FOR BIDDING PURPOSES ONLY

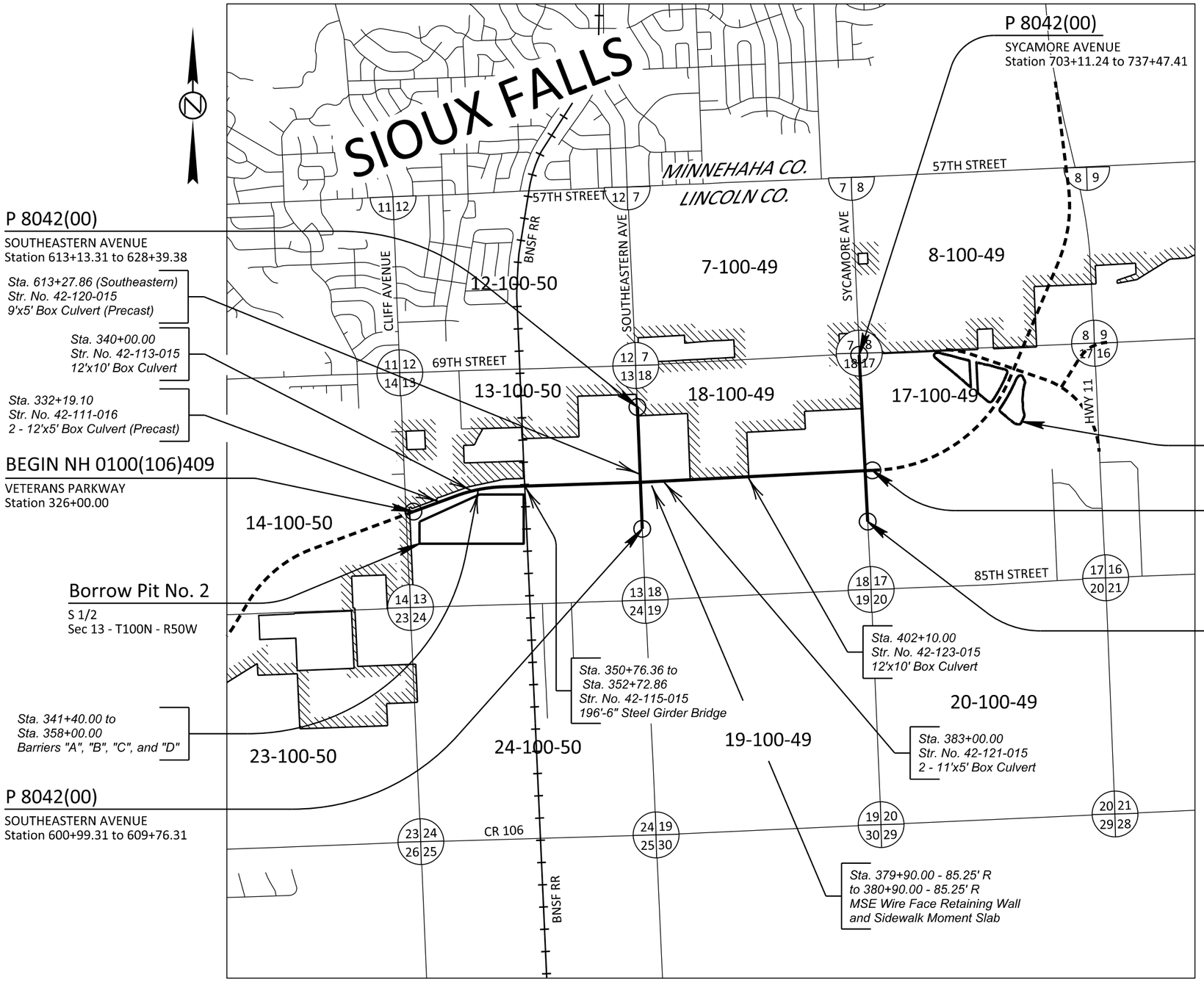
SECTION H: LANDSCAPING PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H1	H31

FILE: ...\Section H\H01 (Title)
PLOTTING DATE: 12-13-2024

REV DATE: 12-13-2024
INITIAL: ETE

INDEX OF SHEETS



CONFLUENCE HDR

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H2	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024
REV DATE: 12/11/2024
INITIAL: ETE

SECTION H ESTIMATE OF QUANTITIES (ALL ITEMS NON-PARTICIPATING)

Bid Item Number	Item	Quantity				Unit
		PCN 01V7 Veterans	PCN 08DG Southeastern	PCN 08DH Sycamore	Total	
120E6300	Water for Vegetation	1,060.0	37.0	64.0	1,161.0	MGal
230E0020	Contractor Furnished Topsoil	9,340	1,361	642	11,343	CuYd
730E0251	Special Permanent Seed Mixture 1	1,156	44	80	1,280	Lb
731E0100	Fertilizing	3,975	585	270	4,830	Lb
732E0200	Fiber Mulching	2.7	0.1	0.2	3.0	Ton
733E0100	Sodding	-	1,395	-	1,395	SqYd
735E0110	1 Gallon Perennial Plant, Furnish and Plant	984	-	-	984	Each
735E2225	2.5" Caliper Deciduous Tree, Furnish and Plant	-	30	15	45	Each
735E5010	1 Gallon Ornamental Grass, Furnish and Plant	1,487	137	76	1,700	Each
900E5150	Landscape Edging	1,212	42	23	1,277	Ft
900E5152	Weed Barrier Fabric	606	-	-	606	SqYd
900E5157	4" Depth Shredded Bark Mulch	692.0	154.0	88.0	934.0	SqYd
900E5430	Irrigation System	-	Lump Sum	-	Lump Sum	LS

SCOPE OF WORK

This work includes the installation of Contractor furnished and installed landscape plants and trees in fabric covered and mulched plant beds, installation of Contractor furnished topsoil, seed and sod. Installation of concrete landscape edging, excavation, backfill and irrigation system installation.

TOPSOIL - MEDIAN

Contractor Furnished Topsoil: Topsoil placed in median will be screened and pulverized and meet the requirements of the following table:

TOPSOIL REQUIREMENTS

	Minimum	Maximum
Material Passing #10 Sieve	95%	-
Clay	5%	50%
Silt	10%	70%
Sand and Gravel	10%	60%
Organic Matter (as determined by weight)	4%	15%
pH (ASTM D 5268)	6.0	8.0

The topsoil provided will be smooth, uniform, and free of stones 1 inch or larger in any dimension, roots and other extraneous or undesirable material harmful to plant growth. The Contractor to provide test results a minimum of 1 month prior to installation. Allow time for alternative source and testing if initial source does not meet requirements. Texture will be determined by the method described in the AASHTO T 88.

PLANT SCHEDULE – PCN 01V7 VETERANS PARKWAY

Key	Qty	Plant Type	Size	Spacing
		Perennials/ Grasses		
CA	984	Calamagrostis x acutiflora 'Karl Foerster' Karl Foerster Feather Reed Grass	#1 CONT.	20 inches
EA	503	Elymus arenarius 'Blue Dune' Blue Dune Lyme Grass	#1 CONT.	36 inches
HR	984	Hemerocallis 'Rocket City' Rocket City Daylily	#1 CONT.	20 inches

PLANT SCHEDULE – PCN 08DG SOUTHEASTERN AVENUE

Key	Qty	Plant Type	Size	Spacing
		Deciduous Tree		
GD	12	Gymnocladus diocus 'Espresso' Espresso Kentucky Coffeetree	2.5" CAL B&B	
UJ	8	Ulmus japonica x pumila 'New Horizon' New Horizon Elm	2.5" CAL B&B	
UP	10	Ulmus americana 'Princeton' Princeton Elm	2.5" CAL B&B	
		Perennials/ Grasses		
EA	137	Elymus arenarius 'Blue Dune' Blue Dune Lyme Grass	#1 CONT.	36 inches

PLANT SCHEDULE – PCN 08DH SYCAMORE AVENUE

Key	Qty	Plant Type	Size	Spacing
		Deciduous Tree		
GD	5	Gymnocladus diocus 'Espresso' Espresso Kentucky Coffeetree	2.5" CAL B&B	
UJ	4	Ulmus japonica x pumila 'New Horizon' New Horizon Elm	2.5" CAL B&B	
UP	6	Ulmus americana 'Princeton' Princeton Elm	2.5" CAL B&B	
		Perennials/ Grasses		
EA	76	Elymus arenarius 'Blue Dune' Blue Dune Lyme Grass	#1 CONT.	36 inches

GENERAL PLANTING

Verify all plant locations on site with Landscape Architect prior to installation.

All substitutions to be approved by Engineer through correspondence with the Landscape Architect prior to bidding.

LANDSCAPE ARCHITECT

Contact Confluence with a minimum of 48 hours advance notice where notes indicate field verification or approval by Landscape Architect. 605-339-1205

QUALITY ASSURANCE

Installer will be required to maintain an experienced full-time Supervisor with at least three years of experience on project site when work is in progress. Payment will be incidental to the contract unit price for the applicable Section H Bid Item.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will 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 will provide certification of the fungal species claimed and the live propagule count. The inoculum will include the following fungal species:

25% *Glomus intraradices*
25% *Glomus aggregatum or deserticola*
25% *Glomus mosseae*
25% *Glomus etunicatum*

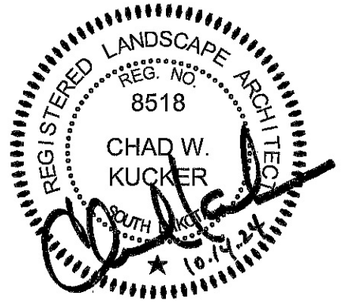
FERTILIZING

The Contractor will apply an all-natural slow-release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P_2O_5) available phosphate, a minimum of 4% (K_2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer will 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 will 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 will 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 fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow-release fertilizer will be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 www.perfect-blend.com
Nature Safe	Nature Safe Fertilizers Irving, TX Phone: 1-605-759-5622 www.naturesafe.com



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SEEDING (MEDIANS)
Special Permanent Seed Mixture 1 (Medians) will consist of the following:

Scientific Name	Variety	Pure Live Seed (PLS) (Pounds/1000SF)
Turf Type Tall Fescue	Minimum of 3 varieties	10
	Total:	10

SODDING
Sodding will conform to section 733 of the SDDOT Standard Specifications for Roads and Bridges. The sod will consist of a minimum of 3 Kentucky Bluegrass cultivars and may not be grown on peat. A letter of confirmation of sod seed varieties and material source will be submitted to the Engineer. When preparing the surface, the soil will be loosened to a minimum depth of 2 inches prior to placement of the sod.

The materials, equipment, labor, and incidentals necessary will be incidental to the contract unit price per square yard for “Sodding”.

FIBER MULCHING
Fiber mulch will be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier will 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 will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulch will be applied at the rate of 2000 pounds per acre.

The Contractor will 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 will be incidental to the contract unit price per pound or ton for “Fiber Mulching”.

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

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

IRRIGATION SYSTEM
An irrigation system will be installed where indicated to irrigate landscape medians.

System Design: Existing water pressure near Southeastern Avenue is estimated at 86-90 PSI, information provided by City of Sioux Falls GIS website Fire hydrant flow test on 06/06/2024 at 3100 E Autumn Blaze Drive. Contractor to verify and notify the Engineer of any discrepancies prior to beginning work.

All costs, labor and materials to furnish and install a fully functional irrigation system will be paid for at the contract lump sum price for ‘Irrigation System’. This bid item will include, but not be limited to, all costs, labor and materials to furnish and install all excavation, backfill, backflow, meter and enclosure, piping, fittings, control cable, and irrigation equipment. Quantities are given for information only, verify quantities. Drawing will prevail if discrepancies occur.

Pipelines 3 inches and smaller will be vibrated and plowed into the soil to the depths specified. Open trench excavation will be permitted for installation of non-pipeline items. Control wires will be installed in a neat, orderly fashion 2” below pipelines.

Trenches will be backfilled with existing native soils removed during trenching. In the event the excavated soils are not suitable for backfilling and compaction efforts, suitable soil from the site will be traded and used for backfilling. All open excavations, including trencher excavations, will be backfilled and compacted to a minimum of 95 percent standard proctor density.

All disturbed areas will be restored to finished grade and prepared for landscape. Hand grading and raking should be expected within the medians. All final grading will be approved by the Engineer prior to proceeding with landscape or irrigation.

Water Source
The water service line location has been determined by the Engineer and is shown on the utility plans. The utility Contractor will coordinate the tap and provide the irrigation water service to finished grade.

The irrigation Contractor will furnish all above grade piping, fittings, valves, water meters, backflow preventers and all other appurtenances necessary to provide a functional irrigation water source.

Water Meters
The City of Sioux Falls has assigned the following addresses to water meter locations:

Meter #	Station	Address	Meter Size	Backflow Size
1	620+26	6496 S Southeastern Ave	1”	1”

The water meters will be purchased by the Contractor from the City of Sioux Falls and will be equipped by the City with the MTU system (wireless read-out system). The water meter with the MTU system will be installed by the City within the backflow and meter enclosure. Contact Steve Menholt (605-367-8814) of the City of Sioux Falls to schedule this installation. The city of Sioux Falls will verify the water meter size for the design flow. The ‘Irrigation System’ bid item will include all costs to purchase the water meter from the City of Sioux Falls, provide and install necessary fittings, and coordinate installation.

Backflow Prevention
As defined by the City of Sioux Falls Cross Connection Control Program, backflow prevention is required. A backflow prevention assembly will be installed per standard plate 900.19. Upon the backflow prevention assembly being put into service, it must be tested for functionality by an ABPA certified backflow assembly tester approved by the City of Sioux Falls.

Enclosure
The backflow preventer, meter and miscellaneous plumbing will be installed within a lockable aluminum enclosure on a class M6 cast-in-place concrete pad.

Irrigation Control Wire
14 AWG copper wire, V.L. approved for direct burial and compatible with control system specified. Decoders will be compatible with control system and provided in single-station configurations.

All connections will be made with 3M DBR/Y-6 watertight wire connectors.

Installation Requirements
All irrigation equipment and piping to be installed per manufacturer written recommendations as well as all federal, state, and local laws and ordinances that may apply.

Irrigation equipment will be installed per details and manufacturer’s written requirements. Any deviation from these requirements must be documented in writing prior to changes in the work.

All piping materials will be of type and class noted in schedule. Minimum depth for lateral piping will be 12”. Minimum depth for irrigation mainline is 18”. Provide tee or elbow fittings for a clean transition from 18” deep mainline to 12” deep irrigation valves and lateral pipe. Maximum depth for control valves is 8”. Minimum depth for sleeves under pavement is 24”.

Pipe joints may not be located under roads or pavement. Pipe locations are diagrammatic and may conflict with pavement or other constructed features for clarity purposes only.

Irrigation symbols are oversized for clarity. Comply with general layout shown including pipe sizing and valve locations as related to the irrigation head layout.

Boxes for control valves and irrigation specialties to be PE or ABS and of a size required for servicing valves. Valve box lids to be PE or ABS and lettered with the text ‘IRRIGATION’. Valves will be located in a manifold configuration in a shared rectangular shaped box wherever possible. The bottom of the box will be supported by concrete pavers and a minimum of 6” deep layer of clean 3/8” crushed rock or pea gravel drainage material. **Drainage material must be installed prior to setting the valve box.**

Set valves and valve boxes to align with adjacent site features (mow edges, etc.). Where multiple valve boxes occur in a group, align valve and valve boxes to be parallel to the adjacent valves in the group.

Install unions adjacent to each valve for serviceability. Failure to comply with this requirement will result in removal and reinstallation.

The completed system will be adjusted and balanced to result in uniform distribution of water throughout the irrigated area.

Irrigation Contractor will review winterization procedures for irrigation system with the owner’s representative. Winterization and spring start up services during the first full year of operation are considered part of this contract.

TESTING
Before testing, all piping is to be thoroughly flushed. Prior to acceptance of work, all pressure piping and fittings will be subjected to a hydrostatic pressure test of 150 psi. This test will include all mainline and lateral piping for a minimum of one hour. Leaks and/or imperfections developing under said pressure will be remedied by the Contractor before final acceptance of the work. Pressure will be maintained while the entire installation is inspected. The Contractor will provide all work connected with the tests. Including temporary above ground piping to connect a riser from each lateral so that the entire system can be tested simultaneously.

Performance Testing: After system is 100% installed, perform a coverage test to determine whether water coverage and operation of the system is adequate for planting, without areas of excessive flooding, dry spots, areas of insufficient overlap, or excessive overspray. If the irrigation system is determined by Owner to be inadequate due to Contractor’s workmanship or materials, it will be replaced or repaired at Contractor’s expense and both pressure and coverage tests repeated until accepted. All equipment, materials and labor necessary to complete the testing will be incidental to the contract lump sum price for “Irrigation System”.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H4	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024
REV DATE: 12/11/2024
INITIAL: ETE

WARRANTY

For a period of one year from project substantial completion the Contractor will guarantee irrigation materials, equipment, and workmanship against defects. Fill and repair depressions, restore landscape or structural features damaged by the settlement of irrigation trenches or excavation. Repair damage to the premises caused by a defective item or poor workmanship. Make repairs within seven days of notification from the owner's representative.

RECORD DOCUMENTS

The Contractor is responsible for documenting changes to the design. Record work that is installed differently than shown on the construction shop drawings. Record pipe and wiring network alterations and location changes to equipment. Keep documents current. Do not permanently cover work until as-built information is recorded. Turn over the "Record Drawings" to the Engineer. Completion of the Record Drawings will be a prerequisite for irrigation system substantial completion and final payment.

PLANTS, TREES AND SHRUBS

General Notes: All plants, trees, and shrubs will conform to or exceed minimum quality standards as defined by the American Nursery and Landscape Association, current edition of American Standard for Nursery Stock, and will be purchased from a Landscape Nursery. Plants, trees, and shrubs furnished will 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, tree, and shrub will have an identification label.

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

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

Hand dig tree planting pits when in close proximity to existing utilities.

All plants, trees, and shrubs will be fertilized.

Within 2 hours after being planted, plants, trees, and shrubs will 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 will visually inspect plants, trees, and shrubs for health, vigor, and condition, and will at that time accept or reject them.

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

All costs for furnishing, handling, storing, fertilizing, and planting the plants, trees, and shrubs 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, will be incidental to the contract unit price per each for the corresponding "Plant, Tree, and Shrub, Furnish and Plant" contract item.

The City of Sioux Falls Parks Department will monitor the trees during the warranty period. If a tree meets the criteria below, the Park Forestry Supervisor will advise the Engineer of the need to meet on site to confirm that the tree is dead. A picture of the dead tree will then be taken, and the tree will be removed by the City of Sioux Falls Forestry Crew. The Engineer will follow up with the Contractor to have the tree replaced at no additional cost to the Project.

Criteria for identifying a dead tree:

- Leaves are brown during the summer.
- Tree loses its leaves during the summer.
- Buds are dry and brittle.
- Brittle branches that break when bent.
- The surface beneath the bark of the tree is brown. To check, take a pocket knife and scrape the surface just below the bark. If the surface beneath the bark is green, then the tree is not dead.

Staking of trees will be required for all trees planted on the project. Staking of trees will be incidental to the contract unit price per each tree. No hose and wire will be used for staking.

All costs for furnishing, handling, storing, fertilizing, and planting the plants, trees, and shrubs 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, will be incidental to the contract unit price per each for the corresponding "Plant, Tree, and Shrub, Furnish and Plant" contract item.

Plant and Plant Area Maintenance: The Contractor is responsible for maintaining all plants and plant beds for a period of 45 days after installation, per the following:

1) The Contractor is responsible for controlling weeds and mowing all newly seeded, sodded and landscaping areas until a uniform perennial vegetative cover with a density of 70% of the native cover for unpaved areas and areas not covered by permanent structures has been established. The Contractor will also spray and remove any weeds that are present prior to seeding, sodding and installing the landscaping areas. If areas are seeded in late fall, this requirement will remain in effect the following spring.

2) Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, resetting to proper grades or vertical position and performing other operations as required to establish healthy, viable plantings. Spray or treat as required to keep trees and plants free of insects and disease.

3) Fill settled areas with planting soil as necessary. Remove and replace landscape and mulch materials damaged or lost in areas.

4) Protect plants from damage due to landscape operations and operations of other Contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair or replace damaged planting.

5) All costs, labor and materials for the aforementioned plant and plant area maintenance work will be incidental to the landscaping bid items.

Mulch Rings and Tree Watering Bags: Trees located in lawn areas will receive a mulch ring with a minimum diameter of 4 feet and a minimum thickness of 4 inches placed around each individual tree.

A 20 gallon Tree Watering Bag will be provided and installed with each tree installed. Watering Bags will be a Treegator Slow Release Watering Bag, www.treegator.com, or approved equal. Each tree bag will be refilled at least once per week during the maintenance period.

All costs for furnishing, handling, and placing the mulch rings and watering bags including the materials, equipment, labor and incidentals necessary will be incidental to the contract unit price per each for tree bid items. Watering will be paid under the "Water for Vegetation" bid item.

Sod: The Contractor is required to provide adequate water for all newly sodded areas for a period of 45 days after installation.

The Contractor will be required to program and adjust the irrigation system as required to maintain a moist condition throughout the thickness of the sod and well into the underlying soil bed to ensure proper root growth. The water application rate should allow the water to soak into the ground without runoff. The city will provide water applied through the irrigation system.

An inspection will be performed at the end of the 45 day maintenance period to ensure the sod is alive and growing. Maintenance and replacement will be at the expense of the Contractor. Replaced sod will be watered as required for the original sod at the expense of the Contractor.

Plants, Trees and Shrubs: The Contractor is required to provide adequate water for all newly non-irrigated planted landscape material for a period of 45 days after installation.

Included in the estimate of quantities is 307 MGAL's of water for vegetation for the landscape material. This quantity was calculated based on 20 gallons of water per week per non-irrigated tree, plus 18 total gallons for each non-irrigated plant and shrub. See Irrigation Plan for irrigation extents. More or less water for vegetation may be required to ensure adequate growth of the landscape material at the end of the 45 day maintenance period.

An inspection will be performed at the end of the 45 day maintenance period to ensure the landscape material is alive and growing. Maintenance and replacement will be at the expense of the Contractor. Replaced landscape material will be watered as required for original plantings at the expense of the Contractor.

Seed: The Contractor is required to provide adequate water for all newly non-irrigated seeded areas for a period of 45 days after installation, and until a uniform, perennial vegetative cover with a density of 70% of the native grasses has been established. The Contractor will be required to maintain the soil and mulch in a moist condition to a depth of at least 1 inch below the surface to ensure proper growth of the seed. The water application rate should allow the water to soak into the ground without runoff. The Contractor will use a fine spray and low pressure to avoid erosion and runoff. Multiple passes may be needed. The Contractor will be responsible to repair any areas of erosion or bare spots at no additional cost to the City.

Included in the estimate of quantities is 854 MGAL's of water for vegetation for the seeded areas. This quantity was calculated based on 60 gallons of water per square yard of seeded area, which assumes the Contractor will apply 0.5" of water over the seeded areas 3-4 times per week. This quantity is for estimating purposes only. More or less water for vegetation may be required to ensure adequate grass growth within the seeded areas at the end of the 45 day maintenance period.

If the Contractor fails to provide adequate water for the newly seeded areas, the Contractor will be required to reseed and maintain the area for an additional 45 days at no additional expense to the City. No payment will be made for reseeding, watering, or other associated costs during the additional 45 day maintenance period.

CONFLUENCE HDR

PLANTS, TREES AND SHRUBS - CONTINUED

WATER SCHEDULE – PCN 01V7 VETERANS PARKWAY

Station Start	Station End	MGAL
Plants, Trees and Shrubs		
329+85	423+50	289
Seed		
329+85	423+50	771

WATER SCHEDULE – PCN 08DG SOUTHEASTERN AVENUE

Station Start	Station End	MGAL
Plants, Trees and Shrubs		
603+85	607+52	7
Seed		
603+85	607+52	30

WATER SCHEDULE – PCN 08DH SYCAMORE AVENUE

Station Start	Station End	MGAL
Plants, Trees and Shrubs		
703+00	718+10	11
Seed		
703+00	718+10	53

WEED BARRIER FABRIC/LANDSCAPE FABRIC

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

Weed barrier fabric will be anchored to the ground with 6” U shaped staples. The staples will be placed at a 4’-0” spacing along all edges, overlaps, and throughout the area of weed barrier fabric. The weed barrier fabric will be overlapped 4” between rolls.
Weed barrier fabric will be measured to the nearest square yard. Measurement of the overlaps will not be made.

The weed barrier fabric will 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
SRW Pro Plus V	SRW Products 1-800-752-9326 | www.srwproducts.com
Pro 5	DeWitt Company Inc. 1-800-888-9669 | www.dewittcompany.com
Stronghold Woven Black Needle Punch 5.0 Oz	Cherokee Manufacturing 1-800-798-9473 | www.cherokeemfg.com

SHREDDED BARK MULCH

Shredded cedar bark mulch will be placed at a thickness of 4 inches in areas shown on the plans after plants are planted.

All costs for furnishing, handling, and placing the shredded bark mulch including the materials, equipment, labor, and incidentals necessary will be incidental to the contract unit price per square yard for “4” Depth Shredded Bark Mulch”.

LANDSCAPE EDGING

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

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

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

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H6	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE:
INITIAL: ETE

REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H7	H31

FILE: 20441-04 Veterans Parkway
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0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
EA	503	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING
HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

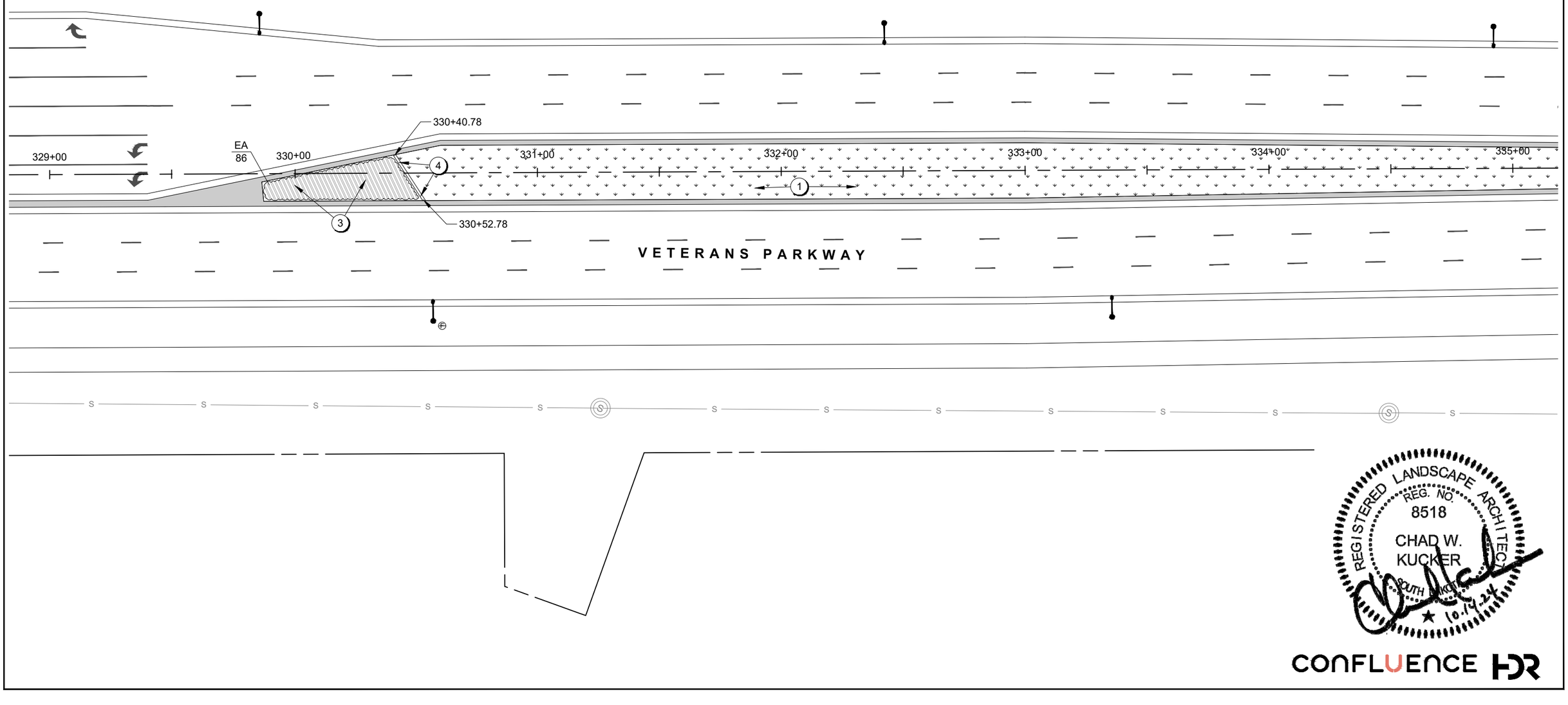
(#) KEYNOTES

1. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE, SEED AND MULCH MEDIAN.
2. PLANT BED WITH WEED BARRIER FABRIC AND SHREDDED BARK MULCH.
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10/14/24

CONFLUENCE HDR

Landscape Plan

REVISED

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H8	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
EA	503	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING
HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

KEYNOTES

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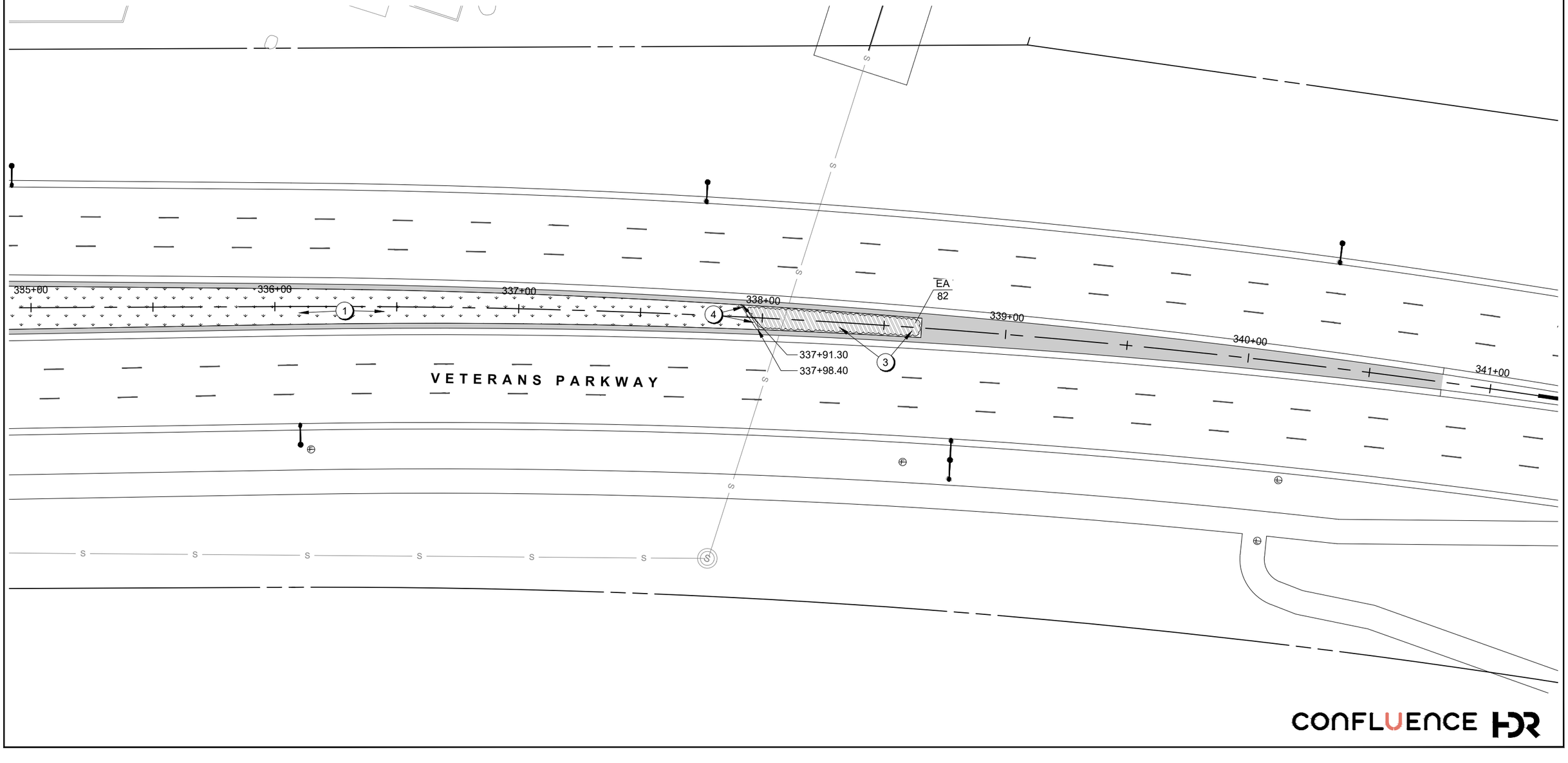
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24



CONFLUENCE HDR

Landscape Plan

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H9	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
EA	503	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING
HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

(#) KEYNOTES

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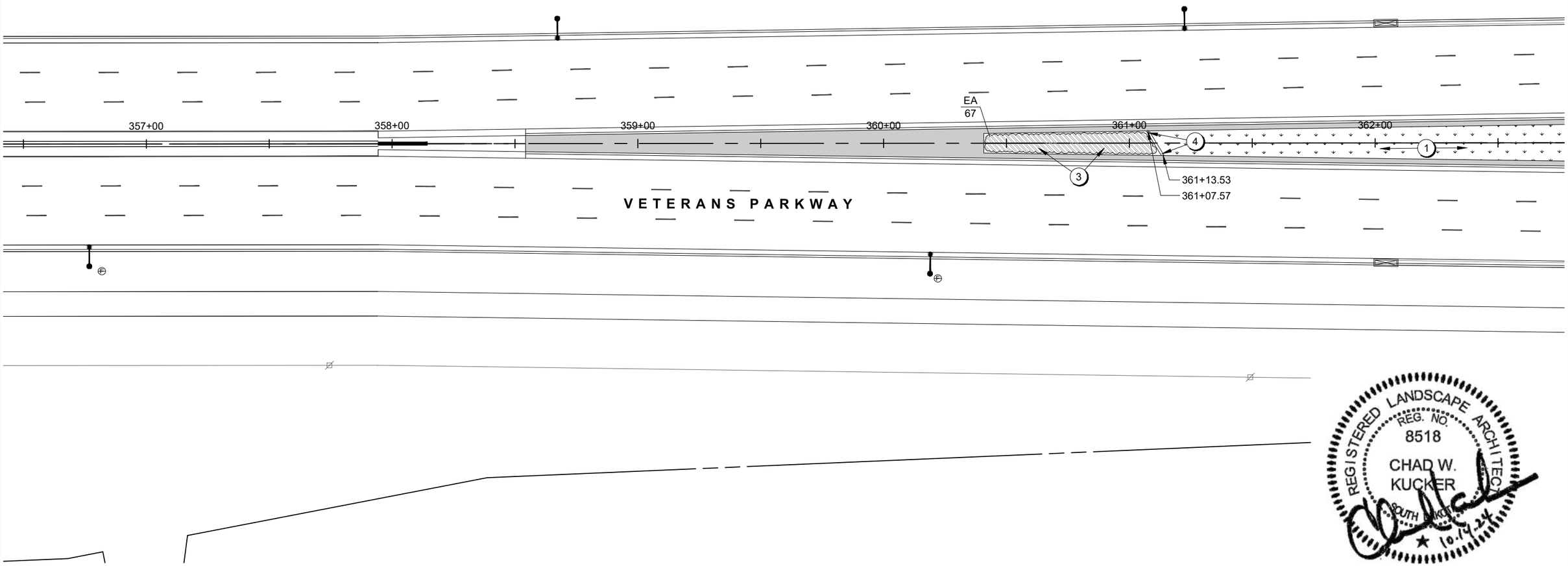
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H10	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

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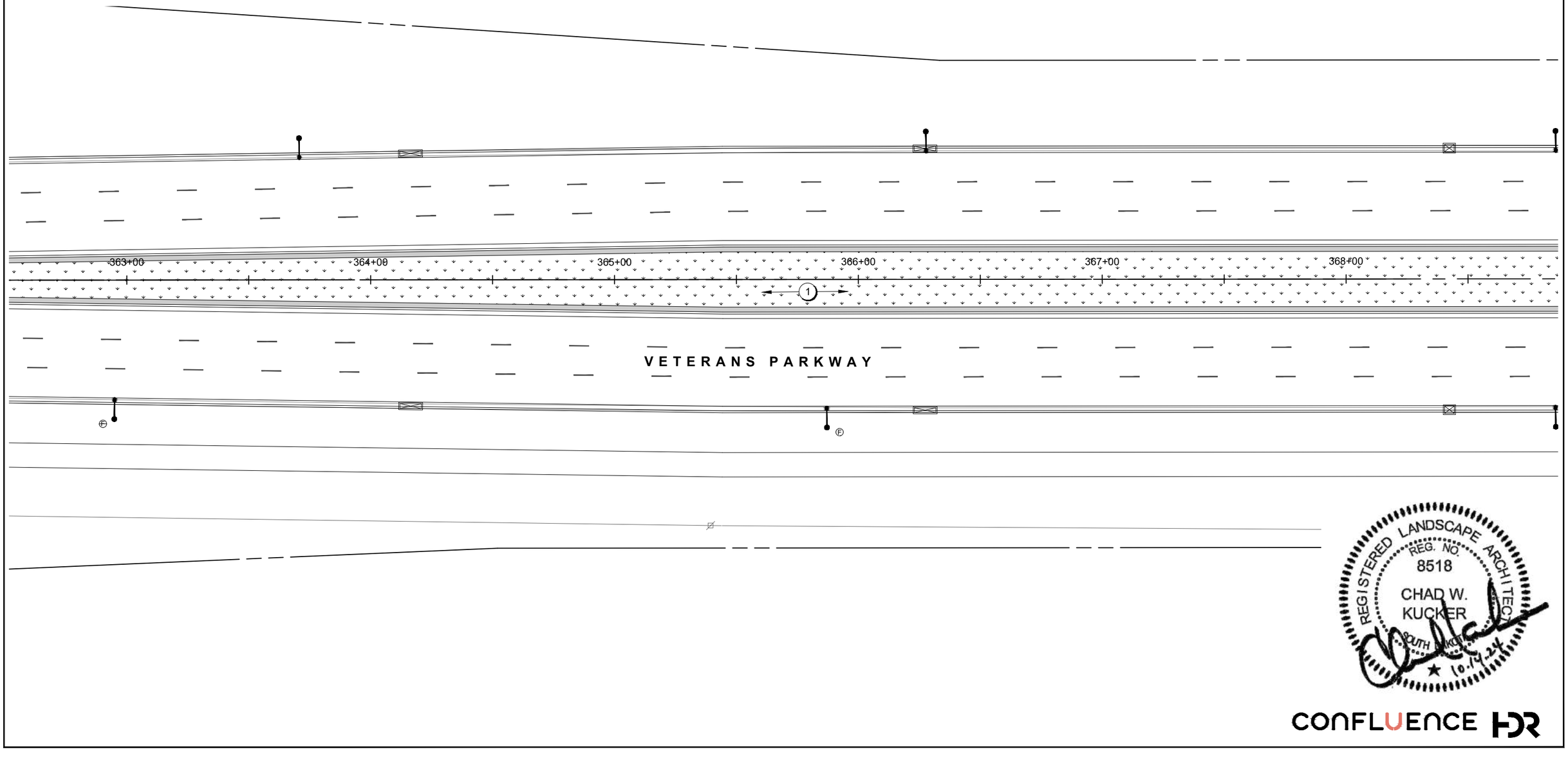
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10/14/24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H11	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
EA	503	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING
HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

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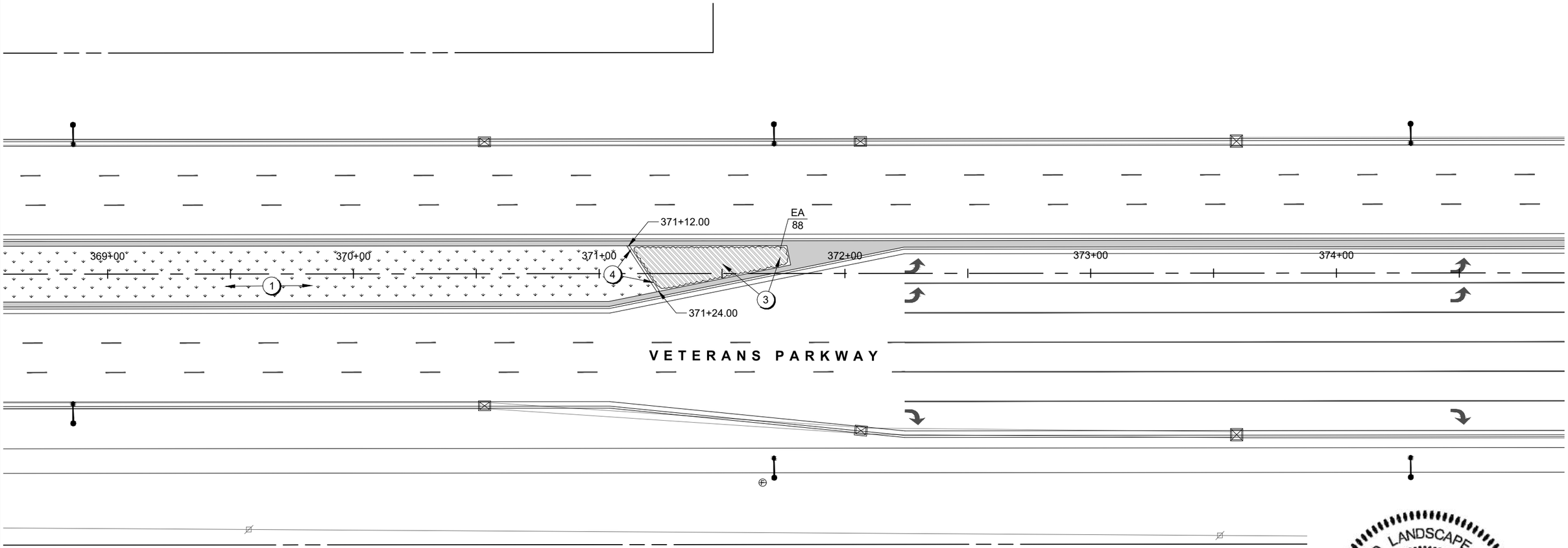
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H12	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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HR	984	HEMEROCALLIS 'ROCKET CITY' ROCKET CITY DAYLILY	#1 CONT.	20" SPACING

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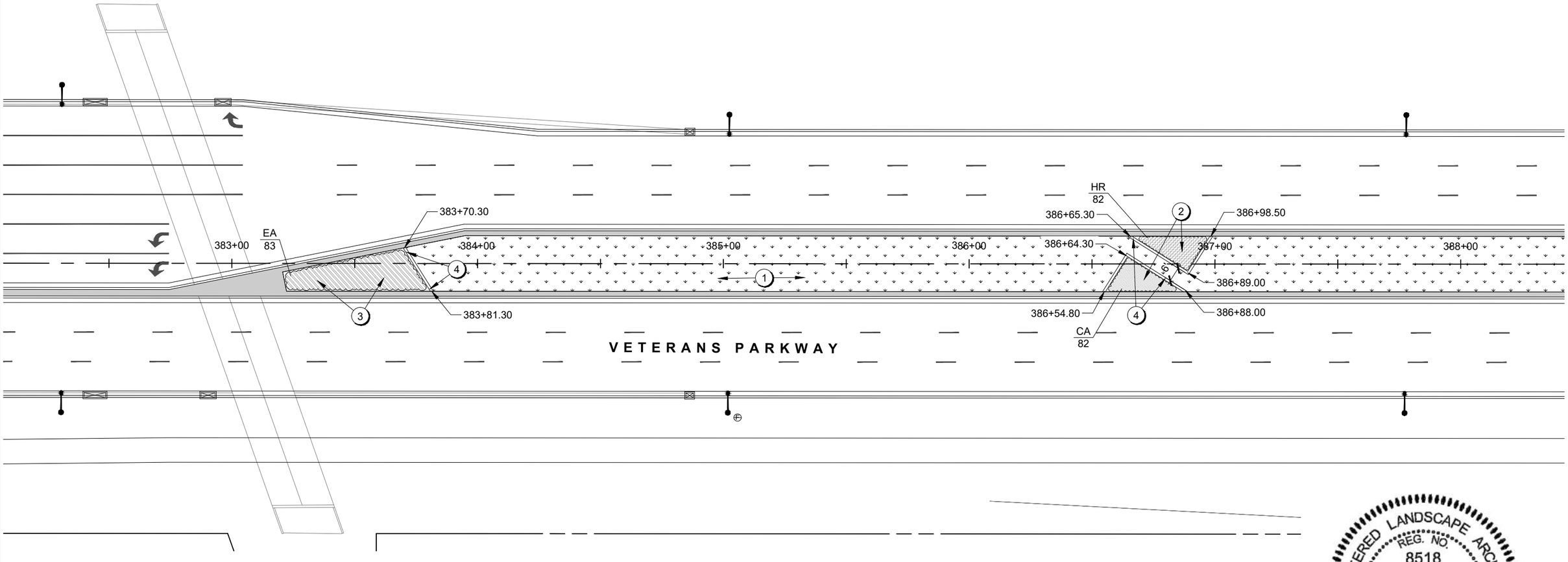
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H13	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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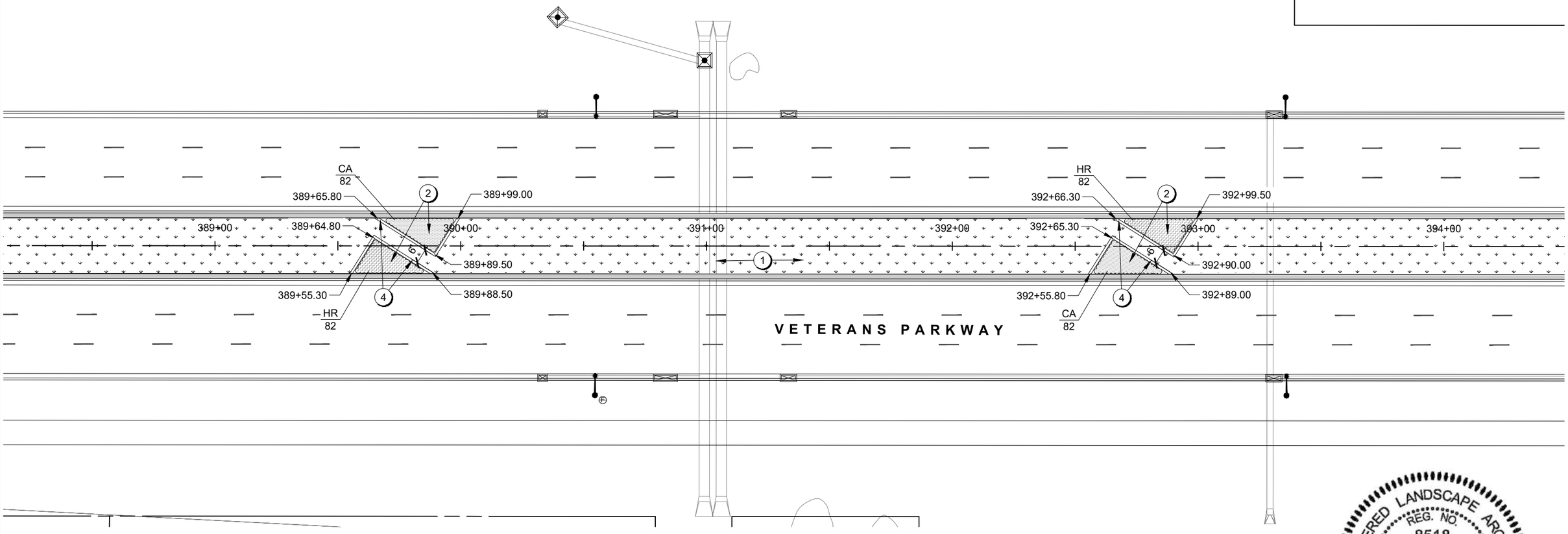
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H14	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

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PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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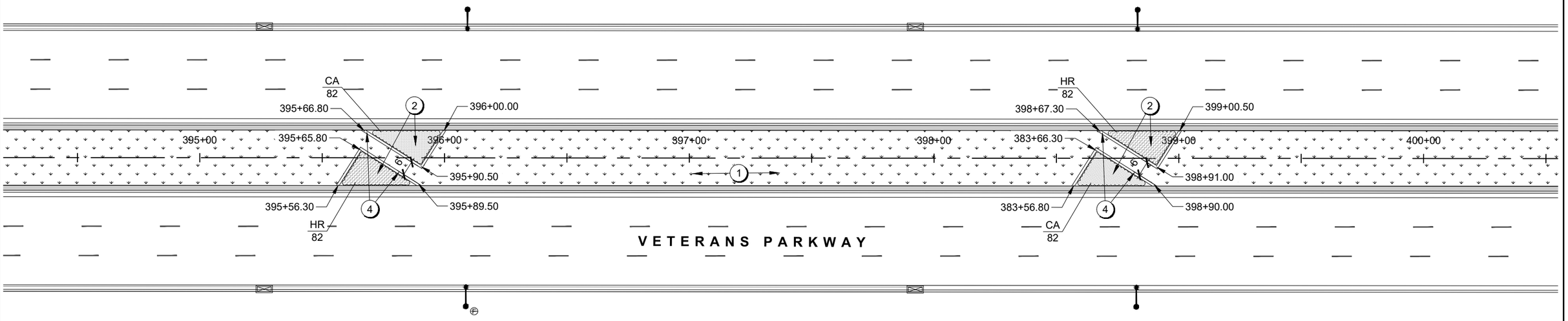
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10.14.24

CONFLUENCE HDR

Landscape Plan

REVISED

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H15	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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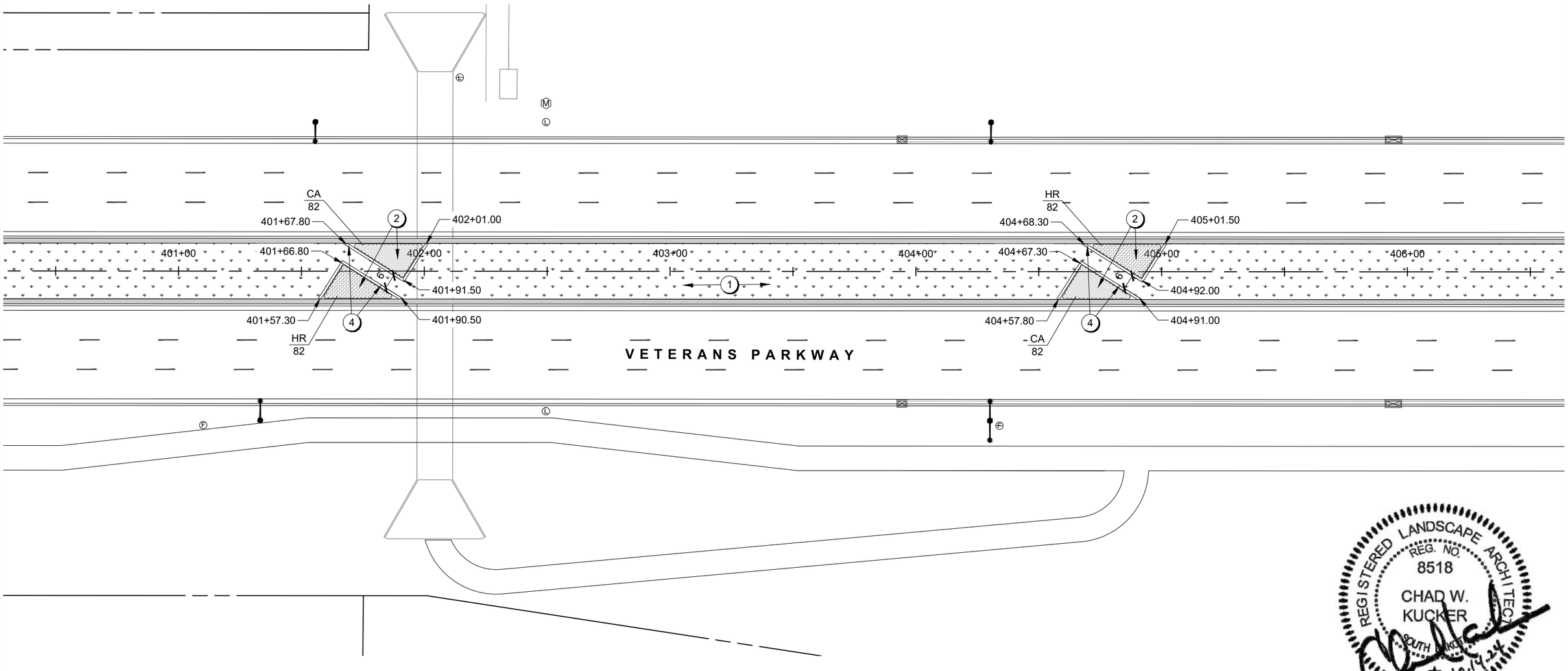
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10/7/24

CONFLUENCE HDR

Landscape Plan

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FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H16	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

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0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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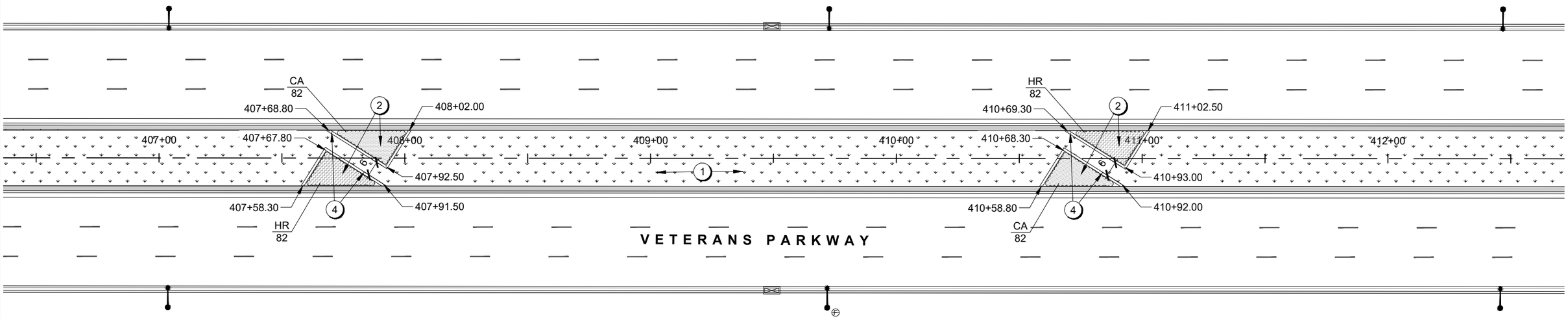
LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
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KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

REVISED

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H17	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
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0 20 40

PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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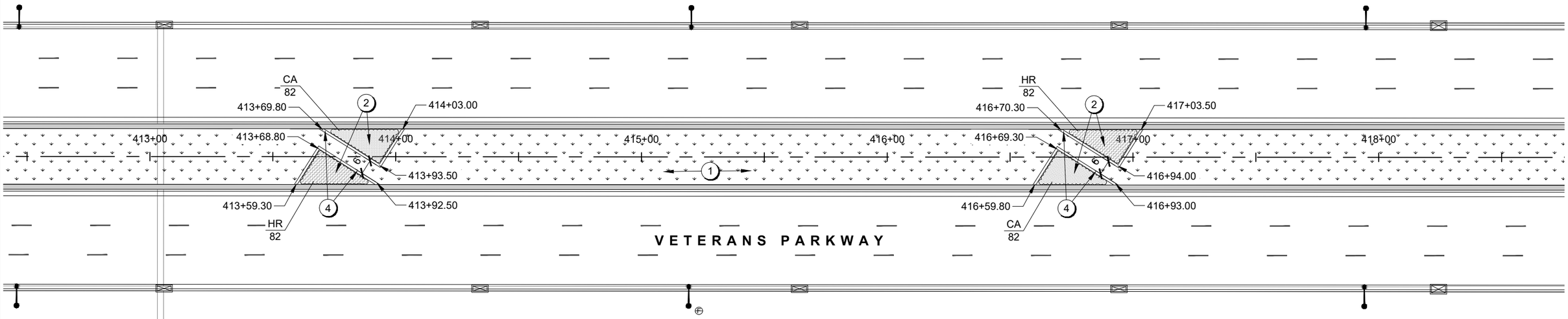
LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



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Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H18	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
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PLANT SCHEDULE - VETERANS PARKWAY

KEY	QTY		SIZE	NOTES
		PERENNIALS/GRASSES		
CA	984	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER' FEATHER REED GRASS	#1 CONT.	20" SPACING
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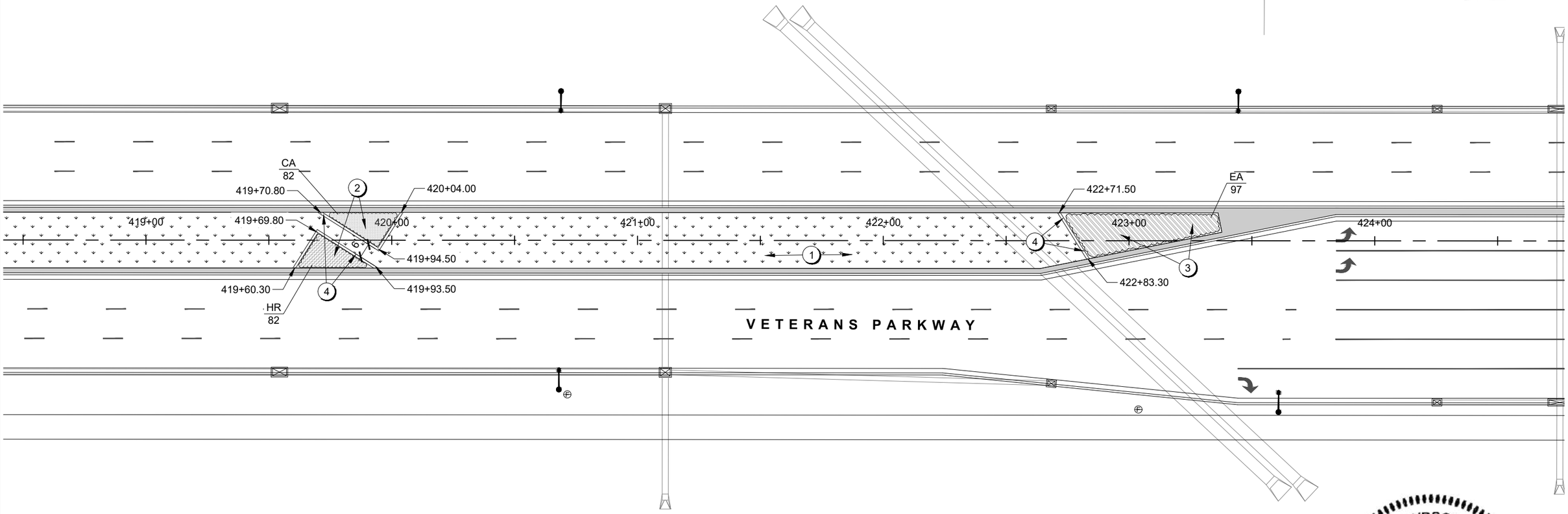
LEGEND

TURF TYPE TALL FESCUE

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H19	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE:
INITIAL: ETE

REGISTERED LANDSCAPE ARCHITECT
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10-14-24

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H20	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - SOUTHEASTERN AVENUE

KEY	QTY		SIZE	NOTES
		DECIDUOUS TREE		
GD	12	GYMNOCLADUS DIOCUS 'ESPRESSO' ESPRESSO KENTUCKY COFFEETREE	2.5" CAL B&B	
UJ	8	ULMUS JAPONICA X PUMILA 'NEW HORIZON' NEW HORIZON ELM	2.5" CAL B&B	
UP	10	ULMUS AMERICANA 'PRINCETON' PRINCETON ELM	2.5" CAL B&B	
		PERENNIALS/GRASSES		
EA	137	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING

(#) KEYNOTES

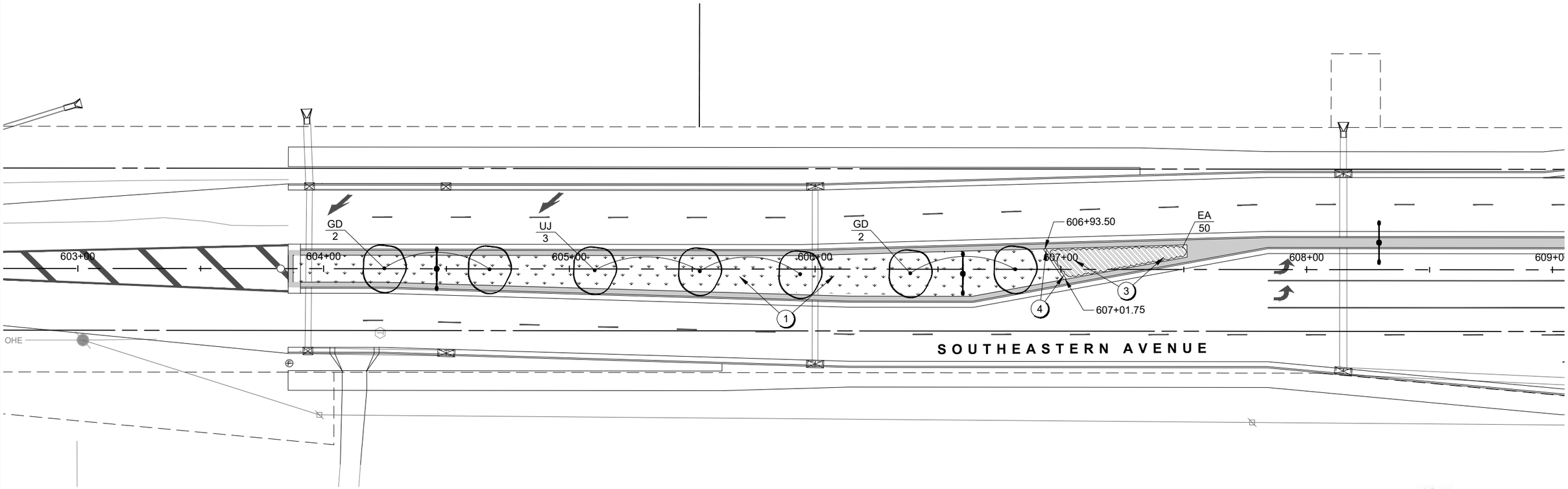
1. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE, SEED AND MULCH MEDIAN.
2. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE AND SOD MEDIAN.
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

SOD

PERENNIAL/ GRASS



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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H21	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - SOUTHEASTERN AVENUE

KEY	QTY		SIZE	NOTES
		DECIDUOUS TREE		
GD	12	GYMNOCLADUS DIOCUS 'ESPRESSO' ESPRESSO KENTUCKY COFFEETREE	2.5" CAL B&B	
UJ	8	ULMUS JAPONICA X PUMILA 'NEW HORIZON' NEW HORIZON ELM	2.5" CAL B&B	
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		PERENNIALS/GRASSES		
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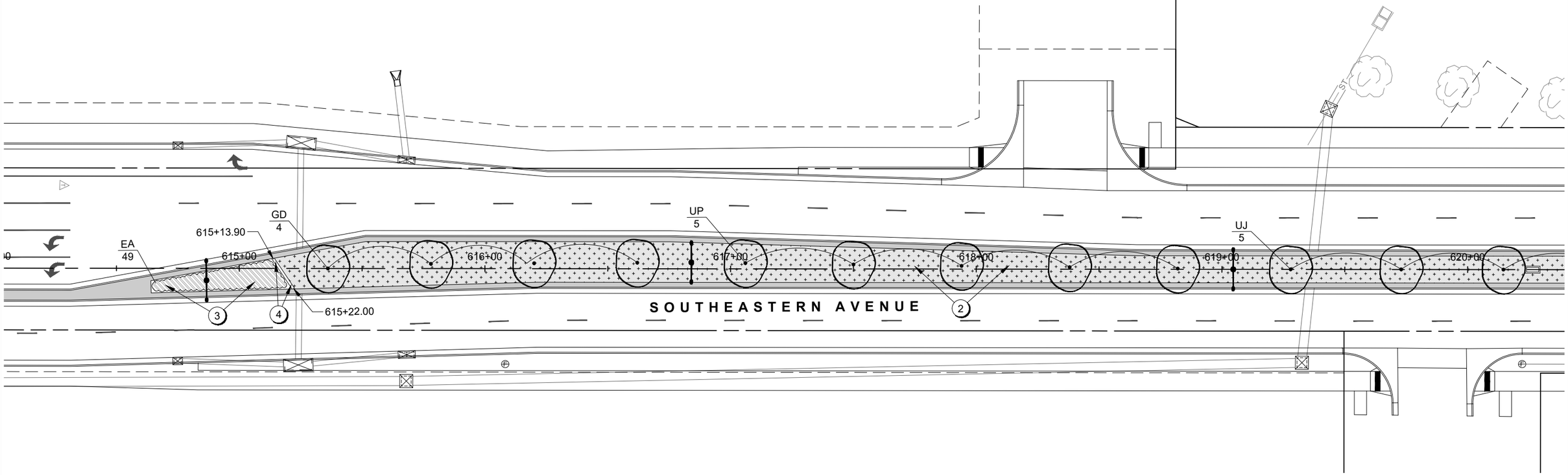
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

SOD

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Landscape Plan

REVISED

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H22	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - SOUTHEASTERN AVENUE

KEY	QTY		SIZE	NOTES
		DECIDUOUS TREE		
GD	12	GYMNOCLADUS DIOCUS 'ESPRESSO' ESPRESSO KENTUCKY COFFEETREE	2.5" CAL B&B	
UJ	8	ULMUS JAPONICA X PUMILA 'NEW HORIZON' NEW HORIZON ELM	2.5" CAL B&B	
UP	10	ULMUS AMERICANA 'PRINCETON' PRINCETON ELM	2.5" CAL B&B	
		PERENNIALS/GRASSES		
EA	137	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING

(#) KEYNOTES

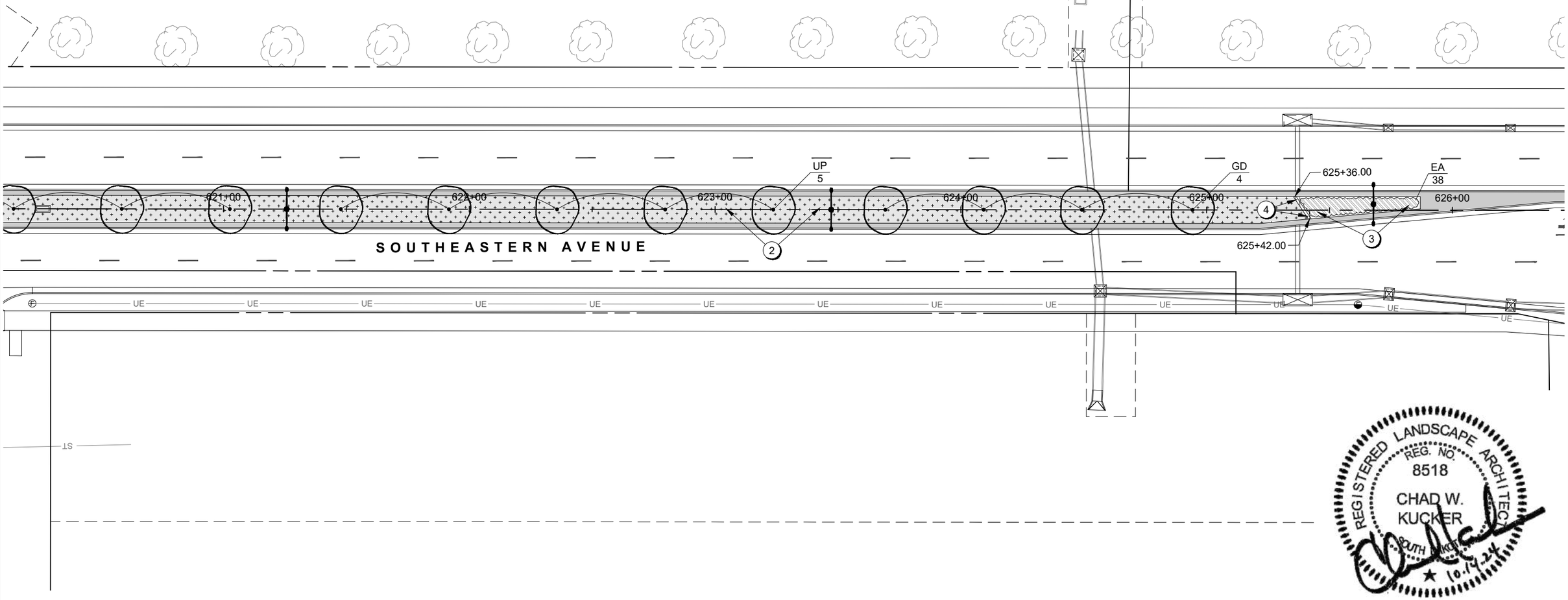
1. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE, SEED AND MULCH MEDIAN.
2. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE AND SOD MEDIAN.
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

SOD

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
8518
CHAD W.
KUCKER
SOUTH DAKOTA
10.14.24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H23	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - SYCAMORE AVENUE

KEY	QTY		SIZE	NOTES
		DECIDUOUS TREE		
GD	5	GYMNOCLADUS DIOCUS 'ESPRESSO' ESPRESSO KENTUCKY COFFEETREE	2.5" CAL B&B	
UJ	4	ULMUS JAPONICA X PUMILA 'NEW HORIZON' NEW HORIZON ELM	2.5" CAL B&B	
UP	6	ULMUS AMERICANA 'PRINCETON' PRINCETON ELM	2.5" CAL B&B	
		PERENNIALS/GRASSES		
EA	76	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING

(#) KEYNOTES

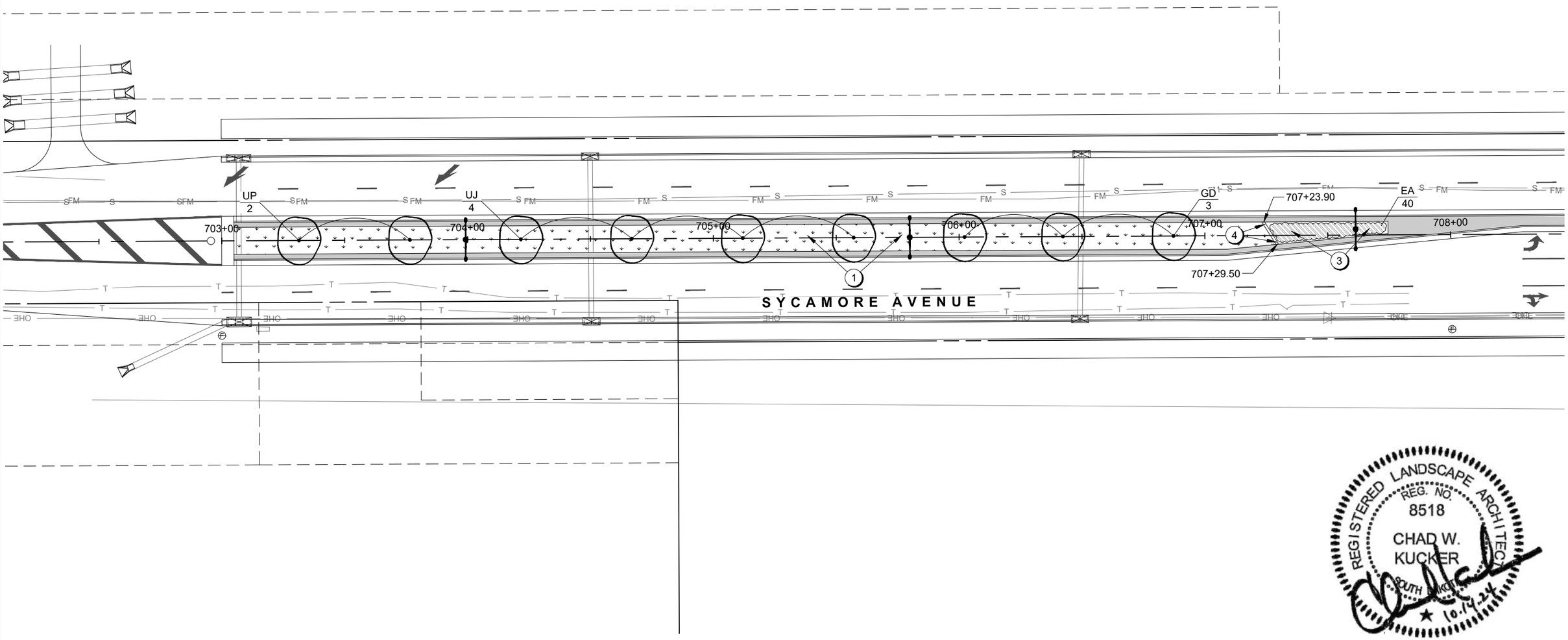
1. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE, SEED AND MULCH MEDIAN.
2. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE AND SOD MEDIAN.
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

SOD

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO.
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CHAD W.
KUCKER
SOUTH DAKOTA
10/14/24

CONFLUENCE HDR

Landscape Plan

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H24	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

PLANT SCHEDULE - SYCAMORE AVENUE

KEY	QTY		SIZE	NOTES
		DECIDUOUS TREE		
GD	5	GYMNOCLADUS DIOCUS 'ESPRESSO' ESPRESSO KENTUCKY COFFEETREE	2.5" CAL B&B	
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		PERENNIALS/GRASSES		
EA	76	ELYMUS ARENARIUS 'BLUE DUNE' BLUE DUNE LYME GRASS	#1 CONT.	36" SPACING

(#) KEYNOTES

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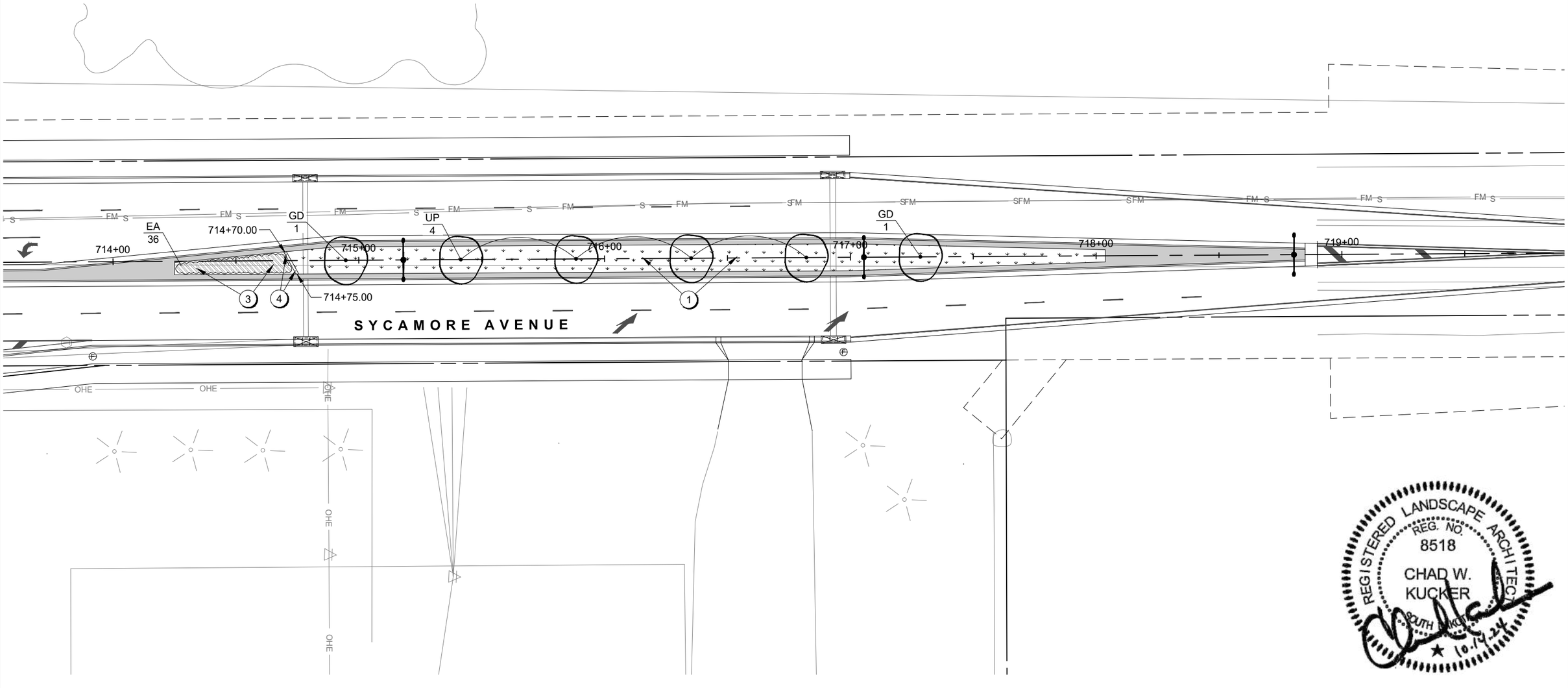
2. CONTRACTOR FURNISHED TOPSOIL, FERTILIZE AND SOD MEDIAN.
3. PLANT BED WITH SHREDDED BARK MULCH, NO WEED BARRIER FABRIC.
4. LANDSCAPE EDGING

LEGEND

TURF TYPE TALL FESCUE

SOD

PERENNIAL/ GRASS



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

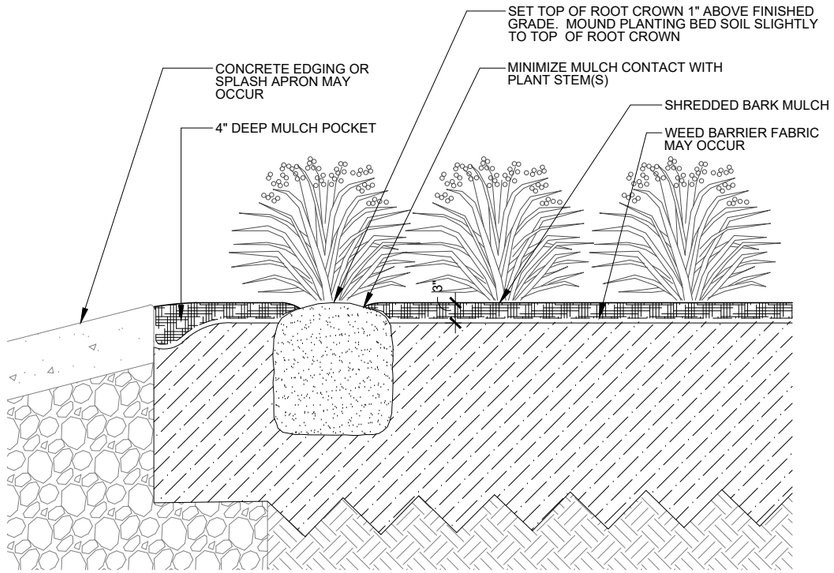
Landscape Details

REVISED
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H25	H31

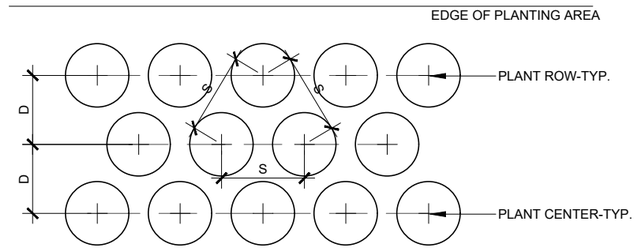
FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

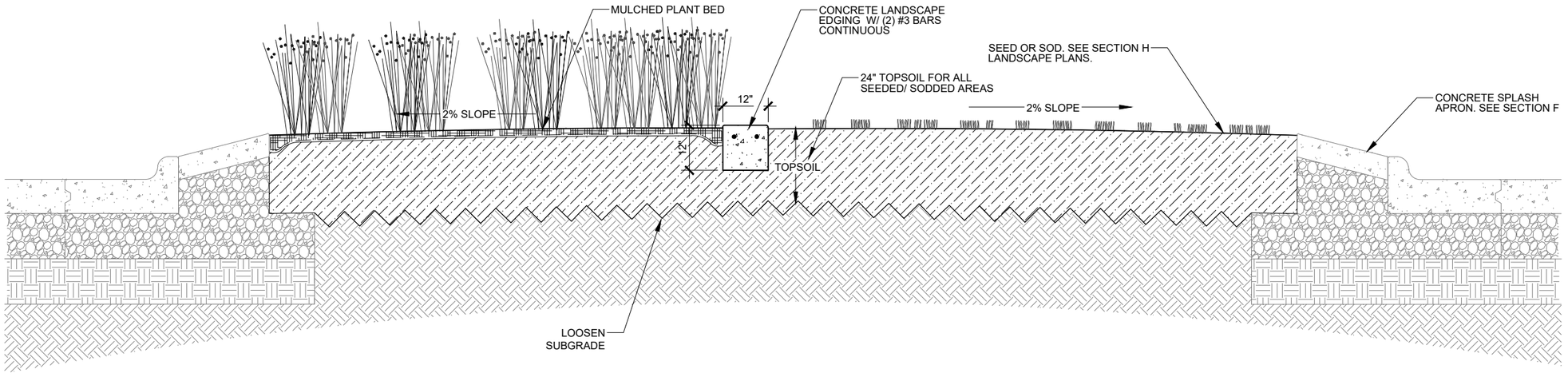


2 H25 **PLANT BEDS** SCALE: 3/4" = 1'-0"

TRIANGULAR SPACING - 'S'	DISTANCE BETWEEN ROWS - 'D'
20"	17"
24" (2')	21"
36" (3')	31"

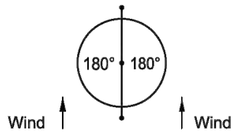


3 H25 **PLANT SPACING** SCALE: 3/4" = 1'-0"

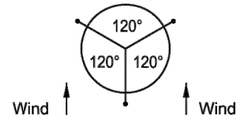


1 H25 **MEDIAN SECTION** SCALE: 3/8" = 1'-0"

CONFLUENCE HDR

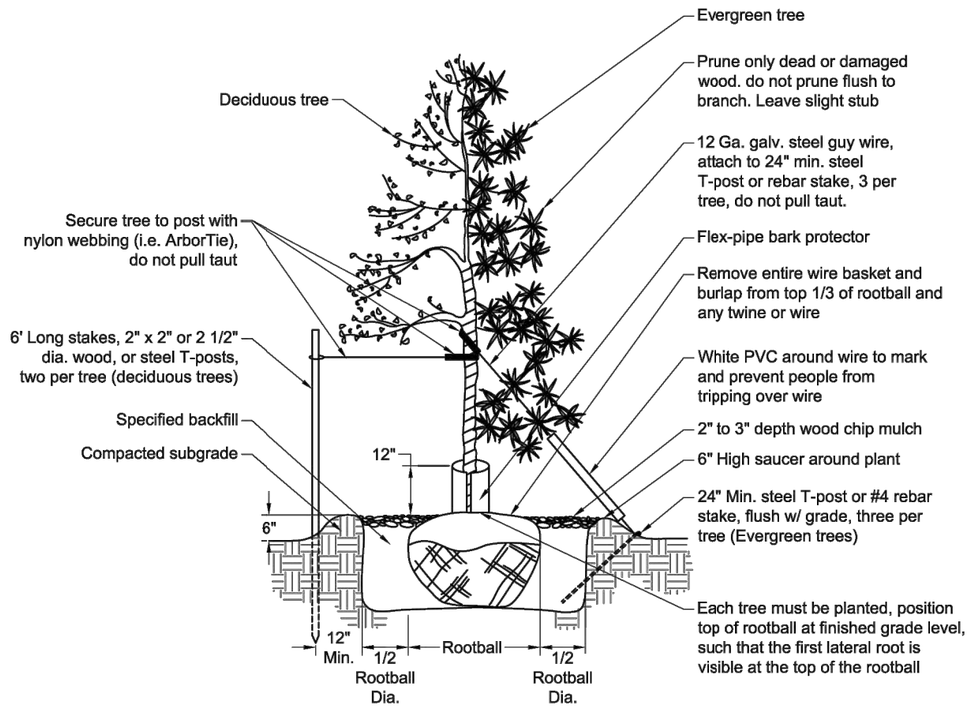


Guying Pattern For Deciduous Tree Planting



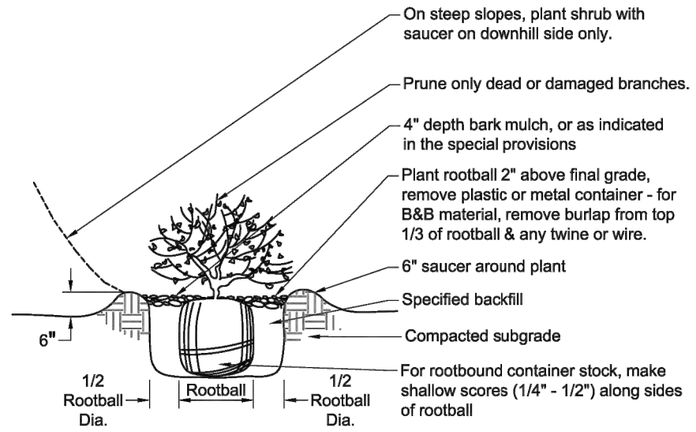
For trees on 4:1 or steeper slopes, place 2 guys upslope, one downslope; otherwise place for prevailing wind.

Guying Pattern For Evergreen Tree Planting



Deciduous and Evergreen Tree Planting and Guying Detail

(Guy and stake deciduous trees 2" and larger caliper and coniferous trees over 4' ht.)
Not to scale



Shrub Planting Detail

Not to scale

Revised: February 2021

Tree Planting

CITY OF SIOUX FALLS
PUBLIC WORKS
Providing a Better Quality of Life for You!

Specification Reference	Plate Number
No. Special	1100.01 SP

CONFLUENCE HDR

Irrigation Plan

REVISED

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H27	H31

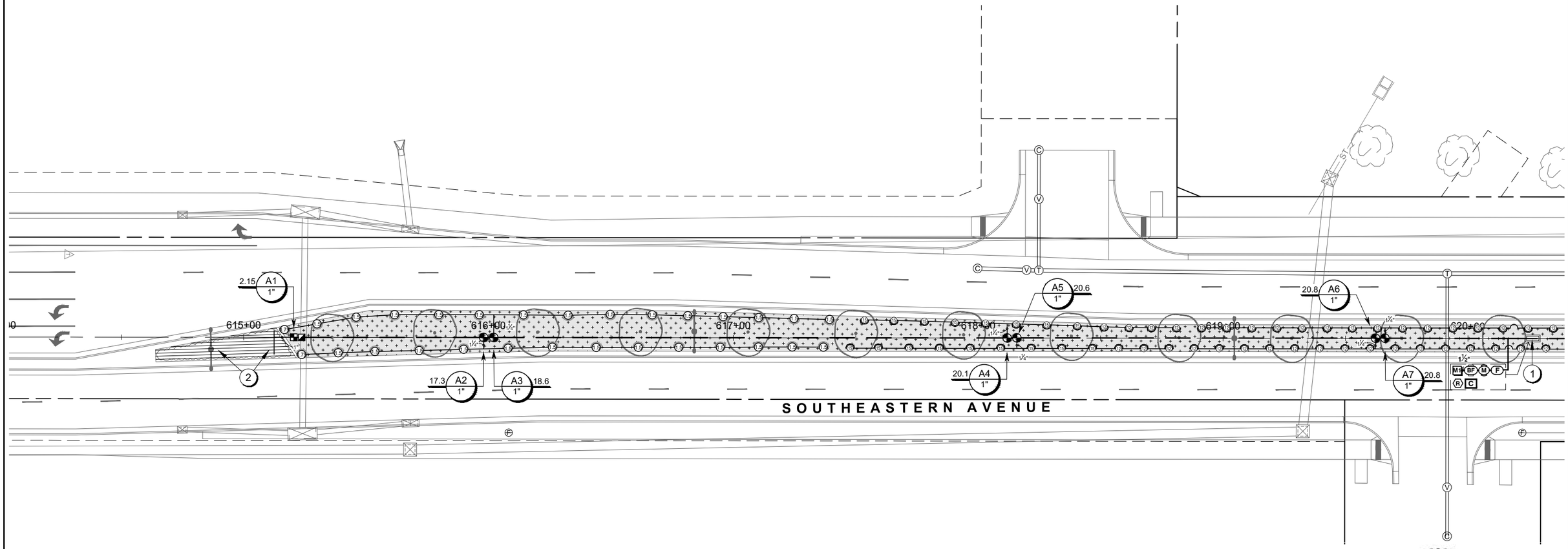
FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE

0 20 40

(#) KEYNOTES

1. IRRIGATION METER, BACKFLOW AND ENCLOSURE
2. DRIP IRRIGATION



REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Irrigation Plan

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H28	H31

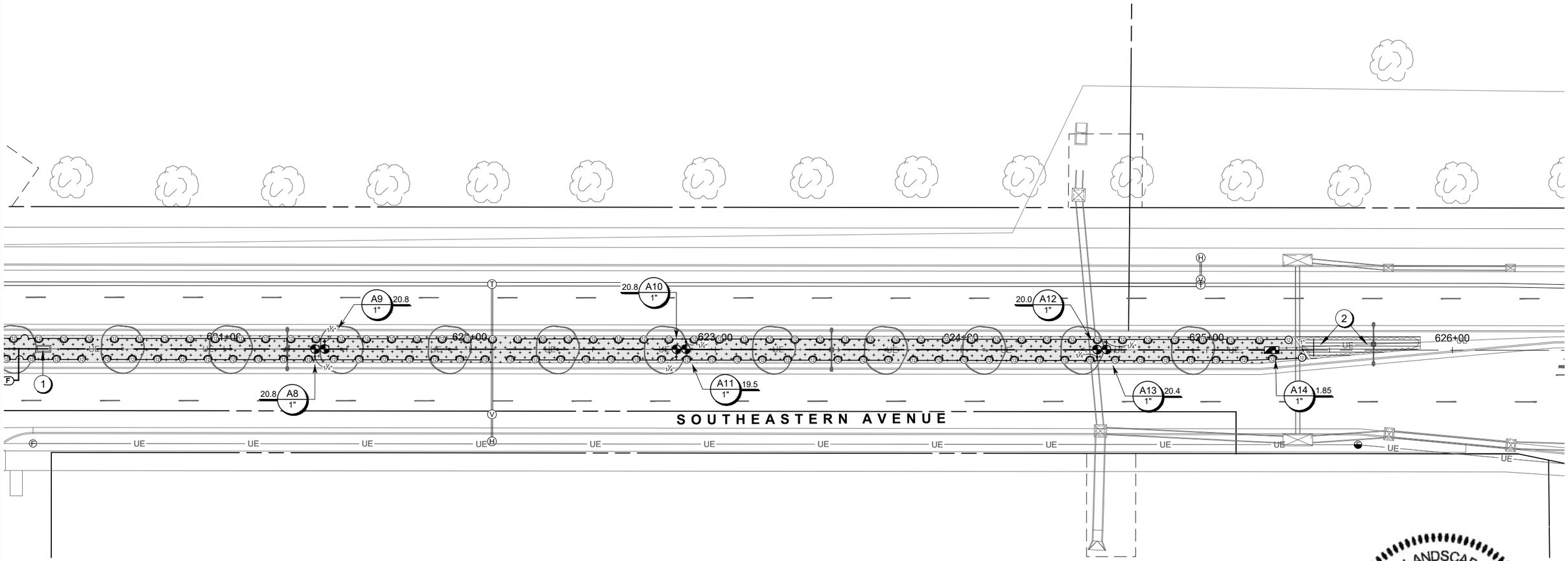
FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE:
INITIAL: ETE

0 20 40

 # KEYNOTES

1. IRRIGATION METER, BACKFLOW AND ENCLOSURE
2. DRIP IRRIGATION



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SOUTH DAKOTA
10-14-24

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Irrigation Details

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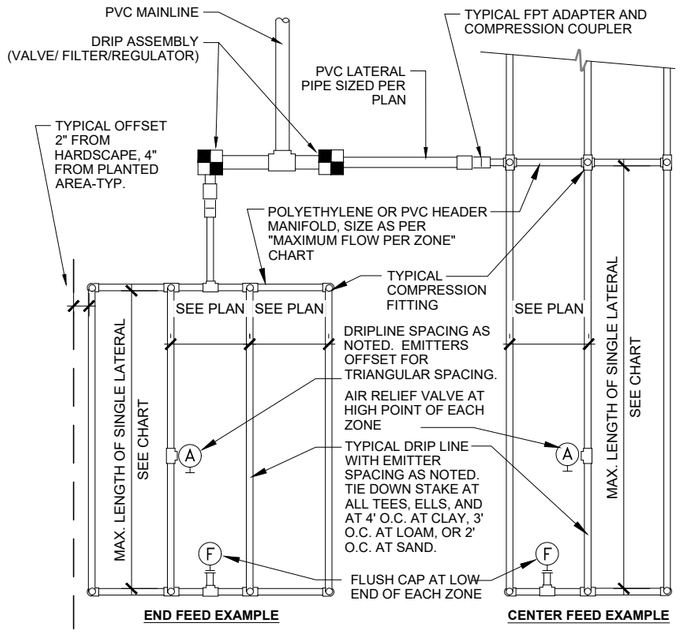
REVISED

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H29	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

REV DATE: 12/11/2024
INITIAL: ETE



END FEED EXAMPLE

CENTER FEED EXAMPLE

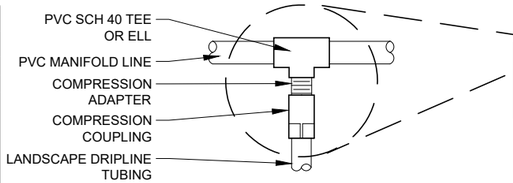
MAXIMUM LATERAL LENGTH (FEET)									
INLET PSI	EMITTER SPACING								
	0.4 GPH			0.6 GPH			1.0 GPH		
	12"	18"	24"	12"	18"	24"	12"	18"	24"
15	289	401	502	173	240	300	126	176	222
20	354	494	620	230	320	402	169	235	295
25	405	563	706	265	373	471	197	276	346
30	441	621	783	299	417	523	218	308	390
35	481	671	842	333	462	580	240	337	425
40	508	719	910	342	483	611	263	362	452
45	542	755	949	364	518	657	271	384	486
50	558	784	988	387	543	685	288	401	503

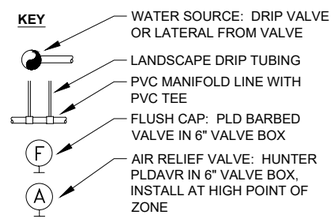
FLOW PER 100 FT (GPM)			
EMITTER FLOW	12" SPACING	18" SPACING	24" SPACING
0.4 GPH	0.67 GPM	0.44 GPM	0.33 GPM
0.6 GPH	1.0 GPM	0.67 GPM	0.50 GPM
1.0 GPH	1.67 GPM	1.11 GPM	0.83 GPM

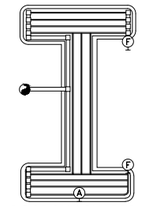
MAXIMUM FLOW PER ZONE		
SCH. 40 PVC HEADER		
PIPE SIZE	MAX GPM*	PSI LOSS**
1/2"	4.7 GPM	7.7 PSI
3/4"	8.3 GPM	5.6 PSI
1"	13.5 GPM	4.2 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	1.9 PSI
POLY HEADER		
PIPE SIZE	MAX GPM*	PSI LOSS**
1/2"	4.7 GPM	8.8 PSI
3/4"	8.3 GPM	6.3 PSI
1"	13.5 GPM	4.8 PSI
1-1/2"	33.9 GPM	2.9 PSI
2"	52.4 GPM	2.2 PSI

*GPM @ 5 FPS VELOCITY
**LOSS PER 100 FT

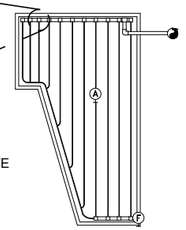
SLOPED CONDITION NOTE:
1. DRIPLINE LATERALS SHOULD FOLLOW THE CONTOURS OF THE SLOPE WHEREVER POSSIBLE.
2. INSTALL AIR RELIEF VALVE PERPENDICULAR TO THE DRIPLINE AT ITS HIGHEST POINT.
3. SPACE ROWS NORMALLY AT THE TOP TWO-THIRDS OF THE SLOPE AND GRADUALLY INCREASE THE SPACING UP TO 25 PERCENT AS APPROACHING THE BOTTOM THIRD.
4. WHEN ELEVATION CHANGE IS 10 FEET OR MORE, ZONE THE BOTTOM OF THE SLOPE ON A SEPARATE VALVE.



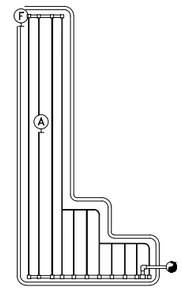




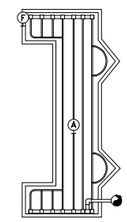
DOGBONE SHAPED



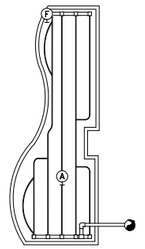
POLYGON SHAPED



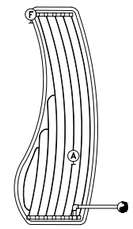
CORNER SHAPED



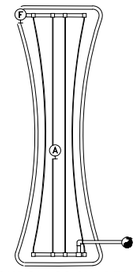
"C" SHAPED



ODD SHAPED



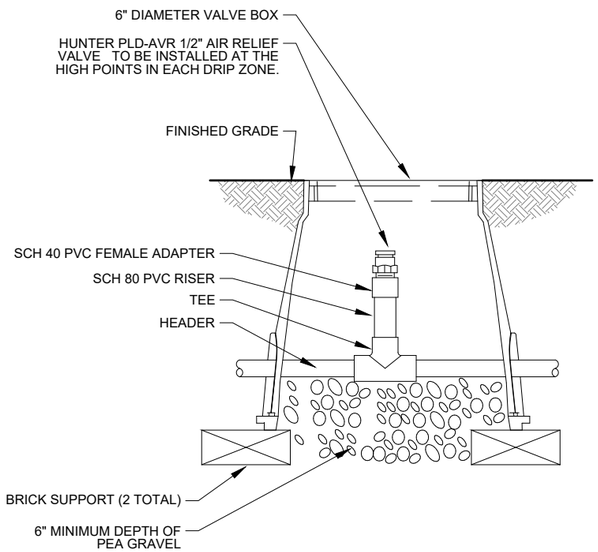
CURVED POLYGON



HOURGLASS SHAPED

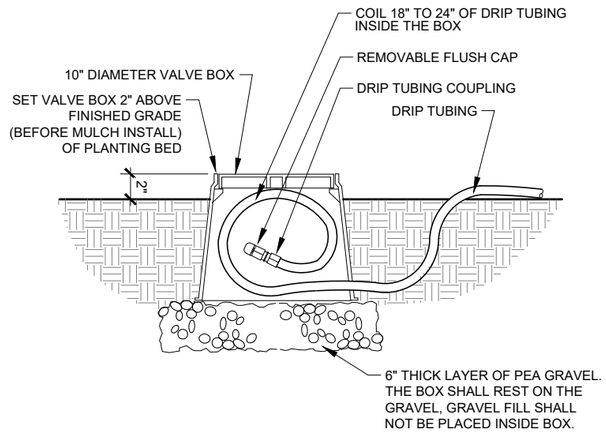
1 H29 DRIPLINE

NOT TO SCALE



2 H29 AIR RELIEF VALVE

NOT TO SCALE



NOTE:
1. LOCATE FLUSH CAP ASSEMBLY AT THE END OF EACH DRIP LINE.
2. ENSURE THAT THE COILED TUBING IS OF SUFFICIENT LENGTH TO COMPLETELY EXTEND OUT OF THE VALVE BOX WHEN FLUSHING.

3 H29 DRIP FLUSH ASSEMBLY

NOT TO SCALE

CONFLUENCE HDR

Irrigation Details

REVISED

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H30	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

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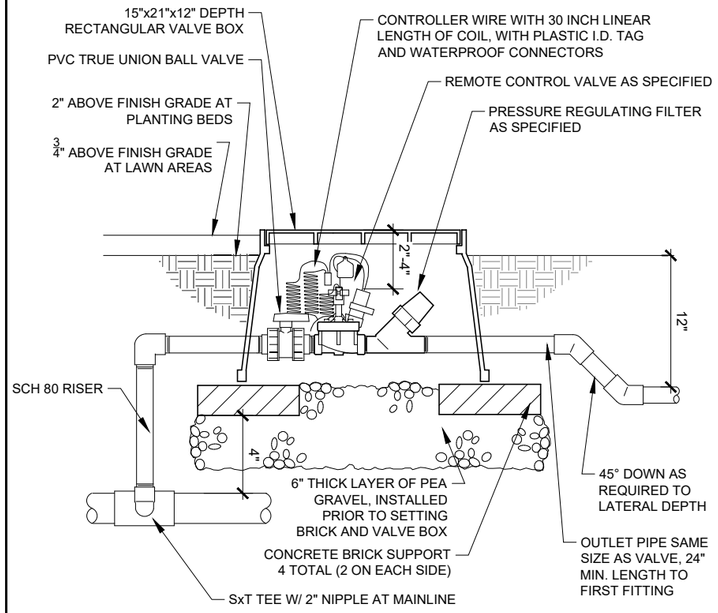
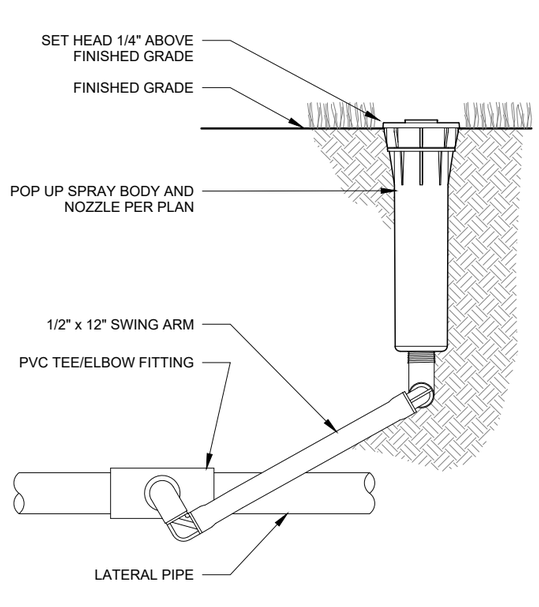
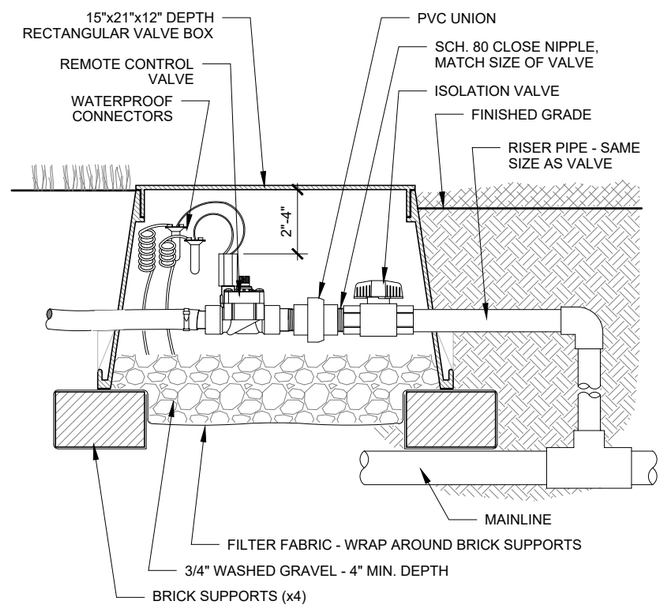


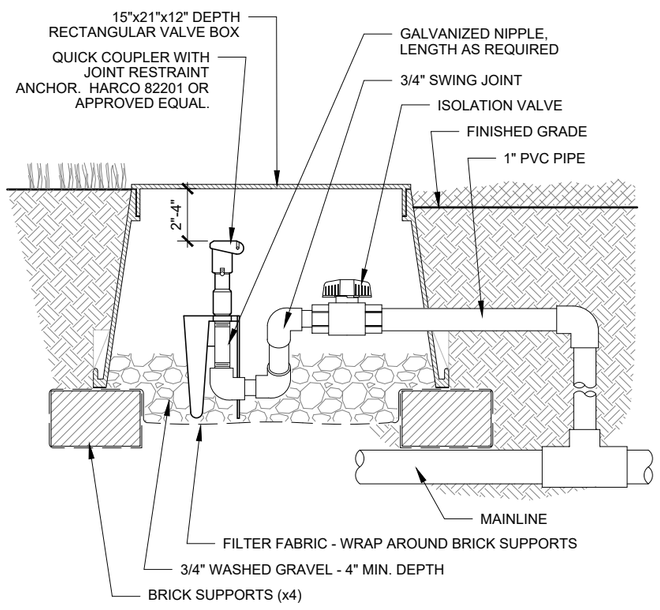
1 H30 DRIP VALVE NOT TO SCALE



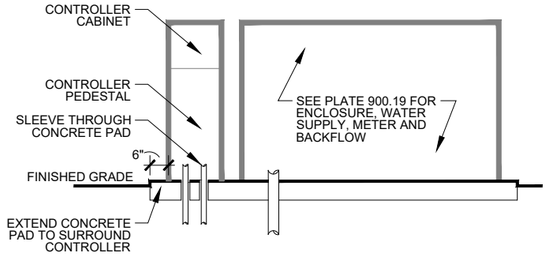
2 H30 SPRAY HEAD NOT TO SCALE



3 H30 CONTROL VALVE NOT TO SCALE



4 H30 QUICK COUPLING VALVE NOT TO SCALE



5 H30 IRRIGATION CONTROLS NOT TO SCALE

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 8518
CHAD W. KUCKER
SOUTH DAKOTA
10-14-24

CONFLUENCE HDR

Irrigation Standard Plates & Irrigation Schedule

FOR BIDDING PURPOSES ONLY

REVISED

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0100(106)409 & P 8042(00)	H31	H31

FILE: 20441-04 Veterans Parkway
PLOTTING DATE: 10/14/2024

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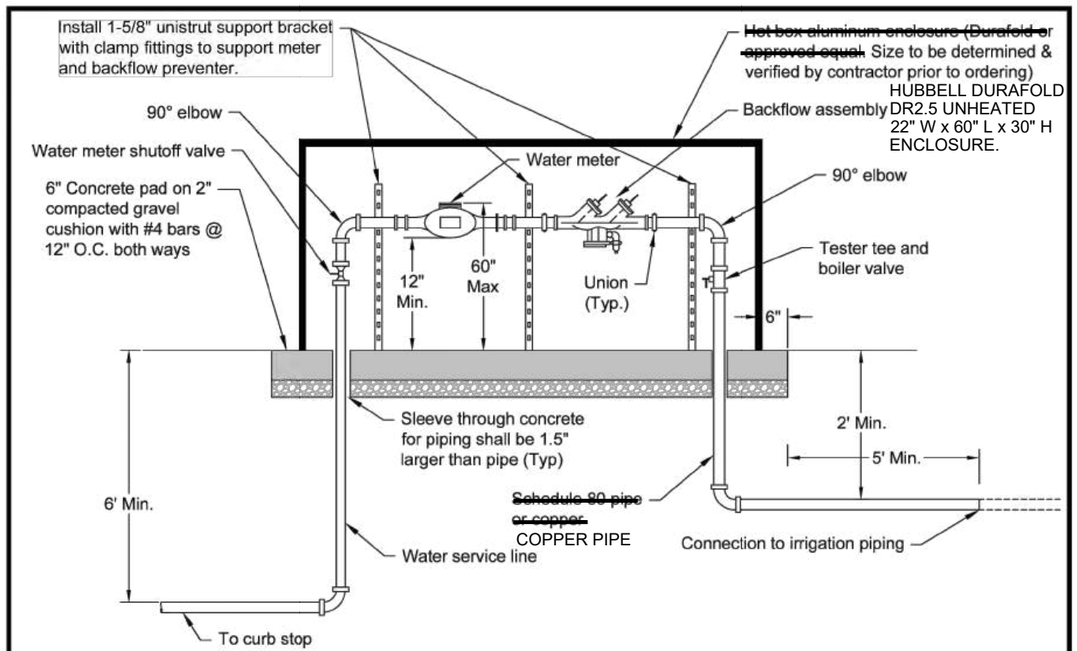


General Notes:

1. All enclosures are to be installed and connected onto a concrete base per manufacturer's recommendations and as detailed above. Concrete pad to be constructed with class M6 concrete and footprint shall be 6" beyond enclosure on all sides.
2. All backflow assemblies shall be tested by a Water Division approved, certified backflow technician prior to being put into service
3. Meter and backflow will be removed by owner during winterization procedures and stored. Install accordingly to allow annual removal.
4. Submit shop drawings for approval of aluminum enclosure. Contractor is responsible for providing size recommendations to ensure 12" of interior clearance around all piping and equipment.
5. All piping and fittings inside enclosure shall conform to city ordinance and engineering design standards. No galvanized or steel materials allowed upstream of the containment backflow preventer. All fittings and nipples on copper services must be brass or copper and must be flared or threaded NOT soldered, braised, or "pro pressed".
6. All piping downstream of the backflow preventer must be copper or schedule 80 PVC. This piping shall extend to a minimum of 2' below concrete slab and a minimum of 5' away from the slab before connection to irrigation piping.
8. Keep meters and backflow assemblies centered (L&R) in enclosure.
9. For assemblies 3/4" - 2", Wilkins 375XL RP for high hazard, ~~or the Wilkins 350XL DC for low hazard,~~ shall be used. For questions on hazard level contact Water Program Coordinator at 605-373-6971.
10. The meter, backflow preventer, and misc. pipe and fittings shall be enclosed as detailed above. Enclosure must be orientated parallel to traffic lanes, and be located at beginning or end of median. For questions on placement contact Park Central Services Supervisor at 605-367-8151
11. All costs associated with construction of the meter and backflow enclosure, including the enclosure, concrete base, rebar, and misc hardware shall be included in the ~~unit price per "Meter and Backflow Enclosure."~~ CONTRACT LUMP SUM FOR "IRRIGATION SYSTEM"
12. All costs associated with meter and backflow enclosure piping from the curb stop through meter and backflow assembly, to 5' outside the enclosure, shall be included in the ~~unit price per "Meter and Backflow Enclosure."~~ CONTRACT LUMP SUM FOR "IRRIGATION SYSTEM"
13. Must have Water Department approval of water meter and backflow assembly.

Issued: March 2024

CITY OF SIOUX FALLS PUBLIC WORKS Providing a Better Quality of Life for You!	Roadway Irrigation Water Meter & Backflow Assembly with Enclosure	Specification Reference No. 900	Plate Number 900.19

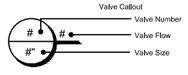
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
12 Q 12 T 12 H 12 H 12 TQ 12 F	Hunter PROS-06-NSI-PRS30 12 Series Turf Spray, 30 psi regulated 6" Pop-Up. No Side Inlet.	132	30
15 Q 15 T 15 H 15 H 15 TQ 15 F	Hunter PROS-06-NSI-PRS30 15 Series Turf Spray, 30 psi regulated 6" Pop-Up. No Side Inlet.	17	30
4 6 8 10 12 15 17	Hunter PROS-06-NSI-PRS30 Adj Series Turf Spray, 30 psi regulated 6" Pop-Up. No Side Inlet.	2	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI	GPM	RADIUS
0.75	Rain Bird 3504-PC 0.75 Turf Rotor, 4in. Pop-Up. Adjustable.	2	35	0.67	15'
1.5	Rain Bird 3504-PC 1.5 Turf Rotor, 4in. Pop-Up. Adjustable.	27	35	1.28	21'

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter ICZ-101-40 1" Drip Control Zone Kit. 1in. ICV Globe Valve with 1in. HY100 filter system. Pressure Regulation: 40psi. Flow Range: 2 GPM to 20 GPM. 150 mesh stainless steel screen.	2
	Area to Receive Dripline Hunter HDL-06-18-CV HDL-06-18-CV: Hunter Dripline w/ 0.6 GPH emitters at 18" O.C. Check valve, dark brown tubing with gray striping. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern. Install with Hunter PLD barbed or PLD-LOC fittings.	549.8 l.f.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	Hunter PGV-101G AS-ADJ 1" 1in. Plastic Electric Remote Control Valve with AS-ADJ adustable Accu-Sync Pressure Regulator. Globe Configuration, With Flow Control.	12
	Hunter HQ-44RC-AW 1" Quick coupler valve, yellow rubber cover, red brass and stainless steel, with 1" NPT inlet, 2-piece body. Acme key with Anti-Rotation wings.	2
M	Hunter ICV-G 1" Electric Master Valve, Globe Configuration.	1
BF	Zurn 375XL 1" Reduced Pressure Principle Assembly.	1
C	Hunter ICC2-PED-SS EZ-DM Outdoor Controller with EZ-DM decoder output module. Plug-in module converts any ICC2 controller to 2-wire decoder system. Stainless Steel Pedestal Mount.	1
R	Hunter WR-CLIK Rain Sensor, install within 1000 ft of controller, in line of sight. 22-28 VAC/VDC 100 mA power from timer transformer. Mount to light pole.	1
F	Hunter HFS-100 Flow Sensor for use with ACC controller, 1" Schedule 40 Sensor Body, 24 VAC, 2 amp.	1
M1	Water Meter 1"	1
	Irrigation Lateral Line: HDPE PE4710 DR 15 1"	1,973 l.f.
	Irrigation Lateral Line: HDPE PE4710 DR 15 1 1/4"	58.2 l.f.
	Irrigation Mainline: PVC Schedule 40 1 1/2"	1,041 l.f.



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
A1	Hunter ICZ-101-40	1"	Area for Dripline	2.15	33.1	49.5	0.43 in/h
A2	Hunter PGV-101G AS-ADJ	1"	Turf Rotor	17.31	39.4	61.2	0.71 in/h
A3	Hunter PGV-101G AS-ADJ	1"	Turf Rotor	18.59	40.0	62.5	0.74 in/h
A4	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.08	34.2	55.7	1.06 in/h
A5	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.64	34.5	56.6	1.06 in/h
A6	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.8	34.5	55.4	1.12 in/h
A7	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.8	34.5	55.3	1.12 in/h
A8	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.8	34.7	56.2	1.12 in/h
A9	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.8	34.7	56.3	1.12 in/h
A10	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.8	34.8	57.7	1.12 in/h
A11	Hunter PGV-101G AS-ADJ	1"	Turf Spray	19.5	34.0	55.8	1.12 in/h
A12	Hunter PGV-101G AS-ADJ	1"	Turf Spray	19.96	34.2	57.6	1.15 in/h
A13	Hunter PGV-101G AS-ADJ	1"	Turf Spray	20.36	34.6	58.7	1.14 in/h
A14	Hunter ICZ-101-40	1"		1.85	33.0	49.4	0.43 in/h

CRITICAL ANALYSIS

Generated:	2024-07-08 17:00
P.O.C. NUMBER: 01	
Water Source Information:	
FLOW AVAILABLE	
Water Meter Size:	1"
Flow Available	37.5 GPM
PRESSURE AVAILABLE	
Static Pressure at POC:	70 PSI
Elevation Change:	5.00 ft
Service Line Size:	1 1/2"
Length of Service Line:	20 ft
Pressure Available:	67 PSI
DESIGN ANALYSIS	
Maximum Station Flow:	20.8 GPM
Flow Available at POC:	37.5 GPM
Residual Flow Available:	16.7 GPM
Critical Station:	A3
Design Pressure:	35 PSI
Friction Loss:	1.96 PSI
Fittings Loss:	0.2 PSI
Elevation Loss:	0 PSI
Loss through Valve:	2.82 PSI
Pressure Req. at Critical Station:	40.0 PSI
Loss for Fittings:	0.32 PSI
Loss for Main Line:	3.23 PSI
Loss for POC to Valve Elevation:	0 PSI
Loss for Backflow:	14 PSI
Loss for Master Valve:	3 PSI
Loss for Water Meter:	1.92 PSI
Critical Station Pressure at POC:	62.5 PSI
Pressure Available:	67 PSI
Residual Pressure Available:	4.55 PSI

CONFLUENCE HDR