

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(103)417	H1	H13

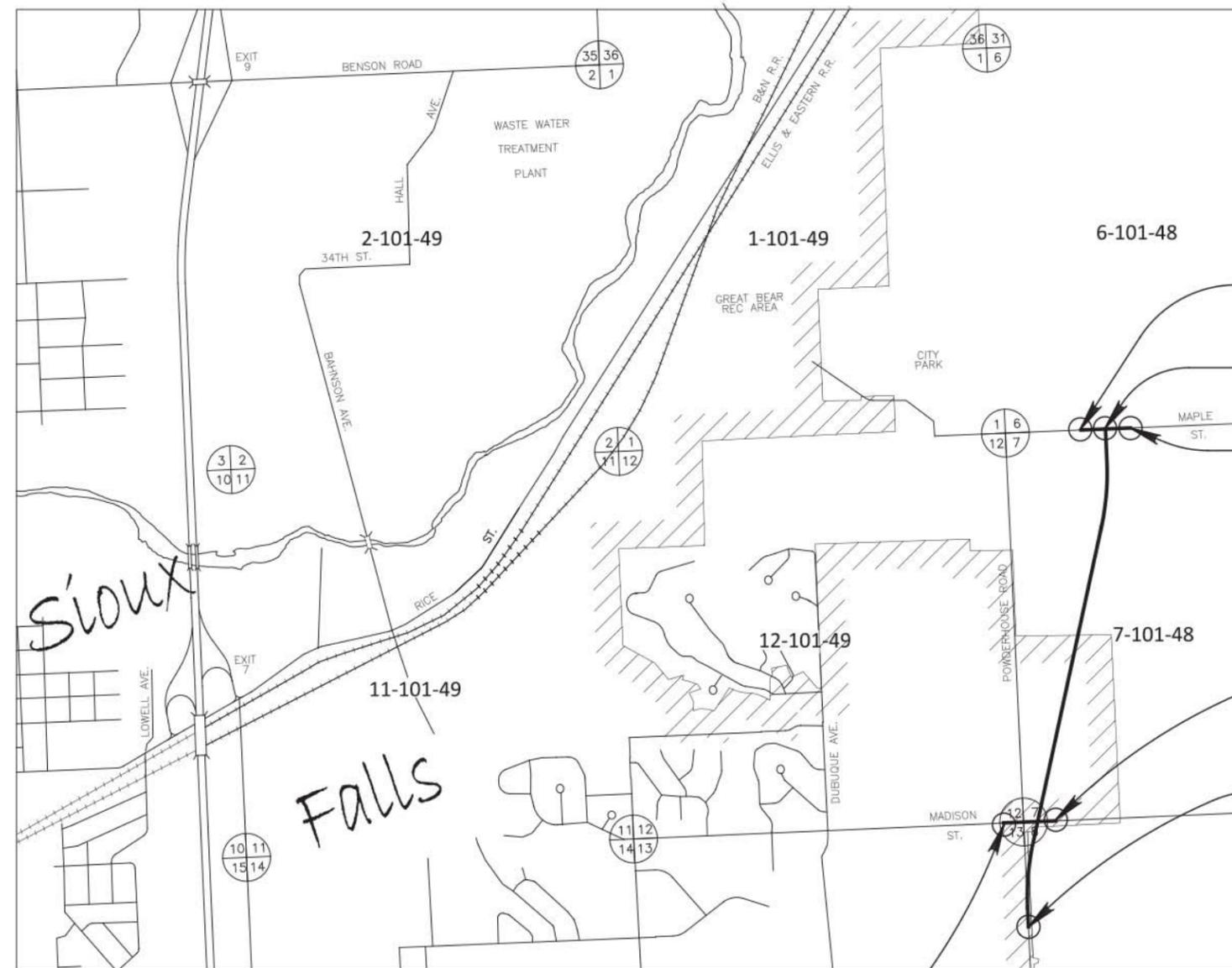
FILE: H01 Title.dgn
PLOT DATE: 02-09-2015

REV DATE:
INITIAL:

Section H: Median Planting Plans Hwy 100

INDEX OF SHEETS

- H1 General Layout with Index
- H2 TO H3 Estimate with General Notes and Tables
- H4 TO H12 Median Planting Plans
- H13 Special Details



BEGIN NH 0100(103)

Maple Street
Station 42+61.15

END NH 0100(103)

Hwy 100
Station 786+00.00

END NH 0100(103)

Maple Street
Station 49+34.39

END NH 0100(103)

Madison Street
Station 24+45.63

BEGIN NH 0100(103)

Hwy 100
Station 717+07.63

BEGIN NH 0100(103)

Madison Street
Station 19+38.13

SECTION H ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
120E6300	Water for Vegetation	100.0	MGal
730E0251	Special Permanent Seed Mixture 1	678	Lb
731E0100	Fertilizing	2,100	Lb
732E0200	Fiber Mulching	2.0	Ton
735E0110	1 Gallon Perennial Plant, Furnish and Plant	300	Each
735E5010	1 Gallon Ornamental Grass, Furnish and Plant	870	Each
900E5150	Landscape Edging	1,038	Ft
900E5152	Weed Barrier Fabric	724	SqYd
900E5156	3" Depth Shredded Bark Mulch	724.0	SqYd

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

- Glomus intraradices* 25%
- Glomus aggregatu* 25%
- Glomus mosseae* 25%
- Glomus etunicatum* 25%

All seed shall be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The application rate is 23 pounds per 1,000 square feet.

PERMANENT SEEDING

The areas to be seeded comprise of all areas within the boulevards that will not be planting beds.

All permanent seed shall be planted in the topsoil at a depth of 1/4" to 1/2". All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" 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.

Special Permanent Seed Mixture 1 shall consist of the following:

FOR BIDDING PURPOSES ONLY

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000SF)
Turf Type Tall Fescue	Minimum of 3 varieties	8
Total:		8

SEED ORIGATION LIMITATIONS

Grass seed furnished shall be the grass species listed in these plans. The Contractor may use one of the grass varieties listed in these plans for the specified grass species or the Contractor may use a different grass variety of the same grass species specified. If the Contractor uses a grass variety listed in these plans for the specified grass species, the grass seed origin limitations will not apply. If the Contractor uses a grass variety not listed in these plans for the specified grass species, the grass seed furnished must originate in South Dakota, North Dakota, Montana, Wyoming, Nebraska, Iowa, Minnesota, Kansas, Colorado, or Wisconsin. Grass seed grown outside this area may be approved after the Contractor has furnished written certification from three seed suppliers confirming seed grown within this area is not readily available.

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 the seed is planted at a depth of 1/4" to 1/2".

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 approved product list. 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.

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.

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 pound or ton for "Fiber Mulching".

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

WATER FOR VEGETATION – SEED AREAS

Water for vegetation consists of applying water to seeded areas to enhance germination and/or root growth. When watering, use the following guidelines:

Immediately after seeding:

- Keep the topsoil moist but not excessively wet until the seed has germinated.
- Water a minimum of 3 days a week for 2 weeks preferably watering 2 or 3 times a day in small quantities.
- Use fine spray and low pressure to avoid topsoil wash and to prevent uncovering buried seeds.

After emergence:

- Topsoil shall be kept thoroughly moistened by sprinkling, as necessary, for 6 weeks. After the 6 week period, an inspection shall be made to determine if grass is established enough to suspend watering. Continue watering until grass has been thoroughly established.
- Never apply water at a rate faster than the topsoil can absorb.
- Water during early morning hours or early evening hours.
- Do not water when rain is forecasted for the area.
- If rainfall occurs, suspend watering according to rainfall amount.

An estimated 10.5 Gallons of water per square yard of seeding area was used to compute the quantity for the bid item "Water for Vegetation".

All costs for furnishing and applying the water including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per Mgal for "Water for Vegetation".

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(103)417	H2	H13



WEED BARRIER FABRIC/LANDSCAPE FABRIC

Weed barrier fabric shall be placed at the areas specified in the plans.

Weed barrier fabric shall be anchored to the ground with 6" U shaped staples. The staples shall be placed at a 4' spacing along all edges, overlaps, and throughout the area of weed barrier fabric. The weed barrier fabric shall be overlapped 4" between rolls.

Weed barrier fabric shall be measured to the nearest square yard. Measurement of the overlaps will not be made.

All costs for furnishing, handling, and placing the weed barrier fabric including the materials, equipment, labor, and incidentals necessary shall be incidental to the contract unit price per square yard for "Weed Barrier Fabric".

The weed barrier fabric shall be provided from the list below or an approved alternate:

Weed Barrier Fabric/Landscape Fabric

Product	Manufacturer
Green Line Ground Cover	Thrace-LINQ, Inc. Summerville, SC Phone: 1-800-445-4675
Green Line Landscape	Thrace-LINQ, Inc. Summerville, SC Phone: 1-800-445-4675
Purple Line Landscape	Thrace-LINQ, Inc. Summerville, SC Phone: 1-800-445-4675
Geotex 351	Propex Inc. Chattanooga, TN Phone: 1-800-621-1273 www.geotextile.com
Earthscape 4530	Propex Inc. Chattanooga, TN Phone: 1-800-621-1273
Mirafi Mscape	TenCate Geosynthetics Pendergrass, GA Phone: 1-706-693-2226
Mirafi Mscape Plus	TenCate Geosynthetics Pendergrass, GA Phone: 1-706-693-2226
Typar Professional Landscape Fabric 3301	Fiberweb, Inc. Old Hickory, TN Phone: 1-800-382-8467 www.typarlandscape.com

LANDSCAPE EDGING

Class M6 Concrete shall be used in construction of the landscape edging.

All rebar shall conform to ASTM A615 Grade 60 and the Standard Specification Sections 480 and 1010. All rebar shall have a minimum of 3" clear cover.

The cost for all materials, labor, and incidentals necessary to construct the landscape edging shall be incidental to the contract unit price per linear foot for the bid item.

SHREDDED BARK MULCH

Shredded hardwood or cedar bark mulch shall be placed at a thickness of 3 inches in all planting beds shown on the plans.

All costs for furnishing, handling, and placing the shredded bark mulch including the materials, equipment, labor, and incidentals necessary shall be incidental to the contract unit price per square yard for " 3" Depth Shredded Bark Mulch".

GENERAL PLANTING NOTES

All plants shall conform to or exceed minimum quality standards as defined by the American Nursery and Landscaping Association, current edition of American Standard for Nursery Stock, and shall be purchased from a Landscape Nursery. Plants furnished shall be of the same genus, species, cultivar, and size as specified in the plans. Species and variety may be substituted only by the approval of the Engineer. Each plant shall have an identification label.

All plants shall bear the same relationship to the finished grade as the plant's original grade before digging. All plants shall be planted in accordance with all the drawings and specifications included in the plans.

Planting locations for each individual species shall be identified prior to planting. Location shall be approved by the Engineer prior to installation.

All plants shall be fertilized. Fertilizer type and rate to match fertilizer specified for turf application.

Within 2 hours after being planted, plants shall be watered to thoroughly saturate the backfill soil as this provides settlement and filling of voids in the backfill.

As soon as the initial planting is completed, the Engineer shall visually inspect plants for health, vigor, and condition, and shall at that time accept or reject them.

The Contractor shall provide a one year warranty for all plants. After one year from initial planting, the Engineer shall make an inspection and dead, unhealthy, or otherwise not acceptable plants shall be replaced by the Contractor at no additional cost to the State.

All costs for furnishing, handling, storing, fertilizing, and planting the plants including the materials, equipment, labor, preparation of the ground, initial watering if irrigation system is not in place, clean up of the planted areas, and the warranty, shall be incidental to the contract unit price per each for the corresponding bid items as follows:

- 1 Gallon Perennial, Furnish and Plant
- 1 Gallon Ornamental Grass, Furnish and Plant

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(103)417	H3	H13

WATER FOR VEGETATION - PERENNIALS AND GRASSES

The Contractor is required to provide adequate water for all newly planted material for a period of 45 days after installation. An inspection will be performed at the end of the maintenance period to ensure the plants are alive and growing. Maintenance and replacement shall be at the expense of the Contractor. Replaced plantings shall be watered as required for original plantings at the expense of the Contractor. All cost of watering plants shall be incidental to the contract unit price per corresponding plant installed.



Section H: Median Planting Plans

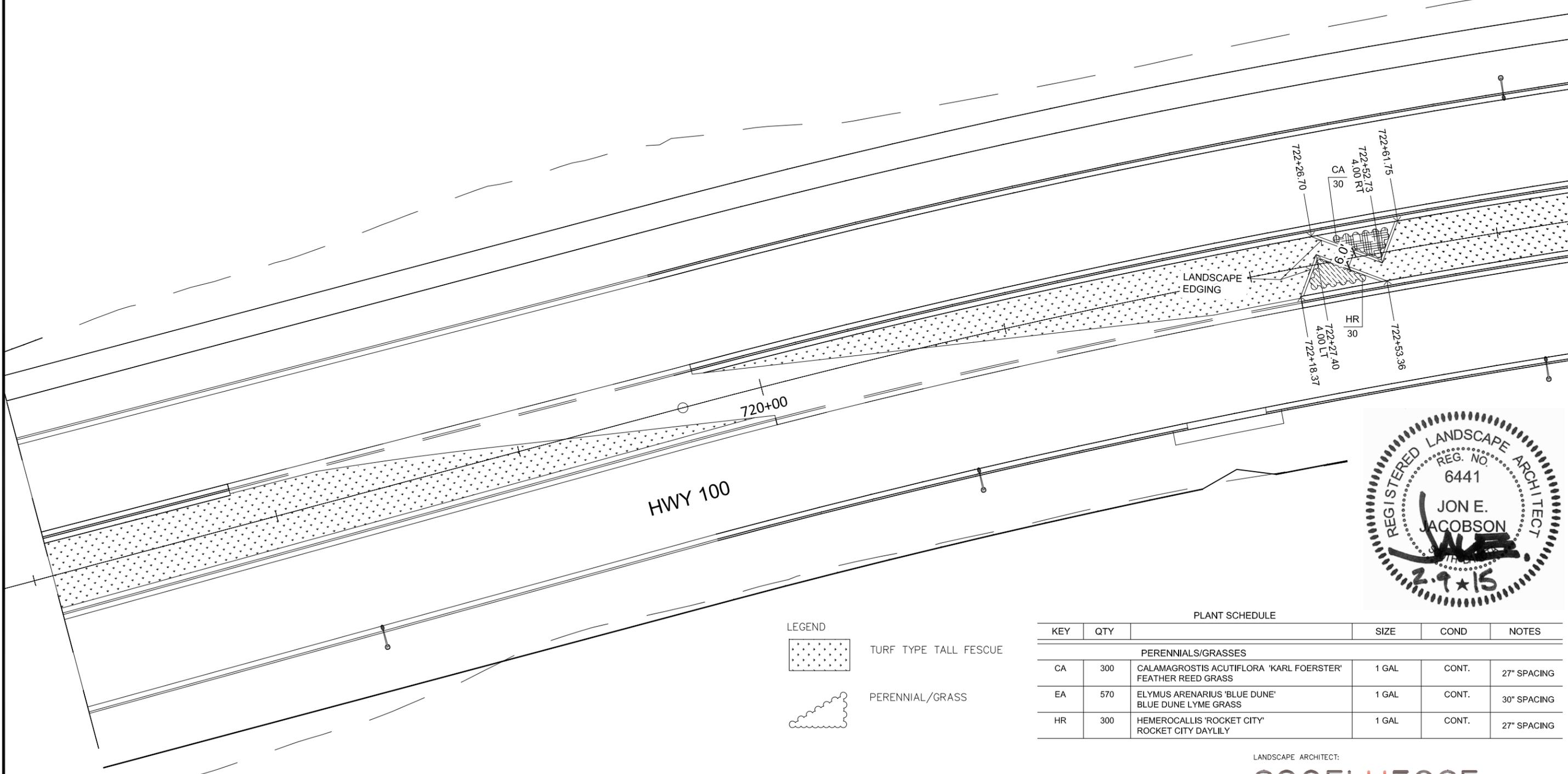
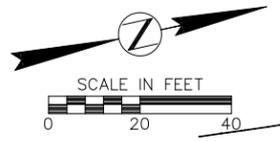
HWY 100

FOR BIDDING PURPOSES ONLY

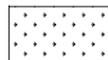
STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H4	TOTAL SHEETS H13
-----------------------	----------------------------	-------------	---------------------

FILE: 14085SF SPBP
PLOTTING DATE: 02-09-2015

REV DATE:
INITIAL:



LEGEND

	TURF TYPE TALL FESCUE
	PERENNIAL/GRASS

PLANT SCHEDULE					
KEY	QTY		SIZE	COND	NOTES
PERENNIALS/GRASSES					
CA	300	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	1 GAL	CONT.	27" SPACING
EA	570	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	1 GAL	CONT.	30" SPACING
HR	300	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	1 GAL	CONT.	27" SPACING

LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM



Section H: Median Planting Plans

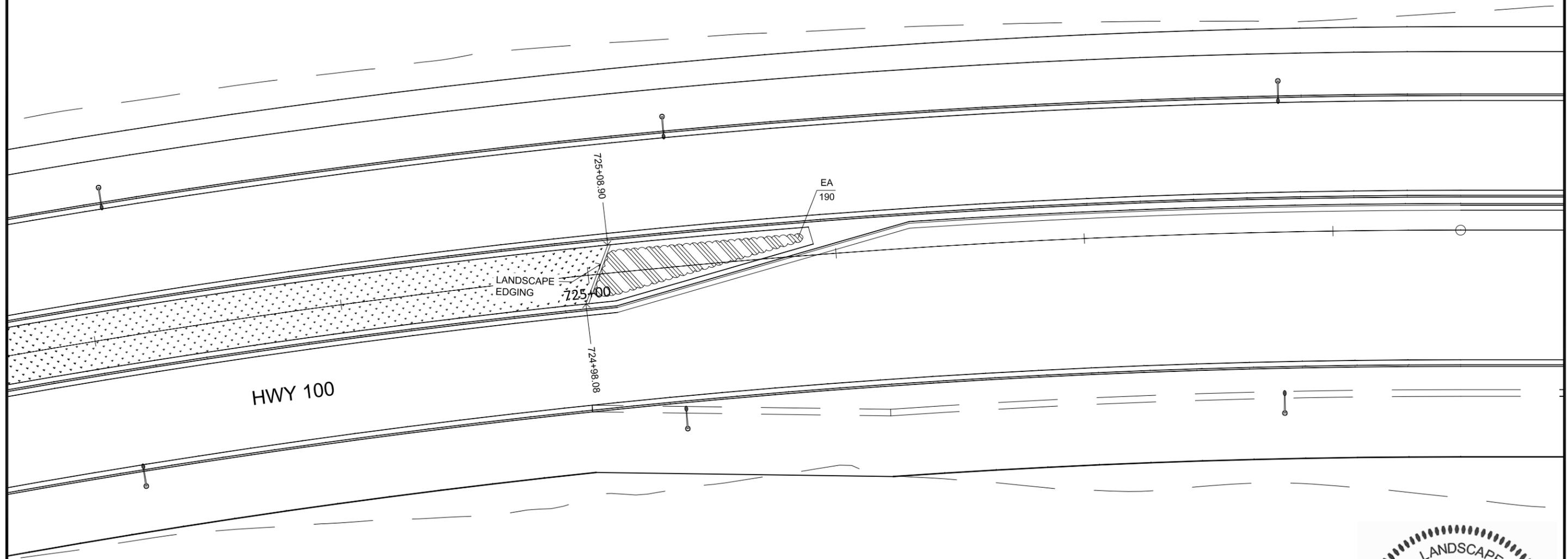
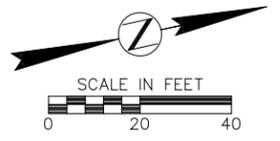
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(103)417	H5	H13

FILE: 14085SF SPBP
PLOTTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM



Section H: Median Planting Plans

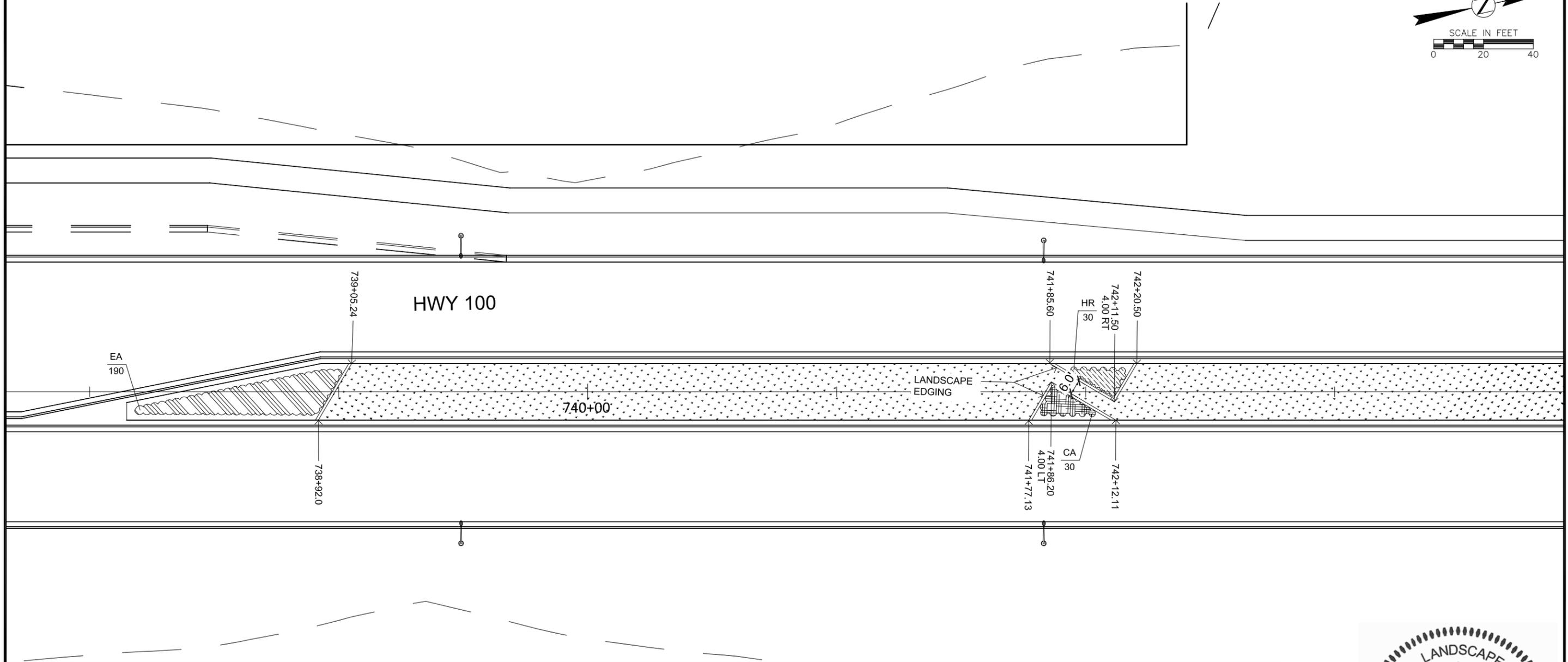
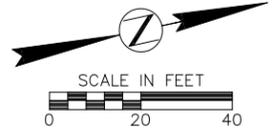
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H6	TOTAL SHEETS H13
-----------------------	----------------------------	-------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



LEGEND

	TURF TYPE TALL FESCUE
	PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 | FAX 605.339.1215 | THINKCONFLUENCE.COM



Section H: Median Planting Plans

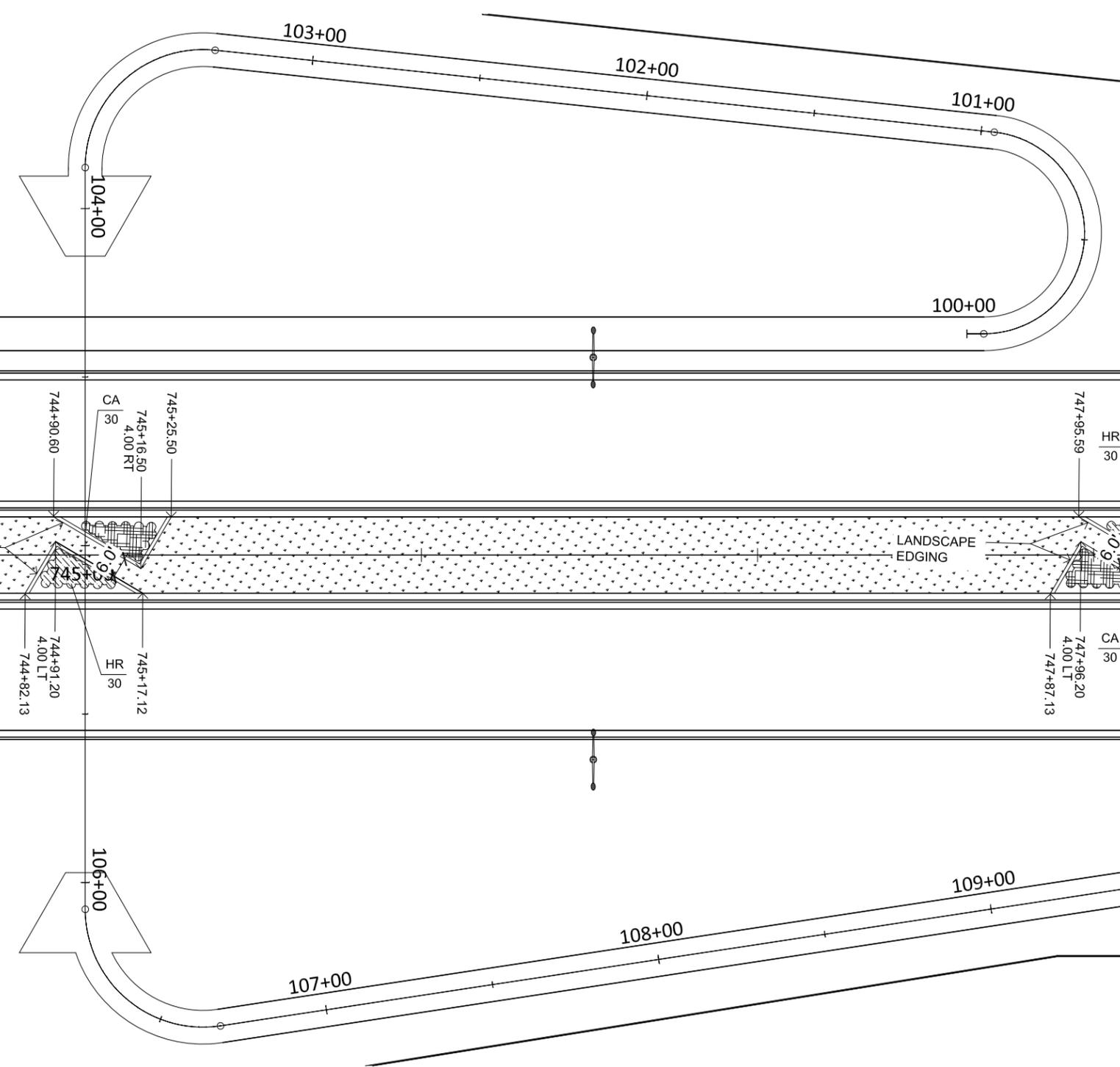
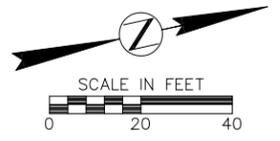
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H7	TOTAL SHEETS H13
-----------------------	----------------------------	-------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 | FAX 605.339.1215 | THINKCONFLUENCE.COM **HR**

Section H: Median Planting Plans

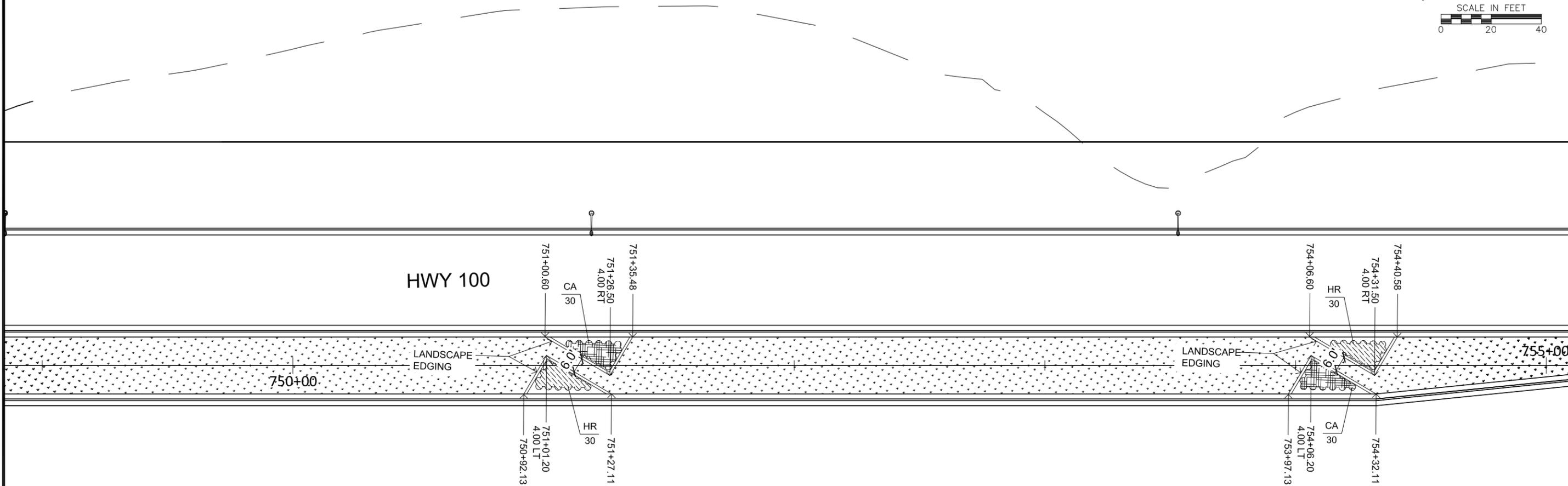
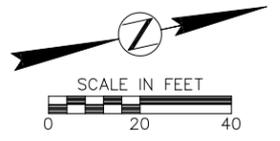
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H8	TOTAL SHEETS H13
-----------------------	----------------------------	-------------	---------------------

FILE: 14085SF SPBP
PLOTTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
TEL 605.339.1205 | FAX 605.339.1215 | THINKCONFLUENCE.COM



Section H: Median Planting Plans

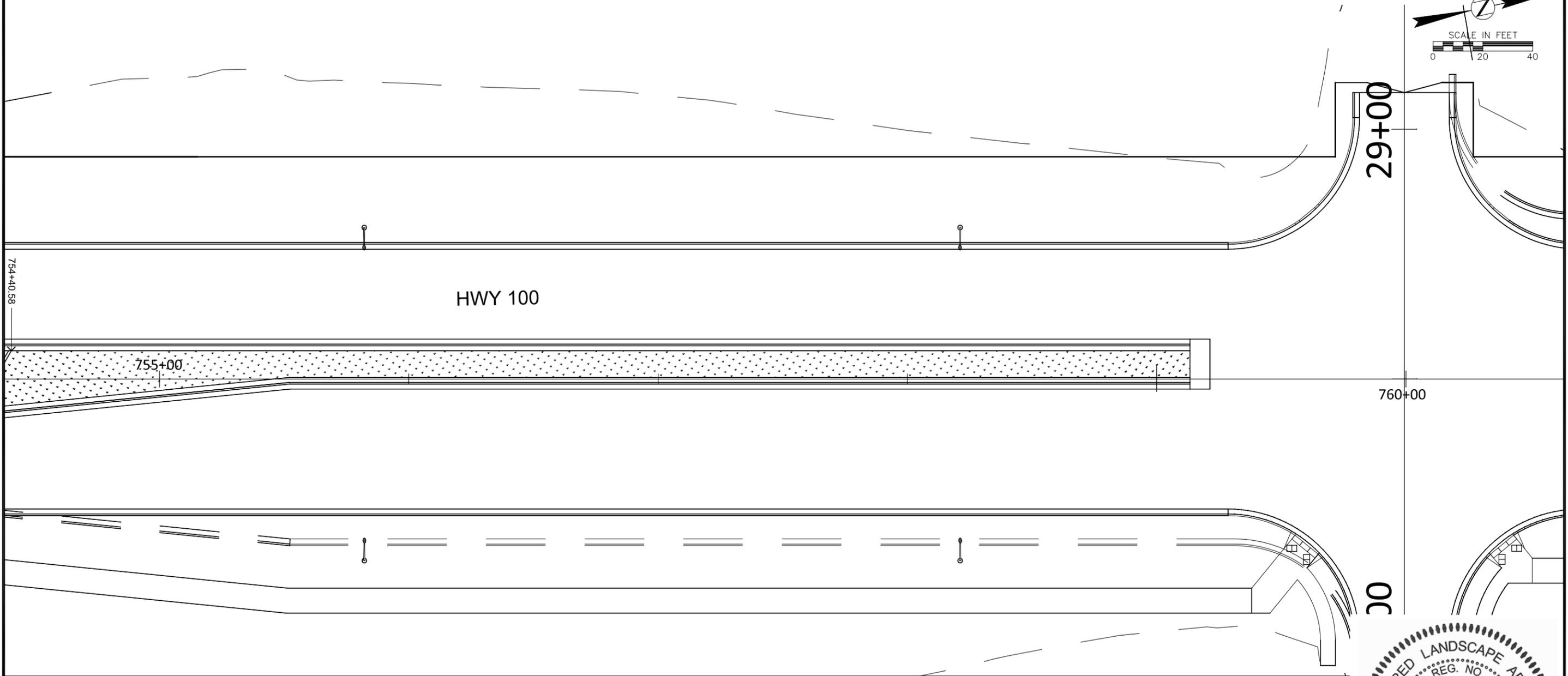
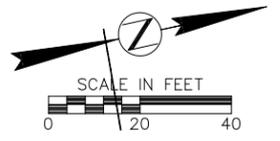
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H9	TOTAL SHEETS H13
-----------------------	----------------------------	-------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM **HR**

Section H: Median Planting Plans

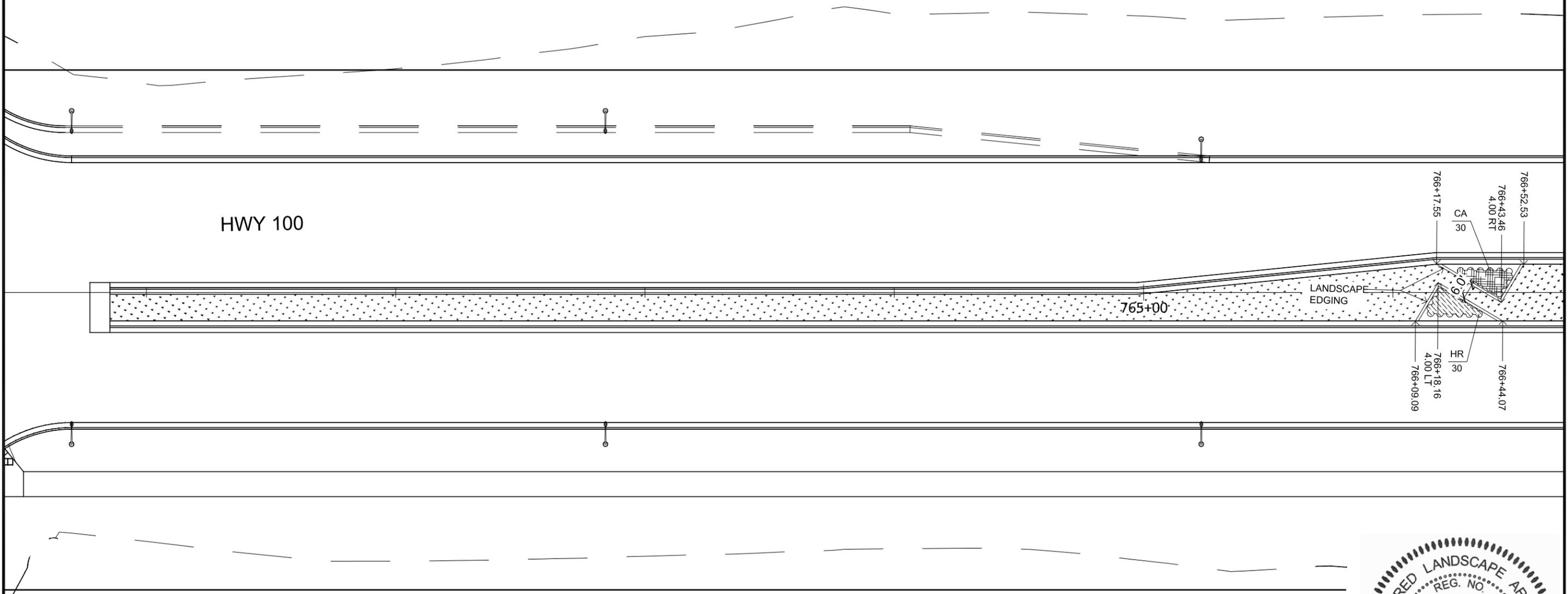
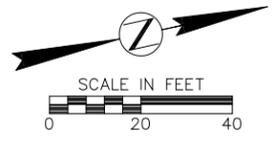
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H10	TOTAL SHEETS H13
-----------------------	----------------------------	--------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
524 NORTH MAIN AVENUE, SUITE 201 SIOUX FALLS, SOUTH DAKOTA 57104
TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM



Section H: Median Planting Plans

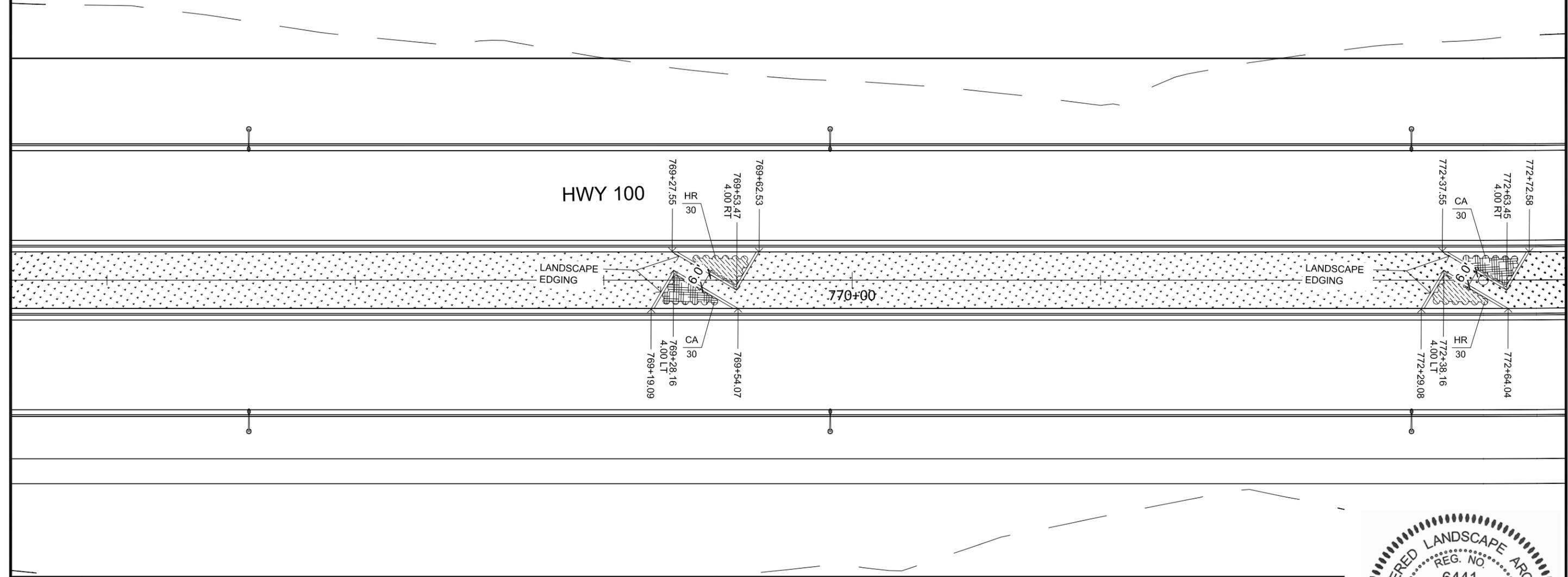
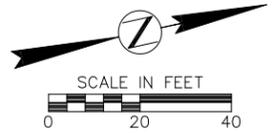
HWY 100

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H11	TOTAL SHEETS H13
-----------------------	----------------------------	--------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
- TURF TYPE TALL FESCUE
 - PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM



Section H: Median Planting Plans

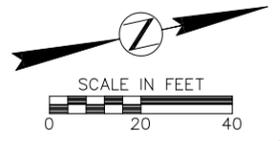
HWY 100

FOR BIDDING PURPOSES ONLY

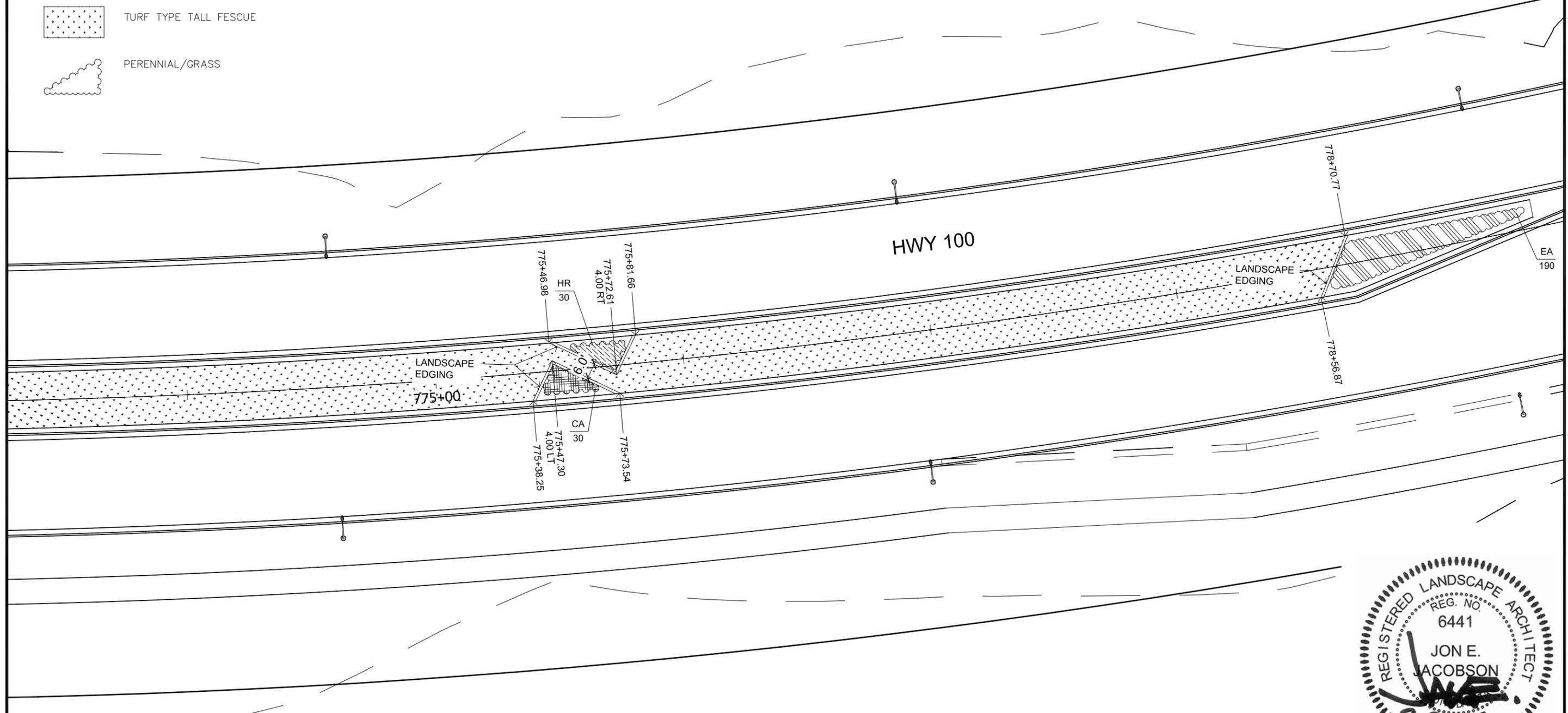
STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H12	TOTAL SHEETS H13
-----------------------	----------------------------	--------------	---------------------

FILE: 14085SF SPBP
PLOTING DATE: 02-09-2015

REV DATE:
INITIAL:



- LEGEND
-  TURF TYPE TALL FESCUE
 -  PERENNIAL/GRASS



LANDSCAPE ARCHITECT:
CONFLUENCE
 524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
 TEL 605.339.1205 | FAX 605.339.1215 | THINKCONFLUENCE.COM



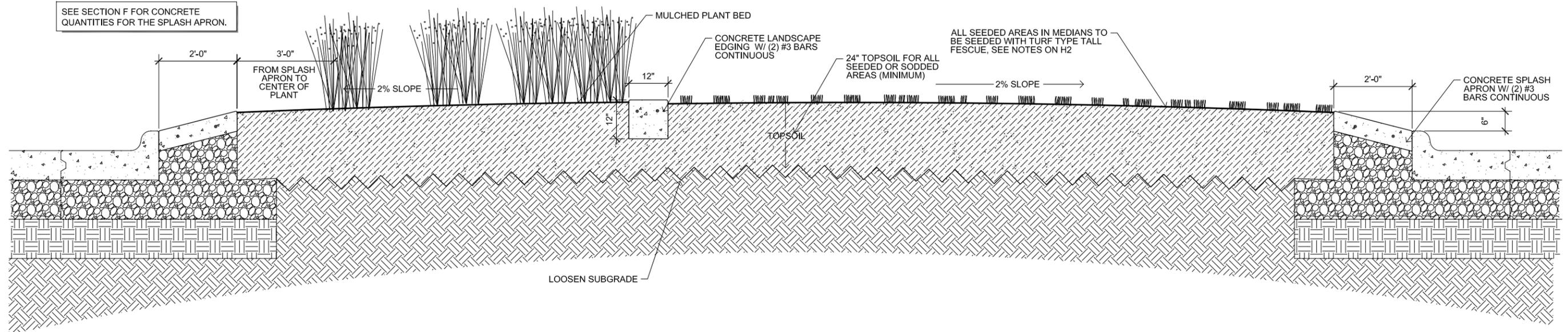
Section H: Special Details

HWY 100

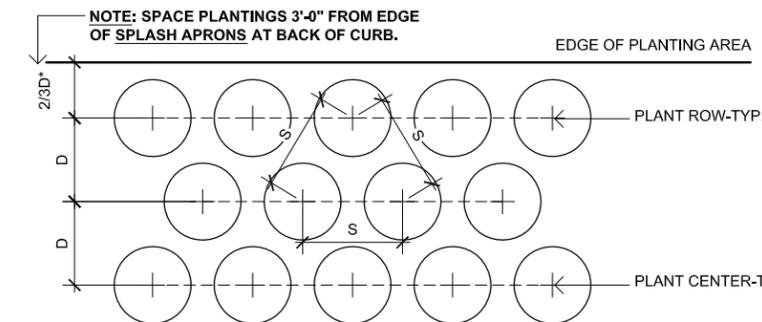
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0100(103)417	SHEET H13	TOTAL SHEETS H13
-----------------------	----------------------------	--------------	---------------------

FILE: 14085SF SPBP
PLOT DATE: 02-09-2015
REV DATE:
INITIAL:

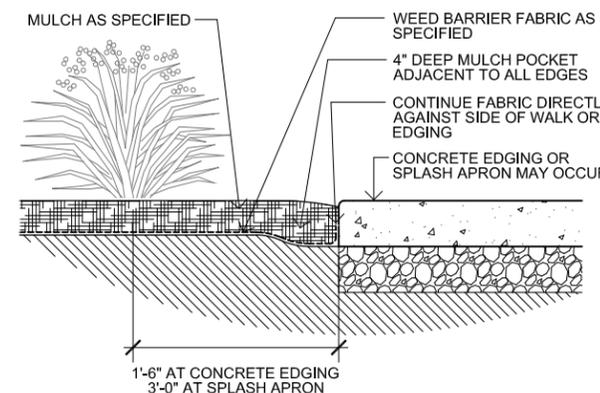
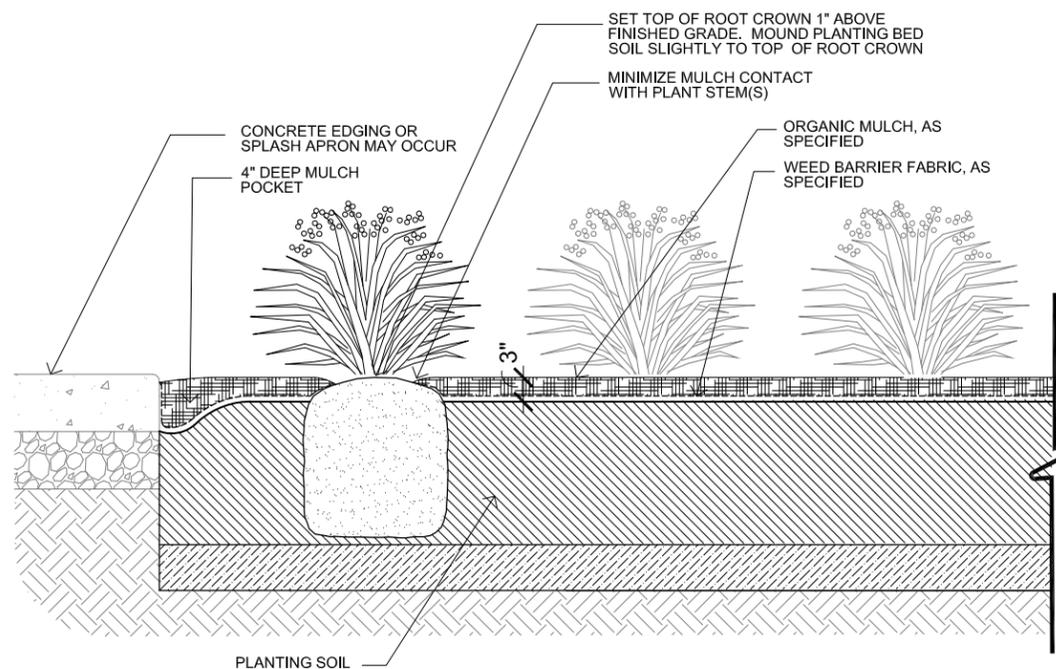


3 H9 MEDIAN SECTION SCALE: 3/8" = 1'-0"



TRIANGULAR SPACING - 'S'	DISTANCE BETWEEN ROWS - 'D'
24" (2')	21"
27"	23"
30"	26"
36" (3')	31"
42"	36"
60"	52"

3 H9 PLANT SPACING SCALE: 3/4" = 1'-0"



1 H9 PLANT BEDS SCALE: 3/4" = 1'-0"

2 H9 PLANT BED EDGE N.T.S.



LANDSCAPE ARCHITECT:
CONFLUENCE

524 NORTH MAIN AVENUE, SUITE 201 | SIOUX FALLS, SOUTH DAKOTA 57104
TEL 605.339.1205 FAX 605.339.1215 THINKCONFLUENCE.COM

