

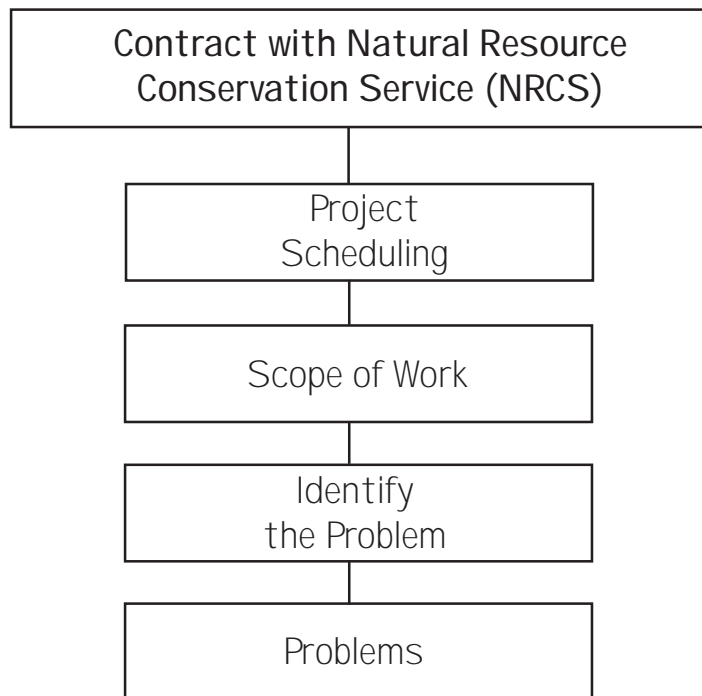
PRIMARY USE: Reduction of sediments and other pollutants from stormwater runoff.
ADDITIONAL USES: Reduction of erosion on site; improvement of appearance at the site.

CONSTRUCTION SEQUENCE

What is it? A non-structural practice which consists of following a specified work sequence that coordinates the timing of land disturbing activities and the installation of control measures to minimize the impact of the activity on the environment.

Purpose

It is perhaps the most cost effective method to control erosion and pollution during construction.



Project Flow Chart

Limitations

Requires planning and scheduling of activities.

Materials

This is a non-structural practice.

Installation

Start by outlining all land disturbing activities necessary to complete the project. Then list all practices needed to control erosion and sedimentation on the site. The two lists can then be combined to provide a practical and effective construction sequence schedule.

Source: NRCS Planning & Design Manual, NRCS.

CONSTRUCTION SEQUENCE

1. Construction access is normally the first land disturbing activity. Exercise care not to damage valuable trees or disturb designated buffer zones. Next, install principal sediment basins and traps before any major site grading takes place. Erect additional sediment traps and sediment fences as grading takes place to keep sediment contained on-site.
2. Locate key runoff control measures in conjunction with sediment traps to divert water from planned undisturbed sites out of the traps and sediment laden water into the traps. Install diversions above areas to be disturbed prior to grading. Place necessary perimeter dikes with stable outlets before opening major areas for development. Install additional runoff control measures as needed as grading progresses.
3. Install the main runoff conveyance system with inlet and outlet protection devices early, and use it to convey storm runoff through the development site without creating gullies and washes. Install inlet protection for storm drains as soon as the drain is functional to trap sediment on-site in shallow pools and to allow flood flows to safely enter the storm drainage system. Install outlet protection at the same time as the conveyance system to prevent damage to the receiving stream.
4. Install stream stabilization, including necessary stream crossings, as early as possible. It is usually best to schedule this work as soon as weather conditions permit. Site clearing and project construction increases storm runoff, often making stream bank stabilization more costly and difficult.
5. Begin land clearing and grading as soon as key erosion and sediment control measures are in place. Once a scheduled development area is cleared, grading should follow immediately so that protective ground cover can be reestablished quickly. Do not leave any area bare and exposed for extended periods. Leave adjoining areas planned for development, or to be used for borrow or disposal, undisturbed for as long as possible to serve as natural buffer zones.
6. Runoff control is essential during the grading operation. Diversions, slope drains, and outlet protection installed in a timely manner can be very effective in controlling erosion during this critical period of development.
7. Immediately after land clearing and grading, apply surface stabilization on graded areas, channels, dikes, and other disturbed areas. Stabilize any disturbed area where active construction will not take place for 30 working days by temporary seeding and/or mulching or by other suitable means. Install permanent stabilization measures immediately after final grading. Temporary seeding and/or mulching may be necessary if weather conditions deteriorate, with permanent measures delayed temporarily.
8. Coordinate building construction with other development activities so that all work can take place in an orderly manner and on schedule. Careful project scheduling improves efficiency, reduces cost, and lowers the potential for environmental problems.
9. Landscaping and final stabilization is the last major construction phase. All disturbed areas should have permanent measures applied. Unstable sediment should be removed from sediment basins and traps. All temporary structures should be removed after permanent structures are in place and stabilized. Borrow/disposal areas should be permanently vegetated or otherwise stabilized.

CONSTRUCTION SEQUENCE

Contract with Natural Resource
Conservation Service (NRCS)

Project Flow Chart

Project
Scheduling

Develop a Flow Chart

Scope of Work

Develop:

- A. A landscape analysis process for urban and suburban areas - both developed and undeveloped oriented toward identifying sensitive areas of the landscape, and...
- B. Develop an array of techniques to reduce the impacts of the built landscape on the natural landscape.

Identify
the Problem

Communities and individuals need to be aware of the interaction of the natural systems in the landscape, and they need to be able to make planning, design, and development decisions that will protect and enhance those interactive natural systems in the landscape.

Problems Include:

- Increased stream scouring
- Sedimentation in streams
- Nutrient enrichment in streams
- Reduction/elimination of riparian zone
- Increased erosion
- Rapid runoff creates drier landscape
- Toxic metals/chemicals in stream
- Reduced biodiversity - cluster development allows more room for nature and wildlife
- Too many paved surfaces
- Heat island effect created
- Reduction/elimination of natural materials back into the landscape
- Over-maintaining reduces plant and animal habitat