

# Practice Problem – Section E

## PROBLEM STATEMENT:

Prepare a grading plan for a proposed parking lot and driveway utilizing biofiltration swales to treat the majority of on-site runoff before entering the subsurface drainage system.

## CONTEXT:

- Existing drain inlet #2 (D.I. #2) rim elevation can be modified as necessary.
- Bioswales are graded at a 2% longitudinal slope to minimize erosion and allow for maximum filtering of contaminants.

## REQUIRED:

- Show all required spot elevations to the nearest 1/100th of a foot in the boxes provided.
- Gradients on all paved surfaces shall be 1% minimum and 5% maximum.
- The proposed parking lot is not curbed. Minimize runoff from unpaved surfaces flowing onto paved surfaces. No more than 10% of the unpaved surface may flow onto a paved surface.
- Drainage swales will be used for water quality purposes and shall be at least 6" deep. Swales must be shown at a 2% longitudinal grade.
- There shall be a minimum of 2' of cover over pipes.
- Gradient on all unpaved surfaces other than biofiltration swales shall be 2% minimum and 3:1 (33%) maximum.
- Show and label all proposed 1' contours and meet existing contours within the contract limit lines.
- No additional retaining walls or drainage structures are permitted.

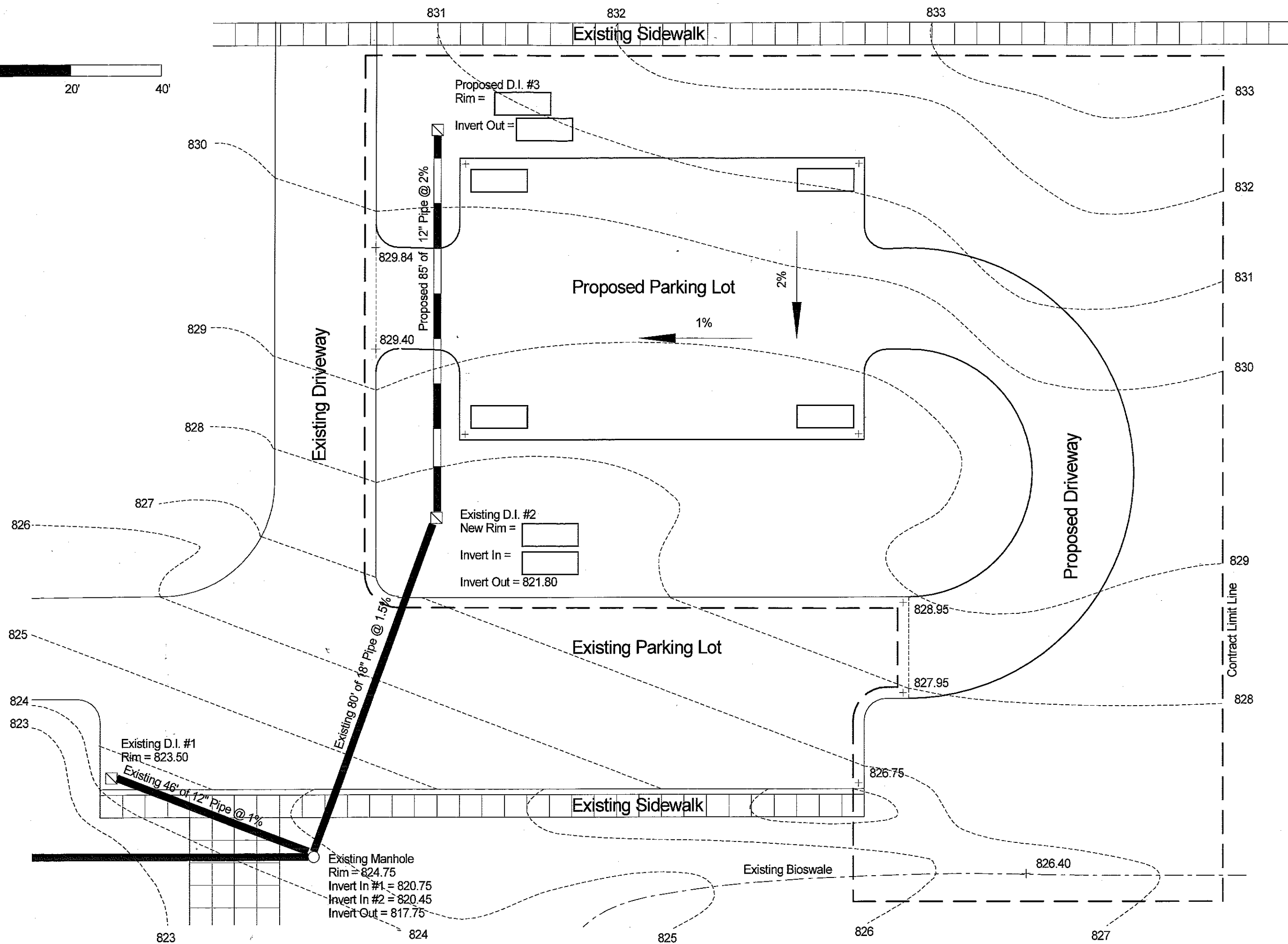
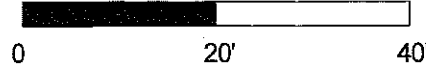
E-6

April 2011


Candidate I.D.

Landscaping Architect Registration Examination  
**Grading, Drainage and  
Stormwater Management**

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Scale: 1"=20'