be a few inches higher.



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Orchard Grove
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	1152 sf +/- (24' x 48')
Plans available	NA
Exterior wall type	Open Structure, paint is in poor condition; overall painting required
Structural system	Heavy Timber / wood roof framing - a few columns exhibited rot at the bottom near footing
Found./Floor Slab	Foundation at column bases is above slab / slab has large cracks, perimeter slab slopes toward interior
Roof	Asphalt shingles; poor to fair condition should be replaced
Soffits / Cornice	Fair; need painting, wood appears to be okay
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA
General Notes	This structure has been subjected to flooding. Has slab cracks, and grade is higher than slab
Condition Rating	Fair; recommend replacing roof and over all painting It is our assumption that this is a replacement slab due to the lesser clearance at beams (7'-1") and therefore, putting a slab at a higher elevation could not occur.



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Pavilion Lodge
Year constructed	1920's
Arch. Significant	Building was an original structure at parks inception
No. of stories	2 plus basement
Sprinklers	NA
Gross SF +/-	? sf +/-
Plans available	NA
Exterior wall type	Painted shingle siding; needs painting; Stone work: some has been repaired other areas need repair
Structural system	Wood frame construction
Found./Floor Slab	Stone Foundation
Roof	Asphalt shingles; Good to excellent condition
Soffits / Cornice	Wood fascias have some insect damage, gutter and downspout repair and replacement needed
Interior Finishes	Painted drywall walls and clg, good condition; Varying floor tiles: quarry tile and vinyl tiles fair condition
Plumbing	Older kitchen sink and toilet facilities; grinder pump occasionally has problems
HVAC	Wood burning stove, good condition (2 years old)
Electrical	Fluorescent lights and electrical range; panel is at capacity; exterior security lights, incandescent at porches
Stairs and Railings	Stairs to basement are dilapidated and need replacement, stairs upstairs are good, neither used by public
Doors	Fair to good, some original or in keeping with building style
Windows	Original, good painted single pane
Chimneys	Masonry is in poor condition at the top and needs to be rebuilt, and repointed in other areas Flashing has been used to cover problem areas
Energy Utilization	Building is not insulated
Handicapped Accessible	Allocated parking spaces: route up is porch is acceptable, but ramp up to door is concrete but not to code
Toilet facilities	Yes, not handicapped accessible, required full gutting and reconfiguration
General Notes	Stairs and railing from parking need to be removed and replaced; gutters and downspouts need replacement on the back side; Basement stairs need replacement; paint exterior; Upstairs is not used, and shows signs of a fire that occurred in the 1970's, repair work was done There were water issues on the back side, but seem to be corrected, concrete slab installed may have damaged subfloor (not observed)
Condition Rating	Fair to Good



BUILDING CONDITION SURVEY

Date 4/17/2008
Park Ellison Park
Structure Pavilion Lodge - Page 2



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Roadside Shelter
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	648 sf +/- (18' x 36')
Plans available	NA
Exterior wall type	Open Structure, paint is in fair condition; repainting needed
Structural system	Heavy Timber / wood roof framing - a few columns exhibited rot at the bottom near footing
Found./Floor Slab	Foundation at column bases is above slab / slab has large cracks, perimeter slab slopes toward interior
Roof	Asphalt shingles; poor to fair condition should be replaced
Soffits / Cornice	Fair; need painting, wood appears to be okay
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA
General Notes	Undetermined that this structure has been subjected to flooding. Has the slab cracks have begun to be a tripping hazard
Condition Rating	Fair; recommend replacing roof



Architectura

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BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	South Lodge
Year constructed	1950's
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	800 sf +/-
Plans available	NA
Exterior wall type	Painted clapboard siding; good condition
Structural system	Wood frame construction
Found./Floor Slab	Stone Foundation
Roof	Asphalt shingles; Good to excellent condition
Soffits / Cornice	Wood soffit have some damage, gutter and downspout replacement needed
Interior Finishes	stained bead board, walls and ceiling
Plumbing	assume one sink
HVAC	Wood burning stove, good condition
Electrical	Older fluorescent lights and electrical range
Stairs and Railings	NA
Doors	All doors but one have been closed off. Main entry okay
Windows	Original, good painted single pane
Chimneys	Masonry is in good condition, repointing has occurred
Energy Utilization	Building is not insulated
Handicapped Accessible	Allocated parking spaces:
Toilet facilities	NA
General Notes	This structure appears not to have issues with flooding
Condition Rating	Good



BUILDING CONDITION SURVEY

Date	4/15/2008
Park	Ellison Park
Structure	Spruce Shelter
Year constructed	1940 - 1960's?
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	648 sf +/- (18' x 36')
Plans available	NA
Exterior wall type	Open Structure, paint is in fair to good condition*
Structural system	Heavy Timber / wood roof framing
Found./Floor Slab	New floor slab is flush with footer tops and in excellent condition
Roof	Asphalt shingles; poor condition should be replaced
Soffits / Cornice	Okay
Interior Finishes	NA
Plumbing	NA
HVAC	NA
Electrical	NA
Stairs and Railings	NA
Doors	NA
Windows	NA
Chimneys	NA
Energy Utilization	NA
Handicapped Accessible	Yes, allocated parking spaces
Toilet facilities	NA

General Notes * in raising the slab the drainage problem appears to be corrected, since the floor is now not the low point.

Condition Rating fair, slab excellent



BUILDING CONDITION SURVEY

Date	5/28/2008
Park	Ellison Park
Structure	Sycamore Toilet Building
Year constructed	1986
Arch. Significant	NA
No. of stories	1
Sprinklers	NA
Gross SF +/-	565 sf +/-
Plans available	Yes
Exterior wall type	Painted clapboard siding; some repair needed; needs painting along with trim
Structural system	Masonry wall with wood frame
Found./Floor Slab	Concrete block foundation assumed, slab on grade
Roof	Asphalt shingles; Poor condition: Shingles should be removed and new installed
Soffits / Cornice	Wood soffit have some damage and require painting; no gutters
Interior Finishes	All finishes are in excellent condition: FRP ceilings, glazed block walls, tile floor
Plumbing	Multiperson sink is showing some pitting in the bowl; Toilets good. Non-automated flush 6 toilets women, 2 toilet, 1 trough urinal men
HVAC	Exhaust fans; should be further evaluated for their effectiveness
Electrical	Good
Stairs and Railings	NA
Doors	Doors require painting, closers are rusted, should be replaced or painted
Windows	NA
Chimneys	NA
Energy Utilization	9" batt insulation in the roof, 6" in the walls
Handicapped Accessible	Handicapped stall size is outdated (3'-0" wide), removal of a stall could provide for a larger HC stall
Toilet facilities	yes
General Notes	The exterior of the building needs repair. The roof, immediately. One mirror requires replacement
Condition Rating	Interior: good to excellent; Exterior: Fair



Sustainable Trail Construction

Sustainable trails are defined by the US Forest Service as trails having a tread that will not be easily eroded by water and use, will not affect water quality or the natural ecosystem, meet the needs of the intended users and provide a positive user experience, and that do no harm to the natural environment.

Sustainable trails can be used by a variety of non-motorized users including hikers, trail runners, equestrians, off-road cyclists, and cross-country skiers. Motorized vehicles are normally prohibited unless operated by trail crews or a land manager. Prior to constructing a new trail, need for the trail should be determined based on condition and routes of existing trails. Surveys should be conducted of trail users to determine user expectations and rudimentary design guidelines.

Natural surface trails are dynamic systems that are constantly being re-shaped by a complex set of human-caused and natural forces. To be sustainable, trails must strike a balance between multiple elements. Type of use, amount of use and user behavior combine with natural factors to determine trails impacts and long-term sustainability.

The following design guidelines can be adapted to specific site conditions including soil texture, slope, topographic position, existing vegetation, etc. The guidelines are most useful for the planning and construction of new trails, but can also be useful for restoration and reconstruction of existing trails.

A. Width

Natural surface trails are usually a “singletrack” trail, with a tread width is typically 12”-36”. Trails are designed for users to travel single file. Overall clearing limits will be roughly three times the width of the tread, and the trail way will be roughly twice the width of the tread. Singletrack clearing limits are typically 6 feet wide and 8 feet high.

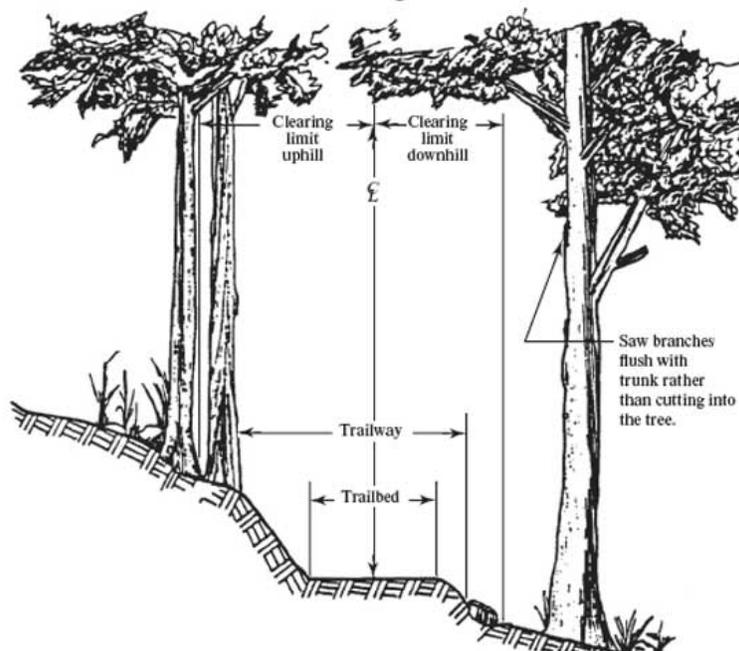
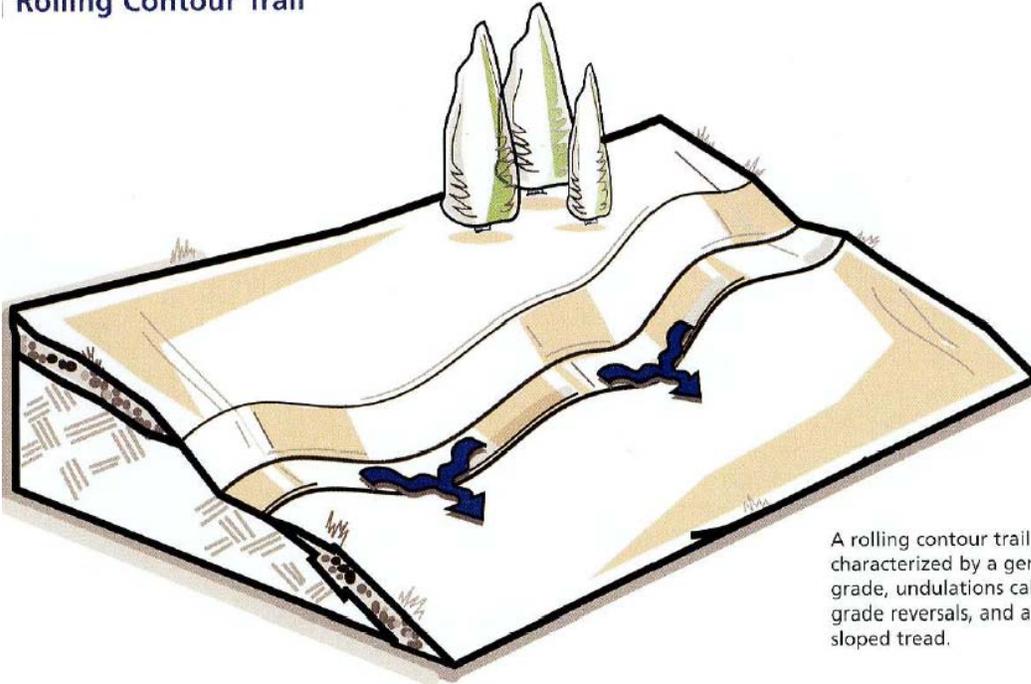


Image from “Trail Construction and Maintenance Notebook: 2007 Edition”

B. Rolling Contour Trails

Build paths to traverse hills cross-slope, characterized by a gentle grade and utilizing grade reversals and an outsloped tread. Trails should avoid following fall lines at all costs, and should always be constructed on at least a slight slope to allow for drainage.

Rolling Contour Trail



A rolling contour trail is characterized by a gentle grade, undulations called grade reversals, and an out-sloped tread.

C. Elements of Sustainable Trails

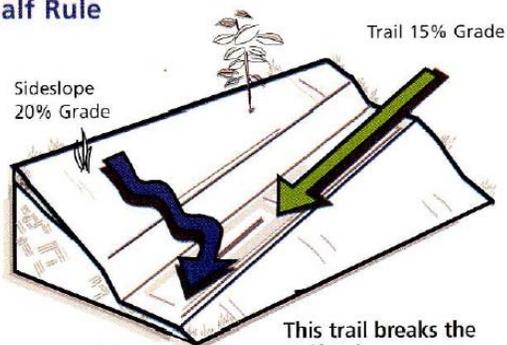
The Half Rule

Trail grade should never exceed half the grade of the hillside the trail traverses. Trails that exceed half the sideslope are considered fall line trails and funnel water, destroying the trail and causing greatly increased erosion.

The Ten Percent Average Guideline

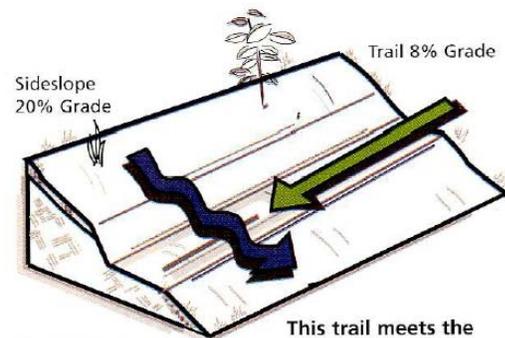
Trail grade should average 10 percent or less for the length of the trail. Average grade should be calculated by dividing total elevation gain by total length, multiplied by 100. For trail conditions without sustained elevation gain, average trail-segment grades should be calculated in areas where the trail climbs. An average 10 percent slope will allow for a stable, erosion free slope for most soil types caused by both water and users.

Half Rule



Water will flow down trail.

This trail breaks the Half Rule.



Water will sheet across trail.

This trail meets the Half Rule.

Maximum Sustainable Trail Grades

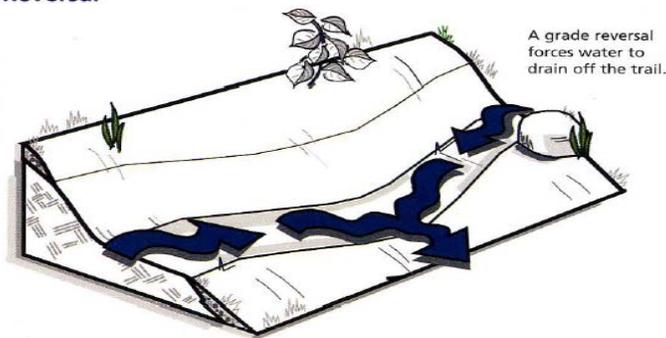
Maximum grades are considered to be the steepest section trail 10 feet or more in length. Maximum grades varies depending on the following factors:

- a. The grade of the existing sideslope
- b. Existing soil type
- c. Existing solid rock
- d. Annual rainfall amount
- e. Liberal use of grade reversals
- f. User groups / numbers
- g. Designed difficulty

Grade Reversals

Grades reversals are areas of a climbing trail levels, changes directions, drops slightly down slope for 10-50 linear feet, and rises again. Grade reversals should be used on any trail climbing or traversing a sideslope, and should occur on average every 20-50 feet.

Grade Reversal



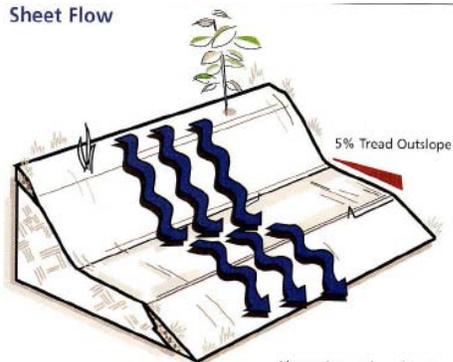
Outslope

Trails that traverse or climb a sideslope should always be graded so that the tread slopes slightly down and away from the high side of the slope. Creating an outslope will allow water to sheet flow across the trail and down the slope rather than funneling and creating ruts. A 5-percent cross slope is considered best when grading an outslope. If the soil type is loose where the trail is constructed, numerous grade reversals will be necessary to avoid erosion and maintain the tread and outslope.

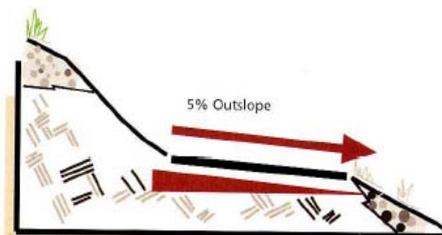
Outslope



Sheet Flow



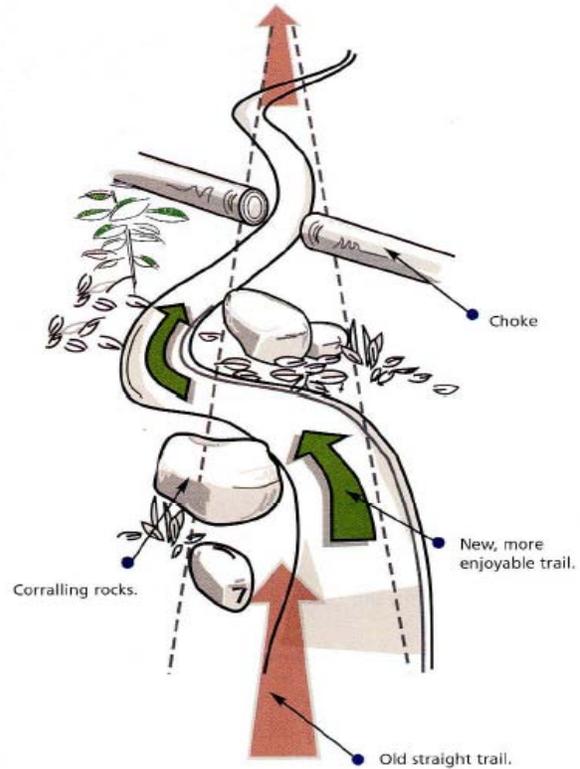
Above: An outsloped trail tread allows water to drain in a gentle, non-erosive manner called "sheet flow."



D. Design Speed

Managing user speed on trails designed for mountain bikers is best done with design elements. Trails that are constructed with many turns and grade changes will allow users to feel that they are moving faster than they are. Large, concrete objects should be used to define trail edges and turns; often boulders, logs, and plants work best. Objects should serve as both physical and visual barriers. Chokes should be created when the trail is approaching a point where users will need to slow down; examples include intersections, stream crossings, or merging trails. Chokes are points in the trail where the tread narrows to force reductions in speed. These areas should appear to be natural and well defined to avoid users defining their own paths.

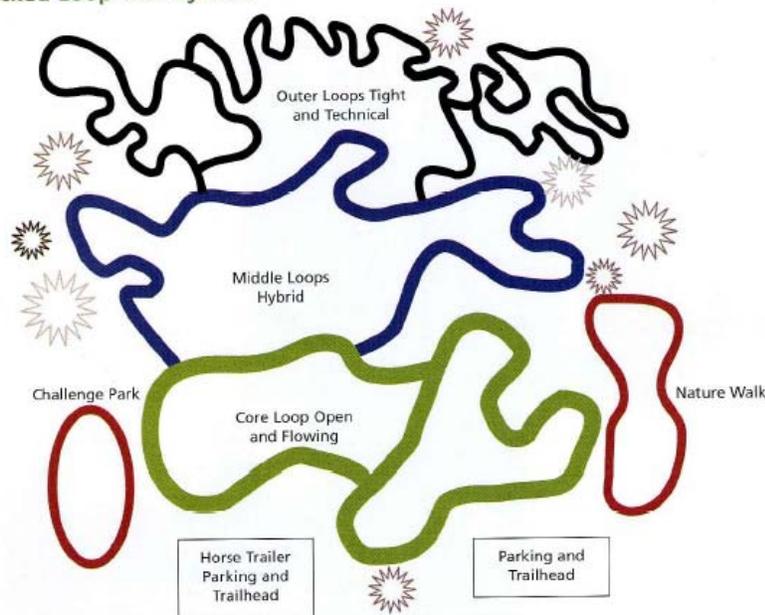
Chokes and Corraling



E. Trail System

Unless designing a single-user trail system, a system of looped trails should be designed to accommodate a variety of users. Main entry trails should be smooth and wide to appeal to all users, and provide either a standalone loop for beginners or a jump-off point for more advanced users. These primary trails may have a gravel surface to provide for accessibility and wet-weather use. Designing a trail system with multiple trailheads also allows for better control of user-conflicts and spreads traffic more evenly over a trail system. Restricting challenging trails to secluded and more difficult terrain will please all site users. Maintaining turns and choke points along all trails will continue to control speed and cut down further on potential user-conflicts.

Stacked Loop Trail System



F. Bench

Cut Trails

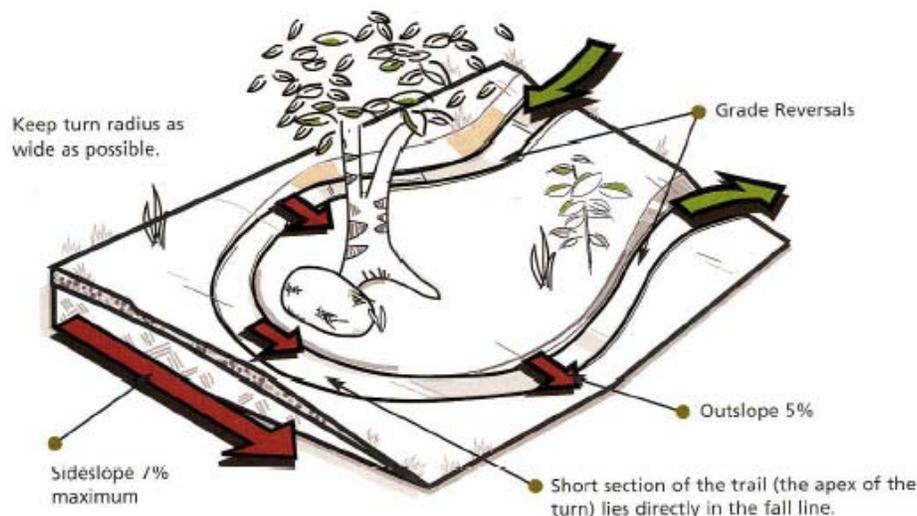
To create a durable and sustainable tread, creating a full bench trail is the most recommended option. The entire trail surface is compacted, native mineral soil with rounded and compacted backslope and downslope fill. Partial bench cut treads are a second option but should only be constructed as a last resort, as half of the tread is compacted fill, which does erode easily over time and often fails to compact. Partial bench treads are not considered to be a form of sustainable trail construction.

G. Turns

Climbing Turns

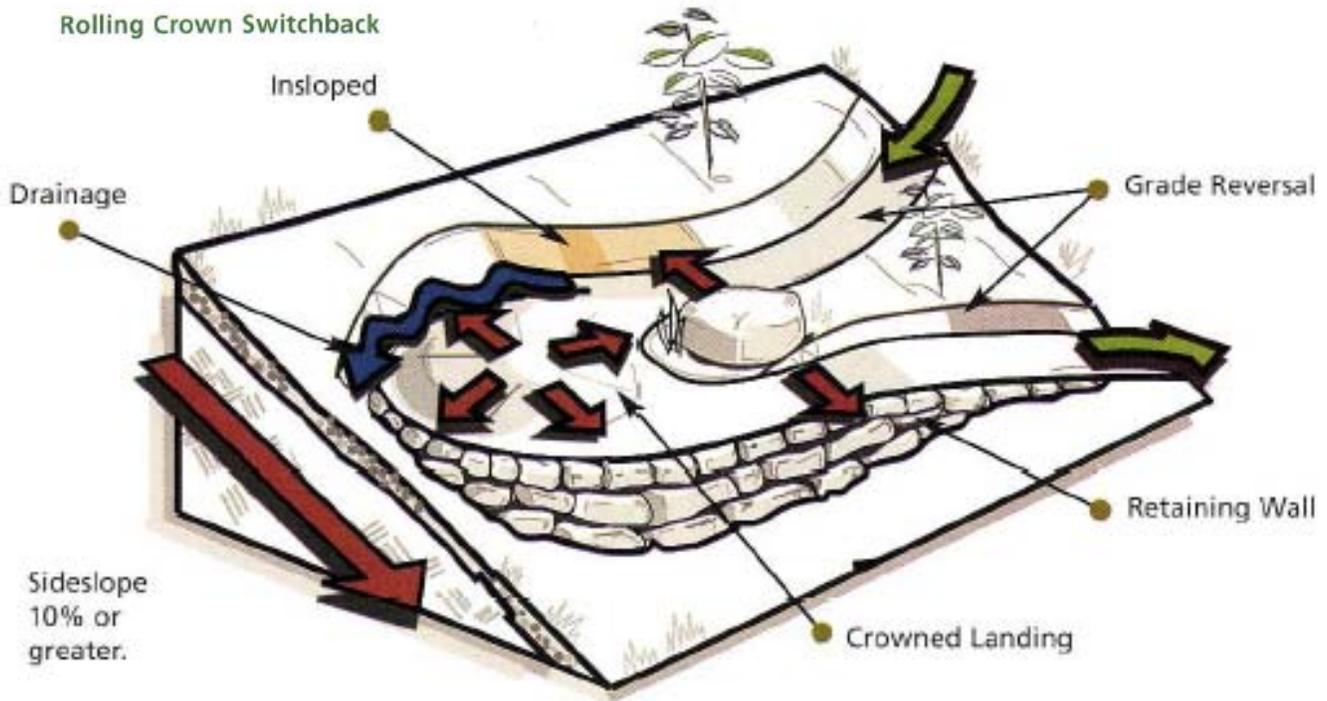
To be used on sideslopes of 7 percent or less as the trail will briefly follow the fall line, increasing the chance for erosion. Design the turning radius with a minimum width of 20 feet with natural barriers placed on the inside of the trail curve to control users speed and keep them on trail. Construct grade reversals above and below the curve to minimize water flow on the fall line. Construction of a choke point on the high side of the curve will also lessen user-wear erosion by reducing user speed on the curve.

Climbing Turn



Switchbacks

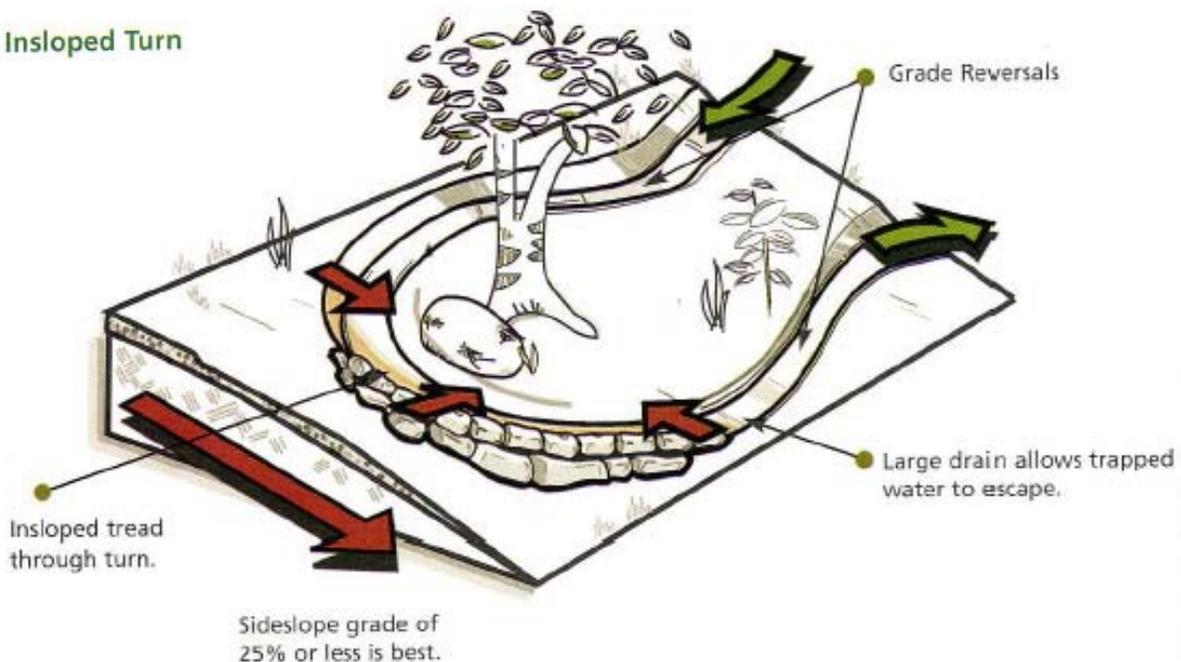
A rolling crown switchback is similar to a climbing turn but is used on steep slopes and involves construction of a retaining wall to create a mounded, level platform at the apex of the curve. Construct the upper trail tread insloped toward the high side of the slope to drain water across the top of the curve and prevent it from sheeting to the lower trail. The lower tread should be outsloped as in usual construction. Fill from excavating the upper tread is used to construct the turning platform, and is compacted and mounded for even drainage. A retaining wall should be constructed of stone found on site or large timbers, preferably treated or found on site. Grade reversals should be used above and below the curve to minimize water flow on the switchback itself. Switchbacks should be staggered as a trail ascends a slope to prevent users from creating shortcuts and disperse water flow more evenly along the hill.



Insloped Turns

In situations where users are or are predicated to cause lateral displacement of tread material, construction of an insloped turn is recommended. Properly designed and constructed insloped turns will improve tread life by reducing skidding and soil displacement by improving user flow along the trail. Curve banks of an insloped turn should be very well compacted and constructed in layers to prolong tread life and minimize soil displacement. A well-designed grade reversal above the curve is necessary to reduce water flowing down slope. Construct a choke point above the turn as users can traverse an insloped turn with greater speed than switchbacks or climbing turns. Vegetation should be kept low in the center of the curve to maintain sightlines from the upper trail to lower trail.

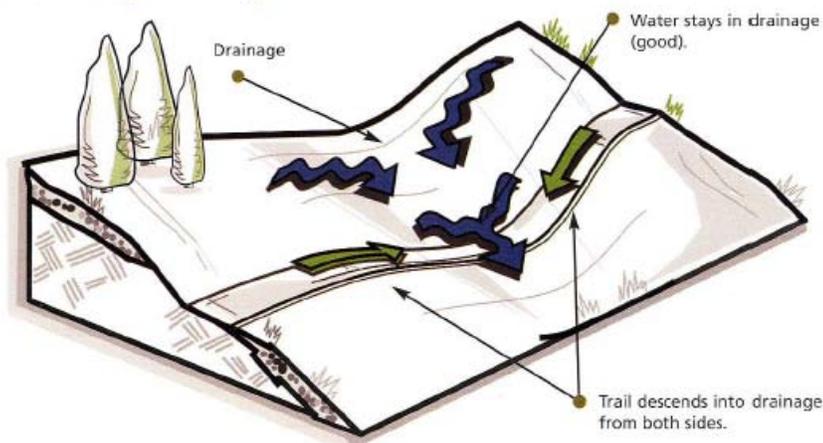
Insloped Turn



H. Water Crossings

If at all possible, water crossings should be avoided or minimized due to water quality issues, impact to stream or river ecosystems, increased chance of erosion, cost, and safety of users and trail crews. If a water crossing is necessary, it should be carefully sited at a riffle point and where banks slope gently to the water. Sideslopes where water crossings are located should be a maximum of 8 percent. Trails entering a water crossing should always descend into the crossing and include well-designed and constructed grade reversals to prevent sediment from washing down the trail into the watercourse.

Proper Drainage Crossing



Fords

Well-constructed fords in streams that have a depth of less than 3 feet during high water will last for decades with minimal maintenance and will have little impact on the surrounding ecosystem if properly constructed. Fords should be built in wide, shallow portions of the watercourse and mimic the bed and width of the stream. The constructed tread should be level and made of rock found on site. The US Forest Service recommends placing rocks a minimum of 130 lbs downstream of the crossing to keep the tread in place. Rocks of a similar size should be placed in the tread 12 inches apart, upstream, to provide a stepping-stone crossing. The tread should be constructed of gravel and rock smaller than 3 inches in diameter. Armoring the approaches to the crossing with rock for a minimum of 12 inches past the high water line will further minimize erosion.

Culverts

Culverts can be successfully used in trail construction when properly sized and designed. Culverts must be sized to match or exceed the channel width, match existing slope, and should be sunk into the streambed to allow a natural bed surface to form. It is imperative that a culvert's width match or exceed the channel width to prevent flow constriction, increased stream velocity, and blockage. Culverts can be constructed of pipe or of rock found on site. Culverts are among the most often failing water crossing, and should be carefully designed and maintained annually to prevent debris accumulation and blockage. A minimum of 12 inches of fill above the crossing is desired, and large boulders should be placed upstream to armor the edges of the crossing to prevent undercutting of the tread and water low around the pipe.

Bridges

In areas where the watercourse is too deep or wide to allow for safe construction of a ford or culvert, bridges may be necessary. Bridges may range from log footbridges to complex suspended or truss structures. Use of handrails is always recommended no matter a bridges length, and an engineer should inspect all bridge plans prior to construction and use.

I. Reassurance Markers

Trail Blazes

Trail blazes should be used if the correct trail path is not obvious or if it may be covered with snow at any point of the year. Blazes should be placed as often as necessary, and should be clearly visible from any point where the trail could be lost.

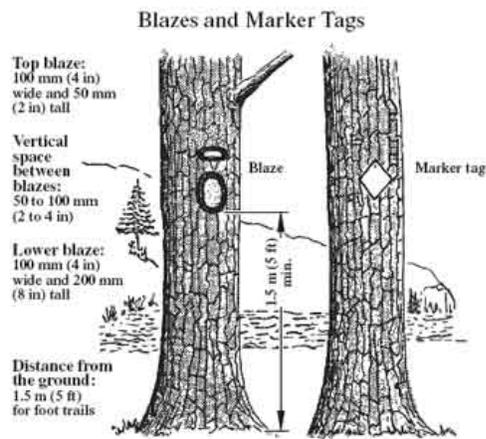


Image from "Trail Construction and Maintenance Notebook: 2007 Edition"

Cairns

Cairns are carefully constructed pyramids of rock that should be a minimum of 35 inches tall. They used be used in open areas where low visibility or snow cover may cause the tread to become difficult to follow or lost.

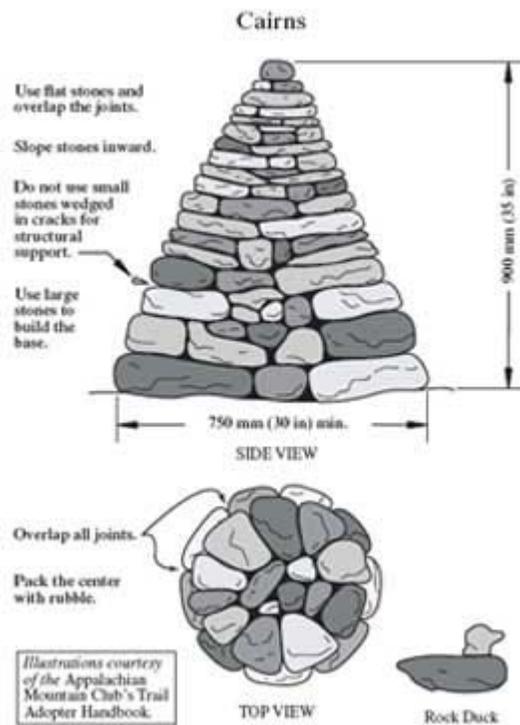


Image from "Trail Construction and Maintenance Notebook: 2007 Edition"

References:

Hesselbarth, Woody. Trail Construction and Maintenance Notebook: 2007 Edition. July 2007. <http://www.fhwa.dot.gov/environment/fspubs/07232806/index.htm>

International Mountain Bicycling Association. 2004. Trail solutions: IMBA's guide to building sweet singletrack. ISBN: 0-9755023-0-1. Boulder, CO: International Mountain Bicycling Association. 272 p.

All images from Trail Solutions unless otherwise noted.

LEED and Sustainability

The Monroe County Park Master Plan updates, in general, do not specifically fall under the jurisdiction of the U.S. Green Building Council (USGBC) and their standards for Leadership in Energy and Environmental Design (LEED). However, LEED has become the accepted standard for incorporating the principles of sustainability into new development and major renovation projects. A few of the recommendations call for either the renovation of existing structures, or the construction of new park buildings. Building construction and renovation would be specifically addressed by LEED standards, and is discussed in detail at the end of this section.

Through LEED, the USGBC has provided voluntary rating systems that are based on accepted energy and environmental principles, and strike a balance between established practices and emerging concepts. As of July 2008, there were nine different LEED rating systems. The two rating systems that are applicable to this project are LEED-NC for New Construction, and LEED-ND for Neighborhood Development.

In addition, Monroe County has developed their own Green Building Initiative. Construction projects for County facilities will use green building design practices in accordance with the USGBC LEED standards. Green building design practices will be used to the greatest extent practicable for Monroe County new building construction and building renovation projects of more than 5,000 square feet.

LEED for New Construction and Major Renovations (Version 2.2)

As the name implies, this rating system provides guidelines for new building construction and major renovation projects. Credits can be earned in six different categories. The Monroe County Park Master Plan updates respond to guidelines found in the following categories: Sustainable Sites, Water Efficiency, and Materials & Resources.

Sustainable Sites

1. Community Connectivity (Credit 2)
2. Alternative Transportation: Public Transportation Access (Credit 4.1)
3. Alternative Transportation: Parking Capacity (Credit 4.4)
4. Site Development: Protect or Restore Habitat (Credit 5.1)
5. Site Development: Maximize Open Space (Credit 5.2)
6. Stormwater Design (Credits 6.1 and 6.2)
7. Heat Island Effect: Non-Roof (Credit 7.1)
8. Light Pollution Reduction (Credit 8)

Water Efficiency

1. Water Efficient Landscaping (Credits 1.1 and 1.2)
2. Innovative Wastewater Technologies (Credit 2)
3. Water Use Reduction (Credits 3.1 and 3.2)

Materials & Resources

1. Construction Waste Management (Credits 2.1 and 2.2)
2. Materials Reuse (Credits 3.1 and 3.2)
3. Recycled Content (Credits 4.1 and 4.2)
4. Regional Materials (Credits 5.1 and 5.2)
5. Rapidly Renewable Materials (Credit 6)
6. Certified Wood (Credit 7)

LEED for Neighborhood Development (Pilot Version 2007)

This rating system is designed to certify exemplary development projects that perform well in terms of smart growth, new urbanism, and green building. Projects may constitute whole neighborhoods, fractions of neighborhoods, or multiple neighborhoods. Credits can be earned in four categories. The Monroe County Park Master Plan updates respond to guidelines found in the following categories: Smart Location & Linkage, Neighborhood Pattern & Design, and Green Construction & Technology.

Smart Location & Linkage

1. Smart Location (Prerequisite 1)
2. Wetland and Water Body Conservation (Prerequisite 4)
3. Floodplain Avoidance (Prerequisite 6)
4. Reduced Automobile Dependence (Credit 4)
5. Bicycle Network (Credit 5)
6. Steep Slope Protection (Credit 8)
7. Site Design for Habitat or Wetland Conservation (Credit 9)
8. Restoration of Habitat or Wetlands (Credit 10)
9. Conservation Management of Habitat or Wetlands (Credit 11)

Neighborhood Pattern & Design

1. Access to Surrounding Vicinity (Credit 11)
2. Access to Public Spaces (Credit 12)
3. Access to Active Spaces (Credit 13)
4. Universal Accessibility (Credit 14)
5. Community Outreach and Involvement (Credit 15)

Green Construction & Technology

1. Certified Green Buildings (Credit 1)
2. Reduced Water Use (Credit 3)
3. Minimize Site Disturbance through Site Design (Credit 6)
4. Minimize Site Disturbance during Construction (Credit 7)
5. Stormwater Management (Credit 9)
6. Heat Island Reduction (Credit 10)
7. Wastewater Management (Credit 16)
8. Recycled Content in Infrastructure (Credit 17)
9. Construction Waste Management (Credit 18)
10. Comprehensive Waste Management (Credit 19)
11. Light Pollution Reduction (Credit 20)

New Building Construction or Major Renovation

With any projects involving new construction or major building renovation, the County should consider following the LEED standards to earn certification from the U.S. Green Building Council. As a general rule of thumb, a major renovation involves elements of major HVAC renovation, significant envelope modifications and major interior rehabilitation. New construction and major renovation projects are able to earn credits from all of the categories under the ***LEED for New Construction and Major Renovations*** rating system, which include: Sustainable Sites, Water Efficiency, Energy & Atmosphere, Materials & Resources, and Indoor Environmental Quality.

Different levels of green building certification are awarded based on the total credits earned. Under the direction of a LEED Accredited Professional, a project developed using the criteria established by the U.S. Green Building Council through the LEED rating systems can be certified at the following levels:

- Certified (26-32 points)
- Silver (33-38 points)
- Gold (39-51 points)
- Platinum (52-69 points)

Crime Prevention Through Environmental Design

Crime prevention through environmental design (CPTED) is a multi-disciplinary approach to reducing crime and increasing perceived safety. CPTED strategies depend upon the ability to influence offender decisions that precede criminal acts. These strategies seek to dissuade offenders from committing crimes by manipulating the physical environment in which those crimes occur, often using natural opportunities presented by the environment. Research into criminal behavior shows that the decision to commit a crime is more influenced by cues to the perceived risk of being caught than by cues to reward or ease of entry. Consistent with this research, CPTED-based strategies emphasize enhancing the perceived risk of detection and apprehension. As a result, it relies upon an understanding of what about the environment influences offenders.

Most implementations of CPTED are based solely upon the theory that the proper design and effective use of the built environment can reduce crime, reduce the fear of crime, and improve the quality of life. CPTED is most effective when involving environmental designers, land managers, community action groups, and law enforcement. If any of these four groups are removed, it is likely that a CPTED strategy will be less effective than it might otherwise be. Crime prevention through environmental design relies upon five overlapping strategies: surveillance, access control, territoriality, image/maintenance and activity support.

Surveillance

Natural surveillance increases the threat of apprehension by taking steps to increase the perception that people can be seen. The placement of physical features, activities and people can be designed in such a way as to maximize visibility and foster positive social interaction among legitimate users of private and public space. The surveillance, or casual observation, that naturally occurs in such settings causes potential offenders to feel increased scrutiny and limitations on their escape routes.

Access Control

Access control is focused on decreasing criminal opportunity by keeping unauthorized people out of a particular location if they do not have legitimate reasons for being there. Opportunities for crime are limited by taking steps to clearly differentiate between public space and private space. A successful access control strategy denies access to a crime target and creates the perception of risk to potential offenders. Natural access control occurs by selectively placing entrances and exits, fencing, lighting and landscaping to limit access or control flow.

Territoriality

Territorial reinforcement suggests that physical design can create or extend a sphere of territorial influence and potential offenders can perceive that influence. An environment that projects a clear identity, or that is designed to clearly delineate private space creates a sense of ownership. As social cohesion increases, owners have a vested interest and are more likely to challenge intruders or report them to the police. As a result, the sense of owned space creates an environment where strangers or intruders stand out and are more easily identified. Natural territorial reinforcement occurs when design elements are used to express ownership and define public, semi-public and private space.

Image and Maintenance

Care and maintenance allows for the continued use of a space for its intended purpose. Deterioration and blight indicate less concern and control by the intended users of a site and

indicate a greater tolerance of disorder. Proper maintenance protects the public, health, safety, and welfare in all existing structures and on all existing premises by establishing minimum requirements and acceptable standards. Maintenance directly impacts the image that is presented by a place.

Activity Support

Activity support increases the use of a built environment for safe activities with the intent of increasing the risk of detection of criminal and undesirable activities. This concept originates in the observation that in a given community, resources capable of sustaining constructive community activities are often underused. Support of these activities can bring a vital and coalescing improvement to the community, along with a reduction of the vulnerable social and physical gaps that permit criminal intrusions. Natural surveillance by the intended users is casual and there is no specific plan for people to watch out for criminal activity.