

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	1	41

FILE: 9912 - Title Page.dwg
PLOTING DATE: 2013-06-18 INITIALS: JRK
REVISION DATE:

INDEX OF SECTIONS

- SECTION A: ESTIMATE OF QUANTITIES
- SECTION B: GRADING PLANS
- SECTION D: EROSION CONTROL
- SECTION X: CROSS SECTIONS
- SECTION Z: PIPE SECTIONS

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

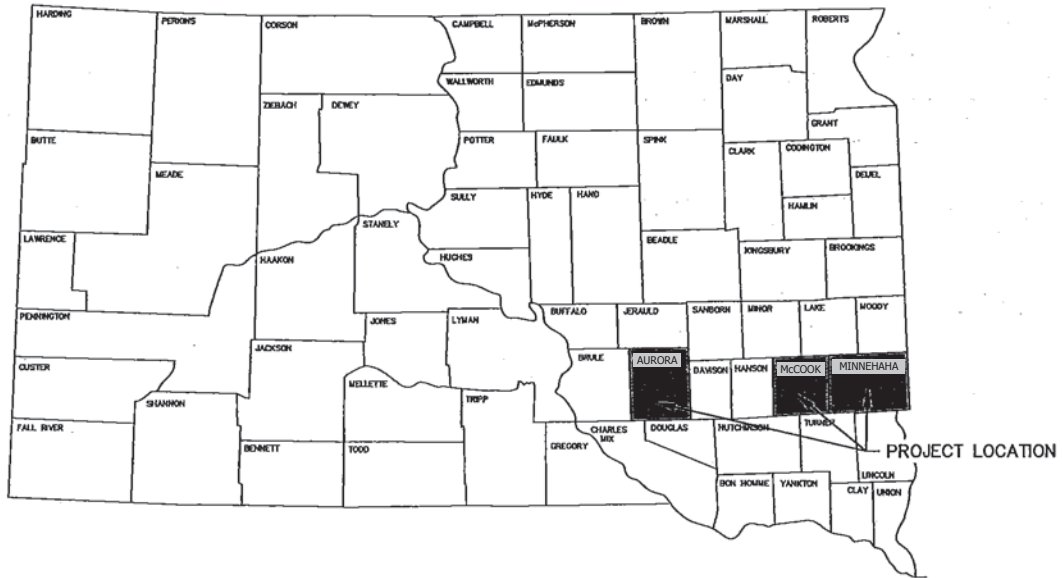
PLANS FOR PROPOSED

PROJECT IM 0020(00)135

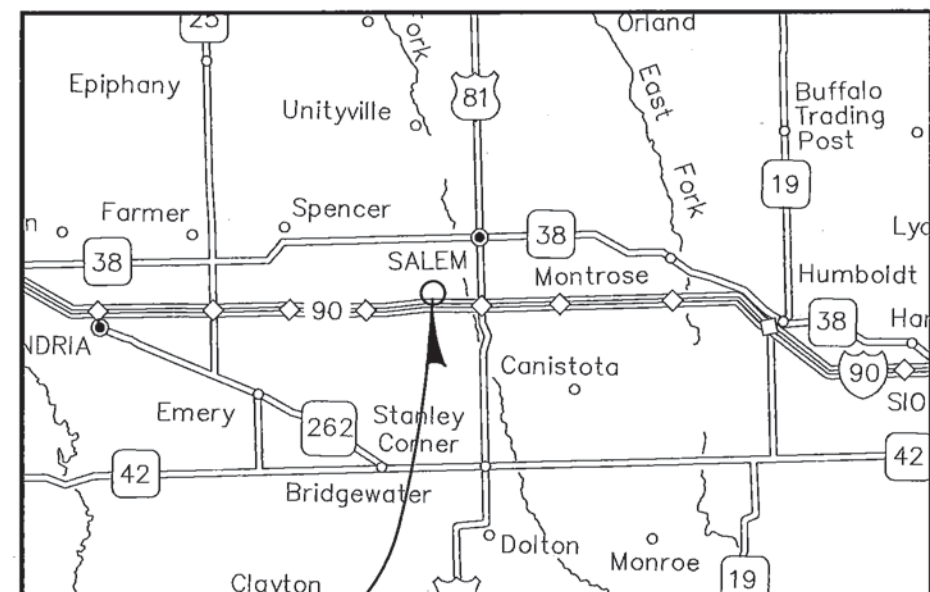
SALEM, VALLEY SPRINGS, & WHITE LAKE
REST AREA LAGOON IMPROVEMENTS
McCOOK, MINNEHAHA, & AURORA COUNTY

GRADING & SANITARY SEWER

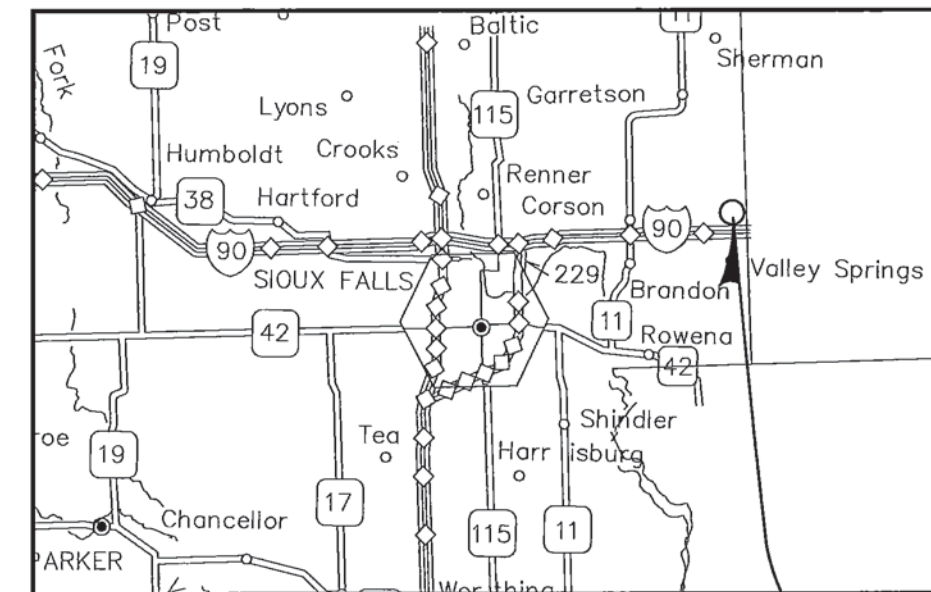
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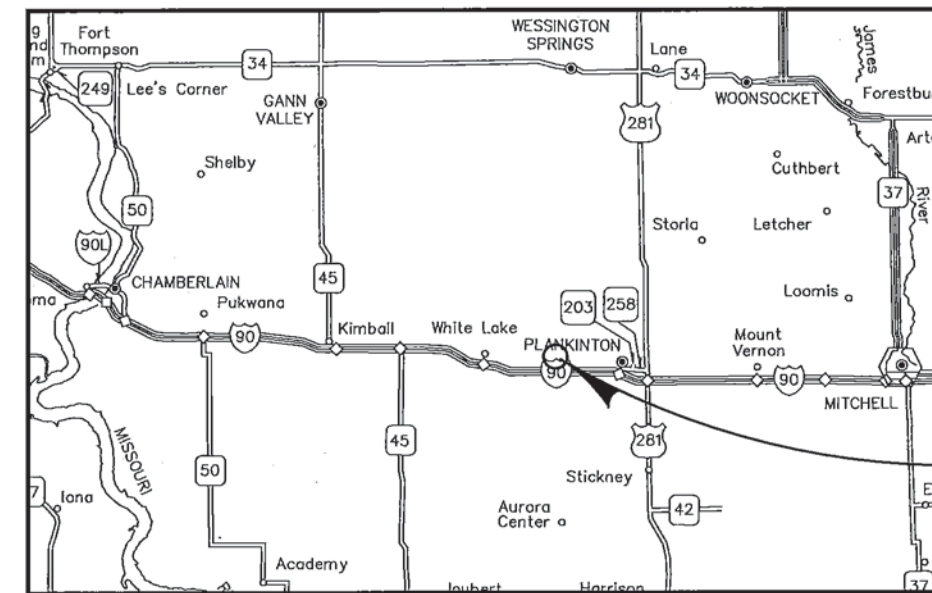
SCALES
PLAN 1" = 40'
PROFILE HORIZONTAL 1" = 40'
VERTICAL 1" = 10'
CROSS SECTIONS HORIZONTAL 1" = 40'
VERTICAL 1" = 20'



PROJECT IM 0020(00)135
APPROX. 1.0 MILE WEST OF HIGHWAY 81
NORTH SIDE OF INTERSTATE 90



PROJECT IM 0020(00)135
APPROX. 0.25 MILE WEST OF 488TH AVENUE
NORTH SIDE OF INTERSTATE 90



PROJECT IM 0020(00)135
APPROX. 1.0 MILE WEST OF COUNTY ROAD 23
NORTH SIDE OF INTERSTATE 90



ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. A1	TOTAL SHEETS A1
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FILE: 9912 - Estimate of Quantities.dwg
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BID ITEM NUMBER	ITEM	QUANTITY	UNIT
GRADING - SECTION B			
009E0010	Mobilization	LUMP SUM	LS
110E0605	Remove Chain Link Fence	132	Ft
120E0010	Unclassified Excavation	13,276	CuYd
120E0600	Contractor Furnished Borrow	9,930	CuYd
250E0020	Incidental Work, Grading	LUMP SUM	LS
451E1056	6" Ductile Iron Sewer Pipe	180	Ft
451E1058	8" Ductile Iron Sewer Pipe	338	Ft
451E4208	8" Gate Valve with Box	4	Each
451E7020	Sewer Bypass Pumping	LUMP SUM	LS
462E0100	Class M6 Concrete	20.5	CuYd
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	36.0	SqFt
700E0210	Class B Riprap	10,740.0	Ton
831E0110	Type B Drainage Fabric	14,810	SqYd
900E2030	Miscellaneous Work	3	Site
EROSION CONTROL - SECTION D			
730E0200	Type A Permanent Seed Mixture	36	Lb
732E0200	Fiber Mulching	3.1	Ton



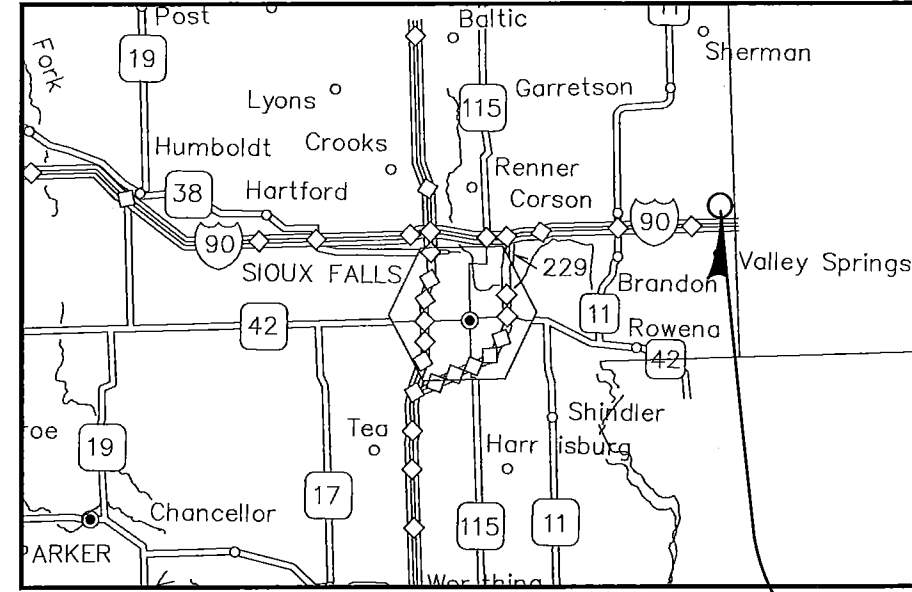
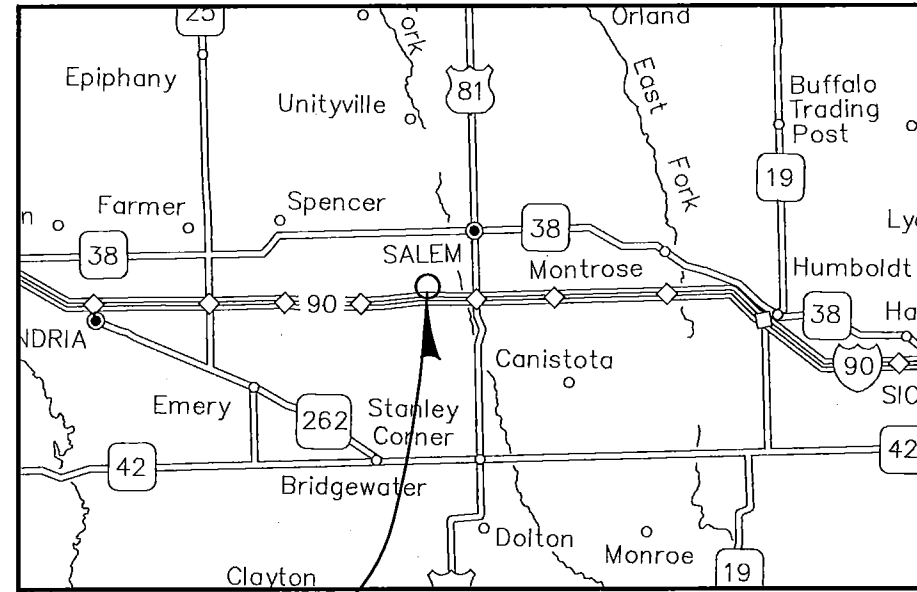
SECTION B: GRADING PLANS

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. B1	TOTAL SHEETS B22
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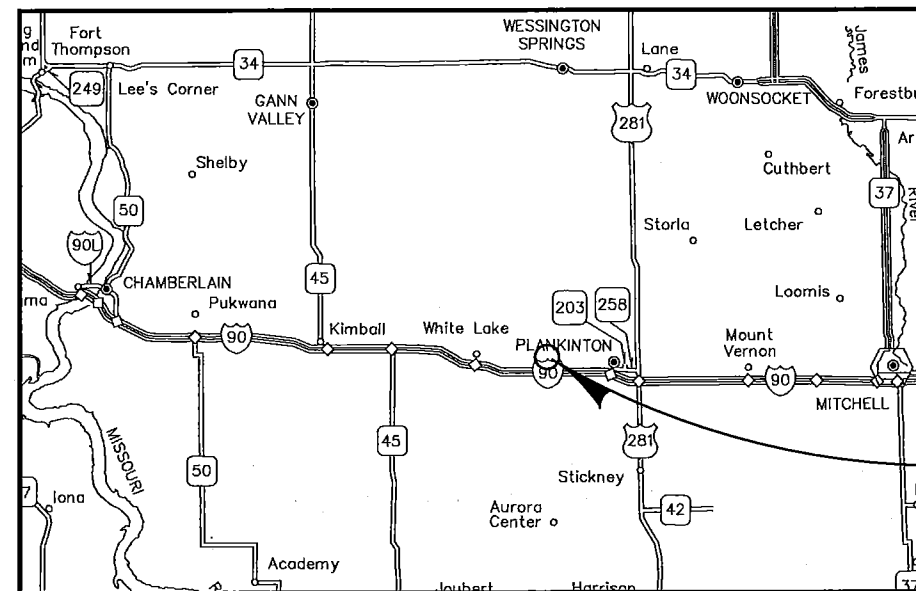
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INDEX OF SHEETS

- B1 TITLE SHEET
- B2 THRU B5 ESTIMATE OF QUANTITIES, GENERAL NOTES & TABLES
- B6 TABLE OF PIPE QUANTITIES
- B7 THRU B10 TYPICAL GRADING SECTION
- B11 HORIZONTAL ALIGNMENT & CONTROL DATA
- B12 EXISTING TOPOGRAPHY SYMBOLS & LEGENDS SHEET
- B13 THRU B16 REMOVALS & IN PLACE UTILITIES
- B17 THRU B20 SANITARY SEWER PLAN
- B21 THRU B22 STANDARD PLATES



PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF HIGHWAY 81
 NORTH SIDE OF INTERSTATE 90



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 APPROX. 0.25 MILE WEST OF 488TH AVENUE
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PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF COUNTY ROAD 23
 NORTH SIDE OF INTERSTATE 90



STOCKWELL ENGINEERS
 600 N. MAIN AVENUE #100
 SIOUX FALLS, SD 57104
 PH. (605) 338-6668
 FAX (605) 338-8750
 WWW.STOCKWELLENGINERS.COM

SECTION B ESTIMATE OF QUANTITIES

SALEM

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	LUMP SUM	LS
110E0605	Remove Chain Link Fence	132	Ft
120E0010	Unclassified Excavation	5,289	CuYd
120E0600	Contractor Furnished Borrow	3,790	CuYd
250E0020	Incidental Work, Grading	LUMP SUM	LS
451E1056	6" Ductile Iron Sewer Pipe	67	Ft
451E1058	8" Ductile Iron Sewer Pipe	82	Ft
451E4208	8" Gate Valve with Box	1	Each
451E7020	Sewer Bypass Pumping	LUMP SUM	LS
462E0100	Class M6 Concrete	4.9	CuYd
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	12.0	SqFt
700E0210	Class B Riprap	3,660.0	Ton
831E0110	Type B Drainage Fabric	5,050	SqYd
900E2030	Miscellaneous Work	1	Site

VALLEY SPRINGS

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	LUMP SUM	LS
120E0010	Unclassified Excavation	3,040	CuYd
120E0600	Contractor Furnished Borrow	2,330	CuYd
250E0020	Incidental Work, Grading	LUMP SUM	LS
451E1058	8" Ductile Iron Sewer Pipe	152	Ft
451E4208	8" Gate Valve with Box	1	Each
462E0100	Class M6 Concrete	5.8	CuYd
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	8.0	SqFt
700E0210	Class B Riprap	2,520.0	Ton
831E0110	Type B Drainage Fabric	3,480	SqYd
900E2030	Miscellaneous Work	1	Site

WHITE LAKE

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	LUMP SUM	LS
120E0010	Unclassified Excavation	4,947	CuYd
120E0600	Contractor Furnished Borrow	3,810	CuYd
250E0020	Incidental Work, Grading	LUMP SUM	LS
451E1056	6" Ductile Iron Sewer Pipe	113	Ft
451E1058	8" Ductile Iron Sewer Pipe	104	Ft
451E4208	8" Gate Valve with Box	2	Each
451E7020	Sewer Bypass Pumping	LUMP SUM	LS
462E0100	Class M6 Concrete	9.8	CuYd
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	16.0	SqFt
700E0210	Class B Riprap	4,560.0	Ton
831E0110	Type B Drainage Fabric	6,280	SqYd
900E2030	Miscellaneous Work	1	Site

GRADING OPERATIONS

Water for Embankment and compaction of the clay liner shall be incidental to the earth work bid items. The Contractor will be allowed to use the wastewater in the ponds for watering operations. Before final completion the Contractor will be required to provide at least two feet of water over the entire pond floor.

SPECIFICATIONS

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental, Supplemental Specifications and/or Special Provisions as included in the Proposal.

CONSTRUCTION SCHEDULE

The Contractor shall prepare a construction schedule for approval that will ensure the completion of the project with the time frame specified. This schedule must be provided to the State for review a minimum of 3 days prior to the preconstruction meeting. The notice to proceed will not be issued until the schedule has been approved. The construction schedule shall be in bar or network diagram form and show the start and completion dates for significant items of work in their respective phases. When applicable the schedule shall include submission dates for shop drawings, manufacturing and installation of materials, supplies, equipment, and testing for various parts of work.

The construction schedule shall be updated on a bi-weekly basis. If it appears the rate of progress is such that the contract will not be completed within the time frame allowed the Contractor will be required to provide written documentation as to what measures they will take to complete the project within the specified time frame or to prosecute work in a satisfactory manner.

UTILITIES

The Contractor shall cooperate with the utility companies in accordance with section 5.6 of the Standard Specifications.

The Contractor shall safeguard all utilities and coordinate his efforts to coincide with utility work in order to avoid interference and to minimize inconvenience between Contractors and the Public. Any damage to utilities because of the Contractor's carelessness shall be repaired at the Contractor's expense.

The Contractor shall call One-Call Utility Locating Services at 1-800-781-7474 to obtain utility locates prior to any excavation.

WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the DOT Environmental Office.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the DOT Environmental Office.

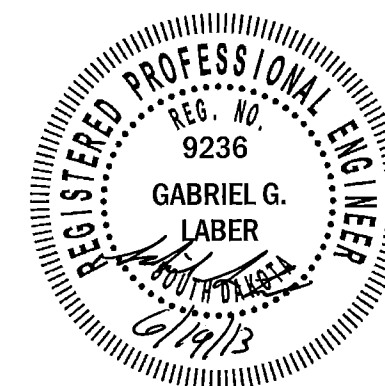
The DOT Environmental Office contact is the Environmental Project Scientist, 605-773-3268. The WATER SOURCE plan note does not relieve the Contractor of his/her responsibility to obtain the necessary permits from other agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE).

WORK AFFECTING WATERWAYS

A. WATER QUALITY

Surface Water Discharge

If construction dewatering is required, the Contractor is required to obtain a Surface Water Discharge Permit from the DENR. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.



HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to the DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3268). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

WASTE DISPOSAL SITE

The Contractor will be required to furnish a site(s) for the disposal of construction/demolition debris generated by this project.

Construction/demolition debris may not be disposed of within the ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction/demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction/demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance

with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

Excavation	2,379.00
Liner Excavation	2,910.00
Total Excavation	5,289.00
Embankment	563.00
Contractor Furnished Borrow Including Shrinkage	3,790.00
Shrink	169.00
Waste	4,557.00
Total Embankment	9,079.00

Excavation	1,250.00
Liner Excavation	1,790.00
Total Excavation	3,040.00
Embankment	550.00
Contractor Furnished Borrow Including Shrinkage	2,330.00
Shrink	165.00
Waste	2,325.00
Total Embankment	5,370.00

Excavation	2,017.00
Liner Excavation	2,930.00
Total Excavation	4,947.00
Embankment	898.00
Contractor Furnished Borrow Including Shrinkage	3,810.00
Shrink	270.00
Waste	3,779.00
Total Embankment	8,757.00

UNCLASSIFIED EXCAVATION

Earthwork shall be performed as shown on the plans. Due to the difficulty in making field measurements on this project and to expedite final payment, the computed quantity of Unclassified Excavation shall be the basis of payment for this item. However, the Engineer will adjust the unclassified excavation quantity if during construction it is determined that the elevation of the floor and top of dike need to be adjusted. The Engineer may also elect to survey the floor of the lagoon after the water has been removed to verify the existing lagoon floor.

All excavations made for underground utilities are incidental to the installation of that utility. All spoil material removed for pipe installation is the property of the Contractor and is to be removed from the project by the Contractor. All spoil material and costs for removing it are incidental to pipe installation costs.

The excess soil resulting from earthwork activities, if any, shall become the property of the contractor who shall be responsible for its removal from the site.

Water for compaction of subgrade and embankments shall be provided by the contractor and used to maintain soil at or near optimum moisture content to obtain required density. Compaction of subgrade and embankments shall be governed by the specified density method. Separate payment will not be made for water used for compaction of subgrade.

SHRINKAGE FACTOR: Embankment +30%



CONTRACTOR FURNISHED BORROW

The Contractor shall provide a suitable site for Contractor furnished borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site.

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor. All costs for the borrow material including transportation, compaction, borrow site restoration, testing, etc shall be included in the contract unit price.

The Contractor furnished borrow material shall be clay suitable for the clay liner and meeting the seepage requirements of the SD DENR.

The Contractor will be responsible for the following minimum testing prior to use of each borrow site:

A minimum of one percolation test and a 4 point for each location and soil type, with samples obtained according to SD201.

SLUDGE REMOVAL

It is assumed that there is sludge build-up in the existing cells. The Contractor will be responsible for removing the sludge and separating it from the waste excavation material. The sludge shall be stockpiled on site. All runoff from the sludge pile shall be directed back to the cells and shall not reach waters of the state. The Owner will then sample the sludge to determine the nutrient content. If the nutrient content is low enough, then the material can be disposed of with the excess excavation material. If the nutrient content is too high, then the material will have to be land applied as fertilizer. A price will be negotiated if the land application is necessary. All cost associated with removing the sludge from the existing lagoons, stockpiling it on site and removal with the excess excavation material shall be included in the price bid for Miscellaneous Work.

INCIDENTAL WORK, GRADING

Site	Remarks
Salem	Remove Sewer Pipe 198 ft
Salem	Remove 3 Concrete Structures
Salem	Transfer Pumping
Salem	Plug Existing Piping
Valley Springs	Remove Sewer Pipe 170 ft
Valley Springs	Remove 3 Concrete Structures
Valley Springs	Transfer Pumping
Valley Springs	Plug Existing Piping
White Lake	Remove Sewer Pipe 304 ft
White Lake	Remove 8 Concrete Structures
White Lake	Transfer Pumping
White Lake	Plug Existing Piping

SANITARY SEWER

SANITARY SEWER - GENERAL

Contractor's License. The Contractor shall obtain a "South Dakota State Sewer and Water Plumbing Contractor's License" prior to commencing construction.

Sanitary sewer work consists of the removal of existing pond piping and the construction of 6" and 8" DIP pond piping with valves. The backfill shall consist of native soils placed in uniform layers and compacted to a density equal to that in the adjacent ground. Concrete anchors to hold the outfall piping on the pond floor shall be incidental to the pipe. Connections to existing piping shall be incidental to the pipe. Couplers shall be Fernco Strong Back RC Series or approved equal.

The existing pond piping does not have valves or the valves are not operational. The Contractor can elect to plug the existing piping to facilitate his work and then remove the piping or the piping can be removed to stop the flow of wastewater between the cells. All this work shall be included in "Incidental Work, Grading".

It may be necessary to transfer pump wastewater from one cell to the next in order to completely drain the ponds and complete the construction activities. Each site may require multiple transfers. All work necessary to transfer the wastewater from one cell to the next and provide a minimum of two foot of wastewater over the entire pond floor before final completion shall be included in the bid item "Incidental Work, Grading".

SANITARY SEWER TEMPORARY BYPASS

Where existing flow cannot be maintained, interruption of service shall be minimized such that no discharge of sanitary sewage to any natural waterway, storm sewer, open trench, ground surface, streets or gutters occurs nor shall such interruption create a public health hazard from sewage backups or overflows. Bypass operations must be approved by the Owner before starting.

The bypass system shall be of sufficient capacity to handle peak flow of the pipe. Contractor shall provide the necessary labor and supervision to set up and operate the bypassing system. During bypass pumping operations, the Contractor shall provide the necessary labor to continually monitor the operation and ensure uninterrupted and sufficient pumping at all times.

Bypass pumping equipment shall include pumps, conduits, engines, and related equipment necessary to divert the flow of sewage around the section in which the work is to be performed.

Sanitary sewer operation shall be maintained at all times during construction. When necessary, bypass pumping shall be provided to maintain free flow of sewage during construction. All costs associated with sewage bypass pumping operations shall be included in the bid item "Sewer Bypass Pumping".

MISCELLANEOUS CONCRETE

Concrete for structures shall be Class M-6 as detailed in the SDDOT Standards Specifications Section 462. All reinforcement shall be incidental to the concrete.

CONCRETE CURING

All concrete shall be cured in accordance with section 380.3.P.2 of the 2004 SDDOT Standard Specifications for Roads and Bridges except as modified in this note. All concrete shall be cured with a white pigmented linseed oil base emulsion compound when cured using the Impervious Membrane Method. Curing compound material shall be in accordance with section 821.1.D.

Apply liquid curing compound in a fine spray to form a continuous, uniform solid white opaque coverage (equal to a white sheet of typing paper) on the horizontal surface and vertical edges of pavement, immediately after surface moisture has disappeared, but no later than 30 minutes after finishing. Concrete edges exposed by the removal of forms shall also be cured. Apply the curing compound in 2 equal applications, in opposing directions, to ensure a uniform coverage. With the approval of the Engineer, the timing of cure application may be adjusted due to varying weather conditions and concrete mix properties to ensure acceptable macrotexture is achieved.

Failure to comply with the provisions may result in a price adjustment or rejection of the concrete. Payment for this item shall be incidental and included in the unit price for the respective bid item.

DRAINAGE FABRIC

Drainage fabric shall be placed under all rip rap on pond slopes as detailed. The fabric shall be Type B Drainage Fabric meeting the requirements of Section 831 of the SDDOT Standard Specifications for Roads and Bridges. Payment shall be at the contract unit price.



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0020(00)135	B5	B22

POND SITE WARNING SIGNS

All sign material shall comply with Section 982 of the Standard Specifications for Roads & Bridges, 2004 Edition. Background color shall be white and letters shall be black. Letter height shall be 2" with 2" Spacing above and below the lettering and 1" between lines. Signs shall be paid for under the bid item Flat Aluminum Sign, Nonremovable Copy High Intensity. Signs shall be placed at a height of 5' from the base of the fence. All cost associated with furnishing and installing pond site warning signs shall be included in the contract unit price.

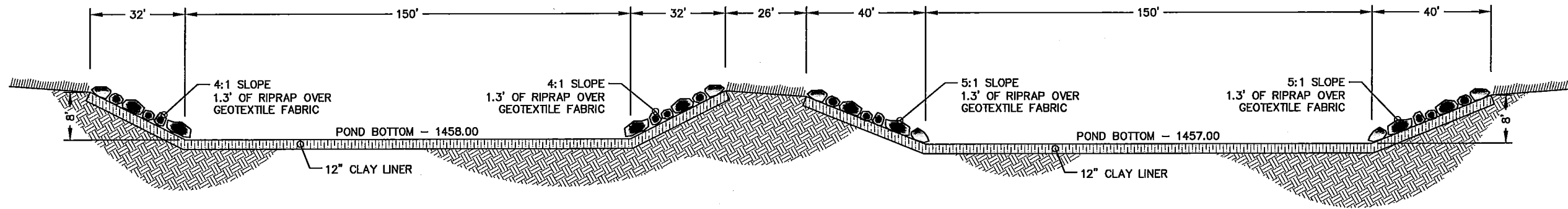
POND STRUCTURES

Pond structures shall be constructed of class M-6 concrete and reinforcing steel as detailed. The structures shall be located as indicated in the plans. All costs associated with the construction of pond structures shall be included in the contract unit price bid for Class M6 Concrete. All reinforcing steel shall be incidental to the concrete.

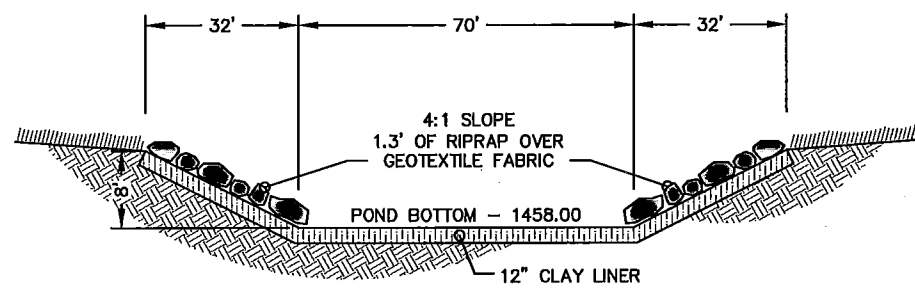


TYPICAL GRADING SECTIONS

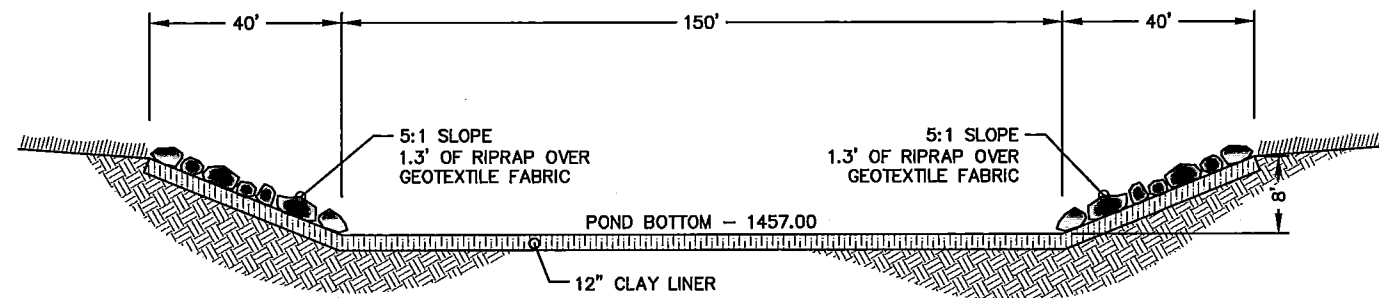
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**Salem - West Bound
Section A-A**



**Salem - West Bound
Section B-B**



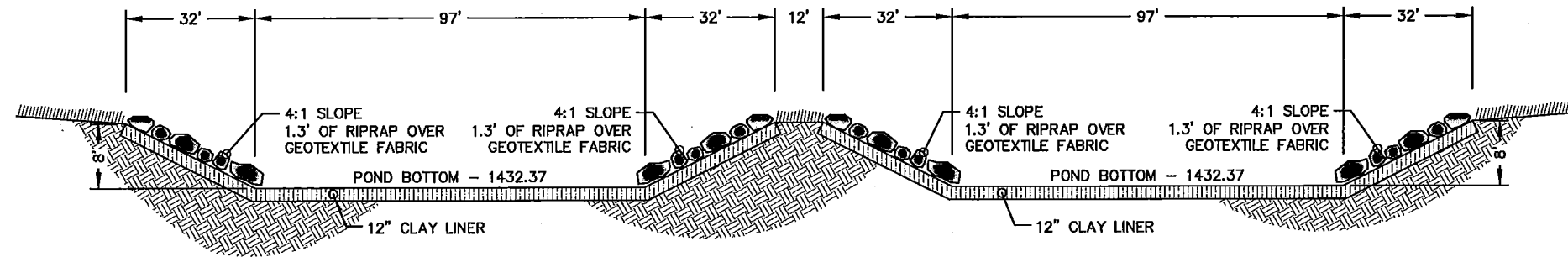
**Salem - West Bound
Section C-C**



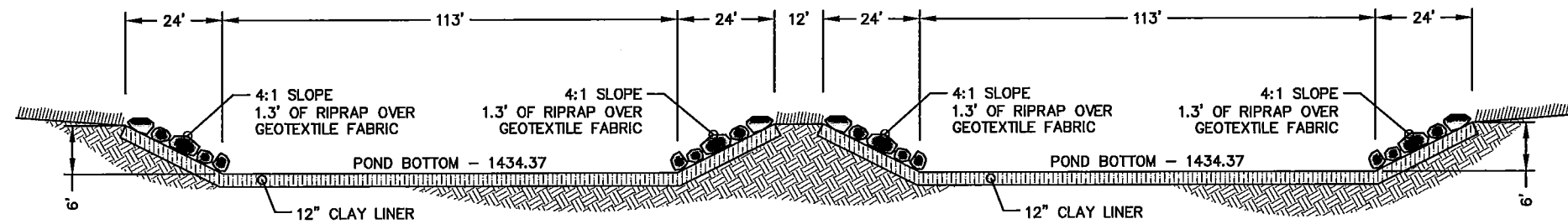
TYPICAL GRADING SECTIONS

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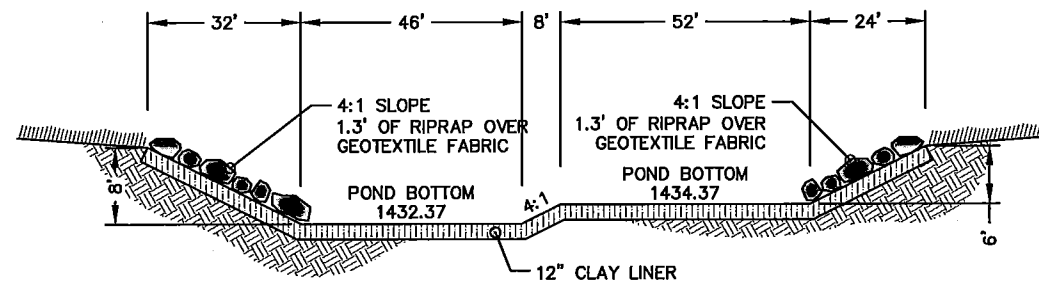
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**Valley Springs - West Bound
Section A-A**



**Valley Springs - West Bound
Section B-B**



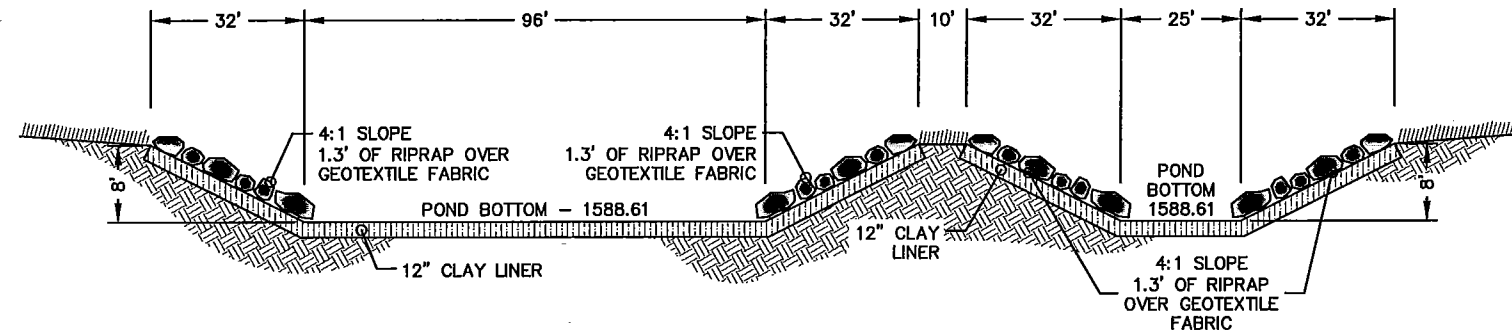
**Valley Springs - West Bound
Section C-C**



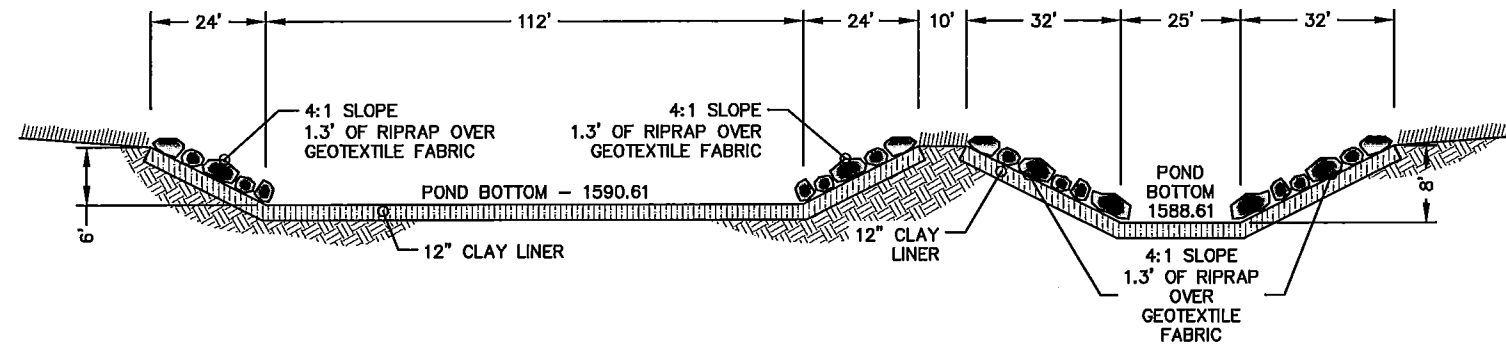
TYPICAL GRADING SECTIONS

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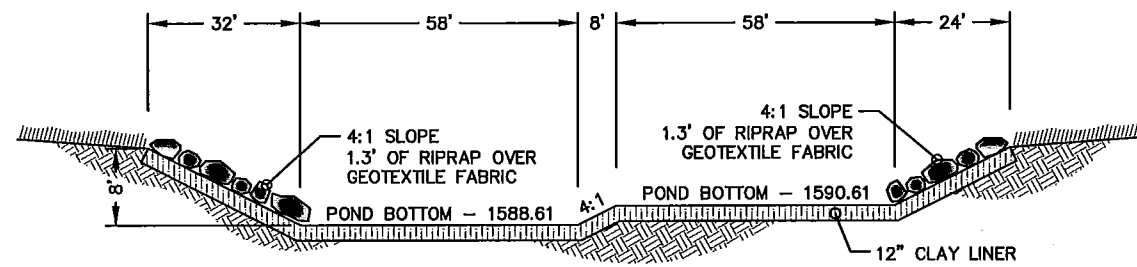
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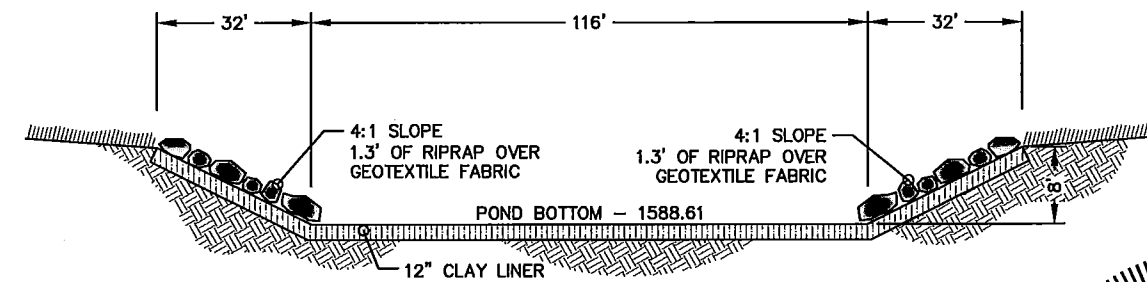
**White Lake - West Bound
Section A-A**



**White Lake - West Bound
Section B-B**



**White Lake - West Bound
Section C-C**



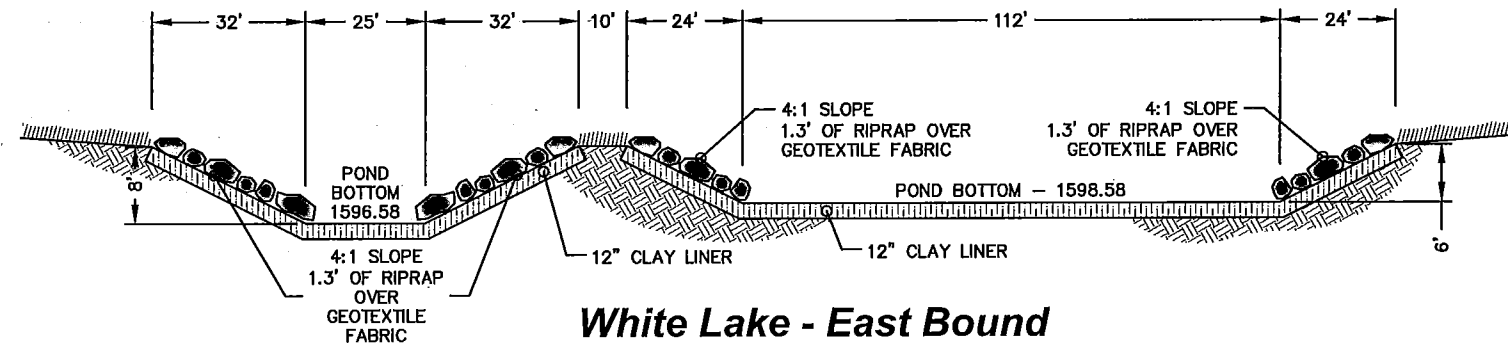
**White Lake - West Bound
Section D-D**



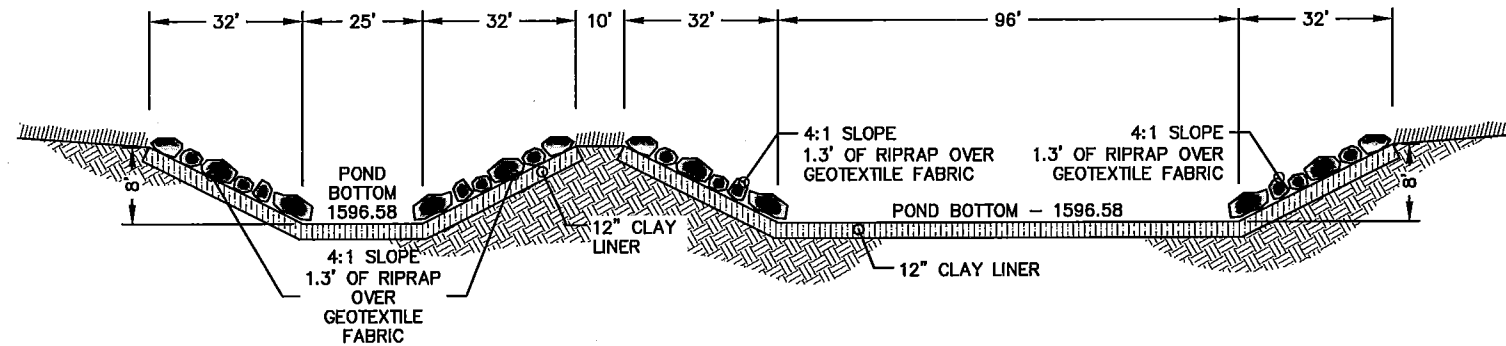
TYPICAL GRADING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B10	B22

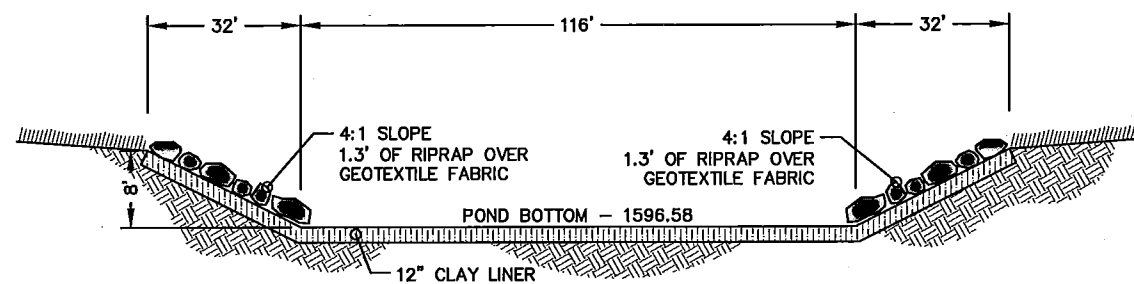
FILE: 9912 - Typical Sections.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:



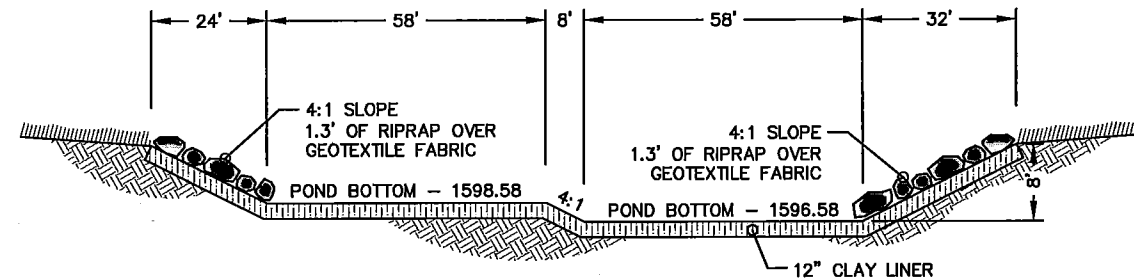
White Lake - East Bound Section A-A



White Lake - East Bound Section B-B



White Lake - East Bound Section C-C



White Lake - East Bound Section D-D



CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B11	B22
FILE: 9912 - Survey Data.dwg			
PLOTTING DATE: 2013-06-18 INITIALS: JRK			
REVISION DATE:			

Control Point Data

Salem

Point	Northing	Easting	Elevation	Description
1	15866505.3430	2060839.7450	1469.4520	Rebar
2	15866381.2370	2061336.2100	1465.3520	Rebar

Valley Springs

Point	Northing	Easting	Elevation	Description
1	489796.4720	2994256.4580	1441.5800	Rebar
2	489988.5860	2994472.8640	1440.1980	Rebar
3	489644.3870	2994498.9910	1440.6110	Rebar




































White Lake

Point	Northing	Easting	Elevation	Description
1	506534.1170	2422885.9420	1600.9950	Rebar
2	506816.5020	2423200.1040	1596.5790	Rebar
3	506556.4040	2423385.1140	1596.8320	Rebar
4	505114.6610	2419428.7320	1604.0770	Rebar
5	505382.7100	2419233.3620	1603.4960	Rebar



EXISTING TOPOGRAPHY SYMBOLOLOGY AND LEGEND SHEET

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B12	B22
FILE: 9912 - Title Page.dwg			
PLOTING DATE: 2013-06-18 INITIALS: JRK			
REVISION DATE:			

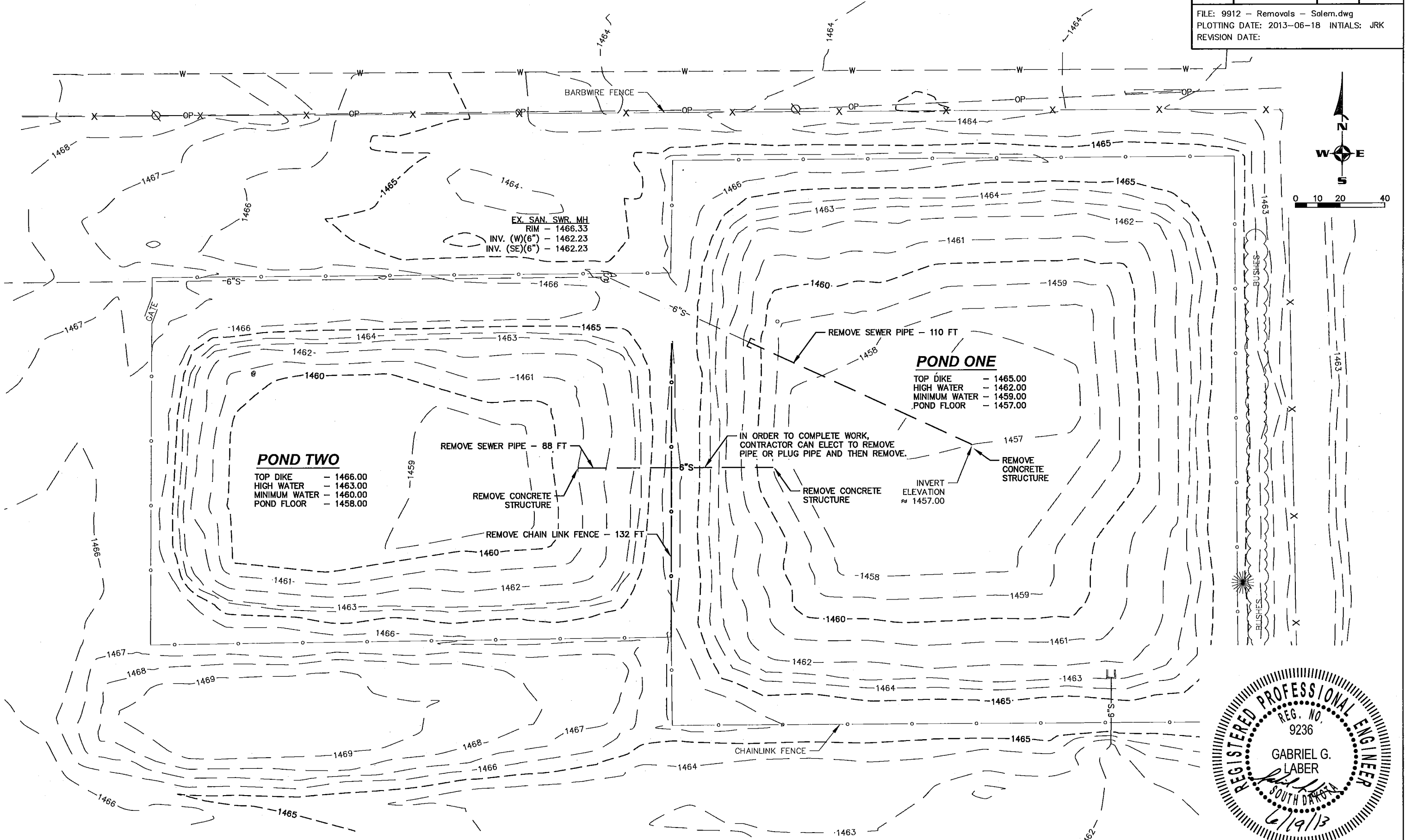
—————	- CENTERLINE		- DECIDUOUS TREE		- WATERMAIN SLEEVE
—————	- PROPERTY LINE		- CONIFEROUS TREE		- UTILITY CLEANOUT
- - - - -1400- - - - -	- MAJOR CONTOUR		- TREE STUMP		- UTILITY RISER
- - - - -1402- - - - -	- MINOR CONTOUR		- SHRUB		- UTILITY METER
— W —	- WATER MAIN		- SIGN		- STORM SEWER MANHOLE
- - - - -ST- - - - -	- STORM SEWER		- PARKING METER POST		- SANITARY MANHOLE
- - - - -S- - - - -	- SANITARY SEWER		- MAIL BOX		- WATER MANHOLE
- - - - -FM- - - - -	- SANITARY SEWER FORCE MAIN		- FLAGPOLE		- ELECTRIC MANHOLE
- - - - -CS- - - - -	- COMBINED SEWER		- SPRINKLER HEAD		- TELEPHONE MANHOLE
- - - - -G- - - - -	- GAS MAIN		- GAS VALVE		- FIBER OPTIC MANHOLE
- - - - -UT- - - - -	- UNDERGROUND TELEPHONE		- TRAFFIC SIGNAL LIGHT		
- - - - -OT- - - - -	- OVERHEAD TELEPHONE		- POWER POLE		
- - - - -UP- - - - -	- UNDERGROUND POWER		- GUY WIRE		
- - - - -OP- - - - -	- OVERHEAD POWER		- STREET LIGHT		
- - - - -F- - - - -	- FIBER OPTIC		- FLOOD LIGHT		
- - - - -UTV- - - - -	- UNDERGROUND CABLE TV		- HISTORICAL STREET LIGHT		
- - - - -OTV- - - - -	- OVERHEAD CABLE TV		- UTILITY CLOSURE		
- - - - -TR- - - - -	- TRAFFIC		- WELL		
- - - - -IW- - - - -	- INDUSTRIAL WASTE		- WATERMAIN SHUTOFF		
- - - - -SL- - - - -	- LAWN SPRINKLER LINE		- FIRE HYDRANT		
===== ===== =====	- CONC. CURB & GUTTER		- WATERMAIN VALVE & BOX		
===== ===== =====	- APPROACH		- WATERMAIN CAP		
— □ — □ —	- WOOD FENCE		- WATERMAIN TEE		
— ○ — ○ —	- CHAIN LINK FENCE		- WATERMAIN CROSS		
— X — X —	- BARBED WIRE FENCE		- WATERMAIN REDUCER		



REMOVALS AND INPLACE UTILITIES - SALEM - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. B13	TOTAL SHEETS B22
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FILE: 9912 - Removals - Salem.dwg
 PLOTTING DATE: 2013-06-18 INTIALS: JRK
 REVISION DATE:



EX. SAN. SWR. MH
 RIM - 1466.33
 INV. (W)(6") - 1462.23
 INV. (SE)(6") - 1462.23

POND TWO
 TOP DIKE - 1466.00
 HIGH WATER - 1463.00
 MINIMUM WATER - 1460.00
 POND FLOOR - 1458.00

REMOVE SEWER PIPE - 88 FT
 REMOVE CONCRETE STRUCTURE
 REMOVE CHAIN LINK FENCE - 132 FT

POND ONE
 TOP DIKE - 1465.00
 HIGH WATER - 1462.00
 MINIMUM WATER - 1459.00
 POND FLOOR - 1457.00

REMOVE SEWER PIPE - 110 FT
 REMOVE CONCRETE STRUCTURE
 REMOVE CONCRETE STRUCTURE
 INVERT ELEVATION ≈ 1457.00

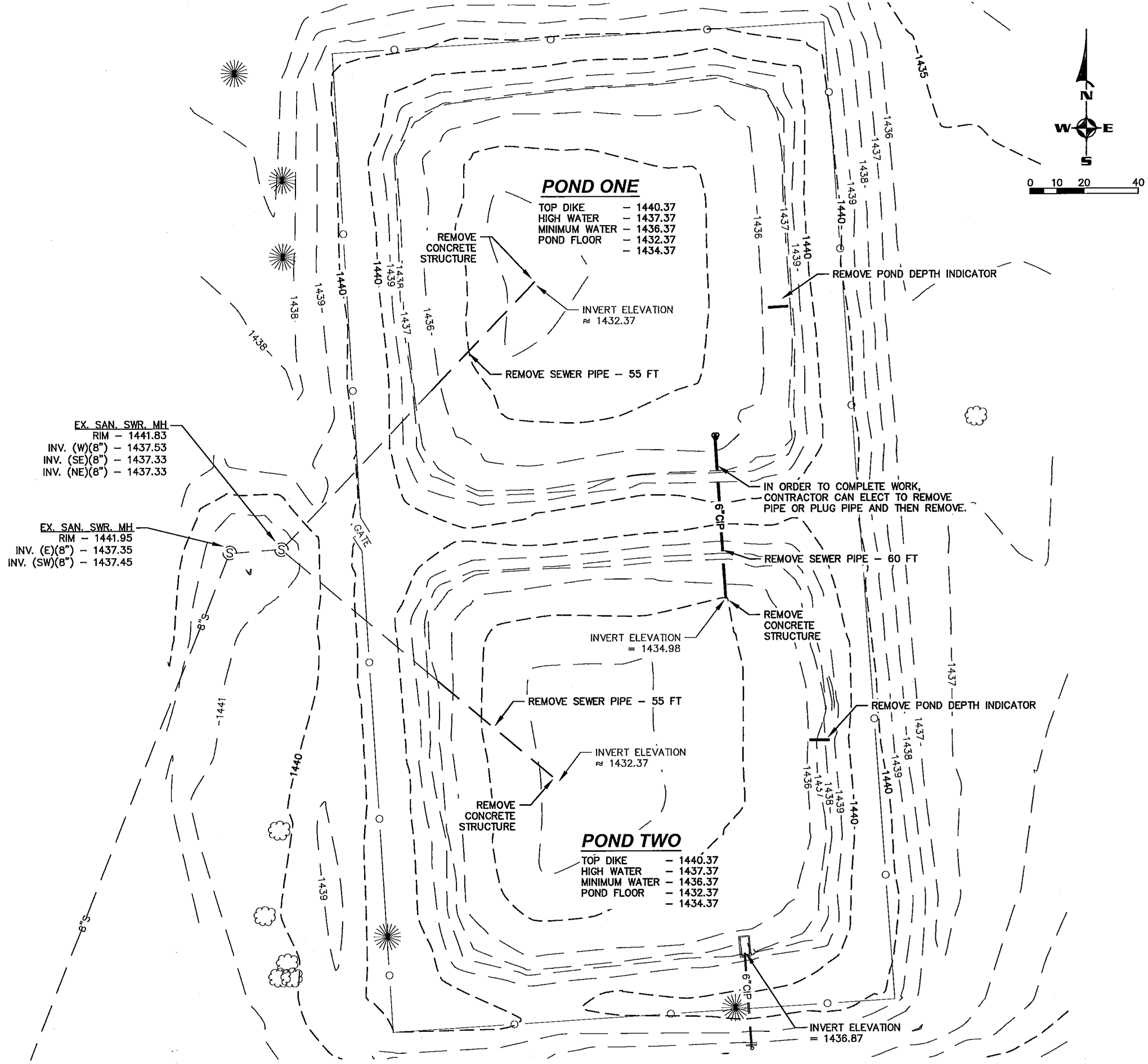
IN ORDER TO COMPLETE WORK,
 CONTRACTOR CAN ELECT TO REMOVE
 PIPE OR PLUG PIPE AND THEN REMOVE.



REMOVALS AND INPLACE UTILITIES - VALLEY SPRINGS - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B14	B22

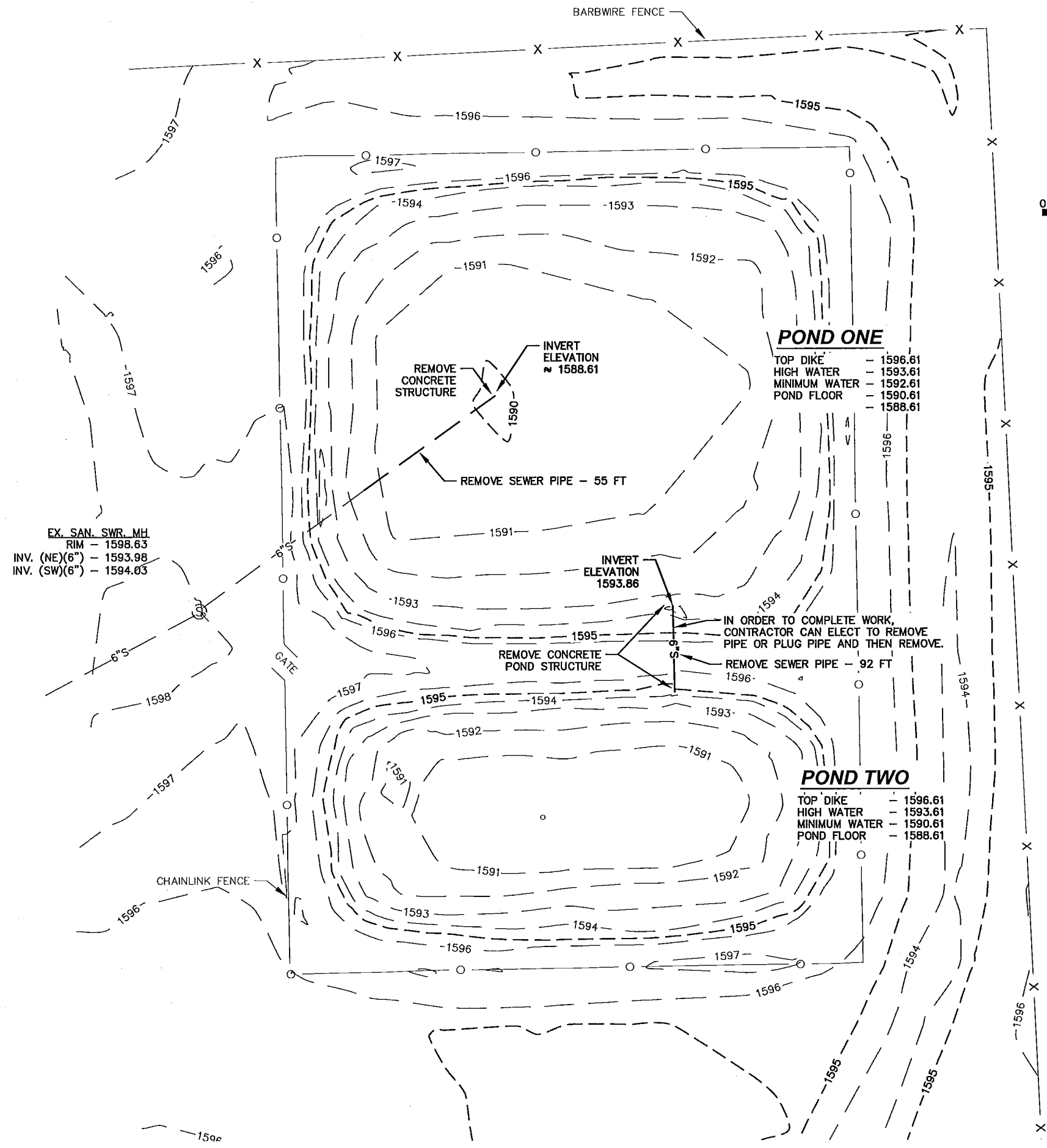
FILE: 9912 - Removals - Valley Springs.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:



REMOVALS AND INPLACE UTILITIES - WHITE LAKE - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. B15	TOTAL SHEETS B22
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FILE: 9912 - Removals - White Lake.dwg
 PLOTTING DATE: 2013-06-18 INTIALS: JRK
 REVISION DATE:



EX. SAN. SWR. MH
 RIM - 1598.63
 INV. (NE)(6") - 1593.98
 INV. (SW)(6") - 1594.03

POND ONE

TOP DIKE - 1596.61
 HIGH WATER - 1593.61
 MINIMUM WATER - 1590.61
 POND FLOOR - 1588.61

INVERT ELEVATION
 ≈ 1588.61

INVERT ELEVATION
 1593.86

POND TWO

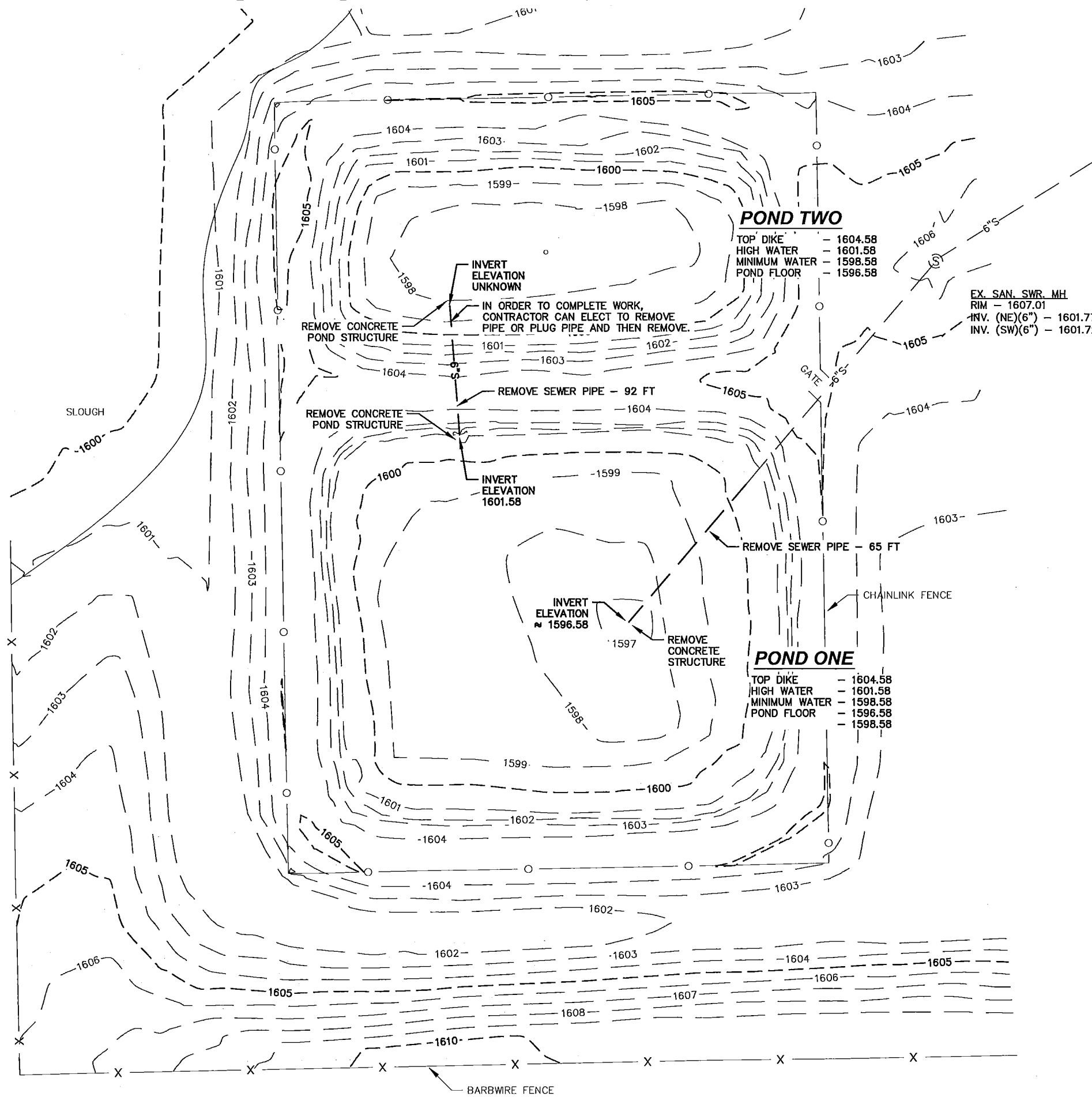
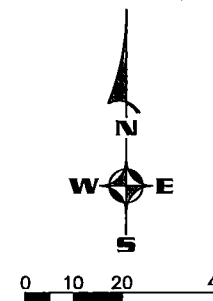
TOP DIKE - 1596.61
 HIGH WATER - 1593.61
 MINIMUM WATER - 1590.61
 POND FLOOR - 1588.61



REMOVALS AND INPLACE UTILITIES - WHITE LAKE - EAST BOUND

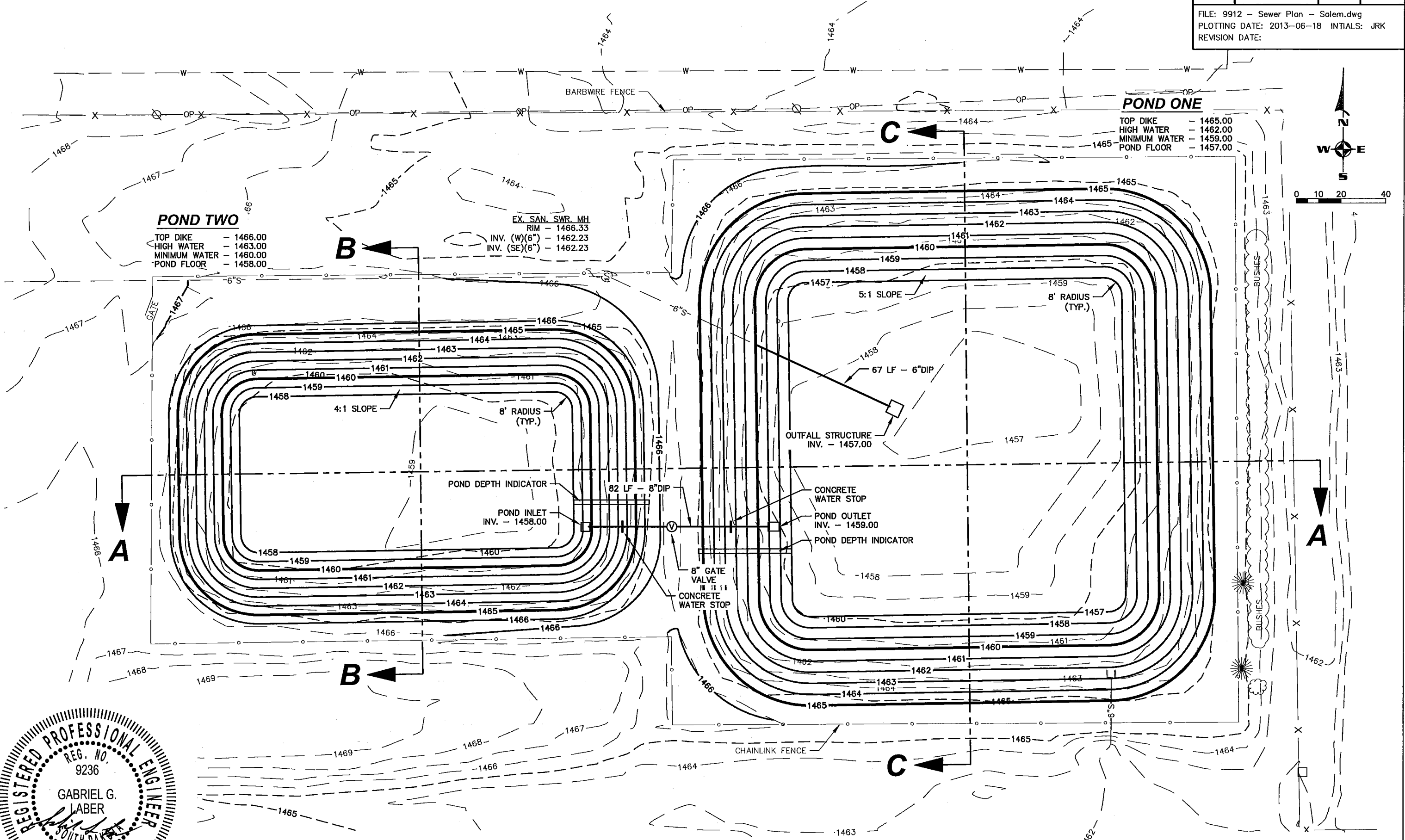
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B16	B22

FILE: 9912 - Removals - White Lake.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:



SANITARY SEWER PLAN SHEET - SALEM - WEST BOUND

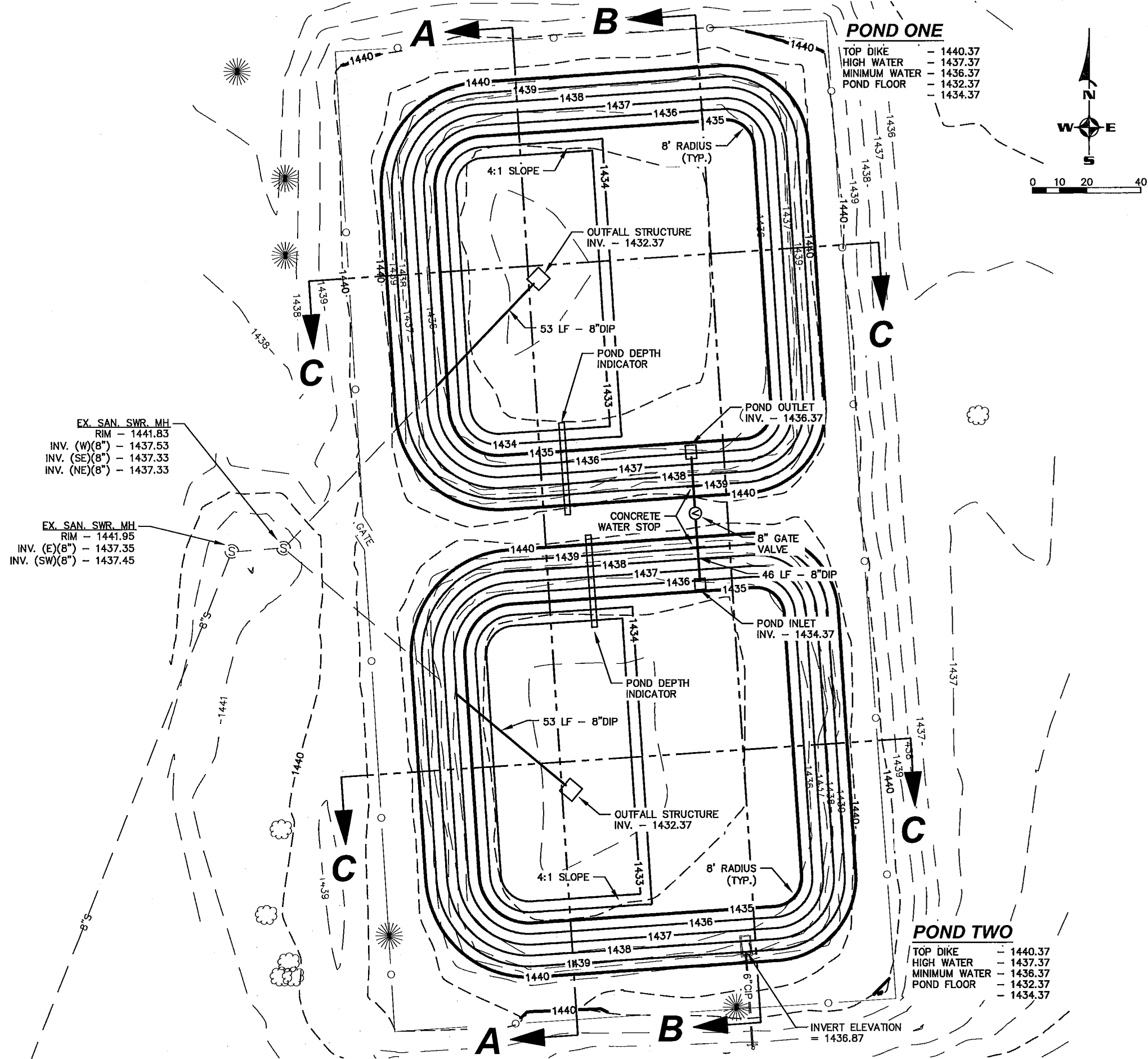
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B17	B22
FILE: 9912 - Sewer Plan - Salem.dwg			
PLOTTING DATE: 2013-06-18 INITIALS: JRK			
REVISION DATE:			



SANITARY SEWER PLAN SHEET - VALLEY SPRINGS - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B18	B22

FILE: 9912 - Sewer Plan - Valley Springs.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:



EX. SAN. SWR. MH
 RIM - 1441.83
 INV. (W)(8") - 1437.53
 INV. (SE)(8") - 1437.33
 INV. (NE)(8") - 1437.33

EX. SAN. SWR. MH
 RIM - 1441.95
 INV. (E)(8") - 1437.35
 INV. (SW)(8") - 1437.45

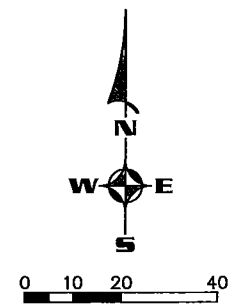
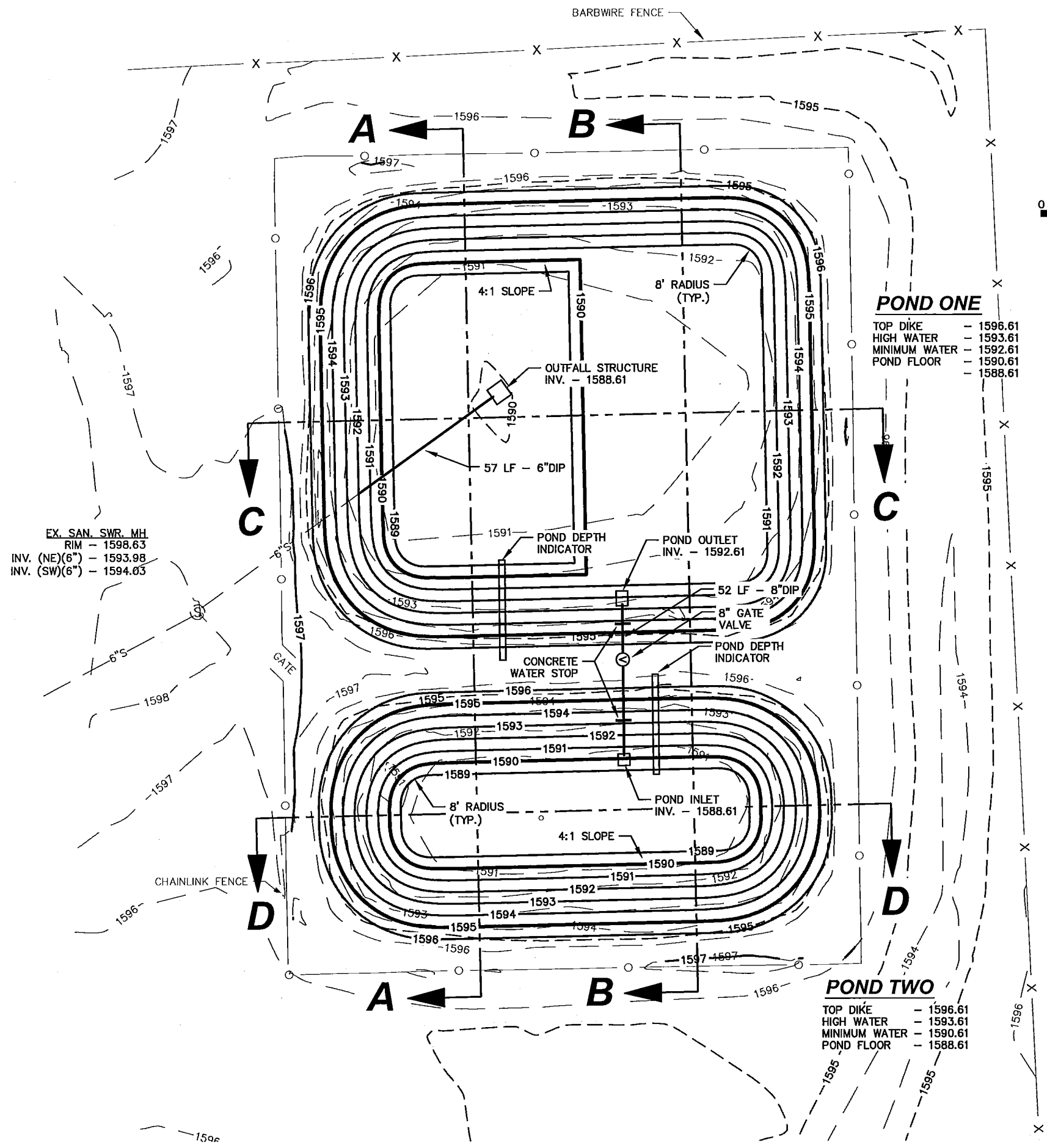
POND ONE
 TOP DIKE - 1440.37
 HIGH WATER - 1437.37
 MINIMUM WATER - 1436.37
 POND FLOOR - 1432.37

POND TWO
 TOP DIKE - 1440.37
 HIGH WATER - 1437.37
 MINIMUM WATER - 1436.37
 POND FLOOR - 1432.37



SANITARY SEWER PLAN SHEET - WHITE LAKE - WEST BOUND

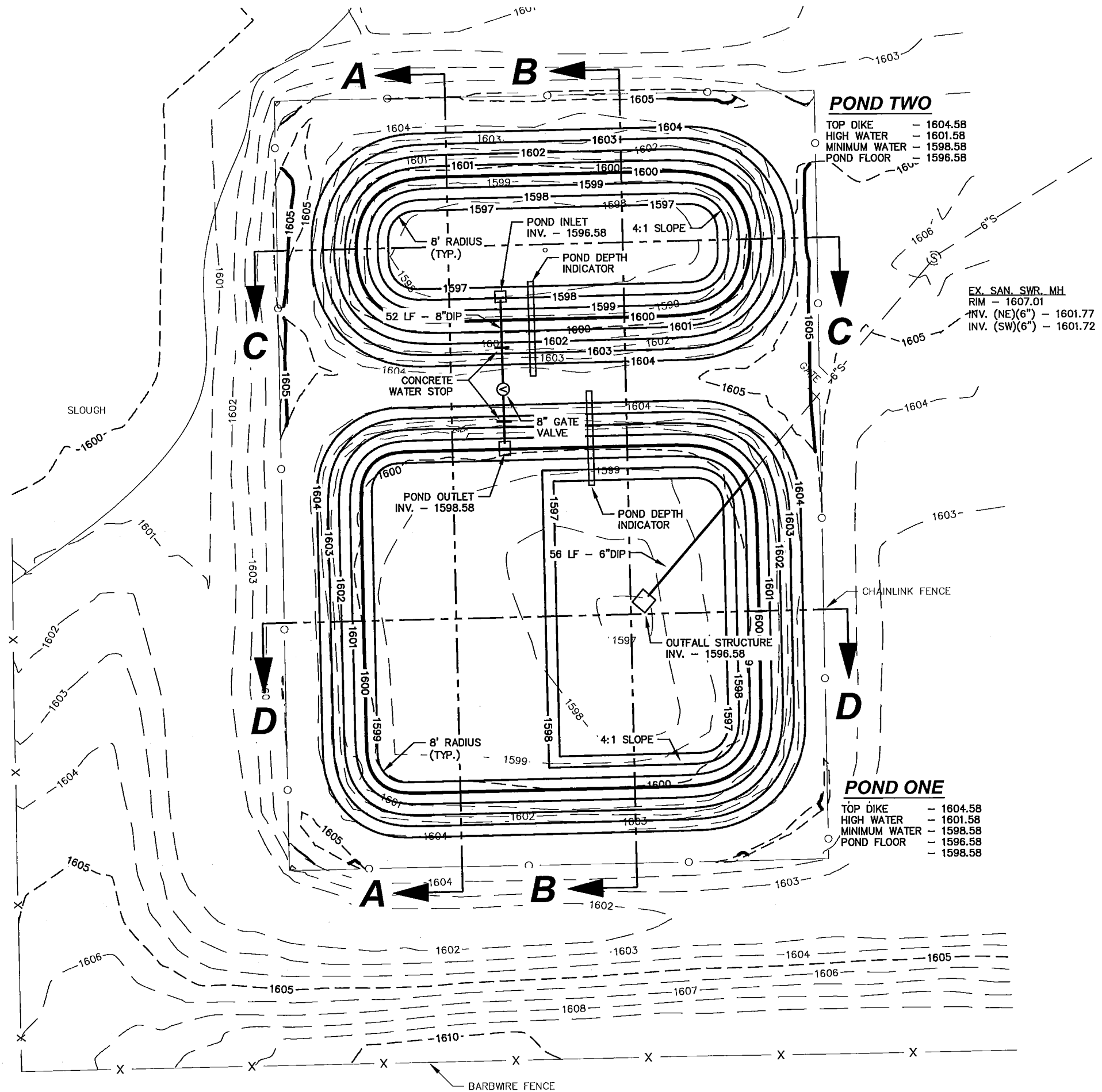
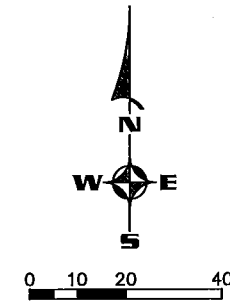
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B19	B22
FILE: 9912 - Sewer Plan - White Lake.dwg			
PLOTTING DATE: 2013-06-18 INITIALS: JRK			
REVISION DATE:			



SANITARY SEWER PLAN SHEET - WHITE LAKE - EAST BOUND

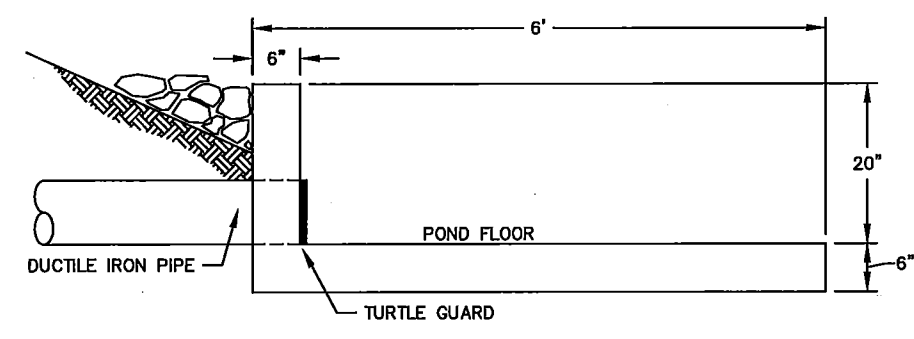
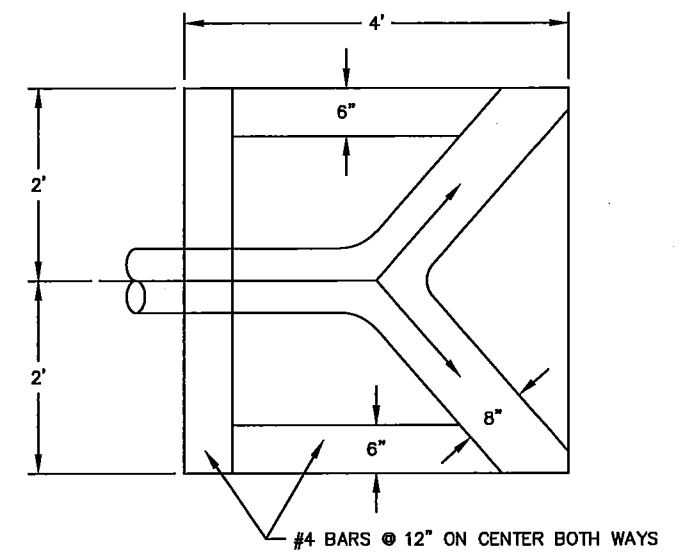
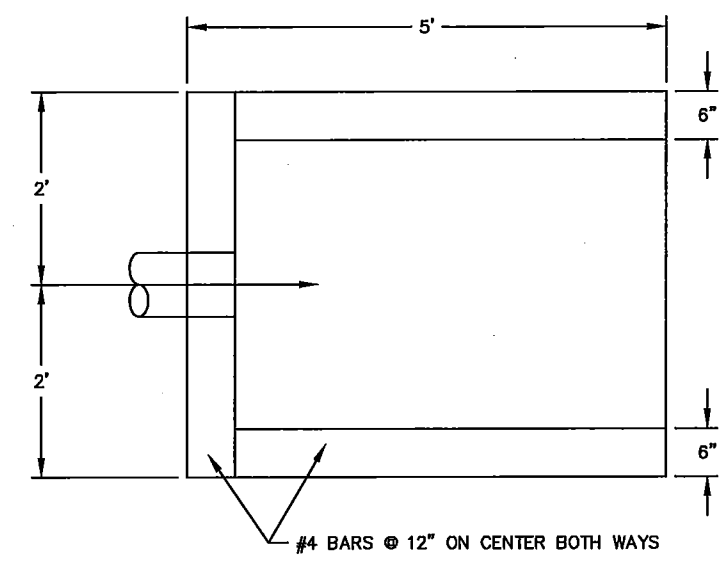
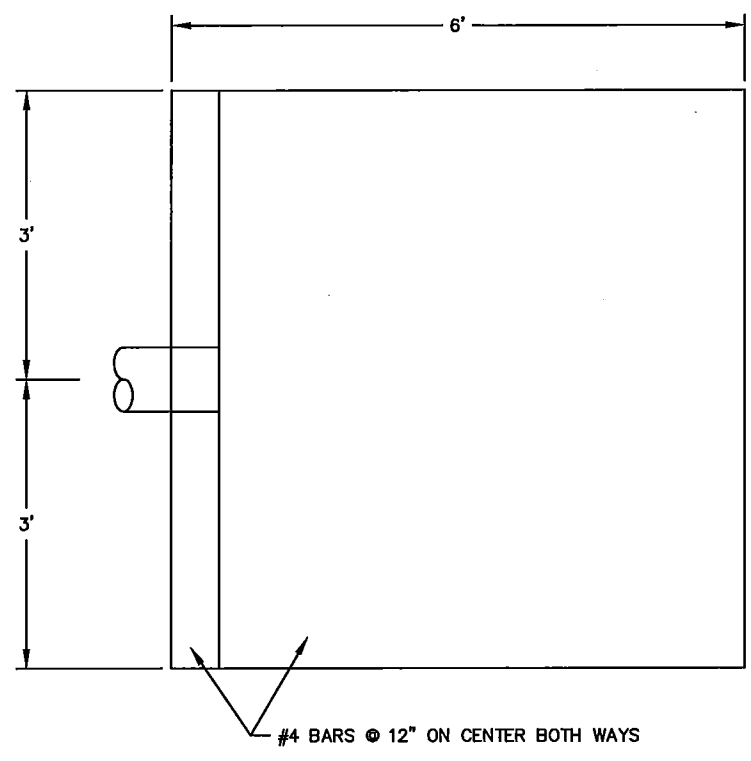
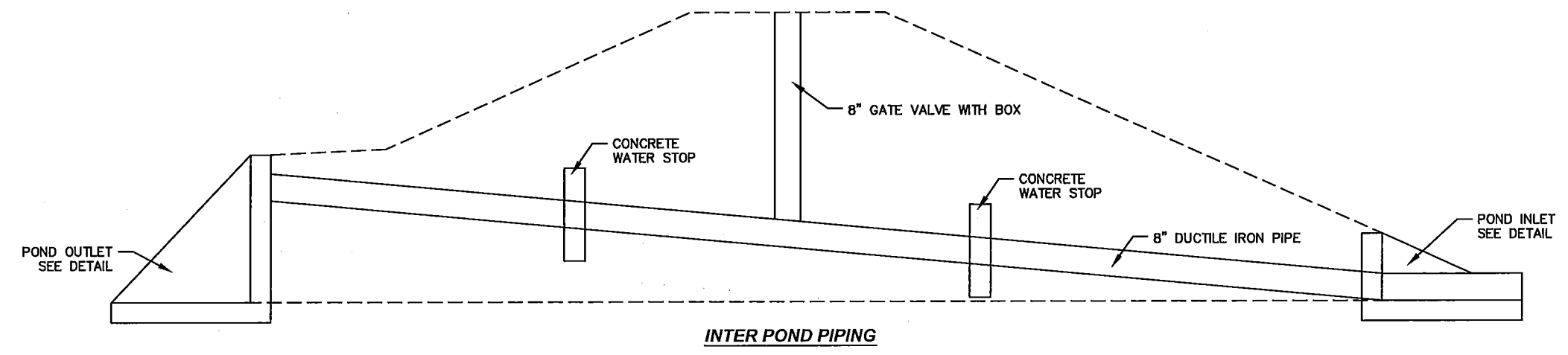
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	B20	B22

FILE: 9912 - Sewer Plan - White Lake.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

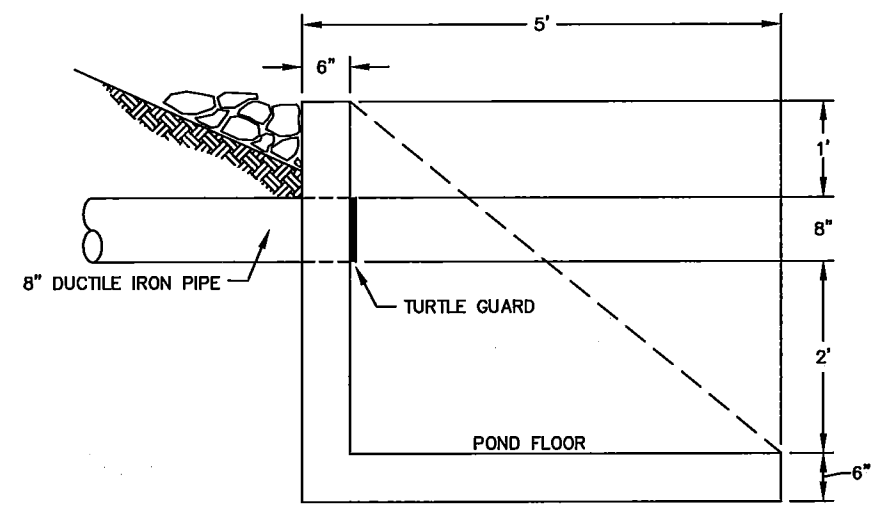


STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. B21	TOTAL SHEETS B22
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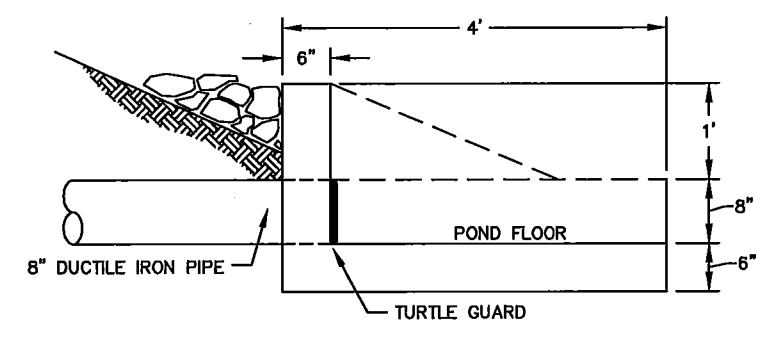
FILE: 9912 - Details.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:



OUTFALL STRUCTURE DETAIL

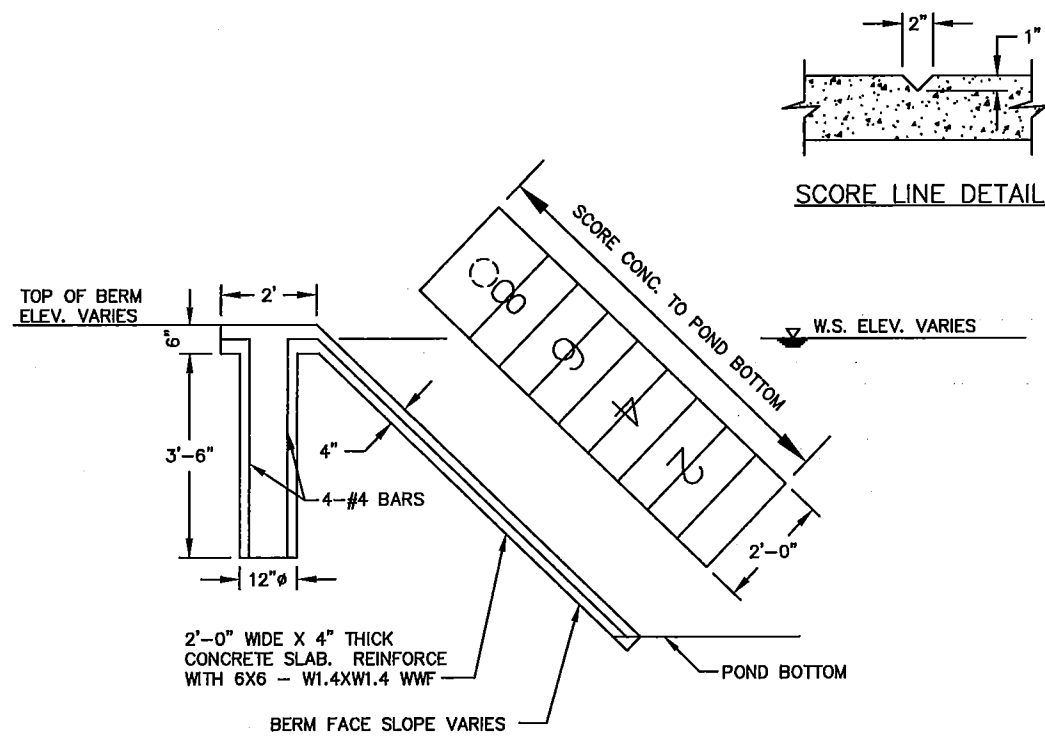


POND OUTLET DETAIL



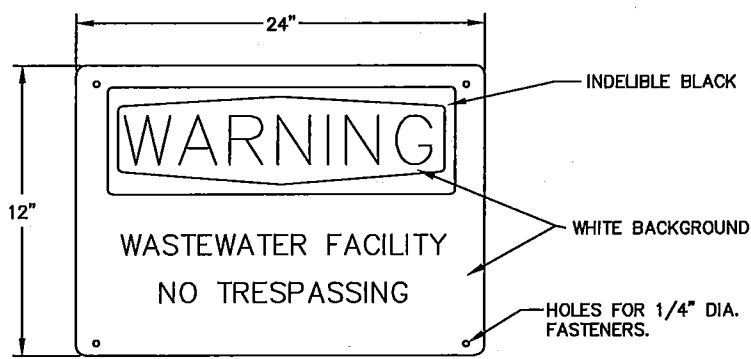
POND INLET DETAIL

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. B22	TOTAL SHEETS B22
FILE: 9912 - Details.dwg			
PLOTTING DATE: 2013-06-18 INITIALS: JRK			
REVISION DATE:			



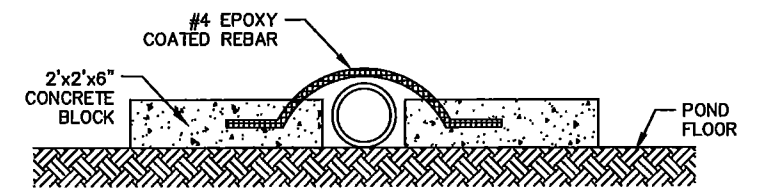
- NOTES:
- SCORE CONCRETE AS SHOWN BEFORE CONCRETE SETS. THE SCORE LINES SHALL BE LOCATED BY LEVEL ON EACH 1 FOOT OF DEPTH. ALSO SCORE NUMBERS IN CONCRETE. PAINT SCORE MARKS BLACK.
 - 12" COMPACTED CLAY LINER SHALL BE MAINTAINED UNDER AND AROUND ALL STRUCTURES.

POND DEPTH INDICATOR DETAIL



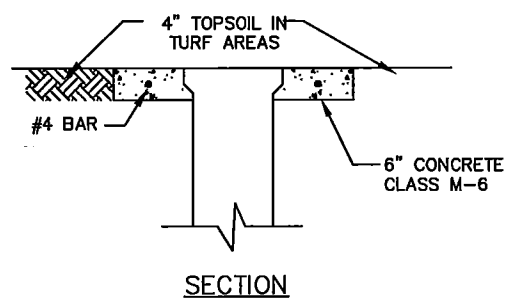
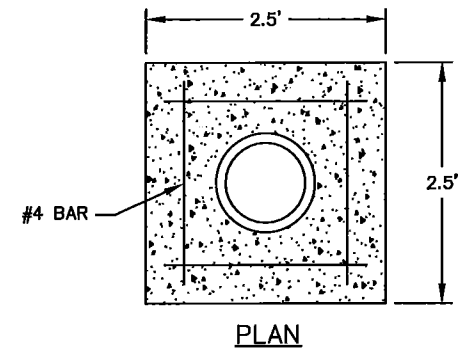
- NOTES:
- PROVIDE THIS SIGN SUCH THAT THERE IS AT LEAST ONE SIGN ON EACH SIDE OF THE POND AND EVERY 500 FT. ALONG THE FENCE.
 - ATTACH SIGN TO FENCE WITH GALVANIZED FASTENERS.

POND SITE WARNING SITE

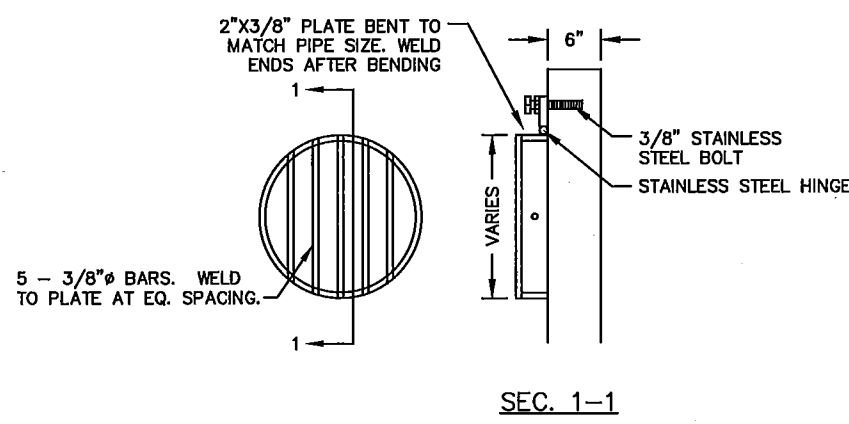


- NOTES:
- SPACE ANCHORS 10' APART.

OUTFALL PIPE ANCHOR DETAIL

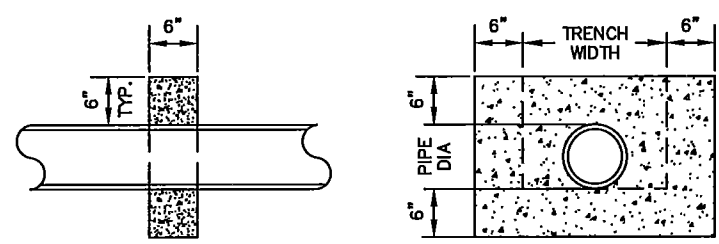


CONCRETE VALVE BOX COLLAR



- NOTES:
- INSTALL GUARDS AT EACH END OF INTERCONNECTING PIPES BETWEEN PONDS, AT ENDS OF INFLUENT LINES AND AT UPSTREAM ENDS OF OUTLET PIPES AT CONTROL STRUCTURE.
 - THE GUARD SHALL BE STAINLESS STEEL.

TURTLE GUARD DETAIL



CONCRETE WATERSTOP DETAIL

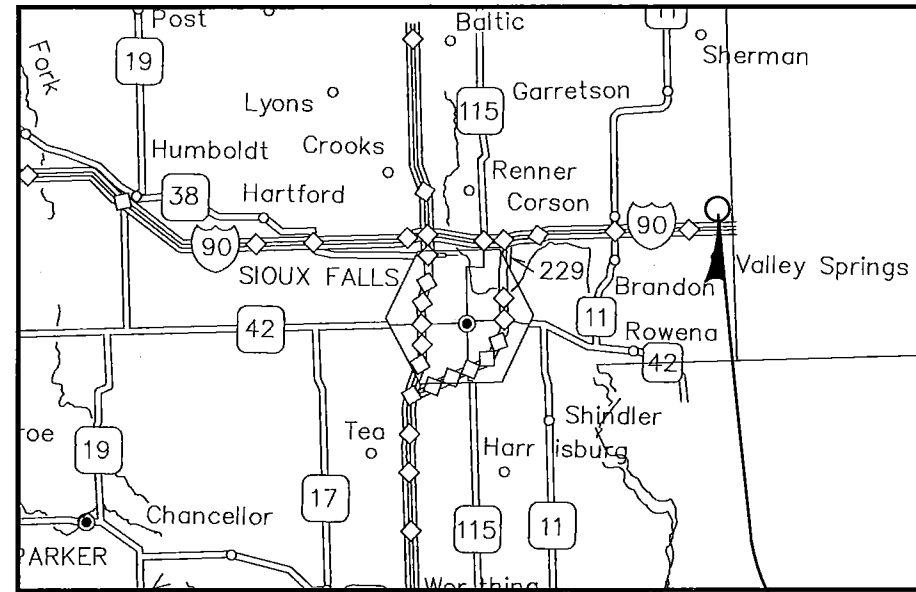
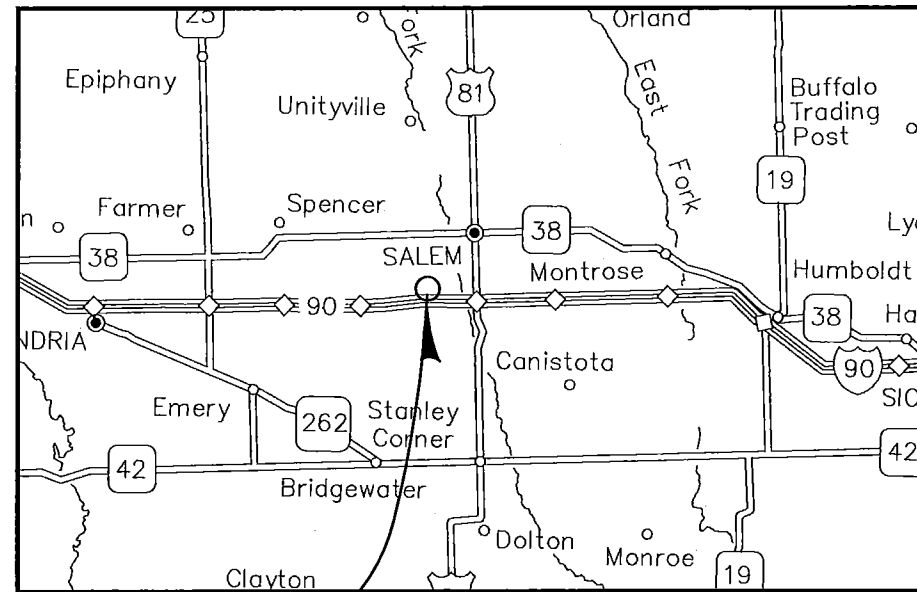


SECTION D: EROSION CONTROL

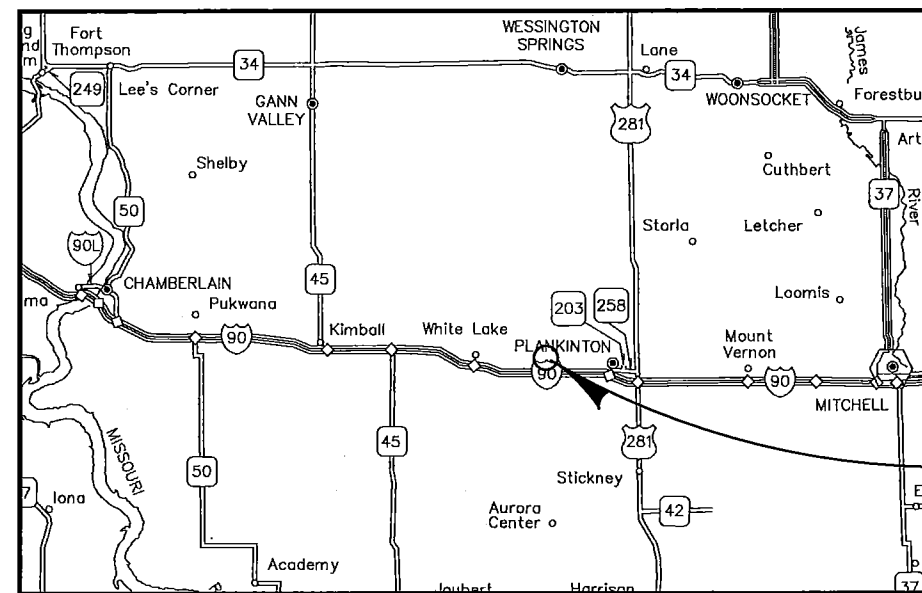
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	D1	D9
FILE: 9912 - Title Page.dwg			
PLOTING DATE: 2013-06-18 INTIALS: JRK			
REVISION DATE:			

INDEX OF SHEETS

- D1 TITLE SHEET
- D2 ESTIMATE OF QUANTITIES & GENERAL NOTES
- D3 THRU D5 STORM WATER POLLUTION PREVENTION PLAN CHECKLIST
- D6 THRU D9 EROSION CONTROL SHEETS



PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF HIGHWAY 81
 NORTH SIDE OF INTERSTATE 90



PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF COUNTY ROAD 23
 NORTH SIDE OF INTERSTATE 90

PROJECT IM 0020(00)135
 APPROX. 0.25 MILE WEST OF 488TH AVENUE
 NORTH SIDE OF INTERSTATE 90



STOCKWELL ENGINEERS
 600 N. MAIN AVENUE #100
 SIOUX FALLS, SD 57104
 PH. (605) 338-6668
 FAX (605) 338-8750
 WWW.STOCKWELLENGINERS.COM

SECTION D ESTIMATE OF QUANTITIES

SALEM

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
730E0200	Type A Permanent Seed Mixture	13	Lb
732E0200	Fiber Mulching	1.1	Ton

VALLEY SPRINGS

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
730E0200	Type A Permanent Seed Mixture	10	Lb
732E0200	Fiber Mulching	0.8	Ton

WHITE LAKE

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
730E0200	Type A Permanent Seed Mixture	13	Lb
732E0200	Fiber Mulching	1.2	Ton

PLACING TOPSOIL

The Contractor shall maintain 6 inches of topsoil in all disturbed areas. Measurement and payment for topsoil has not been included because no topsoil will be removed from the top of dikes. All excavation shall take place inside the top of dike.

DRILLS

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of ¼" to ½".

PERMANENT SEEDING

The areas to be seeded are comprised of all disturbed areas. All permanent seed shall be planted in the topsoil at a depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

Type A Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Canada Wildrye	Mandan	2
Total:		18

FIBER MULCHING

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the list below. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 2000 pounds per acre on slopes 2% or less and shall be applied at a rate of 3000 pounds per acre on slopes greater than 2%.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

Immediately after the finish grade has been approved, begin fiber-mulch/seeding operations to reduce erosion and excessive weed growth. The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with a set of hydraulic spray nozzles which provide even distribution of the slurry on the area to be seeded. The operator shall spray the area with a uniform visible coat, by using the color of the wood pulp as a guide.

The Contractor shall obtain approval of fiber-mulch seeding area preparation from the Engineer prior to application. Operators shall keep the fiber-mulch seeding within the areas designated and keep from contact with other plant material. Immediately after application, thoroughly wash off any plant material, planting areas, or paved areas not intended to receive the slurry mix.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per ton for "Fiber Mulching".

The fiber mulch used on this project shall be one from the list below:

Product	Manufacturer
Mat-Fiber Plus	Mat, Inc. Floodwood, MN Phone: 1-888-477-3028 www.matinc.biz
Conwed Hydro Mulch 2000	Profile Products LLC Buffalo Grove, IL Phone: 1-800-366-1180 www.conwedfibers.com
EcoFibre Plus Tackifier	Profile Products LLC Buffalo Grove, IL Phone: 1-800-366-1180 www.profile-eco.com
Terra-Mulch Wood with Tacking Agent 3	Profile Products LLC Buffalo Grove, IL Phone: 1-800-726-6371 www.terra-mulch.com
Excel Fiber Mulch II with Tackifier	American Excelsior Co. Arlington, TX Phone: 1-800-777-7645 www.curlex.com



STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

(The numbers right of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)

❖ SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
 - Clearing and grubbing
 - Excavation/borrow
 - Grading and shaping
 - Filling
 - Cutting and filling
 - Other (describe):
- **Total Project Area 2.0 (4.2 1.b.)**
- **Total Area To Be Disturbed 2.0 (4.2 1.b.)**
- **Existing Vegetative Cover (%) 85%**
- **Soil Properties: AASHTO Soil Series Classification A-6, A-7-6 (4.2 1. d.)**
- **Name of Receiving Water Body/Bodies Existing Wastewater Ponds (4.2 1.e.)**

❖ ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, sanitary sewer.**
- **Complete final grading.**
- **Reseed areas disturbed by removal activities.**

❖ EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
 - Temporary Seeding (Cover Crop Seeding)
 - Permanent Seeding
 - Sodding
 - Planting (Woody Vegetation for Soil Stabilization)
 - Mulching (Grass Hay or Straw)
 - Hydraulic Mulch (Wood Fiber Mulch)
 - Soil Stabilizer
 - Bonded Fiber Matrix
 - Erosion Control Blankets or Mats
 - Vegetation Buffer Strips
 - Roughened Surface (e.g. tracking)
 - Dust Control
 - Other:
- **Structural Temporary Erosion and Sediment Controls**
 - Silt Fence
 - Floating Silt Curtain

- Straw Bale Check
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls
- Turf Reinforcement Mat
- Rip Rap
- Gabions
- Rock Check Dams
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection (Area Drain)
- Curb Inlet Protection
- Stabilized Construction Entrances
- Entrance/Exit Equipment Tire Wash
- Interceptor Ditch
- Concrete Washout Area
- Temporary Diversion Channel
- Work Platform
- Temporary Water Barrier
- Temporary Water Crossing
- Other:

➤ Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes No If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

➤ Storm Water Management (4.2 2.b., (1) and (2))

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

➤ Other Storm Water Controls (4.2 2.c., (1) and (2))

▪ Waste Disposal

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing that these practices are followed.

▪ Hazardous Waste

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.

▪ Sanitary Waste

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a

timely manner by a licensed waste management contractor or as required by any local regulations.

❖ Maintenance and Inspection (4.2 3. and 4.2 4.)

➤ Maintenance and Inspection Practices

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $\frac{1}{3}$ of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches $\frac{1}{2}$ the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ Non-Storm Water Discharges (3.0)

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- Discharges from water line flushing.
- Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- Uncontaminated ground water associated with dewatering activities.



❖ **Materials Inventory (4.2. 2.c.(2))**

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- Concrete and Portland Cement
- Detergents
- Paints
- Metals
- Bituminous Materials
- Petroleum Based Products
- Cleaning Solvents
- Wood
- Cure
- Texture
- Chemical Fertilizers
- Other:

❖ **Spill Prevention (4.2 2.c.(2))**

➤ **Material Management**

- Housekeeping
 - Only needed products will be stored on-site by the contractor.
 - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
 - Products must be stored in original containers and labeled.
 - Material mixing will be conducted in accordance with the manufacturer's recommendations.
 - When possible, all products will be completely used before properly disposing of the container off site.
 - The manufacturer's directions for disposal of materials and containers will be followed.
 - The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
 - Dust generated will be controlled in an environmentally safe manner.
 - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.
- Hazardous Materials
 - Products will be kept in original containers unless the container is not resealable.
 - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
 - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
 - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
 - Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will

not be discharged directly into any storm water system or storm water treatment system.

- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.
- **Product Specific Practices (6.8)**
 - Petroleum Products
All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.
 - Fertilizers
Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.
 - Paints
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
 - Concrete Trucks
Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.
- **Spill Control Practices (4.2 2 c.(2))**
In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.
 - For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
 - Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
 - All spills will be cleaned immediately after discovery and the materials disposed of properly.
 - The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
 - After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
 - The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site

superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ **Spill Response (4.2 2 c.(2))**

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.
- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
 - Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
 - If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
 - If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
 - Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
 - Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:



- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
 - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
 - The discharge causes an immediate danger to human health or safety.
 - The discharge exceeds 25 gallons.
 - The discharge causes a sheen on surface water.
 - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
 - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
 - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
 - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

❖ **Construction Changes (4.4)**

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

❖ **CERTIFICATIONS**

➤ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➤ **South Dakota Department of Transportation**

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 gather and evaluate 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.

Tom Lohmeyer

Authorized Signature (See the General Permit, Section 6.7.1.C.)

➤ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate 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.

Authorized Signature

❖ **CONTACT INFORMATION**

➤ **Contractor Information:**

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **Erosion Control Supervisor**

- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SDDOT Project Engineer**

- Name:
- Business Address:
- Job Office Location:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SD DENR Contact Spill Reporting**

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➤ **SD DENR Contact for Hazardous Materials.**

- (605) 773-3153

➤ **National Response Center Hotline**

- (800) 424-8802.



EROSION CONTROL SHEET - SALEM - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	D6	D9

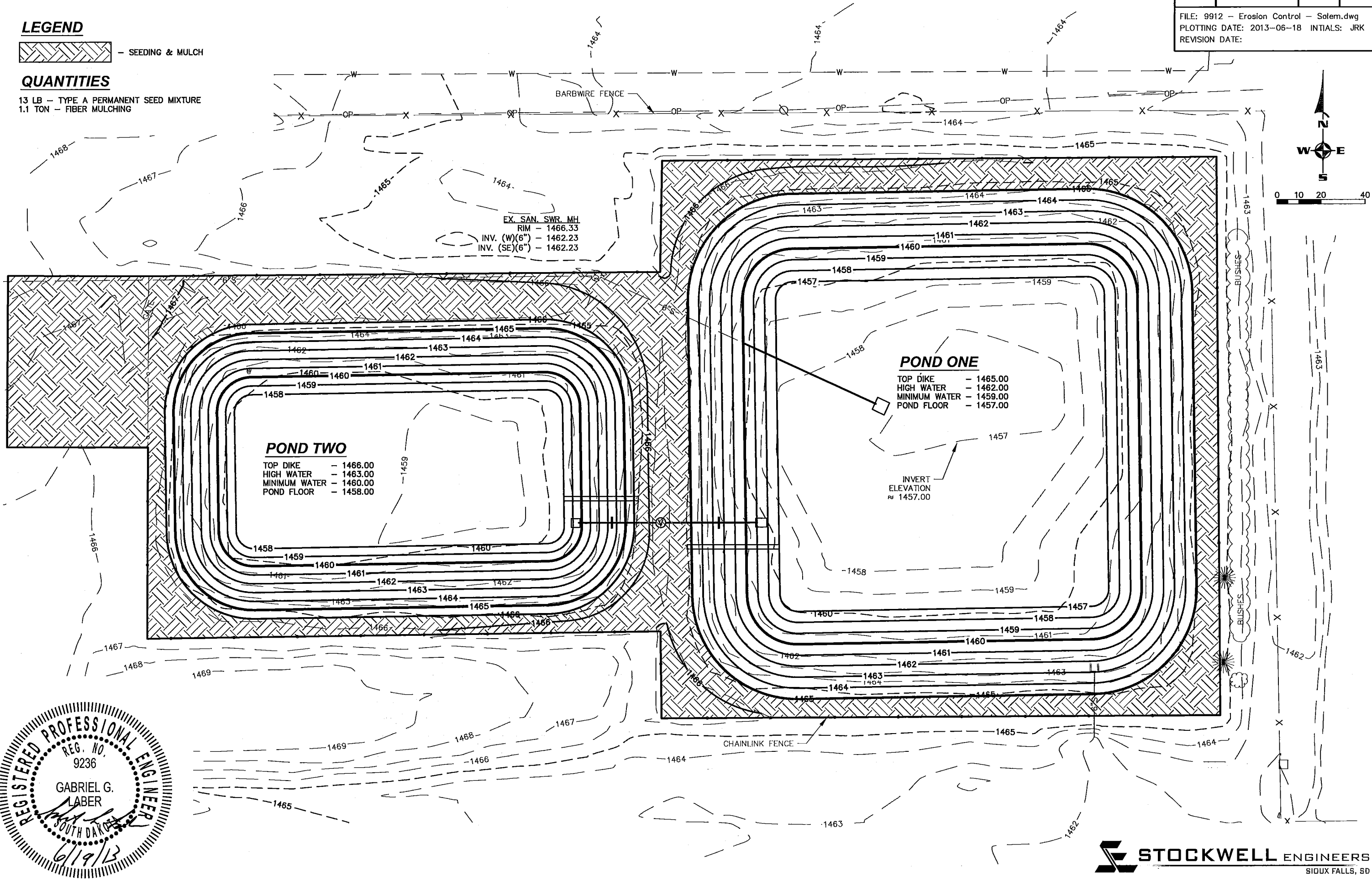
FILE: 9912 - Erosion Control - Salem.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

LEGEND

 - SEEDING & MULCH

QUANTITIES

13 LB - TYPE A PERMANENT SEED MIXTURE
 1.1 TON - FIBER MULCHING



EX. SAN. SWR. MH
 RIM - 1466.33
 INV. (W)(6") - 1462.23
 INV. (SE)(6") - 1462.23

POND ONE

TOP DIKE - 1465.00
 HIGH WATER - 1462.00
 MINIMUM WATER - 1459.00
 POND FLOOR - 1457.00

POND TWO

TOP DIKE - 1466.00
 HIGH WATER - 1463.00
 MINIMUM WATER - 1460.00
 POND FLOOR - 1458.00




EROSION CONTROL SHEET - VALLEY SPRINGS - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. D7	TOTAL SHEETS D9
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FILE: 9912 - Erosion Control - Valley Springs.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

LEGEND

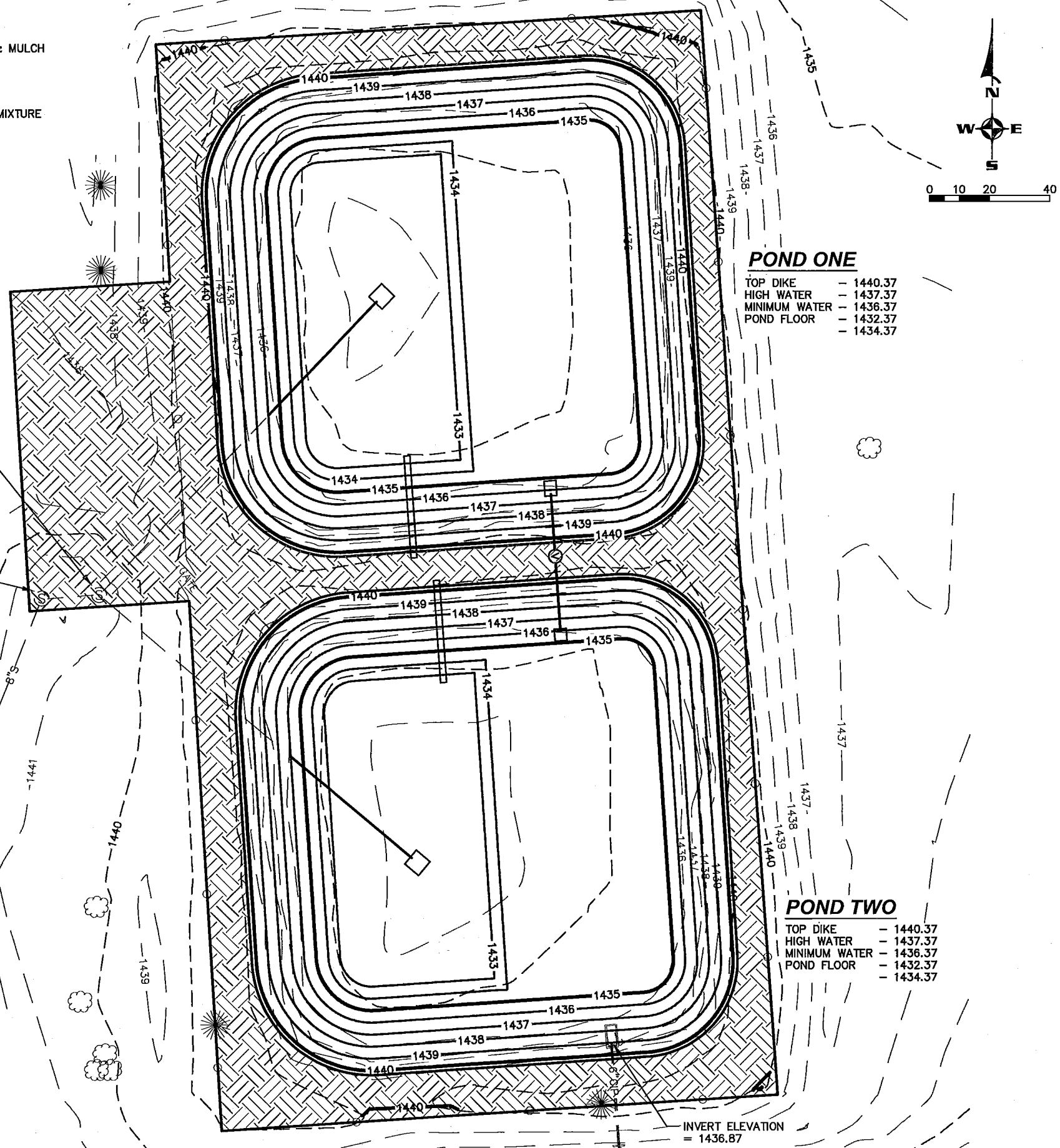
 - SEEDING & MULCH

QUANTITIES

10 LB - TYPE A PERMANENT SEED MIXTURE
 0.8 TON - FIBER MULCHING

EX. SAN. SWR. MH
 RIM - 1441.83
 INV. (W)(8") - 1437.53
 INV. (SE)(8") - 1437.33
 INV. (NE)(8") - 1437.33

EX. SAN. SWR. MH
 RIM - 1441.95
 INV. (E)(8") - 1437.35
 INV. (SW)(8") - 1437.45



POND ONE
 TOP DIKE - 1440.37
 HIGH WATER - 1437.37
 MINIMUM WATER - 1436.37
 POND FLOOR - 1432.37

POND TWO
 TOP DIKE - 1440.37
 HIGH WATER - 1437.37
 MINIMUM WATER - 1436.37
 POND FLOOR - 1432.37

INVERT ELEVATION
 = 1436.87




EROSION CONTROL SHEET - WHITE LAKE - WEST BOUND

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. D8	TOTAL SHEETS D9
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FILE: 9912 - Erosion Control - White Lake.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

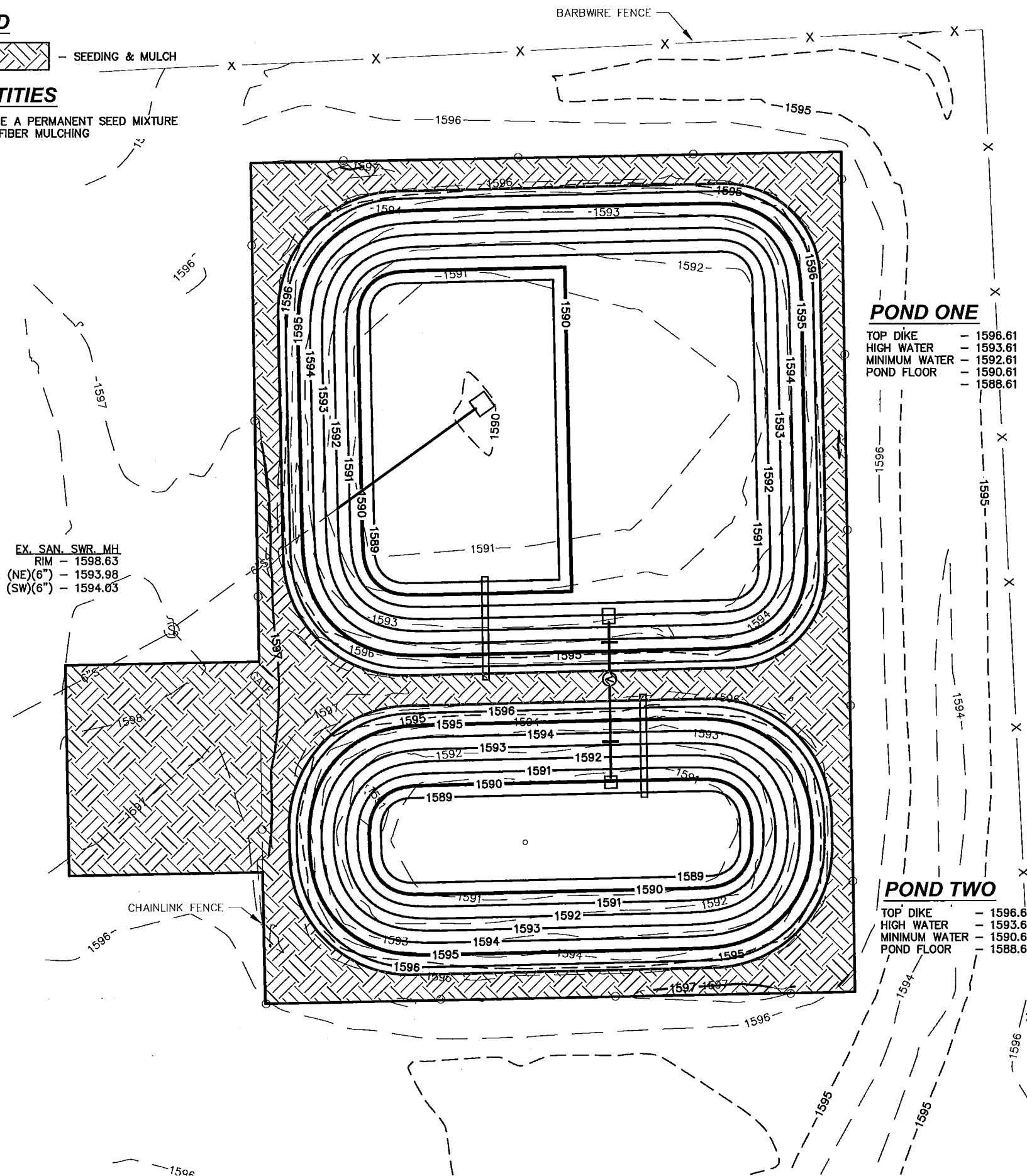
LEGEND

 SEEDING & MULCH

QUANTITIES

7 LB - TYPE A PERMANENT SEED MIXTURE
 0.6 TON - FIBER MULCHING

EX. SAN. SWR. MH
 RIM - 1598.63
 INV. (NE)(6") - 1593.98
 INV. (SW)(6") - 1594.03



POND ONE

TOP DIKE - 1596.61
 HIGH WATER - 1593.61
 MINIMUM WATER - 1592.61
 POND FLOOR - 1590.61
 - 1588.61

POND TWO

TOP DIKE - 1596.61
 HIGH WATER - 1593.61
 MINIMUM WATER - 1590.61
 POND FLOOR - 1588.61




EROSION CONTROL SHEET - WHITE LAKE - EAST BOUND

STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. D9	TOTAL SHEETS D9
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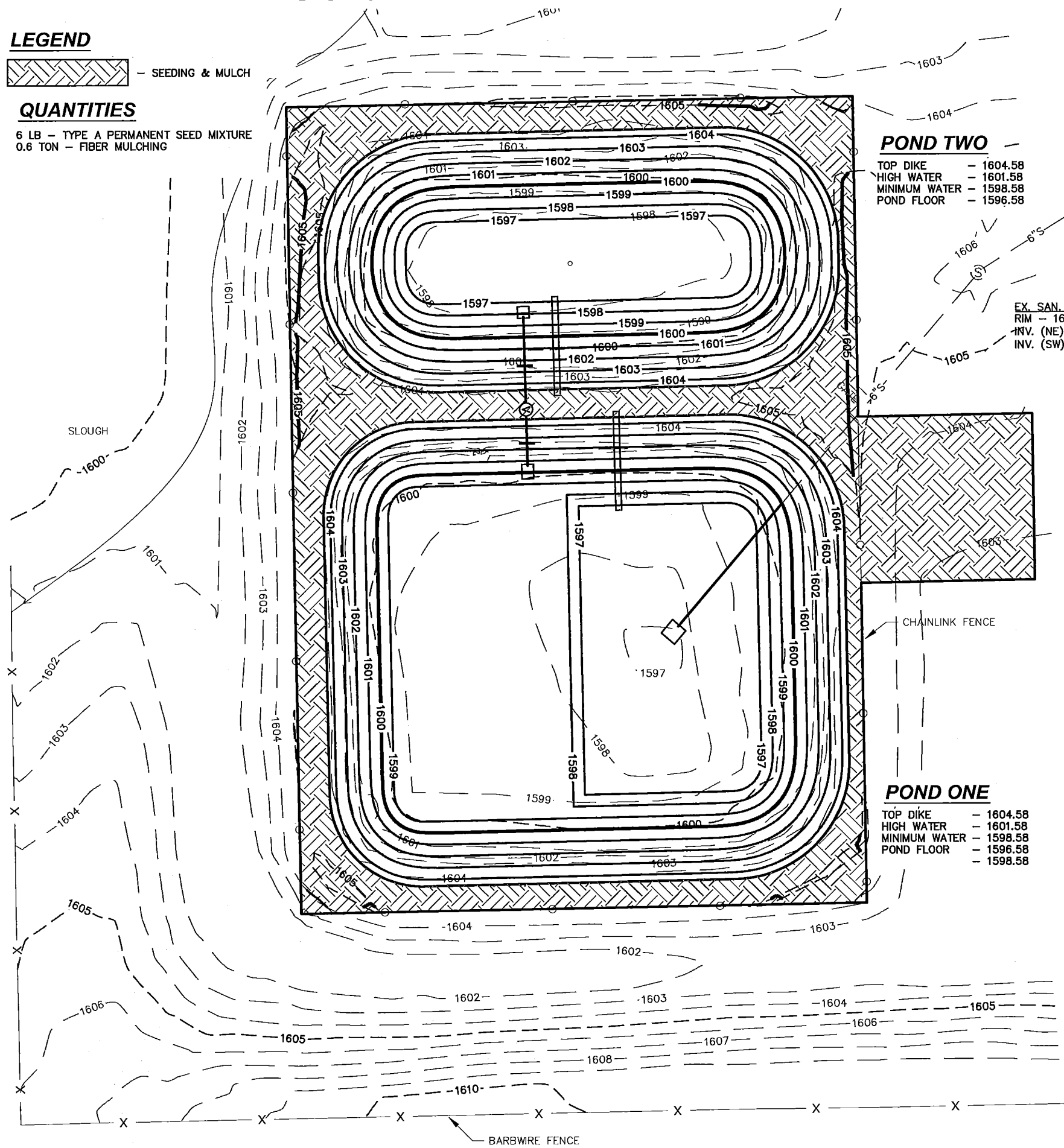
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 PLOTTING DATE: 2013-06-18 INTIALS: JRK
 REVISION DATE:

LEGEND

 - SEEDING & MULCH

QUANTITIES

6 LB - TYPE A PERMANENT SEED MIXTURE
 0.6 TON - FIBER MULCHING



POND TWO

TOP DIKE - 1604.58
 HIGH WATER - 1601.58
 MINIMUM WATER - 1598.58
 POND FLOOR - 1596.58

EX. SAN. SWR. MH
 RIM - 1607.01
 INV. (NE)(6") - 1601.77
 INV. (SW)(6") - 1601.72

POND ONE

TOP DIKE - 1604.58
 HIGH WATER - 1601.58
 MINIMUM WATER - 1598.58
 POND FLOOR - 1596.58



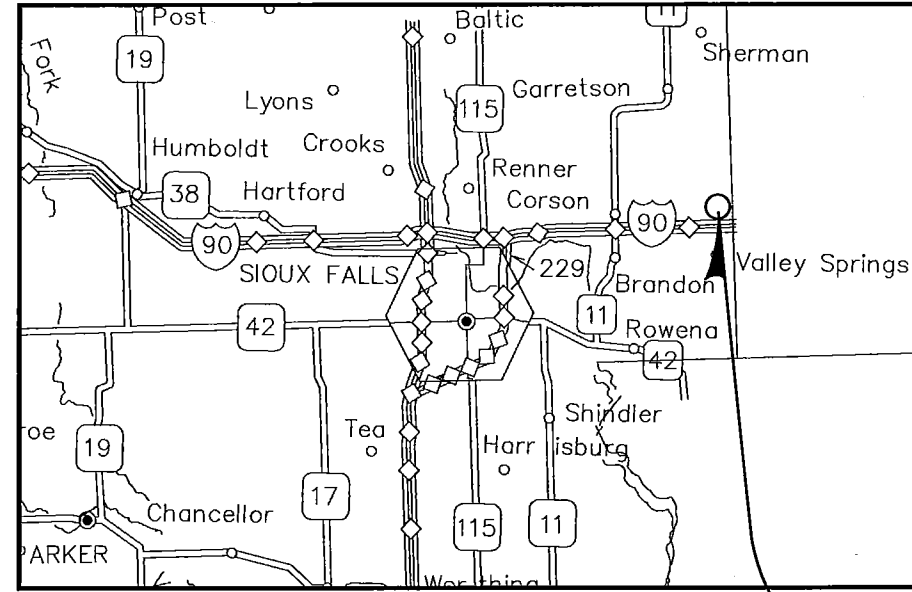
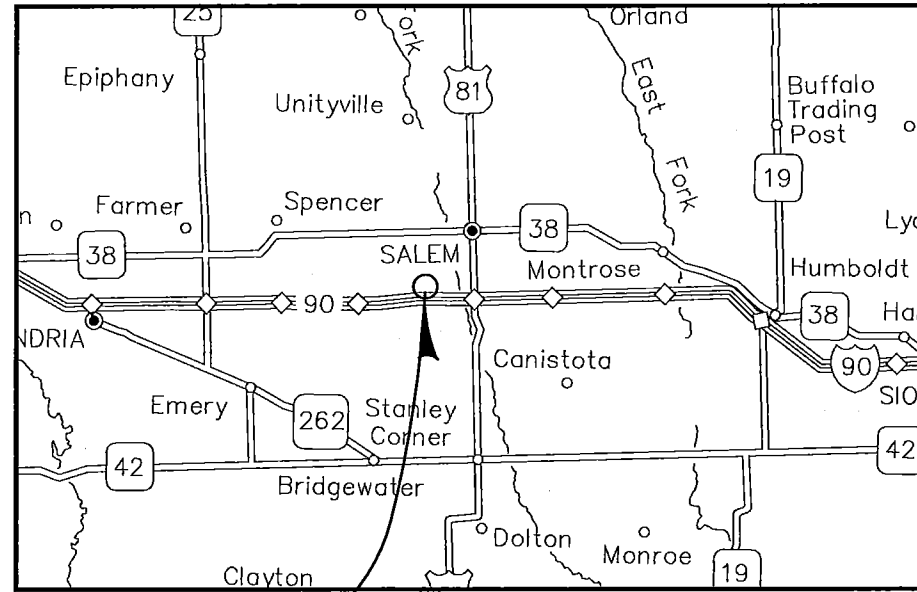
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STATE OF SOUTH DAKOTA	PROJECT IM 0020(00)135	SHEET NO. X1	TOTAL SHEETS X5
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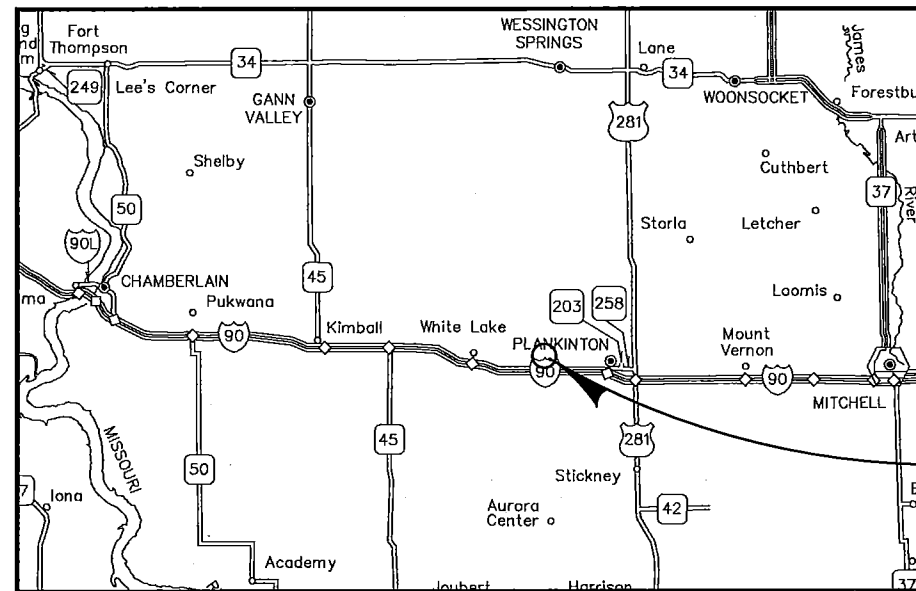
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 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

INDEX OF SHEETS

X1 TITLE SHEET
 X2 THRU X5 CROSS SECTIONS



PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF HIGHWAY 81
 NORTH SIDE OF INTERSTATE 90



PROJECT IM 0020(00)135
 APPROX. 0.25 MILE WEST OF 488TH AVENUE
 NORTH SIDE OF INTERSTATE 90

PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF COUNTY ROAD 23
 NORTH SIDE OF INTERSTATE 90



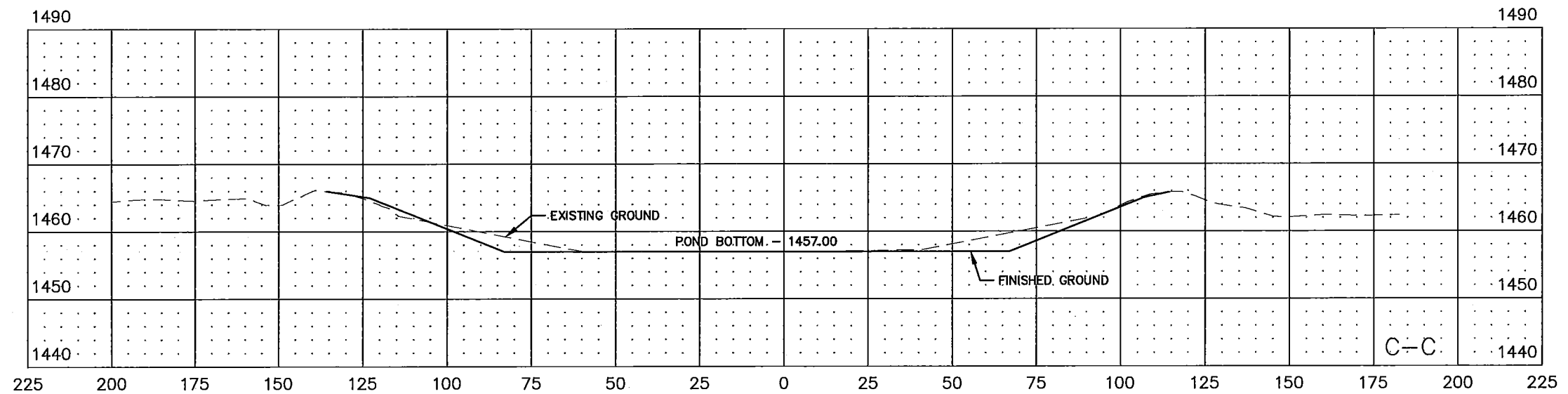
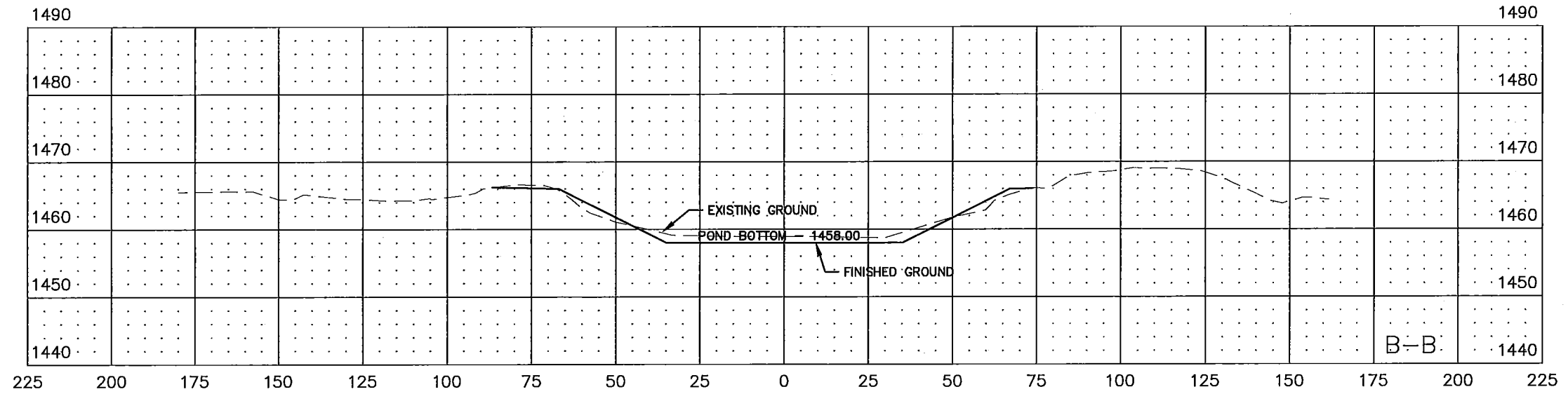
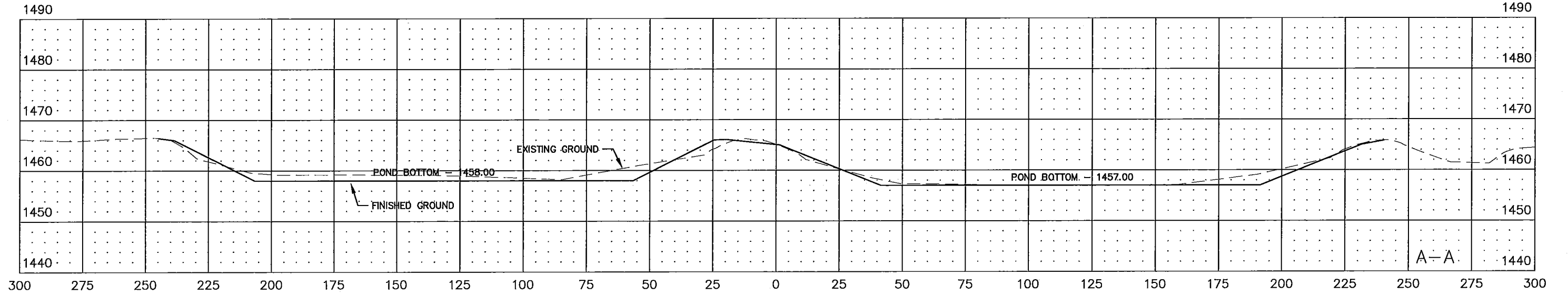
STOCKWELL ENGINEERS
 600 N. MAIN AVENUE #100
 SIOUX FALLS, SD 57104
 PH. (605) 338-6668
 FAX (605) 338-8750
 WWW.STOCKWELLENGINERS.COM

CROSS SECTIONS - SALEM

SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Cross Sections - Salem.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	X2	X5



CROSS SECTIONS - VALLEY SPRINGS

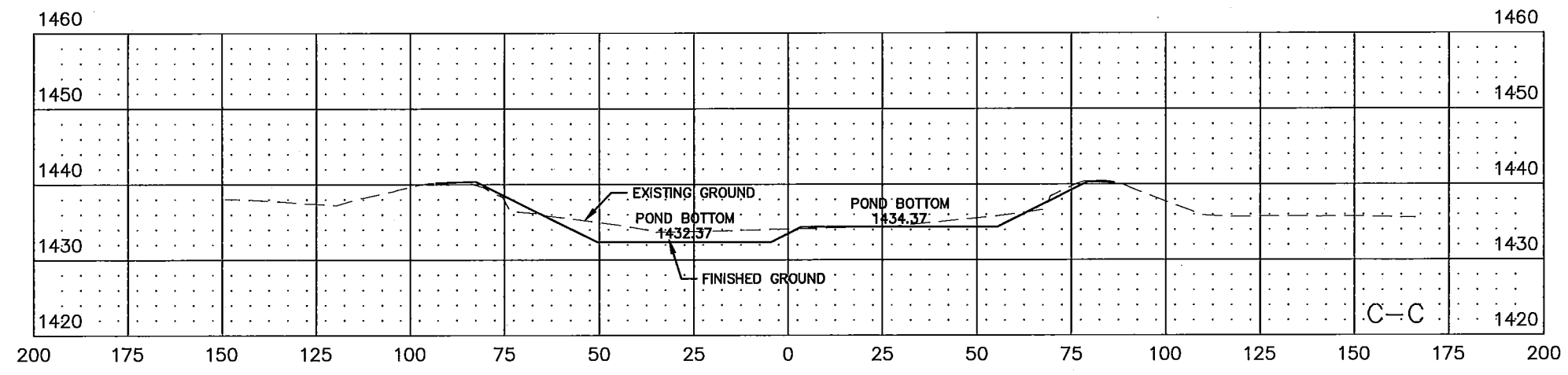
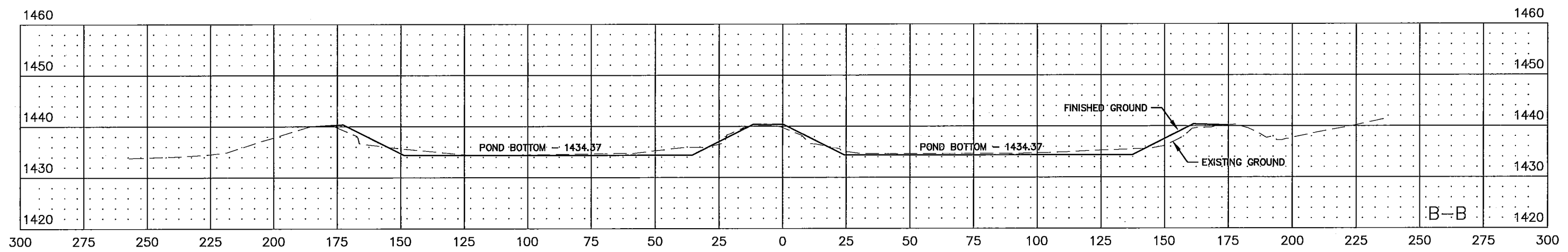
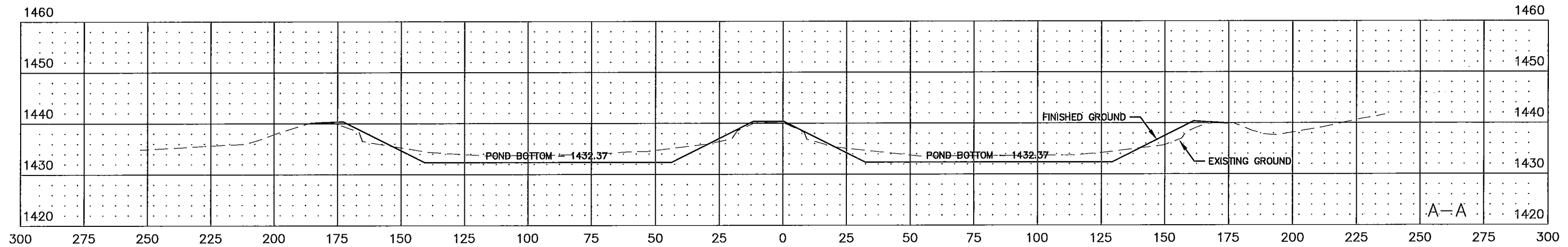
SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Cross Sections - Valley Springs.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

STATE OF SOUTH DAKOTA

PROJECT
 IM 0020(00)135

SHEET NO. X3
 TOTAL SHEETS X5

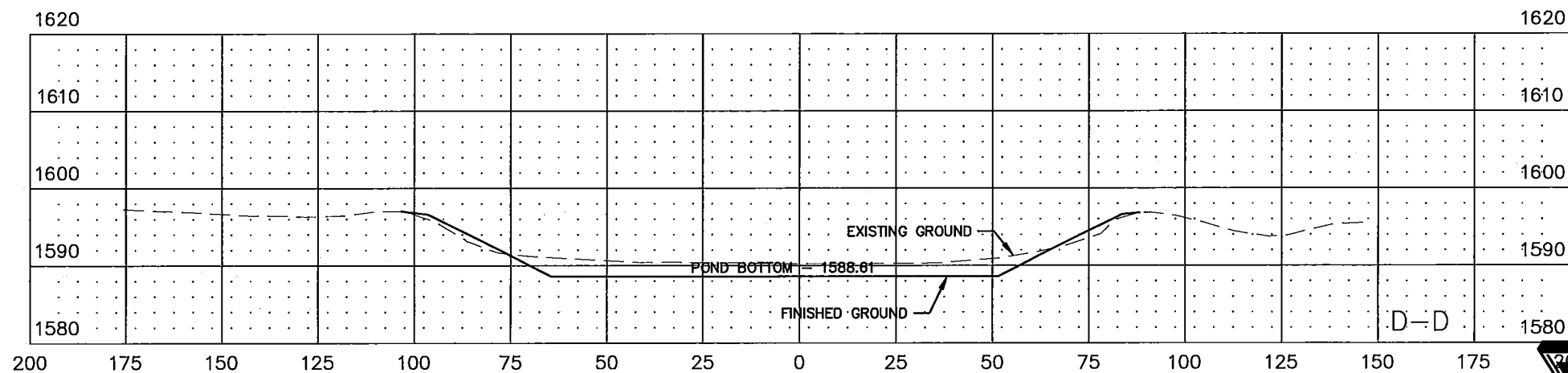
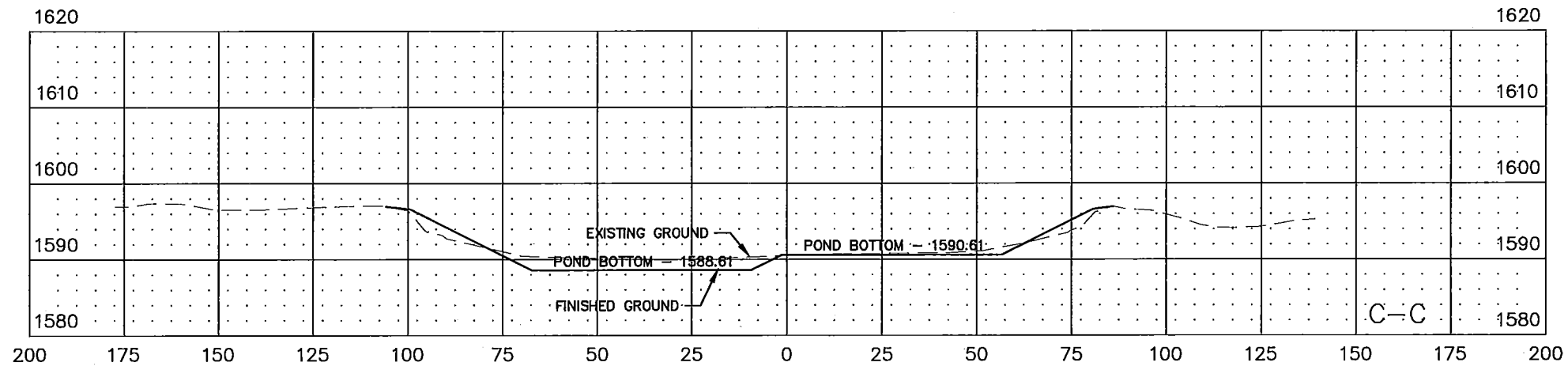
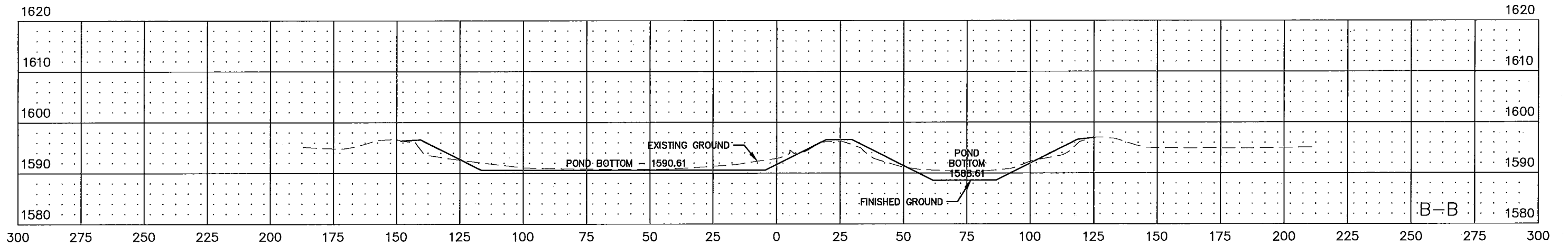
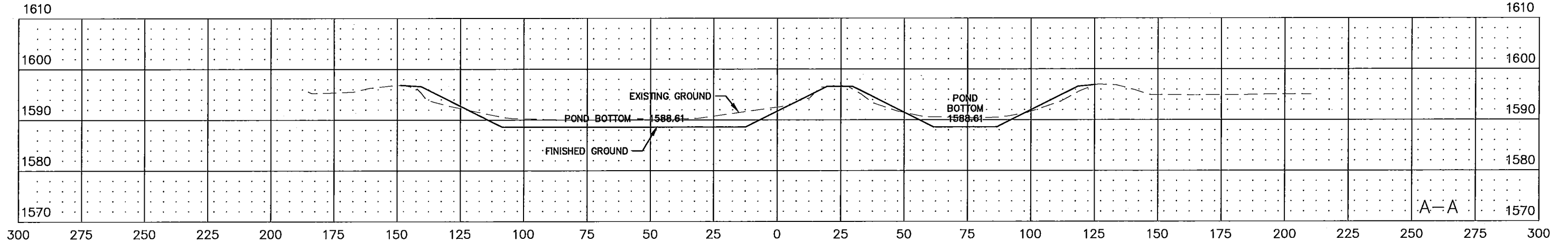


CROSS SECTIONS - WHITE LAKE - WEST BOUND

SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Cross Sections - White Lake West Bound.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	X4	X5

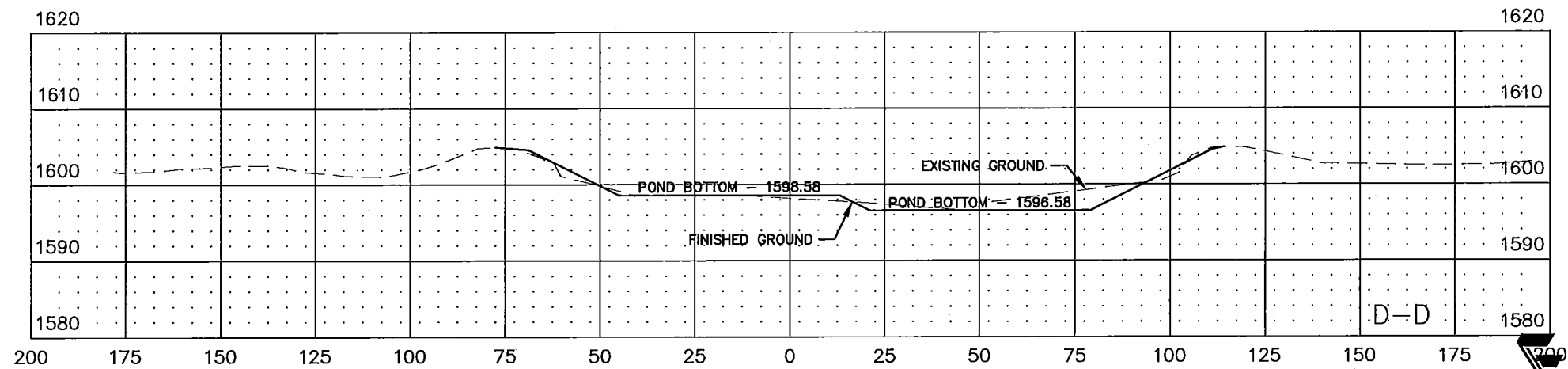
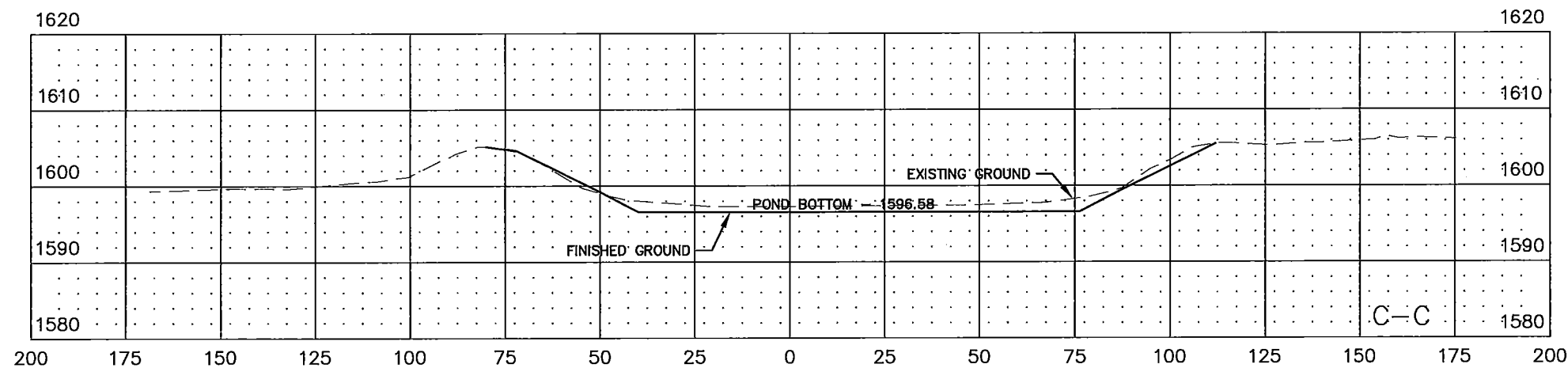
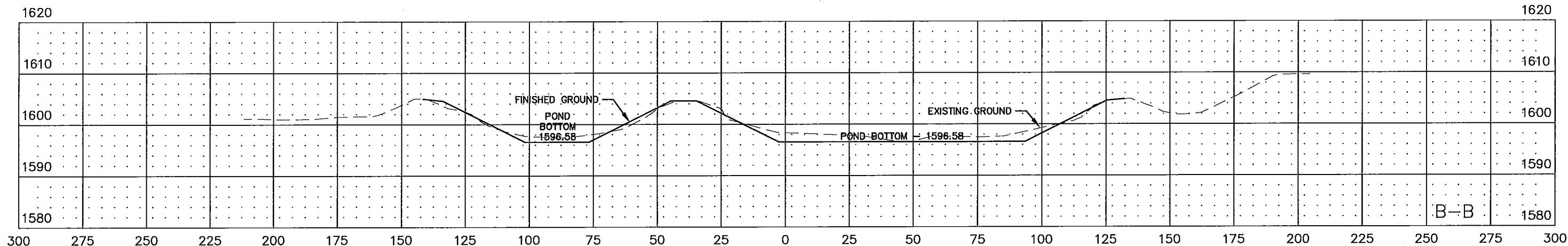
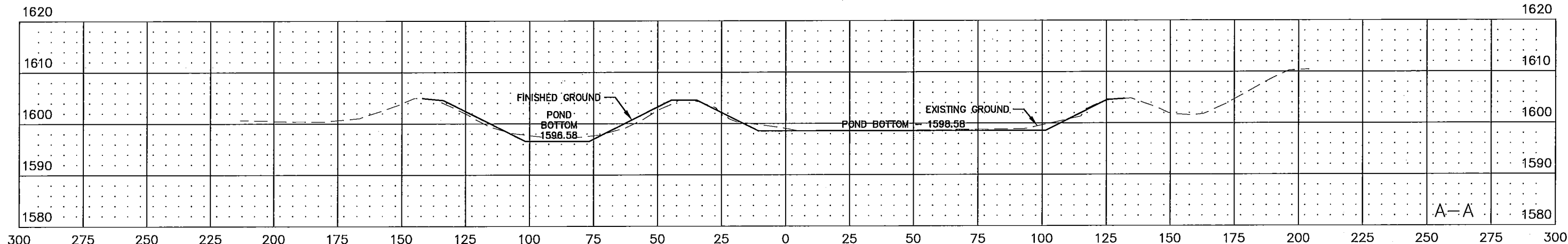


CROSS SECTIONS - WHITE LAKE - EAST BOUND

SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Cross Sections - White Lake East Bound.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	X5	X5



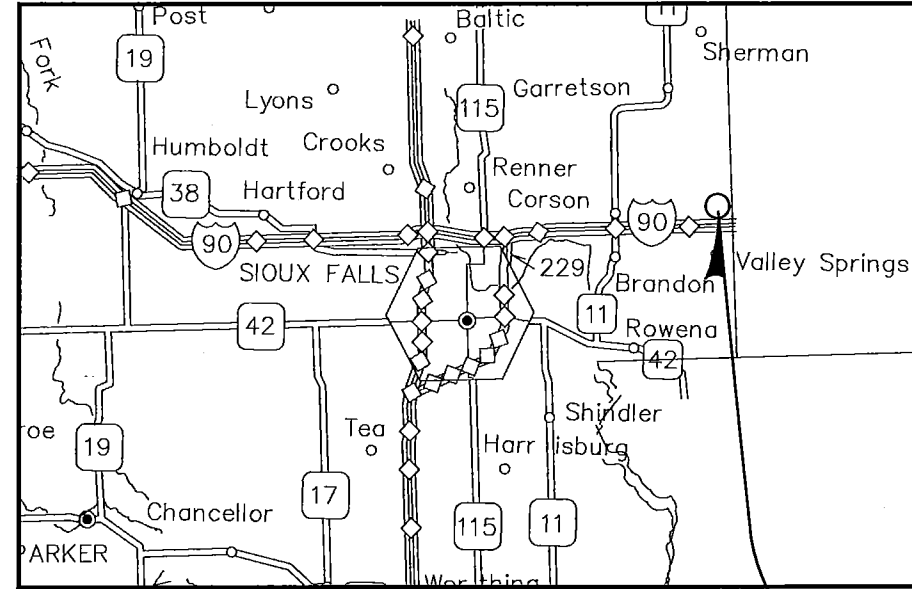
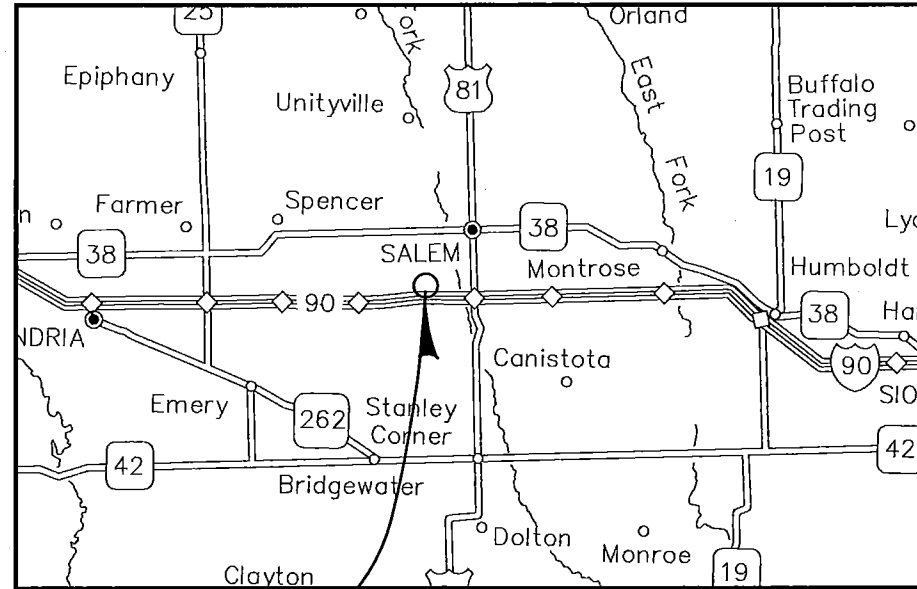
SECTION Z: PIPE SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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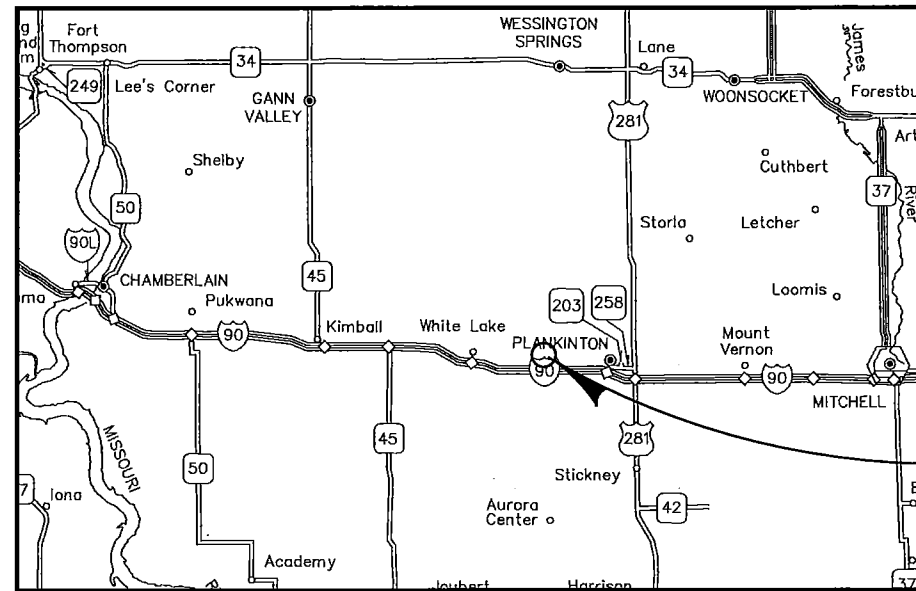
FILE: 9912 - Title Page.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

INDEX OF SHEETS

- Z1 TITLE SHEET
- Z2 INNER POND PIPE SECTIONS
- Z3 OUTFALL PIPE SECTIONS



PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF HIGHWAY 81
 NORTH SIDE OF INTERSTATE 90



PROJECT IM 0020(00)135
 APPROX. 0.25 MILE WEST OF 488TH AVENUE
 NORTH SIDE OF INTERSTATE 90

PROJECT IM 0020(00)135
 APPROX. 1.0 MILE WEST OF COUNTY ROAD 23
 NORTH SIDE OF INTERSTATE 90



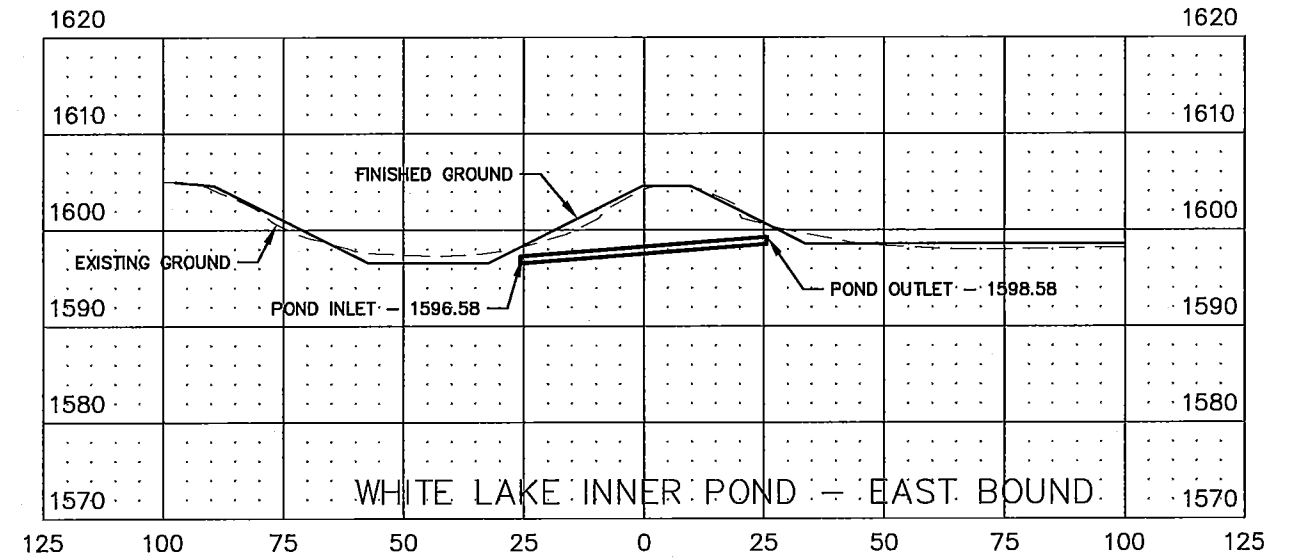
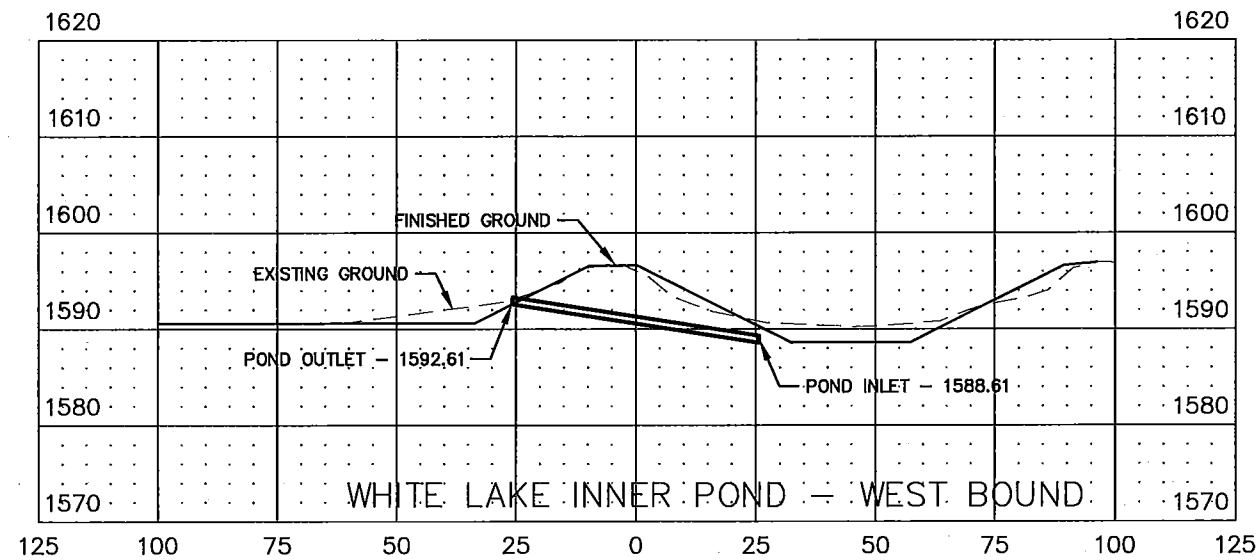
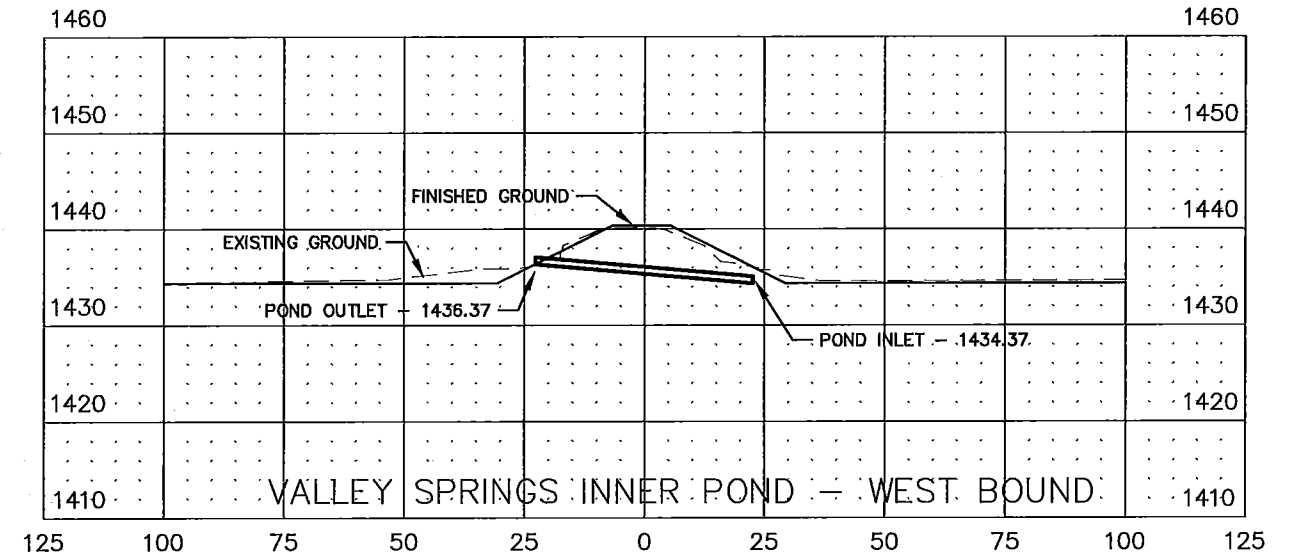
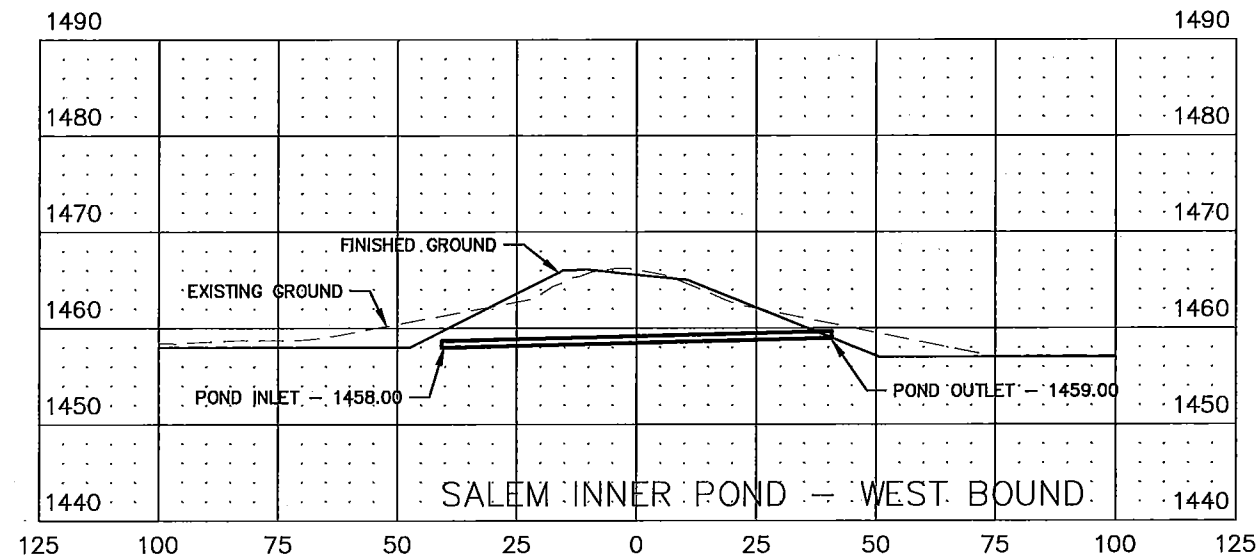
STOCKWELL ENGINEERS
 600 N. MAIN AVENUE #100
 SIOUX FALLS, SD 57104
 PH. (605) 338-6668
 FAX (605) 338-8750
 WWW.STOCKWELLENGINEERS.COM

INNER POND PIPE SECTIONS

SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Pipe Sections.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
 REVISION DATE:

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	22	23



OUTFALL PIPE SECTIONS

SCALE
 1" = 40' HORIZONTAL
 1" = 20' VERTICAL

FILE: 9912 - Pipe Sections.dwg
 PLOTTING DATE: 2013-06-18 INITIALS: JRK
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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	IM 0020(00)135	Z3	Z3

