

SUBPART B - PRECONSTRUCTION ACTIVITIES

ND512.11(c)(5)

§ND512.10 Selection of Contractor.

Preliminary plans for a construction job should be field checked to see if they focus on how adequately the plans and specifications reflect the "now" conditions at the site. It should not be necessary to check steel and concrete quantities or earthwork quantities. These quantities are routinely checked during the design process. The plan should be checked for clarity of detail when unusual or new features are included,

Some of the items to be checked should include:

- (1) Will the proposed work fit within the land rights area(s)?
- (2) Have there been changes that would influence construction and construction costs?
 - (a) Existing buildings removed.
 - (b) New buildings added.
 - (c) Utilities added or removed.
 - (i) Overhead.
 - (ii) Underground.
 - (d) Overhead utility pole location changed.
 - (e) Fences added or removed.
 - (f) Wells on site.
 - (g) Has formerly standing timber been cleared, logged, etc?
 - (h) Has land use changed?
- (3) Is the planned construction access still available?

§ND512.11(c) Preconstruction activities.

Items for discussion at site showing.

- (1) Describe level of concrete finish required.
- (2) Describe level of earthwork finish required.
- (3) Tell what compaction requirements are.
- (4) Required safety features (compliance OSHA).
- (5) Equipment parking.

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ND512.11(c)(9)

- (6) Spoil disposal.
- (7) Mode of timber disposal if as directed by engineer.
- (8) Any other items "as directed by engineer", tell what you anticipate.
- (9) Review riprap and bedding requirements.

Conduct the site showing in a strong positive manner. Tell the prospective contractors what is required and what you expect. The prospective bidder may have questions that he is reluctant to ask because they might alert others to his bidding plan. The prospective bidder may also be reluctant to ask questions for fear of appearing stupid.

The contractor is entitled to know and will find out one way or another what you think the plans and specifications say. It is preferable to achieve understanding even before the bid is submitted rather than to fight it out later.

The site showing is an excellent opportunity to establish yourself as the responsible, take charge, individual who will be in control of the project on a day by day basis.

ND512-3(2)

PART 512 – CONSTRUCTION
SUBPART C – EVALUATION OF CONSTRUCTION MATERIALS

ND512.20 General

The term “used materials” in this policy refers to materials or equipment that were previously in service for other than the conservation practice under consideration. Approvals for used materials in conjunction with Farm Bill Program Contracts must be secured prior to installation and meet all requirements within NRCS Title 440- Conservation Programs Manual. Used materials may only be approved when they have been in-service for less than 50 percent of the practice lifespan.

- (1.) Used materials of the types listed below are allowed in the installation of conservation practices, if an NRCS employee with adequate engineering job approval authority attests to their adequate performance and expected lifespan:
 - i. Used oil field drill stem under conditions of the NRCS Specification for Fence (CPS 382) or Livestock Shelter (CPS 576) Practices.
 - ii. Used heavy equipment tire troughs for Watering Facility (CPS 614) practices.
 - iii. Used steel storage tanks for Watering Facility (CPS 614) practices, under the conditions for cleaning described in (4) or (5) of this supplement.
 - iv. Used railroad ties or electrical poles under the conditions of the NRCS Specification for Fence (CPS 382) or Livestock Shelter (CPS 576) Practices.
 - v. Used steel guard rail under the conditions of the NRCS Specification for Fence (CPS 382) or Livestock Shelter (CPS 576) Practices.
 - vi. Used gated pipe for Vegetated Treatment Area (CPS 635) or Waste Transfer (CPS 634) Practices.

- (2.) Used materials of the types listed below are allowed in the installation of conservation practices, with approval of the Area Engineer:
 - i. Used center pivots or linear move systems for Sprinkler System (442), Vegetated Treatment Area (635), or Waste Transfer (634) practices. Requires completion of ND-ENG-442 certification form.
 - ii. Used wheel lines for Sprinkler System (442), Vegetated Treatment Area (635), or Waste Transfer (634) practices. Requires completion of ND-ENG-442 certification form.
 - iii. Used timber, steel, or reinforced concrete materials utilized for non-structural components of conservation practices.
 - iv. Used corrugated steel, precast concrete, or high density polyethylene culvert material utilized for Spring Development (CPS 574) practices.
 - v. Used troughs or storage tanks for Watering Facility (CPS 614) practices, not covered under Section (1) of this Supplement.

- (3.) The following used materials are specifically excluded from use in the installation of conservation practices:
 - i. Timber, concrete, or steel components designed for structural loads such as beams, rafters, purlins, poles, and trusses.
 - ii. Flexible hoses and couplers

- iii. Sprinkler heads
- iv. Valves and meters
- v. Below ground pipe (PVC, HDPE, steel)
- vi. Pumps and manure agitation equipment
- vii. Fence wire
- viii. Electrical equipment
- ix. CMP or HDPE culvert materials for Structure for Water Control (CPS 587), Pond (CPS 378), or Grade Stabilization (CPS 410) Practices.
- x. Used material that has contained or been in contact with hazardous materials (flammable, reactive, radioactive, or toxic) where residue cannot be removed to a degree that will not present a hazard.

(4.) Used steel petroleum and fertilizer tanks, or railroad tankers removed from service, may be utilized for water storage tanks under CPS 614 Watering Facilities, in accordance with the following provisions:

- i. Structural. The tank should be structurally sound to withstand the stresses of transporting and installation at the new site. Where corrosion is apparent, random thickness or pitting depth measurements may be needed to assure the tank will meet the required service life for the practice.
- ii. Minimum cleaning requirements for tanks having contained harmful contents. Used tanks may contain flammable, explosive, or toxic residues in the form of liquids, sludge, dust, scale, vapors, hydrogen sulfide, leaded gasoline, petroleum, welding fumes, lead-based paints, or other chemical hazards.
 - a. A qualified, professional cleaner, who follows American Petroleum Institute (API) Standard 2015, is required to clean the used tank. The qualified person should determine which toxic substance(s) are likely to be present in the tank.
 - b. The tank needs to be large enough for access during the cleaning process. API Standard 2015 provides the necessary guidance for safe entry and cleaning of the petroleum storage tanks.
 - c. All sludge or loosely adherent materials must be removed from inside the tank.
 - d. The tank shall be steam cleaned and pressure washed with detergent with at least 180-degree water at 300 psi. The tank must be rinsed with clean water at least 180 degrees at 300 psi for at least 60 minutes.
 - e. In the case of used petroleum storage tanks, the tank will be filled with water for a minimum of 48 hours and then tested for Total Petroleum Hydrocarbons (TPH) in accordance with test Method 801 Modified. The tank may not be approved for

stockwater unless the Gasoline Range Organics (GRO) and the Diesel Range Organics (DRO) are no greater than 0.

- (5.) Water Quality Testing. If it cannot be determined that a tank has been cleaned as described above, and it cannot be determined that a heavy metals test along with a total petroleum hydrocarbons test have been conducted, then a water quality sample shall be taken after water has been in the used tank for at least 96 hours. The water quality test results will meet or exceed the following for livestock:

Constituent or Parameter	ppm or mg/l (unless otherwise indicated)
Aluminum	5.0
Arsenic	0.2
Barium	10
Boron	30
Cadmium	0.05
Chloride	300
Chromium	1.0
Cobalt	1.0
Copper	0.5
Lead	0.1
Mercury	0.01
Nickel	1.0
Nitrate + Nitrite (NO ₃ -N + NO ₂ -N)	100
Nitrite (NO ₂ -N)	10
Oil and Grease	10
Selenium	0.05
Sodium	1000
Sulfate	3000
Total Dissolved Solids	5000
Uranium	5.0
Vanadium	0.1
Zinc	25
Combined total of Radium 226 add 228	15pCi/l
Total Strontium 90	8pCi/l
Gross alpha particle radioactivity including Radium 226 but excluding radon & uranium	15pCi/l

- (6.) Used materials of types not specifically addressed within this supplement require approval by the State Conservation Engineer prior to installation of conservation practices.

§ND512.52 Documentation

Following is additional information to be included on as built plans:

1. All Structures

- a. Date construction started
- b. Date construction completed
- c. Name and address of contractor
- d. Name of project engineer and project inspector(s)
- e. Location, description and elevation of vertical control (bench mark), points and ties to horizontal control points.

This information shall be placed on the cover sheet of the plan. In addition, Item e. shall be plotted on appropriate sheet of the plans.

2. Dams

- a. Elevation of foundation and/or embankment drain outlets (after completion of dam). Show where elevation was taken.
- b. Elevation of top and floor of riser at time of installation and upon completion of embankment (show or describe location of point where elevations are taken).
- c. Table showing elevation and gap measurements of joints (concrete to concrete, top and bottom) of the principal spillway at time of installation and upon completion of the embankment. This information should appear on the sheet containing the view of the principal spillway profile.
- d. Item c. will not be required upon completion of the embankment for principal spillways of less than 36" in diameter.
- e. As-built geology shall be shown on the as-built plans by plotting (elevation and/or location), by notations, and geologic log descriptions. Place on appropriate sheet of the plans:

- (1) As-built profile of the core trench
- (2) As-built profile of the pipe trench
- (3) Changes in materials different from those indicated by the logs on the geologic profile shown on the plans for construction. This would include but is not limited to borrow, core trench, pipe trench, drains, etc.
- (4) Use notations to describe items that are unusual or important to the structure such as: percent of rock, size, extent, hardness of bedrock material, fractured, etc.

3. Channels

- a. From checkout cross sections, plot as-built channel bottom profile using a dot with circle (⊙) every 500 feet as a minimum. In addition, show as-built channel bottom immediately upstream and downstream of all bridges and drop structures.
- b. Alignment changes shall be shown by replot. If extensive, use a new sheet and attach to voided sheet of the plans.
- c. As-built geology shall be shown by geologic logs and/or notations.

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4. Concrete Drop and Chute Structures

- a. Elevation of headwall extension
- b. Elevation of weir
- c. Elevation of transverse sill
- d. Elevation of sidewalls for drop structures and at construction joints for chute structures
- e. Elevation of wingwalls
- f. Distance from weir to ends of headwall extensions
- g. Distance between the top of the sidewalls at the downstream end of structure
- h. Distance from sidewall to end of wingwall taken at the height of the low end of the wingwall slope
- i. Plumbness of headwall and wingwall. Plumbness will be measured with a 30" carpenter level. Measurements will be taken 6 inches from construction joint and 1.0 foot below the top of the concrete at that point. Plumb measurements will be made to the nearest 1/16 inch.

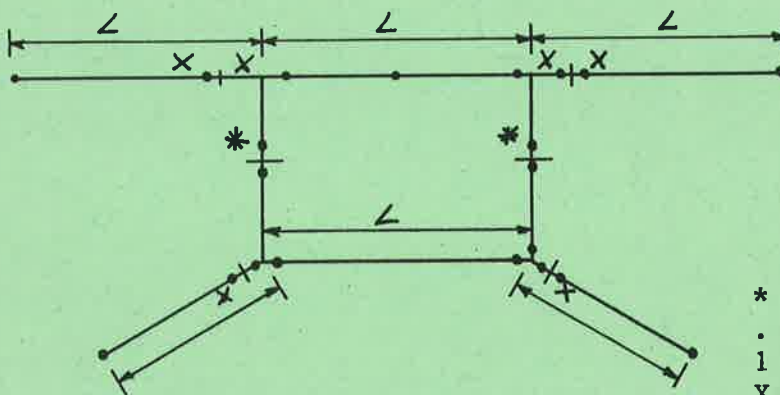


Figure 1 - Diagram of Measurement Points

j. A diagram similar to Figure 1 will be made on the plan view sheet for the drop or chute structure, with the appropriate elevations, distances, and plumbness shown.

k. Measurements on the drop or chute structure shall be taken as soon as the last construction forms are removed.

l. All elevations and distances (except plumbness) shall be measured to a hundredth of a foot. The date on which measurements are taken shall be recorded with the measurements on the plan.

5. Pipe Drop Structures

a. Elevation of top and floor of riser, or invert of pipe if no riser, at time of installation and upon completion of embankment (show or describe location of point where elevations are taken).

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SUBPART F - AS-BUILT PLANS

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- b. Elevation at each joint (prior to backfilling).
- c. Elevation of outlet invert and pipe support (prior to backfilling).
- d. Elevation of outlet invert after backfilling.

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