POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:
1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or peroming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is for the construction of a new four lane highway.
B. This PPP covers approximately 739 acres with an estimated 550 acres being disturbed. The portion of the PPP covered by this contract has 175 acres disturbed.
C. The PPP is located in an area of one soil association (Monona - Ida - Napier).
The estimated weighted average runoff coefficient number for this PPP after completion will be 0.30

D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been

POLLUTION PREVENTION PLAN

installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
F. Runoff from this work will flow into roadway ditches to: Wolf Creek to Missouri River; Rock Creek to Little Sioux River Missouri River; and Three Mile Creek to Little Sioux River to Missouri River.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
B. Preserve vegetation in areas not needed for construction.
C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
1. EROSION AND SEDIMENT CONTROLS
a. Stabilization Practices e.g. seeding, mulching, etc.
1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
a) Permanently ceased on any portion of the site, or
b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

0-14 day rule

Typ. min. 4", prefer 8"

b. Structural Practices e.g. silt fence, basins, ditch checks, etc.
1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.
c. Storm Water Management
Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

2. OTHER CONTROLS Housekeeping Items
Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
g. Concrete Grooving/Grinding Slurry – Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
j. Dewatering – Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

3. APPROVED STATE OR LOCAL PLANS
During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

POLLUTION PREVENTION PLAN

IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

V. INSPECTION REQUIREMENTS

A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
   1. Date of the inspection.
   2. Summary of the scope of the inspection.
   3. Name and qualifications of the personnel making the inspection.
   5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
   6. Major observations related to the implementation of the PPP.
   7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.

B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

VIII. DEFINITIONS

A. Base PPP - Initial Pollution Prevention Plan.
B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
C. Fieldbook Entries – This contains the inspector’s daily diary and bid item postings.
D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
E. Signature Authority - Representative authorized to sign various storm water documents.

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Signed by Designer

Printed or Typed Name

Signature

ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES

Item no.	Item Code	Item	Unit	Quantities Estimated Roadside	Estimate Reference Notes
1	2507-3250005	ENGINEERING FABRIC	SY	492.2	Refer to Tab. 100-23. Use material specified for embankment erosion control according to Article 4196.01, B, 3. of the Standard Specifications. Material will be measured in sq. yds. of actual area covered. Refer to details. The tabulation includes estimated locations for placement of "Engineering Fabric" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion.
2	2507-6800061	REVETMENT, CLASS E	TON	464.4	Refer to Tab. 100-23. The tabulation includes estimated locations for placement of "Revetment, Class E" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 30% additional quantity for other locations of erosion. Estimated at 1.4 ton/cu yd. Class E revetment shall meet requirements of Article 4130 of the Standard Specifications.
3	2601-2634100	MULCHING	ACRE	145.2	Perform mulching according to Article 2601.03, E, 2, of the Standard Specifications. Anchor mulch into the soil using mulch anchoring equipment with a minimum of two passes. Item is included for areas requiring reshaping and seedbed preparation except where slope protection has been applied. Use mulch that is Certified Noxious Weed Seed Free Mulch as certified by the Iowa Crop Improvement Association or adjacent states Crop Improvement Associations. Mulch Rate: 1 1/2 tons of dry cereal straw or native grass straw per acre.
4	2601-2636043	SEEDING AND FERTILIZING (RURAL)	ACRE	11.9	Seed and fertilize all areas 8 foot adjacent to the shoulder mainline, medians, and side according to Article 2601.03, C, 3, of the Standard Specifications. Use ground driven equipment.
5	2601-2638352	SLOPE PROTECTION, WOOD EXCELSIOR MAT	SQ	3,461	Refer to Tab. 100-22 for locations. Refer to Standard Road Plan EC-103 Prepare seedbed according to Article 2601.03, B, 4, of the Standard Specifications prior to seeding and fertilizing under the slope protection.

Item no.	Item Code	Item	Unit	Quantities Estimated Roadside	Estimate Reference Notes
6	2601-2642100	STABILIZING CROP - SEEDING AND FERTILIZING	ACRE	166.4	Item is included for disturbed areas. Seed and fertilize all disturbed areas according to Article 2601.03, C, 1, of the Standard Specifications. If permanent seeding cannot be placed due to the restrictive planting dates, stabilizing crop will need to be placed on all disturbed areas as temporary erosion control. Preparation and seeding shall be performed in accordance with Section 2601. Stabilizing crop will not be used when the application dates in Section 2601 allows permanent seeding. If stabilizing crop must be used, place immediately following completions of finished grading. Reseeding of these areas will be required at contractors expense if damage occurs due to contractors negligence during the contract period. It is not necessary to place stabilizing crop in locations that have be covered by Wood Excelsior Mat.
7	2601-2643110	WATERING FOR SOD, SPECIAL DITCH CONTROL, OR SLOPE PROTECTION	MGAL	692.2	Estimate for watering Special Ditch Control, Slope Protection Areas, Turf Reinforcement Mat, or Transition Mat is based on a total of four waterings at a rate of 50 gallons per square per watering.
8	2601-2643300	MOBILIZATION FOR WATERING	EACH	3	
9	2602-0000020	SILT FENCE	LF	68,647	Refer to Tab. 100-17. The tabulation includes estimated locations for placement of "Silt Fence" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
10	2602-0000030	SILT FENCE FOR DITCH CHECKS	LF	11,123	Refer to Tab 100-18. The tabulation includes estimated locations for placement of "Silt Fence for Ditch Checks" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 50% additional quantity for field adjustments and replacements.
11	2602-0000050	SILT BASINS	EACH	112	Refer to Tab. 100-14. The tabulation includes estimated locations for placement of "Silt Basins" to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 100% additional quantity for field adjustment and maintenance.
12	2602-0000071	REMOVAL OF SILT FENCE OR SILT FENCE FOR DITCH CHECKS	LF	79,770	This item is included for silt fence and silt fence for ditch check removal required for staging reasons, removal to allow for replacement (replacement to be paid separately), or for areas that have achieved 70% permanent growth. Remove silt fence and posts after mulching or vegetation is established and approved by the engineer.

Item no.	Item Code	Item	Unit	Quantities Estimated Roadside	Estimate Reference Notes
13	2602-0000101	MAINTENANCE OF SILT FENCE OR SILT FENCE FOR DITCH CHECK	LF	7,977	This item is included for clean-out and repair of the silt fence and silt fence for ditch checks during the project.
14	2602-0000150	STABILIZED CONSTRUCTION ENTRANCE, EC-303	LF	1,400	Refer to EC-303
15	2602-0000312	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	9,600	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
16	2602-0000320	PERIMETER AND SLOPE SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	9,600	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
17	2602-0000351	REMOVAL OF PERIMETER AND SLOPE OR DITCH CHECK SEDIMENT CONTROL DEVICE	LF	19,440	
18	2602-0000362	DITCH CHECK SEDIMENT CONTROL DEVICE, 12 IN. DIA.	LF	120	Refer to Tab. 100-19. The tabulation includes estimated locations for placement of "Perimeter and Slope Sediment Control Device for Ditch Checks, 12 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
19	2602-0000370	DITCH CHECK SEDIMENT CONTROL DEVICE, 20 IN. DIA.	LF	120	For placement of "Perimeter and Slope Sediment Control Device for Ditch Checks, 20 in. dia." to address erosion to be encountered during construction. Verify the specific locations with the Engineer prior to beginning placement. Bid item includes 25% additional quantity for field adjustments and replacements.
20	2602-0010010	MOBILIZATIONS, EROSION CONTROL	EACH	1	
21	2602-0010020	MOBILIZATIONS, EMERGENCY EROSION CONTROL	EACH	1	

111-25
10-18-11

INDEX OF TABULATIONS

Tabulation	Tabulation Title	Sheet No.
RC Sheets		
	ESTIMATED PROJECT QUANTITIES AND REFERENCE NOTES	RC.1 - RC.3
100-14	SILT BASINS	RC.8
100-17	TABULATION OF SILT FENCES	RC.4 - RC.5
100-18	SILT FENCES FOR DITCH CHECKS	RC.5 - RC.7
100-19	PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES	RC.9 - RC.10
100-22	ROLLED EROSION CONTROL	RC.11
100-23	ROCK EROSION CONTROL	RC.9
100-34	STORMWATER DRAINAGE BASIN AND STORAGE	RC.10
105-4	STANDARD ROAD PLANS	RC.4
110-12	POLLUTION PREVENTION PLAN	RC.11 - RC.12
111-25	INDEX OF TABULATIONS	RC.4
281-1	SECTION 404 PERMIT AND CONDITIONS	RC.4
281-3	STORM WATER BEST MANAGEMENT PRACTICES	RC.4

105-4
10-18-11

STANDARD ROAD PLANS

The following Standard Road Plans apply to construction work on this project.

Number	Date	Title
EC-103	04-21-15	Wood Excelsior Mat for Slope Protection
EC-201	04-20-21	Silt Fence
EC-204	10-19-21	Perimeter, Slope and Ditch Check Sediment Control Devices
EC-301	10-18-16	Rock Erosion Control (REC)
EC-303	10-19-21	Stabilized Construction Entrance
EC-502	04-21-15	Seeding in Rural Areas
EW-403	04-18-17	Temporary Erosion Control Measures

281-1
10-18-16

SECTION 404 PERMIT AND CONDITIONS

Construct this project according to the requirements of U.S. Army Corps of Engineers NWP #14, Permit No. 2022-737. A copy of this permit is available from the Iowa DOT website (http://www.envpermits.iowadot.gov/). The U.S. Army Corps of Engineers reserves the right to visit the site without prior notice.

281-3
10-17-17

STORM WATER BEST MANAGEMENT PRACTICES

When the following best management practices are used, they are intended to account for disturbed areas where storage volume cannot be provided: Silt Basins, Silt Fence, Silt Fence for Ditch Checks, Perimeter and Slope Sediment Control Devices, Rock Erosion and Seeding.

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
6010+75.00	6012+75.00	Rt	200.0	Frontage Rd
6012+70.00	6014+00.00	Rt	132.0	Frontage Rd
6014+00.00	6016+00.00	Rt	200.0	Frontage Rd
6016+05.00	6018+05.00	Rt	200.0	Frontage Rd
6018+00.00	6020+00.00	Rt	200.0	Frontage Rd
6019+95.00	6021+95.00	Rt	200.0	Frontage Rd
6021+90.00	6023+65.00	Rt	180.0	Frontage Rd
6024+35.00	6026+35.00	Rt	200.0	Frontage Rd
6026+30.00	6028+30.00	Rt	200.0	Frontage Rd
6028+25.00	6030+40.00	Rt	200.0	Frontage Rd
6030+34.00	6032+45.00	Rt	200.0	Frontage Rd
6032+40.00	6034+45.00	Rt	200.0	Frontage Rd
6034+40.00	6036+45.00	Rt	200.0	Frontage Rd
6036+40.00	6038+45.00	Rt	200.0	Frontage Rd
6039+30.00	6041+00.00	Rt	170.0	Frontage Rd
6041+00.00	6043+00.00	Rt	200.0	Frontage Rd
6042+95.00	6044+65.00	Rt	200.0	Frontage Rd
6044+60.00	6046+00.00	Rt	105.0	Frontage Rd
6046+00.00	6048+00.00	Rt	200.0	Frontage Rd
6047+95.00	6049+95.00	Rt	200.0	Frontage Rd
6049+90.00	6051+90.00	Rt	200.0	Frontage Rd
6051+85.00	6052+32.00	Rt	50.0	Frontage Rd
6053+00.00	6055+00.00	Rt	200.0	Frontage Rd
6054+95.00	6056+56.00	Rt	160.0	Frontage Rd
6057+60.00	5058+80.00	Rt	130.0	Frontage Rd
6061+45.00	6063+00.00	Rt	150.0	Frontage Rd
6062+95.00	6064+95.00	Rt	200.0	Frontage Rd
6064+90.00	6066+90.00	Rt	200.0	Frontage Rd
6066+85.00	6067+50.00	Rt	60.0	Frontage Rd
6067+50.00	6069+50.00	Rt	200.0	Frontage Rd
6069+45.00	6069+95.00	Rt	55.0	Frontage Rd
6070+50.00	6072+50.00	Rt	200.0	Frontage Rd
6072+45.00	6074+00.00	Rt	160.0	Frontage Rd
6074+00.00	6076+00.00	Rt	200.0	Frontage Rd
6075+95.00	6077+95.00	Rt	200.0	Frontage Rd
6077+90.00	6079+90.00	Rt	200.0	Frontage Rd
6079+85.00	6081+85.00	Rt	200.0	Frontage Rd
6081+80.00	6082+50.00	Rt	60.0	Frontage Rd
6082+50.00	6084+50.00	Rt	200.0	Frontage Rd
6084+45.00	6086+45.00	Rt	200.0	Frontage Rd
6086+40.00	6088+40.00	Rt	200.0	Frontage Rd
6088+35.00	6090+35.00	Rt	200.0	Frontage Rd
6090+30.00	6092+30.00	Rt	200.0	Frontage Rd
6092+25.00	6094+25.00	Rt	200.0	Frontage Rd
6094+25.00	6096+25.00	Rt	200.0	Frontage Rd
6096+20.00	6098+20.00	Rt	200.0	Frontage Rd
6098+15.00	6100+15.00	Rt	200.0	Frontage Rd
6100+10.00	6100+50.00	Rt	35.0	Frontage Rd
6100+50.00	6102+50.00	Rt	200.0	Frontage Rd
6102+45.00	6104+45.00	Rt	200.0	Frontage Rd
6104+40.00	6106+40.00	Rt	200.0	Frontage Rd
6106+35.00	6108+35.00	Rt	200.0	Frontage Rd
6108+30.00	6109+30.00	Rt	100.0	Frontage Rd

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
6010+75.00	6012+75.00	Lt	200.0	Frontage Rd
6012+70.00	6013+25.00	Lt	50.0	Frontage Rd
6013+70.00	6015+70.00	Lt	200.0	Frontage Rd
6015+65.00	6016+00.00	Lt	30.0	Frontage Rd
6016+00.00	6017+20.00	Lt	120.0	Frontage Rd
6017+15.00	6018+15.00	Lt	100.0	Frontage Rd
6018+10.00	6018+70.00	Lt	60.0	Frontage Rd
6018+65.00	6019+35.00	Lt	65.0	Frontage Rd
6019+30.00	6020+35.00	Lt	105.0	Frontage Rd
6020+30.00	6021+55.00	Lt	120.0	Frontage Rd
6021+50.00	6023+50.00	Lt	200.0	Frontage Rd
6024+25.00	6026+25.00	Lt	200.0	Frontage Rd
6026+20.00	6028+20.00	Lt	200.0	Frontage Rd
6028+15.00	6030+10.00	Lt	200.0	Frontage Rd
6030+05.00	6032+00.00	Lt	200.0	Frontage Rd
6031+95.00	6033+95.00	Lt	200.0	Frontage Rd
6033+90.00	6035+85.00	Lt	200.0	Frontage Rd
6035+80.00	6037+80.00	Lt	200.0	Frontage Rd
6037+75.00	6039+00.00	Lt	130.0	Frontage Rd
6039+00.00	6041+00.00	Lt	200.0	Frontage Rd
6041+00.00	6043+00.00	Lt	200.0	Frontage Rd
6042+95.00	6044+95.00	Lt	200.0	Frontage Rd
6044+90.00	6046+00.00	Lt	115.0	Frontage Rd
6046+00.00	6048+00.00	Lt	200.0	Frontage Rd
6047+95.00	6049+95.00	Lt	200.0	Frontage Rd
6049+90.00	6051+90.00	Lt	200.0	Frontage Rd
6051+85.00	6053+85.00	Lt	200.0	Frontage Rd
6053+80.00	6055+80.00	Lt	200.0	Frontage Rd
6055+75.00	6056+75.00	Lt	95.0	Frontage Rd
6057+75.00	6059+75.00	Lt	200.0	Frontage Rd
6061+50.00	6063+50.00	Lt	200.0	Frontage Rd
6063+45.00	6065+45.00	Lt	200.0	Frontage Rd
6065+40.00	6067+40.00	Lt	200.0	Frontage Rd
6067+40.00	6069+40.00	Lt	200.0	Frontage Rd
6069+35.00	6070+00.00	Lt	70.0	Frontage Rd
6070+50.00	6072+50.00	Lt	200.0	Frontage Rd
6072+45.00	6074+00.00	Lt	155.0	Frontage Rd
6074+00.00	6076+00.00	Lt	200.0	Frontage Rd
6075+95.00	6077+95.00	Lt	200.0	Frontage Rd
6077+90.00	6079+90.00	Lt	200.0	Frontage Rd
6079+85.00	6081+85.00	Lt	200.0	Frontage Rd
6081+80.00	6082+50.00	Lt	75.0	Frontage Rd
6082+50.00	6083+80.00	Lt	130.0	Frontage Rd
6084+30.00	6086+30.00	Lt	200.0	Frontage Rd
6086+25.00	6088+25.00	Lt	200.0	Frontage Rd
6088+20.00	6090+20.00	Lt	200.0	Frontage Rd
6090+15.00	6092+15.00	Lt	200.0	Frontage Rd
6092+10.00	6094+10.00	Lt	200.0	Frontage Rd
6094+25.00	6096+25.00	Lt	200.0	Frontage Rd
6096+20.00	6098+20.00	Lt	200.0	Frontage Rd
6098+15.00	6100+15.00	Lt	200.0	Frontage Rd
6100+10.00	6100+50.00	Lt	40.0	Frontage Rd
6100+50.00	6102+50.00	Lt	200.0	Frontage Rd
6102+45.00	6104+45.00	Lt	200.0	Frontage Rd

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
6104+40.00	6106+40.00	Lt	200.0	Frontage Rd
6106+35.00	6108+35.00	Lt	200.0	Frontage Rd
6108+30.00	6109+40.00	Lt	110.0	Frontage Rd
11453+60.00	11455+09.00	Rt	140.0	Ramp A
11455+05.00	11457+05.00	Rt	200.0	Ramp A
11457+00.00	11459+00.00	Rt	200.0	Ramp A
11458+95.00	11460+00.00	Rt	110.0	Ramp A
11460+00.00	11462+00.00	Rt	200.0	Ramp A
11461+95.00	11463+90.00	Rt	200.0	Ramp A
11452+00.00	11454+90.00	Lt	200.0	Ramp A
11454+85.00	11456+85.00	Lt	200.0	Ramp A
11456+80.00	11457+50.00	Lt	175.0	Ramp A
11457+50.00	11459+50.00	Lt	200.0	Ramp A
11459+45.00	11460+00.00	Lt	55.0	Ramp A
11460+00.00	11462+00.00	Lt	200.0	Ramp A
11461+95.00	11463+95.00	Lt	200.0	Ramp A
11463+90.00	11465+90.00	Lt	200.0	Ramp A
11465+85.00	11467+85.00	Lt	200.0	Ramp A
11467+80.00	11469+80.00	Lt	200.0	Ramp A
11469+75.00	11471+75.00	Lt	200.0	Ramp A
11471+70.00	11472+00.00	Lt	30.0	Ramp A
11472+00.00	11473+50.00	Lt	150.0	Ramp A
31438+80.00	31440+80.00	Lt	200.0	Loop C
31440+75.00	31442+75.00	Lt	200.0	Loop C
31442+70.00	31444+70.00	Lt	200.0	Loop C
31444+65.00	31446+65.00	Lt	200.0	Loop C
31446+60.00	31448+60.00	Lt	200.0	Loop C
31448+55.00	31449+00.00	Lt	40.0	Loop C
31449+00.00	31450+58.00	Lt	160.0	Loop C
31451+30.00	31453+30.00	Lt	200.0	Loop C
31453+25.00	31455+00.00	Lt	170.0	Loop C
1437+25.00	1439+25.00	Rt	200.0	Hwy 30
1439+20.00	1441+20.00	Rt	200.0	Hwy 30
1441+15.00	1443+15.00	Rt	200.0	Hwy 30
1443+10.00	1445+10.00	Rt	200.0	Hwy 30
1445+05.00	1447+05.00	Rt	200.0	Hwy 30
1447+00.00	1449+00.00	Rt	200.0	Hwy 30
1448+95.00	1449+40.00	Rt	40.0	Hwy 30
1455+55.00	1457+55.00	Lt	200.0	Hwy 30
1457+50.00	1459+50.00	Lt	200.0	Hwy 30
1459+45.00	1461+45.00	Lt	200.0	Hwy 30
1461+40.00	1463+40.00	Lt	200.0	Hwy 30
21427+39.00	21429+39.00	Rt	200.0	Ramp B
21429+34.00	21431+34.00	Rt	200.0	Ramp B
21431+29.00	21432+00.00	Rt	65.0	Ramp B
21432+04.00	21434+05.00	Rt	200.0	Ramp B
21434+00.00	21436+05.00	Rt	200.0	Ramp B
21436+00.00	21436+75.00	Rt	75.0	Ramp B
21436+75.00	21438+75.00	Rt	200.0	Ramp B
21438+70.00	21440+70.00	Rt	200.0	Ramp B
21440+65.00	21442+65.00	Rt	200.0	Ramp B
21442+60.00	21444+60.00	Rt	200.0	Ramp B
21444+55.00	21446+55.00	Rt	200.0	Ramp B
21446+50.00	21448+30.00	Rt	200.0	Ramp B

100-17
04-20-10

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
21448+25.00	21450+20.00	Rt	200.0	Ramp B
21450+15.00	21450+45.00	Rt	35.0	Ramp B
21437+00.00	21439+00.00	Lt	200.0	Ramp B
21438+95.00	21440+95.00	Lt	200.0	Ramp B
21440+90.00	21442+95.00	Lt	200.0	Ramp B
21442+90.00	21444+90.00	Lt	200.0	Ramp B
21444+85.00	21446+85.00	Lt	200.0	Ramp B
21446+80.00	21448+68.00	Lt	165.0	Ramp B
41452+05.00	41453+48.00	Rt	140.0	Ramp D
41453+43.00	41455+30.00	Rt	200.0	Ramp D
41455+25.00	41457+25.00	Rt	200.0	Ramp D
41457+20.00	41458+12.00	Rt	95.0	Ramp D
41458+00.00	41459+95.00	Rt	200.0	Ramp D
41459+90.00	41461+90.00	Rt	200.0	Ramp D
41461+80.00	41463+80.00	Rt	200.0	Ramp D
41463+75.00	41465+75.00	Rt	200.0	Ramp D
41465+70.00	41467+75.00	Rt	200.0	Ramp D
41467+70.00	41469+70.00	Rt	200.0	Ramp D
41469+65.00	41471+70.00	Rt	200.0	Ramp D
41471+65.00	41473+65.00	Rt	200.0	Ramp D
41473+60.00	41475+60.00	Rt	200.0	Ramp D
41475+55.00	41477+55.00	Rt	200.0	Ramp D
41477+50.00	41479+50.00	Rt	200.0	Ramp D
41479+45.00	41481+00.00	Rt	165.0	Ramp D
41451+53.00	41452+50.00	Lt	95.0	Ramp D
41453+43.00	41455+65.00	Lt	200.0	Ramp D
41455+55.00	41457+50.00	Lt	200.0	Ramp D
41457+45.00	41459+15.00	Lt	170.0	Ramp D
41459+00.00	41461+00.00	Lt	200.0	Ramp D
41460+95.00	41462+90.00	Lt	200.0	Ramp D
41462+85.00	41464+85.00	Lt	200.0	Ramp D
41464+80.00	41466+80.00	Lt	200.0	Ramp D
5007+00.00	5009+00.00	Rt	200.0	241st St
5008+95.00	5010+95.00	Rt	200.0	241st St
5010+90.00	5011+25.00	Rt	35.0	241st St
5011+25.00	5013+25.00	Rt	200.0	241st St
5014+40.00	5016+40.00	Rt	200.0	241st St
5016+35.00	5018+35.00	Rt	200.0	241st St
5018+30.00	5020+30.00	Rt	200.0	241st St
5020+25.00	5022+25.00	Rt	200.0	241st St
5022+20.00	5024+25.00	Rt	200.0	241st St
5024+20.00	5026+25.00	Rt	200.0	241st St
5026+20.00	5027+10.00	Rt	90.0	241st St
5027+75.00	5029+75.00	Rt	200.0	241st St
5029+70.00	5031+75.00	Rt	200.0	241st St
5031+70.00	5032+00.00	Rt	30.0	241st St
5032+00.00	5034+00.00	Rt	200.0	241st St
5033+95.00	5036+00.00	Rt	200.0	241st St
5035+95.00	5038+00.00	Rt	200.0	241st St
5037+95.00	5040+00.00	Rt	200.0	241st St
5039+95.00	5042+00.00	Rt	200.0	241st St
5041+95.00	5043+00.00	Rt	105.0	241st St
5043+00.00	5044+75.00	Rt	175.0	241st St
5044+75.00	5046+75.00	Rt	200.0	241st St

TABULATION OF SILT FENCES

Refer to EC-201

Location			Length	Remarks
Begin Station	End Station	Side	LF	
5046+70.00	5047+00.00	Rt	30.0	241st St
5047+00.00	5049+00.00	Rt	200.0	241st St
5048+95.00	5049+50.00	Rt	55.0	241st St
5049+50.00	5051+45.00	Rt	200.0	241st St
5051+40.00	5053+35.00	Rt	200.0	241st St
5053+30.00	5055+10.00	Rt	185.0	241st St
5055+10.00	5057+05.00	Rt	200.0	241st St
5057+00.00	5057+50.00	Rt	50.0	241st St
5006+75.00	5008+75.00	Lt	200.0	241st St
5008+70.00	5010+70.00	Lt	200.0	241st St
5010+65.00	5011+25.00	Lt	60.0	241st St
5011+25.00	5013+25.00	Lt	200.0	241st St
5013+20.00	5015+20.00	Lt	200.0	241st St
5015+15.00	5017+15.00	Lt	200.0	241st St
5017+10.00	5019+10.00	Lt	200.0	241st St
5019+05.00	5021+05.00	Lt	200.0	241st St
5021+00.00	5023+00.00	Lt	200.0	241st St
5022+95.00	5024+95.00	Lt	200.0	241st St
5024+90.00	5026+90.00	Lt	200.0	241st St
5026+85.00	5028+85.00	Lt	200.0	241st St
5028+80.00	5030+80.00	Lt	200.0	241st St
5030+75.00	5032+00.00	Lt	120.0	241st St
5032+00.00	5034+00.00	Lt	200.0	241st St
5033+95.00	5035+95.00	Lt	200.0	241st St
5035+90.00	5037+90.00	Lt	200.0	241st St
5037+85.00	5039+85.00	Lt	200.0	241st St
5039+80.00	5041+80.00	Lt	200.0	241st St
5041+75.00	5043+00.00	Lt	135.0	241st St
5043+00.00	5044+75.00	Lt	175.0	241st St
5044+75.00	5046+75.00	Lt	200.0	241st St
5046+70.00	5047+00.00	Lt	30.0	241st St
5047+00.00	5049+00.00	Lt	200.0	241st St
5048+95.00	5049+50.00	Lt	55.0	241st St
5049+50.00	5051+50.00	Lt	200.0	241st St
5051+45.00	5053+60.00	Lt	200.0	241st St
5053+55.00	5055+60.00	Lt	200.0	241st St
5055+55.00	5055+95.00	Lt	40.0	241st St
5055+90.00	5056+75.00	Lt	80.0	241st St
8002+25.00	8004+25.00	Rt	200.0	Side Rd A
8002+25.00	8004+25.00	Lt	200.0	Side Rd A
9000+50.00	9001+50.00	Rt	100.0	Side Rd B
9001+45.00	9002+50.00	Rt	100.0	Side Rd B
9000+50.00	9001+50.00	Lt	100.0	Side Rd B
9001+45.00	9002+50.00	Lt	100.0	Side Rd B
96+50.00	98+50.00	Rt	200.0	580th Ave.
98+45.00	100+45.00	Rt	200.0	580th Ave.
100+40.00	102+40.00	Rt	200.0	580th Ave.
102+35.00	103+05.00	Rt	65.0	580th Ave.
103+55.00	105+55.00	Rt	200.0	580th Ave.
105+50.00	106+75.00	Rt	125.0	580th Ave.
106+75.00	108+75.00	Rt	200.0	580th Ave.
108+70.00	110+70.00	Rt	200.0	580th Ave.
110+65.00	112+25.00	Rt	165.0	580th Ave.
112+25.00	114+25.00	Rt	200.0	580th Ave.
114+20.00	116+20.00	Rt	200.0	580th Ave.
116+15.00	117+25.00	Rt	115.0	580th Ave.
117+25.00	119+25.00	Rt	200.0	580th Ave.
119+20.00	120+80.00	Rt	165.0	580th Ave.
126+85.00	128+85.00	Rt	200.0	580th Ave. 50' offset
128+80.00	130+00.00	Rt	120.0	580th Ave. 50' offset
143+30.00	145+30.00	Rt	200.0	580th Ave.
145+25.00	147+20.00	Rt	200.0	580th Ave.
147+15.00	149+15.00	Rt	200.0	580th Ave.
149+10.00	151+10.00	Rt	200.0	580th Ave.
151+05.00	153+05.00	Rt	200.0	580th Ave.
153+00.00	155+00.00	Rt	200.0	580th Ave.
154+95.00	156+45.00	Rt	150.0	580th Ave.
157+00.00	158+50.00	Rt	150.0	580th Ave.
158+50.00	160+50.00	Rt	200.0	580th Ave.
160+45.00	162+45.00	Rt	200.0	580th Ave.
162+40.00	164+40.00	Rt	200.0	580th Ave.
164+35.00	166+40.00	Rt	200.0	580th Ave.
96+50.00	98+50.00	Lt	200.0	580th Ave.
98+45.00	100+45.00	Lt	200.0	580th Ave.
100+40.00	101+00.00	Lt	200.0	580th Ave.
101+00.00	102+40.00	Lt	145.0	580th Ave.
102+95.00	103+80.00	Lt	90.0	580th Ave.
104+30.00	106+25.00	Lt	200.0	580th Ave.
106+20.00	108+20.00	Lt	200.0	580th Ave.
108+15.00	110+15.00	Lt	200.0	580th Ave.
110+10.00	112+10.00	Lt	200.0	580th Ave.
112+10.00	112+80.00	Lt	65.0	580th Ave.

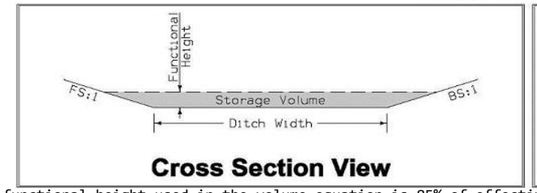
TABULATION OF SILT FENCES

Refer to EC-201

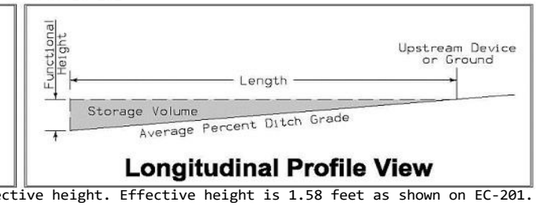
Location			Length	Remarks
Begin Station	End Station	Side	LF	
113+25.00	115+25.00	Lt	200.0	580th Ave.
115+20.00	117+20.00	Lt	200.0	580th Ave.
117+20.00	117+95.00	Lt	80.0	580th Ave.
118+55.00	120+00.00	Lt	145.0	580th Ave.
122+25.00	124+25.00	Lt	200.0	580th Ave.
122+25.00	124+25.00	Lt	200.0	580th Ave. 50' offset
124+20.00	125+45.00	Lt	155.0	580th Ave.
143+00.00	145+00.00	Lt	200.0	580th Ave.
144+97.00	146+97.00	Lt	200.0	580th Ave.
146+95.00	148+95.00	Lt	200.0	580th Ave.
148+90.00	150+90.00	Lt	200.0	580th Ave.
150+85.00	152+85.00	Lt	200.0	580th Ave.
152+80.00	154+80.00	Lt	200.0	580th Ave.
154+75.00	156+75.00	Lt	200.0	580th Ave.
157+10.00	158+50.00	Lt	140.0	580th Ave.
158+50.00	160+50.00	Lt	200.0	580th Ave.
160+45.00	162+45.00	Lt	200.0	580th Ave.
162+40.00	164+40.00	Lt	200.0	580th Ave.
164+35.00	166+35.00	Lt	200.0	580th Ave.
Silt Fence Tab Totals:			54917.0	
Silt Fence Bid Totals:			68646.3	125% of Tab Total
t Fence Maintenance Totals:			6864.6	10% of Bid Total
Silt Fence Removal Totals:			68646.3	100% of Bid Total

SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



Cross Section View



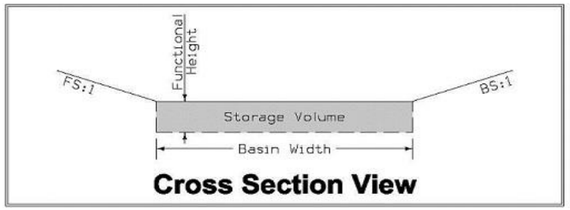
Longitudinal Profile View

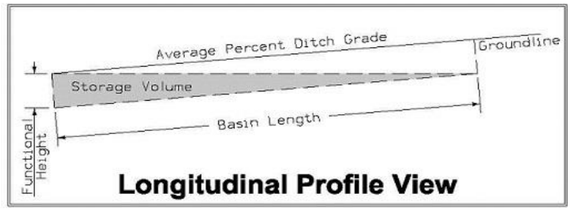
* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.
* Volume equation: $[0.5*Spacing*(0.5*H^2*FS+DW*H+0.5*H^2*BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation LF	Maintenance LF	Removal LF	Foreslope FS:1	Backslope BS:1	Ditch Width FT	Avg.% Slope Ditch Grade	Volume* CF	
1	1	5006+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.5%	3109.5	241st
1	1	5009+90.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.5%	3109.5	241st
1	1	5012+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.6%	1530.1	241st
1	1	5015+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5016+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5017+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5018+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5019+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5020+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5021+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5022+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5023+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5024+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5025+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	241st
1	1	5025+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5026+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5027+25.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5028+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5028+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5029+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5030+25.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5031+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5031+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	241st
1	1	5006+75.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.5%	3109.5	241st
1	1	5009+90.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.5%	3109.5	241st
1	1	5012+20.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.8%	1530.1	241st
1	1	5013+75.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.8%	1530.1	241st
1	1	5015+30.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.8%	1530.1	241st
1	1	5018+45.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.1%	3109.5	241st
1	1	5019+05.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	2.1%	592.3	241st
1	1	5019+65.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5020+25.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5020+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5021+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5022+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5023+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5024+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5025+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5026+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5027+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5028+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5029+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5030+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	5031+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	1.4%	987.1	241st
1	1	6010+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.2%	3109.5	FR RD
1	1	6013+90.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.2%	3109.5	FR RD
1	1	6017+00.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	FR RD
1	1	6017+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.7%	740.4	FR RD
1	1	6018+25.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6018+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6019+25.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6019+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6020+25.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6020+75.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	3.0%	493.6	FR RD
1	1	6023+90.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.4%	3109.5	FR RD
1	1	6026+90.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.4%	3109.5	FR RD
1	1	6030+20.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.4%	3109.5	FR RD
1	1	6033+35.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.4%	3109.5	FR RD
1	1	6036+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	0.4%	3109.5	FR RD
1	1	6037+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	FR RD
1	1	6038+50.00	Rt	24.0	2.4	24.0	4.0	3.0	10.0	1.1%	987.1	FR RD
1	1	6010+75.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.6%	1530.1	FR RD
1	1	6012+30.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.6%	1530.1	FR RD
1	1	6013+85.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	0.8%	1530.1	FR RD
1	1	6017+20.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	2.8%	493.6	FR RD
1	1	6017+70.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	2.8%	493.6	FR RD
1	1	6018+20.00	Lt	24.0	2.4	24.0	4.0	3.0	10.0	2.8%	493.6	FR RD

SILT BASINS

Possible Standard: EW-403





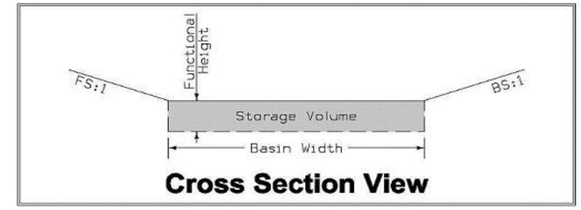
* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.
* Volume equation: (0.5*Length*(Width*Height+Width*(Height-Length*Avg%Slope))

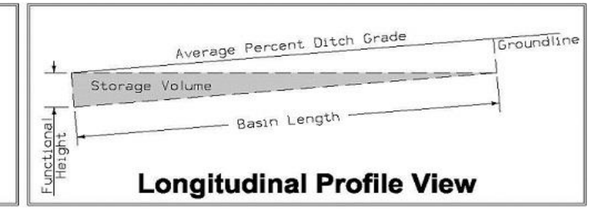
Basin No.	Location		Bid Items		Stormwater Storage Volume Summary					Remarks
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	
			EACH	EACH	FT	FT	FT		CF	
1	5010+95.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
1	5010+95.00	Lt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
1	5011+55.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
1	5011+55.00	Lt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
1	5014+60.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
1	5014+60.00	Lt	1		10.0	50.0	2.85	1.5%	1237.5	241st St
1	6015+60.00	Rt	1		10.0	50.0	2.85	0.3%	1387.5	Frontage Rd
1	6015+60.00	Lt	1		10.0	50.0	2.85	0.1%	1415.0	Frontage Rd
1	6016+40.00	Rt	1		10.0	50.0	2.85	0.3%	1387.5	Frontage Rd
1	6016+40.00	Lt	1		10.0	50.0	2.85	0.1%	1415.0	Frontage Rd
2	5042+60.00	Rt	1		10.0	50.0	2.85	0.2%	1400.0	241st St
2	5042+60.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	241st St
2	5043+35.00	Rt	1		10.0	50.0	2.85	0.2%	1400.0	241st St
2	5043+35.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	241st St
2	6040+70.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
2	6040+70.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
2	6041+35.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
2	6041+35.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
3	5054+50.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	241st St
3	5055+20.00	Rt	1		10.0	50.0	2.85	0.3%	1387.5	241st St
3	5055+85.00	Lt	1		10.0	50.0	2.85	1.0%	1300.0	241st St
3	5056+75.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	241st St
3	21449+28.00	Rt	1		10.0	50.0	2.85	0.3%	1387.5	Ramp B
3	21449+28.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp B
3	41452+13.00	Rt	1		10.0	50.0	2.85	0.1%	1412.5	Ramp D
3	41452+13.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp D
3	1448+28.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Hwy 30
3	1448+28.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Hwy 30
3	31452+81.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Loop C
3	31455+19.00	Lt	1		10.0	50.0	2.85	0.1%	1412.5	Loop C
3	31455+81.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Loop C
3	11451+66.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp A
3	11452+36.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp A
3	11459+63.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Ramp A
3	11459+63.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp A
3	11460+35.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Ramp A
3	11460+35.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Ramp A
3	6056+33.00	Lt	1		10.0	50.0	2.85	1.4%	1250.0	Frontage Rd
3	122+79.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	580th Ave
3	122+79.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	580th Ave
3	158+15.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	580th Ave
3	158+15.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	580th Ave
3	158+83.00	Rt	1		10.0	50.0	2.85	0.3%	1387.5	580th Ave
3	158+83.00	Lt	1		10.0	50.0	2.85	0.5%	1362.5	580th Ave
4	5046+66.00	Rt	1		10.0	50.0	2.85	0.2%	1400.0	241st St
4	5046+66.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	241st St
4	5047+34.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	241st St
4	5047+34.00	Lt	1		10.0	50.0	2.85	0.6%	1350.0	241st St
10	6073+62.00	Rt	1		10.0	50.0	2.85	0.5%	1362.5	Frontage Rd
10	6074+37.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
11	6073+62.00	Lt	1		10.0	50.0	2.85	0.5%	1362.5	Frontage Rd
11	6074+37.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
13	6093+92.00	Rt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
13	6092+62.00	Rt	1		10.0	50.0	2.85	0.2%	1400.0	Frontage Rd
14	6093+92.00	Lt	1		10.0	50.0	2.85	0.4%	1375.0	Frontage Rd
14	6092+62.00	Lt	1		10.0	50.0	2.85	0.2%	1400.0	Frontage Rd
	Silt Basin Tab Totals:		56							

100-14
10-17-17

SILT BASINS

Possible Standard: EW-403





* The functional height used in the volume equation is 95% of effective height. Effective height is 3 feet as shown in EW-403.
* Volume equation: (0.5*Length*(Width*Height+Width*(Height-Length*Avg%Slope))

Basin No.	Location		Bid Items		Stormwater Storage Volume Summary					Remarks
	Station	Side	Installation	Removal	Basin Width	Basin Length	Height	Avg. % Slope	Volume*	
			EACH	EACH	FT	FT	FT		CF	
	Silt Basin Bid Totals:		112		200% of Tab Toals					

100-23
04-17-18

ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

Location						Rock Erosion Control (REC)					Material Bid Quantities			
Road Identification	Begin Station	End Station	Side	L	W	Type 1 Rock Ditch Check	Type 2 Rock Ditch	Type 3 Rock Flume	Type 4 Rock Splash Basin	Type 5 Rock Slope Protection	Eng. Fabric	Class E Revetment	Erosion Stone	Remarks
			Lt./Rt.	FT	FT						SY	TON	TON	
Frontage Rd	6015+90.00	6016+10.00	Lt	20	20				X		44.4	42.0		
Frontage Rd	6040+94.00	6041+05.00	Rt	10.5	10.5				X		12.2	11.6		
Frontage Rd	6056+69.00	6056+80.00	Rt	10.5	10.5				X		12.2	11.6		
Frontage Rd	6058+24.00	6058+35.00	Rt	10.5	10.5				X		12.2	11.6		
Frontage Rd	6061+44.00	6061+55.00	Rt	10.5	10.5				X		12.2	11.6		
Loop C	31454+70.00	31454+88.00	Lt	18	18				X		36.0	34.0		
Loop C	31461+78.00	31461+90.00	Lt	10.5	10.5				X		12.2	11.6		
Ramp B	21449+58.00	21449+71.00	Rt	13	13				X		18.8	17.4		
Ramp D	21452+74.00	21452+85.00	Rt	10.5	10.5				X		12.2	11.6		
241st St	5011+19.00	5011+30.00	Rt	10.5	10.5				X		12.2	11.6		
241st St	5014+15.00	5014+35.00	Rt	20	20				X		44.4	42.0		
241st St	5042+94.00	5043+05.00	Rt	10.5	10.5				X		12.2	11.6		
241st St	5046+94.00	5047+05.00	Rt	10.5	10.5				X		12.2	11.6		
241st St	5054+75.00	5055+00.00	Rt	13	13				X		18.8	17.4		
Sand Hill Trail	7003+95.00	7004+15.00	Lt	20	20				X		44.4	42.0		
580th Ave.	112+19.00	112+30.00	Rt	10.5	10.5				X		12.2	11.6		
580th Ave.	122+43.00	122+56.00	Lt	13	13				X		18.8	17.4		
580th Ave.	132+18.00	132+31.00	Lt	13	13				X		18.8	17.4		
580th Ave.	158+44.00	158+55.00	Rt	10.5	10.5				X		12.2	11.6		
								Rock Erosion Control Tab Totals:			378.6	357.2		
								Engineering Fabric Bid Totals:			492.2			130% of Tab Total
								Class E Revetment Bid Totals:				464.4		130% of Tab Total

100-19
10-19-21

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope Length of Installation			Ditch Check Length of Installation		Remarks
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
6016+00.00		Rt		60				Inlet Protection (Frontage Rd)
6041+00.00		Lt		45				Inlet Protection (Frontage Rd)
6056+75.00		Lt		45				Inlet Protection (Frontage Rd)
6058+30.00		Lt		45				Inlet Protection (Frontage Rd)
6061+50.00		Lt		45				Inlet Protection (Frontage Rd)
6074+00.00		Rt		45				Inlet Protection (Frontage Rd)
6074+00.00		Lt		45				Inlet Protection (Frontage Rd)
6094+00.00		Rt		45				Inlet Protection (Frontage Rd)
6094+00.00		Lt		45				Inlet Protection (Frontage Rd)
11452+00.00		Lt		45				Inlet Protection (Ramp A)
11460+00.00		Lt		45				Inlet Protection (Ramp A)
11450+55.00	11452+00.00	Lt		145				Ramp A
11450+53.00		Lt				23.0		Ramp A
11451+28.00		Lt				23.0		Ramp A
11452+03.00		Lt				23.0		Ramp A
11452+78.00		Lt				23.0		Ramp A
31449+00.00		Lt		45				Inlet Protection (Loop C)
31452+25.00		Lt		45				Inlet Protection (Loop C)
31455+50.00		Rt		60				Inlet Protection (Loop C)
31455+00.00	31463+40.00	Lt		755				Loop C
31455+37.00	31459+77.00	Rt		515				Loop C
21449+65.00		Lt		45				Inlet Protection (Ramp B)
21448+70.00	21449+65.00	Lt		90				Ramp B
41451+53.00	41452+05.00	Rt		60				Ramp D
41451+53.00	41452+50.00	Lt		105				Ramp D
41452+80.00		Rt		45				Inlet Protection (Ramp D)
5011+25.00		Lt		45				Inlet Protection (241st St)
5014+25.00		Lt		60				Inlet Protection (241st St)
5043+00.00		Lt		45				Inlet Protection (241st St)
5047+00.00		Lt		45				Inlet Protection (241st St)
5056+25.00		Lt		45				Inlet Protection (241st St)
5056+75.00	5058+40.00	Lt		170				241st St.
7004+05.00		Rt		60				Inlet Protection (Sand Hill Trail)
112+25.00		Lt		45				Inlet Protection (580th Ave.)
120+00.00	120+55.00	Lt		55				580th Ave.
121+80.00	125+35.00	Rt		185				580th Ave.
121+80.00	125+25.00	Rt		345				580th Ave. 50' offset
122+25.00	125+45.00	Lt		335				580th Ave.
122+50.00		Rt		45				Inlet Protection (580th Ave.)
126+55.00	130+00.00	Lt		340				580th Ave.
126+90.00	130+00.00	Lt		310				580th Ave. 50' offset

100-19
10-19-21

PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES

Possible Standards: EC-204

Location			Perimeter and Slope			Ditch Check		Remarks
			Length of Installation			Length of Installation		
Begin Station	End Station	Side	9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	
126+60.00	130+00.00	Rt		340				580th Ave.
126+85.00	130+00.00	Rt		315				580th Ave. 50' offset
132+35.00		Rt		45				Inlet Protection (580th Ave.)
132+55.00	136+50.00	Lt		388				580th Ave.
132+55.00	141+60.00	Lt		910				580th Ave. 50' offset
132+55.00	136+50.00	Rt		395				580th Ave.
132+55.00	136+50.00	Rt		395				580th Ave. 50' offset
138+85.00	141+75.00	Rt		290				580th Ave.
158+50.00		Lt		45				Inlet Protection (580th Ave.)
PSSCD Tab Totals:				7673		92.0		
12 in. PSSCD Bid Totals:				9591.25				125% of Tab Total
12 in. PSSCD Ditch Checks Bid Totals:						115.0		125% of Tab Total
PSSCD Removal Totals:				9591.25		115.0		100% of Bid Total

100-34
10-17-17

STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

Drainage Basin Location						Summary of Stormwater Storage							Remarks
Basin No.	Station to Station		Side	Discharge Point		Total Disturbed Area	Disturbed Area with Storage Provided	Disturbed Area without Storage Provided	Best Management Practice	Total Storage Volume Provided	Total Storage Volume Required	Storage Volume Met?	
				Station	Side	Acres	Acres	Acres		CF	CF	Yes/No	
1	5006+78.00	6038+60.00	Rt/Lt	5011+25.00	South	14.8	14.8	0.0	Silt Basin (EW-403)	13655.0	53280.0	Yes	
									Silt Fence for Ditch Check (EC-201)	107400.7			
2	5032+00.00	5044+77.00	Rt/Lt	5043+00.00	South	7.4	7.4	0.0	Silt Basin (EW-403)	11050.0	26640.0	Yes	
									Silt Fence for Ditch Check (EC-201)	48304.8			
3	21433+40.00	41481+00.00	Rt/Lt	5054+72.00	South	60.1	60.1	0.0	Silt Basin (EW-403)	35787.5	216360.0	Yes	
									Silt Fence for Ditch Check (EC-201)	286283.9			
4	5044+75.00	5049+60.00	Rt	5047+00.00	South	1.6	1.6	0.0	Silt Basin (EW-403)	5500.0	5760.0	Yes	
									Silt Fence for Ditch Check (EC-201)	10858.5			
5	165+69.00	166+50.00	Lt	166+50.00	North	0.1	0.1	0.0	Silt Fence for Ditch Check (EC-201)	1530.1	360.0	Yes	
6	165+69.00	166+50.00	Rt	166+50.00	North	0.1	0.1	0.0	Silt Fence for Ditch Check (EC-201)	3109.5	360.0	Yes	
7	101+00.00	118+27.00	Rt/Lt	112+50.00	West	7.6	7.6	0.0	Silt Fence for Ditch Check (EC-201)	28133.4	27360.0	Yes	
8	96+50.00	101+00.00	Lt	96+50.00	South	0.6	0.6	0.0	Silt Fence for Ditch Check (EC-201)	4590.2	2160.0	Yes	
9	96+50.00	106+75.00	Rt	96+50.00	South	1.4	1.4	0.0	Silt Fence for Ditch Check (EC-201)	12437.9	5040.0	Yes	
10	6067+50.00	6082+50.00	Rt	6074+00.00	South	1.9	1.9	0.0	Silt Basin (EW-403)	2737.5	6840.0	Yes	
									Silt Fence for Ditch Check (EC-201)	14264.2			
11	6067+50.00	6082+50.00	Lt	6074+00.00	North	1.9	1.9	0.0	Silt Basin (EW-403)	2737.5	6840.0	Yes	
									Silt Fence for Ditch Check (EC-201)	15251.3			
12	11471+00.00	11473+51.00	Lt	11472+00.00	North	0.3	0.3	0.0	Silt Fence for Ditch Check (EC-201)	3038.5	1080.0	Yes	
13	6082+50.00	6100+50.00	Rt	6094+25.00	South	2.2	2.2	0.0	Silt Basin (EW-403)	2775.0	7920.0	Yes	
									Silt Fence for Ditch Check (EC-201)	15251.3			
14	6082+50.00	6100+50.00	Lt	6094+25.00	North	2.2	2.2	0.0	Silt Basin (EW-403)	2775.0	7920.0	Yes	
									Silt Fence for Ditch Check (EC-201)	17373.6			
15	6100+50.00	6110+00.00	Rt/Lt	6109+46.00	South	3.0	3.0	0.0	Silt Fence for Ditch Check (EC-201)	24777.2	10800.0	Yes	

ROLLED EROSION CONTROL

Refer to EC-101, EC-103 and EC-104

Location				L	W	Turf Reinforcement Mat (TRM) (EC-104)				Slope Protection (EC-103)	Special Ditch Control (EC-101)	Remarks
Road Identification	Begin Station	End Station	Side			Type 1	Type 2	Type 3	Type 4			
				FT	FT	Squares	Squares	Squares	Squares	Squares	Squares	
580th Ave and 241st Street	120+00.00	5057+55.00	Lt							72		
241st Street, 580th Ave and Ramp B	5057+55.00	21448+70.00	Lt							432		
580th Ave and Ramp D	121+75.00	41452+05.00	Rt							329		
Ramp B and 580th Ave	21448+70.00	130+00.00	Lt							522		
Ramp D and 580th Ave	41452+50.00	130+00.00	Rt							398		
580th and Frontage Road	132+55.00	6058+80.00	Lt							599		
580th Ave and Loop C	132+55.00	31455+00.00	Lt							615		
Loop C	31455+40.00	31463+10.00	Rt							273		
Ramp A, 280th Ave and Frontage Road	11450+00.00	6061+50.00	Rt							221		
	Rolled Erosion Control Tab Totals:									3461		

POLLUTION PREVENTION PLAN

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

I. ROLES AND RESPONSIBILITES

A. Designer:
1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

B. Contractor:
1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

C. Subcontractors:
1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or peroming work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

D. RCE/Project Engineer:
1. Is Project Storm Water Manager.
2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
7. Is familiar with the Project PPP and storm water site map.
8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
10. Is signature authority on Notice of Discontinuation.
11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
12. Makes information to determine permit compliance available to the DNR upon their request.

E. Inspector:
1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

II. PROJECT SITE DESCRIPTION

A. This Pollution Prevention Plan (PPP) is Grading in Story County.
B. This PPP covers approximately 157.1 acres with an estimated 105.2 acres being disturbed. The portion of the PPP covered by this contract has 105.2 acres disturbed.
C. The PPP is located in an area of Clarion – Nicollet – Webster soil association
The estimated weighted average runoff coefficient number for this PPP after completion will be 0.30.
D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
F. Runoff from this work will flow into South Skunk River.

III. CONTROLS

A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
B. Preserve vegetation in areas not needed for construction.
C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.
1. EROSION AND SEDIMENT CONTROLS
a. Stabilization Practices
1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
a) Permanently ceased on any portion of the site, or
b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.
b. Structural Practices
1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that

LINE STYLE LEGEND OF EROSION CONTROL SHEETS

- Silt Fence
- Perimeter and Slope Sediment Control Device (9")
- Perimeter and Slope Sediment Control Device (12")
- Perimeter and Slope Sediment Control Device (20")
- Open-Throat Curb Intake Sediment Filter
- Concentrated Flow
- Sheet Flow

PLAN VIEW COLOR LEGEND OF EROSION CONTROL SHEETS

LINEWORK	Design Color No.		
Green	(2)		Existing Topographic Features and Labels
Blue	(1)		Proposed Alignment, Stationing, Tic Marks, and Alignment Annotation
Magenta	(5)		Existing Utilities
Black	(0)		Permanent Erosion Control Features
Blaze Orange	(222)		Temporary Erosion Control Features

SHADING	Design Color No.			Transparency
Citron	(234)		Mulching, All Types	50%
Light Brown	(238)		Special Ditch Control, Wood Excelsior Mat	0%

CELL LEGEND OF EROSION CONTROL SHEETS

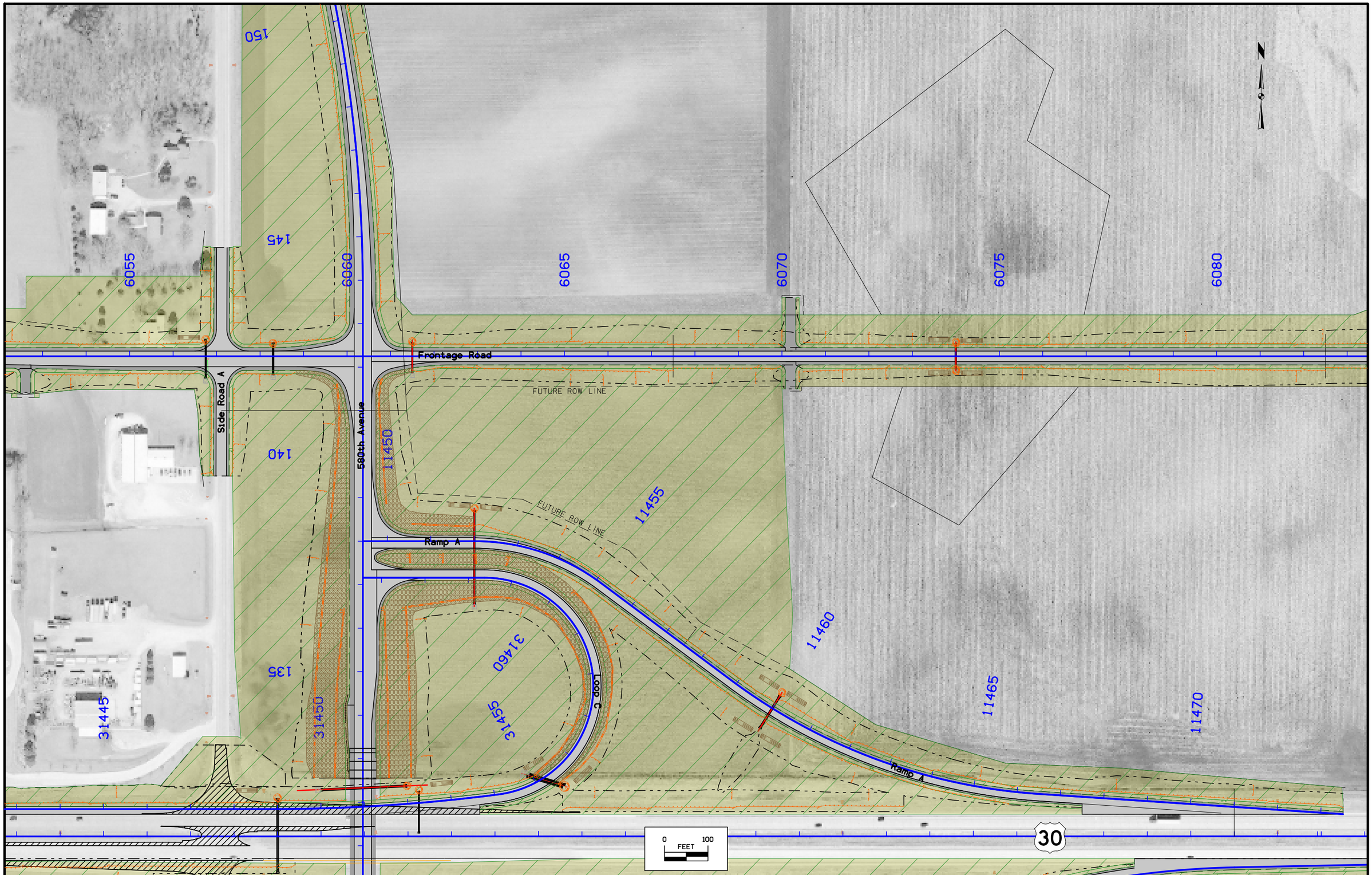
- Temporary Sediment Control basin
- Erosion Control for Circular Intake or Manhole Well
- Erosion Control for Rectangular Intake or Manhole Well
- Grate Intake Sediment Filter Bag
- Silt Basin
- Silt Fence Tail
- Stormwater Drainage Basin Discharge Point

PATTERN LEGEND OF EROSION CONTROL SHEETS

- Seeding and Fertilizing
- Seeding and Fertilizing (Rural) (R)
- Seeding and Fertilizing (Urban) (U)
- Native Grass Seeding (N)
- Salt Tolerant Seeding (ST)
- Wetland Grass Seeding (WL)
- Wildflower Seeding (WF)
- Sodding (SOD)
- Turf Reinforcement Mat Type 1
- Turf Reinforcement Mat Type 2
- Turf Reinforcement Mat Type 3
- Turf Reinforcement Mat Type 4
- Slope Protection, Wood Excelsior Mat
- Transition Mat
- Rock Features, Permanent
- Rock Features, Temporary

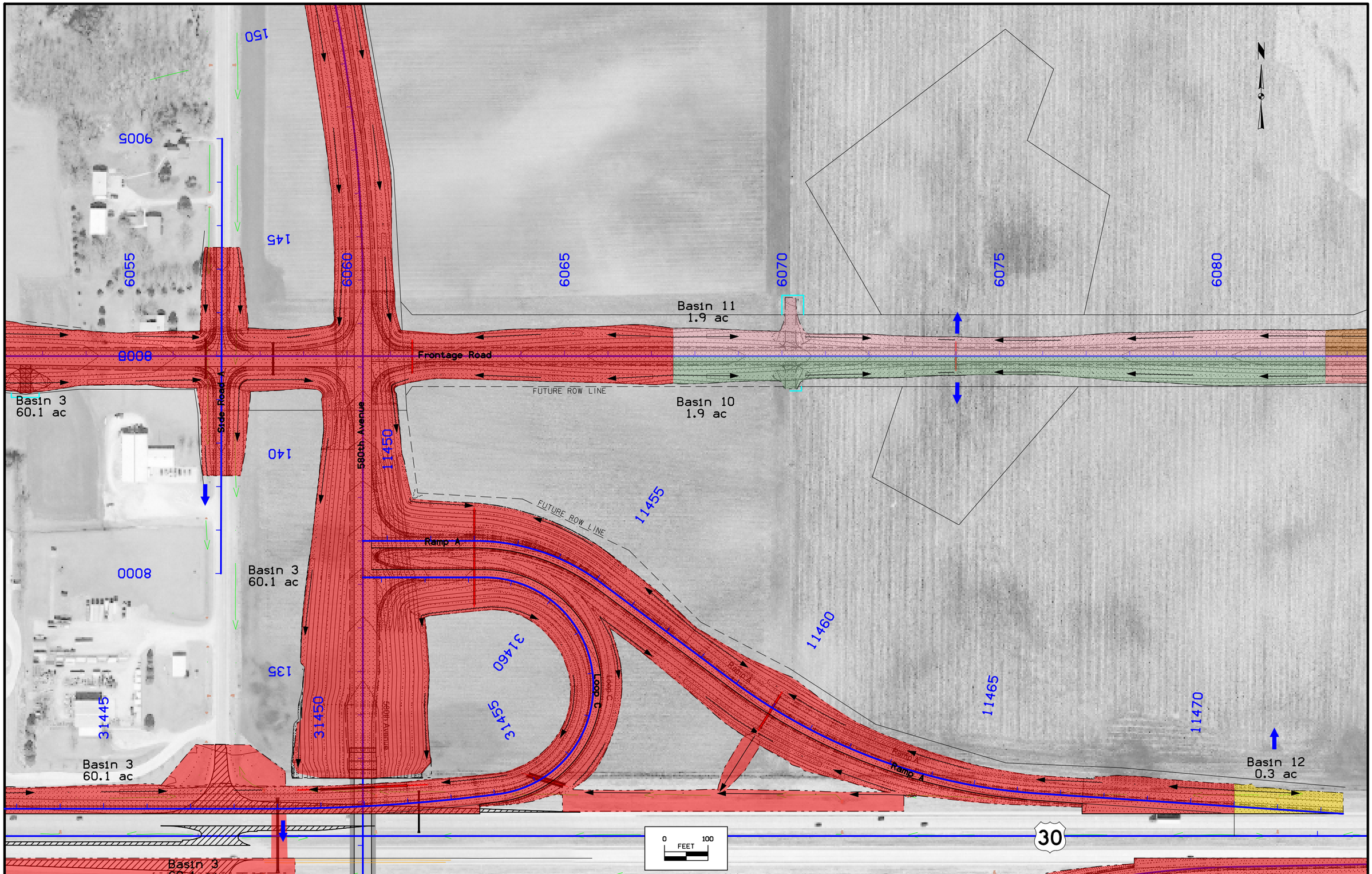
EROSION CONTROL LEGEND AND SYMBOL INFORMATION SHEET

(COVERS SHEET SERIES R)



FILE NO. 31665	ENGLISH	DESIGN TEAM FLATTERY \ POHLEN \ MCDONALD	STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER RR.15

4:23:05 PM 10/11/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\8503001013\Roadside\E04(258)\85030258_Siteplan_RR11.dgn



FILE NO. 31665	ENGLISH	DESIGN TEAM FLATTERY \ POHLEN \ MCDONALD	STORY COUNTY	PROJECT NUMBER NHSX-030-5(258)--3H-85	SHEET NUMBER RR.6

4:12:07 PM 10/11/2022 bmcdona pw:\\NTPwint1.dot.int.lan:PWMain\Documents\Projects\8503001013\Roadside\E04(258)\85030258_Basins_RR02.dgn

MASTER

SILT FENCE

DITCH CHECK

20" EXCELSIOR

STAB CROP - SEED/FERTILIZE AND MULCH

FRANKLIN TWP.
T-82N R-5W
SEC. 13

Sta. 850+20.00 WBL
Install 24" X 82' 2000D RCP
F.L. = Lt. 848.00
Rt. 852.30
(By Others)

Sta. 850+00.00 Med.
Install Type "M" Dike
Elev. =853.80
(By Others)

BEGIN PAVING
STA 850+41.25

Sta. 846+36.75 WBL
Construct 663'-0" x 40'-0"
Pretensioned Prestressed Concrete
Beam Bridge with 0° Skew
(By Others)

850

855

860

ADAMS AVE. RAMP 'C'

30

4-9 t

Sta. 846+36.75 EBL
Construct 663'-0" x 40'-0"
Pretensioned Prestressed Concrete
Beam Bridge with 0° Skew
(By Others)

ADAMS AVE. RAMP 'B'

E4

0 FEET 50

FRANKLIN TWP.
T-82N R-5W
SEC. 13

Refer to Sheets K.1-K.12
For Interchange Information

LE NO.	ENGLISH	DESIGN TEAM SNYDER AND ASSOCIATES, INC.	LINN/CEDAR COUNTY	PROJECT NUMBER NHSX-030-7(192)--3H-57	SHEET NUMBER D.2

14 PM 8/17/2018 V8i_IDOTRoadpw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5703005095\Design_(192)_PavingPkg3\57030192d2.sht

PIONEER TWP.
T-82N R-4W
SEC. 7

PIONEER TWP.
T-82N R-4W
SEC. 8

Sta. 921+82.82
Install 30" X 272' 2000D RCP
Skew = 32° Rt. Ahd.
F.L. = Lt. 904.72
Rt. 899.57

Sta. 922+93.00 WBL
Install 24" X 76' 2000D RCP
F.L. = Lt. 906.60
Rt. 909.64

Curve Data
Δ = 35° 39' 37.42" (RT)
T = 1,479.57
L = 2,863.00
R = 4,600.00
E = 232.09
e = 4.0%
l = 180'
x = 90'

Sta. 933+63.00 WBL
Install 24" X 70' 2000D RCP
F.L. = Lt. 877.43
Rt. 878.24
(By Others)

Sta. 933+83.00 Med.
Install Type "M" Dike
Elev. =879.74
(By Others)

SUSPEND GRADING AND PAVING
RESUME PAVING ONLY
STA 923+50.00

Sta. 923+13.00 Med.
Install Type "M" Dike
Elev. =911.14

925
930
935
7-15-19
7-19
7-19
7-19
10-10 SF DG.
30
Sta. 932+23.89
+83.00 Rt. Prop. "C/L" End
Temp. Type "M"
Sta. 899+60.70
15" X 120.3
D.A. = 9.3
(Remove)
4-5
4-5
KIRKWOOD 3
EXISTING U.S. HWY. 30
E2
E4
E4
0 FEET 50

Refer to Sheets F.1-F.4
For East Detour Information

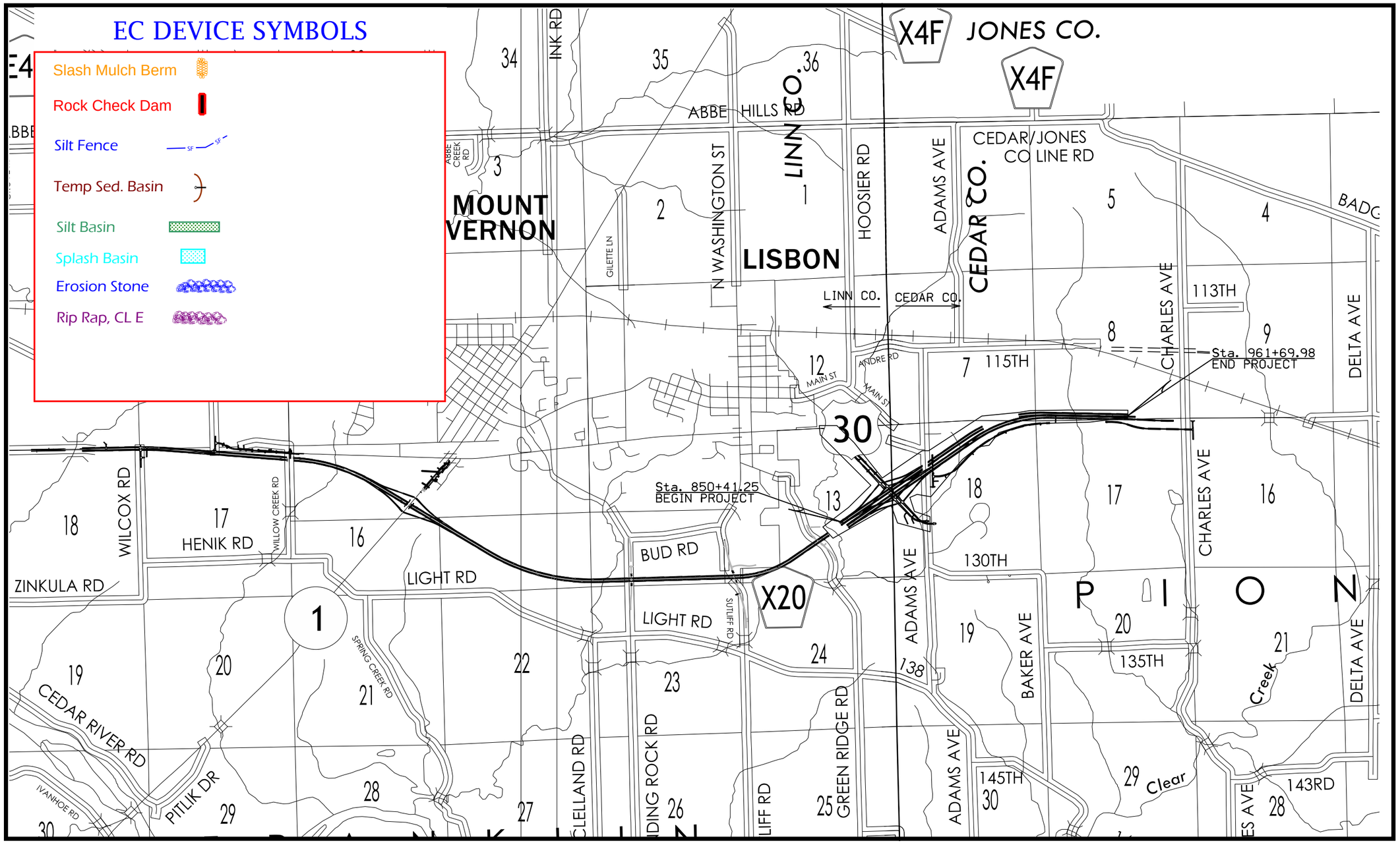
Refer to Sheets E.29-E.32
For Kirkwood 3 Information

FILE NO.	ENGLISH	DESIGN TEAM SNYDER AND ASSOCIATES, INC.	LINN/CEDAR COUNTY	PROJECT NUMBER NHSX-030-7(192)--3H-57	SHEET NUMBER D.12

4:11:28 PM 8/17/2018 V8i_IDOTRoadpw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5703005095\Design_(192)_PavingPkg3\57030192d2.sht

NHSX-030-7(192)--3H-57
EC MARK-UP

DATE UPDATED: 10/01/19



PIONEER TWP.
T-82N R-4W
SEC. 8

Sta. 942+54.95
Install Twin 10' X 10' RCB Extension
Skew = 31° Rt. Ahd.
30° Headwall
F.L. = Lt. 844.50
Other 839.61
Rt. 838.43
(By Others)

Sta. 944+33.00 WBL
Install 24" X 76' 2000D RCP
F.L. = Lt. 850.66
Rt. 854.61
(By Others)

Sta. 952+00.00 WBL
Install 24" X 70' 2000D RCP
F.L. = Lt. 862.37
Rt. 864.03
(By Others)

Installed 07/12/19

STA 933+63 to STA 941+65

Installed 07/15/19 & 07/16/19

STA 942+00 to STA 946+09

Sta. 951+80.00 Med.
Install Type "M" Dike
Elev. =965.53
(By Others)

940

945

950

30

Cleaned :
10/01/19

Installed 08/19/19

STA 935+63 to STA 941+55

Cleaned.
10/01/19

STA 941+55

(Lose 1)

Install 05/16/19

STA: 941+63 to 942+73

STA 945+50

Installed 07/22/19

Install 05/16/19

STA: 941+87 to 942+73

Install 05/16/19

STA: 943+64 to 944+91

STA 945+50 to STA 946+65

EXISTING U.S. 30

KIRKWOOD 4

SW-513
942+75.00
131.0' Rt.
F.G.= 850.90
B.W.= 843.90
(By Others)

SW-513
943+60.00
127.0' Rt.
F.G.= 850.80
B.W.=843.80
(By Others)

Remove Headwall
(By Others)

PIONEER TWP.
T-82N R-4W
SEC. 17

0 50
FEET

Refer to Sheets E.9 - E.10
For Kirkwood 4 Information

FILE NO.	ENGLISH	DESIGN TEAM SNYDER AND ASSOCIATES, INC.	LINN/CEDAR COUNTY	PROJECT NUMBER NHSX-030-7(192)--3H-57	SHEET NUMBER D.14

4:11:30 PM 8/17/2018 V8i_IDOTRoadpw:\\projectwise.dot.int.lan:PWMain\Documents\Projects\5703005095\Design_(192)_PavingPkg3\57030192d2.sht