

**Town of Castle Rock
Synthetic Turf Project
50% Completion Report
October 2008**

Grant Recipient: Town of Castle Rock
 175 Kellogg Court
 Castle Rock, Colorado 80109

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As described in the Application for Water Efficiency Grant, the Town of Castle Rock (Castle Rock), in partnership with the Douglas County School District (DCSD), is installing a synthetic turf field at the new Elementary School #45 instead of an irrigated natural turf field. This will assist Castle Rock in meeting its goals for significantly reducing current and future per-capita water demands.

This 50% Completion Report document is in partial fulfillment of CWCB's Water Efficiency Grant Program requirements. A summary of the project status, success of meeting identified goals and objectives, preliminary findings and obstacles, and project modifications are discussed below. Construction phase photos are included at the end of this report.

Project Status

Castle Rock has completed the following tasks as of September 2008:

- Completion of final design documents and construction specifications (Task 1);
- Contractor selection and initial Project Management (Task 2); and,
- Initial construction activities, including mobilization, grading, site preparation and base installation (Task 3).

Castle Rock plans to complete the rest of Task 3 (Construction) including closeout by the end of October 2008. Administrative tasks (Task 2 – Project Management; Task 4 – Public Education; and Task 5 – Status Reports) will be completed based on the revised schedule in Table 1. The bullets below provide more information on each in-progress task and any necessary schedule revisions.

- Task 2 includes Contractor Selection and Project Management. This task was scheduled to be completed by the beginning of August 2008. The schedule for the Project Management portion of Task 2 is dependent upon the overall construction schedule. Since overall construction was delayed by 2 months, project closeout is also delayed, hence this task is behind the milestone deadline originally anticipated.

- Task 3 includes construction of the synthetic turf field including mobilization of equipment, grading, utility connections, site preparation, installation of the synthetic turf field, and demobilization. This task was scheduled for completion by the beginning of August 2008. Since overall construction was delayed by 2 months, completion of this task has been delayed past the milestone deadline originally anticipated.
- Task 4 includes distributing information to the public regarding the synthetic turf field and water savings benefits. This information will be distributed using various methods (posted signs, water conservation website, local TV shows, local newspaper, and water wise community classes). This task was scheduled for completion by August 2008. Since overall construction was delayed by 2 months, completion of this task has been delayed past the milestone deadline originally anticipated.
- Task 5 includes the completion of 50%, 95%, and final completion reports per CWCB Water Efficiency Grant Requirements. This 50% status report was scheduled for completion by the end of May 2008; the 95% status report by the end of June 2008; and, the final completion report by August 2008. As with the other tasks, construction has been delayed requiring a revised milestone deadline schedule.

| Table 1: Project Schedule | | | |
|--|---|---|--|
| Task | Sub-Task | Anticipated Completion Disclosed in the Application for Water Efficiency Grant | Status and Revised Anticipated Completion |
| Complete Synthetic Turf Design | N/A | End of November 2007 | Completed; |
| Bid Process and Contractor (s) Selection | Complete Bidding Process | Middle of January 2008 | Completed; |
| Construction | Contractor Mobilization | Beginning of February 2008 | Completed; |
| | Completion of Grading and Utilities | End of April 2008 | Completed; |
| 50% Completion Report to CWCB | n/a | End of May 2008 | End of October 2008 |
| Construction | Completion of the synthetic turf field installation | End of June 2008 | September 2008 |
| 95% Completion Report to CWCB | n/a | End of June 2008 | Mid-November 2008 |
| Construction | Project Closeout | Beginning of August 2008 | End of October 2008 |
| Public Education | Information on Project Distributed to the Public | August 2008 | October 2008 |
| Final Completion Report is submitted to CWCB | n/a | August 2008 | End of September 2009 |

Goals and Objectives

Castle Rock has met their goals and objectives in installing the synthetic turf field prior to the 2008 school season and will spend the next year addressing additional project goals and objectives including:

- Reducing average water consumption 18 percent over 5-year average use (165 to 135 gpcd);
- Reducing peak water consumption; and,
- Preserving/enhancing Castle Rock's landscape architecture.

The final completion report will provide more documentation on how this project is helping Castle Rock meet these goals.

Preliminary Findings and Obstacles

No major obstacles were encountered in completing the design and contractor selection. Initial installation has been completed and no obstacles are anticipated to delay installation of the final synthetic turf field components and completion of the public education task.

Project Modifications

Two project modifications have been necessary: (1) changes to the schedule; and, (2) changes to the budget. Changes to the schedule reflect the amount of time necessary to implement construction, and only slightly modify (by a maximum of two months) the original schedule. Budget modifications reflect the difference in CWCB grant amount originally requested (\$86,013) versus the amount actually granted (\$20,000).

Additionally, budget modifications include a shift in Castle Rock Water Conservation Specialist and Utilities Program Analyst hours from design to education. Design of the project was anticipated to require additional input from these two staff members; however, their input was not necessary. Therefore, these staff hours were shifted to the education task. The budget spreadsheet submitted with this report reflects these changes.

Summary

Castle Rock has successfully completed design, contractor selection, and initial installation of the synthetic turf field. Although construction was not started until July 2008, Castle Rock does not anticipate any significant delays in project completion.

Town of Castle Rock
Estimated Level of Effort and Cost
Elementary School #45 Artificial Turf Installation

| Estimate of Costs | | | | | | | | | | | | | | | | | | | | |
|-------------------|---|--|---------------------|----------------------------------|----------------------------|-----------------------------|-----------------------------------|---------------------------|---------------------|---------------------|----------------------------------|-------------------|-------------------|-----------------|---------------------|-------------------------|-------------------------------|--------------------------------|--------------------------------------|------------------|
| Task | Description | Design Consultants | | Construction Contractor(s) | DCSD Staff Hours and Costs | | Castle Rock Staff Hours and Costs | | | | | | | Funding Sources | | | | | | |
| | | Design Concepts and Landscape Architects | JVA Civil Engineers | Labor and Materials ¹ | Project Manager Hours | Project Manager Labor Costs | Water Conservation Specialist | Utilities Program Analyst | Park Superintendent | Community Relations | Parks Maintenance Superintendent | Total Staff Hours | Staff Labor Costs | CWCB Grant | Recycled Tire Grant | DCSD Match (Cash Funds) | DCSD Match (In-kind Services) | Castle Rock Match (Cash Funds) | Castle Rock Match (In-kind Services) | Total |
| | Rate/hour | n/a | n/a | n/a | \$36.00 | n/a | \$33.65 | \$40.26 | \$33.65 | \$32.45 | \$42.67 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 1.0 | Design | \$7,881 | \$15,386 | \$0 | 60 | \$2,160 | 20 | 20 | 20 | 0 | 0 | 60 | \$2,151 | \$0 | \$0 | \$11,633 | \$2,160 | \$11,634 | \$2,151 | \$27,578 |
| 2.0 | Contractor Selection and Project Management | \$0 | \$0 | \$0 | 40 | \$1,440 | 20 | 20 | 450 | 0 | 60 | 550 | \$19,181 | \$0 | \$0 | \$0 | \$1,440 | \$0 | \$19,181 | \$20,621 |
| 3.0 | Construction | \$0 | \$0 | \$344,050 | 0 | \$0 | 0 | 0 | 0 | 0 | 0 | 0 | \$0 | \$20,000 | \$37,000 | \$129,019 | \$0 | \$158,031 | \$0 | \$344,050 |
| 4.0 | Public Education | \$0 | \$0 | \$0 | 0 | \$0 | 50 | 50 | 10 | 80 | 0 | 190 | \$6,628 | \$0 | \$0 | \$0 | \$0 | \$0 | \$6,628 | \$6,628 |
| Total | | \$7,881 | \$15,386 | \$344,050 | 100 | \$3,600 | 90 | 90 | 480 | 80 | 60 | 800 | \$27,960 | \$20,000 | \$37,000 | \$140,652 | \$3,600 | \$169,665 | \$27,960 | \$398,877 |

| Expenditures as of August 25, 2008 | | | | | | | | | | | | | | | | | | | | |
|------------------------------------|---|--|---------------------|----------------------------------|----------------------------|-----------------------------|-----------------------------------|---------------------------|---------------------|---------------------|----------------------------------|-------------------|-------------------|-----------------|---------------------|-------------------------|-------------------------------|--------------------------------|--------------------------------------|------------------|
| Task | Description | Design Consultants | | Construction Contractor(s) | DCSD Staff Hours and Costs | | Castle Rock Staff Hours and Costs | | | | | | | Funding Sources | | | | | | |
| | | Design Concepts and Landscape Architects | JVA Civil Engineers | Labor and Materials ¹ | Project Manager Hours | Project Manager Labor Costs | Water Conservation Specialist | Utilities Program Analyst | Park Superintendent | Community Relations | Parks Maintenance Superintendent | Total Staff Hours | Staff Labor Costs | CWCB Grant | Recycled Tire Grant | DCSD Match (Cash Funds) | DCSD Match (In-kind Services) | Castle Rock Match (Cash Funds) | Castle Rock Match (In-kind Services) | Total |
| | Rate/hour | n/a | n/a | n/a | \$36.00 | n/a | \$33.65 | \$40.26 | \$33.65 | \$32.45 | \$42.67 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 1.0 | Design | \$0 | \$0 | \$0 | 60 | \$2,160 | 0 | 0 | 20 | 0 | 0 | 20 | \$673 | \$0 | \$0 | \$0 | \$2,160 | \$0 | \$673 | \$2,833 |
| 2.0 | Contractor Selection and Project Management | \$0 | \$0 | \$0 | 40 | \$1,440 | 0 | 0 | 300 | 0 | 30 | 330 | \$11,375 | \$0 | \$0 | \$0 | \$1,440 | \$0 | \$11,375 | \$12,815 |
| 3.0 | Construction | \$0 | \$0 | \$0 | 0 | \$0 | 0 | 0 | 0 | 0 | 0 | 0 | \$0 | \$0 | \$0 | \$128,019 | \$0 | \$158,031 | \$0 | \$286,050 |
| 4.0 | Public Education | \$0 | \$0 | \$0 | 0 | \$0 | 15 | 15 | 10 | 10 | 0 | 50 | \$1,770 | \$0 | \$0 | \$0 | \$0 | \$0 | \$1,770 | \$1,770 |
| Total | | \$0 | \$0 | \$0 | 100 | \$3,600 | 15 | 15 | 330 | 10 | 30 | 400 | \$13,818 | \$0 | \$0 | \$128,019 | \$3,600 | \$158,031 | \$13,818 | \$303,468 |



**Town of Castle Rock - Synthetic Turf
Project**

Photograph No.: 1

Description: Synthetic Turf Field Site Grading and Base Preparation

Date: July 17, 2008



**Town of Castle Rock - Synthetic Turf
Project**

Photograph No.: 2

Description: Synthetic Turf Field Site Grading and Base Preparation

Date: July 17, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 3

Description: Synthetic Turf Field Base Preparation

Date: July 22, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 4

Description: Synthetic Turf Field Base Preparation

Date: July 22, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 5

Description: Synthetic Turf Field Compaction

Date: August 6, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 6

Description: Synthetic Turf Field Compaction

Date: August 6, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 7

Description: Synthetic Turf Field Final Base Preparation

Date: August 13, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 8

Description: Synthetic Turf Field Final Base Preparation

Date: August 13, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 9

Description: Synthetic Turf Installation

Date: August 20, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: 10

Description: Synthetic Turf Installation

Date: August 20, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: **11**

Description: Synthetic Turf Installation

Date: August 20, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: **12**

Description: Synthetic Turf Installation

Date: August 20, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: **13**

Description: Synthetic Turf Installation

Date: August 20, 2008



Town of Castle Rock - Synthetic Turf Project

Photograph No.: **14**

Description: Synthetic Turf Installation

Date: August 20, 2008