
A Master Plan for the Harrisonburg Department
of Parks and Recreation.

Smithland Road Park Master Plan

The City of Harrisonburg, Virginia

Prepared for: The City of Harrisonburg, Virginia
Harrisonburg Department of Parks and Recreation

Prepared by: LPDA, Land Planning & Design Associates Inc.
Land Planning and Landscape Architecture
310 East Main Street, Suite 200
Charlottesville, Virginia 22902

Smithland Road Park Master Plan

Table Of Contents

Acknowledgements	i
Introduction	1
Smithland Road Site	1
Materials	
Landscape	2
Structural	3
Athletic Fields	3
Earthwork & Storm water Management	
Earthwork	4
Earthwork Summary	5
Grading	5
Storm water Management	6
Phase I	7
Phase II	7
Phase III	8
Phase IV	9
Phase V	10
Phase VI	11
Appendix 1: Cost Estimates	
Appendix 2: Utility Plans	
Appendix 3: Master Plan Sheets	
Appendix 4: Irrigation Plan Sheets	

Acknowledgements

Department of Parks and Recreation

Lee Foerster
Director of Parks and Recreation

David Wigginton
Assistant Director of Parks and Recreation

Department of Planning and Community Development

Stacy Turner
Director of Community Development

Dan Rublee
City Engineer

Sam Hottinger
GIS Coordinator

Paul Schacht
Civil Engineer

Smithland Road Park Master Plan

Introduction



Smithland Road Park overall master plan.

The Smithland Road Property in Harrisonburg, Virginia has been chosen to be the site of a new community park and athletic complex. The site is located in the northeast portion of Harrisonburg, along the City of Harrisonburg and Rockingham County line.

Much of the background information and initial public input for this project was developed during the City of Harrisonburg's Parks and Recreation Master Plan. The plan was completed in 2003 and included planning and input regarding the development of the Smithland Road Property. The process to decide what functions the park would hold and what program elements would be incorporated included much community involvement. This was accomplished through public meetings and mailed questionnaires.

The results of the questionnaires and public meetings found that there was a demand for a recreation complex that would serve as a community park and neighborhood park. Various facilities were requested by citizens as well as park staff. These included:

- More soccer fields.
- Rest room facilities with running water.
- More youth baseball/softball fields.
- Practice fields.
- Development of a city park with picnic pavilions, tennis courts, playgrounds, etc.
- Satellite maintenance operations center.
- Disc golf course.

All of these facilities and activities were taken into consideration for the planning of the park.

Smithland Road Site

The Smithland Road site contains a mixture of agricultural land, existing recreational fields, a parking lot, wooded areas, and fallow

grassland. A railroad line bisects the site from northeast to southeast. The largest areas of forest on the site are found on the east side of the railroad tracks at the northern and southern extremes of the property. The western area of forest is an early successional forest not likely exceeding 40 years in age. The eastern forest area is a triangular area surrounded by agricultural fields on all sides. A stream and potential fringe wetlands bisect this area. This forest area is mid-successional and contains mature hardwoods providing good habitat value. An additional small wetland area is mapped on the property according to the USFWS National Wetlands Inventory. Several sinkholes were observed on the property, primarily to the east of the railroad line. Sinkholes are common features in Karst terrain (*landscape with topographic depressions such as sinkholes and caves, caused by underground solution of limestone bedrock*) and provide a mechanism for surface water and pollutants to directly enter the groundwater system.

Materials

Landscape

In order to provide a sustainable and attractive landscape, a palette of cultured and native plant material is suggested. A variety of plants, such as large shade trees, flowering ornamental trees, evergreen trees, shrubs, perennials and groundcovers, should be used to provide a functional landscape with visual appeal and seasonal interest.

Plant material may include, but are not limited to:

Trees:

Red Maples	Zelkova
Honeylocust	Male Ginkgos
River Birch	Chinese Elm
Various Oak	

Flowering Trees:

Serviceberry	Redbud
Magnolia	Dogwoods

Evergreen Trees:

Spruce	Black Pine
Red Cedar	

Large Shrubs:

Chokeberry	Wax Myrtle
Forsythia	Hollies
Viburnums	

Small Shrubs:

Azaleas	Junipers
Hollies	
Nandina	

Groundcover:

Euonymus	Cotoneaster
Junipers	Liriope

Structural materials

Structures to be built on site can be constructed from several kinds of materials such as wood, concrete block, or steel. Another option is to use premanufactured facilities, which are available in almost any size and configuration. If built on site elements, such as restrooms and concession buildings, should be constructed with concrete block walls and wooden trusses with asphalt shingle roof. The concrete block walls can either be painted or faced with stucco or wood siding. This will provide a structure that will withstand time and elements, and will be economical and simple to build.

Picnic shelters should have a poured concrete slab and be built with a wooden frame and gable roof with asphalt shingles. Small picnic shelters should be 12'x12'. Larger picnic shelters should be 20'x34'. Final sizes should be determined by the Parks and Recreation Department based on actual programs and uses.

Athletic Fields

Due to the existing native clay soils, which are generally unsuitable when saturated, all athletic fields will need a suitable soil mix surface. Athletic fields such as soccer fields, football fields, baseball fields, and softball fields will need to be seeded, sodded, or sprigged. Turf grass options include Fescue, cold tolerant Bermuda grasses, and Blue grass. The use of Blue grass has been very successful in the Harrisonburg area.

Irrigation is planned to maintain the soccer fields, baseball and softball fields. Irrigation heads will probably require at least 60 psi at the base of the head for proper operation. In order to insure this, an irrigation water source (well or water line) should provide at least 85-95 psi at the well head. This requirement will vary based on elevation change and the size of zones. Booster pumps may be required depending on available pressures. 50-100 gpm will be required as a minimum water volume. Given this scenario and the

current number of fields, it would potentially take 8 to 16 hours to irrigate the fields shown on the master plan.

Basketball courts and other hard-court facilities should be constructed with an asphalt base with a resilient rubber playing surface on top. Tot lot and play surfaces should be either a poured in place resilient rubber surface or a wood fiber mulch surface. Playground equipment and surfaces should meet all current American Disabilities Act and Consumer Product Safety Commission standards.

Earthwork & Storm Water Management

Earthwork

Due to the topography, the Smithland Road Site offers challenging grading scenarios. Site elevations vary greatly and the land is characterized by Karst topography. This makes planning large facilities such as soccer fields and baseball fields difficult. This is due to their large size and the fact that they must be level (1.5-2% slope), and should be located on generally stable soils.

In order to make this plan as feasible as possible, construction phases were identified. Each phase can be constructed independently of the others and includes a grading area that balances cut to fill. The site has been divided into six phases, which will be described in further detail later in this report.

The soils on the site are predominantly native clay soils. These soils are known to over compact after excavation. This means when soils are cut from one area and placed in another and compacted, the new volume will be less than the volume that has been cut. In order to calculate this factor into the grading of the phases, an allowance of 20% of additional cut has been designed for. This number allows for compaction and accounts for some material that may be unsuitable for construction. It also means that there is a possibility for excess material to remain if soils compact less or less unsuitable soils are encountered

Rock and unsuitable sub-surface conditions were also considered during the planning of the park. The fact that the site has a great deal of elevation change and variation gives clues that there is most likely rock near the surface. One way of telling what the depths to bedrock are is to take soil borings. The borings give soil profiles which can

be analyzed. The analysis does not typically represent the entire construction area and variations can be expected. However, the analysis does give designers a good idea of cost contingencies that need to be planned for. Finding shallow bedrock on site is expected and has been accounted for in the estimate. A 25% allowance for excavation of rock has been added. It is assumed that the rock that is excavated will be rippable and can be used as core fill material. Core fill material may include material such as rock and uncontaminated soil, which can be used as sub base where large volumes of fill are needed.

The Karst topography had to be considered during planning since existing sinkholes could further collapse and expand. Every effort possible was taken not to place any fields, roads, parking lots, and structures over sinkholes. In the event that a sinkhole must be graded, several steps must be taken for stabilization. The sinkhole must be lined with stabilizing geotextile fabric and filled with a combination of large rip rap fill and other smaller gravels and then capped with soil. No pavement areas should drain to sinkholes. All pavement runoff must be directed to appropriate storm water facilities. These facilities should treat both storm water quantity as well as quality.

Earthworks Summary by Phase

Phase I

Cut Volume: 1727 C.Y. Fill Volume: 430 C.Y.
Net: 1297 C.Y. Fill

Phase II

Cut Volume: 97156 C.Y. Fill Volume: 51467 C.Y.
Net: 45689 C.Y. Cut (lost through compaction)

Phase III

Cut Volume: 50171 C.Y. Fill Volume: 49559 C.Y.
Net: 612 C.Y. Cut (lost through compaction)

Phase IV

Cut Volume: 9847 C.Y. Fill Volume: 6149C.Y.
Net: 3698 C.Y. Cut (lost through compaction)

Phase V

Cut Volume: 299 C.Y. Fill Volume: 282 C.Y.
Net: 17 C.Y. Cut (lost through compaction)

Phase VI

Cut Volume: 32767 C.Y. Fill Volume: 28587 C.Y.

Net: 4180 C.Y. Cut (lost through compaction)

Grading

The athletic fields must be graded to properly drain water. If they are not graded properly, water will saturate the playing surface and make it unusable until it dries. The pitch of the fields can vary depending on what material is used as topsoil. If native soils are used the fields must be pitched at 2% to properly drain. If a specialized athletic mix and drain system is used the slope can be lessened to 1-1.5%. A drainage system will be required if sub-soils do not drain or if the cross slope is less than 2%. For baseball fields, the ideal way to drain water is to create a highpoint in the infield and drain towards the outfield. This prevents water from running across the infield, which could cause erosion damage and saturation. Soccer fields ideally should drain from the middle to the sides. Another option, which was explored in the grading plan, is to have one continuous pitch that sheds water across the entire field. This option tends to be easier when constructing fields on sloping ground and simplifies perimeter drainage.

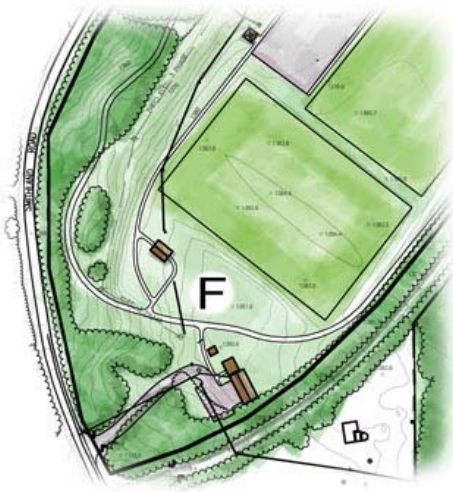
Storm Water Management

Storm water management is an important aspect that was considered during planning. Due to the site's Karst topography and sinkholes, precautions were made to prevent runoff from entering the sinkholes and contaminating the groundwater. Both water quantity and water quality is considered when managing storm water.

Storm water quality is controlled by filtering the runoff through level grass swales, spreader swales, and bio-filtration pond systems. These methods remove pollutants from runoff before they can enter and contaminate the groundwater system. A combination of soils and vegetation is often used to remove pollutants.

Storm water quantity is handled by grass swales and detention ponds. Grass swales slow the movement of runoff on its way to its destination while detention ponds store and slow down the excess runoff preventing flooding and erosion damage.

Phase I



Phase I: maintenance facility upgrade, trails & picnic shelter.

Phase I of the Smithland Road Master Plan consists of completing the three soccer fields, parking, and upgrading the maintenance facilities. The extent of Phase I runs from Smithland Road to the edge of the eastern most existing soccer field.

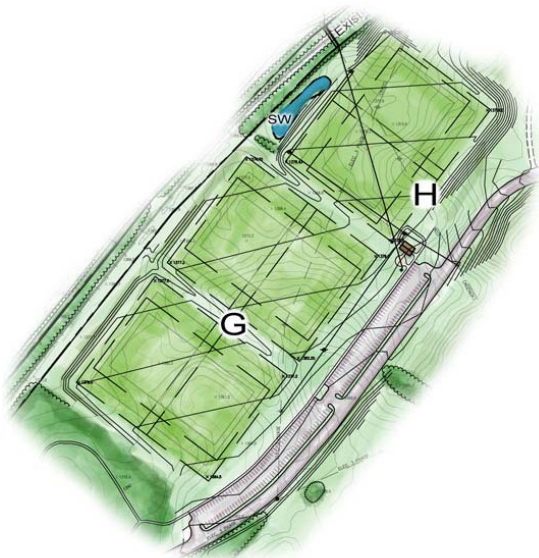
Utilities will need to be provided in this Phase. The concessions and restrooms will require electric, water, and a sanitary sewer utilities.

The existing maintenance facilities will be expanded by approximately 1800 S.F. to serve seven soccer fields and four baseball fields. The expanded facility will include storage for mowers, aerators, and other equipment. The building will also house offices, restrooms, and a break room.

Phase I Program Elements

- (2) 20'x34' picnic shelters.
- 3,500 L.F. of walking/jogging trails.
- 1800 S.F. expanded maintenance facilities
- Improved parking.
- Bicycle lanes on roads and bike accessible trail routes.

Phase II



Phase II: Proposed Athletic fields & parking.

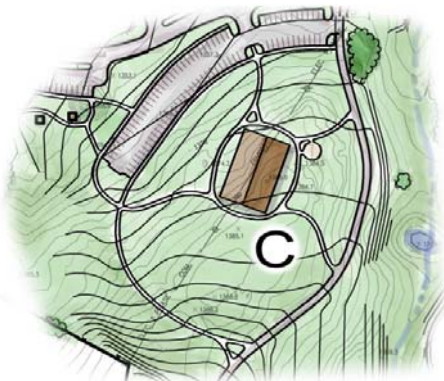
Phase II, which is located on the southern side of the rail line, consists of three 360'x450' graded pads that will accommodate multiple field orientations and types. Each pad is capable of accommodating two 180'x300' soccer playing fields simultaneously or one 360'x180' football field. In order for the Phase to balance, all three soccer fields must be constructed together. If they were constructed individually, they would not be at the same elevations. There would be a fill slope from the two western soccer field elevations to the easternmost soccer field making the two less accessible to each other.

Water, electric, and sanitary utilities will be required for the concession/restroom facility. A gravity sanitary line will be run from the concession/restroom facility and tied in with existing sanitary at Smithland Road. One existing overhead utility pole will need to be relocated so that they do not interfere with playing fields.

Phase II Program Elements

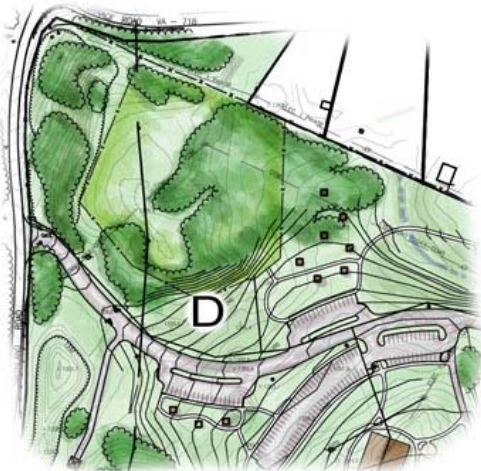
- (3) Soccer/ football pads (360'x450').
- (1) Tot lot.
- (1) Concession/ restroom facility.
- walking/ jogging trails.
- Parking (195 spaces).

Phase III



Phase III: Multiuse Pavilion with tot lot, trails & parking.

Phase III of the Smithland Road Master Plan consists of recreational facilities and a 9,600 S.F. multiuse pavilion. The extent of Phase III runs from the existing soccer fields to the drainage divide on the western side of the train line. Significant excavation is required in this Phase due to the topography change. Where the cutting of the hillside takes place, a “bowl” will be formed around the multiuse pavilion, where people can sit and watch events. The material that was cut from the hillside will be used for fill material for the road, parking and picnic areas. Overflow parking is provided in a grass parking lot, which is accessible by using a portion of the trail system. This is designed to accommodate occasional vehicular traffic. Bollards will be placed at the access points on the trail to restrict traffic.



Phase III: park entrance road with parking. The dog park is shown with nearby picnic areas.

Utilities will need to be provided in this Phase. The multi-use pavilion, which consists of an event stage, seating, storage and restrooms, will require electric, water, and a sanitary sewer line. An existing pump station will be used for a connection point to sanitary sewage.

A dog park is planned in this Phase. This includes land that is enclosed by an 8' high fence, where visitors can take their pets to play freely. A tap with running water will be provided to wash pets' paws. Other amenities such as a drinking fountain and benches will be provided.

The possibility of an additional soccer field located where the overflow parking is planned was explored. The soccer field could be built without drastically changing other elements but would require additional fill material and eliminate the overflow parking

Phase III Program Elements

- 9,600 S.F. multiuse pavilion with rest rooms, event stage, and seating.
- (10) 12'x12' picnic shelters.
- 4,190 L.F. of walking/jogging trails.
- (1) Tot lot 750 S.F.
- 125 parking spaces.
- Overflow parking (approx. 100 spaces).
- Dog park.
- Bicycle lanes on roads and bike accessible trail routes.

Phase IV



Phase IV: Hard court activity area with basketball courts, tot lot, sand volleyball and horse shoe pits. This area also includes trails, picnic areas, and rest room facilities.

Phase IV is located adjacent to Phase I on the opposite side of the drainage divide. This Phase consists primarily of recreational facilities and hard-court facilities. A potential access road would connect to the Phase VI baseball complex and would improve accessibility and circulation. Electric, water, and sanitary utilities will be required for the concession/restroom facility. One existing utility pole will need to be relocated.

Phase IV Program Elements

- (2) Basketball courts.
- (2) Sand volleyball courts.
- (4) Horse shoe pits.
- (1) Tot lot.
- (7) Small picnic shelters.
- Parking (72 spaces).
- (1) Concession/ rest room facility.
- (1) Picnic shelter (20'x34').

Phase V



Phase V is adjacent to Phase II and consists of a trail head, walking/ jogging trails, interpretive signage, picnic shelters and a tot lot. This Phase requires the least amount of earthwork of all the phases. Minor grading will be required for the trails and picnic sites. Electric will be required for the picnic shelter facility.

Interpretive signage will describe the wetlands and other geographical features. Trails will guide users through wildflower meadows, natural wooded areas, wetlands, and garden areas.

Phase V Program Elements

Phase V: Trail head with nearby picnic shelter and tot lot.

- (1) Picnic shelter (20'x34').
- Interpretive signage.
- (1) Tot lot.
- (10) 12'x12' picnic shelters.
- walking/ jogging trails.
- Parking (30 spaces).
- (1) Pedestrian Bridge.
- Maintenance access to baseball complex.



Phase V: Walking/jogging trails wind through open land, wildflower meadows and wooded areas.

Phase VI



Phase VI: Baseball complex with related parking, and picnic, and concession facilities.

Phase VI functions primarily as a baseball complex, consisting of two baseball fields and one little league or softball field. Several sinkholes are located on this piece of land which limits the locations of the fields, structures and parking. Storm water will be handled with grass swales, and a bio-retention pond will be placed near the parking lot to eliminate contaminants before they can enter the groundwater system.

Water and electric utilities will be required for the concession/rest room facility. One existing overhead utility pole will need to be relocated. A septic drain field will be required for the sanitary treatment. A gravity system will not work on this Phase. In order to tie into City lines, a lift station would be needed.

Phase VI program elements

- (2) Baseball fields (300' foul line).
- (1) Little league/ softball field (275' foul line).
- (1) picnic shelter (20' x 34').
- (1) Concession/ rest room facility.
- Parking (80 spaces).

Appendix 1**Cost Estimates For Smithland Road Park**

Included are the cost estimates organized by each phase of the Master Plan and Utility Plan. Each phase estimate is broken down into the major elements required to complete the phase. The cost estimates are general in nature, although ranges of costs are based on actual construction estimates and pricing from similar projects. The cost estimates are intended to provide a general magnitude of cost and assist in the decision-making process for selecting specific priorities or phases. Detailed cost estimates will need to be prepared for each portion of Smithland Road Park as more detailed planning and design is completed.

Several assumptions were made in the cost estimates that have a direct bearing on cost and should be examined in more detail as each Phase is developed.

Smithland Road Park Overall
Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

Phase 1 Total	\$	583,983.75
Phase 2 Total	\$	1,577,783.50
Phase 3 Total	\$	1,026,203.00
Phase 4 Total	\$	399,199.50
Phase 5 Total	\$	290,452.50
Phase 6 Total	\$	881,507.50
Irrigation	\$	150,000.00
Utilities	\$	425,025.00
Project Subtotal	\$	5,334,154.75
	Contingency (25%) \$	1,333,538.69
	TOTAL:	\$ 6,667,693.44

Smithland Road Park Phase 1

Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	5	AC	\$1,500.00	\$ 7,500.00
Cut to Fill	1,050	CY	\$8.00	\$ 8,400.00
Topsoil Stripping & Stockpiling	300	CY	\$6.00	\$ 1,800.00
Ripping (25% cut to fill)	262.5	CY	\$3.50	\$ 918.75
			SUBTOTAL	\$ 18,618.75
2 Hardscape				
6' Width Trail Asphalt (783 L.F.)	104	Ton	\$40.00	\$ 4,160.00
Sub-base 6" 21-A	348	Ton	\$15.00	\$ 5,220.00
10' Width Trail Asphalt (2721 L.F.)	604	Ton	\$40.00	\$ 24,160.00
Sub-base 6" 21-A	1007	Ton	\$15.00	\$ 15,105.00
12' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
Concrete Pavement (1034 S.F.)	25	CY	\$90.00	\$ 2,250.00
Sub-base 6" 21-A	38	Ton	\$15.00	\$ 570.00
Road & Parking Asphalt Pavement (11219 S.F)	249	Ton	\$40.00	\$ 9,960.00
Road & Parking 21-A Sub-base	415	Ton	\$16.00	\$ 6,640.00
New Curbing CG2 (standard)	0	LF	\$12.50	\$ -
Curb Ramps	0	EA	\$1,200.00	\$ -
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	0	LF	\$50.00	\$ -
Rip Rap EC at Culverts	0	Ton	\$100.00	\$ -
Trash Receptacle	5	EA	\$300.00	\$ 1,500.00
Benches 6' Length	3	EA	\$600.00	\$ 1,800.00
			SUBTOTAL	\$ 71,365.00
3 Landscaping				
Large Shade Tree	10	EA	\$350.00	\$ 3,500.00
Ornamental / Flowering Tree	10	EA	\$200.00	\$ 2,000.00
Evergreen Tree	15	EA	\$200.00	\$ 3,000.00
Shrubs-large	75	EA	\$50.00	\$ 3,750.00
Shrubs-med/small	75	EA	\$30.00	\$ 2,250.00
Ground Cover/perennial	1,500	EA	\$4.00	\$ 6,000.00
Annual	1,500	EA	\$2.00	\$ 3,000.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 25,000.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	0	EA	\$86,000.00	\$ -
Softball Field (seeded) (Lump Sum)	0	EA	\$70,000.00	\$ -
Soccer Field Single Pad (seeded) (Lump Sum)	0	EA	\$103,000.00	\$ -
Soccer Field Large Pad (seeded) (Lump Sum)	0	EA	\$155,000.00	\$ -
Horse Shoe Pits	0	EA	\$1,000.00	\$ -
Sand Volleyball Courts	0	EA	\$2,500.00	\$ -
Basketball Courts	0	EA	\$5,000.00	\$ -
Press Box/ Concession Structure	0	EA	\$12,000.00	\$ -
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ -
5 Recreation Facilities				
Multi-Use Pavilion	0	LS	\$80,000.00	\$ -
Picnic Shelter (Large)	2	EA	\$10,000.00	\$ 20,000.00
Picnic Shelter (Small)	0	EA	\$6,000.00	\$ -
Restroom/ Concession Building	1	LS	\$40,000.00	\$ 40,000.00
Tot Lot	0	LS	\$15,000.00	\$ -
Interpretive Signage	0	EA	\$1,000.00	\$ -
Picnic Tables	12	EA	\$750.00	\$ 9,000.00
			SUBTOTAL	\$ 69,000.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	1	LS	\$400,000.00	\$ 400,000.00
Dog Park	0	LS	\$85,000.00	\$ -
Vehicular Bridge 60' Length	0	EA	\$10,000.00	\$ -
Relocate Utility Poles	0	EA	\$5,000.00	\$ -
			SUBTOTAL	\$ 400,000.00
			PHASE 1 TOTAL	\$ 583,983.75

Smithland Road Park Phase 2Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	21	AC	\$1,500.00	\$ 31,500.00
Cut to Fill	64,000	CY	\$8.00	\$ 512,000.00
Topsoil Stripping & Stockpiling	17600	CY	\$6.00	\$ 105,600.00
Ripping (25% cut to fill)	16000	CY	\$3.50	\$ 56,000.00
			SUBTOTAL	\$ 705,100.00
2 Hardscape				
6' Width Trail Asphalt (2031 L.F.)	270	Ton	\$40.00	\$ 10,800.00
Sub-base 6" 21-A	451	Ton	\$15.00	\$ 6,765.00
10' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
12' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
Concrete Pavement (6434 S.F.)	158	CY	\$90.00	\$ 14,220.00
Sub-base 6" 21-A	238	Ton	\$15.00	\$ 3,570.00
Road & Parking Asphalt Pavement (140569 S.F.)	3,123	Ton	\$40.00	\$ 124,920.00
Road & Parking 21-A Sub-base	5,206	Ton	\$16.00	\$ 83,296.00
New Curbing CG2 (standard)	1,877	LF	\$12.50	\$ 23,462.50
Curb Ramps	2	EA	\$1,200.00	\$ 2,400.00
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	0	LF	\$50.00	\$ -
Rip Rap EC at Culverts	0	Ton	\$100.00	\$ -
Trash Receptacle	5	EA	\$300.00	\$ 1,500.00
Benches 6' Length	5	EA	\$600.00	\$ 3,000.00
			SUBTOTAL	\$ 273,933.50
3 Landscaping				
Large Shade Tree	25	EA	\$350.00	\$ 8,750.00
Ornamental / Flowering Tree	25	EA	\$200.00	\$ 5,000.00
Evergreen Tree	40	EA	\$200.00	\$ 8,000.00
Shrubs-large	100	EA	\$50.00	\$ 5,000.00
Shrubs-med/small	100	EA	\$30.00	\$ 3,000.00
Ground Cover/perennial	3,000	EA	\$4.00	\$ 12,000.00
Annual	3,000	EA	\$2.00	\$ 6,000.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 49,250.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	0	EA	\$86,000.00	\$ -
Softball Field (seeded) (Lump Sum)	0	EA	\$70,000.00	\$ -
Soccer Field (seeded) (Lump Sum)	3	EA	\$155,000.00	\$ 465,000.00
Horse Shoe Pits	0	EA	\$1,000.00	\$ -
Sand Volleyball Courts	0	EA	\$2,500.00	\$ -
Basketball Courts	0	EA	\$5,000.00	\$ -
Press Box/ Concession Structure	0	EA	\$12,000.00	\$ -
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ 465,000.00
5 Recreation Facilities				
Multi-Use Pavilion	0	LS	\$80,000.00	\$ -
Picnic Shelter (Large)	1	EA	\$10,000.00	\$ 10,000.00
Picnic Shelter (Small)	0	EA	\$6,000.00	\$ -
Restroom/ Concession Building	1	LS	\$40,000.00	\$ 40,000.00
Tot Lot	1	LS	\$15,000.00	\$ 15,000.00
Interpretive Signage	0	EA	\$1,000.00	\$ -
Picnic Tables	6	EA	\$750.00	\$ 4,500.00
			SUBTOTAL	\$ 69,500.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	0	LS	\$400,000.00	\$ -
Dog Park	0	LS	\$85,000.00	\$ -
Vehicular Bridge 60' Length	0	EA	\$10,000.00	\$ -
Relocate Utility Poles	3	EA	\$5,000.00	\$ 15,000.00
			SUBTOTAL	\$ 15,000.00
			PHASE 2 TOTAL	\$ 1,577,783.50

Smithland Road Park Phase 3Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	12	AC	\$1,500.00	\$ 18,000.00
Cut to Fill	50,000	CY	\$8.00	\$ 400,000.00
Topsoil Stripping & Stockpiling	9700	CY	\$6.00	\$ 58,200.00
Ripping (25% cut to fill)	12500	CY	\$3.50	\$ 43,750.00
			SUBTOTAL	\$ 519,950.00
2 Hardscape				
6' Width Trail Asphalt (1384 L.F.)	184	Ton	\$40.00	\$ 7,360.00
Sub-base 6" 21-A	307	Ton	\$15.00	\$ 4,605.00
10' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
12' Width Trail Asphalt (1129 L.F.)	301	Ton	\$40.00	\$ 12,040.00
Sub-base 6" 21-A	501	Ton	\$15.00	\$ 7,515.00
Concrete Pavement (15717 S.F.)	388	CY	\$90.00	\$ 34,920.00
Sub-base 6" 21-A	582	Ton	\$15.00	\$ 8,730.00
Road & Parking Asphalt Pavement (71147 S.F.)	1,581	Ton	\$40.00	\$ 63,240.00
Road & Parking 21-A Sub-base	2,473	Ton	\$16.00	\$ 39,568.00
New Curbing CG2 (standard)	1,022	LF	\$12.50	\$ 12,775.00
Curb Ramps	5	EA	\$1,200.00	\$ 6,000.00
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	0	LF	\$50.00	\$ -
Rip Rap EC at Culverts	0	Ton	\$100.00	\$ -
Trash Receptacle	10	EA	\$300.00	\$ 3,000.00
Benches 6' Length	10	EA	\$600.00	\$ 6,000.00
			SUBTOTAL	\$ 205,753.00
3 Landscaping				
Large Shade Tree	20	EA	\$350.00	\$ 7,000.00
Ornamental / Flowering Tree	15	EA	\$200.00	\$ 3,000.00
Evergreen Tree	30	EA	\$200.00	\$ 6,000.00
Shrubs-large	100	EA	\$50.00	\$ 5,000.00
Shrubs-med/small	50	EA	\$30.00	\$ 1,500.00
Ground Cover/perennial	3,000	EA	\$4.00	\$ 12,000.00
Annual	3,000	EA	\$2.00	\$ 6,000.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 42,000.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	0	EA	\$86,000.00	\$ -
Softball Field (seeded) (Lump Sum)	0	EA	\$70,000.00	\$ -
Soccer Field Single Pad (seeded) (Lump Sum)	0	EA	\$103,000.00	\$ -
Soccer Field Large Pad (seeded) (Lump Sum)	0	EA	\$155,000.00	\$ -
Horse Shoe Pits	0	EA	\$1,000.00	\$ -
Sand Volleyball Courts	0	EA	\$2,500.00	\$ -
Basketball Courts	0	EA	\$5,000.00	\$ -
Press Box/ Concession Structure	0	EA	\$12,000.00	\$ -
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ -
5 Recreation Facilities				
Multi-Use Pavilion	1	LS	\$80,000.00	\$ 80,000.00
Picnic Shelter (Large)	0	EA	\$10,000.00	\$ -
Picnic Shelter (Small)	10	EA	\$6,000.00	\$ 60,000.00
Restroom/ Concession Building	0	EA	\$40,000.00	\$ -
Tot Lot	1	LS	\$15,000.00	\$ 15,000.00
Interpretive Signage	0	EA	\$1,000.00	\$ -
Picnic Tables	18	EA	\$750.00	\$ 13,500.00
			SUBTOTAL	\$ 168,500.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	0	LS	\$400,000.00	\$ -
Dog Park	1	LS	\$85,000.00	\$ 85,000.00
Vehicular Bridge 60' Length	0	EA	\$10,000.00	\$ -
Relocate Utility Poles	1	EA	\$5,000.00	\$ 5,000.00
			SUBTOTAL	\$ 90,000.00
			PHASE 3 TOTAL	\$ 1,026,203.00

Smithland Road Park Phase 4Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	7	AC	\$1,500.00	\$ 10,500.00
Cut to Fill	4,300	CY	\$8.00	\$ 34,400.00
Topsoil Stripping & Stockpiling	5550	CY	\$6.00	\$ 33,300.00
Ripping (25% cut to fill)	1075	CY	\$3.50	\$ 3,762.50
			SUBTOTAL	\$ 81,962.50
2 Hardscape				
6' Width Trail Asphalt (2565 L.F.)	342	Ton	\$40.00	\$ 13,680.00
Sub-base 6" 21-A	570	Ton	\$15.00	\$ 8,550.00
10' Width Trail Asphalt (835 L.F.)	185	Ton	\$40.00	\$ 7,400.00
Sub-base 6" 21-A	309	Ton	\$15.00	\$ 4,635.00
12' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
Concrete Pavement (4867 S.F.)	120	CY	\$90.00	\$ 10,800.00
Sub-base 6" 21-A	180	Ton	\$15.00	\$ 2,700.00
Road & Parking Asphalt Pavement (32188 S.F.)	715	Ton	\$40.00	\$ 28,600.00
Road & Parking 21-A Sub-base	1,192	Ton	\$16.00	\$ 19,072.00
New Curbing CG2 (standard)	620	LF	\$12.50	\$ 7,750.00
Curb Ramps	4	EA	\$1,200.00	\$ 4,800.00
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	25	LF	\$50.00	\$ 1,250.00
Rip Rap EC at Culverts	75	Ton	\$100.00	\$ 7,500.00
Trash Receptacle	5	EA	\$300.00	\$ 1,500.00
Benches 6' Length	10	EA	\$600.00	\$ 6,000.00
			SUBTOTAL	\$ 124,237.00
3 Landscaping				
Large Shade Tree	20	EA	\$350.00	\$ 7,000.00
Ornamental / Flowering Tree	20	EA	\$200.00	\$ 4,000.00
Evergreen Tree	25	EA	\$200.00	\$ 5,000.00
Shrubs-large	150	EA	\$50.00	\$ 7,500.00
Shrubs-med/small	350	EA	\$30.00	\$ 10,500.00
Ground Cover/perennial	3,000	EA	\$4.00	\$ 12,000.00
Annual	3,000	EA	\$2.00	\$ 6,000.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 53,500.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	0	EA	\$86,000.00	\$ -
Softball Field (seeded) (Lump Sum)	0	EA	\$70,000.00	\$ -
Soccer Field Single Pad (seeded) (Lump Sum)	0	EA	\$103,000.00	\$ -
Soccer Field Large Pad (seeded) (Lump Sum)	0	EA	\$155,000.00	\$ -
Horse Shoe Pits	4	EA	\$1,000.00	\$ 4,000.00
Sand Volleyball Courts	2	EA	\$2,500.00	\$ 5,000.00
Basketball Courts	2	EA	\$5,000.00	\$ 10,000.00
Press Box/ Concession Structure	0	EA	\$12,000.00	\$ -
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ 19,000.00
5 Recreation Facilities				
Multi-Use Pavilion	0	LS	\$80,000.00	\$ -
Picnic Shelter (Large)	1	EA	\$10,000.00	\$ 10,000.00
Picnic Shelter (Small)	6	EA	\$6,000.00	\$ 36,000.00
Restroom/ Concession Building	1	EA	\$40,000.00	\$ 40,000.00
Tot Lot	1	LS	\$15,000.00	\$ 15,000.00
Interpretive Signage	0	EA	\$1,000.00	\$ -
Picnic Tables	6	EA	\$750.00	\$ 4,500.00
			SUBTOTAL	\$ 105,500.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	0	LS	\$400,000.00	\$ -
Dog Park	0	LS	\$85,000.00	\$ -
Vehicular Bridge 60' Length	1	EA	\$10,000.00	\$ 10,000.00
Relocate Utility Poles	1	EA	\$5,000.00	\$ 5,000.00
			SUBTOTAL	\$ 15,000.00
			PHASE 4 TOTAL	\$ 399,199.50

Smithland Road Park Phase 5Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	1	AC	\$1,500.00	\$ 1,500.00
Cut to Fill	300	CY	\$8.00	\$ 2,400.00
Topsoil Stripping & Stockpiling	150	CY	\$6.00	\$ 900.00
Ripping (25% cut to fill)	75	CY	\$3.50	\$ 262.50
			SUBTOTAL	\$ 5,062.50
2 Hardscape				
6' Width Trail Asphalt (1218 L.F.)	162	Ton	\$40.00	\$ 6,480.00
Sub-base 6" 21-A	270	Ton	\$15.00	\$ 4,050.00
10' Width Trail Asphalt (4567 L.F.)	1,014	Ton	\$40.00	\$ 40,560.00
Sub-base 6" 21-A	1,691	Ton	\$15.00	\$ 25,365.00
12' Width Trail Asphalt (1842 L.F.)	491	Ton	\$40.00	\$ 19,640.00
Sub-base 6" 21-A	818	Ton	\$15.00	\$ 12,270.00
Concrete Pavement (1964 S.F.)	48	CY	\$90.00	\$ 4,320.00
Sub-base 6" 21-A	72	Ton	\$15.00	\$ 1,080.00
Road & Parking Asphalt Pavement (17,415 S.F.)	387	Ton	\$40.00	\$ 15,480.00
Road & Parking 21-A Sub-base	645	Ton	\$16.00	\$ 10,320.00
New Curbing CG2 (standard)	270	LF	\$12.50	\$ 3,375.00
Curb Ramps	1	EA	\$1,200.00	\$ 1,200.00
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	25	LF	\$50.00	\$ 1,250.00
Rip Rap EC at Culverts	50	Ton	\$100.00	\$ 5,000.00
Trash Receptacle	5	EA	\$300.00	\$ 1,500.00
Benches 6' Length	5	EA	\$600.00	\$ 3,000.00
			SUBTOTAL	\$ 154,890.00
3 Landscaping				
Large Shade Tree	20	EA	\$350.00	\$ 7,000.00
Ornamental / Flowering Tree	20	EA	\$200.00	\$ 4,000.00
Evergreen Tree	25	EA	\$200.00	\$ 5,000.00
Shrubs-large	100	EA	\$50.00	\$ 5,000.00
Shrubs-med/small	100	EA	\$30.00	\$ 3,000.00
Ground Cover/perennial	1,500	EA	\$4.00	\$ 6,000.00
Annual	1,500	EA	\$2.00	\$ 3,000.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 34,500.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	0	EA	\$86,000.00	\$ -
Softball Field (seeded) (Lump Sum)	0	EA	\$70,000.00	\$ -
Soccer Field Single Pad (seeded) (Lump Sum)	0	EA	\$103,000.00	\$ -
Soccer Field Large Pad (seeded) (Lump Sum)	0	EA	\$155,000.00	\$ -
Horse Shoe Pits	0	EA	\$1,000.00	\$ -
Sand Volleyball Courts	0	EA	\$2,500.00	\$ -
Basketball Courts	0	EA	\$5,000.00	\$ -
Press Box/ Concession Structure	0	EA	\$12,000.00	\$ -
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ -
5 Recreation Facilities				
Multi-Use Pavilion	0	LS	\$80,000.00	\$ -
Picnic Shelter (Large)	1	EA	\$10,000.00	\$ 10,000.00
Picnic Shelter (Small)	10	EA	\$6,000.00	\$ 60,000.00
Restroom/ Concession Building	0	LS	\$40,000.00	\$ -
Tot Lot	1	LS	\$15,000.00	\$ 15,000.00
Interpretive Signage	2	EA	\$1,000.00	\$ 2,000.00
Picnic Tables	12	EA	\$750.00	\$ 9,000.00
			SUBTOTAL	\$ 96,000.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	0	LS	\$400,000.00	\$ -
Dog Park	0	LS	\$85,000.00	\$ -
Vehicular Bridge 60' Length	0	EA	\$10,000.00	\$ -
Relocate Utility Poles	0	EA	\$5,000.00	\$ -
			SUBTOTAL	\$ -
			PHASE 5 TOTAL	\$ 290,452.50

Smithland Road Park Phase 6Harrisonburg, Va
Construction Cost Estimate

7/29/2004

Prepared By: Land Planning and Design Associates Inc. Charlottesville, VA

	QTY.	UNIT	UNIT PRICE	TOTAL
1 Site Preparation				
Site Clearing & Grubbing	11	AC	\$1,500.00	\$ 16,500.00
Cut to Fill	23,900	CY	\$8.00	\$ 191,200.00
Topsoil Stripping & Stockpiling	8900	CY	\$6.00	\$ 53,400.00
Ripping (25% cut to fill)	5975	CY	\$3.50	\$ 20,912.50
			SUBTOTAL	\$ 282,012.50
2 Hardscape				
6' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
10' Width Trail Asphalt (715 L.F.)	158	Ton	\$40.00	\$ 6,320.00
Sub-base 6" 21-A	264	Ton	\$15.00	\$ 3,960.00
12' Width Trail Asphalt (0 L.F.)	0	Ton	\$40.00	\$ -
Sub-base 6" 21-A	0	Ton	\$15.00	\$ -
Concrete Pavement (22153 S.F.)	564	CY	\$90.00	\$ 50,760.00
Sub-base 6" 21-A	820	Ton	\$15.00	\$ 12,300.00
Road & Parking Asphalt Pavement (126668 S.F.)	2,814	Ton	\$40.00	\$ 112,560.00
Road & Parking 6" 21-A Sub-base	2,345	Ton	\$16.00	\$ 37,520.00
New Curbing CG2 (standard)	978	LF	\$12.50	\$ 12,225.00
Curb Ramps	2	EA	\$1,200.00	\$ 2,400.00
Storm Culverts 18" RCP	0	LF	\$30.00	\$ -
Storm Culverts 24" RCP	0	LF	\$50.00	\$ -
Rip Rap EC at Culverts	0	Ton	\$100.00	\$ -
Trash Receptacle	5	EA	\$300.00	\$ 1,500.00
Benches 6' Length	10	EA	\$600.00	\$ 6,000.00
			SUBTOTAL	\$ 245,545.00
3 Landscaping				
Large Shade Tree	25	EA	\$350.00	\$ 8,750.00
Ornamental / Flowering Tree	25	EA	\$200.00	\$ 5,000.00
Evergreen Tree	50	EA	\$200.00	\$ 10,000.00
Shrubs-large	100	EA	\$50.00	\$ 5,000.00
Shrubs-med/small	100	EA	\$30.00	\$ 3,000.00
Ground Cover/perennial	1,200	EA	\$4.00	\$ 4,800.00
Annual	1,200	EA	\$2.00	\$ 2,400.00
Bed Preparation	50	CY	\$30.00	\$ 1,500.00
			SUBTOTAL	\$ 40,450.00
4 Athletic Fields				
Baseball Field (seeded) (Lump Sum)	2	EA	\$86,000.00	\$ 172,000.00
Softball Field (seeded) (Lump Sum)	1	EA	\$70,000.00	\$ 70,000.00
Soccer Field Single Pad (seeded) (Lump Sum)	0	EA	\$103,000.00	\$ -
Soccer Field large Pad (seeded) (Lump Sum)	0	EA	\$155,000.00	\$ -
Horse Shoe Pits	0	EA	\$1,000.00	\$ -
Sand Volleyball Courts	0	EA	\$2,500.00	\$ -
Basketball Courts	0	EA	\$5,000.00	\$ -
Press Box/ Concession Structure	1	EA	\$12,000.00	\$ 12,000.00
This does not include irrigation, sprigging or sod			SUBTOTAL	\$ 254,000.00
5 Recreation Facilities				
Multi-Use Pavilion	0	LS	\$80,000.00	\$ -
Picnic Shelter (Large)	1	EA	\$10,000.00	\$ 10,000.00
Picnic Shelter (Small)	0	EA	\$6,000.00	\$ -
Restroom/ Concession Building	1	EA	\$40,000.00	\$ 40,000.00
Tot Lot	0	LS	\$15,000.00	\$ -
Interpretive Signage	0	EA	\$1,000.00	\$ -
Picnic Tables	6	EA	\$750.00	\$ 4,500.00
			SUBTOTAL	\$ 54,500.00
6 Other Facilities				
Expanded Maintenance Facility (30'x60')	0	LS	\$400,000.00	\$ -
Dog Park	0	LS	\$85,000.00	\$ -
Vehicular Bridge 60' Length	0	EA	\$10,000.00	\$ -
Relocate Utility Poles	1	EA	\$5,000.00	\$ 5,000.00
			SUBTOTAL	\$ 5,000.00
			PHASE 6 TOTAL	\$ 881,507.50

SMITHLAND ROAD PARK PHASE 1					
UTILITY TAKEOFF 2004					
<u>Item No.</u>	<u>Description</u>	<u>Est. Quant.</u>	<u>Unit</u>	<u>UNIT PRICE</u>	<u>COST</u>
1	6" DISJ (CL52) WATER MAIN	290	LF	\$41.00	\$11,890.00
2	1" COPPER WATER SERVICE	270	LF	\$12.00	\$3,240.00
3	12" x 6" DIMJ TEE	1	EA.	\$494.00	\$494.00
4	6" DIMJ 45 DEG. BEND	1	EA.	\$142.00	\$142.00
5	6" DIMJ GATE VALVE w/BOX	1	EA.	\$505.00	\$505.00
6	ST'D FIRE HYDRANT	1	EA.	\$1,900.00	\$1,900.00
7	4" PVC SAN SEWER LATERAL	290	LF	\$20.00	\$5,800.00
8	SANITARY SEWER CLEANOUTS	2	EA.	\$88.00	\$176.00
			Phase 1	Sub Total :	\$24,147.00
SMITHLAND ROAD PARK PHASE 2					
UTILITY TAKEOFF 2004					
<u>Item No.</u>	<u>Description</u>	<u>Est. Quant.</u>	<u>Unit</u>	<u>UNIT PRICE</u>	<u>COST</u>
1	8" DIMJ (CL52) WATER MAIN	1,580	LF	\$47.00	\$74,260.00
2	12" x 8" DIMJ TEE	1	EA.	\$534.00	\$534.00
3	12" DIMJ GATE VALVE w/BOX	1	EA.	\$1,655.00	\$1,655.00
4	8" DIMJ GATE VALVE w/BOX	3	EA.	\$810.00	\$2,430.00
5	8" DIMJ 45 Deg. BEND	1	EA.	\$380.00	\$380.00
6	8" DIMJ 11 1/4 Deg. BEND	1	EA.	\$390.00	\$390.00
7	8" x 6" DIMJ TEE	2	EA.	\$450.00	\$900.00
8	DEAD END ANCHOR (Water Line)	1	EA.	\$300.00	\$300.00
9	6" DIMJ (CL 52) WATER MAIN	95	LF	\$41.00	\$3,895.00
10	6" DIMJ GATE VALVE w/BOX	3	EA.	\$500.00	\$1,500.00
11	6" x 6" DIMJ TEE	3	EA.	\$255.00	\$765.00
12	ST'D FIRE HYDRANT	2	EA.	\$1,000.00	\$2,000.00
13	1" COPPER WATER SERVICE	450	LF	\$12.00	\$5,400.00
14	1" WATER LINE TAPS	3	EA.	\$259.00	\$777.00
15	1" WATER METERS	3	EA.	\$222.00	\$666.00
16	48" Dia. MANHOLE, SANITARY	3	EA.	\$3,340.00	\$10,020.00
17	FRAME & COVER, SANITARY	3	EA.	\$230.00	\$690.00
18	6" PVC (SDR 35) SANITARY SEWER	1,020	LF	\$40.00	\$40,800.00
19	4" PVC (SDR 35) SANITARY SEWER	400	LF	\$20.00	\$8,000.00
20	SANITARY SEWER CLEANOUTS	2	EA.	\$88.00	\$176.00
			Phase 2	Subtotal:	\$192,438.00

SMITHLAND ROAD PARK PHASE 3					
UTILITY TAKEOFF 2004					
<u>Item No.</u>	<u>Description</u>	<u>Est. Quant.</u>	<u>Unit</u>	<u>UNIT PRICE</u>	<u>COST</u>
1	8" DISJ (CL52) WATER MAIN	1000	LF	\$47.00	\$47,000.00
2	8" DIMJ GATE VALVE w/BOX	3	EA.	\$810.00	\$2,430.00
3	8" DIMJ 22 1/2 Deg. BENDS	3	EA.	\$390.00	\$1,170.00
4	8" x 6" DIMJ REDUCER	1	EA.	\$258.00	\$258.00
5	6" DIMJ GATE VALVE w/BOX	1	EA.	\$505.00	\$505.00
6	ST'D. FIRE HYDRANT	1	EA.	\$1,900.00	\$1,900.00
7	1" WATERLINE TAP	1	EA.	\$259.00	\$259.00
9	1" WATER METER	1	EA.	\$222.00	\$222.00
14	1" COPPER WATER SERVICE	20	LF	\$12.00	\$240.00
15	48" Dia. MANHOLE, SANITARY	1	EA.	\$3,340.00	\$3,340.00
16	GRINDER PUMP, SANITARY (COMPLETE)	1	EA.	\$3,000.00	\$3,000.00
17	2" PVC PRESSURE PIPE FORCE MAIN	1100	LF	\$6.00	\$6,600.00
18	30" STEEL CASING PIPE	70	LF	\$147.00	\$10,290.00
19	BORING UNDER RAILROAD (COMPLETE)	1	LUMP SUM	\$55,000.00	\$55,000.00
			Phase 3	Subtotal	\$132,214.00
SMITHLAND ROAD PARK PHASE 4					
UTILITY TAKEOFF 2004					
<u>Item No.</u>	<u>Description</u>	<u>Est. Quant.</u>	<u>Unit</u>	<u>UNIT PRICE</u>	<u>COST</u>
1	8" x 8" DIMJ TEE	1	EA.	\$430.00	\$430.00
2	8" DIMJ GATE VALVE w/BOX	2	EA.	\$810.00	\$1,620.00
3	8" DIMJ 45 Deg. BENDS	3	EA.	\$380.00	\$1,140.00
4	8" DISJ (CL52) WATER MAIN	1200	LF	\$47.00	\$56,400.00
5	8" x 6" DIMJ Tee	1	EA.	\$450.00	\$450.00
6	6" DIMJ GATE VALVE w/BOX	1	EA.	\$505.00	\$505.00
7	ST'D FIRE HYDRANT	1	EA.	\$1,900.00	\$1,900.00
8	1" WATER LINE TAP	1	EA.	\$259.00	\$259.00
9	1" WATER METER	1	EA.	\$222.00	\$222.00
10	1" COPPER WATER SERVICE	80	LF	\$12.00	\$960.00
11	48" Dia. MANHOLE, SANITARY	1	EA.	\$3,340.00	\$3,340.00
12	GRINDER PUMP, SANITARY (COMPLETE)	1	EA.	\$3,000.00	\$3,000.00
13	2" PVC PRESSURE PIPE FORCE MAIN	1000	LF	\$6.00	\$6,000.00
			Phase 4	Subtotal	\$76,226.00
		PHASE 1,2,3,4	UTILITY	TOTAL	\$425,025.00

Appendix 2

Utility Plans

Appendix 3

Master Plan Sheets

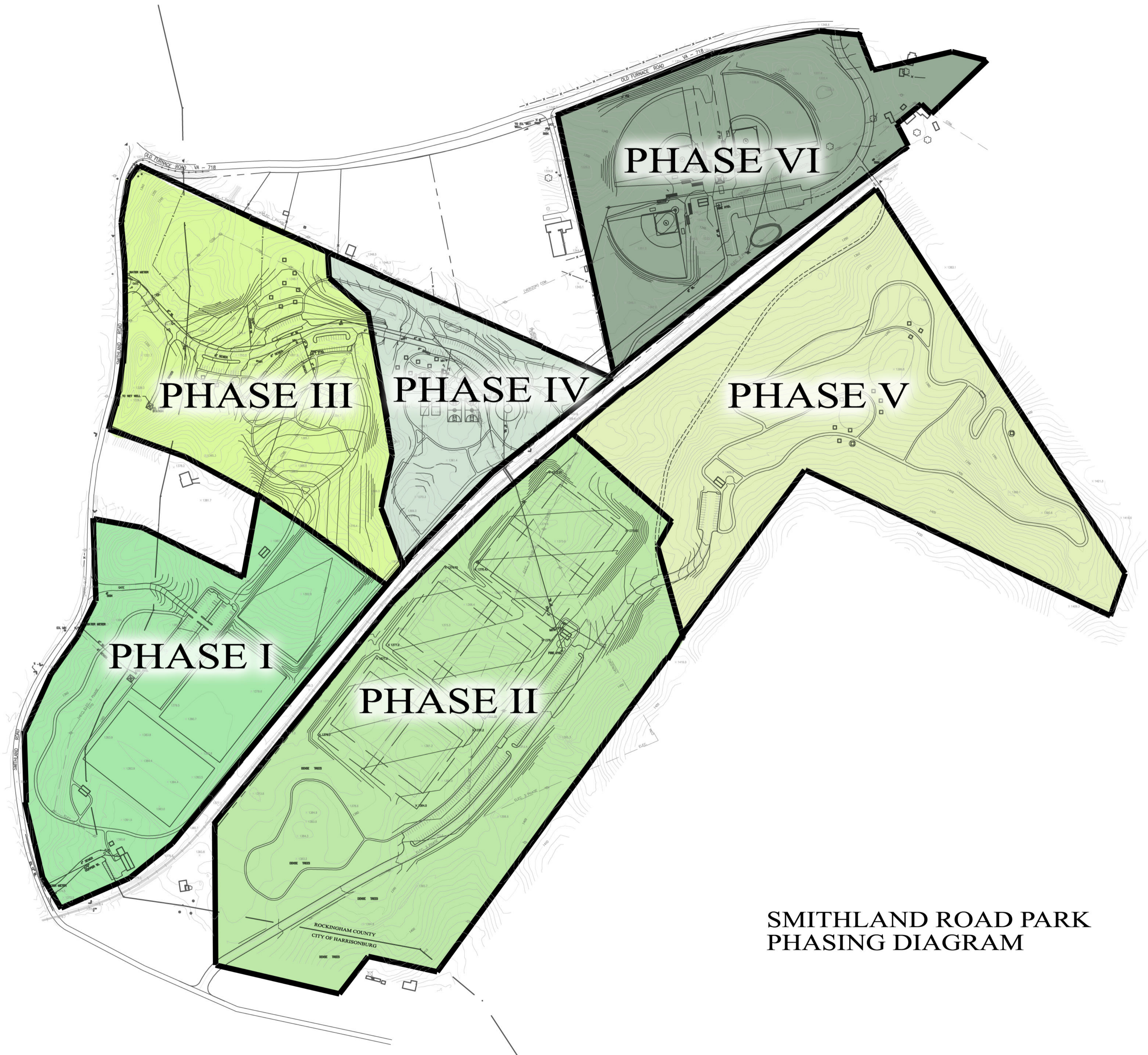
Smithland Road Park

Harrisonburg, Virginia

Legend

- A** 2 Baseball Fields
1 Little League Field
Restrooms
1 Picnic Shelter
78 Parking
- B** 7 Picnic Areas
4 Horse Shoe Pits
Restrooms
Tot Lot
2 Sand Volleyball Courts
2 Basketball Courts
Disc Golf
Walking/ Jogging Trails
72 Parking
Concessions
- C** Event Pavilion 75'x120' (9,000 s.f.)
Event lawn
Tot Lot
90 Parking
Overflow Parking (approx. 100)
- D** Dog Park
10 Picnic Areas
34 Parking
Pump Station
- E** 1 Soccer Field
2 Existing Soccer Fields
Concessions/ Restrooms
1 Picnic Shelter
Existing Parking
Walking/ Jogging Trails
- F** Expanded Maintenance Facilities (1,800 s.f. addition)
Expanded Maintenance Parking (11 spaces)
1 Picnic Shelter
- G** 2 Soccer/ Football Field Pads
Walking/ Jogging Trails
194 Parking
- H** 1 Soccer/ Football Field Pads
1 Picnic Shelter
Restrooms
Tot Lot
- I** Trail Head
30 Parking
Tot Lot
- J** Walking/ Jogging Trails
Woodland Interpretive Area
Valley Topography & Geology Interpretive Area
10 Picnic Areas
Community Gardens
Grass & Wildflower Meadows
Potential Camping Area





PHASE I

PHASE III

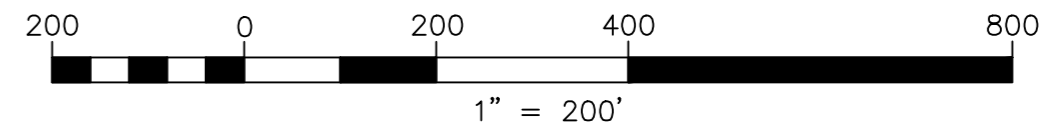
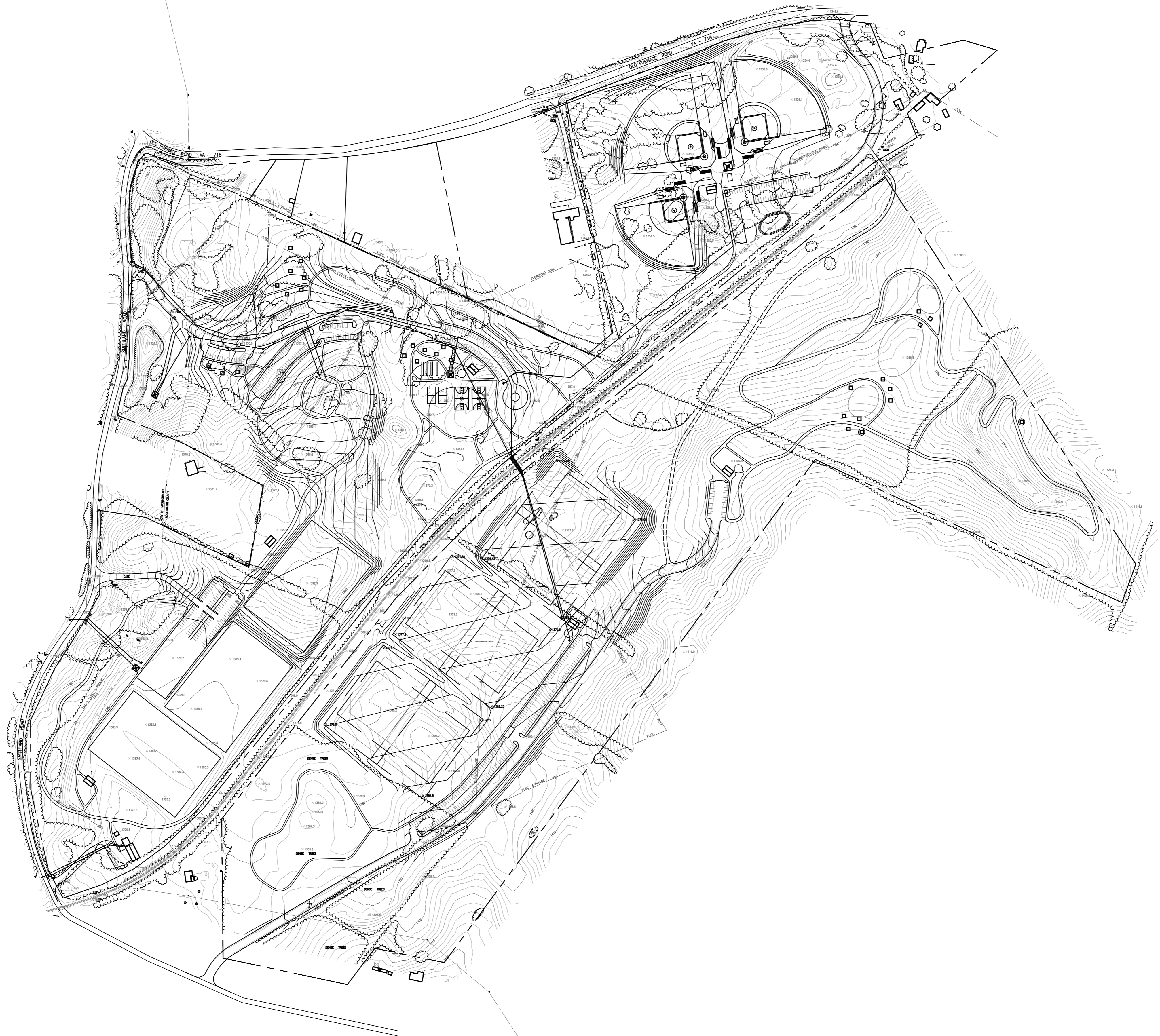
PHASE II

PHASE IV

PHASE VI

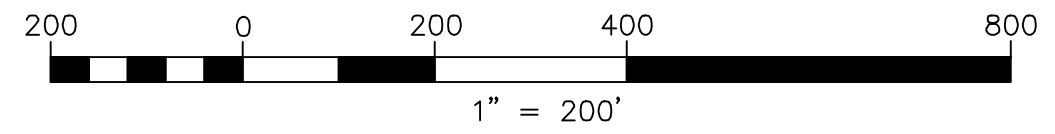
PHASE V

SMITHLAND ROAD PARK
PHASING DIAGRAM

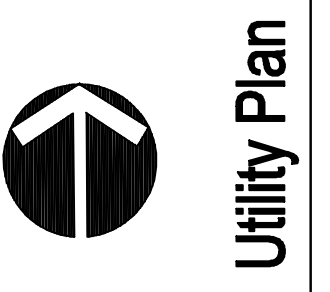


REVISIONS	BY

	Master Plan
<h1>Smithland Road Park</h1>	
Project Name Harrisonburg, Va	
LPDA, Inc. LAND PLANNING & DESIGN ASSOCIATES, INC. <small>LANDSCAPE ARCHITECTURE + LAND PLANNING</small> 310 East Main Street, Suite 200 Charlottesville, Virginia 22902 434.296.2108 Fax: 434.296.2109 www.lpda.net	
LPDA	
DATE: 8-04-04 SCALE: 1"=200' DRAWN BY: RD TITLE: Smithland Road Park Master Plan SHEET NO:	
<h2>MP-1</h2>	
. OF SHEETS	



REVISIONS	BY
XXX X, XXXX	XX



Utility Plan

Smithland Road Park

Project Name
Harrisonburg, Va

LPDA, Inc.
LAND PLANNING & DESIGN ASSOCIATES, INC.
LANDSCAPE ARCHITECTURE + LAND PLANNING
310 East Main Street, Suite 200
Charlottesville, Virginia 22902
434.296.2108 Fax: 434.296.2109
www.lpda.net

LPDA

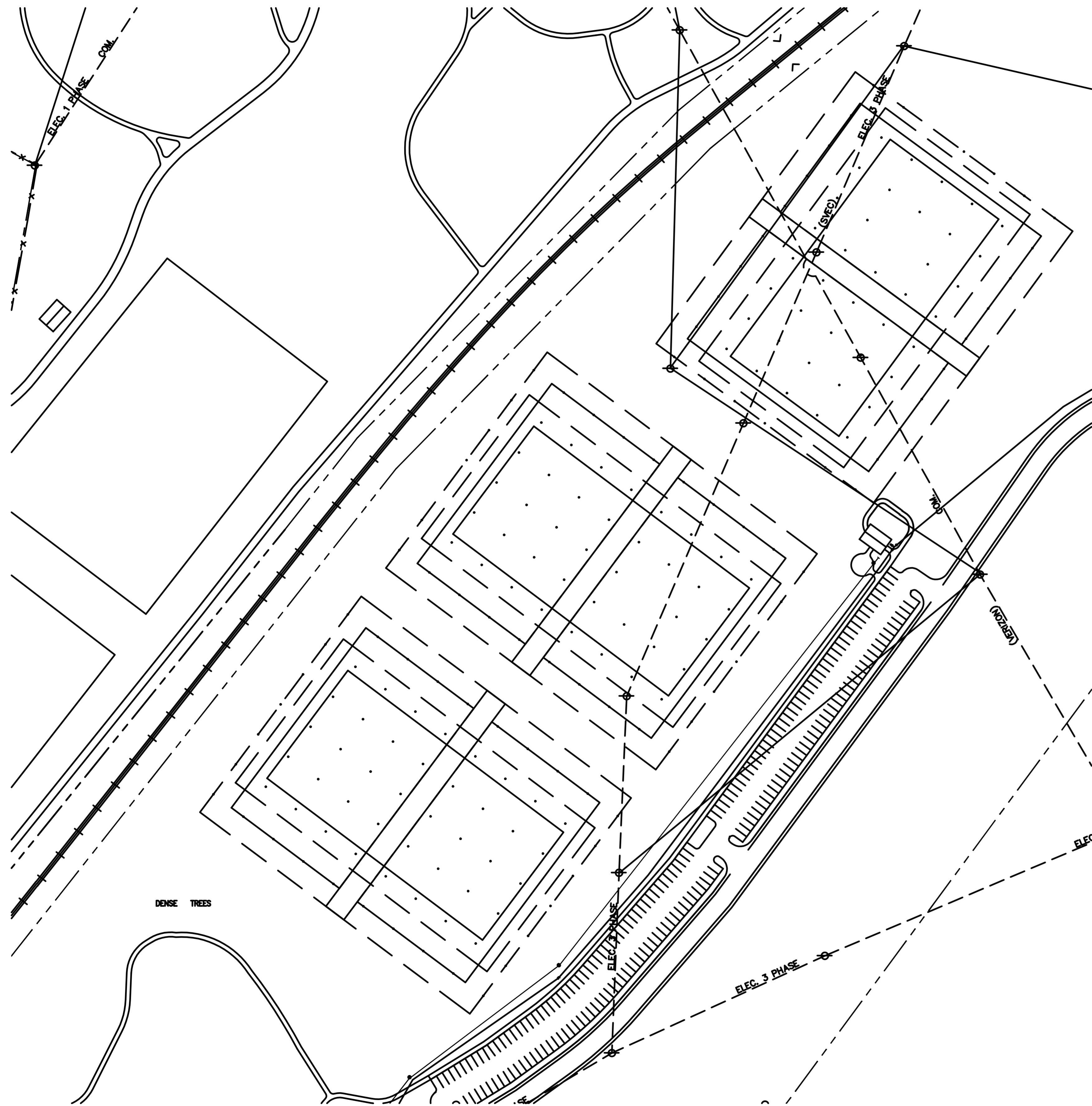
DATE: 3-24-04
SCALE: 1"=200'
DRAWN BY: RD
TITLE: Smithland Road Park Utility Plan
SHEET NO:

UT-1

OF SHEETS

Appendix 4

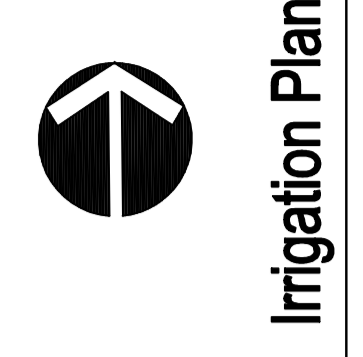
Irrigation Plan Sheets



IRRIGATION LEGEND

- TORO 640-02-42 GEAR DRIVE SPRINKLER HEAD
- △ TORO S800 SERIES GEAR DRIVE SPRINKLER HEAD
- TORO 1" QUICK COUPLING VALVE (474-00)

REVISIONS	BY
xxx x, xxxx	xxx



Smithland Road Park

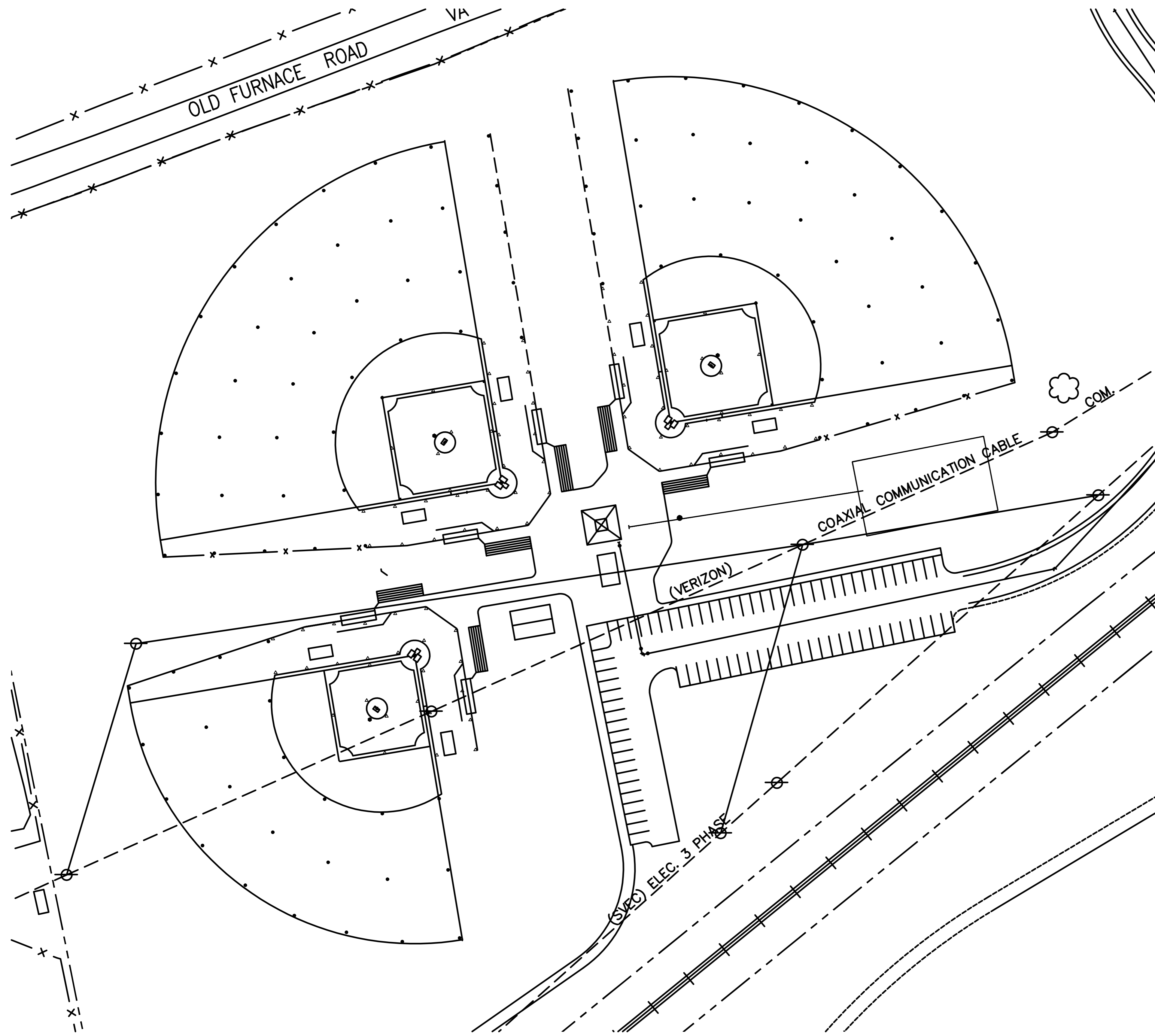
Project Name
Harrisonburg, Va

LPDA, Inc.
LAND PLANNING & DESIGN ASSOCIATES, INC.
LANDSCAPE ARCHITECTURE + LAND PLANNING
310 East Main Street, Suite 200
Charlottesville, Virginia 22902
434.296.2108 Fax: 434.296.2109
www.lpda.net

LPDA

DATE:	4/1/04
SCALE:	1"=80'
DRAWN BY:	RD
TITLE:	Smithland Road Park Master Plan
SHEET NO:	IR-1

STI SMITH TURF & IRRIGATION CO.
P.O. BOX 6327 • RICHMOND, VIRGINIA • 23230
TORO (804) 355-6404 • DISTRIBUTORS • (800) 752-7931

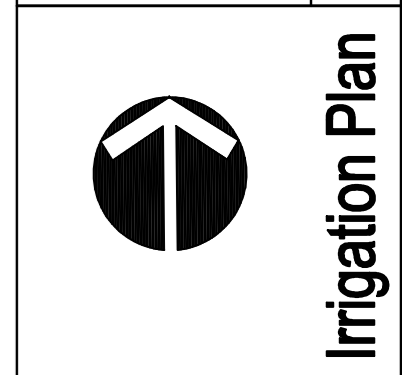


IRRIGATION LEGEND

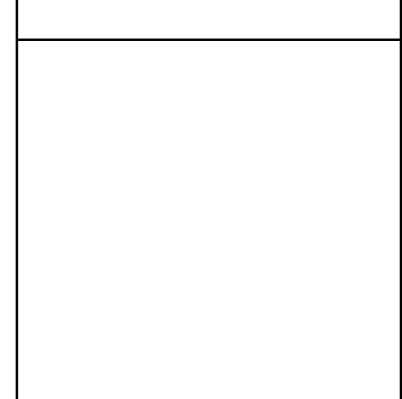
- TORO 640-02-42 GEAR DRIVE SPRINKLER HEAD
- △ TORO S800 SERIES GEAR DRIVE SPRINKLER HEAD
- TORO 1" QUICK COUPLING VALVE (474-00)

REVISIONS	BY
xxx x, xxx	xxx

--	--



Smithland Road Park
 Project Name
 Harrisonburg, Va



LPDA, Inc.
 LAND PLANNING & DESIGN ASSOCIATES, INC.
 LANDSCAPE ARCHITECTURE + LAND PLANNING
 310 East Main Street, Suite 200
 Charlottesville, Virginia 22902
 434.296.2108 Fax: 434.296.2109
 www.lpda.net

LPDA
 DATE: 4/1/04
 SCALE: 1"=50'
 DRAWN BY: RD

TITLE: Smithland Road Park Master Plan
 SHEET NO: IR-2
 OF SHEET

STI SMITH TURF & IRRIGATION CO.
 P.O. BOX 6327 • RICHMOND, VIRGINIA • 23230
 TORO (804) 355-6404 • DISTRIBUTORS • (800) 752-7931