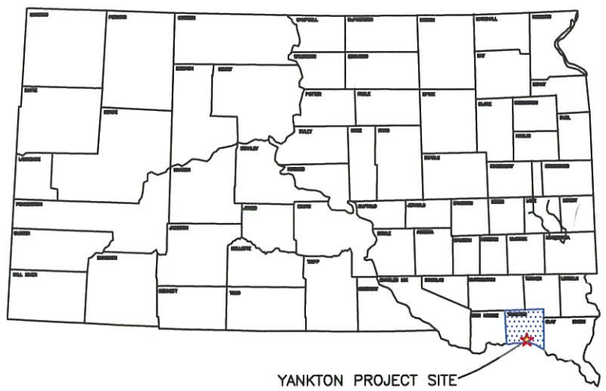
REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	1	46
COVER SHEET				

2018
WALNUT ST. RECONSTUCTION
FROM 2ND TO 4TH
CITY OF YANKTON, SD
CITY PROJECT NO. 2017-043



SCHEDULE I INDEX OF SHEETS

1	COVER SHEET
2	ESTIMATE OF QUANTITIES(SCHEDULE I)
3-6	GENERAL NOTES
7	TYPICAL SECTION
8-9	TRAFFIC CONTROL
10	EROSION CONTROL
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SCHEDULE II INDEX OF SHEETS

L1.00 -1.08	QUANTITIES & GENERAL NOTES
L2.00-2.06	HARDSCAPE PLAN
L3.00-3.07	PLANTING PLAN
L4.00-4.08	DETAILS
E1.00-1.03	SITE PLAN ELECTRICAL
E2.00-2.03	ELECTRICAL NOTES
E3.00-3.01	ELECTRICAL SPECIFICATIONS

LEGEND

- POWER POLE
- TELEPHONE BOX
- CURB INLET
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- VALVE
- PROPOSED VALVE
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT
- PROPERTY LINE
- SANITARY SEWER
- STREET CENTERLINE
- CURB
- WATER
- BURIED CABLE TV
- BURIED GAS LINE
- BURIED ELECTRIC LINE
- BURIED TELEPHONE LINE
- EXISTING STORM SEWER
- WORK LIMITS – AS PER CROSS SECTIONS

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
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QUANTITIES SCHEDULE I

BID ITEM #	ITEM	QUANTITY		UNIT	
	REMOVALS AND GRADING				
1.	MOBILIZATION	1		LS	
2.	SAW EXISTING CONCRETE	1000		LF	
3.	REMOVAL OF CONCRETE PAVEMENT	10046		SY	
4.	REMOVAL OF ASPHALT	1504		SY	
5.	REMOVAL OF CURB AND GUTTER	1195		LF	
6.	UNCLASSIFIED EX.	1		LS	
7.	UNDERCUTTING	100		CY	
8.	WATER FOR EMBANKMENT OR GRANULAR MATERIAL	10		K GAL	
9.	STUMP REMOVAL	38		EA	
	EROSION CONTROL				
10.	SEEDING, MULCHING, FERTILIZER	1		LS	
11.	VEHICLE TRACKING CONTROL	1		EA	
12.	INLET SEDIMENT CONTROL	3		EA	
13.	SILT FENCE	50		LF	
14.	GEOTEXTILE FABRIC	300		SY	
	STORM SEWER				
15.	REMOVAL OF JB / MH / DI	13		EA	
16.	2 X 3 TYPE B DROP INLET	14		EA	
17.	TYPE S DROP INLET	2		EA	
18.	STANDARD STORM SEWER JUNCT. BX TYPE 1 4X4	5		EA	
19.	F AND I 18" RCP CL III	500		LF	
20.	F AND I 24" RCP CL III	78		LF	
21.	REMOVAL OF EXISTING PIPE	482		LF	
22.	CORE INTO EXISTING DROP INLET	2		EA	
23.	R 1801-E FRAME AND GRATE	2		EA	
	WATERMAIN				
24.	6" PVC WATERMAIN C-900	870		LF	
25.	1" COPPER SERVICE LINE	730		LF	
26.	6" MJ GATE VAVLE WITH BOX	5		EA	
27.	6" MEGALUGS	29		EA	
28.	6" MJ OVERSIZED SLEEVE	2		EA	
29.	6" X 20" MJ TEE	1		EA	
30.	20" MJ SLEEVE	2		EA	
31.	20" MEGALUGS	5		EA	
32.	20" PVC WATERMAIN C-900	16		LF	
33.	CUT AND TIE INTO EXISTING MAIN	4		EA	
34.	1" CURB STOP WITH BOX	19		EA	
35.	WATER SERVICE LINE RECONNECT	19		EA	
36.	TEMPORARY FIRE HYDRANT	2		EA	
37.	GRANULAR MATERIAL FOR WATERMAIN	886		LF	
38.	REMOVE EXISTING VALVE BOX	3		EA	
39.	6" MJ CAP	2		EA	
40.	6" X 45° BEND	4		EA	
	TRAFFIC CONTROL				
41.	TRAFFIC CONTROL	1335		UNITS	
42.	TRAFFIC CONTROL MISC.	1		LS	
	SURFACING				
43.	8" PCC PAVEMENT	5125		SY	
44.	8" PCCP FILLET SECTION	384		SF	
45.	CONCRETE C & G TYPE B68	2155		LF	
46.	TYPE P C & G AND SPECIAL CURB	205		LF	
47.	6" SIDEWALK WITH ATTACHED CURB	2580		SF	
48.	6" CURB	185		LF	
49.	8" APPROACH PAVEMENT	1717		SF	
50.	6" SIDEWALK	20978		SF	
51.	6" COLORED SIDEWALK	13673		SF	
52.	AGGREGATE BASE COURSE	5880		SY	
53.	DETECABLE WARNING PANELS	160		SF	

BID ITEM #	ITEM	QUANTITY		UNIT	
	SURFACING CONT.				
54.	INSERT STEEL BAR INTO EXISTING PVMT.	45		EA	
55.	SIDEWALK DRAIN	1		EA	
56.	TEMPORARY BOARDWALK	6160		SF	

TABLE OF REMOVE AND REPLACEMENT OF CONCRETE APPROACH PAVEMENT

LOCATION	REMOVE(SY)	REPLACE (SF)
0+01 LT.	11.8	146
1+47 RT.	8.5	153
2+38 LT.	19.3	254
2+52 RT.	9.1	142
2+96 LT.	14.0	222
6+70 RT.	8.3	132
8+40 LT.	13.7	247
1+25 LT.(2ND ST)	10	273
5+71 LT. (2ND ST)	10	148
TOTAL	**105**	**1717**

TABLE OF 8" PCC FILLET SECTION

STATION TO STATION	RADIUS	QUANTITY (SF)
NW COR. WALNUT AND 2ND	20'	168
NE COR. WALNUT AND 2ND	20'	199
	TOTAL	**367 SF**

TABLE OF DROP INLETS AND JUNCTION BOXES

LOCATION	TYPE	QUANTITY
−2+00 LT.	4X4 JB	1
−2+00 RT.	4X4 JB	1
0+07 LT.	B1	1
0+46 LT.	B1	1
0+46 LT.	B1	1
0+79 RT.	4X4 JB	1
0+79 LT.	B1	1
0+79 LT.	B1	1
1+32 RT.	B1	1
1+53 LT.	B1	1
4+52 RT.	B1	1
4+54 LT.	B1	1
4+55 LT	4X4 JB	1
5+53 RT.	4X4 JB	1
5+63 RT.	S	1
5+65 LT.	S	1
7+99 LT AND RT.	B1	2
2+17 LT (2ND ST)	B1	1
5+44 LT (2ND ST)	B1	1
7+09 LT (2ND ST)	B1	1

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NOTES

SPECIFICATIONS TO BE USED

City of Yankton Standard Specifications and the Standard Specifications for Roads and Bridges 2015 Edition and Required Provisions, Supplemental Specifications, and/or Special Provisions as included in the Proposal.

UTILITIES

Location and protection of all underground utilities is the Contractors responsibility. The Contractor will be required to coordinate work with the utility companies. Existing utilities and service lines that coincide with proposed underground main locations are to be located in advance by the contractor such that proposed underground mains can be adjusted to avoid conflict.

Utility locations are coordinated by calling: 1-800-781-7474 (One Call)

SEQUENCE OF OPERATIONS

The Contractor shall use the following sequence of operations that are listed on the traffic control sheets unless an alternate is approved by the Engineer. An alternate sequence must be submitted in writing a minimum of one week prior to the preconstruction meeting.

All trenches are to be backfilled, compacted and covered with service gravel on the same day the pipe is layed. Aggregate Base Course will be used in lieu of Service Gravel as directed by the engineer to temporarily re-open portions of streets after the pavement is removed.

Contractor to complete installation and backfill of watermain prior to proceeding to the pavement removal on the north 1 block.

Yankton's annual Riverboat Days event is scheduled for August 17-19. There will be no work allowed on these days. The contractor shall have all disturbed areas in a neat and organized condition by the end of Thursday, August 16th.

REMOVAL OF EXISTING CONCRETE PAVEMENT

Payment for concrete removal is included in the contract unit price per square yard for "Removal of Concrete Pavement". Payment shall be at the contract unit price per square yard, regardless of variations in thickness, this is to also include the removal of existing Curb. Joints shall be sawed wherever existing concrete is to be connected to new construction.

When asphalt is laid over concrete pavement, removal of the asphalt surfacing shall be incidental to the unit price for "Removal of Concrete Pavement". Estimates are 4" of asphalt concrete on top of 6" of concrete pavement.

REMOVAL OF EXISTING ASPHALT PAVEMENT

Payment for asphalt mat removal is included in the contract unit price per square yard for "Removal of Asphalt Concrete". Payment shall be at the contract unit price per square yard, regardless of variations in thickness.

6" CONCRETE SIDEWALK

Concrete sidewalk shall be constructed in accordance with Section 651 of Standard Specifications. Base Course material, two (2) inches thick, shall be placed beneath the sidewalk.

ACCEPTANCE TESTING The City will be responsible for taking the first acceptance test and a backup test if required. All subsequent tests required due to failures will be paid by the Contractor by deducting the cost from the pay request.

GENERAL MAINTENANCE OF TRAFFIC

1. Storage of vehicles and equipment shall be as near the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the City, and to the satisfaction of the Engineer.

2. The Contractor shall designate an employee whose responsibility is the maintenance of traffic, 24 hours a day and 7 days a week. The person so designated must have training and experience in the field of construction traffic control and be knowledgeable about the Manual on Uniform Traffic Control Devices (MUTCD). The cost of the traffic control person shall be incidental to the contract lump sum price for Traffic Control Miscellaneous. The employee selected must be approved by the Engineer. The name, phone number, and location of person(s) shall be provided to the county sheriff's department and the local police department. Road closure and barricading shall immediately be reported to the local police department by the Contractor. Local police department phone number 605-668-5210

3. Work activities during non-daylight hours are subject to prior approval.

4. The contractor shall maintain traffic control every day. The contractor shall have $200.00 per day deducted from the contract for each day that traffic control is not maintained. If traffic control is not in place when the contractor begins work which requires traffic control, payment for bid item "Traffic Control" will be reduced by 50%.

5. The Contractor shall notify the City of Yankton Street Department prior to construction to enable the city forces to remove and salvage existing traffic control signs. City of Yankton Street Dept. number 605-668-5211

WASTE DISPOSAL SITE

Contractor shall dispose of broken concrete and asphalt generated by this project at the city stockpile site located at 23rd and Kellen Gross Drive. No tipping fee will be assessed to Contractor for broken concrete and asphalt disposed of at this site Concrete and asphalt is to be kept separate from earth material during the removal process. Concrete and asphalt may be mixed.

Asphalt contaminated with soil during the removal process or concrete containing reinforcing steel or contaminated with soil must be disposed of at the Yankton rubble site, 23rd and Kellen Gross Drive. Disposal fees shall be the Contractors responsibility, and considered incidental to other pay items.

The Contractor will be required to use a state permitted solid waste disposal facility. The Contractor can obtain a list of permitted solid waste disposal facilities in the Yankton area or discuss proper disposal of construction and demolition debris by contacting Waste Management Program at 1-(605)-773-3153.

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

UNCLASSIFIED EXCAVATION

Unclassified Excavation will be paid for on a lump sum basis. The bid item for "Unclassified Excavation" shall include removing the existing material to a depth of 14 inches below the new road surface shown on the typical sections. Estimated quantities in cubic yards are shown below. These estimates are based on the assumption of 4 inches of existing Asphalt Pavement and 6" concrete being removed separately.Estimate of **560** cu yds. of removal on Walnut St. Excess material is to be hauled to City property located at 33rd and Douglas Ave.

GENERAL NOTES

The Contractor will be required to raze, remove and dispose of all buildings and foundations, structures, fences, advertising signs, and other obstructions of which any portion are on theright-of-way or Temporary Easements except Utilities and those for which other provisions have been made for removal, in accordance with Section 110 of the Standard Specifications.

The removal and disposal of all buildings, foundations and other obstructions not removed under Incidental Work or on a unit basis shall be considered as subsidiary work to the other Contract Items and no separate payment will be made for their removal and disposal.

"8" NONREINFORCED CONCRETE PAVEMENT

The Coarse Aggregate shall be Crushed Ledge Rock.

The fine aggregates may require screening as determined by the Engineer.

The concrete mix shall be Class A40 concrete paving mix when slip form construction is used and Class A45 when formed construction is used.

Portland Cement Concrete Pavement shall have a minimum cement content of 600 pounds per cubic yard and Class C Fly Ash will be excluded.

In lieu of an automatic subgrade operating from a preset line, a motor grader or other suitable equipment may be used to bring the base course to final grade prior to placement of the concrete.

A construction joint shall be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement.

There will be no direct payment for trimming of the Base Course for PCC pavement. The trimming will be considered incidental to the related items required for PCC pavement. Trimming shall be performed as required by Section 380.3c of the Standard Specifications.

An automated paving machine such as a Bidwell, or equivalent, shall be required for main line paving. An air or vibratory screed will not be allowed for main line paving.

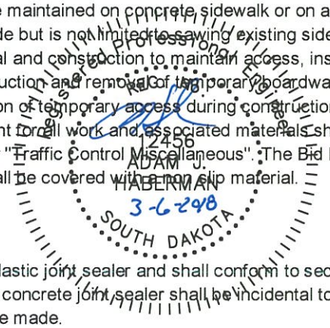
Joints to be sealed shall be thoroughly sandblasted, clean and dry as required by Section 380 P.

PEDESTRIAN TRAFFIC SIGNAGE

The Contractor will be required to maintain pedestrian access during construction. Pedestrian access shall be ADA accessible and shall conform to the Manual on Uniform Traffic Control Devices 2009 edition. Access can either be maintained on concrete sidewalk or on a temporary boardwalk. This work may include but is not limited to sawing existing sidewalk to leave half in place, staging sidewalk removal and construction to maintain access, installing safety fence around work areas, and construction and removal of temporary boardwalk. The Contractor shall determine the actual location of temporary access during construction and shall be approved by the Engineer. Payment for all work and associated materials shall be incidental to the contract lump sum price for "Traffic Control Miscellaneous". The Bid Item "Temporary Boardwalk" plywood sheets shall be covered with a non slip material.

CONCRETE JOINT SEALER

Concrete Joint Sealer shall be hot poured elastic joint sealer and shall conform to section 870 of the Standard Specifications. Payment for concrete joint sealer shall be incidental to PCC Pavement and no separate payment shall be made.



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NOTES

SURFACING THICKNESS DIMENSIONS

Except as hereinafter set forth, plans square yards will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans square yards will not be varied to achieve the required elevation.

CURING OF CONCRETE

Portland Cement Concrete Pavement, Concrete Curb & Gutter, Sidewalks, Valley Gutters, and Fillets shall be cured. All concrete shall be cured in accordance with section 380.3.P2 of the 2015 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.

GEOTEXTILE FABRIC FOR SUBGRADE STABILIZATION

Geotextile fabric shall be installed at locations designated by the engineer underneath the granular base course. The bid item GEOTEXTILE FABRIC has been established to pay for all labor, equipment and material to install the fabric.

Pay quantities for the geotextiles will be paid for at the contract price per square yard in place. Measurement for payment excludes the geotextile used for overlapping as well as seam overlaps. Installation shall be in accordance with the manufacturer's recommendations. Overlap shall be a minimum of 24". The end of the roll shall overlaps shall be 3' min.

The contractor shall not drive equipment directly on top of the geotextile. Should the geotextile be torn or punctured, the damaged area shall be repaired or replaced by the contractor at no expense to the owner. The repair shall consist of a patch of the same type of geotextile a minimum of 3' from the edge of any part of the damaged area. Geotextile fabric shall conform to the requirements listed below. The contractor shall provide a certificate of compliance verifying that the material meets the specification prior to the installation of the fabric.

1. Wide Width Tensile Strength (ASTM D-4595) 3600lb/ft min.
2. Wide Width Tensile Strength at 5% Strain(ASTM D-4595) 1350 lb/ft min.
3. Permittivity (ASTM D-4491) 0.25 sec-1 min.
4. UV Resistance at 500 hours (ASTM D-4355) 70% min.

The City has verified that the following products meet these specifications.

1. Mirafi HP370
2. Propex Getotex 3x3
3. Lumite GTF465

AGGREGATE BASE COURSE

Aggregate Base Course will be supplied by the City of Yankton. Material can be obtained at City stockpile site located at 23rd and Kellen Gross Dr. This material is to be weighed before leaving landfill. The Contractor is to supply his own personnel and equipment to load trucks. Landfill hours are from 8am to 3:45pm. This material to be used under all newly placed concrete /asphalt and to maintain access to intersecting streets and driveways as needed. Unit price shall constitute full compensation for personnel and equipment to load, haul, and place material. Aggregate Base Course shall be compacted to 95% of standard proctor density.

EROSION CONTROL - SILT FENCE NOTES

1. CONSTRUCTION

The work covered by this section consists of furnishing all labor and equipment and the performance of all operations in connection with the construction, maintenance and removal of the silt fence for the control of siltation on the project, complete and in accordance with the plans and standard plates. The Contractor shall be responsible for accomplishing the required construction work on this project in such a manner as to effectively minimize and control water pollution which might be caused by soil erosion from the project. It is intended that these features be maintained in appropriate functional condition from initial construction stages to final completion of the project.

After rainfall events, the Contractor shall take all necessary precautions to prevent silt from being carried away from the project site when water is being pumped out of any area where water is backed up on the project site

In addition to the details shown in the plans, other provisions for controlling erosion may be incorporated.

2. MATERIALS

A. Steel Fence Posts

The steel line posts for field fence shall have a cross section of one and one-half inches by one and one-half inches. The average weight shall be less than 1.33 pounds per linear foot. Paint for steel fence posts shall be the manufacturers standard paint finish.

B. Silt Fabric

The approved brands of engineering fabrics for silt fence are listed below:

Manufacturer/Distributor	Brand Name
Amoco Fabrics & Fibers Co.	Silt Stop
Carthag Mills	FX-325
Linq Industries Fabrics	GTF 400 EO
Mirafi Division of Nocolon	700 XG
Webtec, Inc.	Econofence with netting

3. BACKFILL

All compaction of backfill shall be accomplished with a mechanical tamper or pneumatic tamper. All compacting equipment shall be operated according to the manufacturers recommendations.

4. PAYMENT

Payment shall be based on the lineal foot of silt fence satisfactorily constructed and measured from outside of the end posts. The work completed in accordance with the plans and specifications at the applicable contract price in the bid schedule which price shall constitute full compensation for furnishing all materials, equipment. labor. and tools necessary for completion of the work. The unit price shall also include removing muck from behind the silt fence after rain events and removing the silt fence when it is no longer needed.

INCIDENTAL WORK

All salvageable materials shall be taken out intact and stockpiled within the right-of-way to the satisfaction of the Engineer. The Contractor shall perform salvage operations in a manner that will prevent damage to the salvageable materials.

Salvable materials will be picked up by the City.

All concrete removed from the existing structures and other disposable material shall be disposed of in accordance with the Notes Regarding Waste Disposal Site

EROSION CONTROL - VEHICLE TRACKING CONTROL

1. CONSTRUCTION

The work covered by this section consists of furnishing all labor and equipment and the performance of all operations in connection with the construction of temporary vehicle tracking control on the project, complete and in accordance with the plans and standard plates. The Contractor shall be responsible for accomplishing the required construction work on this project in such a manner as to effectively minimize and control water pollution which might be caused by vehicular tracking of soil. It is intended that these features be maintained in appropriate functional condition whenever vehicles come or go from the construction site where there is dirt exposed.

In addition to the details shown in the plans, other provisions for controlling erosion may be incorporated.

2. MATERIALS

11/2" to 3" rock shall be used.

3. LABOR AND EQUIPMENT

All necessary labor and equipment shall be supplied to clean up any dirt or gravel off of the paved roadway surfaces at the end of each day. The contractor shall also remove any service gravel that has dirt mixed in with it from the project site when the tracking control is no longer necessary. Clean service gravel can be incorporated into the base material for the roadbed.

4. PAYMENT

Service gravel shall be paid for at the unit price bid in the contract for service gravel. Unit price for "Temporary Vehicle Tracking Control" shall be the amout paid for each site where the engineer requires the use of the temporary vehicle tracking control for however long it is needed. The Contractor will be charged $50.00 for each day that dirt is not cleaned off of the street after it is placed or tracked onto the pavement.

INLET SEDIMENT CONTROL

Refer to Standard Plates 734.10 SD DOT AND 734.16 SIOUX FALLS - Drop inlet sediment filters.

CONCRETE JOINT SEALER

Concrete Joint Sealer shall be hot poured elastic joint sealer and shall conform to section 870 of the Standard Specifications. Payment for concrete joint sealer shall be incidental to PCC Pavement and no separate payment shall be made.

Registered Professional Engineer
REG. No. 12456
ADAM HABERMAN
3-6-2018
SOUTH DAKOTA

SITE MAINTENANCE

The Contractor is to keep the project site properly maintained and graded to drain storm water. No standing water is permitted on site. A penalty of $500/day will be assessed each day standing water is not removed from site. All regulations pertaining to Storm Water Pollution Prevention will be enforced. Direct discharge of storm water into the storm sewer system is not acceptable.

STEEL BAR INSTALLATION

The Contractor shall install Steel No. 5x24" epoxy coated deformed tie bars into drilled holes in the existing concrete pavement. An epoxy resin adhesive must be used to anchor steel bars in the drilled holes.

The steel bars shall be cut at the specified length by sawing and shall be free from burring or other deformations. Shearing will not be permitted.

Epoxy resin adhesive shall be of the type intended for horizontal applications, and shall conform to the requirements of ASTM C 881, Type 1, Grade 3 (equivalent to AASHTO M235, Type 1, Grade 3).

The diameter of the drilled holes in the existing concrete pavement for the steel bars shall not be less than 1/8 inch nor more than 3/8 inch greater than the overall diameter of the steel bar. Holes drilled into the existing concrete pavement shall be located at mid-depth of the slab and true and normal. The drilled holes shall be blown out with compressed air using a device that will reach to the back of the hole to ensure that all debris or loose material has been removed prior to epoxy injection.

Mix the epoxy resin as recommended by the manufacturer and apply by an injection method approved by the Engineer. If an epoxy pump is utilized, it shall be capable of metering the components at the manufacturers designated rate and be equipped with an automatic shut-off. The pump shall shut off when any of the components are not being metered at the designated rate. Fill the drilled holes 1/3 to 1/2 full of epoxy, or as recommended by the manufacturer, prior to insertion of the steel bar. Care shall be taken to prevent epoxy form running out of the horizontal holes prior to steel bar insertion. Rotate the steel bar during installation to eliminate voids and ensure complete bonding of the bar. Insertion of the bars by the dipping method will not be allowed.

Cost for the epoxy resin adhesive, steel bars, drilling of holes, applying the adhesives, installing the steel bars into the drilled holes and all other items incidental to the installation of the steel bars shall be included in the contract unit price per each for "Install Steel Bar in Concrete Pavement".

Steel bars shall be installed at the following locations:

LOCATION	#5 BARS EACH
East and West end of 2nd st	24
3rd st intersection north and south	10
North end of Walnut (4th st.)	6

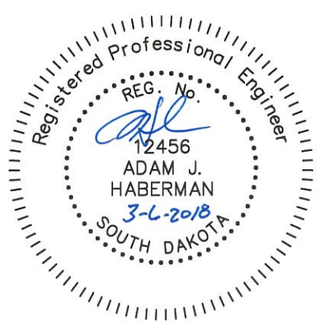
COLORED CONCRETE SIDEWALK IN BOULEVARDS

The colored concrete in sidewalks shall be colored per manufacturer recommendations. the color shall be determined by the City of Yankton. The contractor shall submit a sample piece of colored concrete to the Field Engineer for approval before placing the colored sidewalk for the boulevard. All costs for coloring shall be incidental to the contract unit price per sq. ft. for the corresponding colored concrete sidewalk bid item.

Two coats of a non-yellowing acrylic curing and sealing compound shall be applied to the surface of the colored concrete. The curing and sealing compound shall be the product listed below or an equal approved by the Engineer.

DECRA-SEAL
W.R Meadows, Inc
1-800-342-5976
www.wrmeadows.com

All costs for furnishing, handling, and applying the curing and sealing compound, including the materials, equipment, labor and incidentals necessary shall be incidental to the contract unit price per sq. ft. for the corresponding colored concrete sidewalk bid item.



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WATER MAIN GENERAL

The contractor shall provide new water main with a minimum of 6' of cover. The water main will be AWWA C-900. Adjust the depth of the new main to match existing main where connections to existing mains are shown on plans. Where the new main is to be connected to existing mains, the connection, sawing, pumping of water, labor and other items necessary to complete the tie are considered to be part of the bid item "cut and tie to existing main". Existing copper services will be connected to the new water main. Services will be replaced if line is galvanized, lead or smaller then 3/4 inch copper. Replace these service lines to ROW line behind new c&g or as directed by engineer with 1 inch copper and install a new curb stop and box. Services may be "hole hogged" with an underground piercing tool at no additional expense to the City of Yankton.

Contractor shall backfill all open trenches to the end of the pipe every night and appropriately protect the open hole with fencing. The Contractor shall have $200 per day deducted from the contract for each day that this is not done.

GENERAL ITEMS

All existing pipe and material removed by the contractor shall be appropriately disposed of by the contractor. All open ends of abandoned in place piping shall be plugged with concrete unless otherwise noted in plans. All abandoned valve boxes shall be removed to at least 2 feet below the ground surface and filled with granular material.

Salvageable material shall become the property of the City of Yankton, as directed by engineer. Abandoned valves shall have the valve boxes removed to a depth of not less than 2 feet below ground level. Removal of watermain, valves and fittings, necessary for the construction of the new items, shall be incidental to other project costs.

WATERING

Water for compaction is incidental to other pay items. Water from city fire hydrants is to be metered and paid for by Contractor.

DEWATERING AND EROSION CONTROL

Pumping required for the removal of surface water from the work area and/or depressions will be considered incidental to other pay items and not paid for separately. The Contractor shall be responsible for complying with the erosion control installation and maintenance standards set by the South Dakota Department of Environment and Natural Resources.

STRUCTURE REMOVAL

The removal of existing pipe and manholes is to include the plugging of existing pipe if necessary with concrete and the removal of the structure. Castings and manhole covers removed are to be delivered to the city street shop.

EROSION CONTROL

The Contractor will provide erosion control for the street project. The contractor will provide any necessary erosion control for the watermain installation as an incidental project cost.

DISINFECTION, TESTING, AND OPERATION OF NEW MAIN

New water main shall be disinfected, have two passing bacteriological tests, at least 24 hours apart, and be pressure tested before the water main is put into service. The city will take the test sample and the contractor shall furnish a service line or other suitable location on the new pipe at which a sample can be collected. The contractor shall furnish the equipment necessary for the pressure test and shall conduct the test in the presence of someone from the City Engineering Department staff. New mains shall be installed and disinfected before any of the service lines are reconnected from the old main to the new main. New mains will not be put into operation without city approval.

POLYETHYLENE ENCASEMENT

All valves, fittings, and other ductile iron appurtenances and pipe are to be wrapped with 8 mil. thick polyethylene in accordance with AWWA C-105. This work is incidental to other pay items.

SLEEVES AND RETAINER GLANDS

The contractor shall furnish and install all clamps, ready rods, blocking and cradling necessary for the project as an incidental project cost.

Retainer glands are to be installed in addtion to blocking at all fittings (megalug series 2000pv). Retainer glands and sleeves will be paid for per each at the bid unit price.

VALVE BOX CENTERING ADAPTER

All valve boxes shall be equipped with a rubber boot/sleeve that covers and firmly holds the bottom of the valve box over the valve nut. (valve box adapter ii)

TRACER WIRE SYSTEM

The tracer wire system shall be installed with ductile iron water mains and with pvc water mains to the satisfaction of the engineer.

Tracer wire shall be no. 12 solid single strand Type TW or THHn, or approved equal.

The conductor shall be solid or stranded copper per ASTM B-1, B-3, or B-8. The ground rod shall be a 3/8-inch diameter, 60-inch long steel rod uniformly coated with metallically bonded electrolytic copper. Blackburn catalog no. 3755, or equal. The ground rod at the fire hydrant shall be of the same material except that the ground rod shall be 30 inches long.

Ground rod clamps shall be high strength, corrosion resistant copper alloy. Blackburn catalog no. G3, or equal.

Splice kits shall be Scotchlok DBY-Y connectors or equal.

The cost of the tracer wire system is considered to be a part of the cost of the water main installation.

CUT AND TIE TO EXISTING WATER MAIN

Where "Cut and Tie to Existing Water Main" is required, Contractor shall make the required connection at a time to be designated by the City. This time may be during nighttime hours. The exact time will vary from location to location to accommodate the needs of water users who will experience an outage.

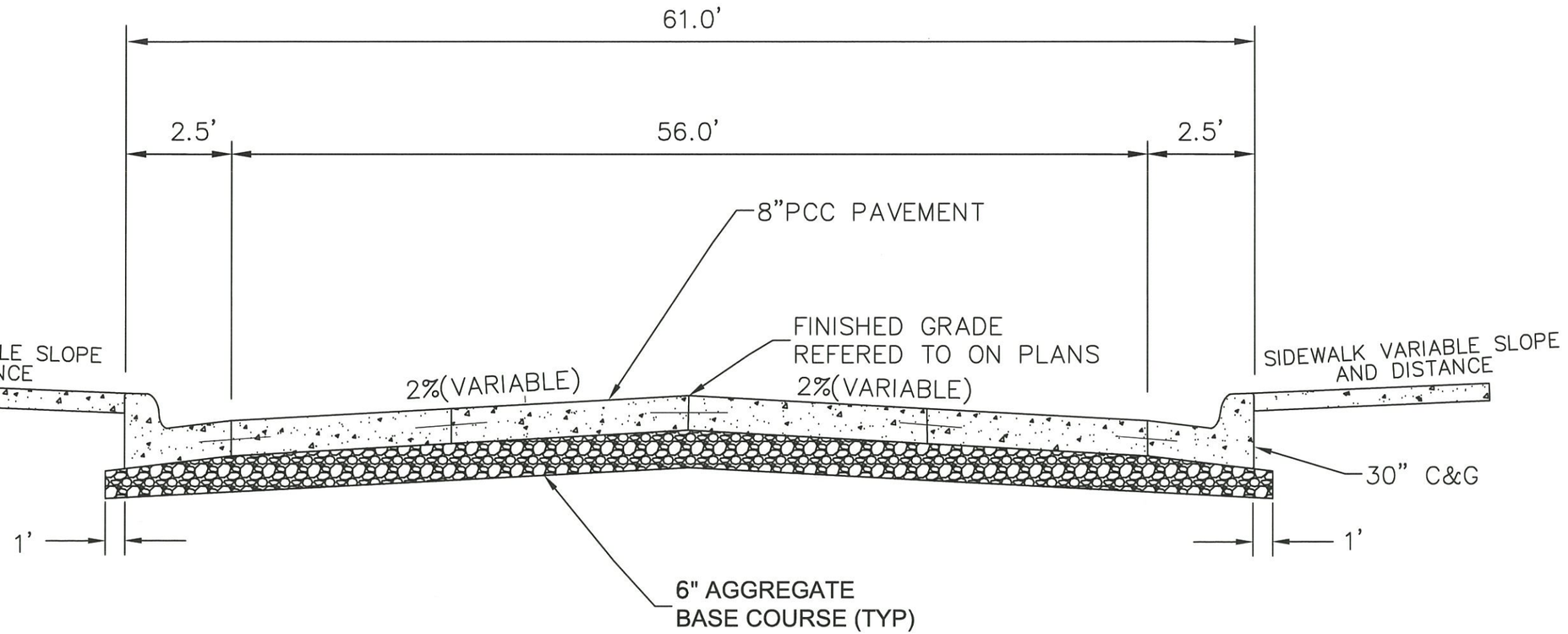
All costs associated with work during this time period shall be incidental to the contract price per each for "Cut and Tie to Existing Water Main".

TRACER WIRE INSTALLATION

Tracer wire shall be installed with pvc and ductile iron water mains. The wire shall be installed along the lower quadrant of the pipe, but the pipe shall not be laid directly on the wire. Ground rods shall be installed adjacent to connections to existing piping and in the locations specified on the plans. The tracer wire shall be brought to each fire hydrant and connected to a 30" ground rod that extends up to the bolted flange just above the ground surface or a minimum distance of 3" above the ground surface. The ground rod shall be taped to the fire hydrant barrel in at least four locations below the ground surface. The tracer wire shall be spliced only if approved by the engineer and all underground splices shall be inspected by the engineer prior to backfilling. The tracer wire system is considered to be a part of the price bid for water mains.

The contractor shall be responsible for testing the tracer wire system for conductivity. Testing for conductivity shall be completed prior to finish surfacing activities. If the tracer wire does not function as intended, the contractor shall repair the system to the satisfaction of the engineer and the City will charge $50 per hour to retest the system with a minimum charge of $50.

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	7	48
TYPICAL SECTION				



TYPICAL C & G SECTION

WALNUT ST.

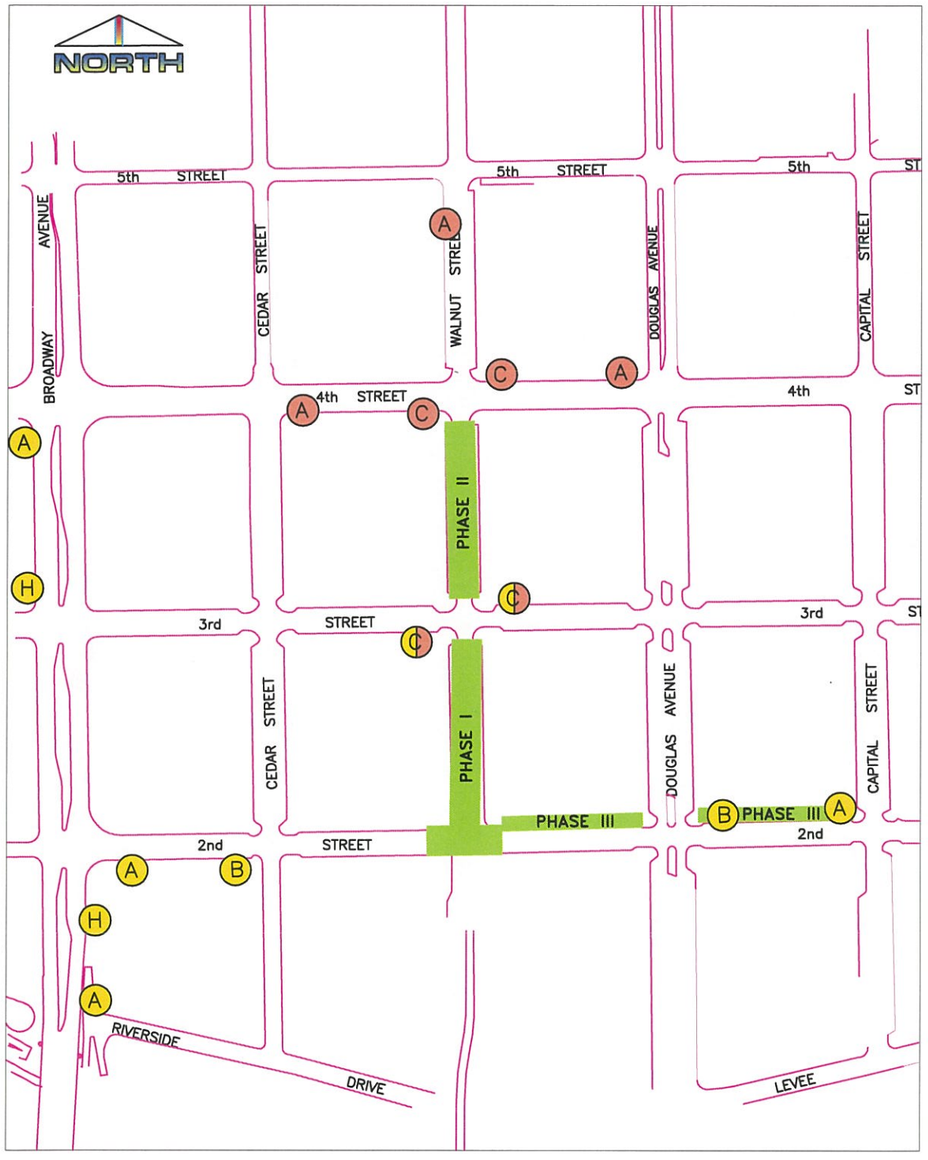
STA. 1+25.8 TO 4+35.7
AND STA. 5+79.7 TO 9+14.3

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	8	48
TRAFFIC CONTROL				

TRAFFIC CONTROL

FIXED LOCATION SIGNS
GROUND MOUNTED SUPPORTS



PHASE I SIGNING

PHASE II SIGNING

(A)

W20-1 (48" x 48")

(B)

W20-3 (48" x 48")

(C)

R3-1 (24" x 24")

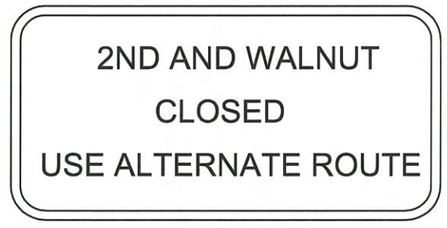
R3-2 (24" x 24")

Table 6C-1 in part of the MUTCD, 2009 Edition

Road Type	Distance Between Signs** (Feet)		
	A	B	C
Urban (low speed*)	100	100	100
Urban (high speed*)	350	350	350
Rural	500	500	500
Expressway/Freeway	1000	1500	2640

* Speed category to be determined by the highway agency.

(H)



G20-2A (48" x 24")
(ONLY WHEN WORK IS TAKING PLACE IN INTERSECTION)

PROJECT AREA

ALL FIXED LOCATION SIGNS REMAIN IN PLACE UNTIL PERMANENT PAVEMENT MARKING IS COMPLETE.

ITEMIZED LIST FOR TRAFFIC CONTROL BID ITEM

SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED	UNITS PER AMOUNT	SUB TOTAL
R11-2	48" x 30"	ROAD CLOSED	5	27	135
R11-4	60" x 30"	ROAD CLOSED TO THRU TRAFFIC	2	30	60
R3-1	24" x 24"	NO RIGHT TURN (SYMBOL)	2	15	30
R3-2	24" x 24"	NO LEFT TURN (SYMBOL)	2	15	30
W20-1	48" x 48"	ROAD WORK AHEAD	6	34	204
W20-3	48" x 48"	ROAD CLOSED AHEAD	2	34	68
W20-2A	48" x 24"	2ND AND WALNUT CLOSED USE ALT ROUTE	2	24	48
		TYPE III BARRICADES	152 L.F.	5 UNITS/L.F.	760
				TOTAL	1335

LIST OF OTHER TRAFFIC CONTROLS FOR ROAD CONSTRUCTION

BID ITEM	DESCRIPTION	QUANTITY
TRAFFIC CONTROL MISC.	TYPE I & II BARRICADES, CONES, VERTICAL PANELS, DRUMS, BARRICADE WARNING LIGHTS, DELINEATORS. WATCHMAN, TUBULAR MARKERS, AND INSTALLATION OF CITY SIGNS.	LUMP SUM

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	9	46
TRAFFIC CONTROL				

TRAFFIC CONTROL

LAYOUT FOR GRADING & PAVING OPERATIONS
ROAD OPEN TO LOCAL TRAFFIC ONLY

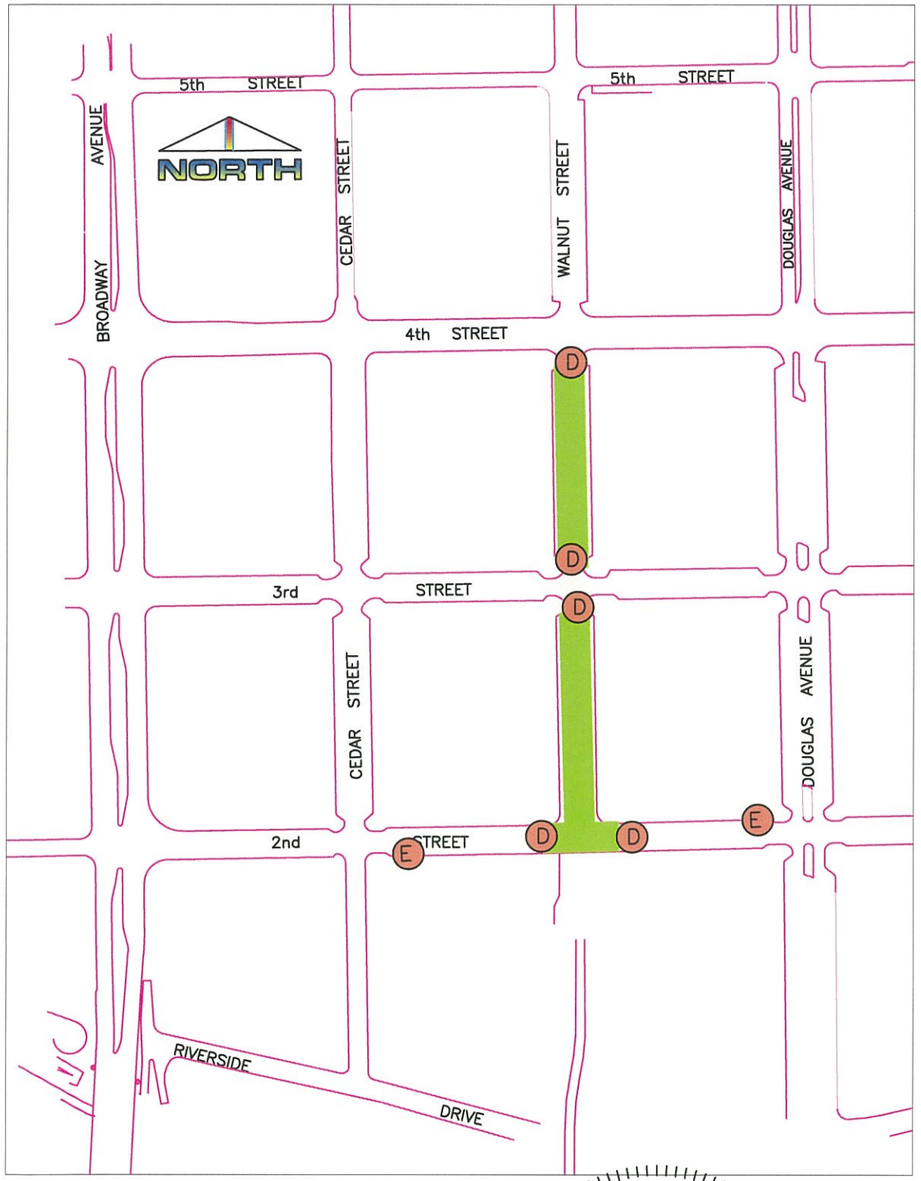


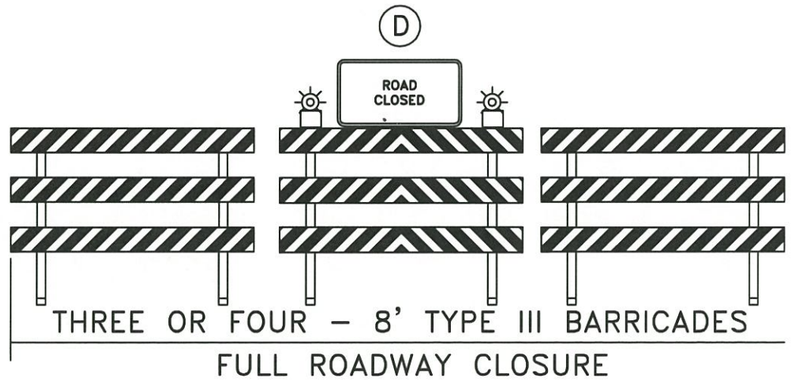
Table 6C–1 in part of the MUTCD, 2009 Edition

Road Type	Distance Between Signs** (Feet)		
	A	B	
Urban (low speed*)	100	100	
Urban (high speed*)	350	350	
Rural	500	500	
Expressway/Freeway	1000	1500	

* Speed category to be determined by the highway agency.

R11–4 (60" x 30")

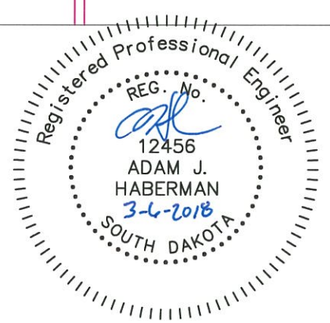
R11–2 (48"x 30")



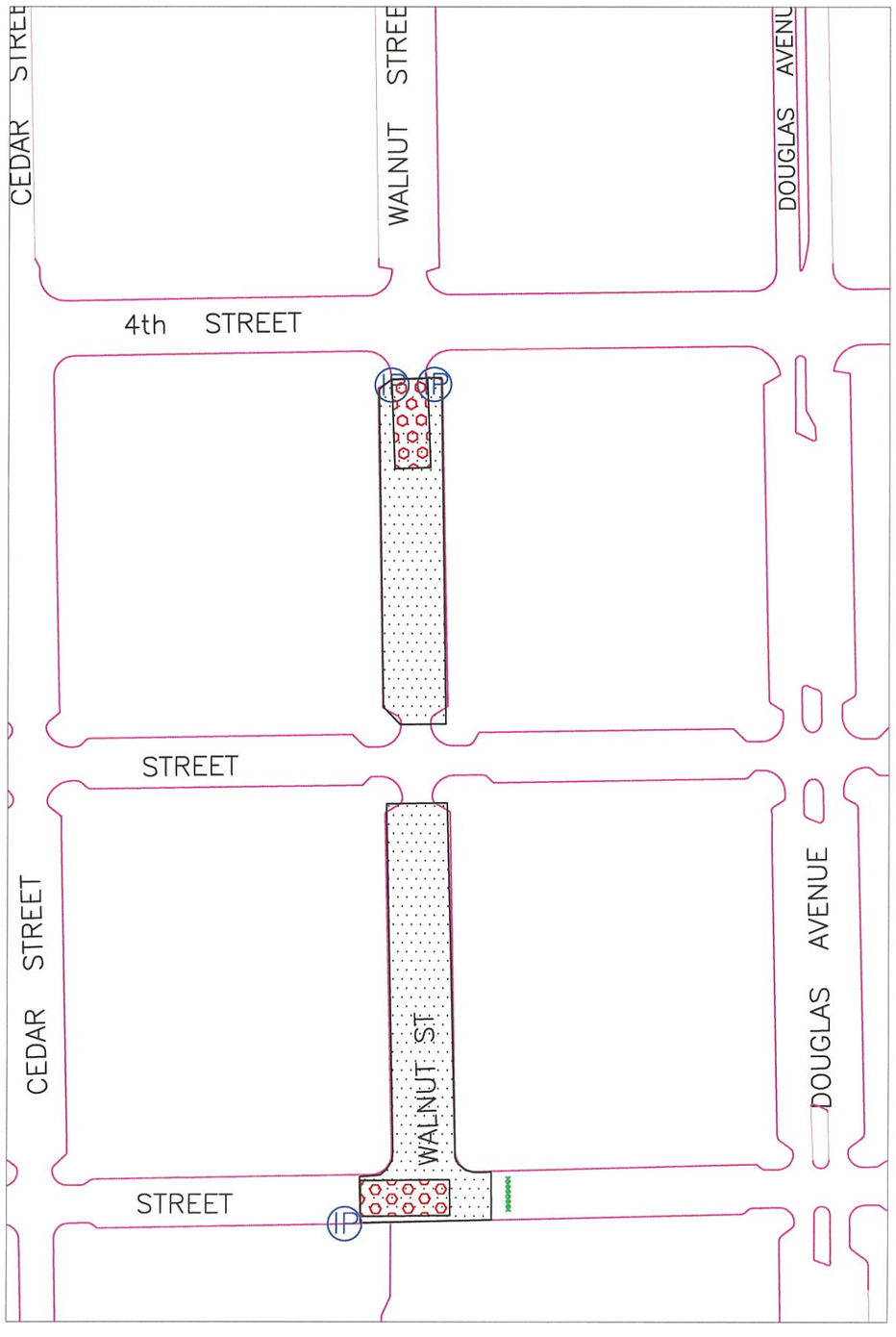
PROJECT AREA

ALL FIXED LOCATION SIGNS REMAIN IN PLACE UNTIL PERMANENT PAVEMENT MARKING IS COMPLETE.

PEDESTRIAN TRAFFIC CONTROL
TRAFFIC CONTROL DEVICES FOR SIDEWALK CLOSURES AND PEDESTRIAN DETOURS SHALL BE PAID FOR UNDER TRAFFIC CONTROL MISC.
(SDDOT STANDARD PLATE #634.33 MAY BE USED AS A GUIDE FOR THESE SITUATIONS)



REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	10	46
EROSION CONTROL				



LEGEND

-VEHICLE TRACKING CONTROL (TYP.)
SEE DETAIL SHEET PLATE # 734.02
-1 USED (NORTH AND SOUTH END OF PROJECT

-SILT FENCE (TYP.)
SEE SHEET #
50 L.F. USED

PROJECT AREA

-INLET PROTECTION (TYP.)
SEE SHEET # 27
-2 USED AT NORTH END OF PROJECT STA 9+25
-1 USED AT SOUTH END OF PROJECT STA 0+00 - 78' LT.

NOTE:
ALL EROSION CONTROL ITEMS SHALL BE MAINTAINED DAILY AND BE KEPT IN FULL FUNCTIONAL CONDITION TO MINIMIZE AND CONTROL SOIL RUN OFF THAT COULD OCCUR DURING THE PROJECT CONSTRUCTION. EROSION CONTROL ITEMS SHALL BE KEPT IN PLACE UNTIL PROJECT COMPLETION.

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

STORM WATER POLLUTION PREVENTION PLAN

*(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** .85 acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** .12 acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 0
- **Soil Properties:** AASHTO Soil Classification **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Missouri River **(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.)

- **Special sequencing requirements** (see sheet).
- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, storm sewers, curb and gutter.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving and sealing of concrete.**
- **Complete traffic control installation and protection devices.**
- **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 or Permanent Seeding
  - ☐ Sodding
  - ☐ Planting
  - ☐ Mulching (Straw or Cellulose Fiber)
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Gabions-Gabion Mattress
  - ☐ Other
- **Structural Temporary Erosion and Sediment Controls**
  - ☒ Silt Fence
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☐ Straw Wattles or Rolls
  - ☐ Diversion Channels/Swales
  - ☐ Channel Liners (TRM)
  - ☐ Stone Rip Rap Sheet
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☒ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection
  - ☐ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ 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 Section 3 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 waste disposal procedures 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.
- **Maintenance and Inspection Practices(Continued)**
  - 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 $^1/_3$ 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 ½ 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 City Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The City 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, de-greasing 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, 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 Plans. 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.

➢ **Product Specific Practices (6.8) (Continued)**

- 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 booms, 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 Response (4.2 2 c.(2)) (Continued)**

- 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**

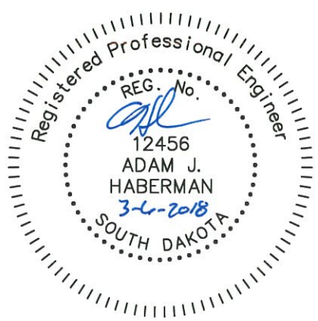
In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

➢ A reportable spill is a quantity of 25 gallons or more or any spill of oil which: 1) violates water quality standards, 2) produces a "sheen" on a surface water, or 3) causes a sludge or emulsion must be reported immediately to the National Response Center .

➢ Any spill of oil or hazardous substance to waters of the state must be reported immediately by telephone to the SD DENR.

❖ **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 City 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.

➢ City of Yankton

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.

_____

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 and at least 15 days prior to the beginning of construction. 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 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.

_____

Authorized Signature. (See the General Permit, Section 6.7.1.a .or b.)

❖ CONTACT INFORMATION

➢ Contractor Information:

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

Erosion Control Supervisor

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

➢ City Engineer

- Name: Brad Moser
- Business Address: 416 Walnut
- Job Office Location 416 Walnut
- City: Yankton State: SD Zip: 57078
- Office Phone: 605-668-5255 Field: Cell: 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

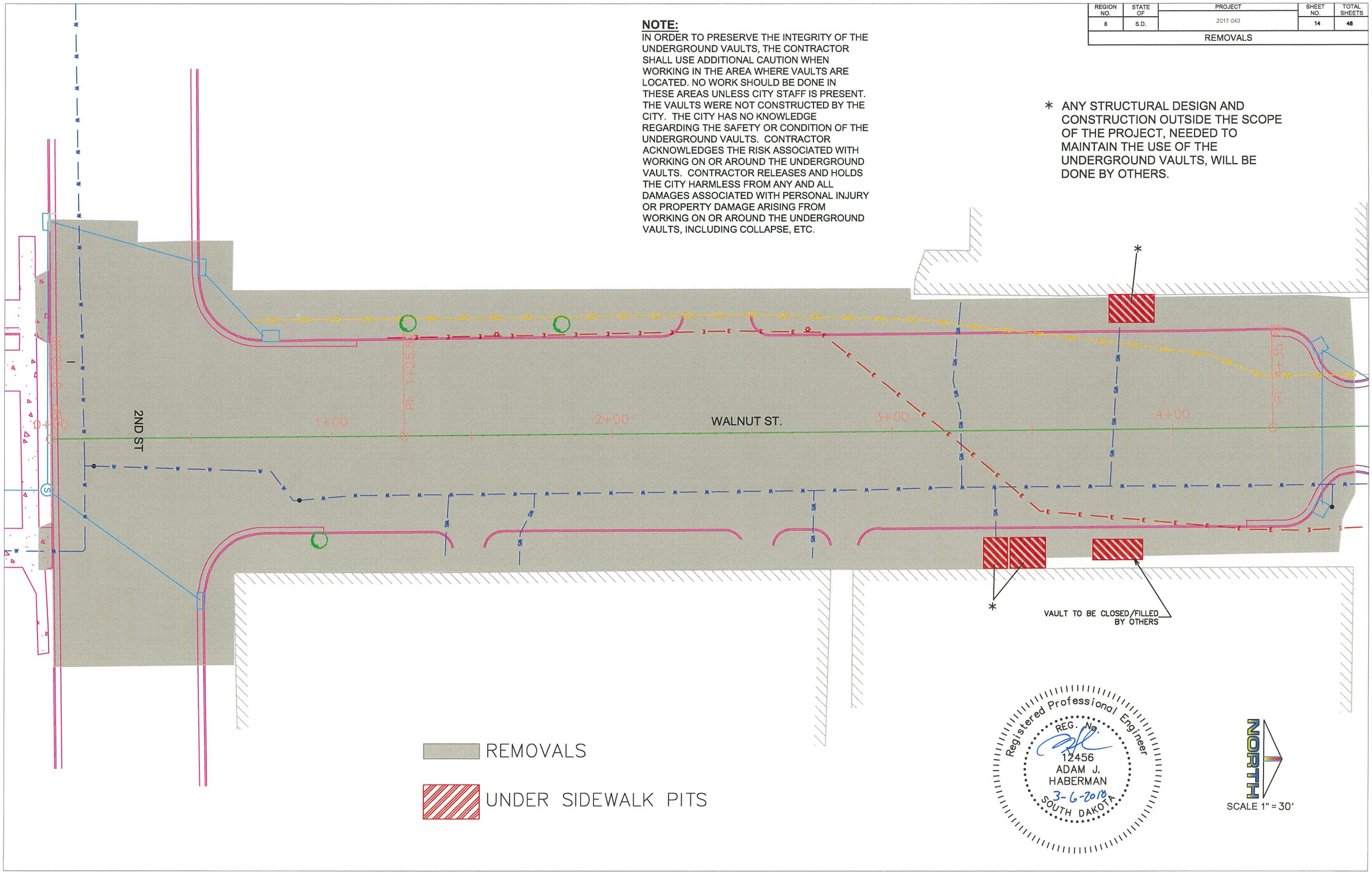
➢ National Response Center Hotline

- (800) 424-8802.

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	14	46
REMOVALS				

NOTE:
IN ORDER TO PRESERVE THE INTEGRITY OF THE UNDERGROUND VAULTS, THE CONTRACTOR SHALL USE ADDITIONAL CAUTION WHEN WORKING IN THE AREA WHERE VAULTS ARE LOCATED. NO WORK SHOULD BE DONE IN THESE AREAS UNLESS CITY STAFF IS PRESENT. THE VAULTS WERE NOT CONSTRUCTED BY THE CITY. THE CITY HAS NO KNOWLEDGE REGARDING THE SAFETY OR CONDITION OF THE UNDERGROUND VAULTS. CONTRACTOR ACKNOWLEDGES THE RISK ASSOCIATED WITH WORKING ON OR AROUND THE UNDERGROUND VAULTS. CONTRACTOR RELEASES AND HOLDS THE CITY HARMLESS FROM ANY AND ALL DAMAGES ASSOCIATED WITH PERSONAL INJURY OR PROPERTY DAMAGE ARISING FROM WORKING ON OR AROUND THE UNDERGROUND VAULTS, INCLUDING COLLAPSE, ETC.

* ANY STRUCTURAL DESIGN AND CONSTRUCTION OUTSIDE THE SCOPE OF THE PROJECT, NEEDED TO MAINTAIN THE USE OF THE UNDERGROUND VAULTS, WILL BE DONE BY OTHERS.



Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

NORTH

SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	15	48

REMOVALS

* ANY STRUCTURAL DESIGN AND CONSTRUCTION OUTSIDE THE SCOPE OF THE PROJECT, NEEDED TO MAINTAIN THE USE OF THE UNDERGROUND VAULTS, WILL BE DONE BY OTHERS.

VAULT TO BE CLOSED/FILLED BY OTHERS

WALNUT ST.

4TH ST.

PI: 5+78.77

PEP: 9+29.07

5+00 6+00 7+00 8+00 9+00 9+29

REMOVALS

UNDER SIDEWALK PITS

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3-6-2018
SOUTH DAKOTA

NORTH

SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	16	46

2ND ST REMOVALS

REMOVALS

C & G REMOVAL	402 LF
ASPHALT REMOVAL	730 SY
CONCRETE REMOVAL	245 SY
INLET REMOVAL	1 EA
REMOVAL EXISTING PIPE	72 LF
STUMP REMOVAL	6 EA

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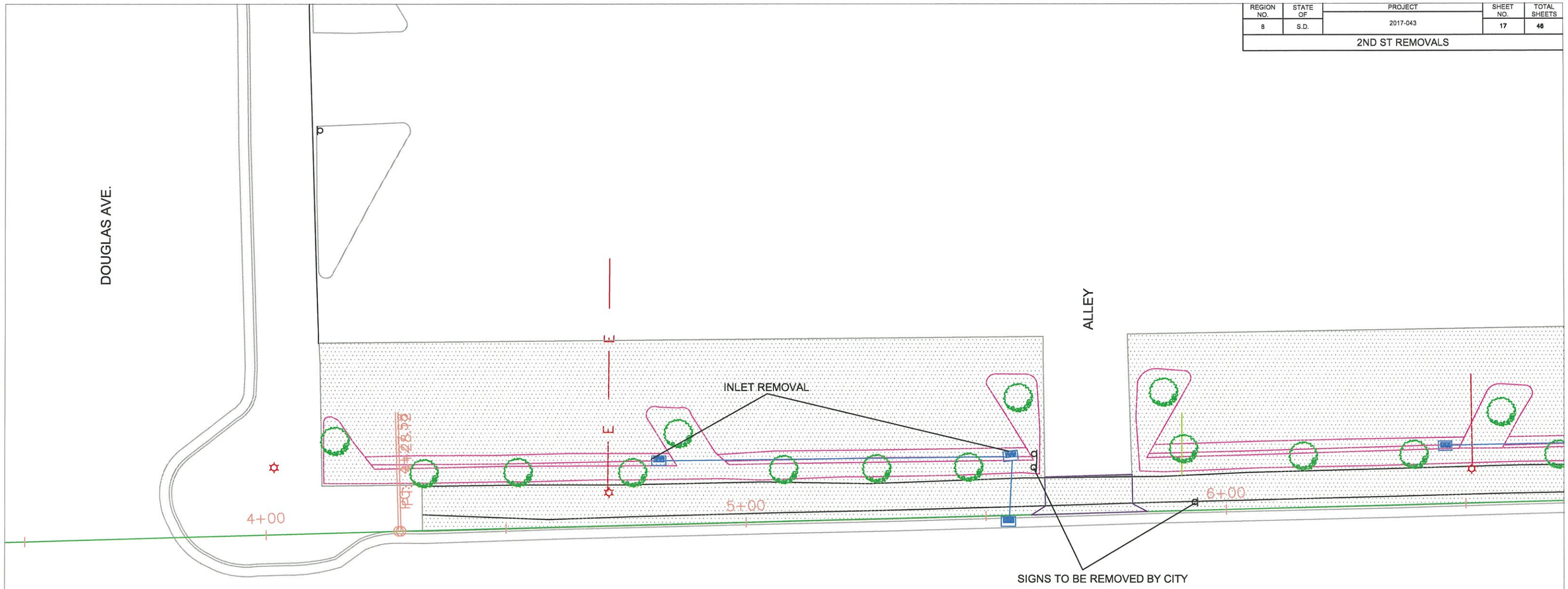
NORTH

SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	17	48

2ND ST REMOVALS



REMOVALS

C & G REMOVAL	385 LF
ASPHALT REMOVAL	396 SY
CONCRETE REMOVAL	99 SY
INLET REMOVAL	2 EA
REMOVE EXISTING PIPE	83 LF
STUMP REMOVAL	9 EA

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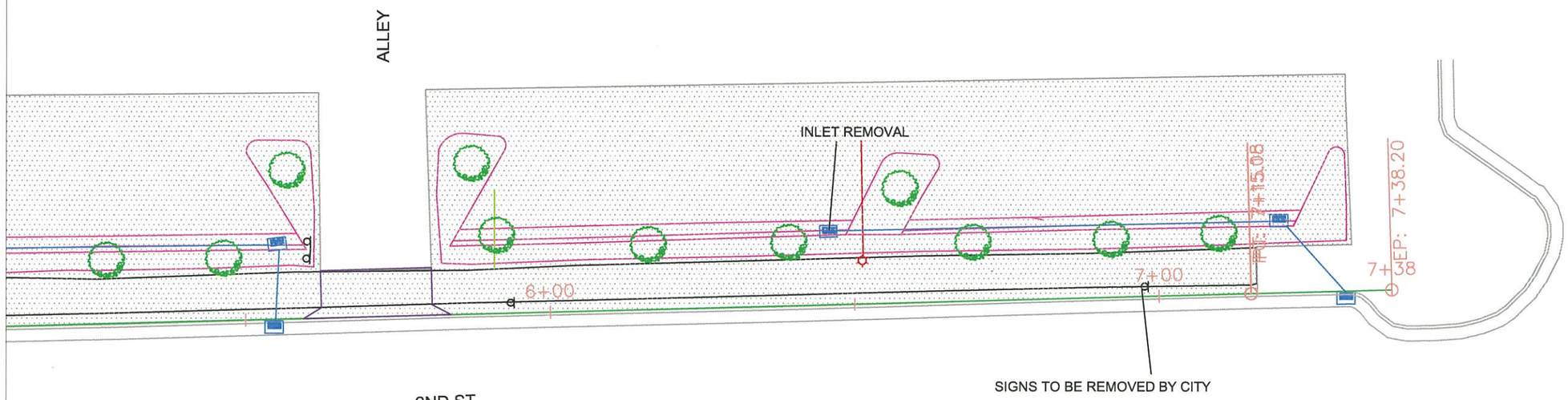
NORTH
SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	18	48
2ND ST REMOVALS				



REMOVALS

C & G REMOVAL	408 LF
ASPHALT REMOVAL	378 SY
CONCRETE REMOVAL	99 SY
INLET REMOVAL	1 EA
REMOVE EXISTING PIPE	71 LF
STUMP REMOVAL	8 EA

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NORTH
SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	19	46

PAVING

15 STA. 1+09.6 - 15.0' LT
HIGH POINT
TOC ELEV. 1203.20

16 STA. 1+15 - 17.7' LT.
END RADIUS
TOC ELEV. 1203.17

17 STA. 1+21.8 - 28' LT
BEGIN RADIUS
TOC ELEV. 1203.14

18 STA. 1+27 - 30.5' LT.
END RADIUS
TOC ELEV. 1203.11

19 STA. 1+54- 30.5' LT
LOW POINT
TOC ELEV. 1202.90

20 STA. 2+00 - 30.5' LT.
TOC ELEV. 1203.12

21 STA. 2+50 - 30.5' LT
TOC ELEV. 1203.36

22 STA. 3+00 - 30.5' RT.
TOC ELEV. 1203.59

23 STA. 3+12- 30.5' LT
GRADE CHANGE
TOC ELEV. 1203.65

24 STA. 3+50 - 30.5' LT.
TOC ELEV. 1203.86

25 STA. 4+00 - 30.5' LT
TOC ELEV. 1204.13

26 STA. 4+13 - 30.5' RT.
HIGH POINT
TOC ELEV. 1204.20

27 STA. 4+39.9 - 30.5' RT.
TOC ELEV. 1204.09

INSERT STEEL BAR #5 @ 4' O.C

MATCH EXISTING

2ND ST

0+00

1+00

2+00

WALNUT ST.

3+00

4+00

PI: 1+25.02

PI: 4+35.7

MATCH EXISTING

INSERT STEEL BAR #5 @ 4' O.C

1 STA. 1+09.6 - 15.0' RT
HIGH POINT
TOC ELEV. 1203.15

2 STA. 1+15.3 - 17.7' RT.
END RADIUS
TOC ELEV. 1203.10

3 STA. 1+20.7 - 27.4' RT
BEGIN RADIUS
TOC ELEV. 1203.01

4 STA. 1+26 - 30.5' RT.
END RADIUS
TOC ELEV. 1202.96

5 STA. 1+32 - 30.5' RT
LOW POINT
TOC ELEV. 1202.92

6 STA. 1+50 - 30.5' RT.
TOC ELEV. 1203.00

7 STA. 2+00 - 30.5' RT
TOC ELEV. 1203.23

8 STA. 2+50 - 30.5' RT.
TOC ELEV. 1203.45

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9 STA. 3+00 - 30.5' RT
TOC ELEV. 1203.68

10 STA. 3+12 - 30.5' RT.
GRADE CHANGE
TOC ELEV. 1203.74

11 STA. 3+50 - 30.5' RT.
TOC ELEV. 1203.97

12 STA. 4+04 - 30.5' RT.
HIGH POINT
TOC ELEV. 1204.32

13 STA. 4+16 - 16.2' RT.
END RADIUS
TOC ELEV. 1204.21

14 STA. 4+52.8 - 16.2' RT.
LOW POINT
TOC ELEV. 1204.01

NORTH

SCALE 1" = 30'

LANDSCAPE AREAS

UNDER SIDEWALK PITS

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	20	46

PAVING

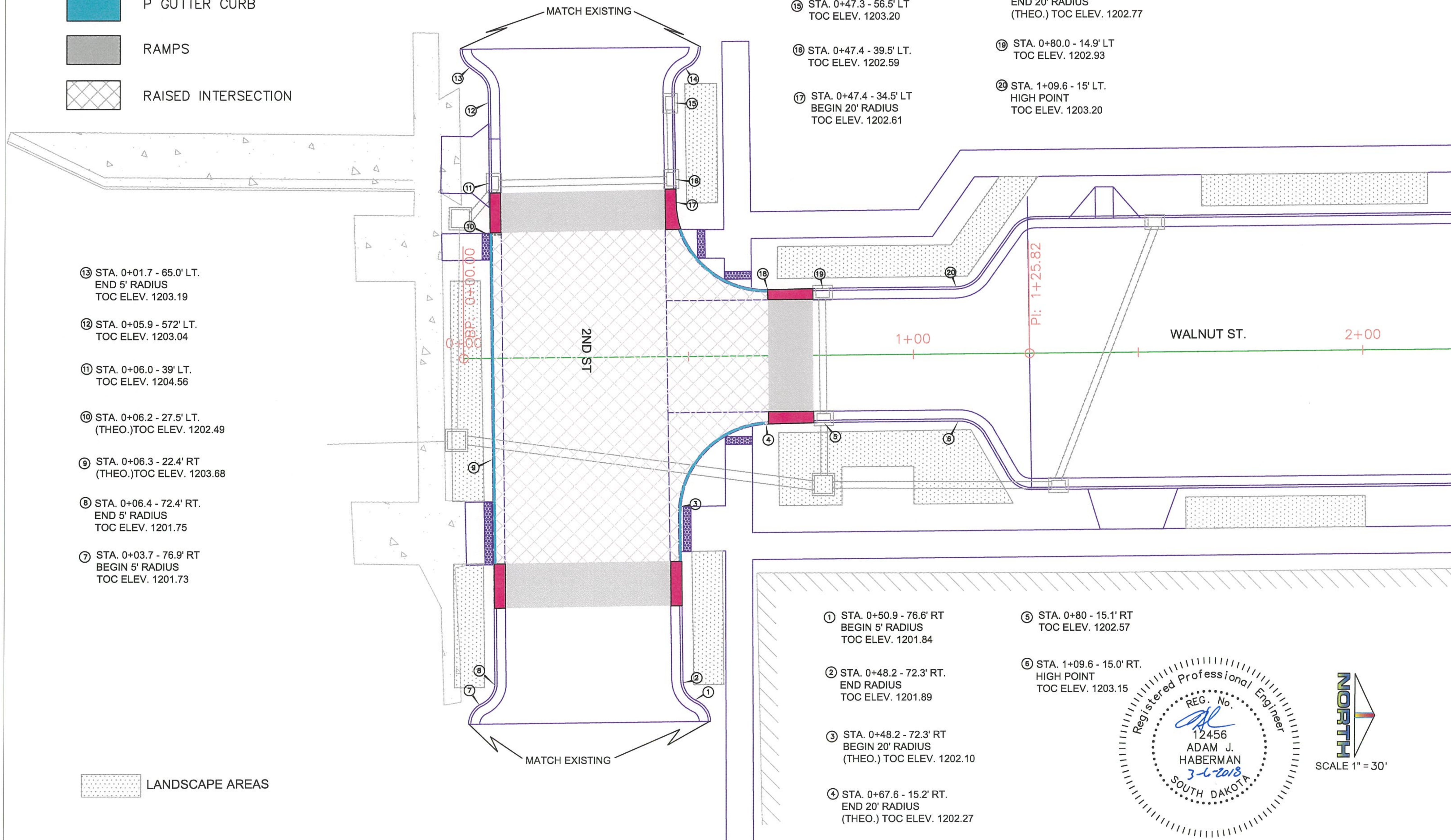
SPECIAL CURB (SEE SHEET 40)

P GUTTER CURB

RAMPS

RAISED INTERSECTION

LANDSCAPE AREAS



⑭ STA. 0+50.7 - 64.7' LT.
BEGIN 5' RADIUS
TOC ELEV. 1203.40

⑮ STA. 0+47.3 - 56.5' LT
TOC ELEV. 1203.20

⑯ STA. 0+47.4 - 39.5' LT.
TOC ELEV. 1202.59

⑰ STA. 0+47.4 - 34.5' LT
BEGIN 20' RADIUS
TOC ELEV. 1202.61

⑱ STA. 0+67.6 - 14.8' LT.
END 20' RADIUS
(THEO.) TOC ELEV. 1202.77

⑲ STA. 0+80.0 - 14.9' LT
TOC ELEV. 1202.93

⑳ STA. 1+09.6 - 15' LT.
HIGH POINT
TOC ELEV. 1203.20

⑬ STA. 0+01.7 - 65.0' LT.
END 5' RADIUS
TOC ELEV. 1203.19

⑫ STA. 0+05.9 - 572' LT.
TOC ELEV. 1203.04

⑪ STA. 0+06.0 - 39' LT.
TOC ELEV. 1204.56

⑩ STA. 0+06.2 - 27.5' LT.
(THEO.)TOC ELEV. 1202.49

⑨ STA. 0+06.3 - 22.4' RT
(THEO.)TOC ELEV. 1203.68

⑧ STA. 0+06.4 - 72.4' RT.
END 5' RADIUS
TOC ELEV. 1201.75

⑦ STA. 0+03.7 - 76.9' RT
BEGIN 5' RADIUS
TOC ELEV. 1201.73

① STA. 0+50.9 - 76.6' RT
BEGIN 5' RADIUS
TOC ELEV. 1201.84

② STA. 0+48.2 - 72.3' RT.
END RADIUS
TOC ELEV. 1201.89

③ STA. 0+48.2 - 72.3' RT
BEGIN 20' RADIUS
(THEO.) TOC ELEV. 1202.10

④ STA. 0+67.6 - 15.2' RT.
END 20' RADIUS
(THEO.) TOC ELEV. 1202.27

⑤ STA. 0+80 - 15.1' RT
TOC ELEV. 1202.57

⑥ STA. 1+09.6 - 15.0' RT.
HIGH POINT
TOC ELEV. 1203.15

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	21	46

PAVING

⑩ STA. 5+67.07 - 30.5' LT.
LOW POINT
TOC ELEV. 1204.37

⑪ STA. 6+00 - 30.5' LT.
TOC ELEV. 1204.50

⑫ STA. 6+50 - 30.5' LT.
TOC ELEV. 1204.73

⑬ STA. 7+00 - 30.5' LT.
HIGH POINT
TOC ELEV. 1204.95

⑭ STA. 7+50 - 30.5' LT.
TOC ELEV. 1204.73

⑮ STA. 8+00 - 30.5' LT
LOW POINT
TOC ELEV. 1204.50

⑯ STA. 8+50 - 30.5' LT.
TOC ELEV. 1204.76

⑰ STA. 9+00 - 30.5' LT
TOC ELEV. 1204.98

⑱ STA. 9+13 - 30.5' LT.
MATCH EX.
TOC ELEV. 1205.04

SIDEWALK DRAIN SEE SHEET 40

STA. 5+56 - 15.2' LT.
ELEV. 1204.53

PI: 5+79.72

3RD ST.

6+00 7+00 WALNUT ST. 8+00 9+00 9+29

EP: 9+29.07

4TH ST.

INSERT STEEL BAR #5 @ 4' O.C

INSERT STEEL BAR #5 @ 4' O.C

STA. 5+55.8 - 17.5' LT.
ELEV. 1204.20

① STA. 5+66 - 31.4' RT
LOW POINT
TOC ELEV. 1204.07

② STA. 6+00 - 30.5' RT.
TOC ELEV. 1204.35

③ STA. 6+50 - 30.5' RT
TOC ELEV. 1204.67

④ STA. 7+00 - 30.5' RT.
HIGH POINT
TOC ELEV. 1204.99

⑤ STA. 7+50 - 30.5' RT
TOC ELEV. 1204.77

⑥ STA. 8+00 - 30.5' RT.
LOW POINT
TOC ELEV. 1204.54

⑦ STA. 8+50 - 30.5' RT
TOC ELEV. 1204.77

⑧ STA. 9+00 - 30.5' RT.
TOC ELEV. 1204.99

⑨ STA. 9+21 - 30.5' RT
MATCH EX.
TOC ELEV. 1205.08

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3-6-2018
SOUTH DAKOTA

LANDSCAPE AREAS

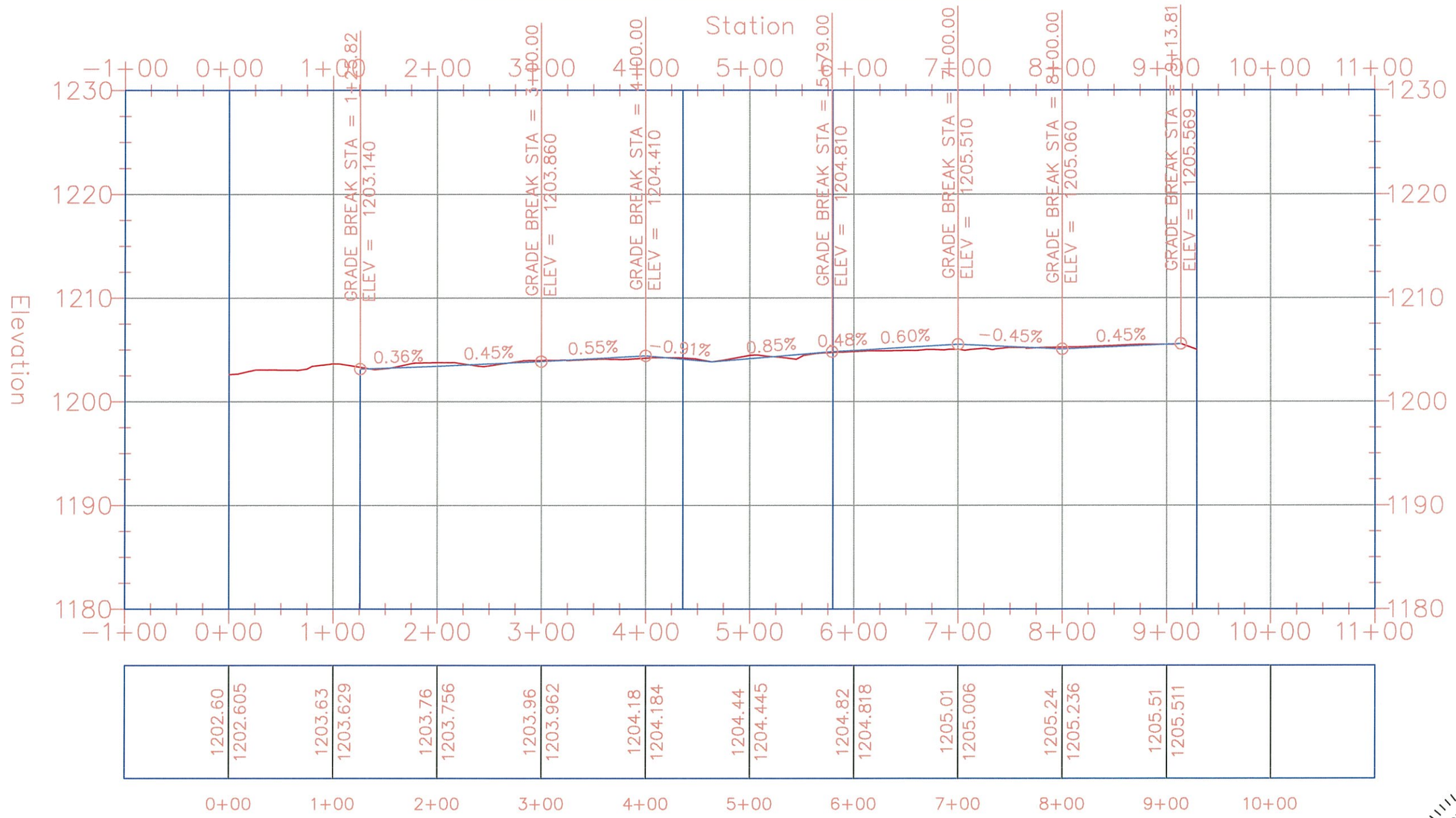
UNDER SIDEWALK PITS

NORTH

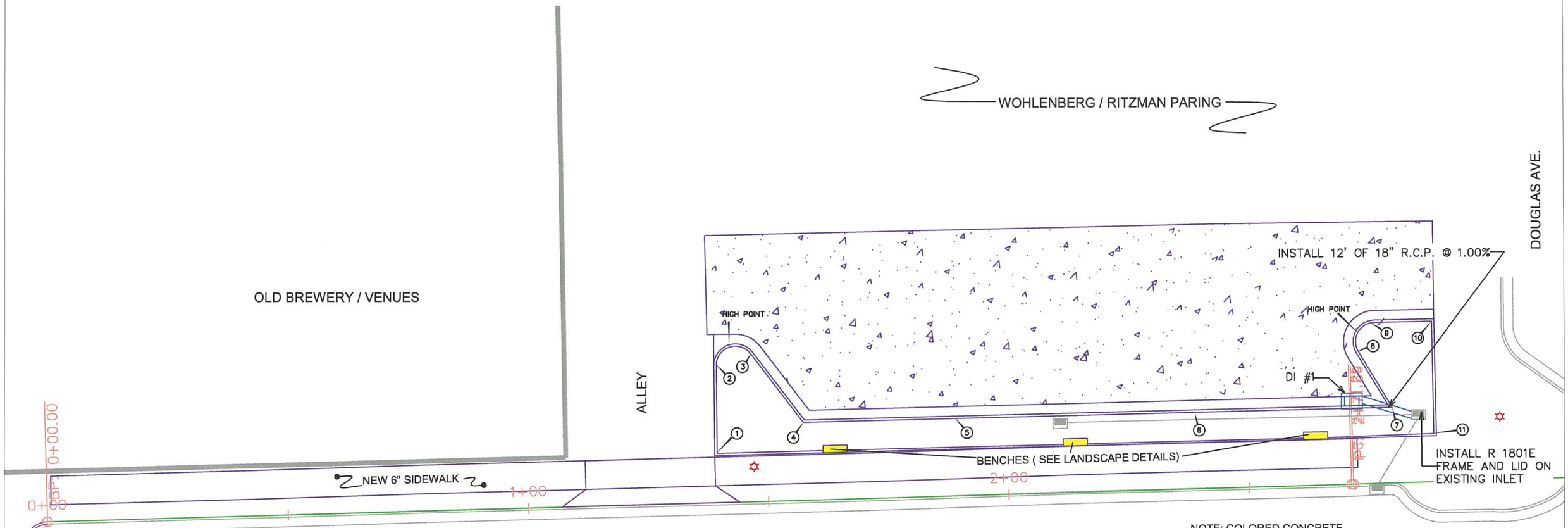
SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	22	46
PROFILE				

CL walnut – (1) PROFILE



REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	23	46
2ND ST PAVING				



NOTE: COLORED CONCRETE TO BE PLACE BETWEEN NEW 6' SIDEWALK AND IN PLACE C & G

① STA. 1+57.6 - 16.3' LT
TOC ELEV. 1199.75

② STA. 1+39.8 - 28.6' LT.
BEGIN 4' RADIUS
TOC ELEV. 1200.29

③ STA. 1+47.1 - 30.9' LT
END 4' RADIUS
TOC ELEV. 1200.29

④ STA. 1+57.6 - 16.3' LT.
TOC ELEV. 1199.30

⑤ STA. 1+89.1 - 16.2' LT
TOC ELEV. 1198.55

⑥ STA. 2+39.1 - 16.0' LT.
TOC ELEV. 1197.06

⑦ STA. 2+80.2 - 15.8' LT
TOC ELEV. 1195.68

⑧ STA. 2+73.4 - 27.6' LT.
BEGIN 4' RADIUS
TOC ELEV. 1195.85

⑨ STA. 2+77.0 - 33.6' LT
TOC ELEV. 1195.85

⑩ STA. 2+88.9 - 33.5' LT.
TOC ELEV. 1195.80

⑪ STA. 2+88.8 - 10.0' LT.
TOC ELEV. 1195.13

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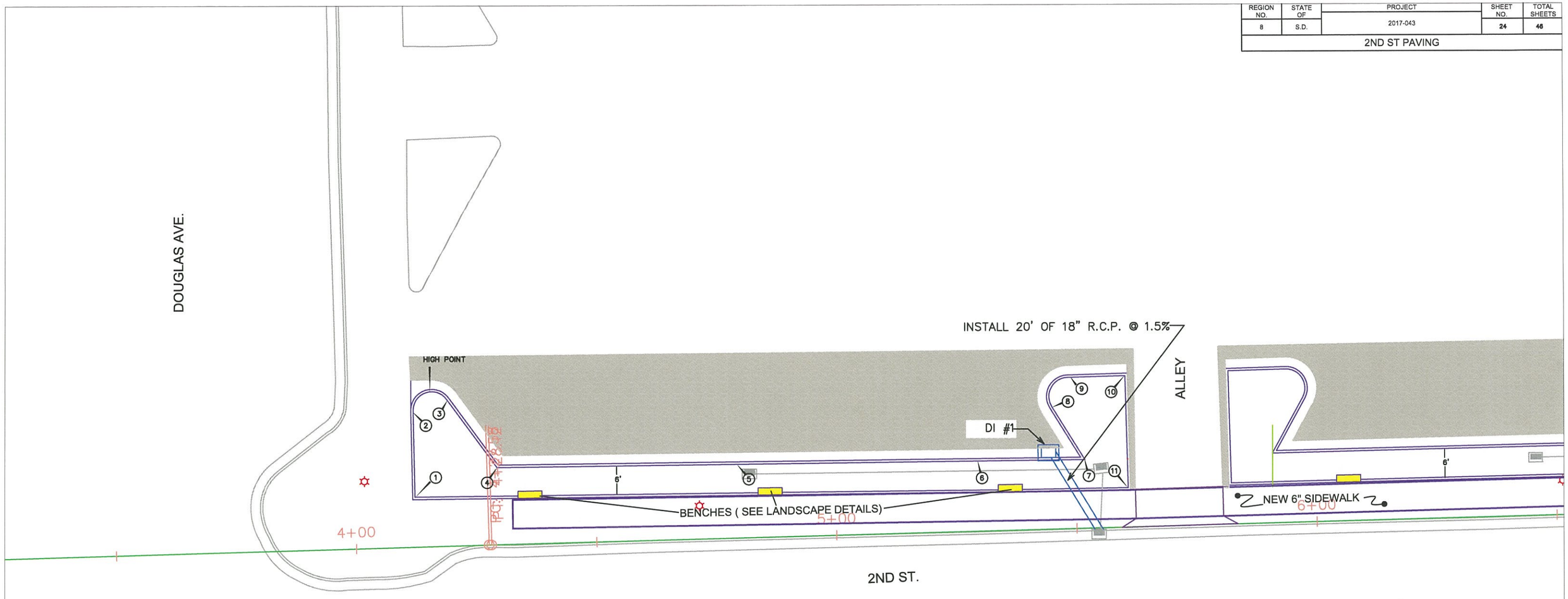
DI #1 STA. 2+71.8 - 17.3' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1195.94
(E) 18" I.E. - 1191.35
MATCH EXISTING FL IN OLD INLET
INSTALL (R-1801E) LID OVER EXISTING BOX

NEW CONCRETE PAVING

NORTH

SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	24	46
2ND ST PAVING				



① STA. 4+12.4 - 10.5' LT
TOC ELEV. 1192.16

② STA. 4+12.5 - 28.8' LT.
BEGIN 4' RADIUS
TOC ELEV. 1193.00

③ STA. 4+19.6 - 30.7' LT
END 4' RADIUS
TOC ELEV. 1193.00

④ STA. 4+29.6 - 16.2' LT.
TOC ELEV. 1192.30

⑤ STA. 4+79.6 - 15.4' LT
TOC ELEV. 1191.41

⑥ STA. 5+29.6 - 14.6' LT.
TOC ELEV. 1190.52

⑦ STA. 5+52.0 - 14.4' LT
TOC ELEV. 1190.15

⑧ STA. 5+45.5 - 25.6' LT.
BEGIN 4' RADIUS
TOC ELEV. 1190.53

⑨ STA. 5+48.9 - 31.7' LT
END 4' RADIUS / HIGH POINT
TOC ELEV. 1190.78

⑩ STA. 5+60.8 - 31.7' LT.
TOC ELEV. 1190.52

⑪ STA. 5+60.8 - 8.2' LT.
TOC ELEV. 1189.87

DI #1 STA. 5+44 - 17.3' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1190.23
(SE) 18" I.E. - 1186.40
MATCH EXISTING FL IN OLD INLET

Registered Professional Engineer
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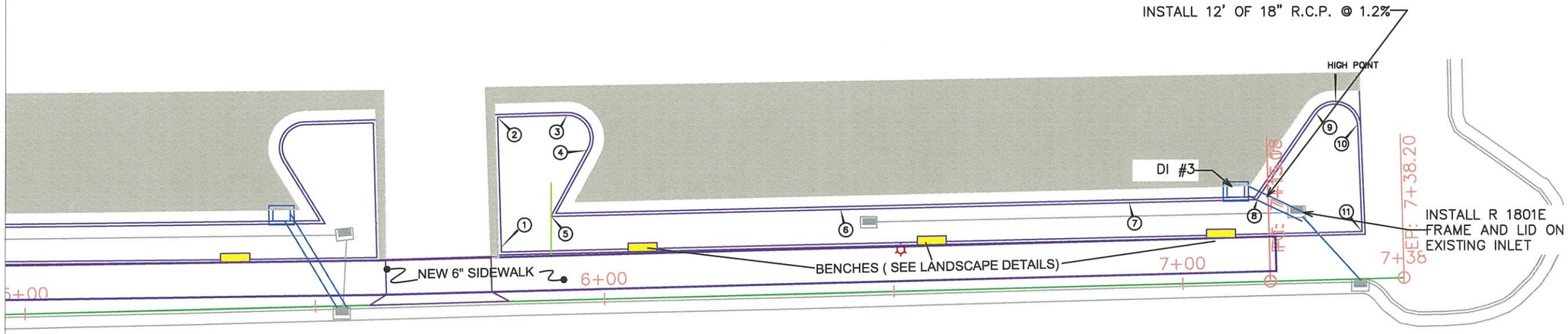
SOUTH DAKOTA

NORTH
SCALE 1" = 20'

ASPHALT PAVING DONE BY OTHERS

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	25	46
2ND ST PAVING				



① STA. 5+82.4 - 8.6' LT
TOC ELEV. 1189.70

② STA. 5+82.3 - 32.1' LT.
HIGH POINT
TOC ELEV. 1190.23

③ STA. 5+94.2 - 32.2' LT
BEGIN 4' RADIUS
TOC ELEV. 1190.13

④ STA. 5+97.7 - 26.1' LT.
END 4' RADIUS
TOC ELEV. 1190.08

⑤ STA. 5+91.1 - 26.1' LT
TOC ELEV. 1189.98

⑥ STA. 6+41.1 - 14.4' LT.
TOC ELEV. 1189.73

⑦ STA. 6+91.2 - 14.3' LT
TOC ELEV. 1189.48

⑧ STA. 7+13.2 - 14.3' LT.
TOC ELEV. 1189.40

⑨ STA. 7+23.7 - 28.8' LT
BEGIN 4' RADIUS
TOC ELEV. 1189.49

⑩ STA. 5+60.8 - 26.6' LT.
TOC ELEV. 1189.49

⑪ STA. 7+31.2 - 8.2' LT.
TOC ELEV. 1189.27

DI #3 STA. 7+09.6 - 15.9' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1189.41
(E) 18" I.E. - 1185.10
MATCH EXISTING FL IN OLD INLET
INSTALL (R-1801E) FRAME AND LID
ON EXISTING INLET

Registered Professional Engineer
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SOUTH DAKOTA

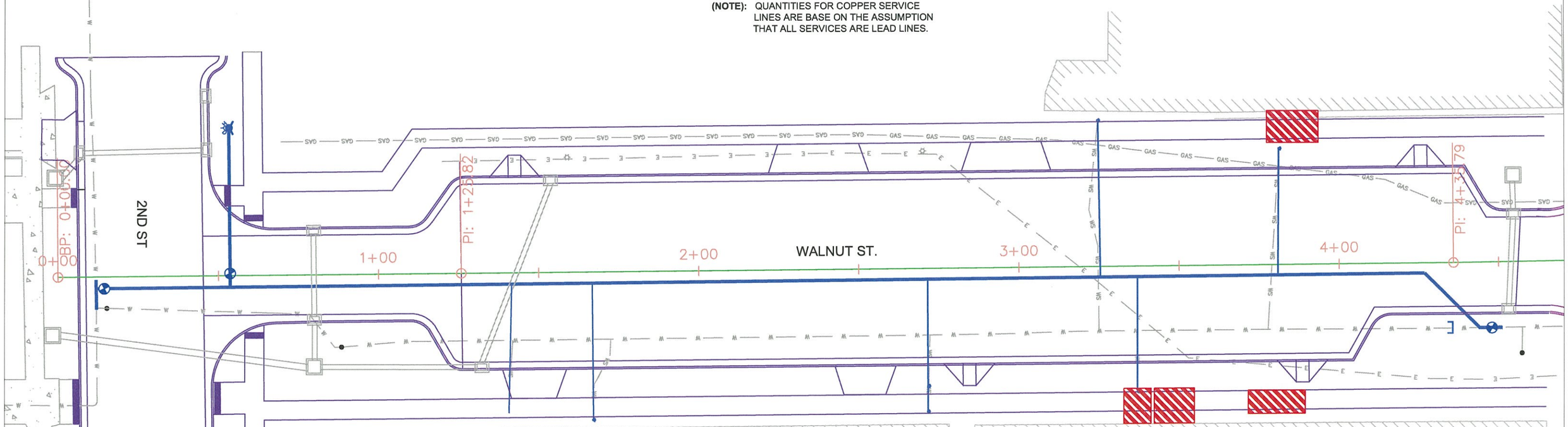
ASPHALT PAVING DONE BY OTHERS

NORTH
SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	26	46
WATERMAIN				

WATER SERVICE RECONNECTIONS
1+41 RT. 40 LF OF 1" COPPER
1+66 RT. 42 LF OF 1" COPPER
2+71 RT. 42 LF OF 1" COPPER
3+25 LT. 48 LF OF 1" COPPER
3+37 RT. 36 LF OF 1" COPPER
3+80 LT. 40 LF OF 1" COPPER

(NOTE): QUANTITIES FOR COPPER SERVICE LINES ARE BASE ON THE ASSUMPTION THAT ALL SERVICES ARE LEAD LINES.



STA. 0+12 -4.0' RT. TO 4+26 - 3.3' RT.
1 EA CUT AND TIE INTO EXISTING WATERMAIN
2 EA 6" MJ GATE VALVE WITH BOX
463 LF 6" PVC WATERMAIN C-900
2 EA 20 " MJ SLEEVE
1 EA 6" MJ TEE
1 EA 6" FIRE HYDRANT
9 EA 6" MEGALUGS
1 EA 6" X 20" MJ TEE
16 LF 20" PVC WATERMAIN C-900
4 EA 20" MEGALUGS
430 LF GRANULAR MATERIAL FOR WATERMAIN
1 EA. TEMPORARY FIRE HYDRANT

UNDER SIDEWALK PITS

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STA. 4+42 TO 4+53 RT. 21'
1 EA CUT AND TIE INTO EXISTING WATERMAIN
1 EA 6" MJ GATE VALVE WITH BOX
1 EAD 6" OVERSIZED SLEEVE
10 LF 6" PVC WATERMAIN C-900
3 EA 6" MEGALUGS
10 LF GRANULAR MATERIAL FOR WATERMAIN

STA. 4+26 - RT. 3.3' TO 4+42 21' RT.
2 EA 6" MJ 45° BENDS
24 LF 6" PVC WATERMAIN C-900
4 EA 6" MEGALUGS
24 LF GRANULAR MATERIAL FOR WATERMAIN

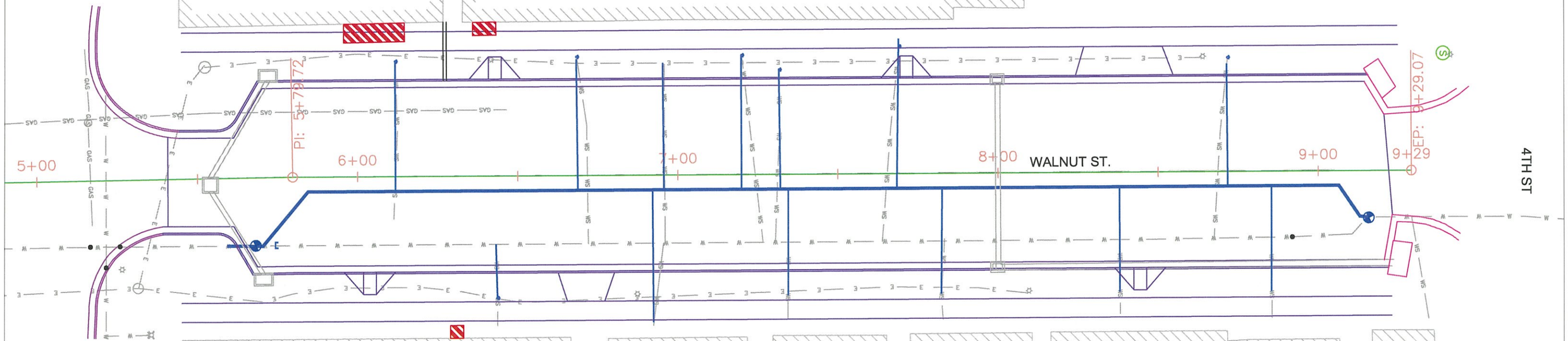
STA. 4+34 - 21' RT.
1 EA 6" MJ CAP

NORTH
SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	27	48
WATERMAIN				

WATER SERVICE RECONNECTIONS
6+11 LT. 40 LF OF 1" COPPER
6+43 RT. 17 LF OF 1" COPPER
6+68 LT. 41 LF OF 1" COPPER
6+92 RT. 41 LF OF 1" COPPER
6+95 LT. 40 LF OF 1" COPPER
7+19 LT. 42 LF OF 1" COPPER
7+32 LT. 37 LF OF 1" COPPER
7+34 RT. 33 LF OF 1" COPPER
7+68 LT. 47 LF OF 1" COPPER
7+82 RT. 33 LF OF 1" COPPER
8+37 RT. 32 LF OF 1" COPPER
8+71 LT. 38LF OF 1" COPPER
8+85 RT. 33LF OF 1" COPPER

(NOTE): QUANTITIES FOR COPPER SERVICE LINES ARE BASE ON THE ASSUMPTION THAT ALL SERVICES ARE LEAD LINES.



STA. 5+58 - 21' RT. TO 5+68 - 21' RT.
1 EA CUT AND TIE INTO EXISTING MAIN
10 LF 6" PVC WATERMAIN C-900
1 EA 6" MJ GATE VALVE WITH BOX
1 EA 6" MJ OVERSIZED SLEEVE
3 EA 6" MEGALUGS
10 LF GRANULAR MATERIAL

STA. 5+68 - 21' RT. TO 5+78 - 4.6' RT.
2 EA 6 X 45° MJ BENDS
22 LF 6" PVC WATERMAIN C-900
4 EA 6" MEGALUGS
22 LF GRANULAR MATERIAL

STA. 5+67 - 21' RT.
1 EA 6" MJ CAP

STA. 5+78 - 4.6' RT. TO 9+06 - 4.6' RT.
328 LF 6" PVC WATERMAIN C-900
328 LF GRANULAR MATERIAL

STA. 9+06 - 4.6' RT TO 9+12 -15' RT.
1 EA CUT AND TIE INTO EXISTING WATERMAIN
12 LF 6" PVC WATERMAIN C-900
2 EA 6" X 45° MJ BENDS
1 EA 6" MJ GATE VALVE WITH BOX
6 EA 6" MEGALUGS
12 LF GRANULAR MATERIAL

UNDER SIDEWALK PITS

Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

NORTH
SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	28	46
STORM SEWER				

NOTE:
TYPE S TO REMAIN IN PLACE
PLUG HOLE IN NORTH SIDE WITH
CONCRETE

55' REMOVAL AND TYPE S

30' REMOVAL AND TYPE S

DI #2 STA. 0+07 – 39.0' LT.
2'X3" TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1204.56
(N) 18" I.E – 1198.46
(SE) 18"I.E. – 1198.36

DI #3 STA. 0+463 – 56.5' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1203.20
(E) 18" I.E. – 1198.95

DI #4 STA. 0+46.4 – 39.5' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1202.59
(W) 18"I.E – 1198.85
(S) 18"I.E. – 1198.75

DI #5 STA. 0+79.8 – 13.9' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1202.93
(E)18"I.E – 1198.60

DI #8 STA. 1+53.9 – 29.0' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1202.90
(SE)18"I.E – 1198.97

DI #3
DI #4
INSTALL 14' OF 18" R.C.P. @ 0.60%
EXISITNG 18" STORM SEWER
DI #2
4" PLANTER DRAIN TILE
(SEE DETAIL)
DI #8
JB# 3
INSTALL 38' OF 18" R.C.P. @ 0.76%
INSTALL 10' OF 18" RCP
SLOPE FIELD DETERMINED
DI #5
1+25.82

JB #3 STA. –2+00 – 31.3' LT.
4X4 JUNCTION BOX
(SEE PLATE #460.05)
RIM ELEV. – 1202.90
FL ELEV. 1198.22
JB MUST BE POURED IN PLACE

JB #1 STA. –2+00 – 18.5' RT.
OLD JB TO BE R&R
4X4 JUNCTION BOX
(SEE PLATE #460.05)
RIM ELEV. – 1202.75
(S) 24" I.E – 1197.75
(W) 24" I.E. – 1197.85
(N) 24" I.E. – 11197.85
JB MUST BE POURED IN PLACE

0+00 CBP 0+00.00

INSTALL 55' OF 24" R.C.P. @ 0.75%
INSTALL 26' OF 18" R.C.P. @ 0.60%
1+00
2+00
WALNUT ST.
DI #6
INSTALL 12' OF 18" R.C.P. @ 0.60%
INSTALL 62' OF 18" RCP @ 60%
JB #1
INSTALL 78' OF 24" RCP @ 60%
JB #2
DI #7
EXISITNG 24" STORM SEWER
2ND ST.
INSTALL 49' OF 18" R.C.P. @ 0.60%
4" PLANTER DRAIN TILE
(SEE DETAIL)
65' REMOVAL AND TYPE B1

DI #6 STA. 0+79.8 – 13.9' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1202.57
(W) 18"I.E – 1198.42
(E) 18"I.E – 1198.32

DI #7 STA. 1+32.0 – 29.6' RT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. – 1202.92
(S)18"I.E – 1198.51
(NW)18"I.E – 1198.61

JB #2 STA. 0+79.7 – 28.9' RT.
4X4 JUNCTION BOX
(SEE PLATE #460.05)
RIM ELEV. – 1202.70
(S) 24" I.E – 1198.32
(W) 18" I.E. – 1198.22
(N) 18" I.E. – 111978.22

NORTH
SCALE 1" = 20'

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

STORM SEWER REMOVALS

–2+00	18.5' RT. JUNCTION MANHOLE
0+52.8	59.2' RT. TYPE B1 INLET AND 65' OF PIPE
0+54	61.3' LT. TYPE S INLET AND 55' OF PIPE
0+78	36.2' LT. TYPE S INLET AND 30' OF PIPE

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	29	45

STORM SEWER

DI #9 STA. 7+99.9 – 29.2' LT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07
TOC ELEV. 1204.50
(E) 18" I.E. – 1200.27

4" PLANTER DRAIN TILE
(SEE DETAIL)

DI #9

INSTALL 57' OF 18" RCP @ 63%

WALNUT ST.

7+00

8+00

9+00

9+29

SEP: 9+29.07

4TH ST.

DI #10

INSTALL 123' OF 18" RCP @.80%

4" PLANTER DRAIN TILE
(SEE DETAIL)

DI #10 STA. 7+99.6 – 29.4' RT.
2' X 3' TYPE B DROP INLET
(SEE PLATE #460.07
TOC ELEV. 1204.54
(W) 18" I.E. – 1199.91
(N) 18" I.E. – 1199.81

STA 9+21.7 – 29.0' RT
CORE INTO EXISTING DROP INLET
ELEV. 1198.83

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

NORTH

SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	30	48
STORM SEWER				

DI #12 STA. 4+54.7 – 17.7' LT.
2'X3' TYPE B DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1203.98
(E) 18" I.E. – 1199.68
(W) 18" I.E. – 1198.68

JB #4 STA. 4+55 – 27.0" LT.
4X4 JUNCTION BOX
(SEE PLATE #460.05)
RIM ELEV. – 1204.03
(E) 18" I.E. – 1198.48
(NE) EXISTING 18" I.E. –1196.80

4" PLANTER DRAIN TILE
(SEE DETAIL)

REMOVE EXISTING INLET

JB #4

INSTALL 9' OF 18" R.C.P. @ 3.3%

PI: 4+35.79

DI #12

WALNUT ST.

4+00

5+00

3RD ST.

INSTALL 28' OF 18" R.C.P. @ 1.0%

DI #11

4" PLANTER DRAIN TILE
(SEE DETAIL)

REMOVE EXISTING INLET
AND 53' OF PIPE

DI #11 STA. 4+52.8 – 17.8' RT.
2'X3' TYPE B DROP INLET
(SEE PLATE #460.07
TOC ELEV. 1204.01
(W) 18" I.E. – 1200.01

UNDER SIDEWALK PITS

DI #13 STA. 5+72.4 – 31.9' LT.
3X5 TYPE S DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1204.37
(SE) 18" I.E. – 1200.00

4" PLANTER DRAIN TILE
(SEE DETAIL)

REMOVE EXISTING INLET
AND 27' OF PIPE

DI #13

PI: 5+79.72

6+00

INSTALL 36' OF 18" R.C.P. @ 1.1%

JB #5

JB #5 STA. 5+53.9 – 2.1" RT.
4X4 JUNCTION BOX
(SEE PLATE #460.05)
RIM ELEV. – 1204.50
(W) 18" I.E – 1199.70
(E) 18" I.E. – 1199.70
(S) EXISTING 18" I.E. –1195.80

REMOVE EXISTING JB

INSTALL 31' OF 18" R.C.P. @ 1.5%

DI #14

REMOVE EXISTING INLET
AND 26' OF PIPE

4" PLANTER DRAIN TILE
(SEE DETAIL)

DI #14 STA. 5+70 – 31.8' RT.
3X5 TYPE S DROP INLET
(SEE PLATE #460.07)
TOC ELEV. 1204.07
(SW) 18" I.E. – 1200.07

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
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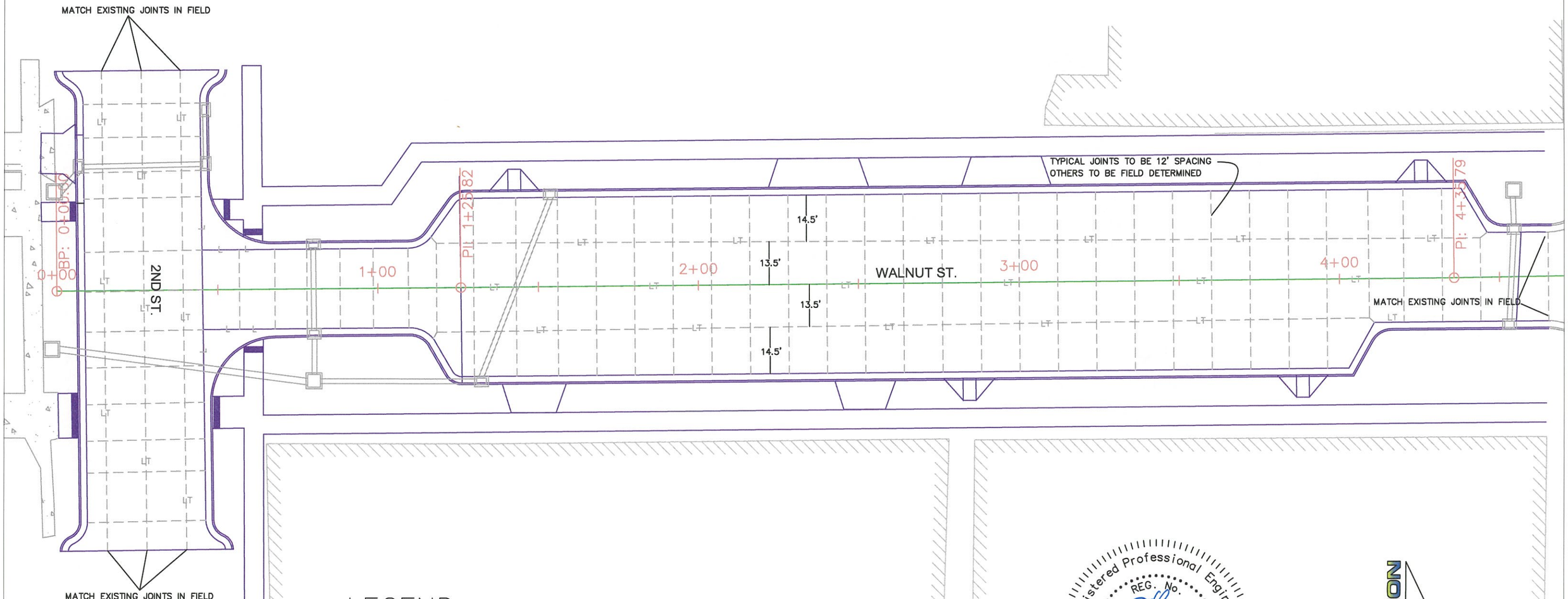
SOUTH DAKOTA

NORTH

SCALE 1" = 20'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	31	46

JOINT LAYOUT



LEGEND

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS ——L——L——

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS ——LT——LT——

TRANSVERSE CONTRACTION JOINT WITHOUT TIE BARS — — — — — —

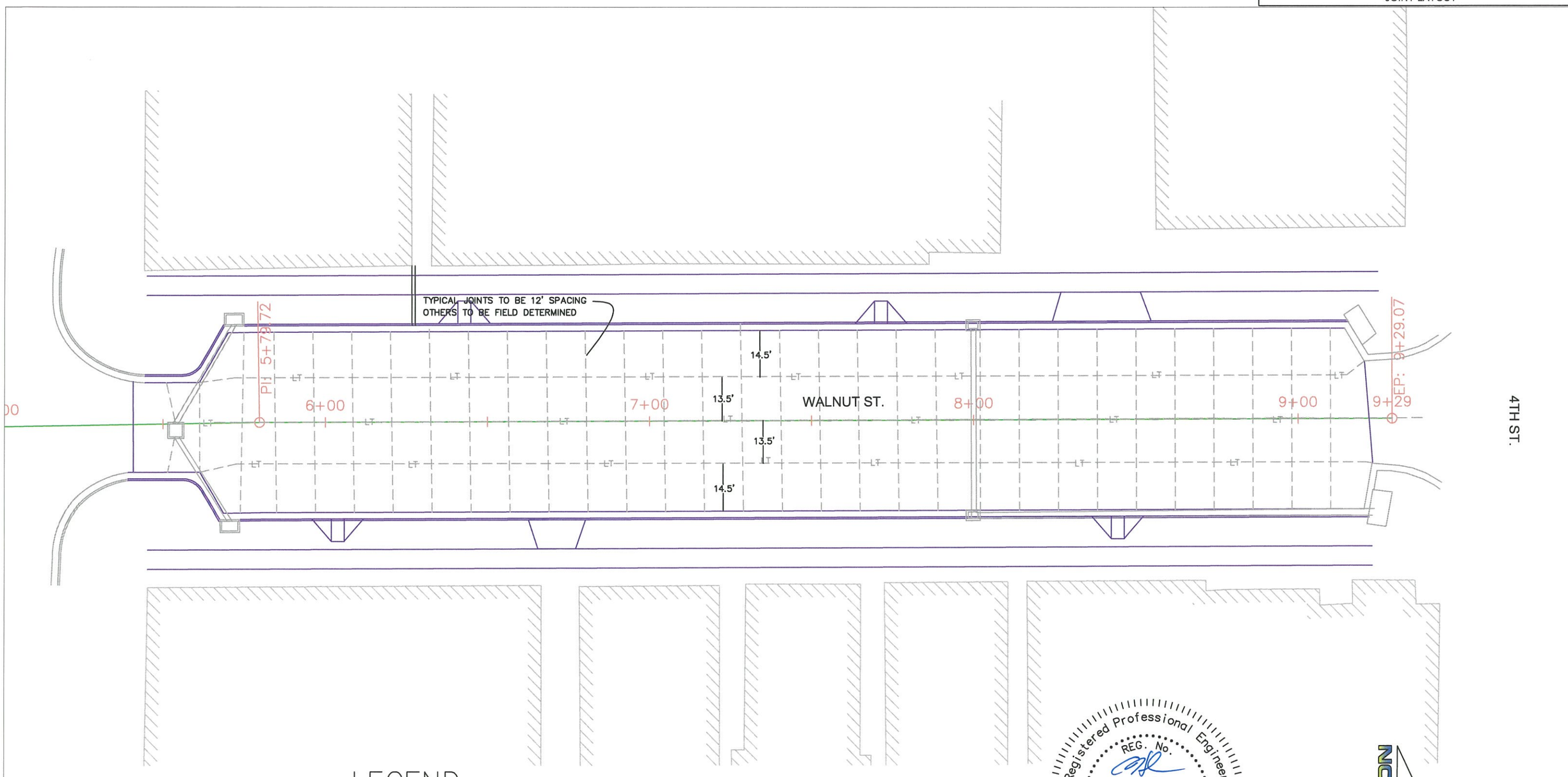
Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

NORTH

SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	32	46

JOINT LAYOUT



LEGEND

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS ——L——L——

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS ——LT——LT——

TRANSVERSE CONTRACTION JOINT WITHOUT TIE BARS — — — — —

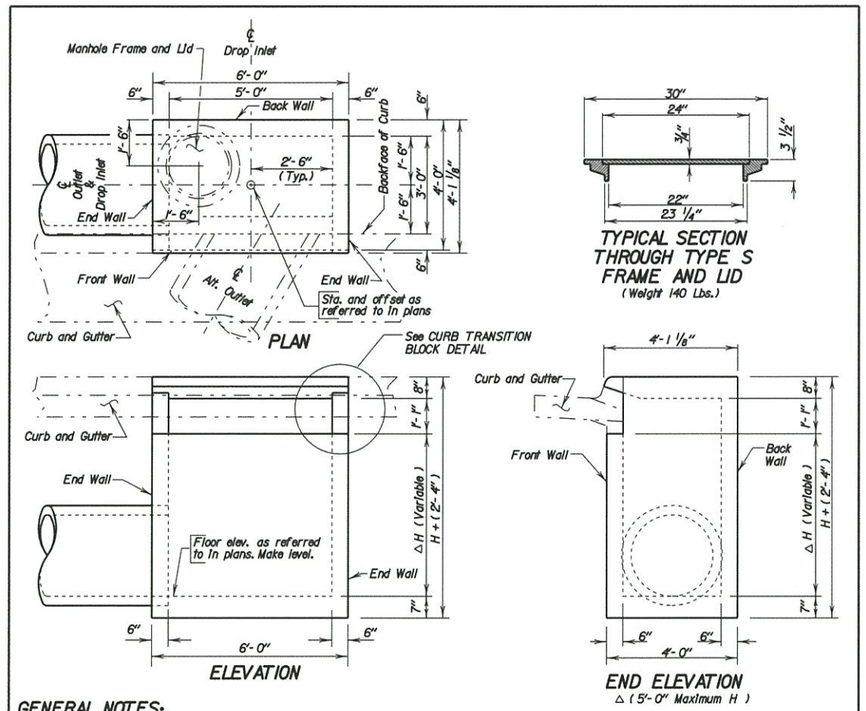
Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

NORTH

SCALE 1" = 30'

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	33	48

DETAILS



TYPICAL SECTION THROUGH TYPE S FRAME AND LID
(Weight 140 Lbs.)

GENERAL NOTES:

The inlets shall be constructed in conformance with Section 670, Drop Inlets.

Design Loading: HS 20 – 44 and Alternate Loading.

Unit Stresses: Concrete fc = 1600 p.s.i.
Reinforcing Steel fs = 24000 p.s.i.

All reinforcing steel shall be Grade 60.

Structural steel shall conform to ASTM A36.

The 3/8" dia. Headed Type A Steel Studs shall conform to Section 7 of the current edition of the AWS D1.1 Structural Steel Welding Code.

After welding is complete, galvanize the angle and steel studs in accordance with AASHTO M111 (ASTM A123).

Use 1" clear cover on all reinforcing steel except as shown.

Cut and bend reinforcing steel in field as necessary to fit pipe and manhole openings; such openings are not shown in these details. The number, size, and location of pipe entering the drop inlet are shown elswhere in the plans.

All costs for the angle, headed studs, welding, and galvanizing shall be incidental to the contract unit price per cubic yard for "Class M6 Concrete".

Cast Iron frame and lid shall conform to AASHTO M105, Class 30.

The dimension of H is in feet.

SPECIFICATION NOTES:

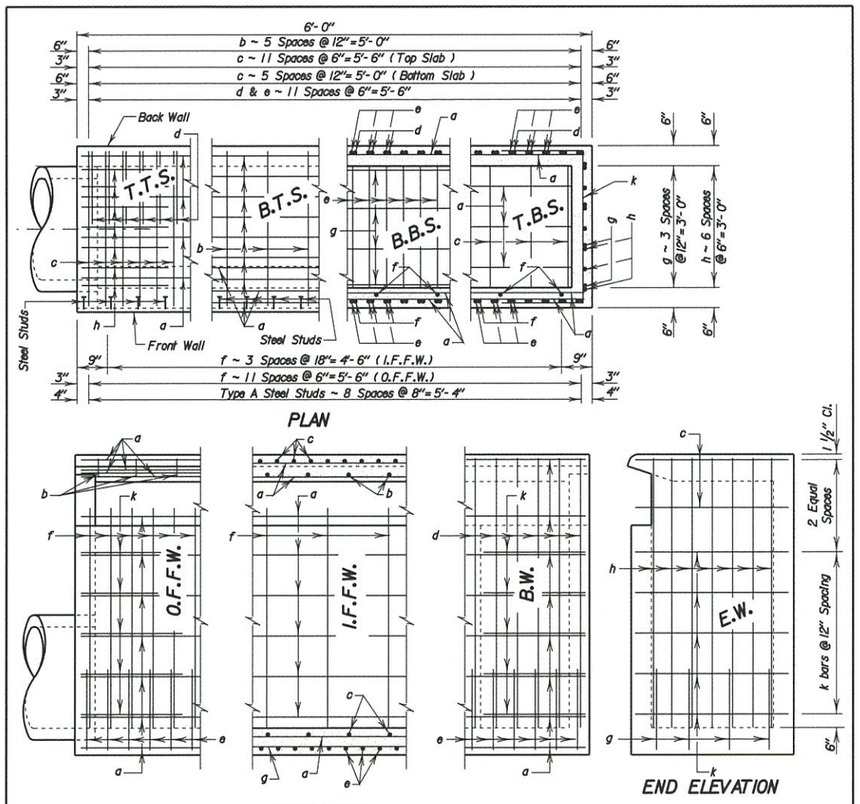
Design Specifications: A.A.S.H.T.O. Standard Specifications for Highway Bridges, 1996 Edition. (Service Load)

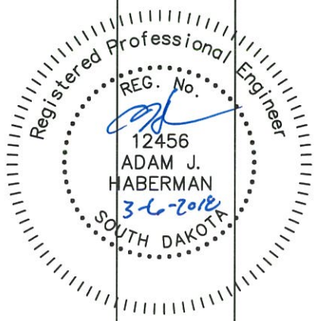
Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition.

DROP INLETS FOR 18" TO 30" DIAMETER PIPE

September 14, 2005

Published Date: 4th Qtr. 2009	SDDOT	3'X 5' TYPE S REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.30
			Sheet 1 of 3





LEGEND FOR PLACING RE-STEEL

T.T.S. - Top of Top Slab	
B.T.S. - Bottom of Top Slab	
T.B.S. - Top of Bottom Slab	
B.B.S. - Bottom of Bottom Slab	
O.F.F.W. - Outside Face of Front Wall	
I.F.F.W. - Inside Face of Front Wall	
B.W. - Back Wall	
E.W. - End Wall	

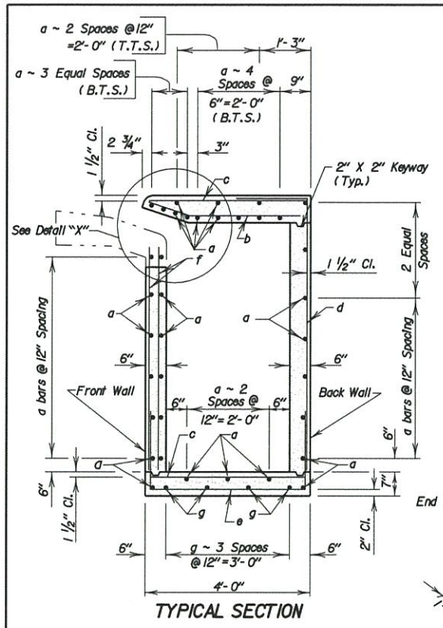
PIPE DISPLACEMENT REDUCTIONS

For pipes perpendicular to wall.

Pipe Size Inches		T Inches	Class M6 Concrete Cu'd
R.C. Pipe	18	2 1/2	0.05
	21	2 3/4	0.07
	24	3	0.09
	27	3 1/4	0.11
	30	3 1/2	0.14
R.C. Arch Pipe	24	3 1/2	0.09
Manhole			0.12

September 14, 2005

Published Date: 4th Qtr. 2009	SDDOT	3'X 5' TYPE S REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.30
			Sheet 2 of 3

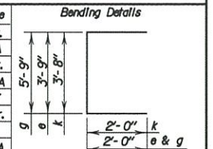


TYPICAL SECTION

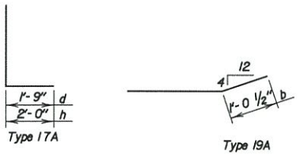
REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type
a	21+3H	4	5'-6"	Str.
b	6	4	3'-9"	19A
c	20	4	3'-9"	Str.
d	12	4	H + 3'-3"	17A
e	12	4	7'-9"	17
f	16	4	H + 6"	Str.
g	4	4	9'-9"	17
h	14	4	H + 3'-6"	17A
k	2H	4	7'-9"	17

Bending Details



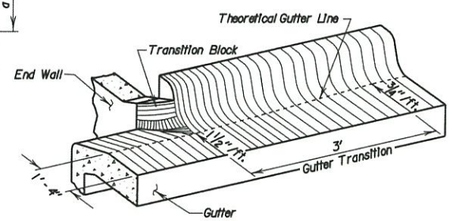
Type 17



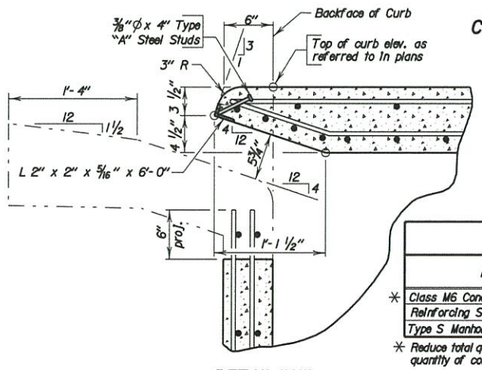
Type 17A

Type 19A

NOTE:
All dimensions are out to out of bars.



GUTTER TRANSITION AND CURB TRANSITION BLOCK DETAIL
(Top Slab not shown)



DETAIL "X"

ESTIMATED QUANTITIES

ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
* Class M6 Concrete	Cu'd	1.36	0.33H
Reinforcing Steel	Lb	295	49.32H
Type S Manhole Frame and Lid	Each	1	———

* Reduce total quantities of concrete by the volume displaced by the pipe. Total quantity of concrete shall be computed to the nearest hundredth of a cubic yard.

September 14, 2005

Published Date: 4th Qtr. 2009

SDDOT

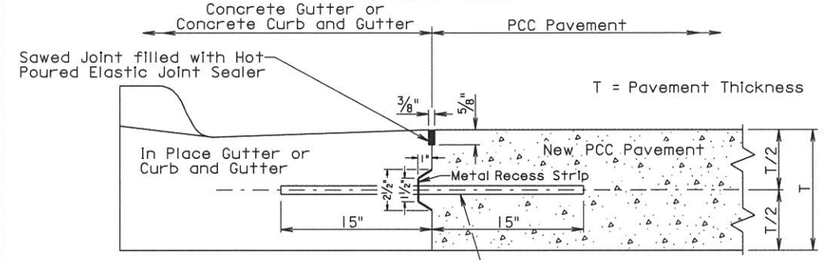
3'X 5' TYPE S
REINFORCED CONCRETE DROP INLET

PLATE NUMBER 670.30

Sheet 3 of 3

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS
(INDIVIDUALLY FORMED)



GENERAL NOTES:

No.5 epoxy coated deformed tie bars shall be spaced 48" center to center. The keyway shown above is a female keyway.

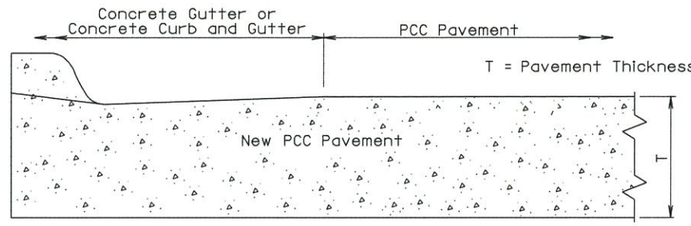
The tie bars shall be placed a minimum of 15 inches from existing transverse contraction joints.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

The transverse contraction joints in the concrete gutter or concrete curb and gutter shall be placed at each mainline PCC pavement transverse contraction joint. The transverse contraction joints in the concrete gutter or the concrete curb and gutter shall be 1½" deep if formed in fresh concrete using a suitable grooving tool. If a saw is used to cut the transverse contraction joints, then the depth of the joint shall be at least ¼ the thickness of the concrete gutter or concrete curb and gutter.

The term "In Place Gutter or Curb and Gutter" in the above drawing indicates that the in place concrete gutter and concrete curb and gutter was placed on the current project.

POURED MONOLITHICALLY



GENERAL NOTES:

The mainline curb and gutter may be placed monolithically with the PCC pavement. If this method of construction is used, the tie bars and the sawed joint between the curb and gutter and the PCC pavement shall be eliminated.

The gutter or curb and gutter shall be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter shall be sawed and sealed same as the transverse contraction joints in the PCC pavement.

The slope of the gutter shall be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter shall be constructed at the same slope as the mainline concrete pavement.

September 14, 2005

Published Date: 4th Qtr. 2007

SDDOT

PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER

PLATE NUMBER 380.11

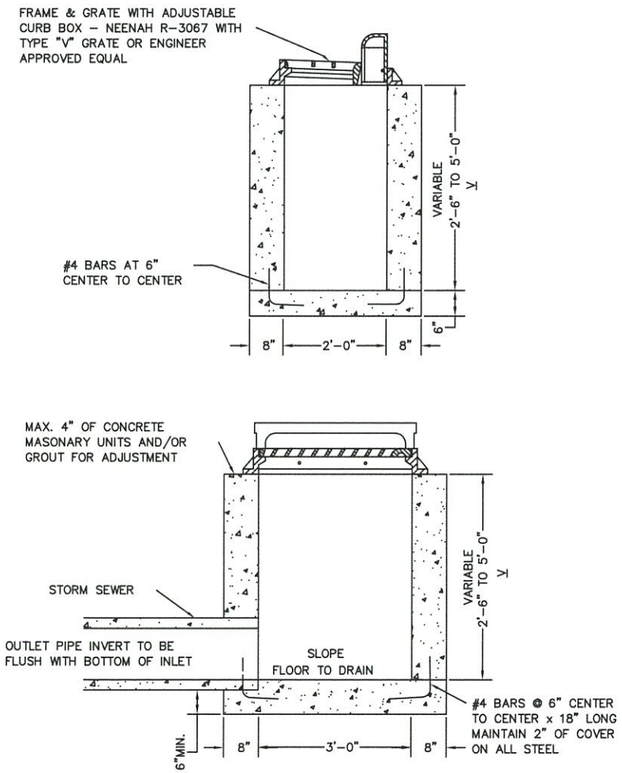
Sheet 1 of 1

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	35	46

DETAILS

ESTIMATED QUANTITIES			
ITEM	UNIT	CONSTANT	VARIABLE
* CLASS M6 CONCRETE	CUYDS	0.27	0.32V
REINFORCEMENT–CONC. MASONRY	LBS	28	---

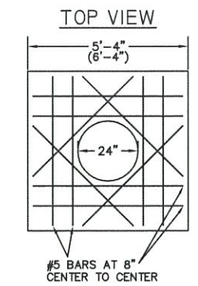
* CONSTANT SHALL BE REDUCED FOR THE APPROPRIATE PIPE OR COMBINATION OF PIPES, THUS; 12" DIA.=–0.03 C.Y., 15" DIA=–0.04 C.Y., 18" DIA.=–0.05 C.Y., 24" DIA.=–0.09 C.Y.



REVISED: DECEMBER 1995

SPECIFICATION REFERENCE NO. 460	CITY OF SIOUX FALLS ENGINEERING DIVISION STANDARD STORM SEWER INLET TYPE BI	PLATE NUMBER 460.07

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA



GENERAL NOTES

USE SOUTH DAKOTA STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, LATEST EDITION ,AND REQUIRED PROVISIONS, SUPPLEMENTAL SPECIFICATIONS AND/OR SPECIAL PROVISIONS AS INCLUDED IN THE PROPOSAL.

ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. A615, GRADE 60.

ALL REINFORCING STEEL SHALL BE CUT AND/OR BENT IN THE FIELD TO

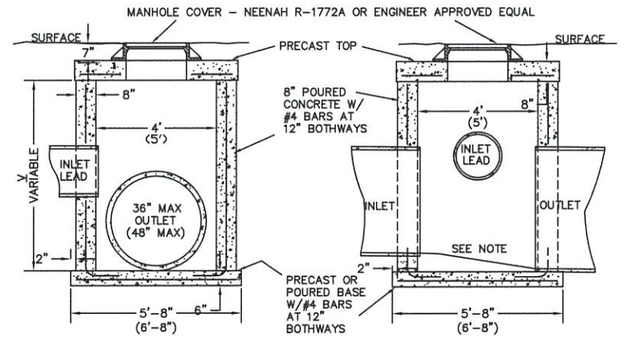
MAINTAIN A MINIMUM OF 2" COVER ON ALL REINFORCING STEEL.

NO VERTICAL CONSTRUCTION JOINTS ARE ALLOWED.

ALL CONC. SHALL BE CLASSED M–6.

UNIT STRESSES: CONCRETE Fc = 1600 P.S.I.
REINFORCING STEEL Fc = 20,000 P.S.I.

TOP OF MANHOLE COVER TO BE SET FLUSH WITH FINISHED SURFACE ELEVATION.



SIDE VIEWS

ESTIMATED QUANTITIES					
ITEM	UNIT	4' X 4' JCT. BOX		5' X 5' JCT. BOX	
		CONSTANT	VARIABLE	CONSTANT	VARIABLE
* CLASS M6 CONCRETE	CUYDS	1.29	0.46V	1.93	0.56V
REINFORCEMENT–CONC. MASONRY	LBS	103	23V	131	35V
MANHOLE RIM & COVER–AS SPECIFIED	EACH	1	----	1	----

* CONSTANT SHALL BE REDUCED FOR THE APPROPRIATE PIPE OR COMBINATION OF PIPES, THUS; 12" DIA.=–0.03 C.Y., 15" DIA=–0.04 C.Y., 18" DIA.=–0.05 C.Y., 21" DIA.=–0.07 C.Y., 24" DIA.=–0.09 C.Y., 27" DIA.=–0.11 C.Y., 30" DIA=–0.14 C.Y., 33" DIA.=–0.17 C.Y., 36" DIA.=–0.20 C.Y., 42" DIA.=–0.26 C.Y., 48" DIA.=–0.34 C.Y.

NOTES:

COVER REINFORCEMENT REQUIRES 12–#5 BARS 5'(6") LONG TO BE PLACED AS SHOWN. 2" FROM CIRCULAR OPENING AND 8" CENTER TO CENTER AT A DEPTH OF 6" W/MIN. COVER THICKNESS OF 8".

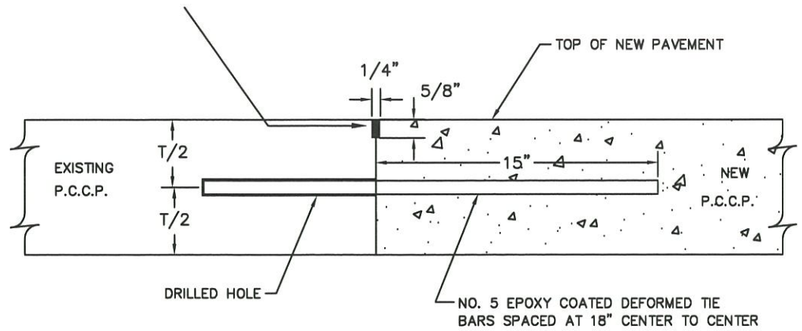
FLOOR OF JCT. BOX TO BE FINISHED IN SUCH A MANNER TO INSURE UNINTERRUPTED FLOW THRU THE BOX.

WHEN PIPE SIZES DIFFER THRU JCT. BOX, TOP OF PIPE TO MATCH WHEN POSSIBLE.

( ) INDICATES SPECIFICATIONS FOR A 5' X 5' JCT. BOX. MAXIMUM PIPE SIZE ALLOWED FOR 4' X 4' JCT. BOX IS 36" R.C.P. A 5' X 5' JCT. IS 48" R.C.P.
VARIABLE DEPTH UP TO 8'

REVISED: DECEMBER 1995

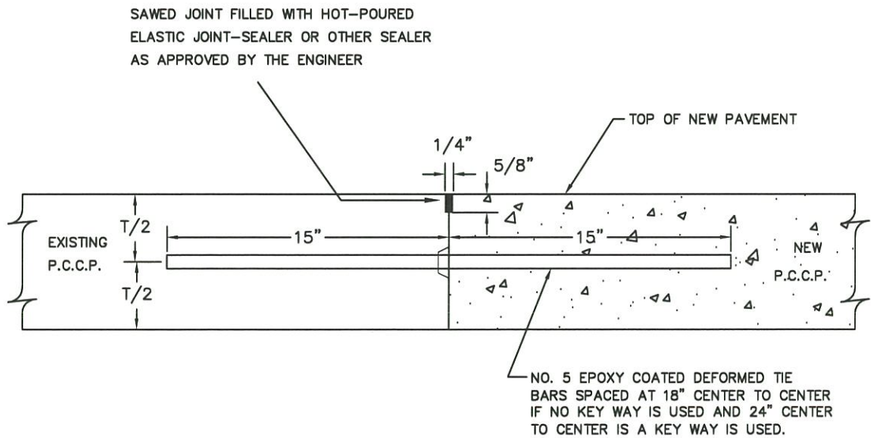
SPECIFICATION REFERENCE NO. 460	CITY OF SIOUX FALLS ENGINEERING DIVISION STANDARD STORM SEWER JUNCTION BOX TYPE I	PLATE NUMBER 460.05



T = PAVEMENT THICKNESS

GENERAL NOTES

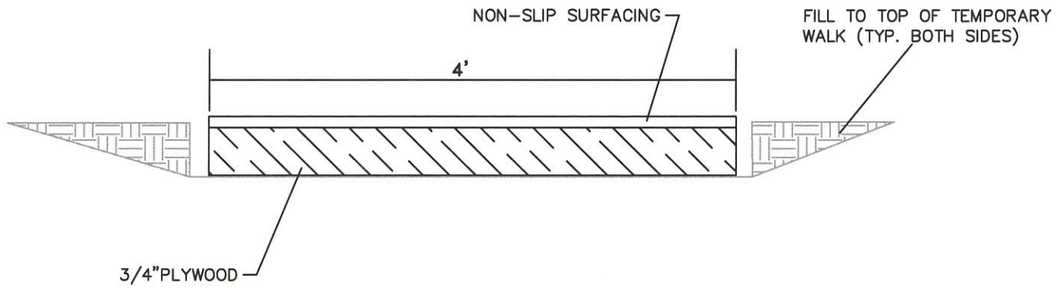
THE TIE BAR IS TO BE EMBEDDED A MINIMUM DEPTH OF 9 INCHES INTO THE EXISTING PAVEMENT BY UTILIZING AN EPOXY RESIN ADHESIVE.



T = PAVEMENT THICKNESS

PCC PAVEMENT TRANSVERSE JOINTS WITH TIE BARS

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA



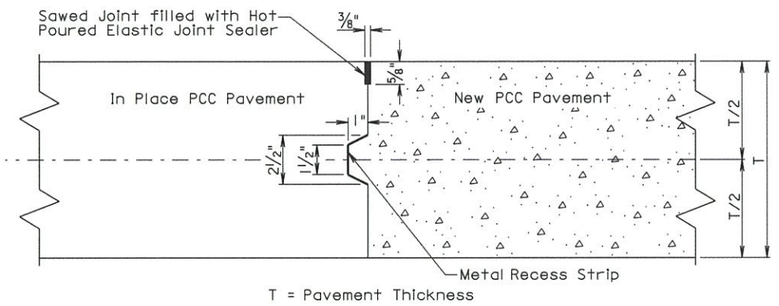
GENERAL NOTES

1. ALL CONNECTIONS TO 3/4" PLYWOOD TO BE MADE WITH SCREWS NO NAILS.
2. ALL SEAMS OF PLYWOOD MUST BE SECURED.
3. CONTRACTOR MAY PROVIDE ALTERNATE DESIGNS FOR APPROVAL BY THE ENGINEER.

TEMPORARY BOARDWALK

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



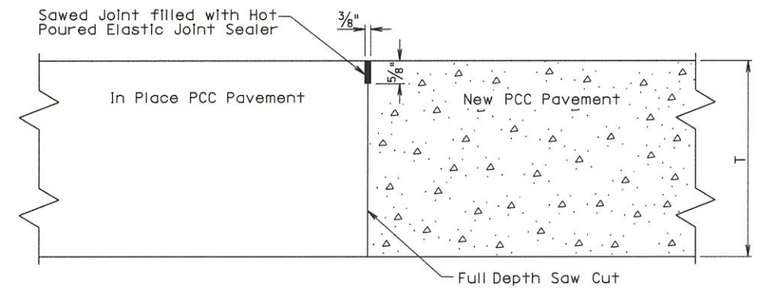
T = Pavement Thickness

GENERAL NOTES:

When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS



T = Pavement Thickness

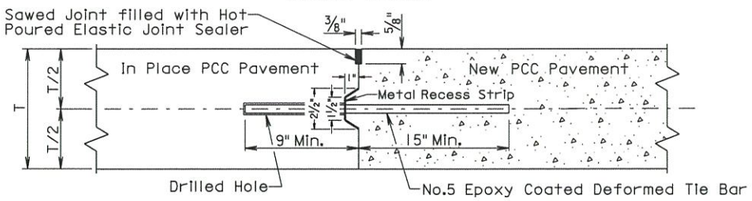
GENERAL NOTE:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

September 14, 2001

Published Date: 4th Qtr. 2007	SDDOT	*PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS*	*PLATE NUMBER 380.12*

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS
(DRILLED IN BARS)



T = Pavement Thickness

GENERAL NOTES:

The tie bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

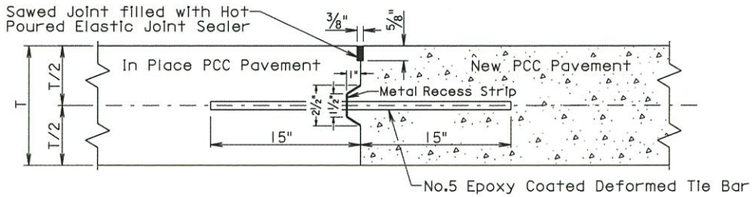
No.5 epoxy coated deformed tie bars shall be spaced 48" center to center for a female keyway or 30" center to center for a vertical face and male keyway. The keyway shown above is a female keyway.

The tie bars shall be placed a minimum of 15 inches from existing transverse contraction joints.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project or current project.

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS
(INSERTED OR FORMED IN BARS)



T = Pavement Thickness

GENERAL NOTES:

No.5 epoxy coated deformed tie bars shall be spaced 48" center to center for a female keyway or 30" center to center for a vertical face and male keyway. The keyway shown above is a female keyway.

The tie bars shall be placed a minimum of 15 inches from existing transverse contraction joints.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

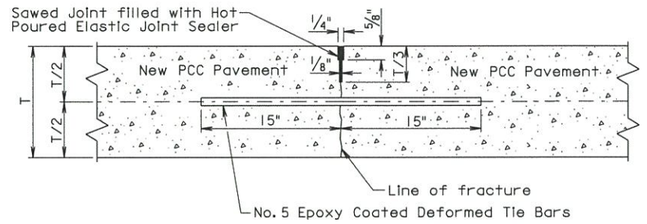
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

September 14, 2001

Published Date: 4th Qtr. 2007	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10
			Sheet 1 of 2

Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

SAWED LONGITUDINAL JOINT WITH TIE BARS
(POURED MONOLITHICALLY)



T = Pavement Thickness

GENERAL NOTES:

No. 5 epoxy coated deformed tie bars shall be spaced 48 inches center to center.

The tie bars shall be placed a minimum of 15 inches from the existing transverse contraction joints.

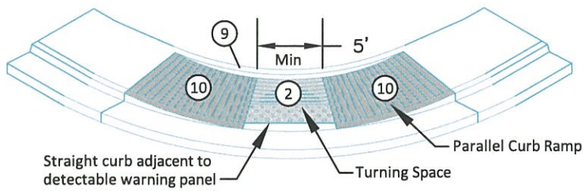
The first saw cut to control cracking shall be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer will be necessary.

September 14, 2001

Published Date: 4th Qtr. 2007	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10
			Sheet 2 of 2

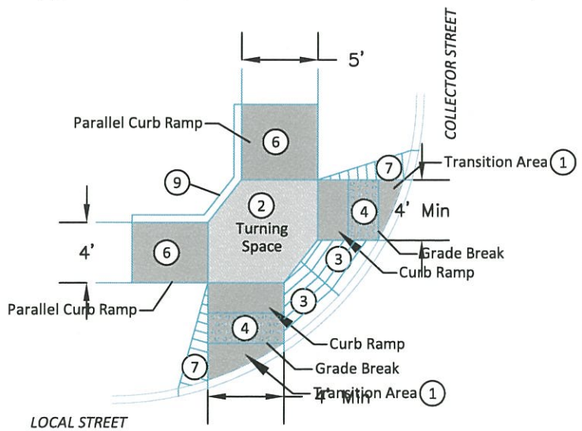
REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	39	46
DETAILS				

PARALLEL CURB RAMP EXAMPLE

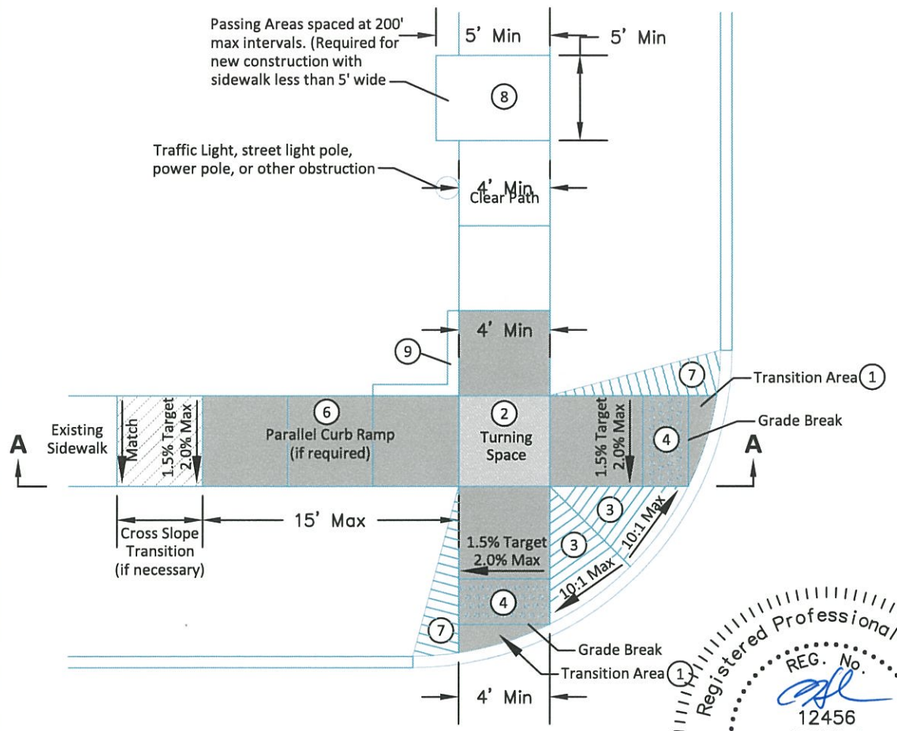


DIRECTIONAL SIDEWALK RAMP EXAMPLE

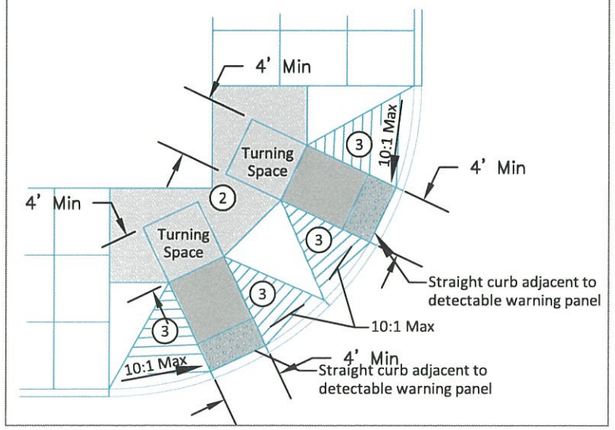
(Typical of a local/collector intersection with a 20' radius)



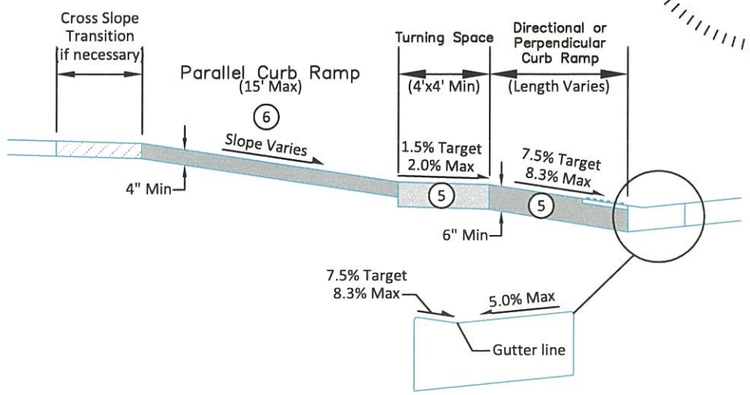
DIRECTIONAL SIDEWALK RAMP EXAMPLE



PERPENDICULAR CURB RAMP EXAMPLE



SECTION A-A



NOTES:

1. Transition from the the 2% maximum cross slope on the ramp and the pedestrian street crossing grade in this area. The maximum cross slope on the pedestrian street crossing (including the fillet or curb and gutter) is 2% on stop or yield controlled legs and 5% on uncontrolled or signalized legs.
2. Minimum 4 feet by 4 feet. Target cross slope of 1.5% with a maximum cross slope of 2.0% in any direction. Where the turning space is confined at the back of sidewalk (example: 6" curb or building), the turning space shall be 4 foot by 5 foot minimum. The 5 foot dimension shall be in the direction of the ramp run. The grade change between the turning space and the curb ramp must be perpendicular to the direction of travel.
3. Areas where the pedestrian circulation path crosses a curb ramp are considered flare sides. The maximum slope of the flare sides is 10%. Full curb height may not be able to be reestablished on flare slopes but as much curb height as possible should be reestablished.
4. Provide a minimum 2 foot width of detectable warning surfaces in the direction of pedestrian travel across the full width of the curb ramp or turning space, exclusive of curbs or flares. Orient domes in the direction of pedestrian travel unless otherwise stated in plans.
5. The concrete in the turning space, curb ramp, and flare slope areas shall be a minimum thickness of 6 inches.
6. If normal sidewalk elevation cannot be achieved with the perpendicular ramp between the street and turning space due to limited ramp length, provide a parallel ramp to make up the elevation difference between the turning space and the standard sidewalk. This parallel ramp shall not exceed 8.3% slope. However, the length of the ramp is not required to exceed 15 feet, regardless of slope. The minimum sidewalk thickness for the parallel ramp in this area is 4 inches.
7. Install a 2 foot taper when additional sidewalk will not be located adjacent to the curb ramp.
8. To accommodate the passing area requirement, sidewalks must be a minimum of 5 foot wide through the driveway approach. See plate 651.01 for additional information.
9. Depending on the conditions, a curb up to 6 inches high may need to be installed on the back of the turning space or adjoining sidewalk.
10. The slope of curb ramp and adjacent curb is designed at 7.5% or less but shall not be steeper than 8.3% unless otherwise specified in the plans. The curb ramp is not required to exceed 15 feet, regardless of slope. The cross slope target is 1.5% with a maximum cross slope of 2.0%.

Registered Professional Engineer
REG. No.
12456
ADAM J. HABERMAN
3-6-2018
SOUTH DAKOTA

GENERAL NOTES:

The turning space, curb ramp, and detectable warning panel area will be paid for at the contact unit price for the corresponding concrete sidewalk bid item.

The detectable warning panel shall be measured and paid for to the nearest square foot. Payment shall include all costs for materials, labor, and equipment necessary for the installation of the detectable warning panels.

Revised: December 2016

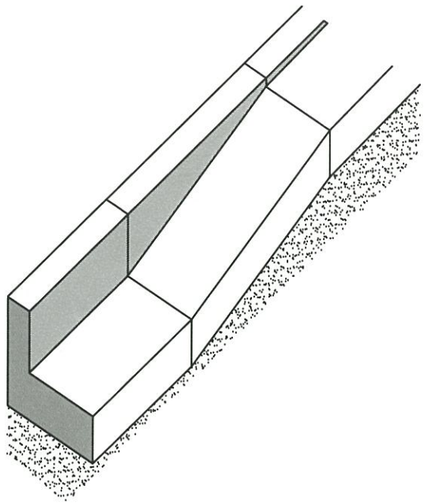
CITY OF SIOUX FALLS
ENGINEERING DIVISION

ACCESSIBLE CURB RAMPS

SPECIFICATION REFERENCE	PLATE NUMBER
NO. 650	651.02

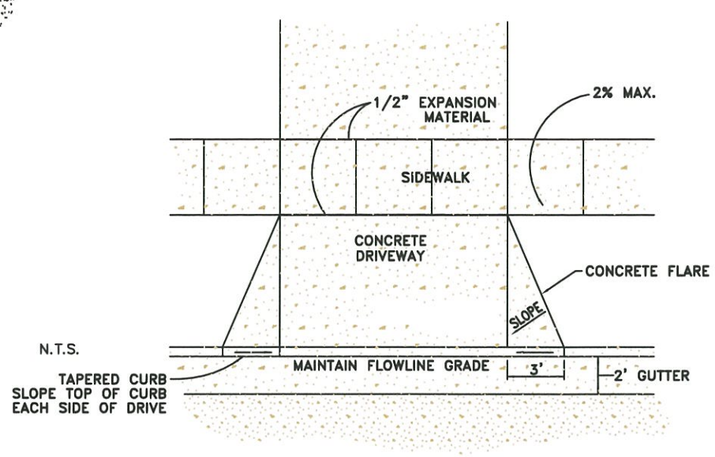
REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	40	48
DETAILS				

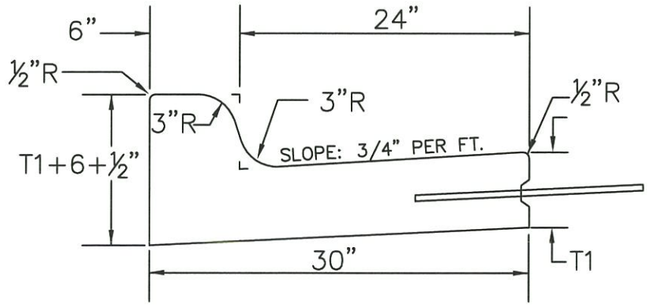
SPECIAL CURB AND GUTTER



DETAIL FOR CONCRETE FLARES AND TAPERED CURB AT DRIVEWAYS

N.T.S.





30" CONCRETE CURB AND GUTTER

N.T.S

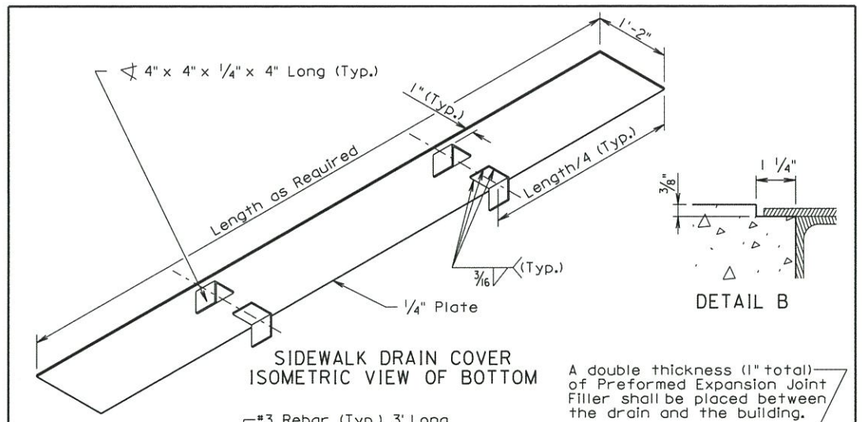
TYPE	T1 INCHES	CU. YD PER LIN. FT.
B66	6"	0.055
B67	7"	0.063
B68	8"	0.071
B68.5	8.5"	0.074
B69	9"	0.078
B69.5	9.5"	0.082
B610	10"	0.086
B610.5	10.5"	0.090
B611	11"	0.094
B611.5	11.5"	0.098
B612	12.0"	0.102

1/2" Preformed Expansion Joint Fillers shall be placed, Tranversely in the Curb & Gutter as follows:

(1) At each junction of Radius return Curb & Gutter and the Curb & Gutter which is parallel to the project centerline.
(2) At each junction with existing Concrete Curb or Concrete Curb & Gutter
(3) At each junction with existing sidewalk, to the depth of the sidewalk.
(4) At a maximum of 195 L.F. appart, measured along the face of the Curb & Gutter.

1/2" Preformed Expansion Joint Filler shall be placed, Longitudinally, along the backface of the Curb, to the depth of the sidewalk, where such backface of Curb is adjacent to an existing Concrete Sidewalk.

Weakened Plane Joints shall be constructed at Approx. 10' intervals. The joints shall be constructed to a minimum depth of one inch by scoring with a tool which coincide with pavement joints leave the corners rounded and insure a free movement of the Concrete at the joint.



GENERAL NOTES:

Concrete shall be Class M6 in accordance with Section 462 of the Standard Specifications.

Reinforcing steel shall conform to ASTM A615, Grade 60.

Structural Steel shall conform to ASTM A786.

Welding and weld inspection shall be in conformance with the current edition of the AWS D1.1 Structural Welding Code-Steel.

The cover plate assembly shall be galvanized after fabrication. Galvanizing shall be in accordance with ASTM 123.

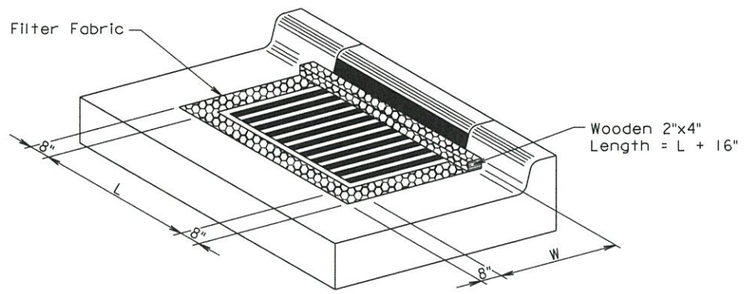
All costs associated for providing the required curb cut shall be incidental to the contract unit price per foot for the corresponding curb and gutter bid item.

The sidewalk drain shall be measured and paid for to the nearest tenth of a foot. The length of the drain shall be measured from the gutter to the necessary end location adjacent to the building. All costs associated with furnishing and installing the sidewalk drain channel and cover including the attachment to the vertical drain shall be incidental to the contract unit price per foot for "Sidewalk Drain".

June 26, 2013

Published Date: 1st Qtr. 2014	SDDOT	SIDEWALK DRAIN	PLATE NUMBER 651.50
			Sheet 1 of 1

L = Length of Grate
W = Width of Grate



ISOMETRIC VIEW

GENERAL NOTES:

The grate and curb and gutter shown are for illustrative purposes only.

The sediment control at inlet with frame and grate shall be placed at locations stated in the plans or at locations determined by the Engineer.

The filter fabric shall be the type specified in the plans.

The filter fabric shall be placed in the inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric shall be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.

The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the inlet including labor, equipment, and materials shall be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

September 14, 2005

Published Date: 1st Qtr. 2012	SDDOT	***SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES***	*PLATE NUMBER* 734.10 *Sheet 1 of 1*

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

INLET PROTECTION

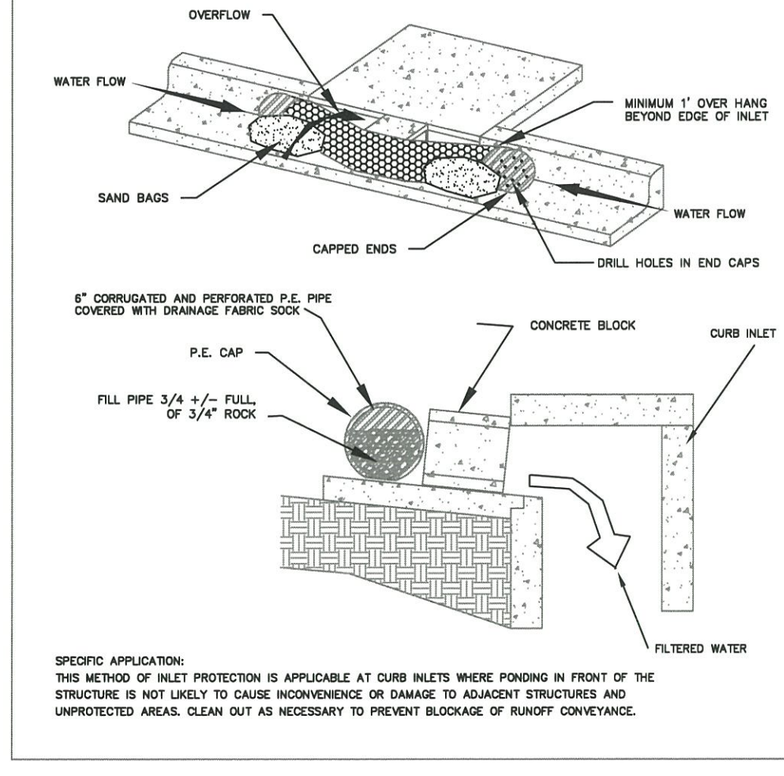
IP

DEFINITION:

A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET. TO BE USED AT SUMP CONDITIONS.

PURPOSES:

TO REDUCE SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF DISTURBED AREAS.



SPECIFIC APPLICATION:
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS. CLEAN OUT AS NECESSARY TO PREVENT BLOCKAGE OF RUNOFF CONVEYANCE.

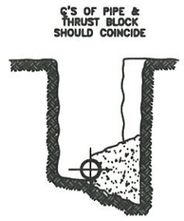
REVISED: NOVEMBER 2008

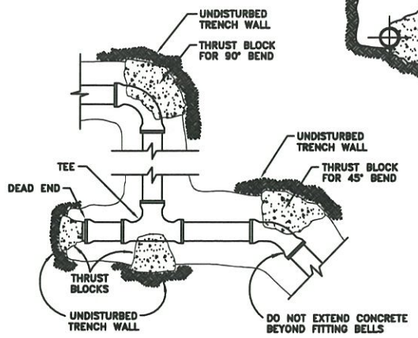
SPECIFICATION REFERENCE NO. 734	CITY OF SIOUX FALLS ENGINEERING DIVISION CORRUGATED PIPE AND FABRIC INLET PROTECTION - OVERFLOW	PLATE NUMBER 734.16

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	42	48

DETAILS

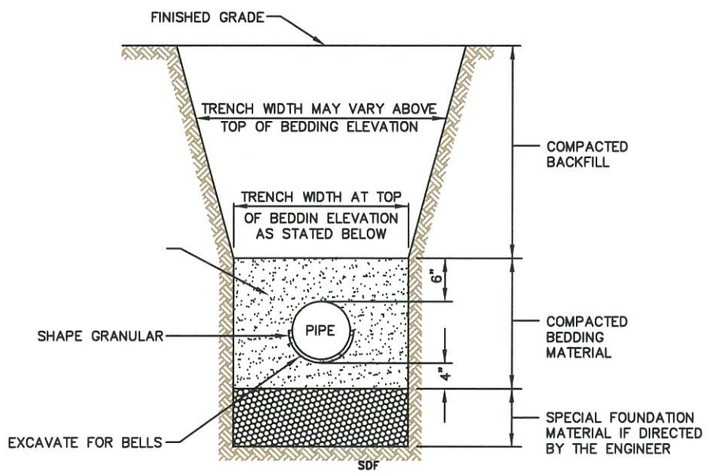
NOTE:
THRUST BLOCKS ARE REQUIRED AT ALL ABRUPT CHANGES IN DIRECTION, TEES, BENDS, DEAD ENDS AND HYDRANTS. ALL BLOCKS ARE TO BE POURED AND AGAINST SOLID UNDISTURBED TRENCH WALL, UNLESS OTHERWISE NOTED BY THE ENGINEER. BREAK BOND BETWEEN POURED CONCRETE THRUST BLOCKS AND PIPE FITTINGS WITH TAR PAPER ETC. LENGTH OF BEARING SURFACE SHALL BE BETWEEN 1 AND 2 TIMES THE HEIGHT OF BEARING SURFACE.





SDF

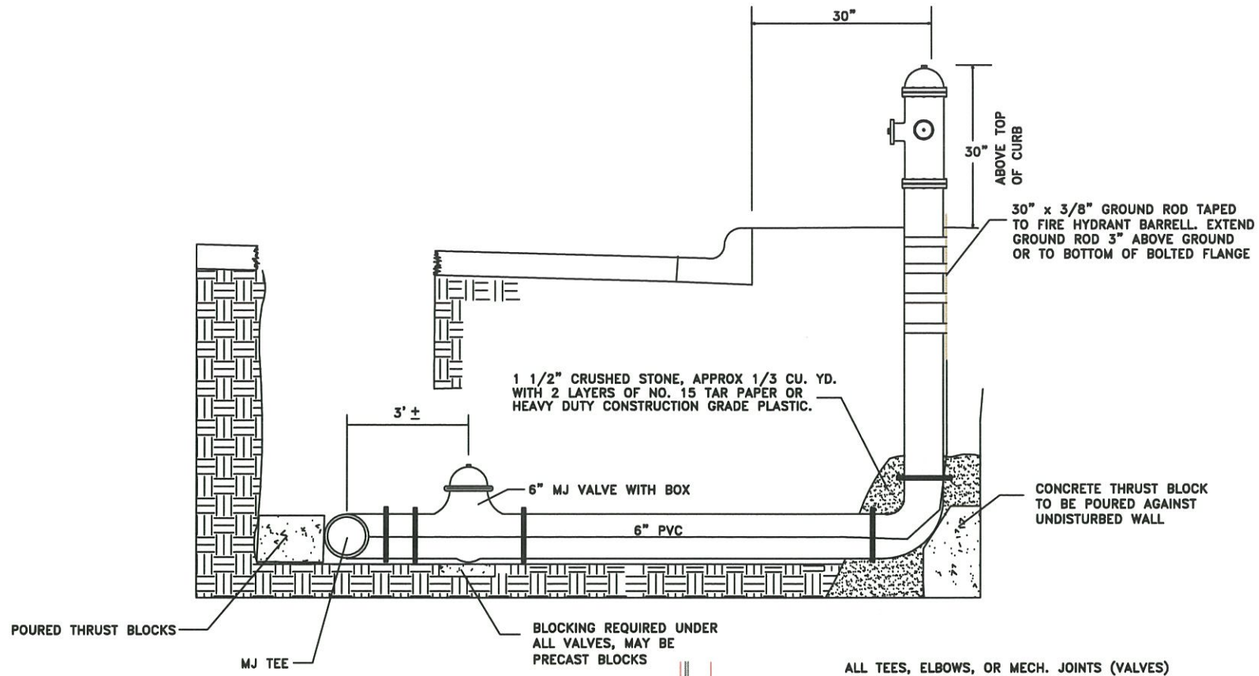
SCHEDULE OF BRACING REQUIRED FOR C.I.P. FITTINGS – BEARING AREA – SQ. FT.					
PIPE SIZE	DEAD END OR TEE	90° BEND	45° BEND	22 1/2° BEND	11 1/4° BEND
12"	11 1/2	16	9	4 1/2	2 1/2
10"	8	11	6	3	1 1/2
8"	5	7	4	2	1
6"	3	4	2	1	1/2
4"	1 1/2	1 1/2	1	1/2	–

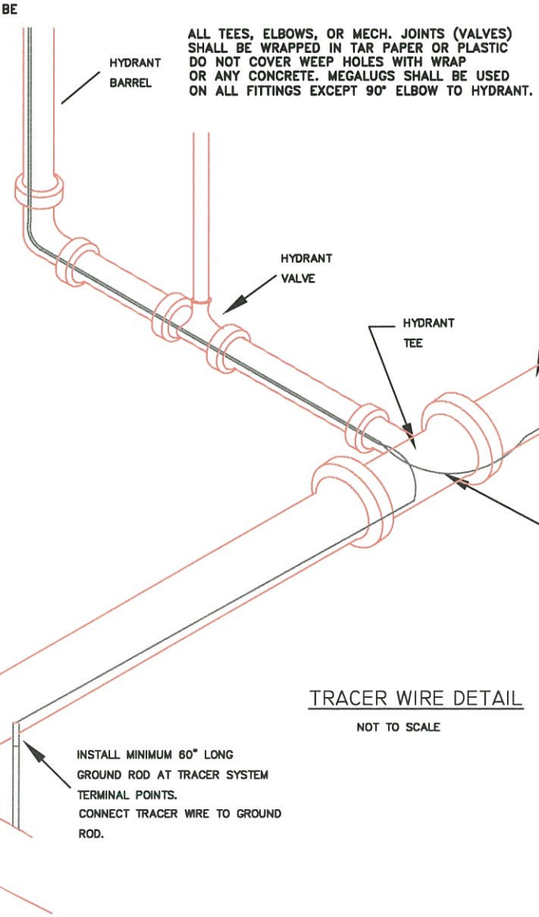


WHERE TRENCH WALLS BELOW THE TOP OF THE BEDDING MATERIAL ARE VERTICAL AND FREE–STANDING, MINIMUM TRENCH WIDTHS ARE AS FOLLOWS:

PIPE SIZE	MINIMUM TRENCH WIDTH
8"	24"
10"	26"
12"	28"
15"	32"
18"	36"
21"	40"
24"	43"

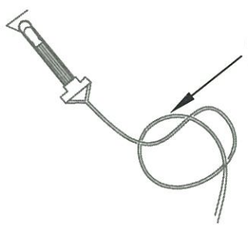
DETAIL OF BEDDING & BACKFILL





TRACER WIRE DETAIL

NOT TO SCALE



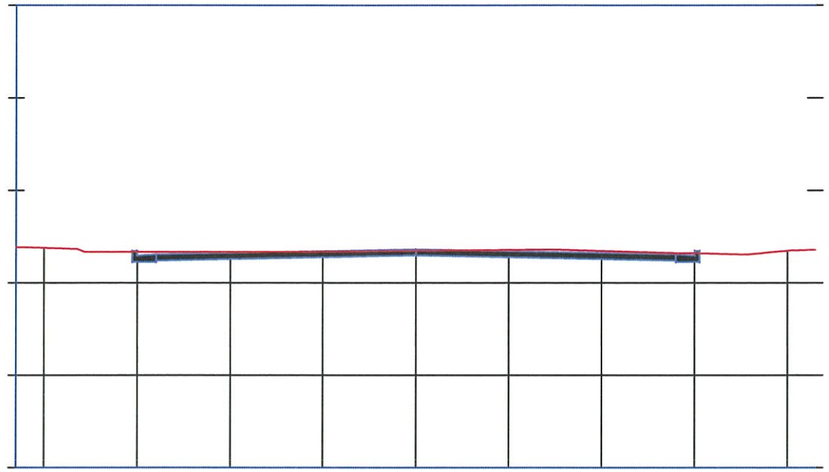
TRACER WIRE SPLICE DETAIL

NOT TO SCALE

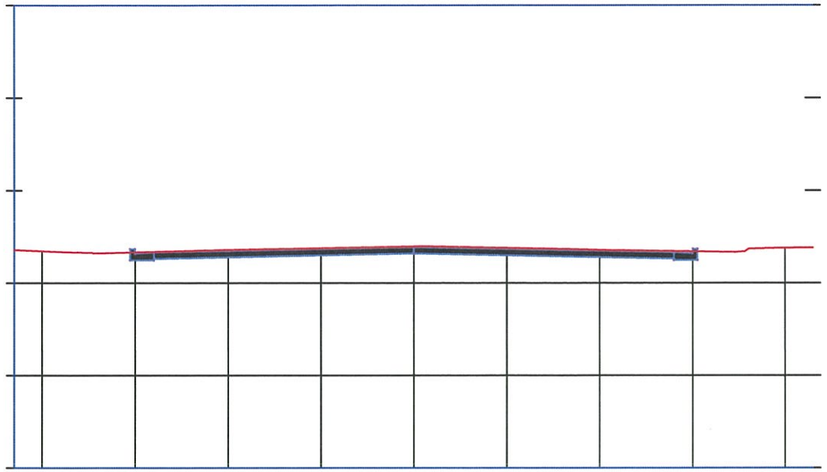
REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	43	48

JOINT LAYOUT

2+50.00



3+00.00



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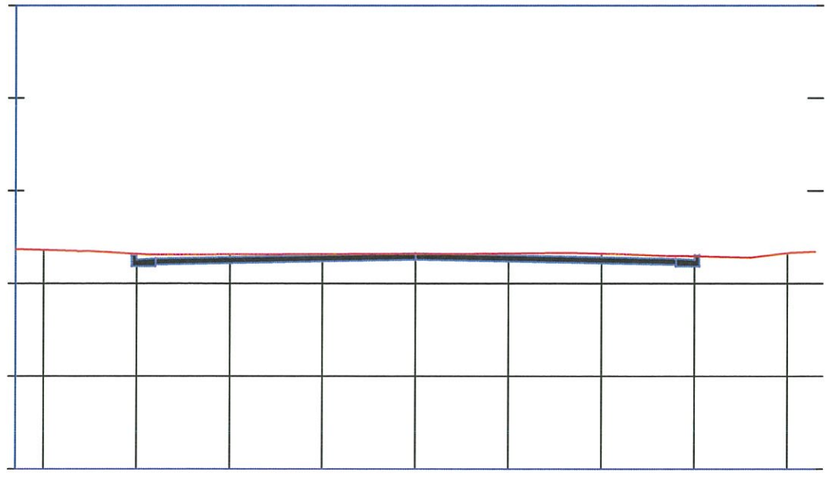

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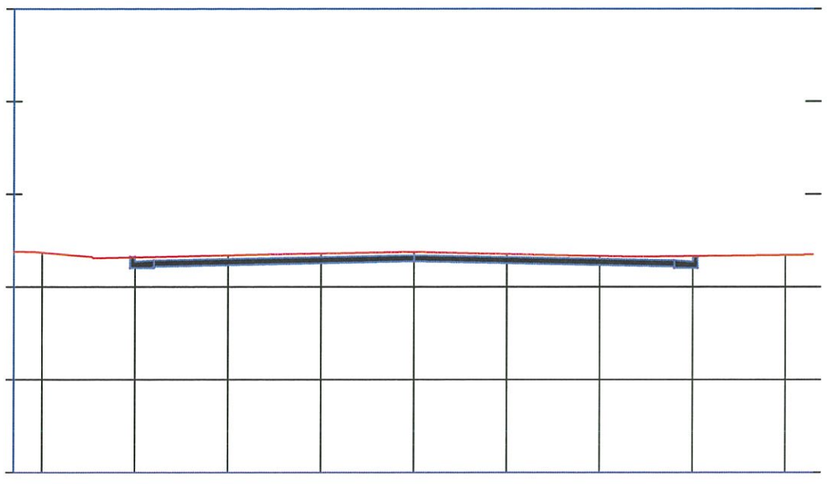
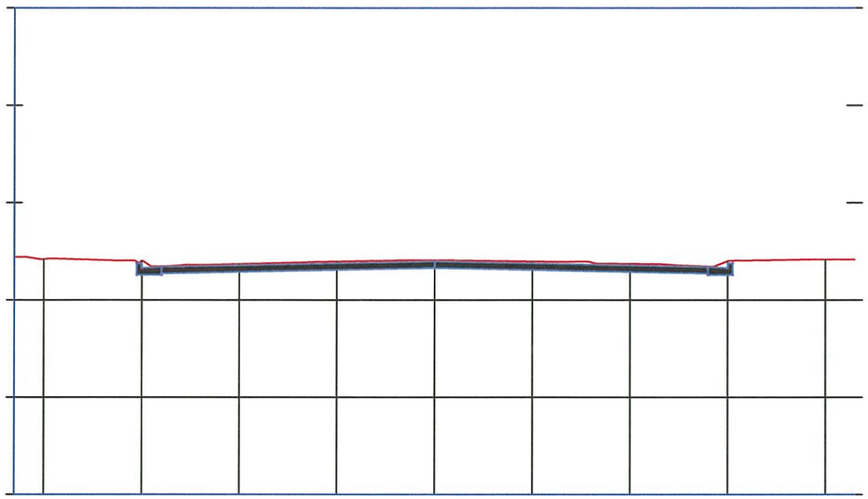


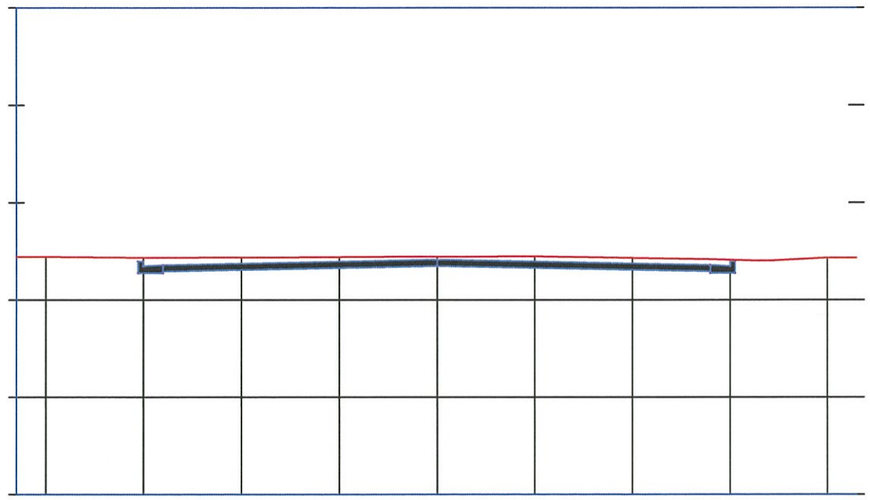
REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	44	48

JOINT LAYOUT

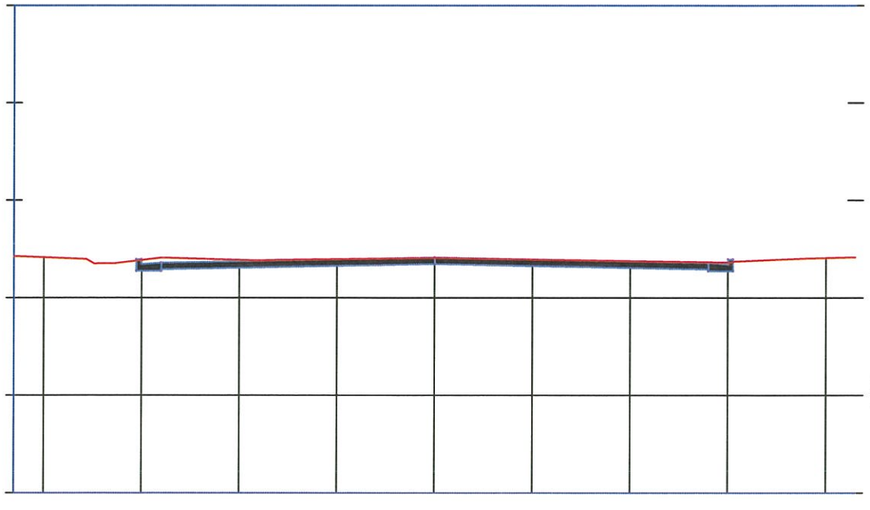
4+50.00



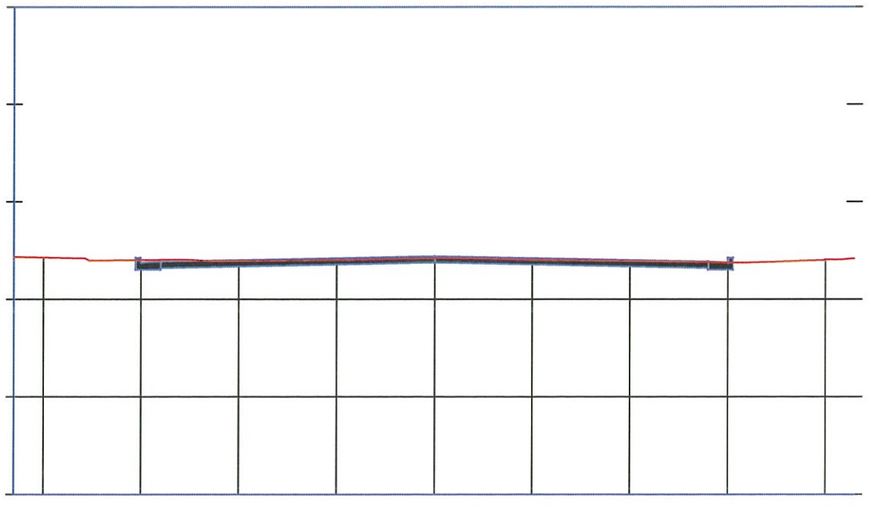
5+00.00



3+50.00



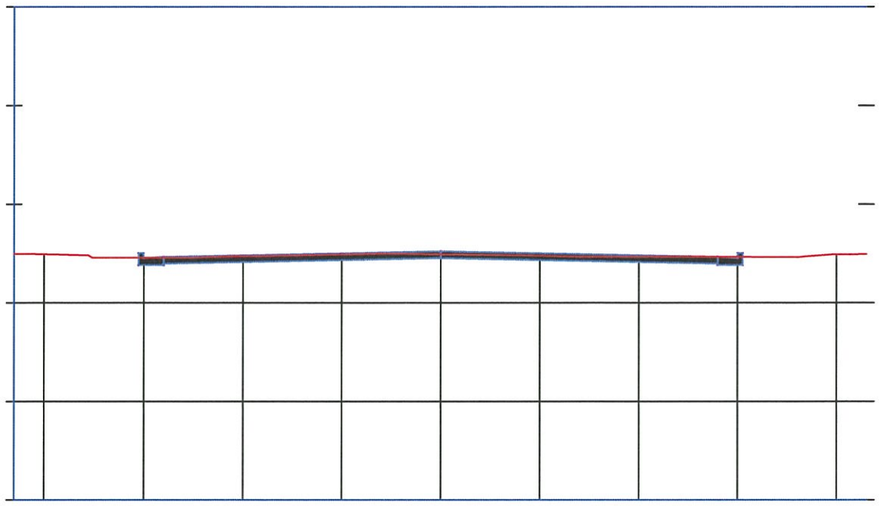
4+00.00



REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
8	S.D.	2017-043	45	48

JOINT LAYOUT

6+50.00



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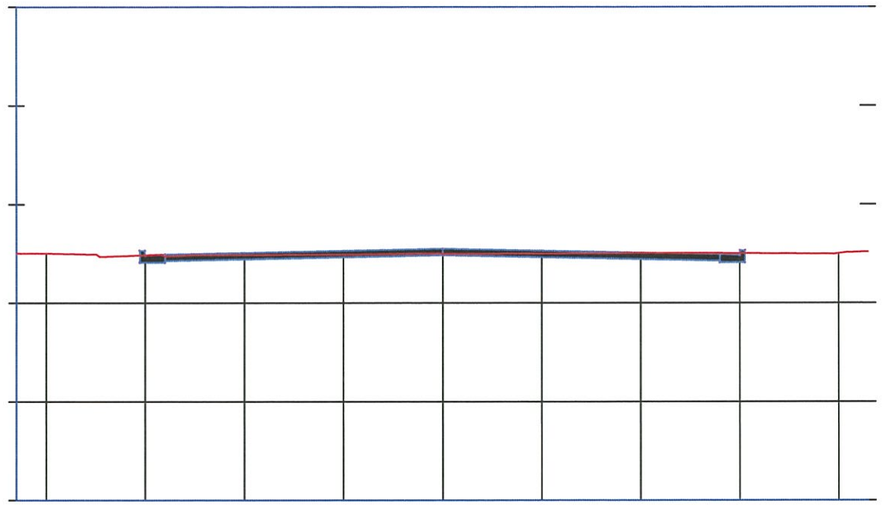

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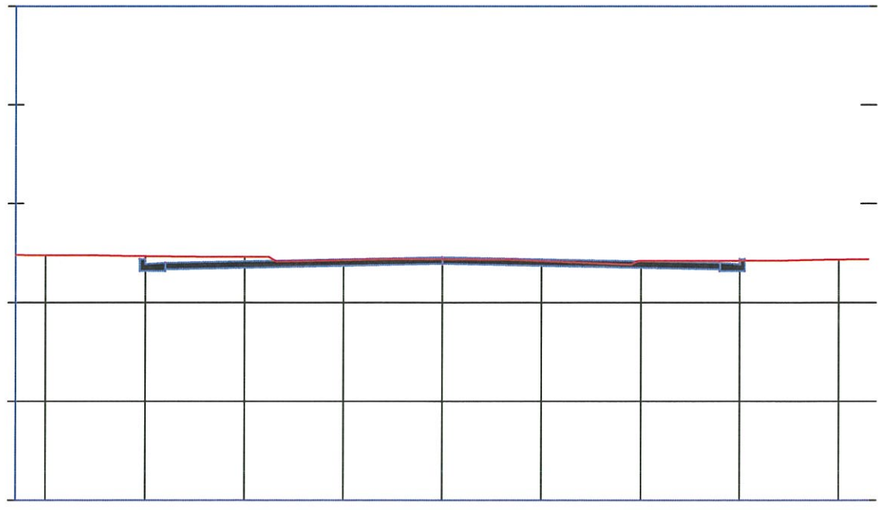

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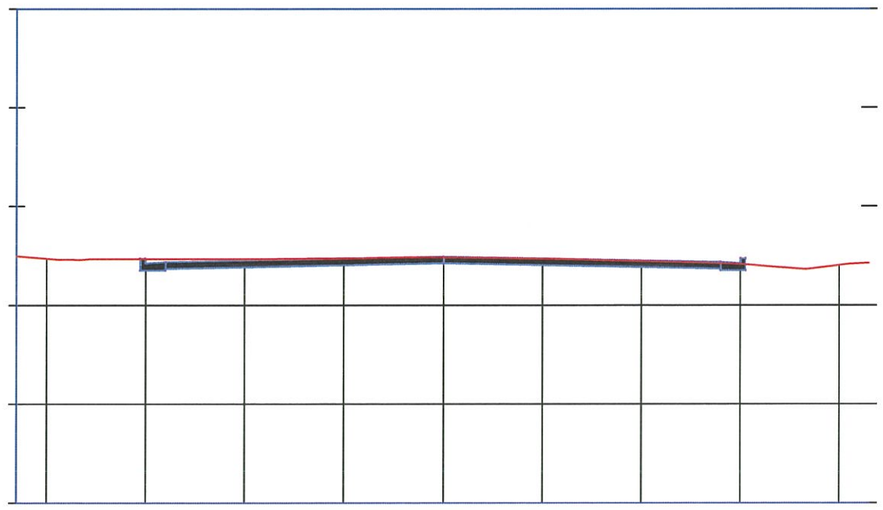

REGION NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
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JOINT LAYOUT

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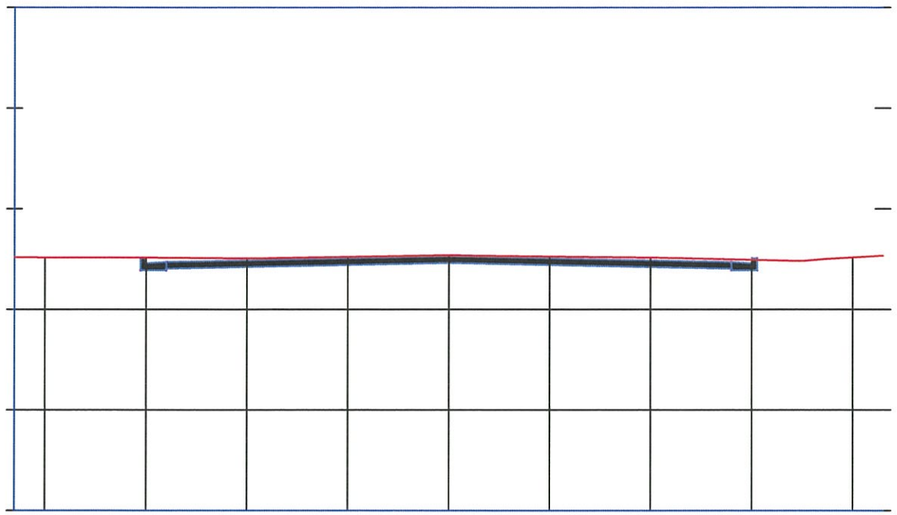

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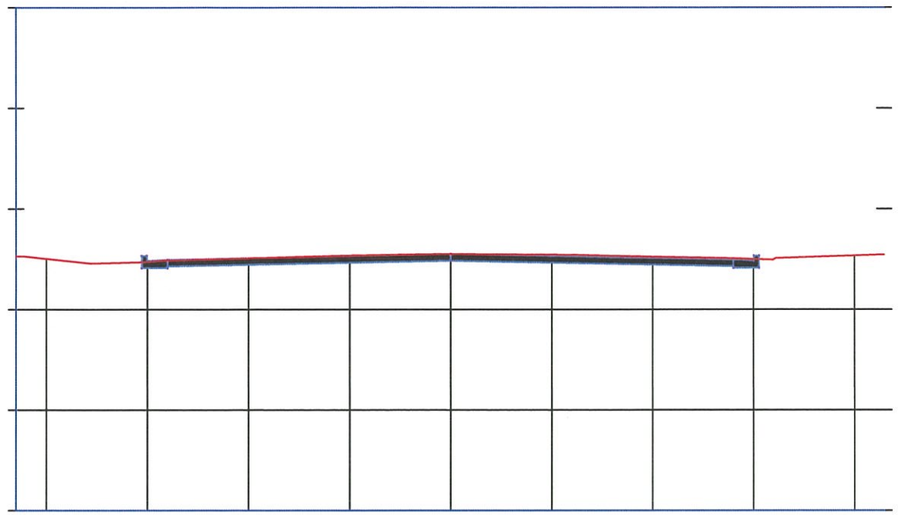

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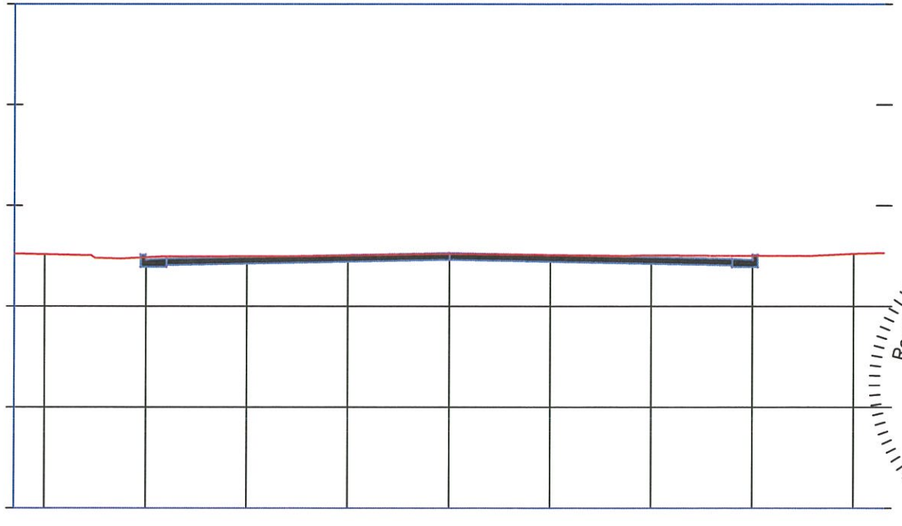

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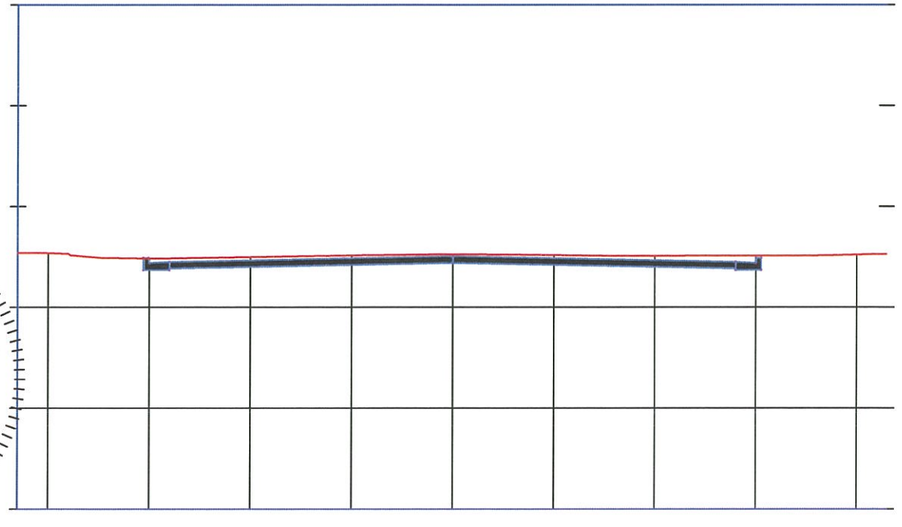

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
3-6-2018
SOUTH DAKOTA

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ESTIMATE OF QUANTITY

ITEM NO.	ITEM	UNIT	QUANTITY	INCIDENTAL WORK & SPECIAL PROVISIONS
General Items				
1	Mobilization	LS	1	
Removals				
2	Clear and Grub Tree	Each	2	
3	Landscape Clearing	Sq Yd	155	
Hardscape Items				
4	Corten Steel Raised Planter	Ln Ft	70	includes footing, welding and fasteners
5	Corten Steel Edging	Ln Ft	1873	includes cutting, welding, & fasteners
6	Storm Water Cut Out	Each	67	
7	Quartzite Pavers	Sq Ft	2192	includes sand setting bed, polymeric sand
8	Quartzite Steppers	Each	68	
9	ADA Tile	Each	5	
10	Limestone Seating Block	Each	55	includes concrete pad, gravel base, steel dowel, expansion joint, decorative etching & painted logo
11	Granite Sculpture Base, Relocated	Each	2	includes concrete pad and gravel cushion
12	Yankton Lantern	Each	3	includes footing, electrical, limestone base and fixture
13	Fire Pit	Each	1	includes electrical, gas line, utility connections, limestone, corten panels, timer, burners, ignition system, burner plate, lava rock, aluminum plaque and draining material
14	Utility Enclosure	Each	1	includes corten panels, concrete pad
Furnishings				
15	Concrete Planter	Each	21	includes potting soil, pea gravel, drainage fabric and rubber belting for leveling
16	Bench	Each	4	
17	Little Receptacle	Each	8	
18	Bike Rack	Each	20	
Landscape Items				
19	Weed Barrier Fabric	Sq Yd	1091	includes fabric stakes
20	3" Depth Shredded Bark Mulch	Sq Yd	1029	includes weed control
21	Planting Soil	Cy Yd	1551	
22	2" Cal. B&B Deciduous Tree	Each	47	includes water for vegetation and fertilizing
23	2" Cal. B7B Ornamental Tree	Each	6	includes water for vegetation and fertilizing
24	#2 Cont. Shrub	Each	254	includes water for vegetation and fertilizing
25	#1 Cont. Perennial	Each	279	includes water for vegetation and fertilizing
26	#1 Cont. Ornamental Grass	Each	481	includes water for vegetation and fertilizing
Electrical				
27	Tax on City Furnished Electrical Materials	LS	1	includes all other work necessary to complete electrical work not included in other bid items
28	Incidental Work, Electrical	LS	1	includes all other work necessary to complete electrical work not included in other bid items
29	Controller Cabinet and Base	Each	1	includes all other work necessary to complete electrical work not included in other bid items
30	Raceways, Conductors, Trenching, Boring, Warning Tape	LS	1	includes all other work necessary to complete electrical work not included in other bid items
31	Type "AA" Luminaire	Each	48	includes all other work necessary to complete electrical work not included in other bid items
32	Type "BB" Luminaire	Each	3	includes all other work necessary to complete electrical work not included in other bid items
33	120V, 20A Receptacle and Pedestal	Each	21	includes all other work necessary to complete electrical work not included in other bid items
34	120/240V, 50A Receptacle and Pedestal	Each	3	includes all other work necessary to complete electrical work not included in other bid items
35	Fire Pit Connections and Switches	Each	1	includes all other work necessary to complete electrical work not included in other bid items

ESTIMATE OF QUANTITY

ITEM NO.	ITEM	UNIT	QUANTITY	INCIDENTAL WORK & SPECIAL PROVISIONS
Alternate #1 - Site Furnishings				
36	Table, 6-Seat	Each	2	
37	Table, 5-Seat	Each	1	
Alternate #2 - Color-Changing Luminaires				
38	Type "AA-ALT" Luminaire	Each	48	if accepted, line item 31 (Type "AA") shall be deducted from base bid

NOTE:
All associated costs for the bid items above shall be included in the corresponding unit price. Unit prices shall include the following, but no limited to, material, delivery, labor, equipment, insurance, bond, applicable taxes, overhead and profit.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2016

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton
Ideas Hometown

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

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GENERAL NOTES

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HARDSCAPE & LANDSCAPE GENERAL NOTES

1.0 GENERAL

1.1 WORK BY OTHERS

1.1.1 The Contractor shall cooperate with and coordinate his efforts to work with the utility companies and their contractors. Each bidder shall be responsible prior to bid letting, for determining the effects of utility work on the project work scope and schedule, and shall account for all such effects in his bid. No consideration will be given to the Contractor after the bid letting on account of utility work done by others.

1.1.2 A summary of anticipated work by others is as follows but not limited to:

a. MidAmerican Energy Company

i. New gas service line for fire pit. Work shall include tapping existing gas main, running service line to utility enclosure shown on plans, shut-off valve, and gas meter.

b. Northwestern Energy

i. New electrical service from power pole. Work shall include the provision of the raceway from the base of the pole up to the transformer bank and the service entrance conductors from the power pole to the controller cabinet.

1.2 SUBMITTALS

1.2.1 The following documents shall be submitted by the Contractor. Documentation requirements elsewhere in the contract are not waived if not listed in the following table.

Submittals	Date Submitted
Shop drawings for below items	
Weathering steel	
Quartzite pavers	
Polymeric sand	
Quartzite steppers	
Quartzite ADA tile	
Limestone seating block	
Yankton lantern fixture & materials	
Yankton lantern limestone	
Fire pit materials list	
Fire pit timer system	
Fire pit burner and ignition system	
Fire pit lava rock	
Utility enclosure materials	
Site furnishings	
Weed barrier fabric	
Shredded bark mulch	
Topsoil tests	
Manufactured topsoil	
Fertilizer	
Electrical items – see electrical plans	

2.0 GRADING

2.1 CONTRACTOR FURNISHED PLANTING SOIL

2.1.1 Planting soil specifications will be rigidly enforced, by submitting a bid the contractor specifically agrees to provide planting soils which meet the requirements contained herein. Planting soil shall be manufactured by the contractor from approved sand, imported topsoil and compost.

2.1.2 The Contractor shall submit to the Engineer the prospective source for the topsoil and sand at least 1 month prior to time of placement to allow adequate time for inspecting, testing and approving the source.

2.1.3 Soil testing costs shall be coordinated by the Engineer paid for by the Owner. Based on initial test results the Engineer will provide a mix ratio for the planting soil.

2.1.4 The contractor shall mix planting soils off site. Mix sand and compost together first then add to the topsoil. Mix with a loader to loosely incorporate the topsoil into the sand/compost mix prior to final blending with a blending machine.

2.1.5 The mixed planting soil will be tested to verify compliance with specifications prior to installation.

2.1.6 "Planting Soil" shall be placed in planting beds to the depth indicated on drawings and details. The basis of payment will be per cubic yard of compacted in place soil at plan quantities and shall include all materials, labor and equipment necessary for installation. Compact planting soil to 75 to 82 percent of maximum Standard Proctor density. No field measurements will be made for payments except when changes from the plan shown construction limits are ordered by the Engineer.

2.2 PLANTING SOIL SHALL BE MANUFACTURED USING THE FOLLOWING MATERIALS:

2.2.1 **Imported Topsoil**: Soil provided shall be free of stones 1 inch or larger in any dimension, roots and other extraneous or undesirable material harmful to plant growth.

2.2.2 Topsoil shall be lightly screened through a 2-inch square, or larger, opening to break up large peds (clumps/clods) and remove coarse roots and stones. Do not remove peds 2-inches and smaller. Retained peds shall be the same color on the inside as is visible on the outside surface of the ped. Total combined volume of soil peds, stones, roots may not exceed 5% of the total topsoil volume.

IMPORTED TOPSOIL		
	Minimum	Maximum
Material Passing #10 Sieve	95%	-
Clay	15%	40%
Silt	10%	70%
Sand	10%	60%
Organic Matter (as determined by dry weight)	4%	15%
pH (ASTM D 5268)	6.0	8.0
Soluable Salt Level		<2 mmho/cm
Texture shall be determind by USDA graduation nomenclature system.		

2.2.3 **Compost:** Screened leaf/grass clipping compost from a local landfill or a product of peat moss, compost, or locally available organic waste. Organic matter should be odor free and free from debris, weed seeds, and insects or disease which may be harmful to plants, animals and humans. The contractor is responsible for transportation of the material.

2.2.4 **Coarse Sand:** Provide Coarse Sand with the following particle size distribution:

COARSE SAND	
Sieve	Percent Passing
3/8 inch	100%
No 4	95-100%
No 8	80-100%
No 16	50-85%
No 30	25-60%
No 50	10-30%
No 100	2-10%
Products meeting ASTM C33 Fine Aggregate or SD DOT FA spec are acceptable.	

2.3 PLANTING SOIL SPECIFICATIONS

PLANTING SOIL	
Planting Soil mix for Use at Surface Plantings	
Sieve Designation	Percent Passing
¼"	100%
#10	82-100%
#30	60-100%
#80	36-68%
#200	18-44%
#400	10-30%
Organic Matter Content	5-8%
pH	6.0-7.0
Phosphorus	40-80 ppm
Potassium	80-160 ppm
Magnesium	40-80 ppm
Estimated proportions for soil mix are as follows, as measured by dry weight. This may vary depending on soil and sand source provided by the contractor and shall be confirmed through soil testing.	
50% Topsoil	
30% Sand	
20% Compost	

3.0 SURFACING

3.1 MISCELLANEOUS CONCRETE

3.1.1 Concrete for footings and pads shall be Class M-6 as detailed in the SDDOT Standards Specifications Section 462.

3.1.2 Concrete shall be cured using a curing compound in accordance with section 821.1 of the SDDOT Standard Specification for Roads and Bridges. A ½" preformed expansion material shall be placed between the sidewalk and other concrete items (back of curb, driveways, existing sidewalks, etc.). Payment for this item shall be incidental and included in the unit price for the respective bid item.

3.2 EXPANSION JOINT

3.2.1 Expansion joint materials shall be installed as detailed in the plans and specs. No separate payment will be made for furnishing and installing expansion joint material.

3.2.2 All expansion joints where neoprene material is used shall be sealed with self-leveling, commercial grade, exterior caulk. Engineer must approve caulk and color used next to improvements and it shall be colored to closely match adjacent materials.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
5/4/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

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3.3 ADA TILES

3.3.1 Designated wheel chair areas next to benches shall be identified with an ADA Tile where indicated on plans. Product information is available in the Details Section. Installation shall be flush with finished sidewalk, the contractor is expected to mask off the surface of the tile prior to placement. Remove masking and clean tile prior to Project Substantial Completion. ADA tiles shall be measured per each and all labor and material associated with providing and installing will be paid under the "ADA Tile" bid item.

4.0 QUARTZITE PAVERS

GENERAL

4.1 SUMMARY

4.1.1 Section Includes:

a. Stone pavers set in aggregate setting beds.

4.2 PREINSTALLATION MEETINGS

4.2.1 Preinstallation Conference: Conduct conference at Project site.

4.3 ACTION SUBMITTALS

4.3.1 Product Data: For materials other than water and aggregates.

4.3.2 Product Data: For the following:

a. Pavers.

b. Joint materials.

4.3.3 Samples for Initial Selection: For each type of unit paver indicated.

a. Joint materials involving color selection.

4.3.4 Samples for Verification: For full-size units of each type of unit paver indicated. Include Samples of the following:

a. Joint materials.

4.4 DELIVERY, STORAGE, AND HANDLING

4.4.1 Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.

4.4.2 Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

4.4.3 Store liquids in tightly closed containers protected from freezing.

4.5 FIELD CONDITIONS

4.5.1 Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.

4.5.2 Do not install polymeric jointing sand when there is a forecast of precipitation within 24 hours of installation.

PRODUCTS

4.6 MANUFACTURERS

4.6.1 Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.

4.7 STONE PAVERS

4.7.1 Sioux Quartzite Stone Pavers: Rectangular paving slabs made from Sioux quartz-based stone.

a. Manufacturers: Subject to compliance with requirements, the below manufacturer shall be incorporated into the Work included.

i. Jasper Stone.

b. Finish: Split face and tumbled.

c. Match Architect's samples for color, finish, and other stone characteristics relating to aesthetic effects.

d. Thickness: Not less than 3 inches unless otherwise indicated.

e. Face Size: 3 by 9 inches.

4.8 ACCESSORIES

4.8.1 Cork Joint Filler: Preformed strips complying with ASTM D 1752, Type II.

4.8.2 Paver Protector Coating: Techniseal Color Boost (CB) Paver Protector, Matte Finish.

4.9 AGGREGATE SETTING-BED MATERIALS

4.9.1 Sand for Leveling Course: Sound, sharp, washed, natural sand or crushed stone complying with gradation requirements in ASTM C 33/C 33M for fine aggregate.

4.9.2 Sand for Joints: Techniseal HP NextGel Jointing Sand complying with ASTM-C144.

a. Sand Color: Selected from Manufacturer's full range. Contractor shall submit color samples to Architect for color selection prior to ordering material.

4.9.3 Herbicide: Commercial chemical for weed control, registered with the EPA. Provide in granular, liquid, or wettable powder form.

EXECUTION

4.10 EXAMINATION

4.10.1 Examine surfaces indicated to receive unit paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

4.10.2 Proceed with installation only after unsatisfactory conditions have been corrected.

4.11 PREPARATION

4.11.1 Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

4.12 INSTALLATION, GENERAL

4.12.1 Do not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.

4.12.2 Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.

4.12.3 Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.

4.12.4 Joint Pattern: As indicated.

4.12.5 Tolerances: Do not exceed 1/16-inch (1.6-mm) unit-to-unit offset from flush (lippage) nor 1/8 inch in 24 inches (3 mm in 600 mm) and 1/4 inch in 10 feet (6 mm in 3 m) from level, or indicated slope, for finished surface of paving.

4.12.6 Expansion and Control Joints: Provide cork joint filler at locations and of widths indicated. Install joint filler before setting pavers. Make top of joint filler flush with top of pavers.

4.13 AGGREGATE SETTING-BED APPLICATIONS

4.13.1 Place leveling course over concrete sub base and screed to a thickness of 1 to 1-1/2 inches (25 to 38 mm), taking care that moisture content remains constant and density is loose and uniform until pavers are set and compacted.

4.13.2 Treat leveling course with herbicide to inhibit growth of grass and weeds.

4.13.3 Place pavers hand tight against each other. Use string lines to keep straight lines.

4.13.4 Vibrate pavers into leveling course with a low-amplitude plate vibrator capable of a 3500- to 5000-lbf (16- to 22-kN) compaction force at 80 to 90 Hz. Use vibrator with neoprene mat on face of plate or other means as needed to prevent cracking and chipping of pavers. Perform at least three passes across paving with vibrator.

a. Compact pavers when there is sufficient surface to accommodate operation of vibrator, leaving at least 36 inches (900 mm) of uncompacted pavers adjacent to temporary edges.

b. Before ending each day's work, compact installed pavers except for 36-inch (900-mm) width of uncompacted pavers adjacent to temporary edges (laying faces).

c. As work progresses to perimeter of installation, compact installed pavers that are adjacent to permanent edges unless they are within 36 inches (90 mm) of laying face.

d. Before ending each day's work and when rain interrupts work, cover pavers that have not been compacted and cover leveling course on which pavers have not been placed with nonstaining plastic sheets to protect them from rain.

4.13.5 Install polymeric jointing sand per manufacturer's recommendations.

a. Surface must be dry.

b. Spread polymeric jointing sand uniformly over the surface and fill joints immediately after vibrating pavers into leveling course.

c. Vibrate pavers and add sand until joints are completely filled, then remove excess sand.

d. Wet the joints of approximately 200 sq ft. of pavers at a time. Ensure that the wetting of one section is finished before another section is started. Wetting of the entire project should be done without interruptions.

e. Start showering pavers from the bottom of the slope.

f. Wet the section for approximately 30 seconds without displacing the sand. Wait a few seconds and wet the same section again to wet the joints completely. Joints shall be wet to a depth of 1-1/2 inches. Verify progress of wetness.

g. Avoid excess flooding of the surface.

h. After wetting the joints, use a leaf blower to blow excess water off the surface.

4.13.6 Install paver protector coating per manufacturer's recommendations.

a. Cover vegetation, vehicles, and adjacent surfaces that are not to be treated.

b. Remove stains on pavers with appropriate Techniseal cleaner.

c. Prepare the entire paver surface with Techniseal Paver Prep (Efflorescence Cleaner), as directed on product label.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/12/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton South Dakota

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

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GENERAL NOTES

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d. Work in sections of no more than 100 sq. ft. of paver at a time. Use low-pressure airless sprayer (<50 psi) and saturate paver surface with a coat of paver protector. Use dry roller to remove excess paver protector on the surface before it dries. Repeat for subsequent sections, maintaining a wet edge in order to prevent overlap marks.

4.13.7 Do not allow traffic on installed pavers for a minimum of 24-hours.

4.14 REPAIRING, POINTING, AND CLEANING

4.14.1 Remove and replace unit pavers that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Provide new units to match adjoining units and install in same manner as original units, with same joint treatment and with no evidence of replacement.

5.0 METAL FABRICATIONS – WEATHERING STEEL

5.1 PERFORMANCE REQUIREMENTS

5.1.1 Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

5.2 SUBMITTALS

5.2.1 Provide shop drawing submittals for all fabricated steel components. Include details of cuts, connections, splices, camber, holes, embedment, and other pertinent information. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, showing size, length, and type of weld. Indicate type, size and length of bolts, distinguishing between shop and field bolts. Include embedment drawings.

5.3 QUALITY ASSURANCE

5.3.1 Welding qualifications should include quality procedures and personnel according to AWS D1.1/D1/1M, "Structural Welding Code – Steel."

5.4 COORDINATION

5.4.1 Coordinate installation of anchorages and steel weld plates and angles for casting into concrete. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

5.5 METALS, GENERAL

5.5.1 Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the complete work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

5.6 STEEL

5.6.1 Steel Plates, Shapes, and Bars: ASTM A606-4, weathering steel.

5.6.2 Uncoated Steel Sheet: Hot-rolled steel sheet, ASTM A606-4, weathering steel.

5.7 FASTENERS

5.7.1 Unless otherwise indicated, provide Type 304 stainless-steel fasteners for exterior use.

5.7.2 Cast-in-place anchors in concrete: Either threaded type or wedge type unless otherwise indicated; type 304 stainless-steel. Provide bolts, washers, and shims as needed, all stainless-steel.

5.8 MISCELLANEOUS MATERIALS

5.8.1 Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

5.9 FABRICATION, GENERAL

5.9.1 Shop assembly: preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

5.9.2 Cut, drill, punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

5.9.3 Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

5.9.4 Form exposed work with accurate angles and surfaces and straight edges.

5.9.5 Weld corners and seams continuously to comply with the following:

a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

b. Obtain fusion without undercut or overlap.

c. Remove welding flux immediately.

d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

5.9.6 Form exposed connections with hairline joints, flush and smooth, using concealed fasteners or welds where possible.

5.9.7 Fabricate seams and other connections that will be exposed to weather in a manner to exclude water.

5.9.8 Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

5.9.9 Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads. Where units are indicated to be cast into concrete, equip with integrally welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c., unless otherwise indicated.

5.10 FINISHES, GENERAL

5.10.1 Comply with NAAMM's "Metal Finished Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

5.10.2 Finish metal fabrications after assembly.

5.10.3 Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

5.11 INSTALLATION, GENERAL

5.11.1 Cutting, fitting, and placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true and free of rack; and measured from established lines and levels.

5.11.2 Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.

5.11.3 Field welding: comply with the following requirements:

a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

b. Obtain fusion without undercut or overlap.

c. Remove welding flux immediately.

d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.

5.11.4 Fastening to in-place construction: provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete inserts and other connectors.

5.11.5 Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

6.0 YANKTON LANTERN – TOP FIXTURE

<u>GENERAL</u>

6.1 SUMMARY

6.1.1 Section Includes:

a. Illuminated lantern.

6.2 DEFINITIONS

6.2.1 Illuminated: Illuminated by lighting source integrally constructed as part of the lantern unit.

6.3 COORDINATION

6.3.1 Furnish templates for placement of lantern-anchorage devices embedded in permanent construction by other installers.

6.3.2 Furnish templates for placement of electrical service embedded in permanent construction by other installers.

6.4 ACTION SUBMITTALS

6.4.1 Product Data: For each type of product.

6.4.2 Shop Drawings: For lantern.

a. Include fabrication and installation details and attachments to other work.

b. Show lantern mounting heights, locations of supplementary supports to be provided by other installers, and accessories.

c. Show locations of electrical service connections.

d. Include diagrams for power, signal, and control wiring.

6.4.3 Samples for Initial Selection: For each type of lantern assembly, exposed component, and exposed finish.

a. Include representative Samples of available typestyles and graphic symbols.

6.4.4 Samples for Verification: For each type of lantern assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

a. Lantern: Not less than 12 inches (300 mm) square, including corner.

b. Variable Component Materials: 8-inch (200-mm) Sample of each

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REG. NO. 11207
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

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base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.

c. Exposed Accessories: Full-size Sample of each accessory type.

d. Full-size Samples, if approved, will be returned to Contractor for use in Project.

6.5 CLOSEOUT SUBMITTALS

6.5.1 Maintenance Data: For lantern to include in maintenance manuals.

6.6 MAINTENANCE MATERIAL SUBMITTALS

6.6.1 Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

a. Variable Component Materials: 6 replaceable polycarbonate panels of each size and type.

b. Tools: One set(s) of specialty tools for assembling lantern and replacing variable lantern components, if necessary.

6.7 FIELD CONDITIONS

6.7.1 Field Measurements: Verify locations of anchorage devices and electrical service embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

6.8 WARRANTY

6.8.1 Special Warranty: Manufacturer agrees to repair or replace components of lantern that fail in materials or workmanship within specified warranty period.

a. Failures include, but are not limited to, the following:

i. Deterioration of finishes beyond normal weathering.

ii. Deterioration of embedded graphic image.

iii. Separation or delamination of sheet materials and components.

b. Warranty Period: Five years from date of Substantial Completion.

PRODUCTS

6.9 PERFORMANCE REQUIREMENTS

6.9.1 Thermal Movements: For exterior lantern, allow for thermal movements from ambient and surface temperature changes.

a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces

6.9.2 Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

6.10 LANTERN

6.10.1 Lantern: Lantern with smooth, uniform surfaces; with characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:

a. Illuminated lantern: Backlighted construction with LED lighting including transformers, insulators, and other accessories for operability, with provision for servicing and concealing connections to building electrical system. Use tight or sealed joint construction to prevent unintentional light leakage. Space lamps apart from each other and away from lantern surfaces as needed to illuminate evenly.

i. Power: As indicated on electrical Drawings

b. Laminated Polycarbonate-Sheet Lantern: Polycarbonate face sheet laminated to each side of base sheet to produce composite sheet.

i. Composite-Sheet Thickness: 0.25 inch (6.35 mm)

ii. Surface-Applied, Flat Graphics: Applied Translucent and light diffusion vinyl film on interior.

iii. Finish: Pebble or Adobe.

c. Frame: To hold Polycarbonate sheet

i. Material: Aluminum

ii. Material Thickness: 0.125 inch thick.

iii. Frame Depth: Match architect's sample.

iv. Profile: Square

v. Corner Condition in Elevation: Square.

vi. Cast elements with concealed fasteners of various pieces fit together to create lantern frame shall be utilized to the greatest extent possible prior to contractor internally welding components together. Exposed welds will not be allowed.

d. Mounting: As indicated on Drawings and Manufacturer's standard method for substrates indicated

e. Surface Finish and Applied Graphics:

i. Integral Aluminum Finish: Medium bronze anodized.

ii. Integral Polycarbonate Sheet Color: Match top part of existing Yankton lantern at city hall.

f. Text and Typeface: Typeface as selected by Architect from manufacturer's full range and variable content as scheduled. Match font of existing Yankton lantern at city hall.

g. Flatness Tolerance: lantern shall remain flat or uniformly curved under installed conditions as indicated on Drawings and within a tolerance of plus or minus 1/16 inch (1.5 mm) measured diagonally from corner to corner.

6.11 LANTERN MATERIALS

6.11.1 Aluminum Sheet and Plate: ASTM B 209 (ASTM B 209M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

6.11.2 Aluminum Extrusions: ASTM B 221 (ASTM B 221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

6.11.3 Polycarbonate Sheet: ASTM C 1349, Appendix X1, Type II (coated, mar-resistant, UV-stabilized polycarbonate), with coating on both sides.

6.11.4 Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form characters or images as indicated on Drawings and suitable for exterior applications.

6.11.5 Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

6.12 ACCESSORIES

6.12.1 Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of lantern, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:

a. Use concealed fasteners and anchors unless indicated to be exposed.

b. For exterior exposure, furnish stainless-steel or hot-dip galvanized devices unless otherwise indicated.

c. Exposed Metal-Fastener Components, General:

i. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.

ii. Fastener Heads: For nonstructural connections, use flathead or oval countersunk screws and bolts with tamper-resistant Allen-head spanner-head slots unless otherwise indicated.

d. Inserts: Furnish inserts to be set by other installers into concrete or masonry work.

6.12.2 Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

6.13 FABRICATION

6.13.1 General: Provide manufacturer's standard sign assemblies according to requirements indicated.

a. Preassemble lantern in the shop to greatest extent possible. Disassemble lantern and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.

b. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.

c. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.

d. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.

e. Internally brace lantern for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.

f. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match lantern finish.

6.13.2 Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

6.13.3 Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

6.13.4 Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted lantern to suit lantern construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

a. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish to match Architect's sample color unless otherwise indicated.

6.14 GENERAL FINISH REQUIREMENTS

6.14.1 Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

6.14.2 Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

6.14.3 Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/16/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton
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6.14.4 Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

6.15 ALUMINUM FINISHES

6.15.1 Color Anodic Finish: AAMA 611, Class I, 0.018 mm or thicker.

EXECUTION

6.16 EXAMINATION

6.16.1 Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

6.16.2 Verify that Lantern-support surfaces are within tolerances to accommodate lantern without gaps or irregularities between backs of Lantern and support surfaces unless otherwise indicated.

6.16.3 Verify that anchorage devices embedded in permanent construction are correctly sized and located to accommodate lantern.

6.16.4 Verify that electrical service is correctly sized and located to accommodate lantern.

6.16.5 Proceed with installation only after unsatisfactory conditions have been corrected.

6.17 INSTALLATION

6.17.1 General: Install lantern using mounting methods indicated and according to manufacturer's written instructions.

a. Install lantern level, plumb, true to line, and at locations and heights indicated, with Lantern surfaces free of distortion and other defects in appearance.

b. Install lantern so they do not protrude or obstruct according to the accessibility standard.

c. Before installation, verify that lantern surfaces are clean and free of materials or debris that would impair installation.

d. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

6.18 ADJUSTING AND CLEANING

6.18.1 Remove and replace damaged or deformed panels and frame that do not comply with specified requirements. Replace panels with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

6.18.2 Remove temporary protective coverings and strippable films as lantern is installed.

6.18.3 On completion of installation, clean exposed surfaces of lantern according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain lantern in a clean condition during construction and protect from damage until acceptance by Owner.

7.0 YANKTON LANTERN – LIMESTONE BASE – STONE VENEER

GENERAL

7.1 SUMMARY

7.1.1 Section Includes:

a. Stone masonry anchored to concrete backup.

7.2 ACTION SUBMITTALS

7.2.1 Product Data: For each variety of stone, stone accessory, and manufactured product.

7.2.2 Samples for Initial Selection: For colored mortar and other items involving color selection.

7.2.3 Samples for Verification:

a. For each stone type indicated. Include at least three Samples in each set and show the full range of color and other visual characteristics in completed Work.

b. For each color of mortar required.

7.3 QUALITY ASSURANCE

7.3.1 Installer Qualifications: A qualified installer who employs experienced stonemasons and stone fitters.

7.4 DELIVERY, STORAGE, AND HANDLING

7.4.1 Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

7.4.2 Store aggregates where grading and other required characteristics can be maintained and contamination avoided.

7.4.3 Deliver preblended, dry mortar mix in moisture-resistant containers designed for use with dispensing silos. Store preblended, dry mortar mix in delivery containers on elevated platforms, under cover, in a dry location, or in covered weatherproof dispensing silos.

7.4.4 Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

7.5 FIELD CONDITIONS

7.5.1 Protection of Stone Masonry: During construction, cover tops of columns with waterproof sheeting at end of each day's work. Cover partially completed stone masonry when construction is not in progress.

7.5.2 Stain Prevention: Immediately remove mortar and soil to prevent them from staining stone masonry face.

a. Protect base of columns from rain-splashed mud and mortar splatter using coverings spread on the ground and over the column surface.

7.5.3 Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace stone masonry damaged by frost or freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

a. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried, but not less than seven days after completing cleaning.

b. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

7.6 COORDINATION

7.6.1 Advise installers of adjacent Work about specific requirements for placement of reinforcement, veneer anchors, flashing, and similar items to be built into stone masonry.

7.6.2 Coordinate locations of dovetail slots installed in concrete that are to receive stone anchors.

PRODUCTS

7.7 MANUFACTURERS

7.7.1 Source Limitations for Stone: Obtain stone, from single quarry with resources to provide materials of consistent quality in appearance and physical properties.

7.7.2 Source Limitations for Mortar Materials: Obtain mortar ingredients of uniform quality for each cementitious component from single manufacturer and each aggregate from single source or producer.

7.8 LIMESTONE

7.8.1 Material Standard: Comply with ASTM C 568/C 568M.

7.8.2 Manufacturer: US Stone Industries.

7.8.3 Supplier: Hebron Brick Supply – Sioux Falls, 2211 W. 50th Street, Sioux Falls, SD 57105.

a. Contact: Adam Thymian (605) 331-3640.

7.8.4 Product: Top Ledge Cottonwood.

a. Pattern: As noted in drawings.

b. Height: As noted in drawings.

c. Length: As noted in drawings.

d. Nominal Thickness: As noted in drawings.

e. Finish: Honed.

7.9 MORTAR MATERIALS

7.9.1 Portland Cement: ASTM C 150/C 150M, Type I or Type II, except Type III may be used for cold-weather construction; natural color or white cement may be used as required to produce mortar color indicated.

7.9.2 Hydrated Lime: ASTM C 207, Type S.

7.9.3 Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

7.9.4 Mortar Cement: ASTM C 1329/C 1329M.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

i. Lafarge North America Inc.

7.9.5 Aggregate: ASTM C 144 and as follows:

a. For pointing mortar, use aggregate graded with 100 percent passing No. 16 (1.18-mm) sieve.

b. Colored Aggregates: Natural-colored sand or ground marble, granite, or other sound stone; of color necessary to produce required mortar color.

7.9.6 Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C 494/C 494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

i. Euclid Chemical Company (The); an RPM company.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton

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ii. GCP Applied Technologies Inc. (formerly Grace Construction Products).

iii. Sonneborn.

7.9.7 Water: Potable.

7.10 VENEER ANCHORS

7.10.1 Materials:

a. Stainless-Steel Sheet: ASTM A 240/A 240M or ASTM A 666, Type 304.

7.10.2 Size: Sufficient to extend at least halfway, but not less than 1-1/4 inches, through stone masonry and with at least a 5/8-inch (16-mm) cover on exterior face.

7.10.3 Corrugated-Metal Veneer Anchors: Not less than 0.030-inch- (0.76-mm-) thick by 7/8-inch- (22-mm-) wide stainless-steel sheet with corrugations having a wavelength of 0.3 to 0.5 inch (7.6 to 13 mm) and an amplitude of 0.06 to 0.10 inch (1.5 to 2.5 mm).

7.11 STONE TRIM ANCHORS

7.11.1 Materials: Fabricate anchors from stainless steel, ASTM A 240/A 240M or ASTM A 666, Type 304. Fabricate dowels from stainless steel, ASTM A 276, Type 304.

7.11.2 Fasteners for Stone Trim Anchors: Annealed stainless-steel bolts, nuts, and washers; ASTM F 593 (ASTM F 738M) for bolts and ASTM F 594 (ASTM F 836M) for nuts, Alloy Group 1 (A1).

7.12 MISCELLANEOUS MASONRY ACCESSORIES

7.12.1 Cementitious Dampproofing for Limestone: Cementitious formulation recommended by ILI and nonstaining to stone, compatible with joint sealants, and noncorrosive to veneer anchors and attachments.

7.12.2 Weep/Vent Products: Use one of the following unless otherwise indicated:

a. Rectangular Plastic Tubing: Clear butyrate, 3/8 by 1-1/2 inches (10 by 38 mm) by thickness of stone masonry.

b. Mesh Weep Holes/Vents: Free-draining mesh; made from polyethylene strands, full width of head joint and 2 inches (50 mm) high by thickness of stone masonry; in color selected from manufacturer's standard.

7.13 MASONRY CLEANERS

7.13.1 Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar and grout stains, efflorescence, and other new construction stains from stone masonry surfaces without discoloring or damaging masonry surfaces; expressly approved for intended use by cleaner manufacturer and stone producer.

a. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

i. Diedrich Technologies, Inc.; a Hohmann & Barnard company.

ii. Dominion Restoration Products.

iii. EaCo Chem, Inc.

iv. Hydroclean; Hydrochemical Techniques, Inc.

v. PROSOCO, Inc.

7.14 FABRICATION

7.14.1 General: Fabricate stone units in sizes and shapes required to comply with requirements indicated.

a. For limestone, comply with recommendations in ILI's "Indiana Limestone Handbook."

7.14.2 Dress joints (bed and vertical) straight and at right angle to face unless otherwise indicated. Shape beds to fit supports.

7.14.3 Thickness of Stone: Provide thickness indicated, but not less than the following:

a. Thickness: 2 inches plus or minus 1/4 inch (6 mm).

7.14.4 Finish exposed stone faces and edges to comply with requirements indicated for finish and to match approved samples and mockups.

7.15 MORTAR MIXES

7.15.1 General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures, unless otherwise indicated.

a. Do not use calcium chloride.

b. Mixing Pointing Mortar: Thoroughly mix cementitious and aggregate materials together before adding water. Then mix again, adding only enough water to produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for one to two hours. Add remaining water in small portions until mortar reaches required consistency. Use mortar within 30 minutes of final mixing; do not retemper or use partially hardened material.

7.15.2 Mortar for Stone Masonry: Comply with ASTM C 270, Proportion Specification.

a. Mortar for Setting Stone: Type S.

b. Mortar for Pointing Stone: Type N.

EXECUTION

7.16 EXAMINATION

7.16.1 Examine surfaces indicated to receive stone masonry, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of stone masonry.

7.16.2 Examine substrate to verify that dovetail slots, inserts, reinforcement, veneer anchors, and other items installed in substrates and required for or extending into stone masonry are correctly installed.

7.16.3 Proceed with installation only after unsatisfactory conditions have been corrected.

7.17 PREPARATION

7.17.1 Clean dirty or stained stone surfaces by removing soil, stains, and foreign materials before setting. Clean stone by thoroughly scrubbing with fiber brushes and then drenching with clear water. Use only mild cleaning compounds that contain no caustic or harsh materials or abrasives.

7.18 SETTING STONE MASONRY

7.18.1 Perform necessary field cutting and trimming as stone is set.

a. Use power saws to cut stone that is fabricated with saw-cut surfaces. Cut lines straight and true, with edges eased slightly to prevent snipping.

7.18.2 Sort stone before it is placed in wall to remove stone that does not comply with requirements relating to aesthetic effects, physical properties, or fabrication, or that is otherwise unsuitable for intended use.

7.18.3 Arrange stones in pattern indicated with course heights as indicated, lengths as indicated, and uniform joint widths, with offset between vertical joints as indicated.

7.18.4 Arrange stones with color and size variations uniformly dispersed for an evenly blended appearance.

7.18.5 Install supports, fasteners, and other attachments indicated or necessary to secure stone masonry in place.

7.18.6 Set stone accurately in locations indicated with edges and faces aligned according to established relationships and indicated tolerances.

7.18.7 Maintain uniform joint widths except for variations due to different stone sizes and where minor variations are required to maintain bond alignment if any. Lay walls with joints not less than 3/8 inch (10 mm) at narrowest points or more than 1/2 inch (13 mm) at widest points.

7.18.8 Place weep holes and vents in joints where moisture may accumulate, including at base of cavity walls, above shelf angles, and at flashing.

a. Use rectangular plastic tubing or mesh weep holes/vents to form weep holes.

b. Space weep holes 24 inches (600 mm) o.c.

7.19 CONSTRUCTION TOLERANCES

7.19.1 Variation from Plumb: For vertical lines and surfaces, do not exceed 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (10 mm in 6 m), or 1/2 inch in 40 feet (13 mm in 12 m) or more. For external corners, expansion joints, control joints, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m) or 1/2 inch in 40 feet (13 mm in 12 m) or more.

7.19.2 Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves, and other conspicuous lines, do not exceed 1/4 inch in 20 feet (6 mm in 6 m) or 1/2 inch in 40 feet (13 mm in 12 m) or more.

7.19.3 Variation of Linear Building Line: For position shown in plan, do not exceed 1/2 inch in 20 feet (13 mm in 6 m) or 3/4 inch in 40 feet (19 mm in 12 m) or more.

7.19.4 Measure variation from level, plumb, and position shown in plan as a variation of the average plane of each stone face from level, plumb, or dimensioned plane.

7.19.5 Variation in Mortar-Joint Thickness: Do not vary from joint size range indicated.

7.20 INSTALLATION OF ANCHORED STONE MASONRY

7.20.1 Anchor stone masonry to concrete with corrugated-metal veneer anchors unless otherwise indicated. Secure anchors by inserting dovetailed ends into dovetail slots in concrete.

7.20.2 Embed veneer anchors in mortar joints of stone masonry at least halfway, but not less than 1-1/4 inches, through stone masonry and with at least a 5/8-inch (16-mm) cover on exterior face.

7.20.3 Space anchors not more than 16 inches (400 mm) o.c. vertically and 24 inches (600 mm) o.c. horizontally. Install additional anchors within 12 inches (300 mm) of openings and perimeter at intervals not exceeding 12 inches (300 mm).

7.20.4 Set stone in full bed of mortar with full head joints unless otherwise indicated. Build anchors into mortar joints as stone is set.

7.20.5 Fill space between back of stone masonry with mortar as stone is set.

7.20.6 Rake out joints for pointing with mortar to depth of not less than 3/4 inch (19 mm) before setting mortar has hardened. Rake joints to uniform depths with square bottoms and clean sides.

7.21 POINTING

7.21.1 Prepare stone-joint surfaces for pointing with mortar by removing dust and mortar particles. Where setting mortar was removed to depths greater than surrounding areas, apply pointing mortar in layers not more than 3/8 inch (10 mm) deep until a uniform depth is formed.

7.21.2 Point stone joints by placing and compacting pointing mortar in layers of not more than 3/8 inch (10 mm) deep. Compact each layer thoroughly and allow to it become thumbprint hard before applying next layer.

7.21.3 Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce the following joint profile:

a. Joint Profile: Smooth, flat face recessed 1/4 inch (6 mm) below edges of stone (raked joint).

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/27/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

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7.22 ADJUSTING AND CLEANING

7.22.1 Remove and replace stone masonry of the following description:

a. Broken, chipped, stained, or otherwise damaged stone. Stone may be repaired if methods and results are approved by Architect.

b. Defective joints.

c. Stone masonry not matching approved samples and mockups.

d. Stone masonry not complying with other requirements indicated.

7.22.2 Replace in a manner that results in stone masonry matching approved samples and mockups, complying with other requirements, and showing no evidence of replacement.

7.22.3 In-Progress Cleaning: Clean stone masonry as work progresses. Remove mortar fins and smears before tooling joints.

7.22.4 Final Cleaning: After mortar is thoroughly set and cured, clean stone masonry as follows:

a. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.

b. Protect adjacent stone and nonmasonry surfaces from contact with cleaner by covering them with liquid strippable masking agent, polyethylene film, or waterproof masking tape.

c. Wet wall surfaces with water before applying cleaner; remove cleaner promptly by rinsing thoroughly with clear water.

d. Clean stone masonry by bucket and brush hand-cleaning method described in BIA Technical Note No. 20, Revised II, using job-mixed detergent solution.

e. Clean stone masonry with proprietary acidic cleaner applied according to manufacturer's written instructions.

f. Clean limestone masonry to comply with recommendations in ILI's "Indiana Limestone Handbook."

7.23 EXCESS MATERIALS AND WASTE

7.23.1 Excess Stone: Stack excess stone where directed by Owner for Owner's use.

7.23.2 Excess Masonry Waste: Remove excess clean masonry waste and other waste, and legally dispose of off Owner's property.

8.0 LIMESTONE SEATING BLOCK

8.1 QUALITY ASSURANCE

8.1.1 Materials and methods of construction shall comply with the American Society for Testing and Materials (ASTM) and applicable requirements of local governing authorities.

8.1.2 Perform work in accordance with ILI.

8.1.3 Provide all limestone from one quarry to ensure consistent color range and texture.

8.1.4 Do not change source or brands of materials during the course of the work.

8.2 SUBMITTALS

8.2.1 Product data for stone and accessories required.

8.2.2 Limestone Seating Block: samples required; include the color and texture proposed for the work.

8.2.3 Shop drawings for stone accessories required.

8.3 DELIVERY, STORAGE AND HANDLING

8.3.1 Stone: deliver, store and handle limestone materials in accordance with stone suppliers recommendations. When blocking and packing, use non-staining materials. Protect stone from damage and soiling.

8.3.2 Stone Accessories: deliver, store and handle masonry accessories to prevent weather damage and deterioration.

8.4 PROJECT CONDITIONS

8.4.1 Cold weather construction: do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen ground or frozen work. Remove and replace stonework damaged by frost or freezing.

8.4.2 Protect adjacent work from damage, soiling, and staining during masonry work operations.

8.4.3 Do not use stone units with unacceptable chips, cracks, voids, stains, or other visible defects as determined by the Landscape Architect.

8.5 LIMESTONE SEATING BLOCK

8.5.1 Quarry / Fabricator: US Stone Industries, Herington, KS.

8.5.2 Limestone standards: Native Kansas or Minnesota limestone – min. 55% calcium carbonate as $CaCo_3$. Compressive strength (ASTM C170-50). Minimum – 6500 psi. Average – 7500 psi. Absorption (ASTM C97-47) – maximum 5.0%.

a. Product: Top Ledge Cottonwood.

b. Surface Finish: Diamond smooth finish top and ends; rock pitch finish on front and back; bottom sawn.

i. 3/8" radius on all top edges.

c. Sizes: see details

d. Grade / Quality: Standard.

8.5.3 Provide sound limestone uniform in color and texture, free from mineral stains, other foreign matter, and defects detriment to appearance and durability.

8.5.4 Color range, texture, and finish of limestone shall be within range of Landscape Architect's accepted samples.

8.6 CAST-IN-PLACE CONCRETE PADS

8.6.1 Pad sizes as shown on drawings.

9.0 PERMANENT EROSION CONTROL MEASURES

9.1 PLANTS, TREES AND SHRUBS

9.1.1 **Warranty:** Installer agrees to repair or replace plantings and accessories that fail in materials, workmanship or growth within the specified warranty period.

a. Failures include, but are not limited to: death and unsatisfactory growth, and damage from falling or blowing over. The Contractor will be responsible to replace all trees that fail during the project or warranty period at no additional cost to the City.

b. The Engineer will monitor trees planted by the contractor as part of the construction contract. Trees that die prior to completion of the project will be reported to the contractor and must be removed immediately. Replacement trees will be planted as directed at no additional cost to the City.

c. The Parks Department will monitor the trees during the warranty period. If a tree meets the criteria below, Park staff will advise the Engineer of the need to meet on site to confirm that the tree is dead. The Engineer will follow up with the contractor to have the tree replaced at no additional cost to the City.

i. Criteria for identifying a dead tree:

(i) Leaves are brown during the summer.

(ii) Tree loses its leaves during the summer.

(iii) Buds are dry and brittle.

(iv) Brittle branches that break when bent.

(v) 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.

d. Staking of trees will be at the discretion of the Engineer and will be incidental to the cost of the tree. No hose and wire will be used for staking.

e. All plants, trees and shrubs will be warrantied for 12 months from date of project substantial completion. At the end of the warranty period the engineer shall make an inspection of the project and note dead, unhealthy or otherwise unacceptable plants, trees and shrubs that shall be replaced by the Contractor at no additional cost to the project. Warranty costs shall be incidental to the unit prices for plants, trees, and shrubs.

9.1.2 **General Notes:** All plants, trees and shrubs shall conform to or exceed minimum quality standards as defined by the American Nursery and Landscaping Association, current edition of ANSI Z60.1, and shall be purchased from a Landscape Nursery. Plants, trees and shrubs 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, tree and shrub shall have an identification label, removed after the Substantial Completion inspection.

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

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

c. Schedule a pre-planting meeting to review tree planting requirements with the engineer, landscape architect and City of Yankton prior to planting. All plants, trees and shrubs shall be planted in accordance with all the drawings and specifications included in the plans.

d. Trees may not be stored on site for more than 24 hours prior to planting without prior approval and installation of a moisture retaining cover or bedding around all root balls.

9.1.3 **Tree Planting:** Set stock plumb and in center of planting pit or trench with root flare 2 inches above adjacent finish grades. Root flare may have been buried during growing or ball and burlap operations and will need to be carefully exposed during planting.

a. After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, and wire baskets from tops of root balls and from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.

b. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When planting pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Continue backfilling process. Water again after placing and tamping final layer of soil.

9.1.4 **Plant and Plant Area Maintenance**: The Contractor is responsible for maintaining all plants and plant beds until the entire project is complete and accepted by the Owner, per the following:

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
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SOUTH DAKOTA
3/2/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

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GENERAL NOTES

L1. 07

a. The Contractor is responsible for controlling weeds in all new landscaping areas. The Contractor shall also spray and remove any weeds that are present prior to installing the landscaping areas.

b. 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.

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

d. 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.

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

9.2 PRE-EMERGENT HERBICIDE

9.2.1 Apply a granular Trifluralin based pre-emergent herbicide to control germination of weeds to all planting bed areas prior to installation of weed barrier fabric. Apply according to manufacturer's written instruction. Pre-Emergent herbicide shall be incidental to weed barrier fabric bid item.

9.3 WEED BARRIER FABRIC

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

9.3.2 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.

9.3.3 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".

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

Product	Manufacturer
SRW Pro Plus V	SRW Products 800-752-9326 www.srwproducts.com
Pro 5	DeWitt Company Inc. 800-888-9669 www.dewittcompany.com

9.4 SHREDDED BARK MULCH

9.4.1 Shredded cedar mulch shall be placed at a thickness of 3 inches in areas shown on the plans after plants are planted.

9.4.2 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 "Shredded Bark Mulch".

9.4.3 A 20 gallon Treegator Slow Release Watering Bag shall be provided and installed with each tree. www.treegator.com. Each tree bag shall be refilled at least once per week.

9.4.4 All costs for furnishing, handling, and placing the watering bags including the materials, equipment, labor and incidentals necessary shall be incidental to the contract unit price per each for tree bid items.

9.5 WATERING

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

9.5.2 A 20 gallon Treegator Slow Release Watering Bag shall be provided and installed with each tree immediately following tree planting. www.treegator.com. All costs for furnishing, handling, and placing watering bags including the materials, equipment, labor and incidentals necessary shall be incidental to the contract unit price per each for tree bid items. Each tree bag shall be refilled at least twice per week.

9.5.3 Contractor shall apply 40 gallons of water per week per tree, plus 5 gallons of water per week for each plant and shrub. This quantity is for estimating purposes only. 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.

9.5.4 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 shall be at the expense of the Contractor. Replaced landscape material shall be watered as required for original plantings at the expense of the Contractor.

9.5.5 **Watering Restrictions:** The Contractor must comply with all watering restrictions in place. A listing of watering restrictions can be found on the City's website. If even/odd or more restrictive watering restrictions are in place, a watering permit must be obtained from the Public Works Office. This permit will allow daily watering (outside the noon to five restrictions) for a period of up to 4 weeks. After 4 weeks, the Contractor must comply with the current watering restrictions. For clarification, the whole project will be treated as one address so the watering can occur on the entire project on the same day.

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801 N. PHILLIPS AVE., SUITE 100
SIOUX FALLS, SD 57104
PH: 605.338.6668
FAX: 605.338.8750

City of Yankton
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DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

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SEI PROJECT #: 17242

GENERAL NOTES

L1. 08

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LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1. CORTEN STEEL EDGING (SEE DETAILS)
2. QUARTZITE STEPPERS (SEE DETAILS)
3. LIMESTONE SEATING BLOCK (SEE DETAILS)
4. GRANITE SCULPTURE BASE, RELOCATED
5. YANKTON LANTERN
6. FIRE PIT (SEE DETAIL)
7. CONCRETE PLANTER
8. BENCH
9. LITTER RECEPTACLE
10. BIKE RACK
11. ADA TILE (SEE DETAIL)
12. QUARTZITE PAVERS (SEE DETAIL)
13. CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14. TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15. TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16. STORM WATER CUT OUT
17. UTILITY ENCLOSURE (SEE DETAIL)
18. GAS SERVICE LINE (BY OTHERS)

QUANTITIES

652 LF - CORTEN STEEL EDGING
19 EA - STORM WATER CUTOUTS
8 EA - QUARTZITE STEPPERS
10 EA - LIMESTONE SEATING BLOCK
1 EA - YANKTON LANTERN
1 LS - FIRE PIT
1 EA - UTILITY ENCLOSURE
11 EA - CONCRETE PLANTER
2 EA - BENCH
2 EA - LITTER RECEPTACLE
4 EA - BIKE RACK
3 EA - ADA TILE
751 SF - QUARTZITE PAVERS
70 LF - CORTEN STEEL RAISED PLANTER
299 CY - PLANTING SOIL
223 SY - WEED BARRIER FABRIC
215 SY - 3" DEPTH SHREDDED BARK MULCH

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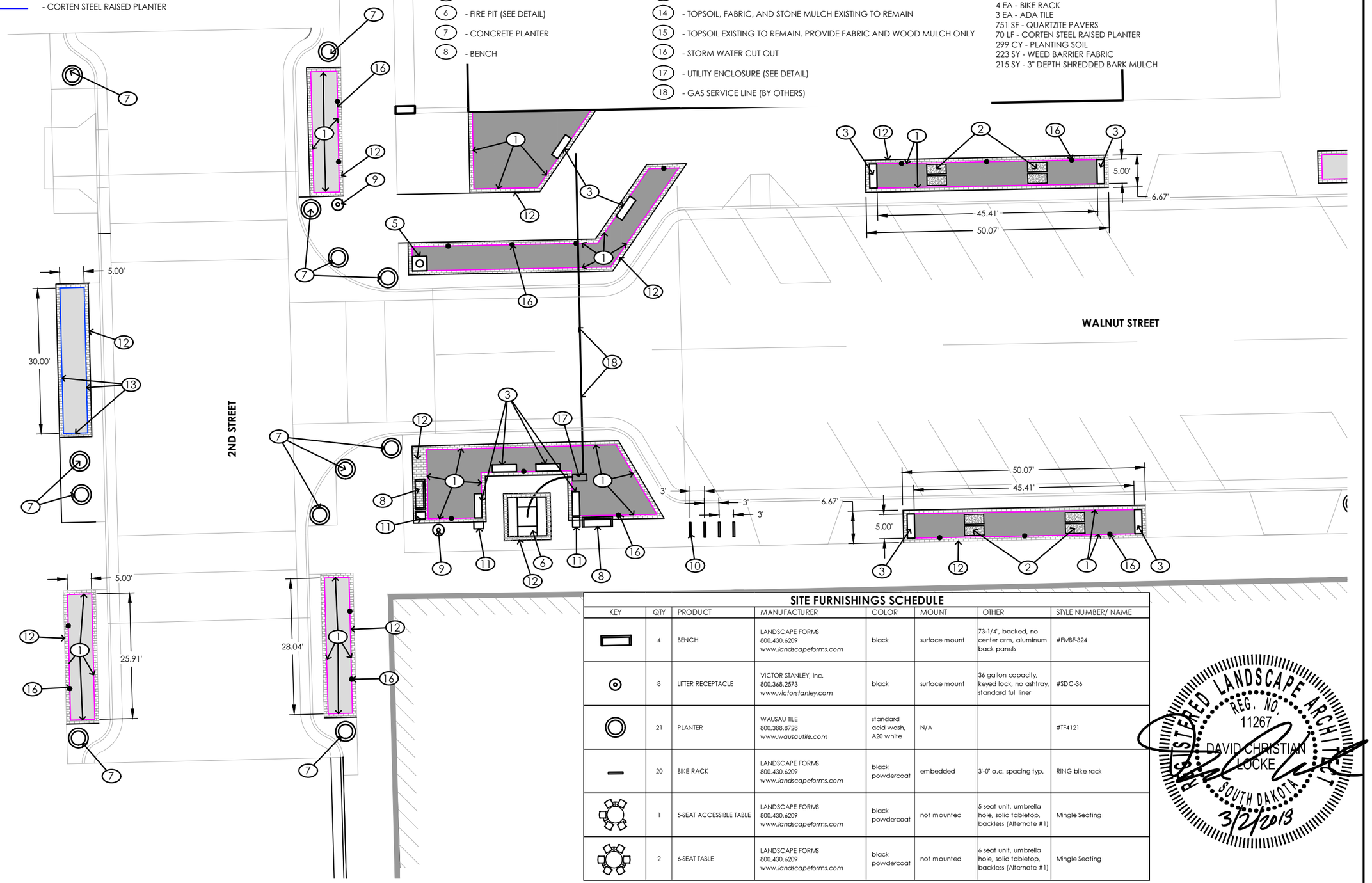

SITE FURNISHINGS SCHEDULE

KEY	QTY	PRODUCT	MANUFACTURER	COLOR	MOUNT	OTHER	STYLE NUMBER/ NAME
	4	BENCH	LANDSCAPE FORMS 800.430.6209 www.landscapeforms.com	black	surface mount	73-1/4", backed, no center arm, aluminum back panels	#FMBF-324
	8	LITTER RECEPTACLE	VICTOR STANLEY, Inc. 800.368.2573 www.victorstanley.com	black	surface mount	36 gallon capacity, keyed lock, no ashtray, standard full liner	#SDC-36
	21	PLANTER	WAUSAU TILE 800.388.8728 www.wausautile.com	standard acid wash, A20 white	N/A		#TF4121
	20	BIKE RACK	LANDSCAPE FORMS 800.430.6209 www.landscapeforms.com	black powdercoat	embedded	3'-0" o.c. spacing typ.	RING bike rack
	1	5-SEAT ACCESSIBLE TABLE	LANDSCAPE FORMS 800.430.6209 www.landscapeforms.com	black powdercoat	not mounted	5 seat unit, umbrella hole, solid tabletop, backless (Alternate #1)	Mingle Seating
	2	6-SEAT TABLE	LANDSCAPE FORMS 800.430.6209 www.landscapeforms.com	black powdercoat	not mounted	6 seat unit, umbrella hole, solid tabletop, backless (Alternate #1)	Mingle Seating

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215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
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DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

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SEI PROJECT #: 17242

HARDSCAPE PLAN

L2.00

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LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1. CORTEN STEEL EDGING (SEE DETAILS)
2. QUARTZITE STEPPERS (SEE DETAILS)
3. LIMESTONE SEATING BLOCK (SEE DETAILS)
4. GRANITE SCULPTURE BASE, RELOCATED
5. YANKTON LANTERN
6. FIRE PIT (SEE DETAIL)
7. CONCRETE PLANTER
8. BENCH
9. LITTER RECEPTACLE
10. BIKE RACK
11. ADA TILE (SEE DETAIL)
12. QUARTZITE PAVERS (SEE DETAIL)
13. CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14. TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15. TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16. STORM WATER CUT OUT
17. 5-SEAT ACCESSIBLE TABLE (ALTERNATE NO. 1)
18. 6-SEAT TABLE (ALTERNATE NO. 1)
19. UNDERGROUND BUILDING UNDER SIDEWALK (SEE CIVIL PLANS)

QUANTITIES

442 LF - CORTEN STEEL EDGING
16 EA - STORM WATER CUTOUTS
12 EA - QUARTZITE STEPPERS
10 EA - LIMESTONE SEATING BLOCK
1 EA - GRANITE SCULPTURE BASE, RELOCATED
1 EA - YANKTON LANTERN
7 EA - CONCRETE PLANTER
1 EA - BENCH
1 EA - LITTER RECEPTACLE
4 EA - BIKE RACK
1 EA - ADA TILE
478 SF - QUARTZITE PAVERS
221 CY - PLANTING SOIL
151 SY - WEED BARRIER FABRIC
140 SY - 3" DEPTH SHREDDED BARK MULCH
1 EA - 5-SEAT ACCESSIBLE TABLE
2 EA - 6-SEAT TABLE

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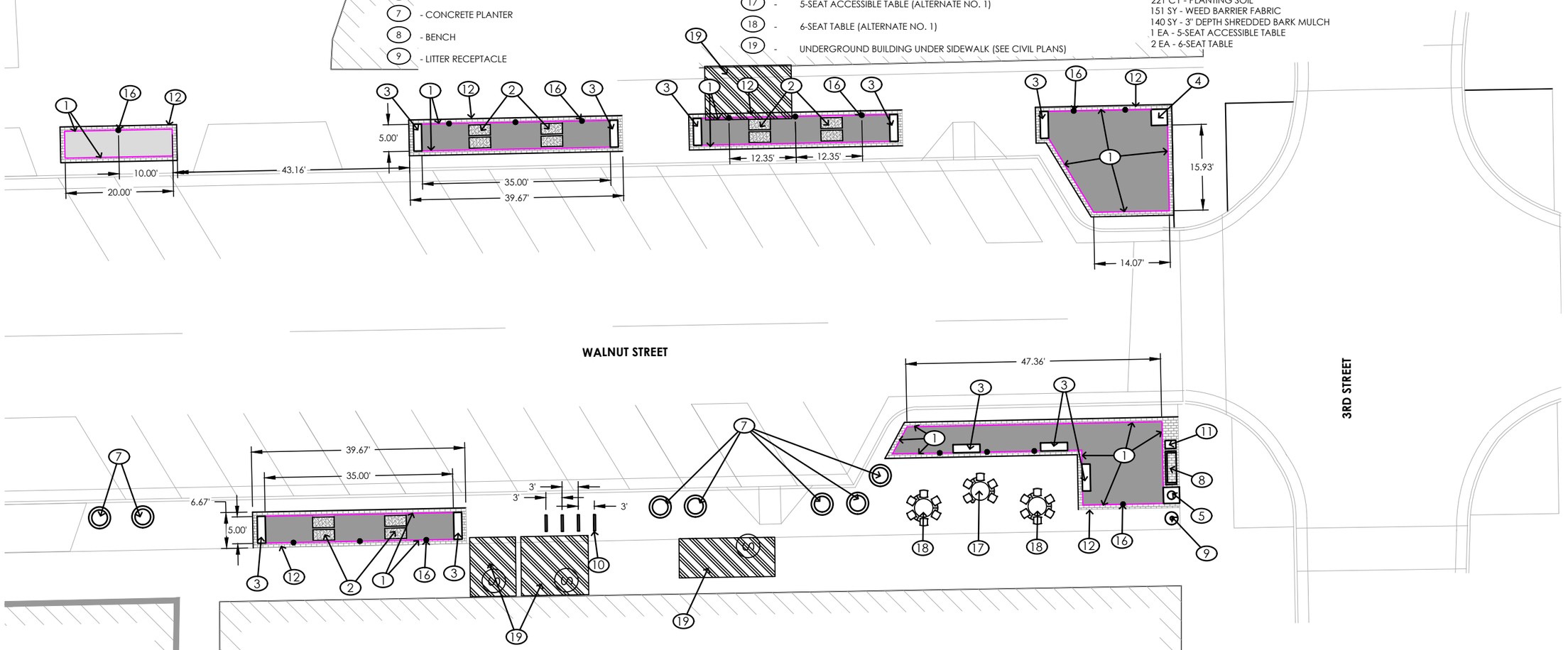

STOCKWELL
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215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

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DOWNTOWN STREETSCAPE IMPROVEMENTS

WALNUT STREET & 2ND STREET

YANKTON, SOUTH DAKOTA

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HARDSCAPE PLAN

L2.01

REGISTERED LANDSCAPE ARCHITECT
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SOUTH DAKOTA
3/2/2018

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LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1. - CORTEN STEEL EDGING (SEE DETAILS)
2. - QUARTZITE STEPPERS (SEE DETAILS)
3. - LIMESTONE SEATING BLOCK (SEE DETAILS)
4. - GRANITE SCULPTURE BASE, RELOCATED
5. - YANKTON LANTERN
6. - FIRE PIT (SEE DETAIL)
7. - CONCRETE PLANTER
8. - BENCH
9. - LITTER RECEPTACLE
10. - BIKE RACK
11. - ADA TILE (SEE DETAIL)
12. - QUARTZITE PAVERS (SEE DETAIL)
13. - CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14. - TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15. - TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16. - STORM WATER CUT OUT
17. - UNDERGROUND BUILDING EXTENSION UNDER SIDEWALK (SEE CIVIL PLANS)

QUANTITIES

473 LF - CORTEN STEEL EDGING
19 EA - STORM WATER CUTOUTS
20 EA - QUARTZITE STEPPERS
12 EA - LIMESTONE SEATING BLOCK
1 EA - GRANITE SCULPTURE BASE, RELOCATED
1 EA - CONCRETE PLANTER
1 EA - BENCH
1 EA - LITTER RECEPTACLE
6 EA - BIKE RACK
1 EA - ADA TILE
547 SF - QUARTZITE PAVERS
247 CY - PLANTING SOIL
163 SY - WEED BARRIER FABRIC
145 SY - 3" DEPTH SHREDDED BARK MULCH

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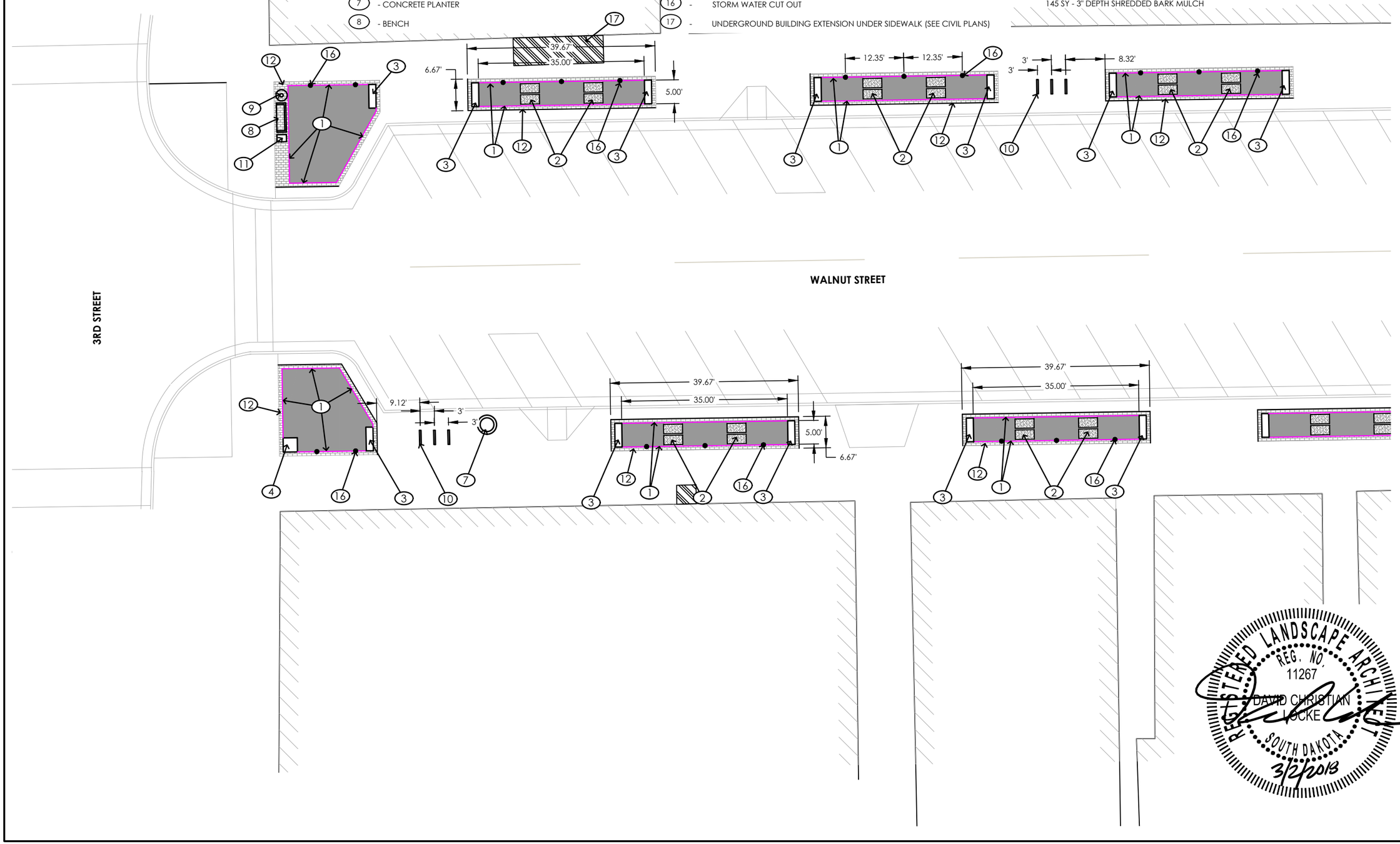

STOCKWELL
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215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

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DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

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REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

HARDSCAPE PLAN

L2.02

17242 - Hardscape Plan.dwg

LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1 - CORTEN STEEL EDGING (SEE DETAILS)
2 - QUARTZITE STEPPERS (SEE DETAILS)
3 - LIMESTONE SEATING BLOCK (SEE DETAILS)
4 - GRANITE SCULPTURE BASE, RELOCATED
5 - YANKTON LANTERN
6 - FIRE PIT (SEE DETAIL)
7 - CONCRETE PLANTER
8 - BENCH
9 - LITTER RECEPTACLE
10 - BIKE RACK
11 - ADA TILE (SEE DETAIL)
12 - QUARTZITE PAVERS (SEE DETAIL)
13 - CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14 - TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15 - TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16 - STORM WATER CUT OUT

QUANTITIES

306 LF - CORTEN STEEL EDGING
13 EA - STORM WATER CUTOUTS
16 EA - QUARTZITE STEPPERS
10 EA - LIMESTONE SEATING BLOCK
1 EA - YANKTON LANTERN
2 EA - CONCRETE PLANTER
2 EA - LITTER RECEPTACLE
3 EA - BIKE RACK
416 SF - QUARTZITE PAVERS
124 CY - PLANTING SOIL
85 SY - WEED BARRIER FABRIC
71 SY - 3" DEPTH SHREDDED BARK MULCH

0 5 10 20

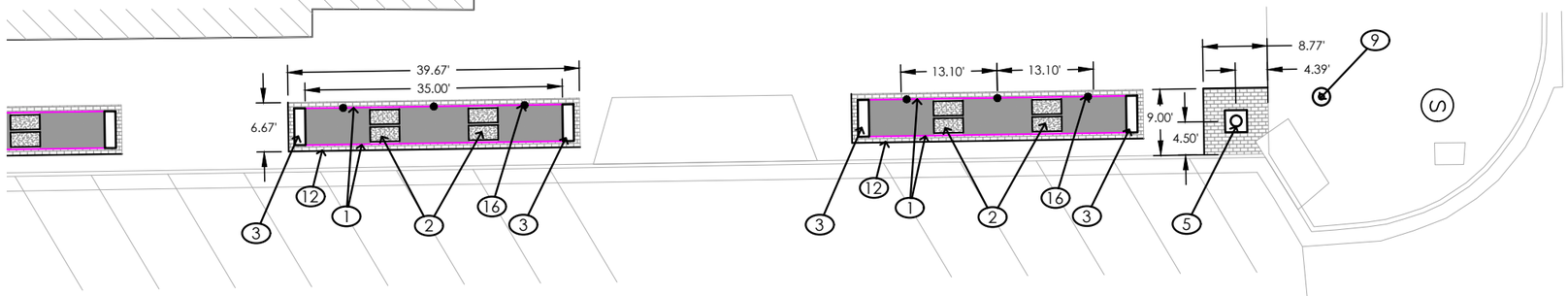
GENERAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL PUBLIC AND PRIVATE UTILITIES WHICH LIE WITHIN THE CONSTRUCTION AREA PRIOR TO ANY CONSTRUCTION. NOTIFY THE LANDSCAPE ARCHITECT OF ANY DISCREPANCIES. CALL SOUTH DAKOTA ONE CALL: 811 (IN-STATE) OR (800)781-7474 (OUTSIDE OF SOUTH DAKOTA).

THE CONTRACTOR SHALL CONSTRUCT ALL ITEMS WITHIN THIS CONTRACT IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND REGULATIONS. CONTRACTOR TO COORDINATE ALL WORK WITHIN THE PUBLIC RIGHT OF WAY OR STREETS WITH THE APPROPRIATE JURISDICTIONS.

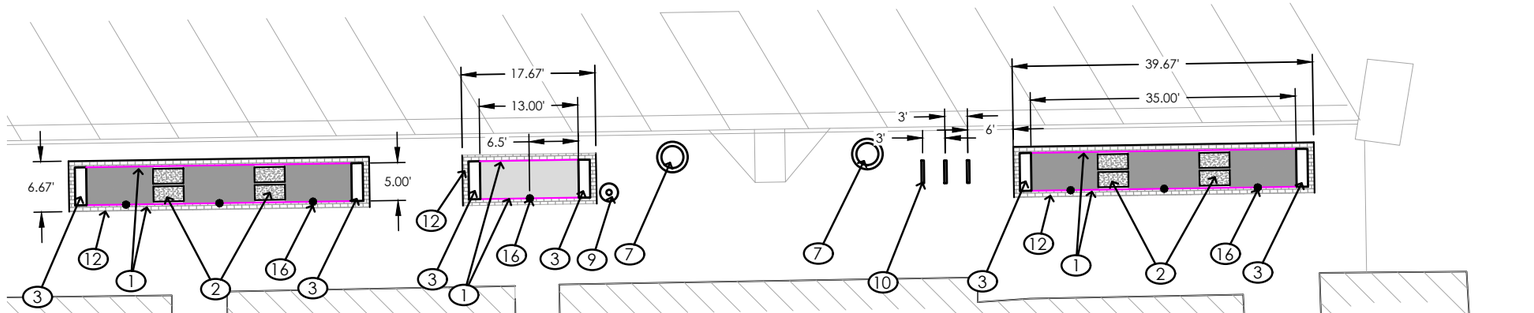
QUALITY EXPECTATIONS: MATERIALS AND WORKMANSHIP ARE EXPECTED TO BE OF THE HIGHEST POSSIBLE QUALITY. THE CONTRACTOR SHALL REVIEW NOTES AND SPECIFICATIONS PRIOR TO BIDDING AND CONSTRUCTION.

ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS. NOTHING INDICATED ON THESE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.



4TH STREET/SD HWY 50

WALNUT STREET



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PH: 605.665.8092
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DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
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SEI PROJECT #: 17242

HARDSCAPE PLAN

L2.03

17242 - Hardscape Plan.dwg

LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1 - CORTEN STEEL EDGING (SEE DETAILS)
2 - QUARTZITE STEPPERS (SEE DETAILS)
3 - LIMESTONE SEATING BLOCK (SEE DETAILS)
4 - GRANITE SCULPTURE BASE, RELOCATED
5 - YANKTON LANTERN
6 - FIRE PIT (SEE DETAIL)
7 - CONCRETE PLANTER
8 - BENCH
9 - LITTER RECEPTACLE
10 - BIKE RACK
11 - ADA TILE (SEE DETAIL)
12 - QUARTZITE PAVERS (SEE DETAIL)
13 - CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14 - TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15 - TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16 - STORM WATER CUT OUT

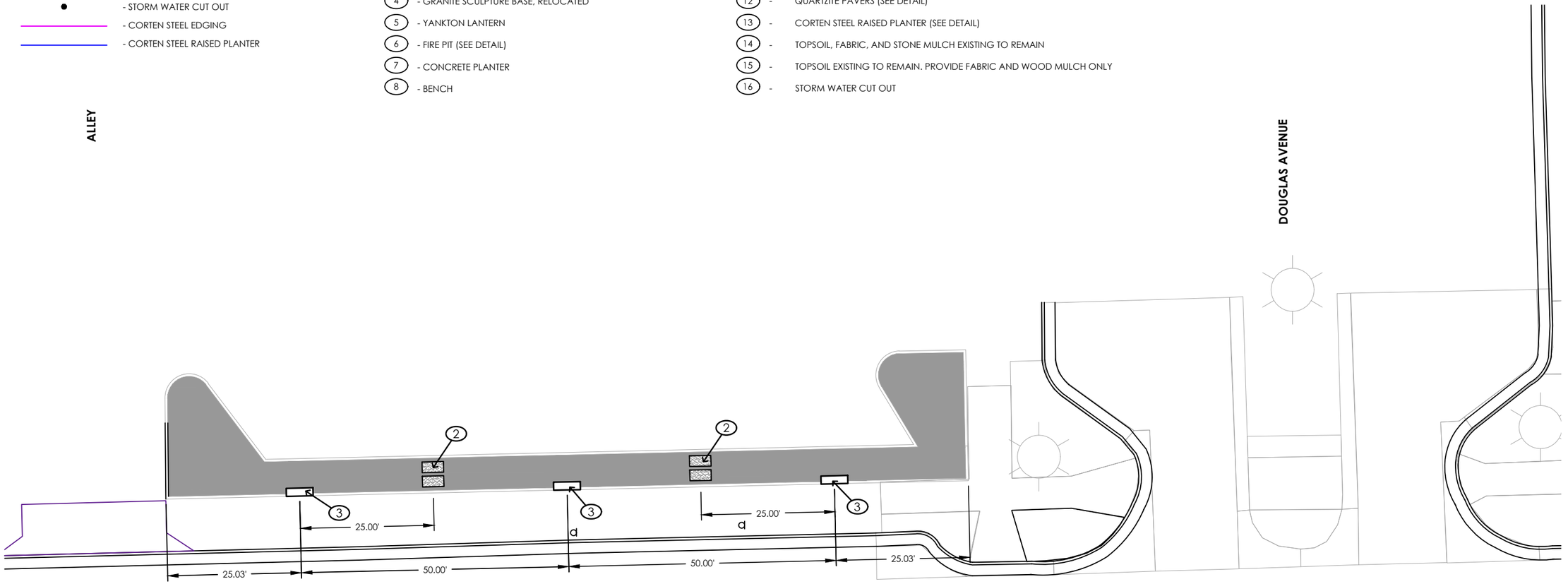
QUANTITIES

4 EA - QUARTZITE STEPPERS
3 EA - LIMESTONE SEATING BLOCK
220 CY - PLANTING SOIL
145 SY - WEED BARRIER FABRIC
141 SY - 3" DEPTH SHREDDED BARK MULCH

0 5 10 20

ALLEY

DOUGLAS AVENUE



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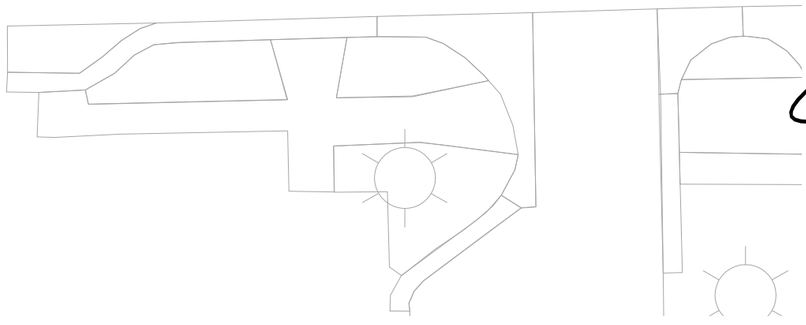

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA Where I Flow Here

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
PLOT DATE 3/2/2018 9:51 AM
17242 - Hardscape Plan.dwg

SEI PROJECT #: 17242

HARDSCAPE PLAN

L2.04

17242 - Hardscape Plan.dwg

LEGEND

- PROPOSED QUARTZITE STEPPERS
- PROPOSED QUARTZITE PAVERS
- 2' DEPTH PLANTING SOIL
- 3.5' DEPTH PLANTING SOIL
- STORM WATER CUT OUT
- CORTEN STEEL EDGING
- CORTEN STEEL RAISED PLANTER

KEYNOTES

1. CORTEN STEEL EDGING (SEE DETAILS)
2. QUARTZITE STEPPERS (SEE DETAILS)
3. LIMESTONE SEATING BLOCK (SEE DETAILS)
4. GRANITE SCULPTURE BASE, RELOCATED
5. YANKTON LANTERN
6. FIRE PIT (SEE DETAIL)
7. CONCRETE PLANTER
8. BENCH
9. LITTER RECEPTACLE
10. BIKE RACK
11. ADA TILE (SEE DETAIL)
12. QUARTZITE PAVERS (SEE DETAIL)
13. CORTEN STEEL RAISED PLANTER (SEE DETAIL)
14. TOPSOIL, FABRIC, AND STONE MULCH EXISTING TO REMAIN
15. TOPSOIL EXISTING TO REMAIN. PROVIDE FABRIC AND WOOD MULCH ONLY
16. STORM WATER CUT OUT

QUANTITIES

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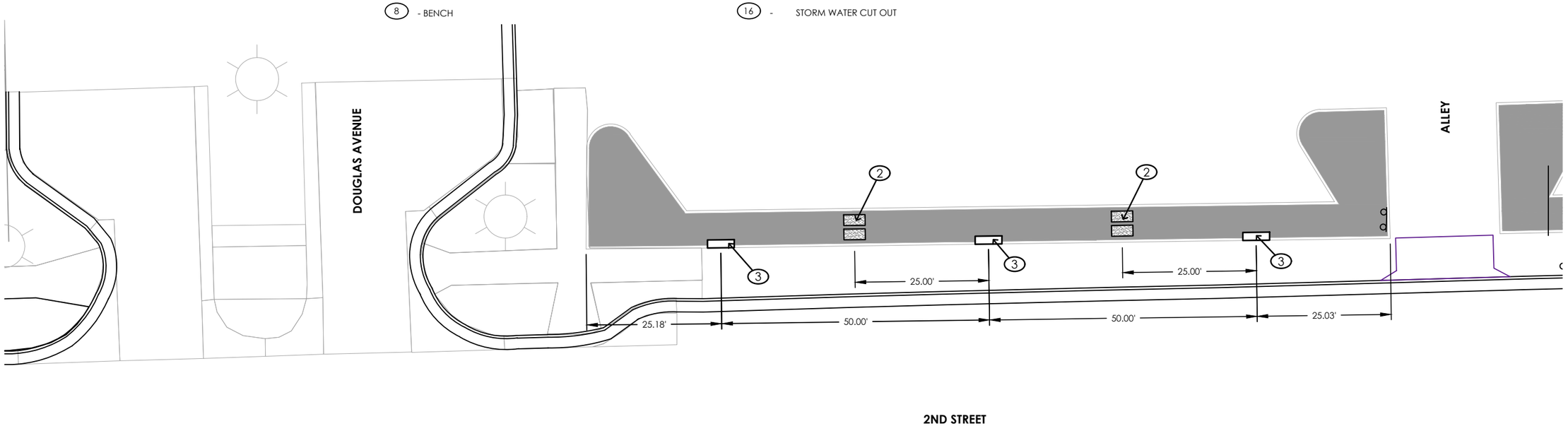
141 SY - 3" DEPTH SHREDDED BARK MULCH

0 5 10 20



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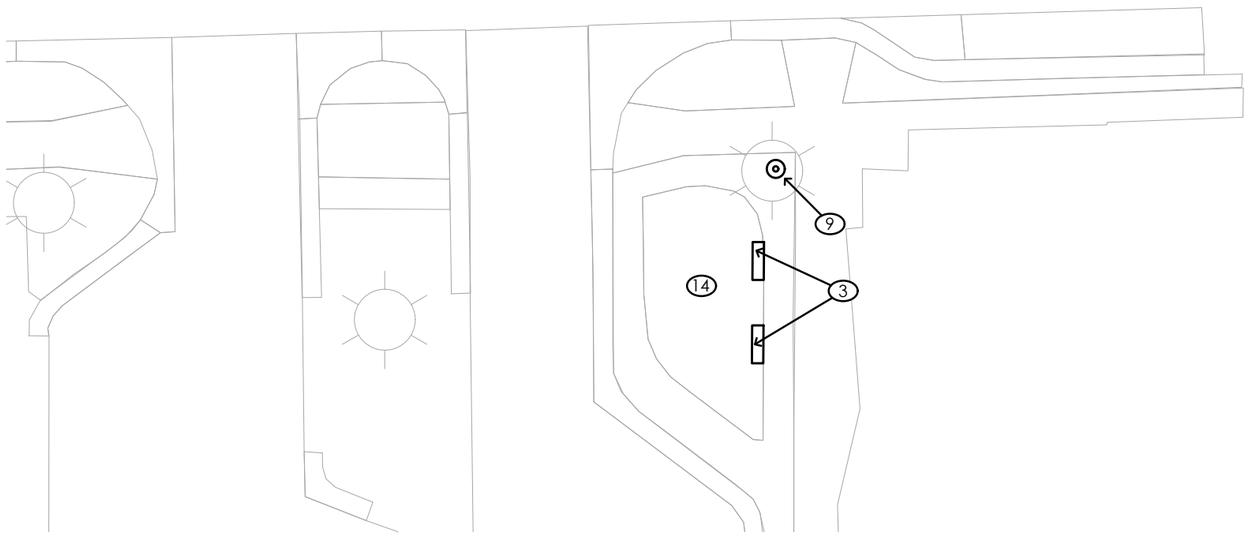

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HARDSCAPE PLAN

L2.05

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3/2/2018

17242 - Hardscape Plan.dwg

LEGEND

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- 2' DEPTH PLANTING SOIL
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KEYNOTES

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16. - STORM WATER CUT OUT
17. - EXISTING AREA TO REMAIN

QUANTITIES

4 EA - QUARTZITE STEPPERS
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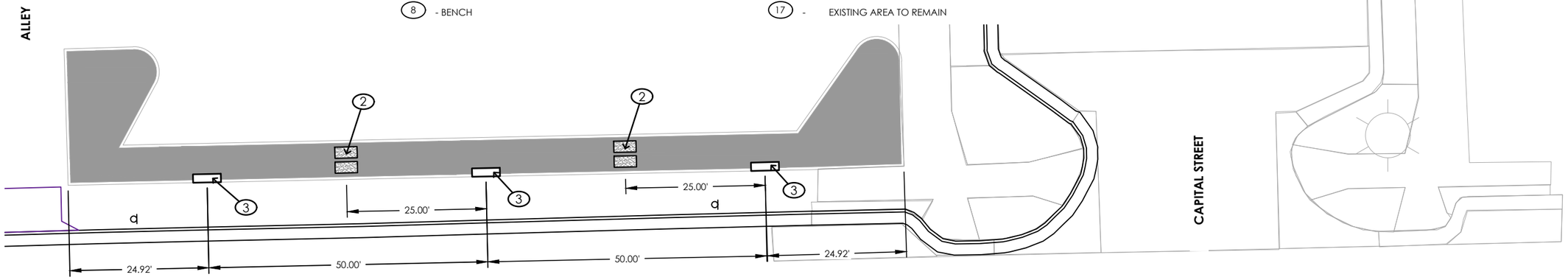
1 EA - LITTER RECEPTACLE
3 EA - BIKE RACK
220 CY - PLANTING SOIL
179 SY - WEED BARRIER FABRIC
176 SY - 3" DEPTH SHREDDED BARK MULCH

0 5 10 20



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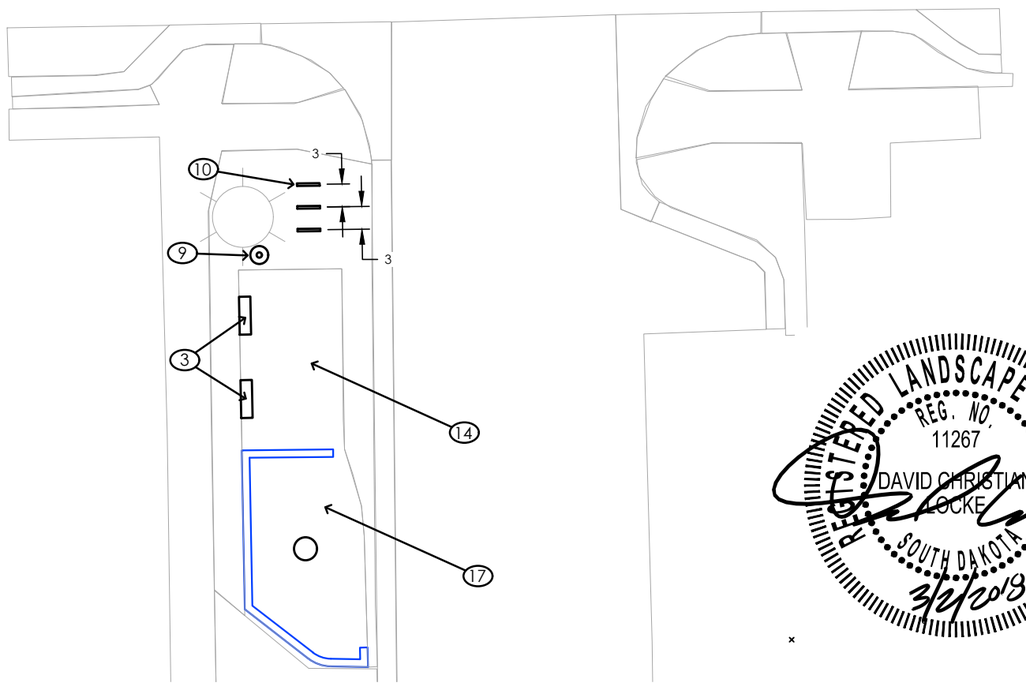

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HARDSCAPE PLAN

L2.06

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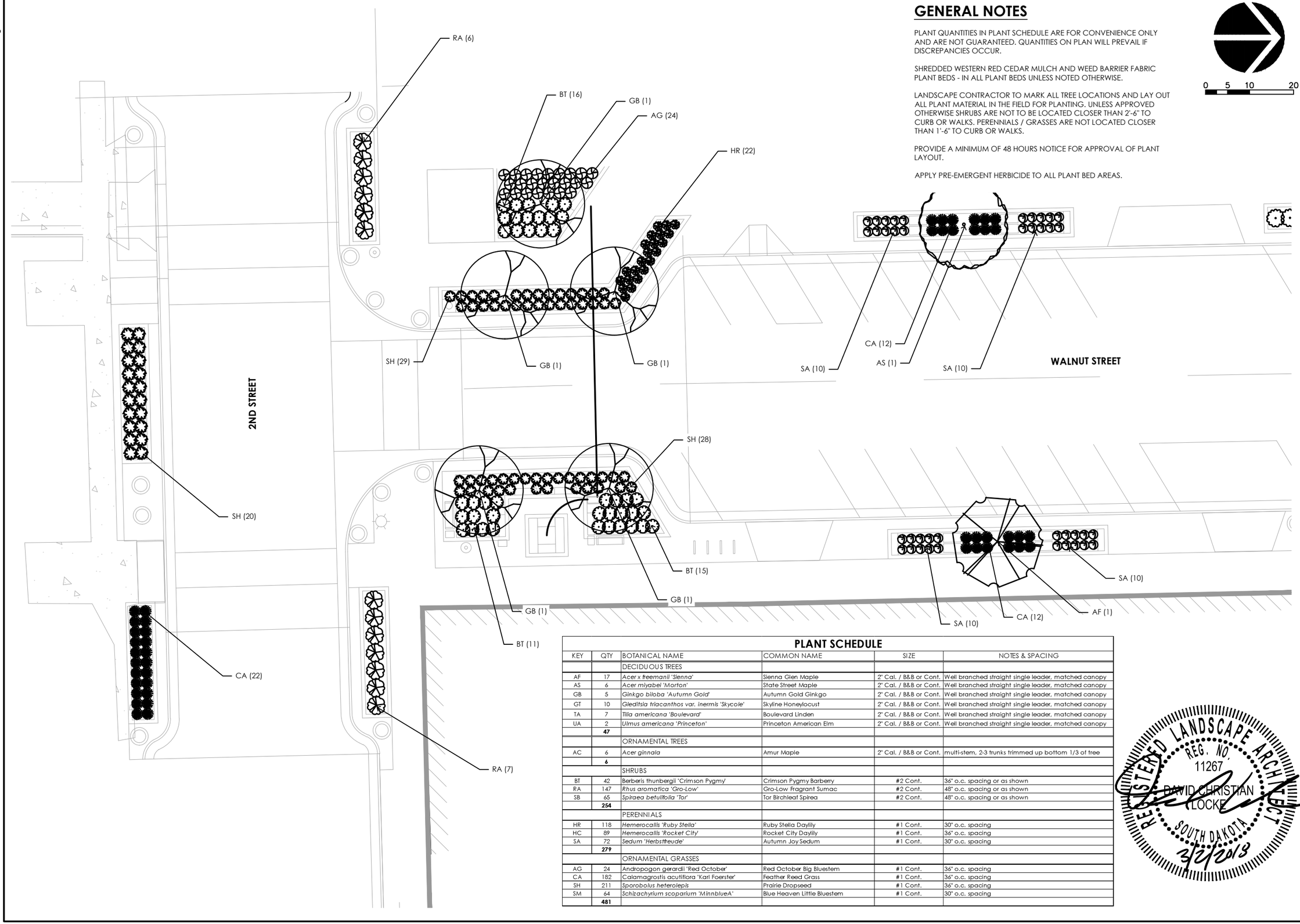

GENERAL NOTES

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APPLY PRE-EMERGENT HERBICIDE TO ALL PLANT BED AREAS.

0 5 10 20

PLANT SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	NOTES & SPACING
		DECIDUOUS TREES			
AF	17	*Acer x freemanii 'Sienna'*	Sienna Glen Maple	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
AS	6	*Acer miyabei 'Morton'*	State Street Maple	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
GB	5	*Ginkgo biloba 'Autumn Gold'*	Autumn Gold Ginkgo	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
GT	10	*Gleditsia triacanthos var. inermis 'Skycole'*	Skyline Honeylocust	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
TA	7	*Tilia americana 'Boulevard'*	Boulevard Linden	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
UA	2	*Ulmus americana 'Princeton'*	Princeton American Elm	2" Cal. / B&B or Cont.	Well branched straight single leader, matched canopy
	47				
		ORNAMENTAL TREES			
AC	6	*Acer ginnala*	Amur Maple	2" Cal. / B&B or Cont.	multi-stem, 2-3 trunks trimmed up bottom 1/3 of tree
	6				
		SHRUBS			
BT	42	Berberis thunbergii 'Crimson Pygmy'	Crimson Pygmy Barberry	#2 Cont.	36" o.c. spacing or as shown
RA	147	*Rhus aromatica 'Gro-Low'*	Gro-Low Fragrant Sumac	#2 Cont.	48" o.c. spacing or as shown
SB	65	*Spiraea betulifolia 'Tor'*	Tor Birchleaf Spirea	#2 Cont.	48" o.c. spacing or as shown
	254				
		PERENNIALS			
HR	118	*Hemerocallis 'Ruby Stella'*	Ruby Stella Daylily	#1 Cont.	30" o.c. spacing
HC	89	*Hemerocallis 'Rocket City'*	Rocket City Daylily	#1 Cont.	36" o.c. spacing
SA	72	*Sedum 'Herbstfreude'*	Autumn Joy Sedum	#1 Cont.	30" o.c. spacing
	279				
		ORNAMENTAL GRASSES			
AG	24	Andropogon gerardii 'Red October'	Red October Big Bluestem	#1 Cont.	36" o.c. spacing
CA	182	Calamagrostis acutiflora 'Karl Foerster'	Feather Reed Grass	#1 Cont.	36" o.c. spacing
SH	211	*Sporobolus heterolepis*	Prairie Dropseed	#1 Cont.	36" o.c. spacing
SM	64	*Schizachyrium scoparium 'MinnblueA'*	Blue Heaven Little Bluestem	#1 Cont.	30" o.c. spacing
	481				

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City of Yankton SOUTH DAKOTA Where It All Comes Together

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
PLOT DATE 3/2/2018 3:42 PM
17242 - Planting Plan.dwg

SEI PROJECT #: 17242

PLANTING PLAN

L3.00

17242 - Planting Plan.dwg

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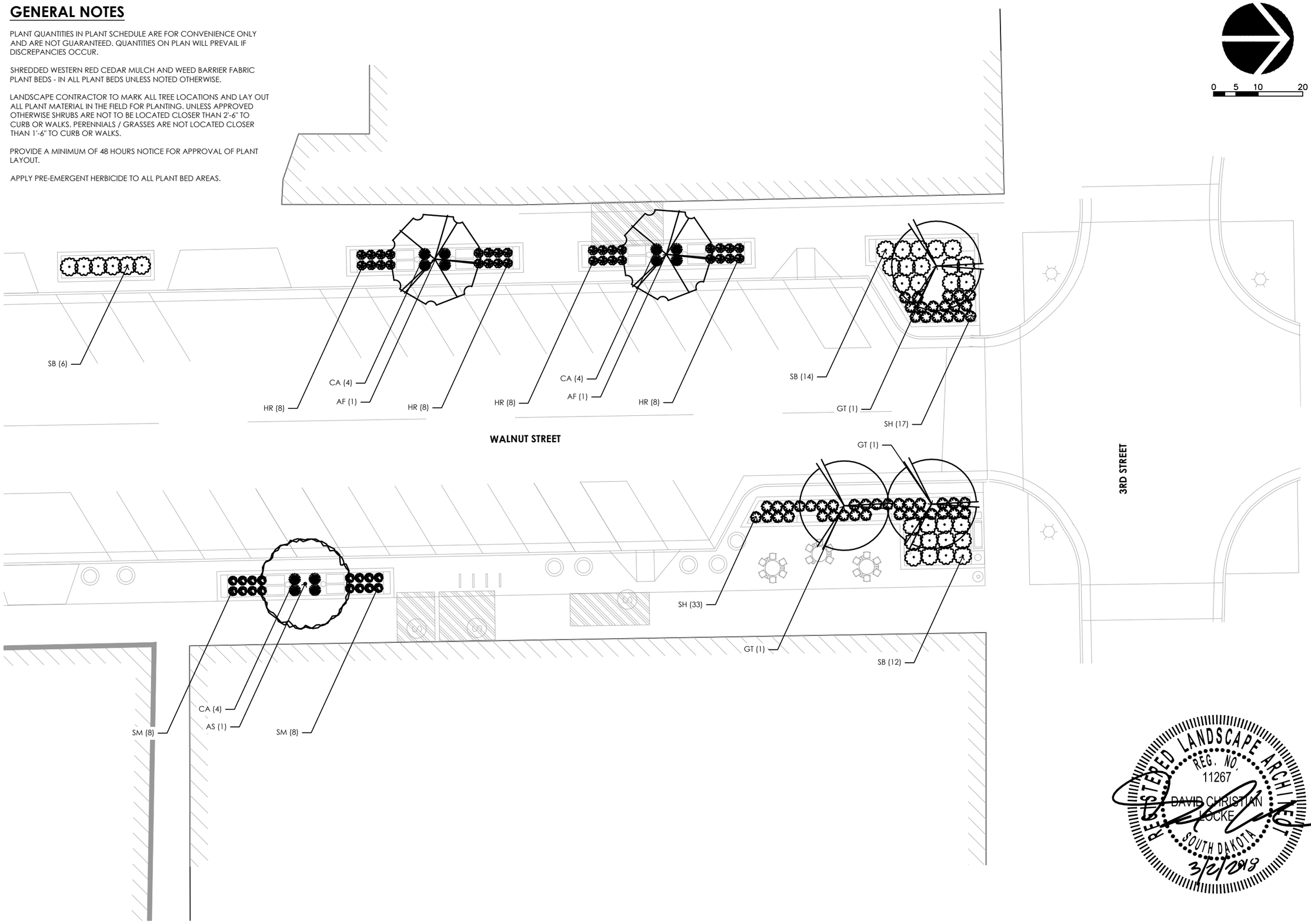

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PLANTING PLAN

L3.01

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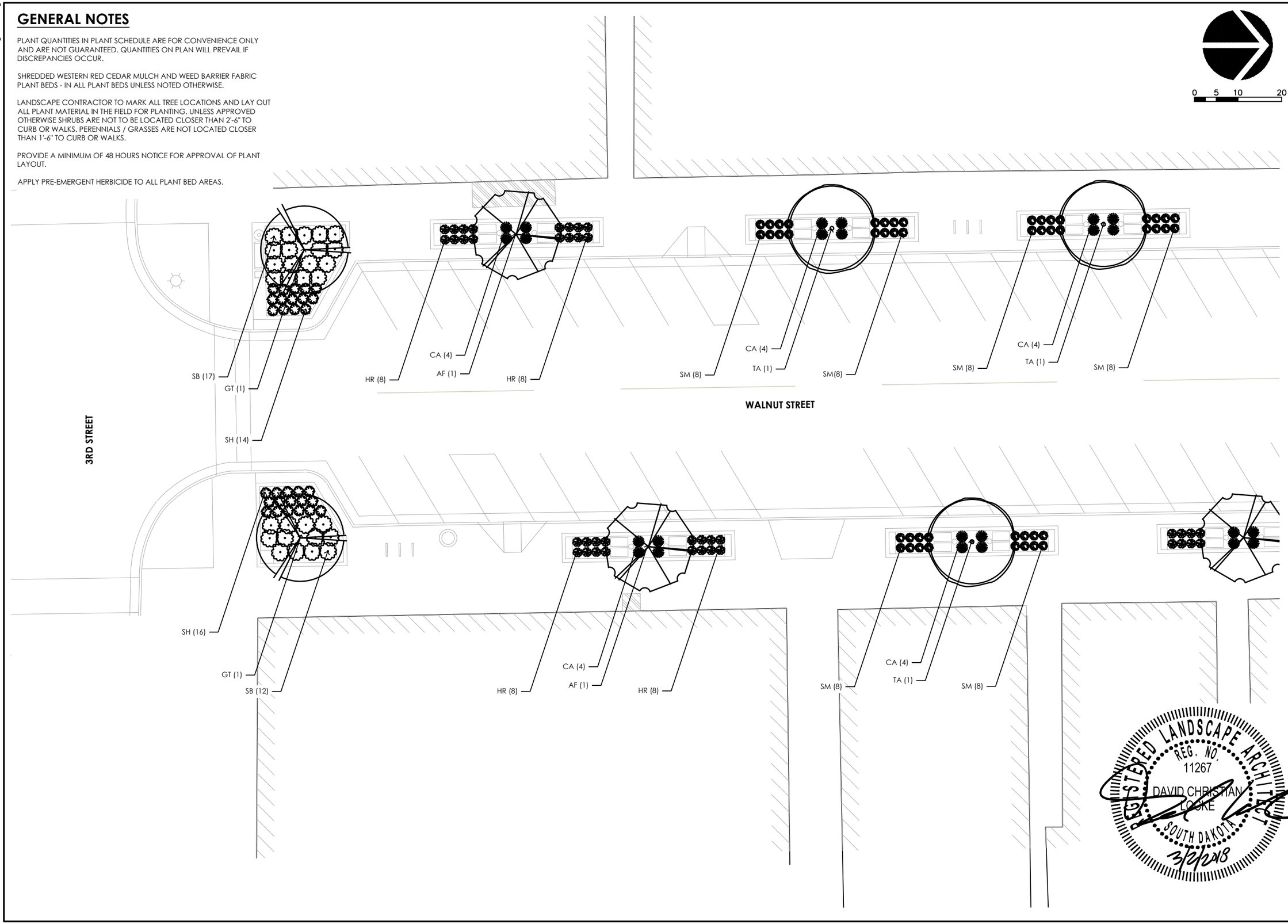

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PLANTING PLAN

L3.02

REGISTERED LANDSCAPE ARCHITECT
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DAVID CHRISTIAN LOOKE
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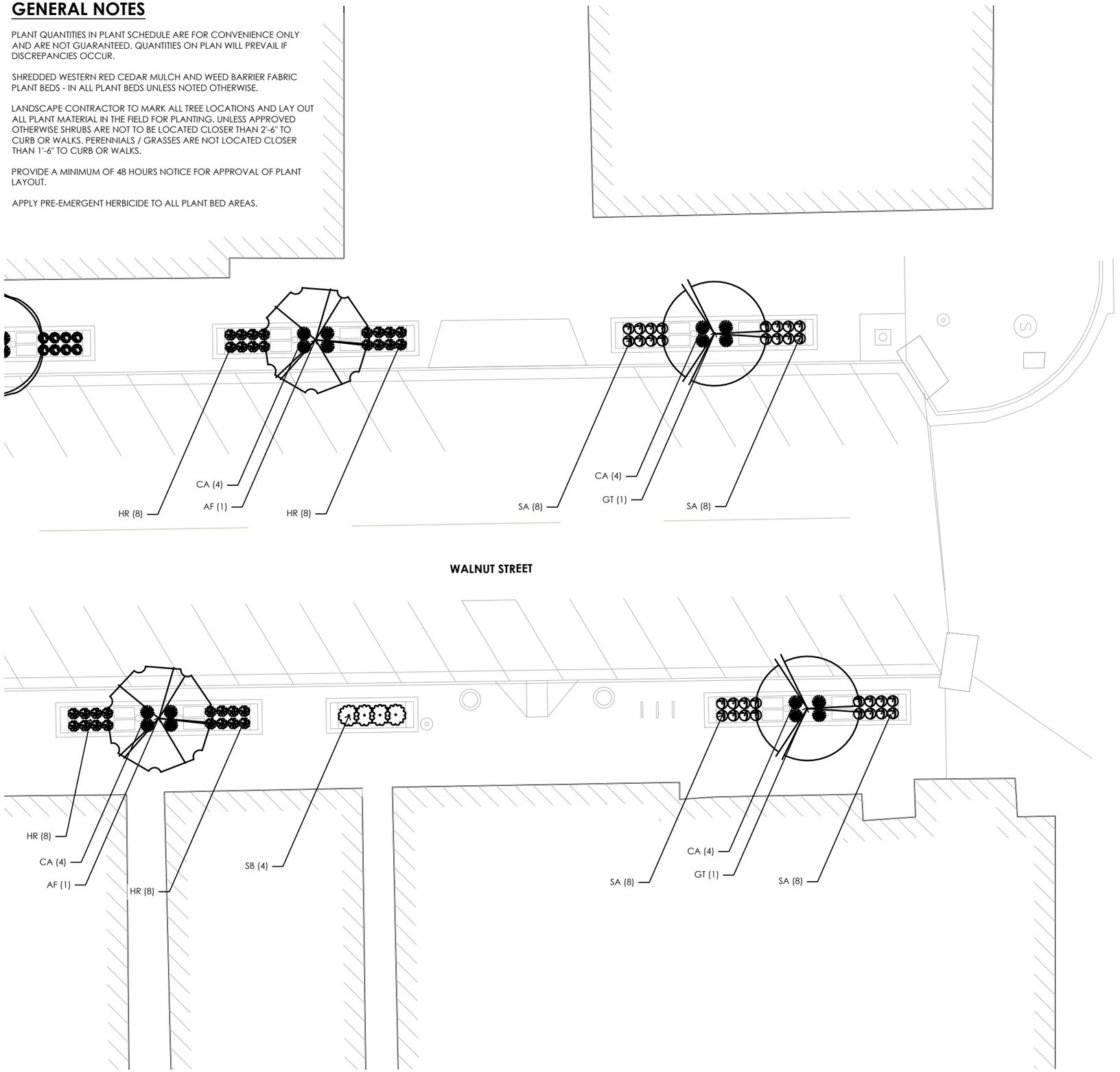

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PLANTING PLAN

L3.03

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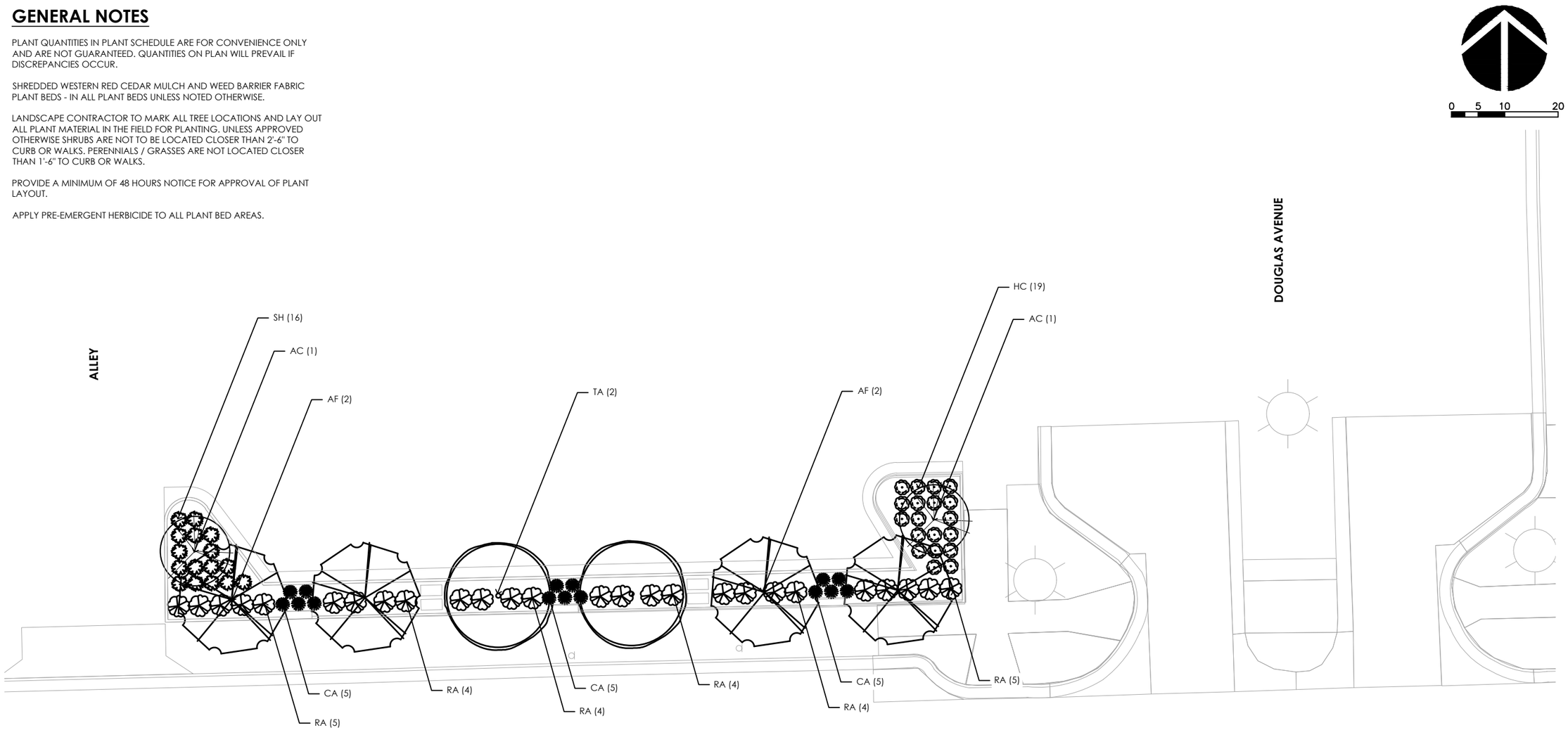

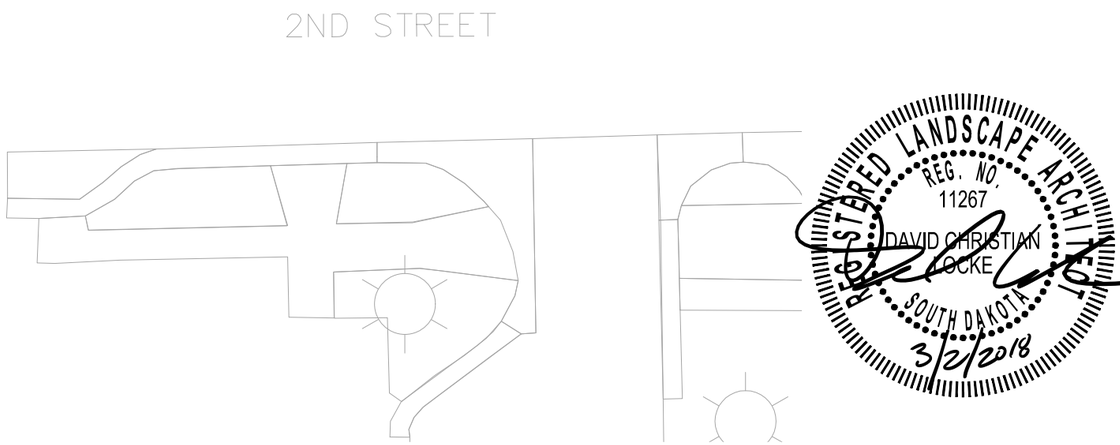

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PLANTING PLAN

L3.04

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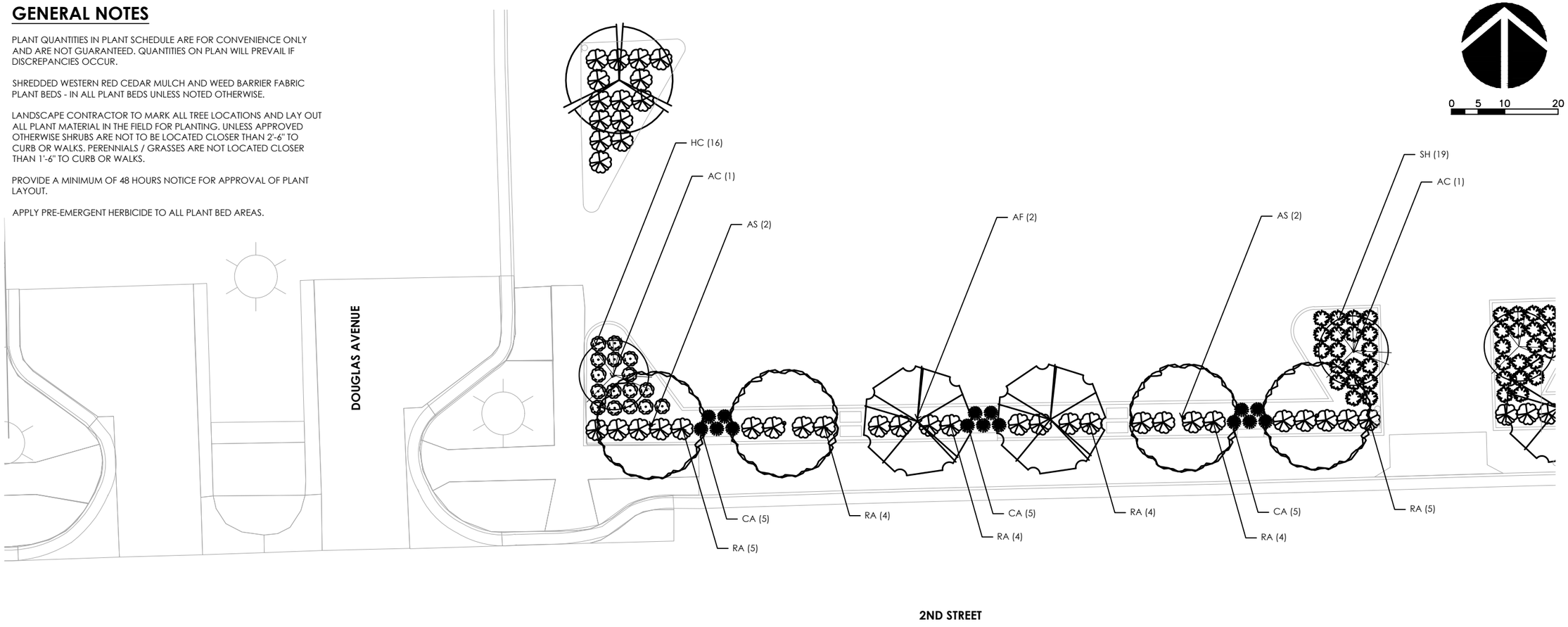

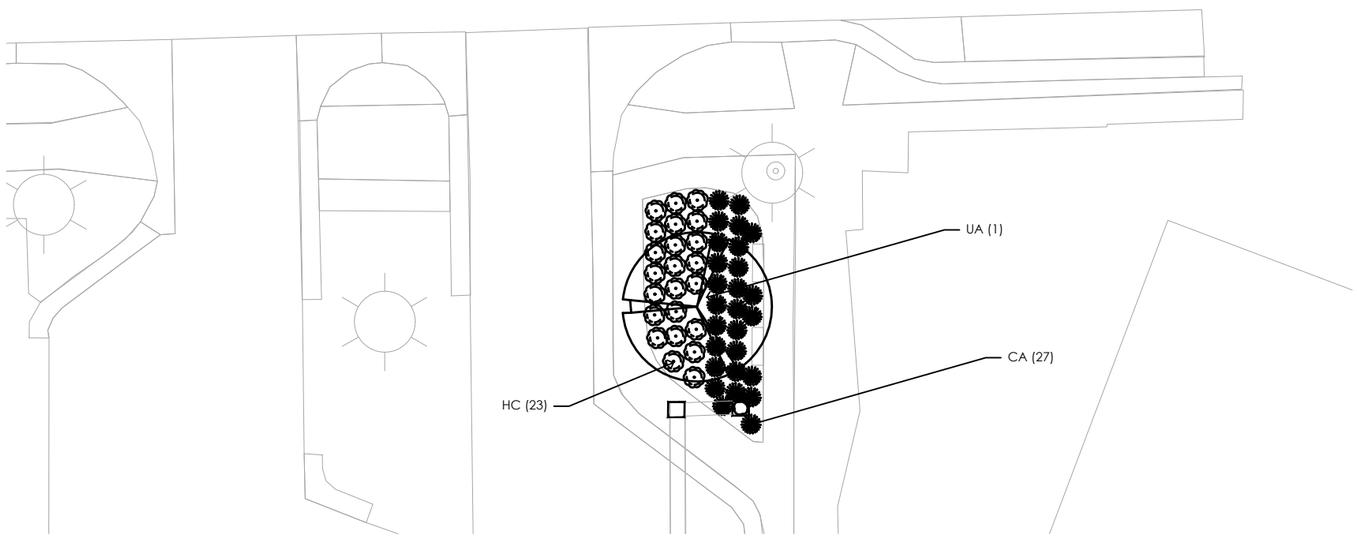

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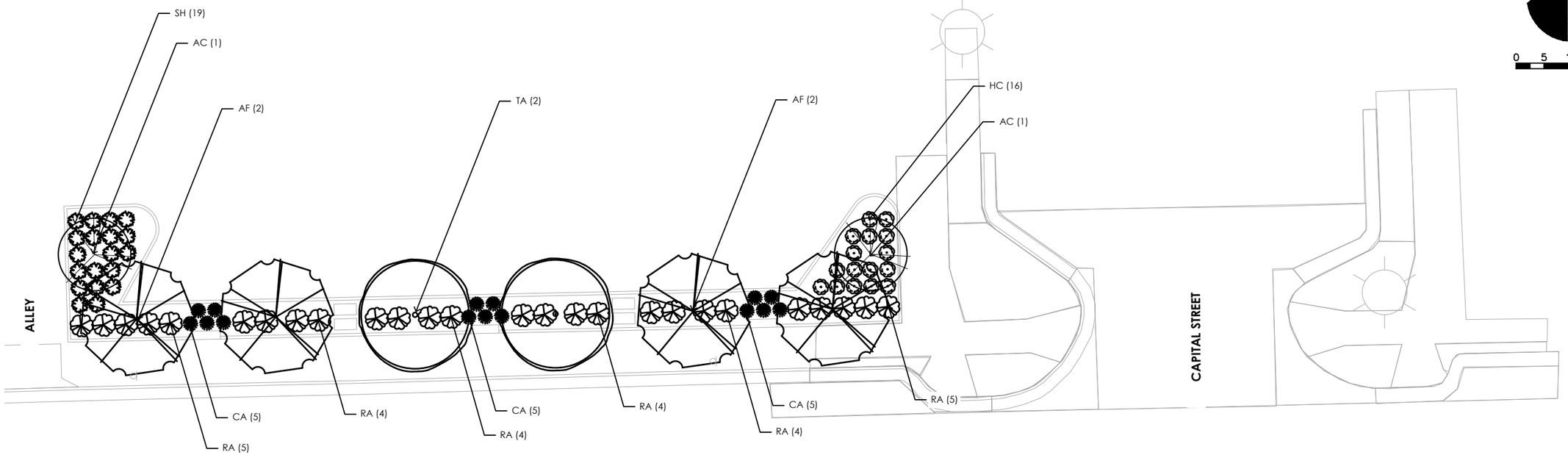

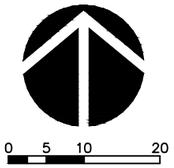

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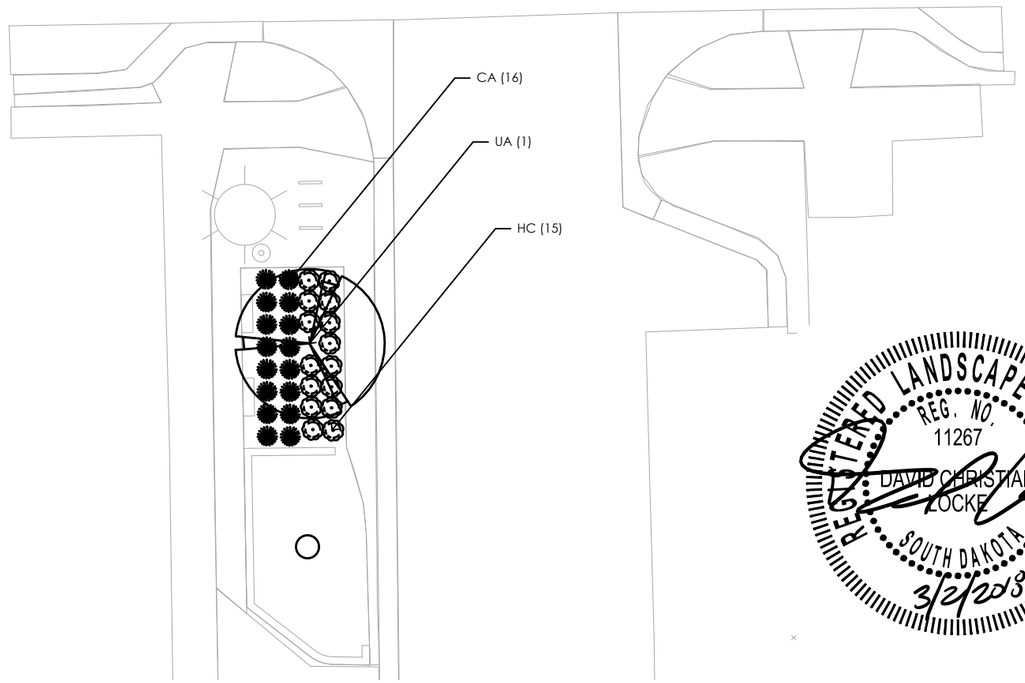

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TWIST
OF PINE

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PLANT QUANTITIES IN PLANT SCHEDULE ARE FOR CONVENIENCE ONLY AND ARE NOT GUARANTEED. QUANTITIES ON PLAN WILL PREVAIL IF DISCREPANCIES OCCUR.

SHREDDED WESTERN RED CEDAR MULCH AND WEED BARRIER FABRIC PLANT BEDS - IN ALL PLANT BEDS UNLESS NOTED OTHERWISE.

LANDSCAPE CONTRACTOR TO MARK ALL TREE LOCATIONS AND LAY OUT ALL PLANT MATERIAL IN THE FIELD FOR PLANTING. UNLESS APPROVED OTHERWISE SHRUBS ARE NOT TO BE LOCATED CLOSER THAN 2'-6" TO CURB OR WALKS. PERENNIALS / GRASSES ARE NOT LOCATED CLOSER THAN 1'-6" TO CURB OR WALKS.

PROVIDE A MINIMUM OF 48 HOURS NOTICE FOR APPROVAL OF PLANT LAYOUT.

APPLY PRE-EMERGENT HERBICIDE TO ALL PLANT BED AREAS.

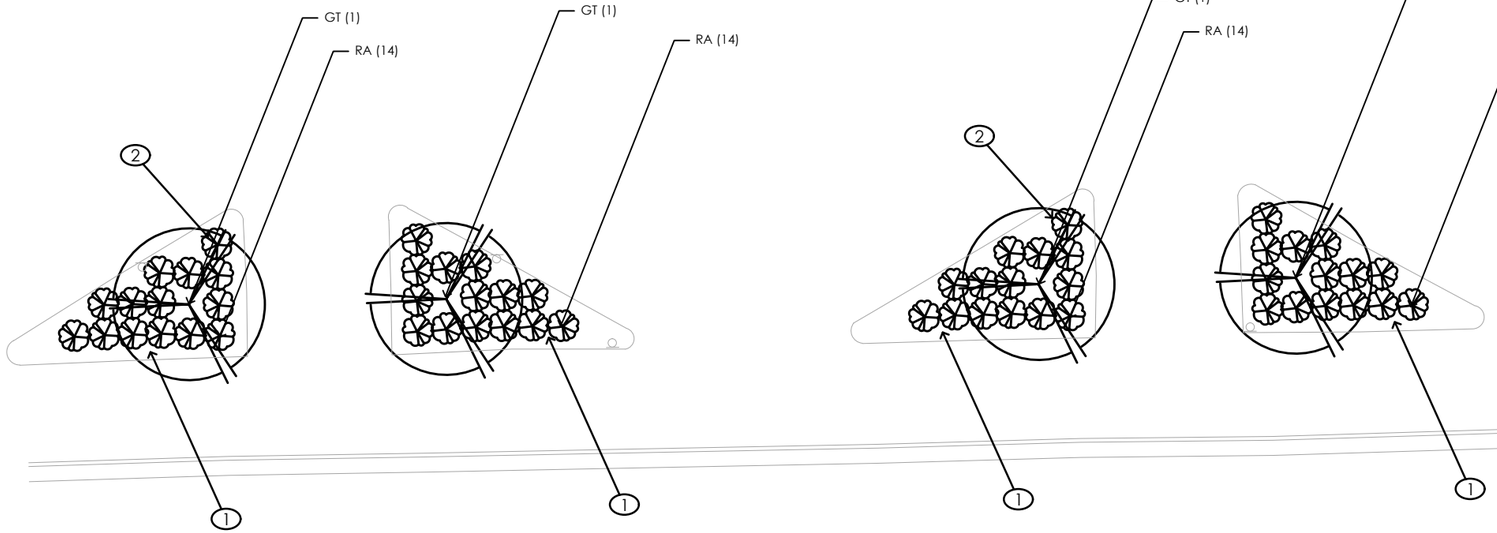
KEYNOTES

(1) - CLEAR LANDSCAPING, EXISTING TOPSOIL TO REMAIN, PROVIDE FABRIC AND WOOD MULCH

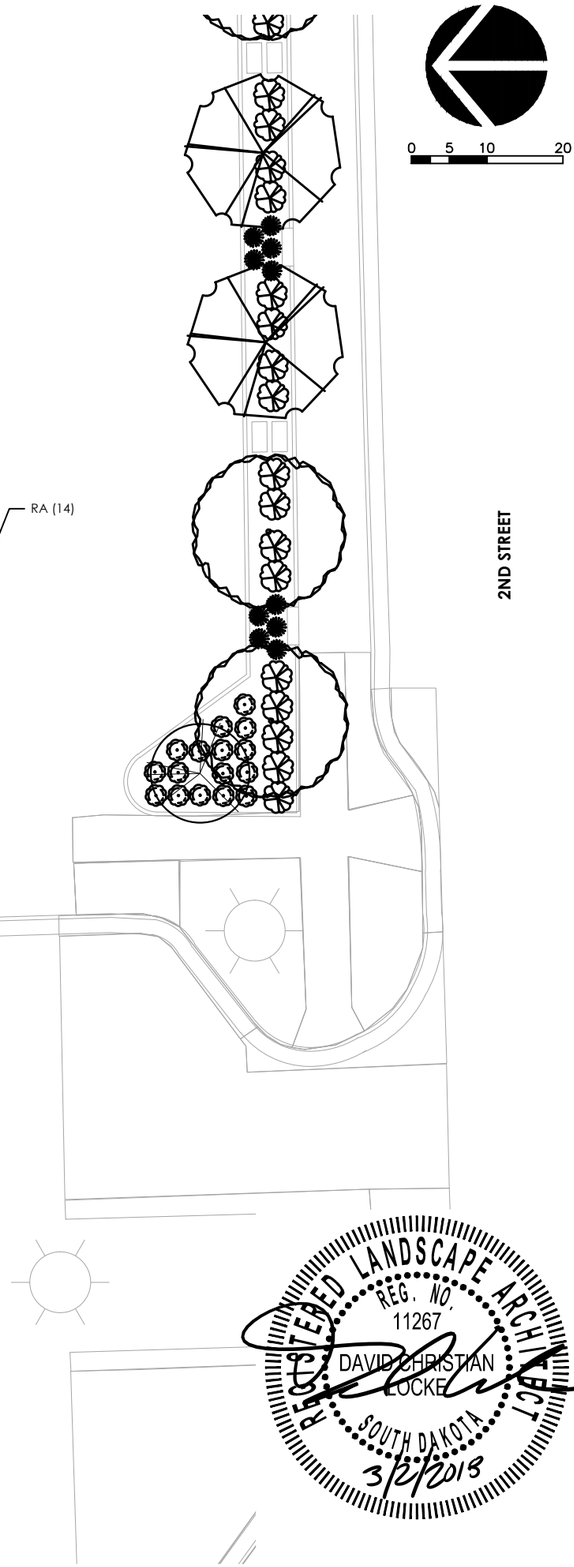
(2) - CLEAR AND GRUB EXISTING TREE

QUANTITIES

2 EA - CLEAR AND GRUB TREE
155 SY - LANDSCAPE CLEARING



DOUGLAS AVENUE



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215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA Where It All Starts

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:42 PM
17242 - Planting Plan.dwg	

SEI PROJECT #: 17242

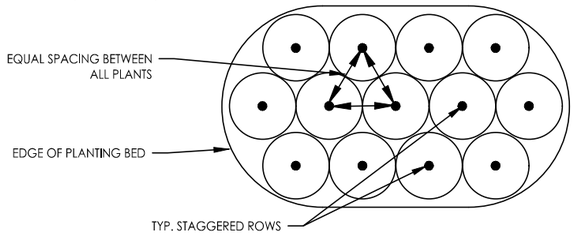
PLANTING PLAN

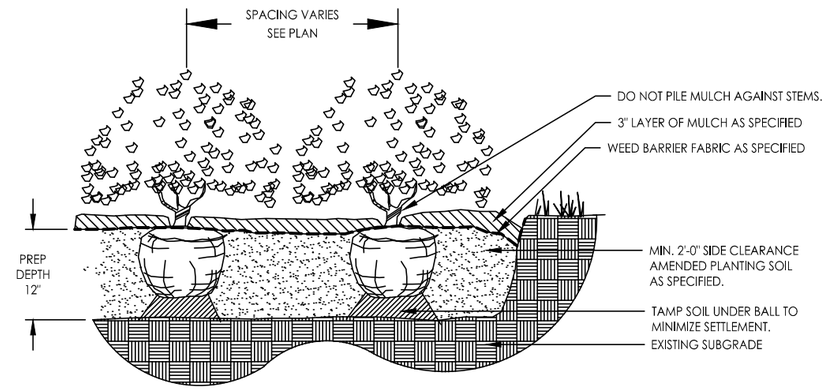
L3.07

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

GENERAL NOTES:

1. INSTALL TOP OF PLANT BALL 2" ABOVE ADJACENT GRADE.
2. TAMP PLANTING MIX FIRMLY AS PIT IS FILLED AROUND EACH PLANT BALL.
3. SOAK EACH PLANT BALL AND PIT IMMEDIATELY AFTER INSTALLATION.
4. PRUNE ONLY DEAD OR DAMAGED BRANCHES.
5. FOR CONTAINER PLANTS, SCARIFY SIDES OF ROOT BALL (1/4"-1/2" DEEP)



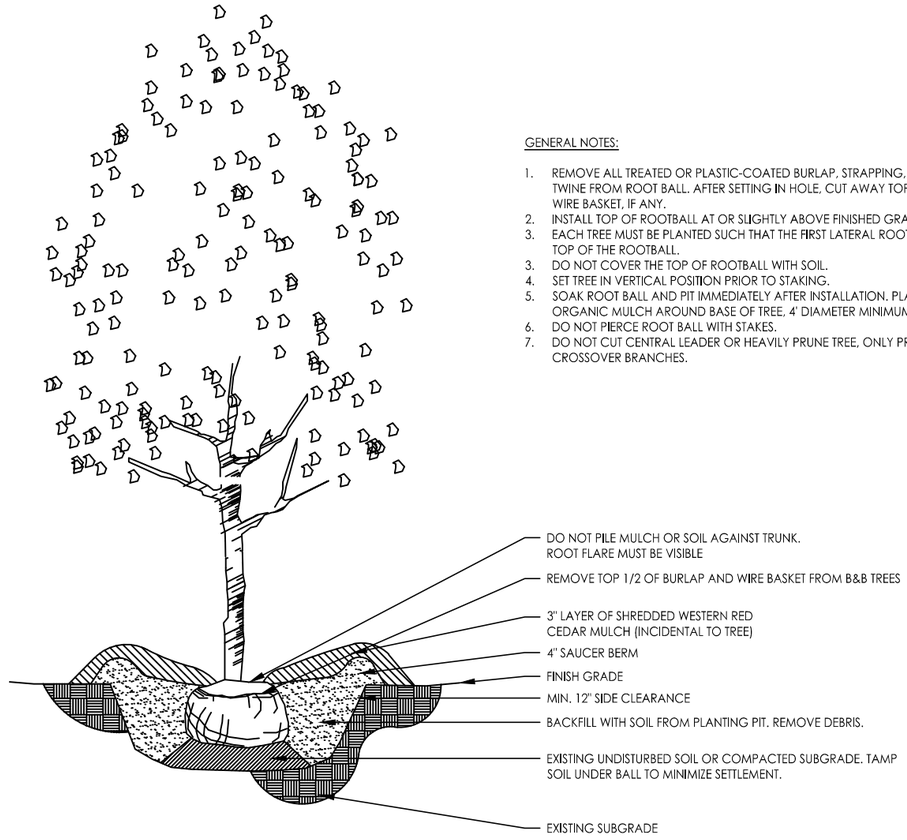


01 SHRUB PLANTING

PLAN/ SECTION - N.T.S.

GENERAL NOTES:

1. REMOVE ALL TREATED OR PLASTIC-COATED BURLAP, STRAPPING, WIRE, OR NYLON TWINE FROM ROOT BALL. AFTER SETTING IN HOLE, CUT AWAY TOP AND SIDES OF WIRE BASKET, IF ANY.
2. INSTALL TOP OF ROOTBALL AT OR SLIGHTLY ABOVE FINISHED GRADE LEVEL.
3. EACH TREE MUST BE PLANTED SUCH THAT THE FIRST LATERAL ROOT IS VISIBLE AT THE TOP OF THE ROOTBALL.
3. DO NOT COVER THE TOP OF ROOTBALL WITH SOIL.
4. SET TREE IN VERTICAL POSITION PRIOR TO STAKING.
5. SOAK ROOT BALL AND PIT IMMEDIATELY AFTER INSTALLATION. PLACE 3" OF ORGANIC MULCH AROUND BASE OF TREE, 4' DIAMETER MINIMUM.
6. DO NOT PIERCE ROOT BALL WITH STAKES.
7. DO NOT CUT CENTRAL LEADER OR HEAVILY PRUNE TREE, ONLY PRUNE DEAD OR CROSSOVER BRANCHES.

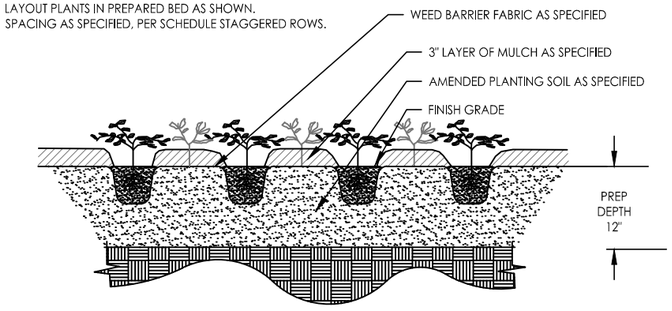


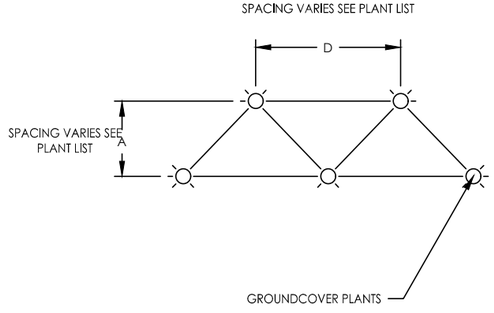
02 TREE PLANTING

SECTION - N.T.S.

GENERAL NOTES:

1. LAYOUT PLANTS IN PREPARED BED AS SHOWN.
2. SPACING AS SPECIFIED, PER SCHEDULE STAGGERED ROWS.





PLANT SPACING (D)	ROW SPACING (A)
6" O.C.	5.20"
8" O.C.	6.93"
10" O.C.	8.66"
12" O.C.	10.4"
15" O.C.	13.0"
18" O.C.	15.6"
24" O.C.	20.8"
30" O.C.	26.0"
36" O.C.	30.0"

03 GROUND COVER PLANTING

PLAN/ SECTION - N.T.S.

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City of Yankton SOUTH DAKOTA Where It All Starts Here

WALNUT STREET
STREETSCAPE IMPROVEMENTS
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
17242 - Details.dwg	

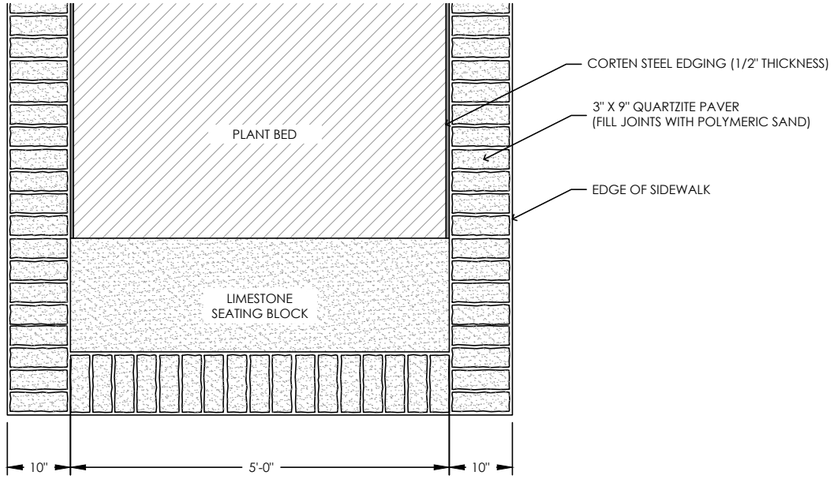
SEI PROJECT #: 17242

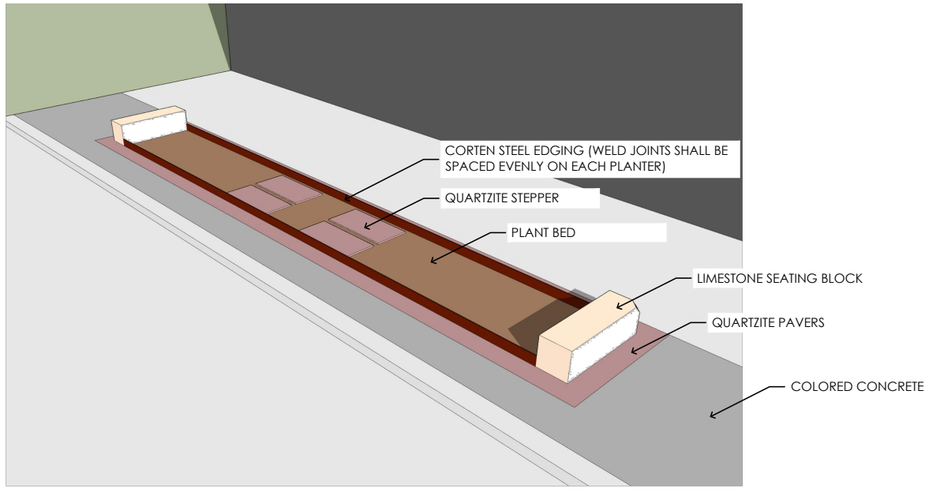
DETAILS

L4.00

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

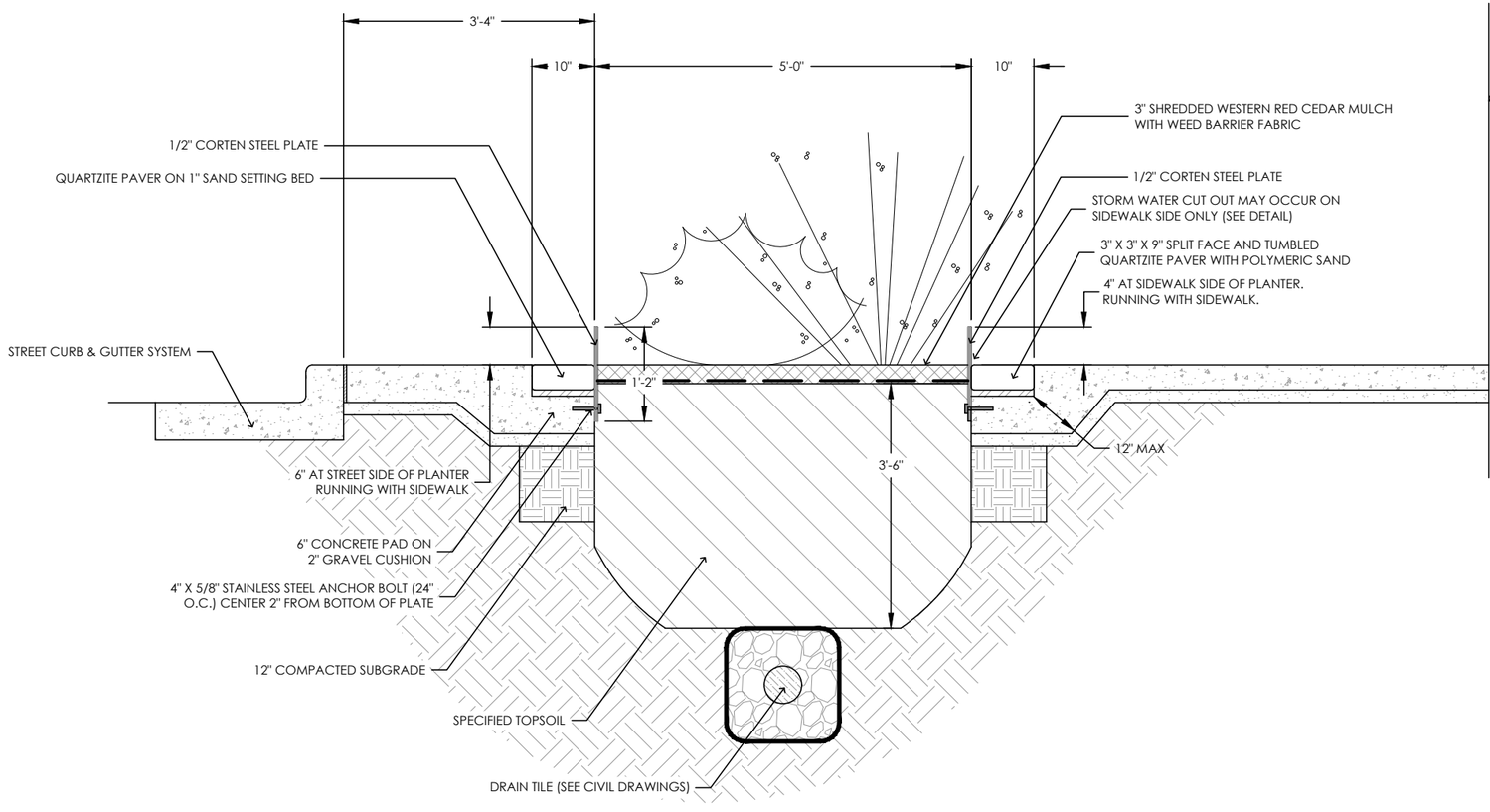
17242 - Details.dwg





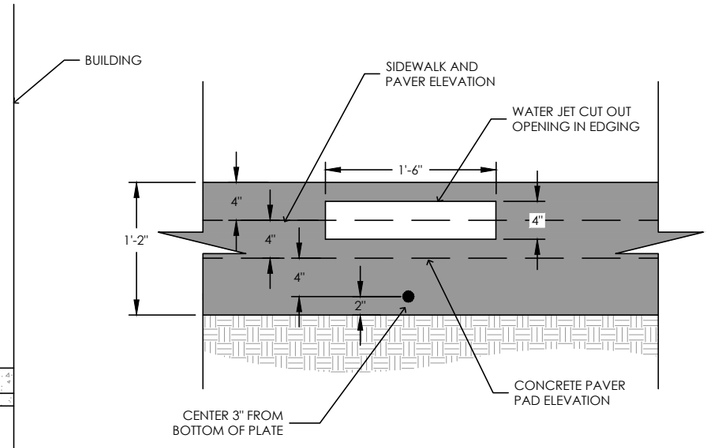
01 STREETSCAPE PLANTER

PLAN - N.T.S.



02 PLANTING BED DETAIL

SECTION - N.T.S.



03 STORM WATER CUT OUT

SECTION - N.T.S.

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PH: 605.665.8092
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City of Yankton SOUTH DAKOTA
Where It All Comes Together

WALNUT STREET
STREETSCAPE IMPROVEMENTS
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
17242 - Details.dwg	

SEI PROJECT #: 17242

DETAILS

L4.01

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

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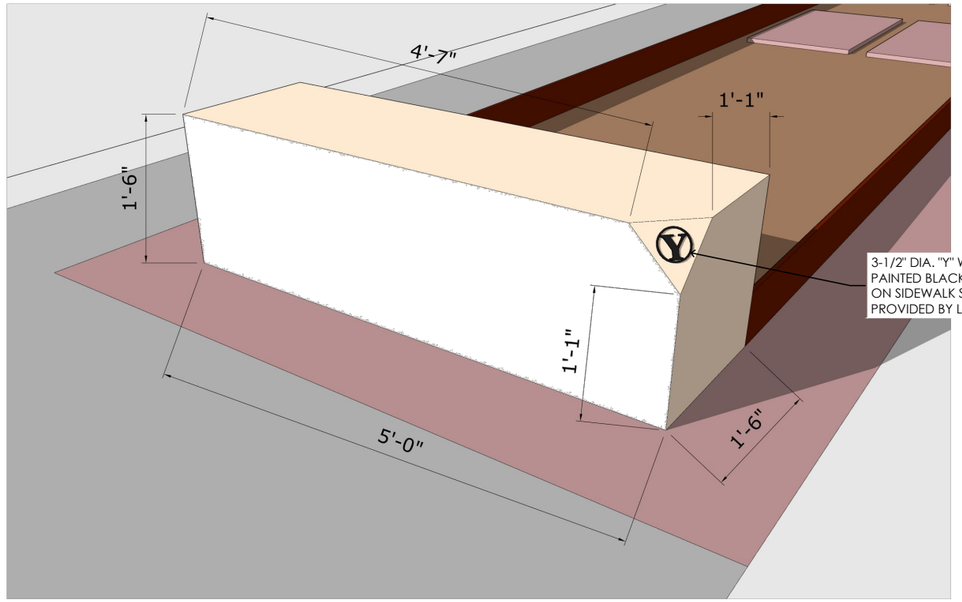

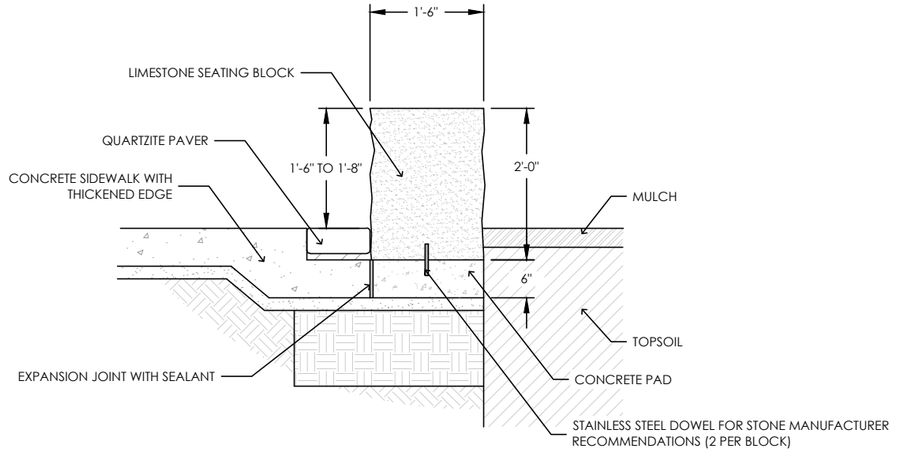

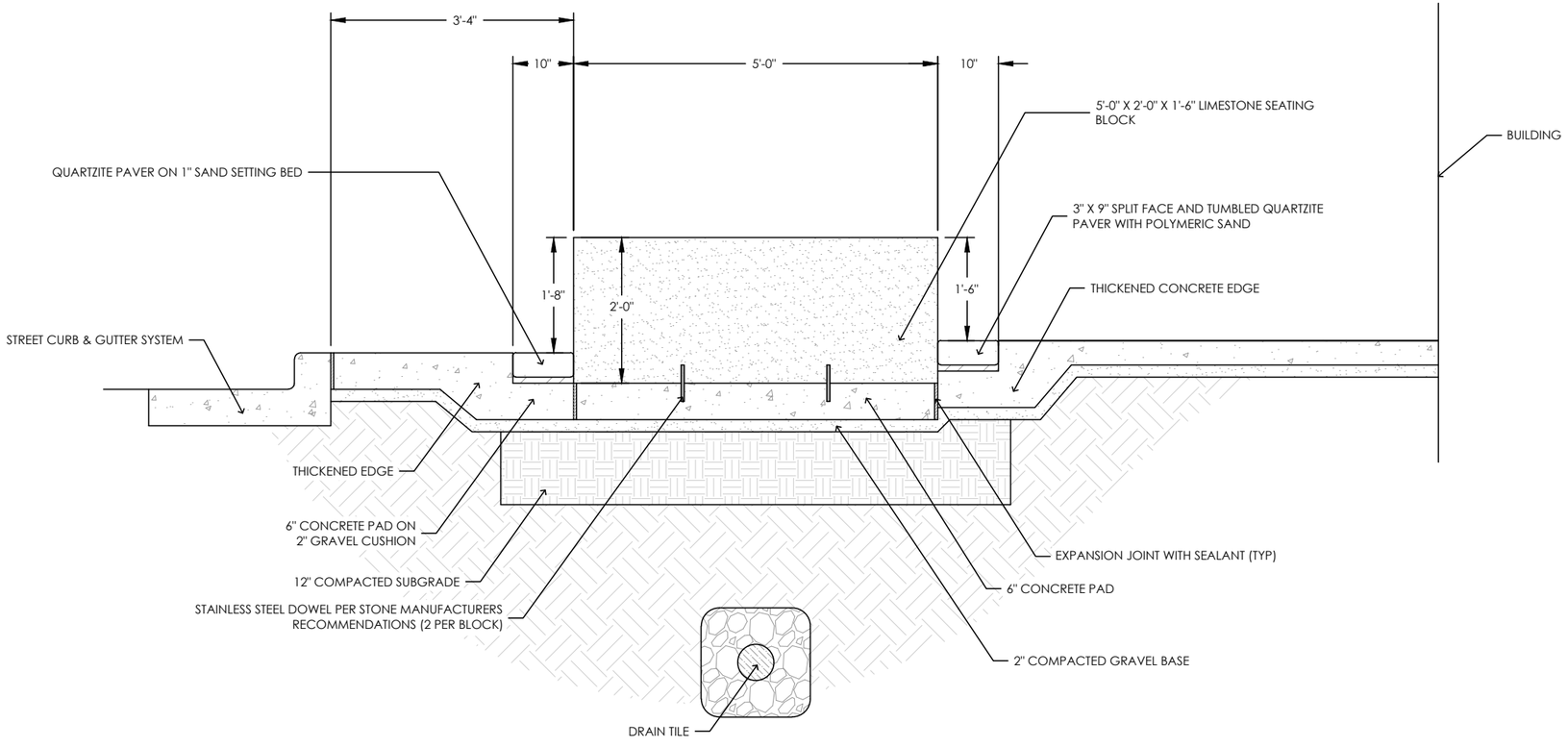

01 LIMESTONE SEATING BLOCK

SECTION - N.T.S.

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City of Yankton SOUTH DAKOTA Where Flow Here

WALNUT STREET
STREETSCAPE IMPROVEMENTS
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
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DETAILS

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

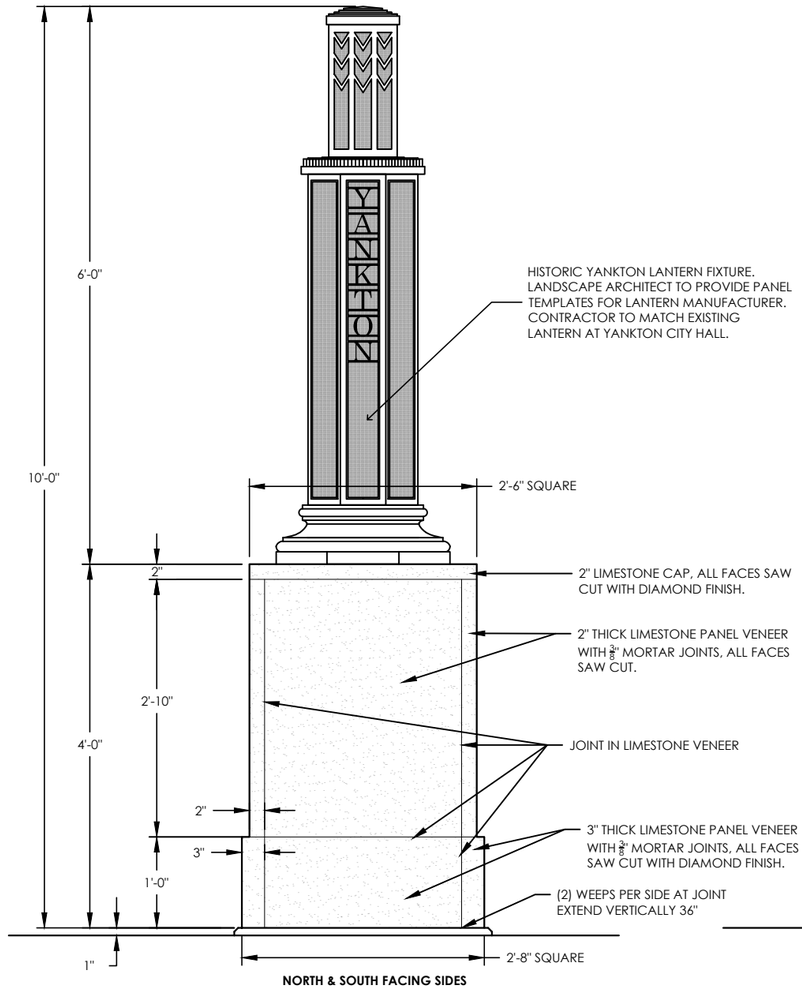
L4.02

17242 - Details.dwg

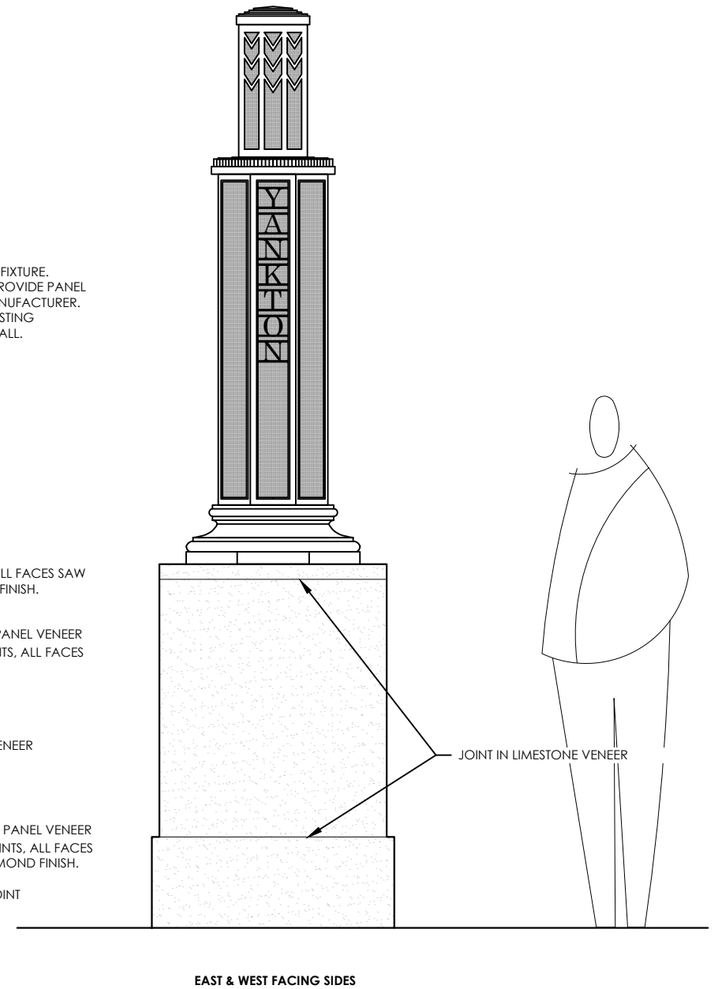
NOTES:

YANKTON LANTERN - INTERNALLY ILLUMINATED GRAPHIC PANELS AND SUPPORT STRUCTURE - CAPABLE OF HOLDING PANELS IN PLACE THROUGH WINDLOADS AND WEATHER CONDITIONS AS APPLICABLE TO THE SITE - BY SIGN MANUFACTURER. VERIFY THROUGH SHOP DRAWING SUBMITTALS AS SPECIFIED.

LIMESTONE - ALL LIMESTONE VENEER AND CAP CONNECTIONS TO BE DESIGNED BY THE MASON. VERIFY THROUGH SHOP DRAWING SUBMITTALS AS SPECIFIED.



NORTH & SOUTH FACING SIDES



EAST & WEST FACING SIDES

01 YANKTON LANTERN LIMESTONE BASE

ELEVATION - N.T.S.

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City of Yankton SOUTH DAKOTA
Where It All Flows Here

WALNUT STREET
STREETSCAPE IMPROVEMENTS
YANKTON, SOUTH DAKOTA

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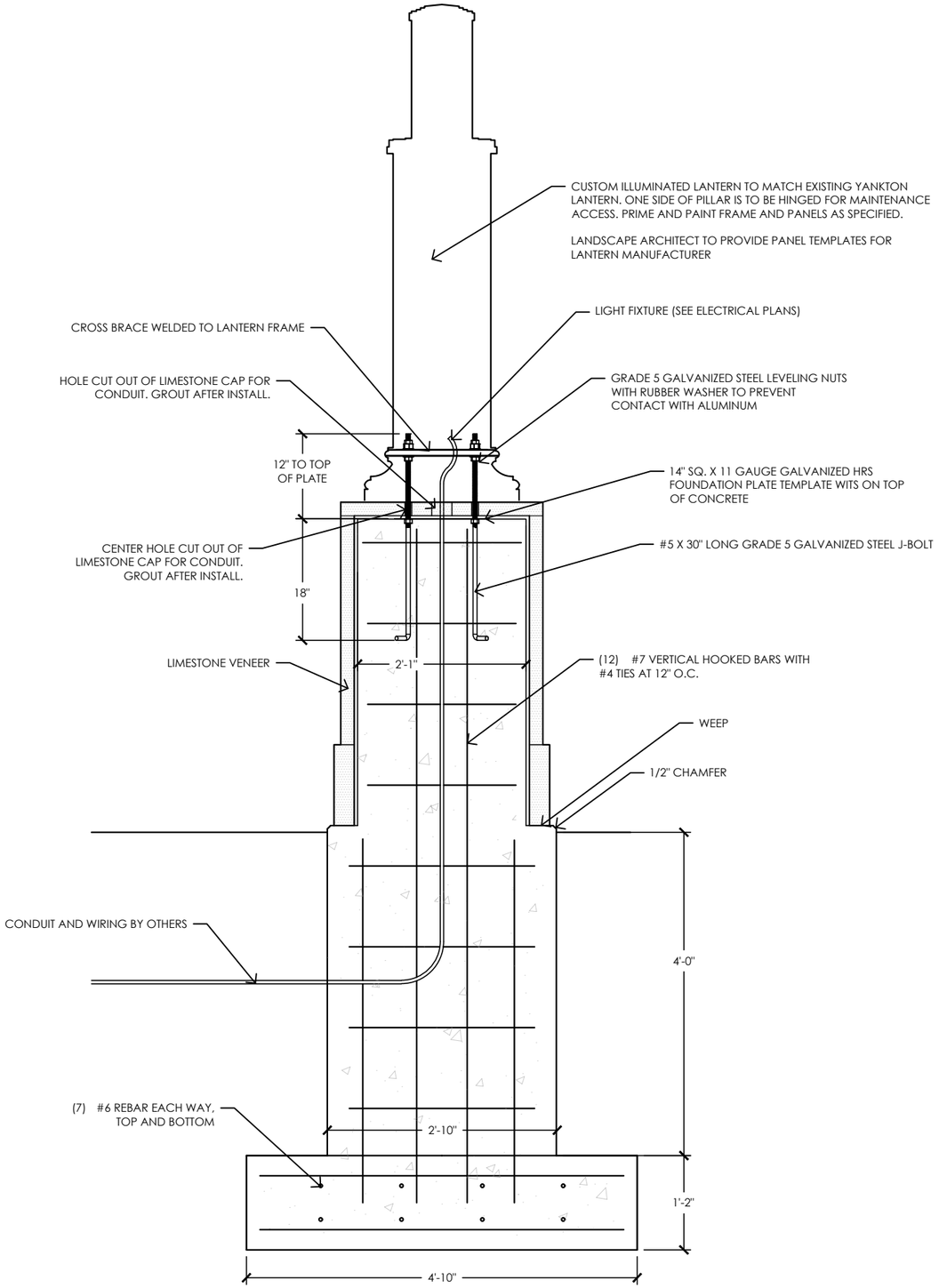
REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

SEI PROJECT #: 17242

DETAILS

L4.03

17242 - Details.dwg



01 YANKTON LANTERN LIMESTONE BASE & FOOTING SECTION - N.T.S.

NOTE:
CONTRACTOR SHALL VERIFY DISTANCES WITH LANTERN MANUFACTURER PRIOR TO BUILDING TEMPLATE AND INSTALLING J-BOLTS

01 YANKTON LANTERN FIXTURE CONNECTION PLAN - N.T.S.

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WALNUT STREET
STREETSCAPE IMPROVEMENTS
YANKTON, SOUTH DAKOTA

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
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SOUTH DAKOTA
3/2/2018

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
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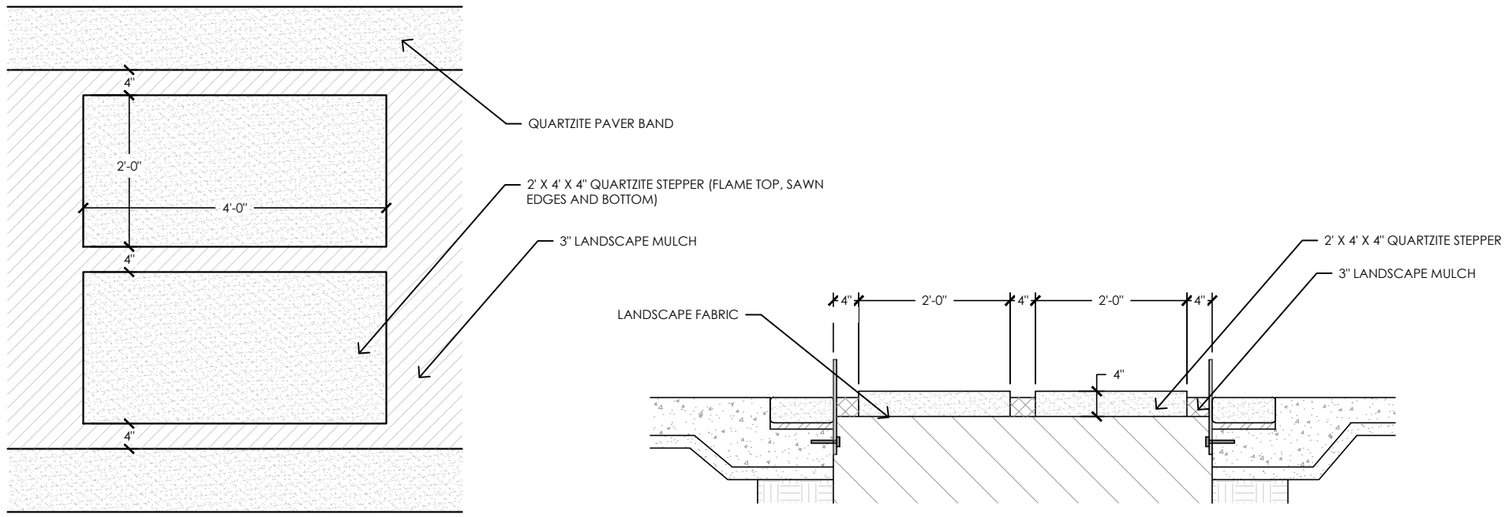
SEI PROJECT #: 17242

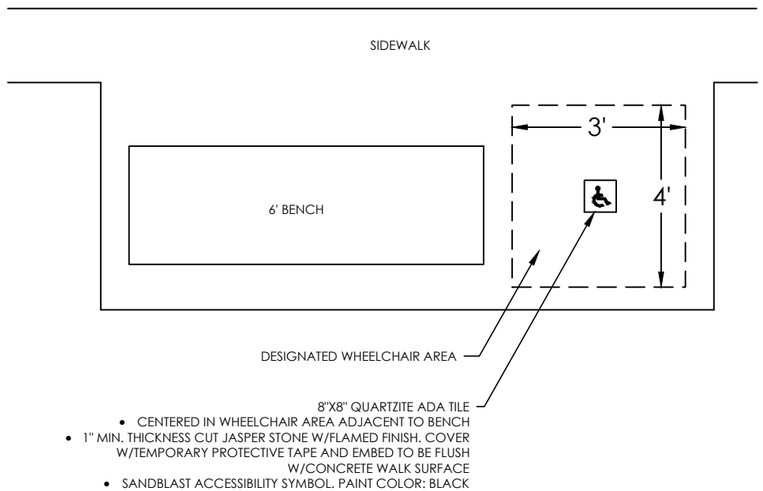
DETAILS

L4.04



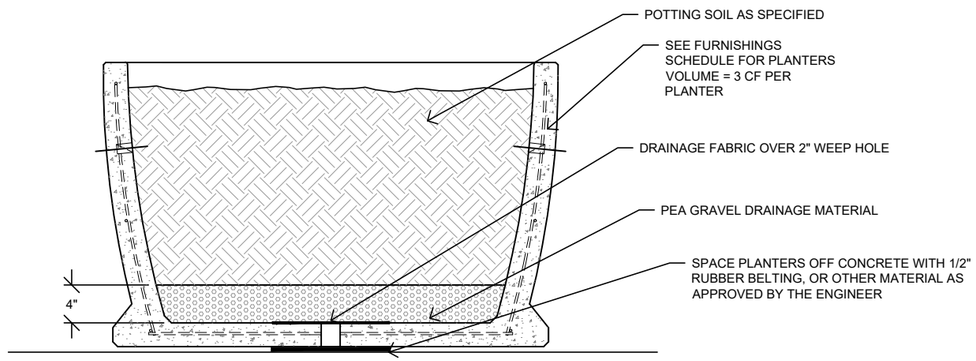
01 QUARTZITE STEPPERS

PLAN/SECTION - N.T.S.



02 QUARTZITE ADA TILE

PLAN - N.T.S.



03 CONCRETE PLANTER & SOIL SECTION

SECTION - N.T.S.

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

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DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
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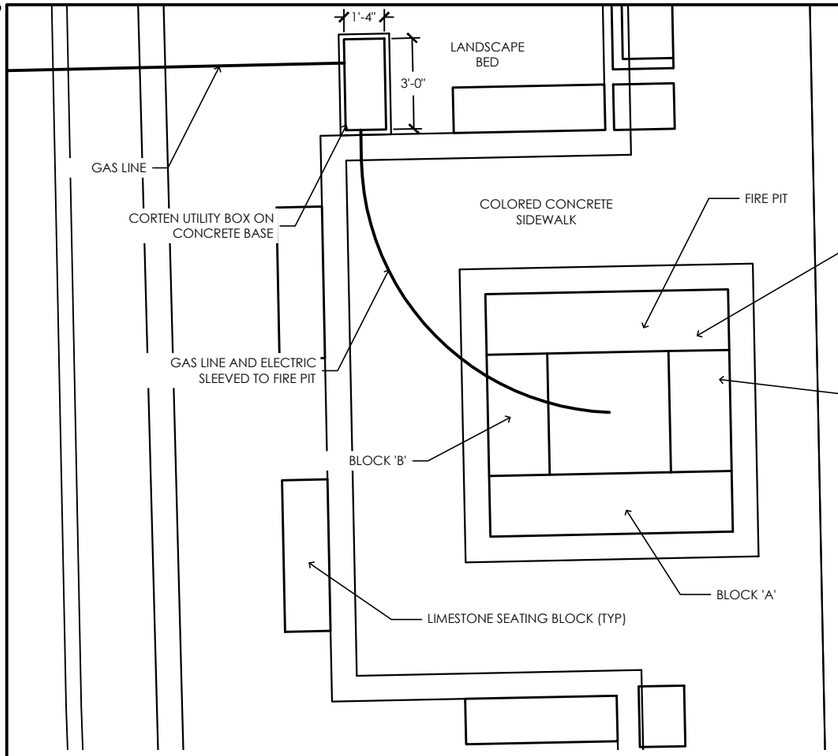
SEI PROJECT #: 17242

DETAILS

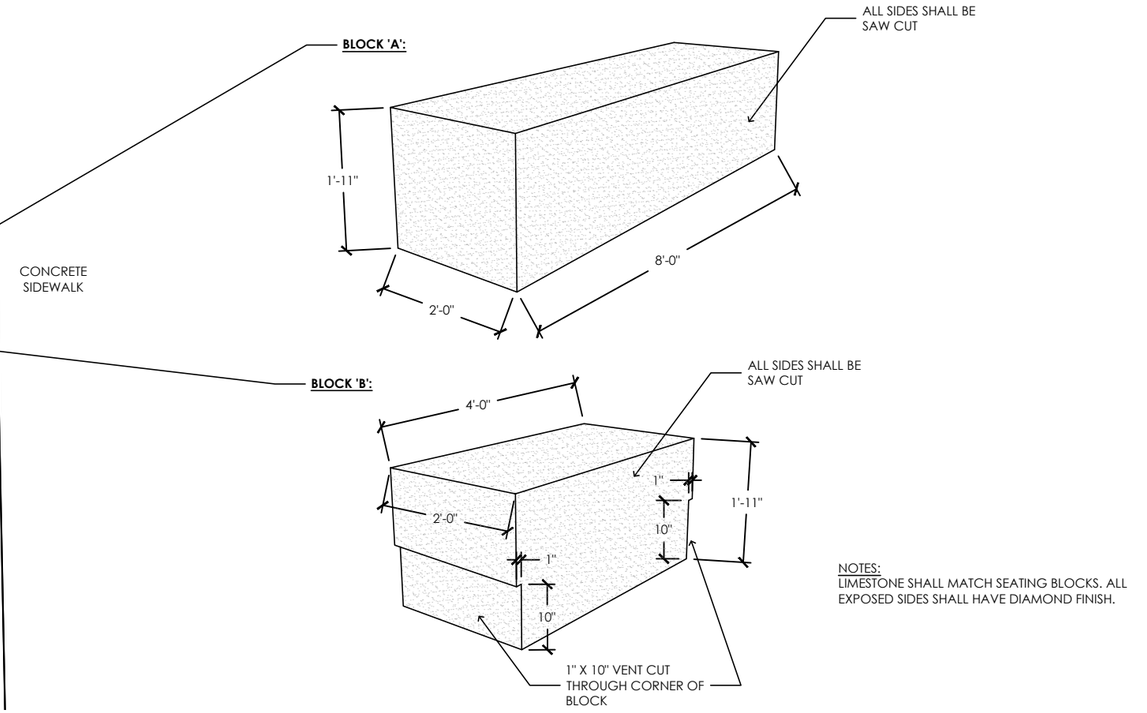
L4.05

17242 - Details.dwg



01 FIRE PIT AREA

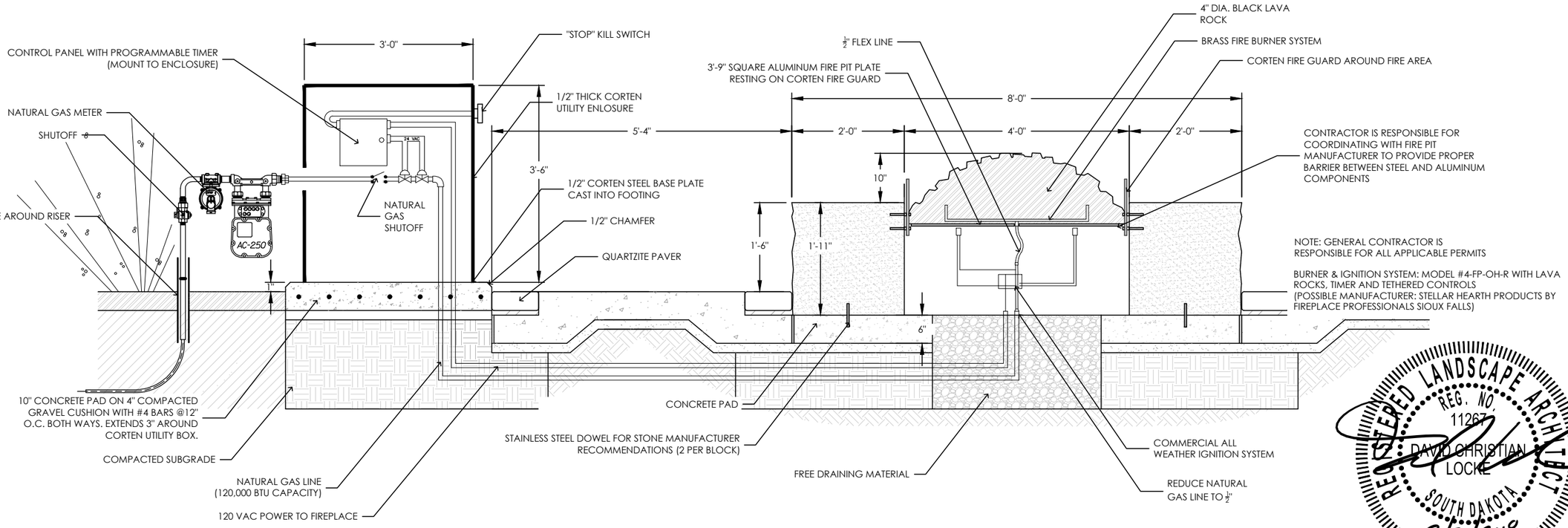
PLAN - 1"=5'



NOTES:
LIMESTONE SHALL MATCH SEATING BLOCKS. ALL EXPOSED SIDES SHALL HAVE DIAMOND FINISH.

03 FIRE PIT LIMESTONE BLOCK

PLAN - N.T.S.



02 FIRE PIT SECTION

SECTION - 1/2" = 1'

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DOWNTOWN STREETSCAPE IMPROVEMENTS

WALNUT STREET & 2ND STREET

YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

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SEI PROJECT #: 17242

DETAILS

L4.06

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

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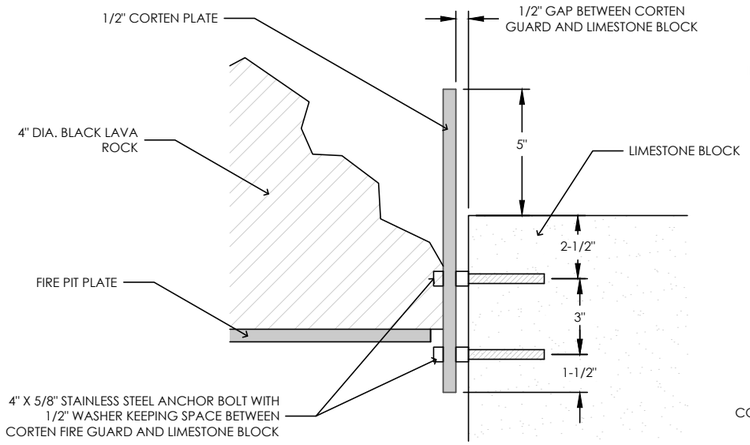
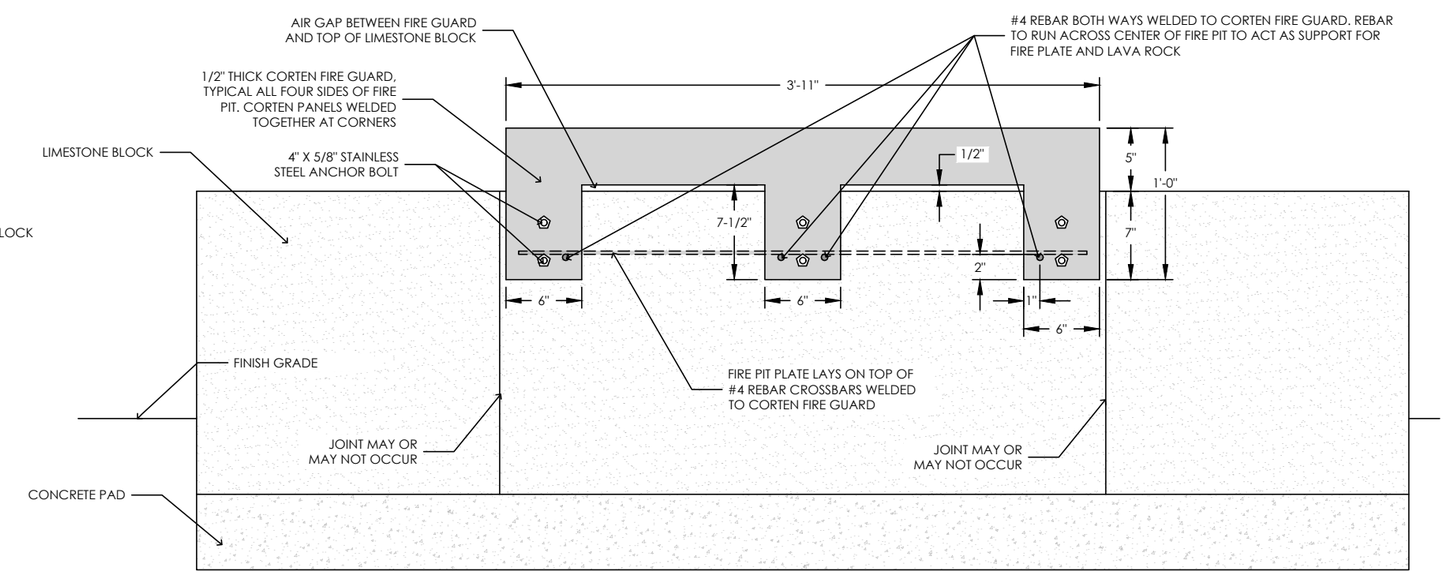


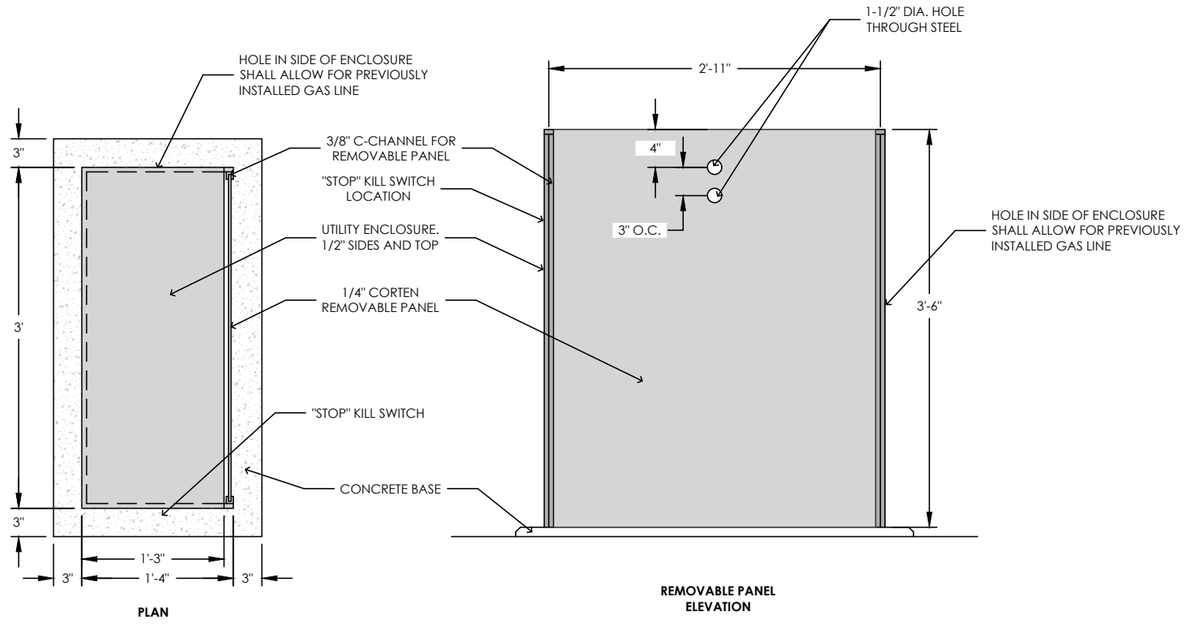
03 CORTEN FIRE GUARD CONNECTION

SECTION - N.T.S.



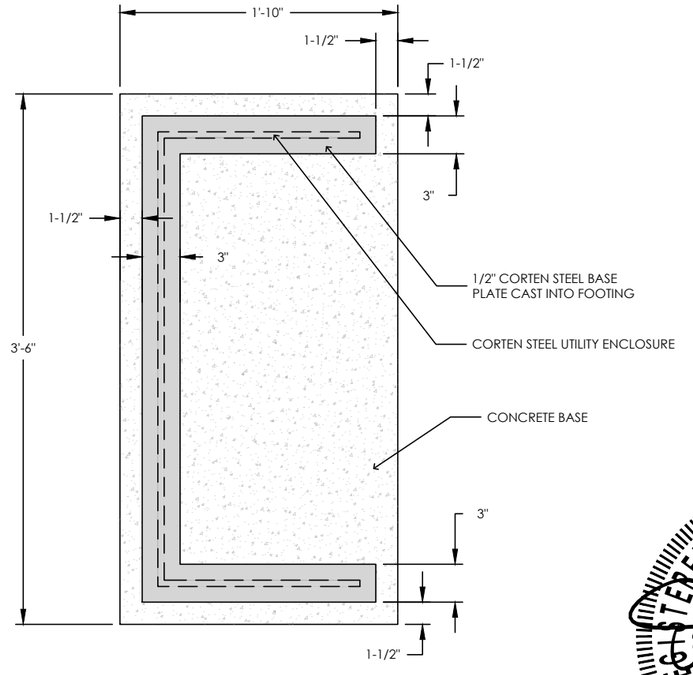
04 CORTEN FIRE GUARD

SECTION - N.T.S.



01 CORTEN UTILITY ENCLOSURE

SECTION - N.T.S.



02 UTILITY ENCLOSURE BASE PLATE

SECTION - N.T.S.

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City of Yankton SOUTH DAKOTA Where I Now Here

DOWNTOWN STREETSCAPE IMPROVEMENTS

WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

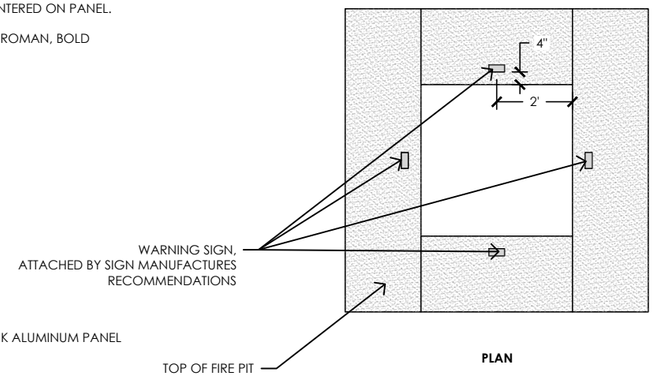
PLOT DATE	3/2/2018 3:23 PM
17242 - Details.dwg	

SEI PROJECT #: 17242

DETAILS

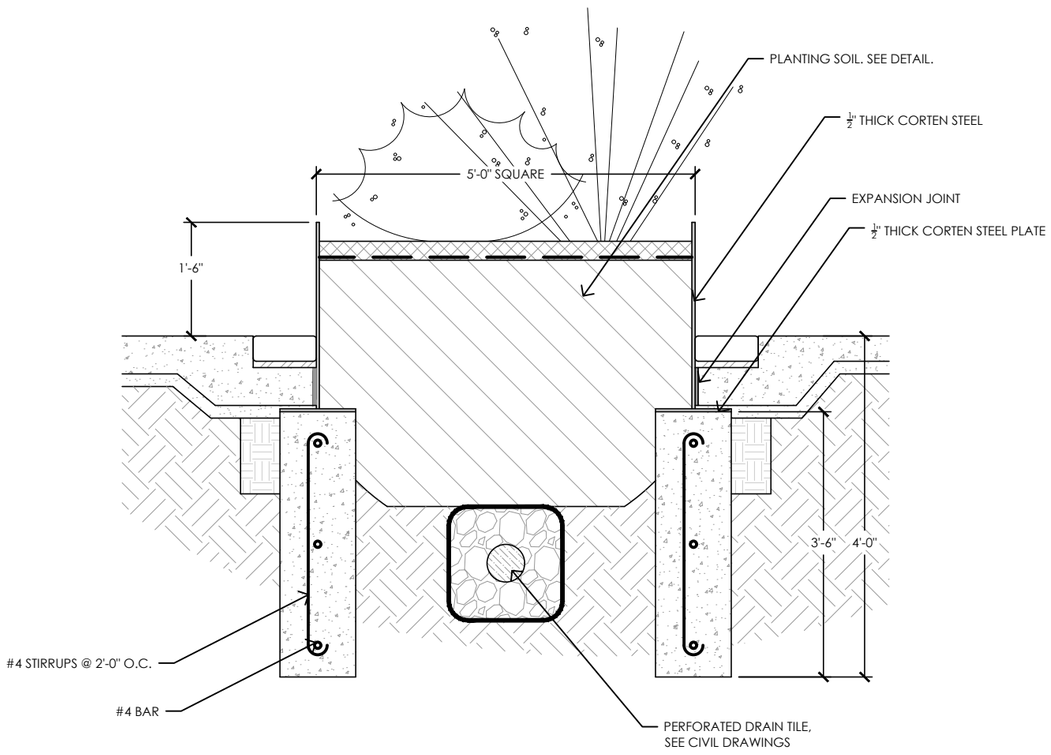
L4.07

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018



03 FIRE PIT WARNING SIGN

SECTION - N.T.S.

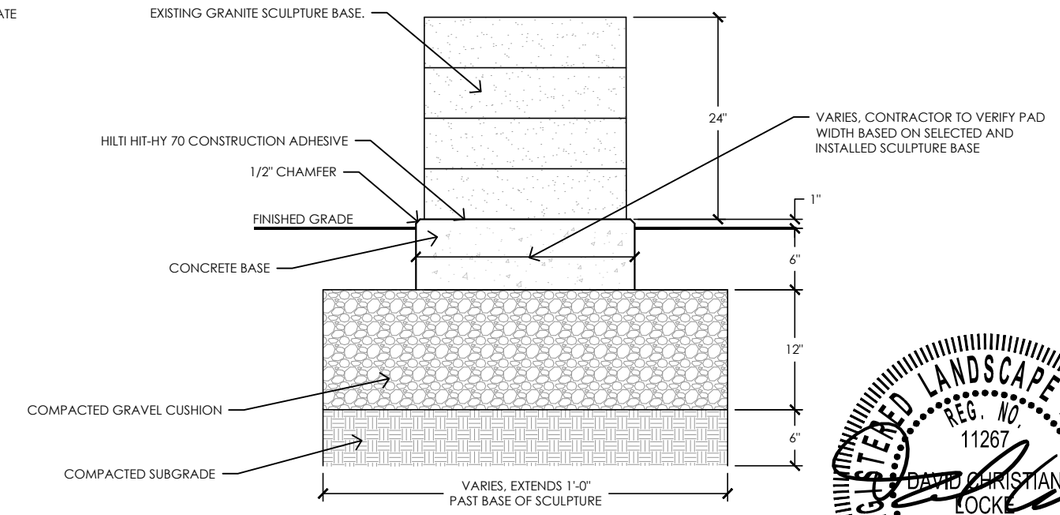


01 CORTEN STEEL PLANTER

SECTION - N.T.S.

NOTE:

ADJUST BASE ELEVATION AS REQUIRED TO
SET TOP OF BASE LEVEL.



02 GRANITE SCULPTURE BASE

SECTION - N.T.S.

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City of Yankton SOUTH DAKOTA
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DOWNTOWN STREETSCAPE IMPROVEMENTS

WALNUT STREET & 2ND STREET

YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

PLOT DATE	3/2/2018 3:23 PM
17242 - Details.dwg	

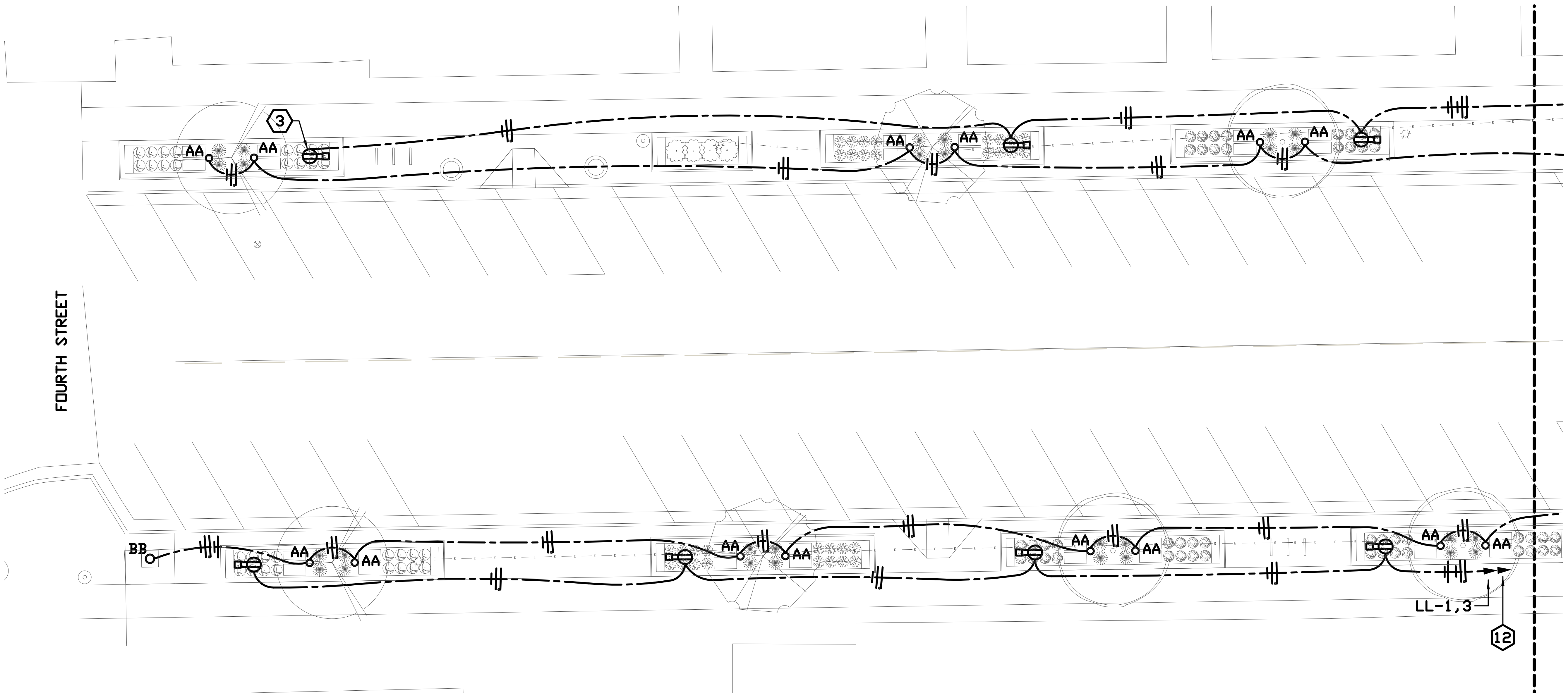
SEI PROJECT #: 17242

DETAILS

L4.08

REGISTERED LANDSCAPE ARCHITECT
REG. NO. 11267
DAVID CHRISTIAN LOCKE
SOUTH DAKOTA
3/2/2018

SEE SHEET E2.00 FOR ELECTRICAL NOTES



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SITE PLAN - ELECTRICAL

SCALE 0 10 20 30 40

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City of Yankton South Dakota

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE

CONSTRUCTION DOCUMENTS	3/2/18

ACEI PROJECT #: 118022

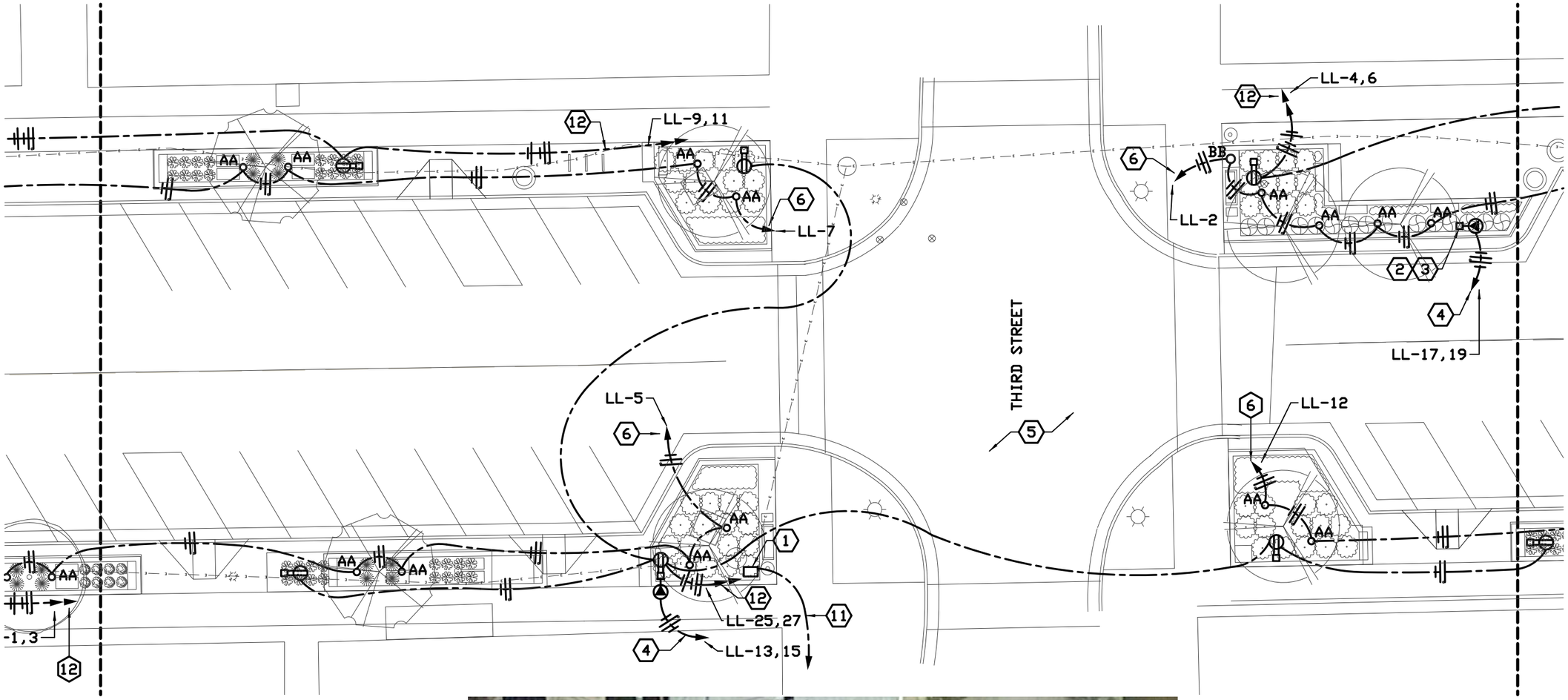
REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER
7911
BRADLEY JAMES SHORT
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

SITE PLAN - ELECTRICAL

E1.00

SEE SHEET E2.00 FOR ELECTRICAL NOTES



EXISTING ELECTRIC UTILITY POWER POLE LOCATION. SEE NOTE #11. FOR BIDDING PURPOSES POLE IS 200' FROM CONTROLLER. IMAGE IS NOT TO SCALE.

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
CONSTRUCTION DOCUMENTS 3/2/18

ACEI PROJECT #: 118022

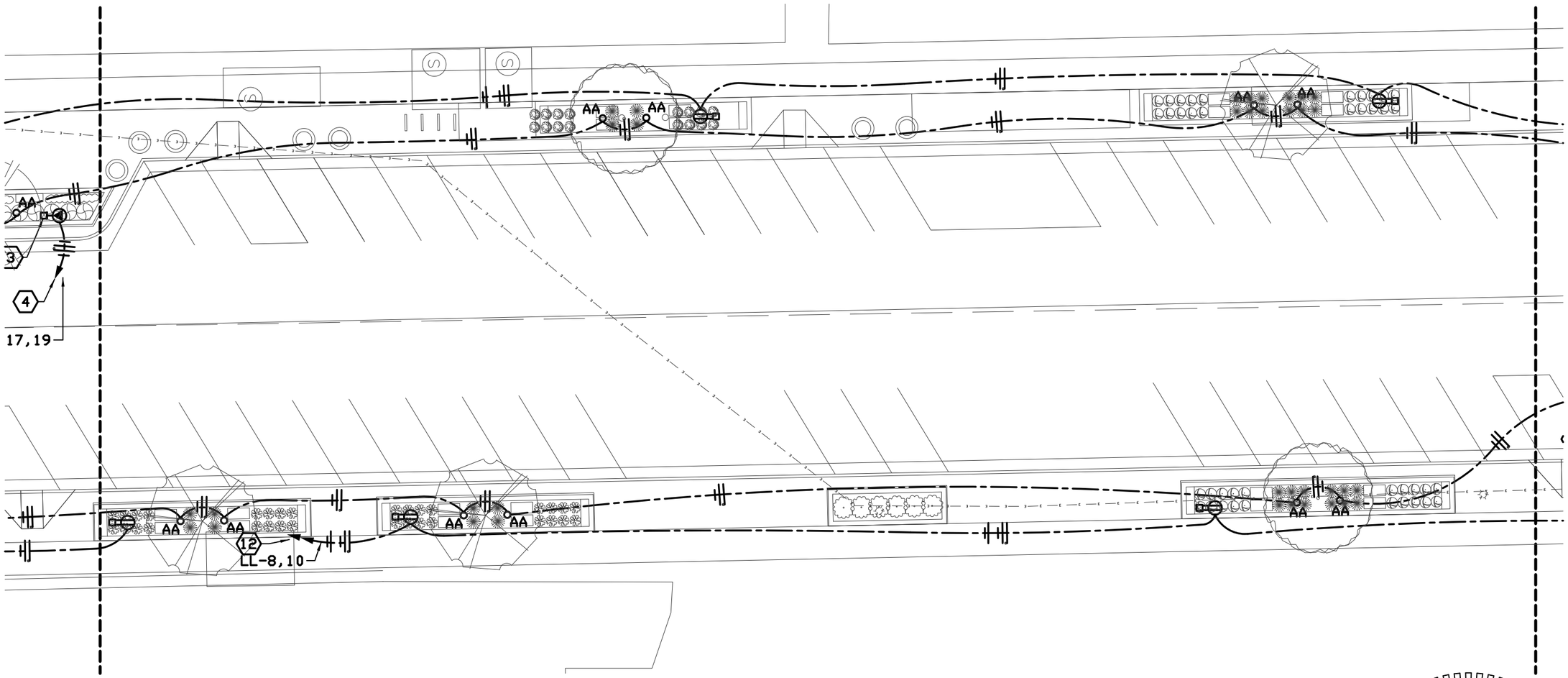
SITE PLAN - ELECTRICAL

E1.01

REGISTERED PROFESSIONAL ENGINEER
REG. NUMBER 7911
BRADLEY JAMES [illegible]
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

SEE SHEET E2.00 FOR ELECTRICAL NOTES



N

SITE PLAN - ELECTRICAL

SCALE 0 10 20 30 40

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA

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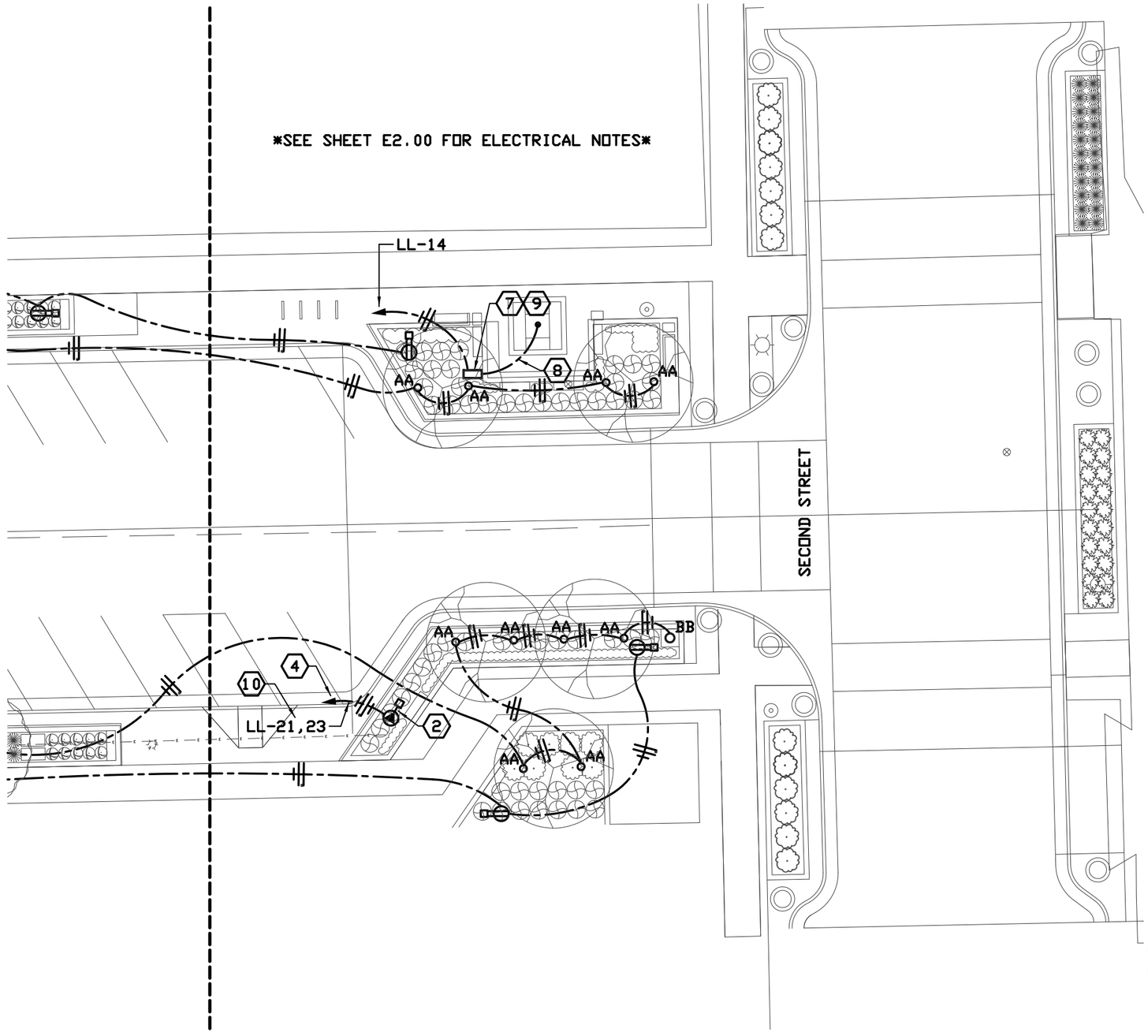
SITE PLAN - ELECTRICAL

E1.02

REGISTERED PROFESSIONAL ENGINEER
7911
BRADLEY J. JAMES
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com



N

SITE PLAN - ELECTRICAL

SCALE 0 10 20 30 40

STOCKWELL

STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA
Where I Want to Live

DOWNTOWN STREETSCAPE IMPROVEMENTS
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YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
CONSTRUCTION DOCUMENTS 3/2/18

ACEI PROJECT #: 118022

SITE PLAN - ELECTRICAL

E1.03

REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER
7911
BRADLEY JAMES
SHORT
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

SITE PLAN ELECTRICAL NOTES

1. CONTROLLER CABINET, SEE DETAIL ON DETAIL SHEET.
2. NEMA 14-50R VENDOR RECEPTACLE WITH HEAVY DUTY DIE-CAST IN-USE COVER, PAINT COVER BLACK.
3. RECEPTACLE PEDESTAL. ARLINGTON INDUSTRIES GP26B, TYPICAL. INSTALL IN 8' DIAMETER CONCRETE BASE WITH RECEPTACLE AT 12' AFG.
4. 1' RIGID PVC SCHEDULE 40 CONDUIT WITH #6 CU CONDUCTORS AND #10 CU GROUND, QUANTITY AS INDICATED.
5. DIRECTIONAL BORE RACEWAYS UNDER EXISTING STREET.
6. VIA CONTACTOR 'C1'.
7. FIRE PIT CONTROLLER LOCATED IN CORTEN UTILITY BOX. ROUTE POWER THRU WEATHERPROOF KEYED SWITCH AND 'EMERGENCY OFF' MUSHROOM HEAD PUSHBUTTON SWITCHES. SEE DETAIL ON SHEET L4.06.
8. PROVIDE CONTROL CABLING BETWEEN FIRE PIT AND CONTROLLER IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
9. PROVIDE AN ENCLOSED 50A/2P, 120/240V, GFI CIRCUIT BREAKER IN THE CORTEN UTILITY BOX TO PROTECT THE VENDOR RECEPTACLE TO THE WEST.
10. VIA 50A/2P GFI CIRCUIT BREAKER IN THE CORTEN UTILITY BOX.
11. PROVIDE A CONTINUOUS 2' SCHEDULE 40 PVC CONDUIT FROM CONTROLLER CABINET TO THE BASE OF THE EXISTING ELECTRIC UTILITY POWER POLE IN THE ALLEY TO THE WEST. SERVICE CONDUCTORS SHALL BE PROVIDED BY THE UTILITY. DIRECTIONAL BORE UNDER (CUT AND PATCH BACK TO FULL DEPTH) THE EXISTING CONCRETE SIDEWALK AS REQUIRED FOR THE INSTALLATION.
12. VIA CONTACTOR 'C2'.

GENERAL ELECTRICAL NOTES

A. ALL EXISTING STREET LIGHTING RACEWAYS AND CONDUCTORS SHALL REMAIN.

B. ALL EXISTING TELEPHONE AND TRAFFIC CONTROL SYSTEMS COMPONENTS, RACEWAYS, AND CONDUCTORS SHALL REMAIN.

C. SEE CIVIL DRAWING SHEETS FOR LOCATION OF CONSTRUCTION LIMITS.

D. ALL 120V RECEPTACLES SHALL BE WEATHER RESISTANT, GFI TYPE WITH INTERMATIC HEAVY DUTY DIE-CAST IN-USE COVERS (PAINT BLACK UNLESS NOTED OTHERWISE).

E. UNLESS NOTED OTHERWISE, ALL 120V RECEPTACLE BRANCH CIRCUITS AND FIRE PIT BRANCH CIRCUIT SHALL BE 1' RIGID PVC SCHEDULE 40 CONDUIT WITH #8 CU CONDUCTORS AND #12 CU GROUND,QUANTITY AS INDICATED.

F. UNLESS NOTED OTHERWISE, ALL 120V LIGHTING BRANCH CIRCUITS FOR TYPE 'AA' AND 'BB' LIGHTING FIXTURES SHALL BE 1' RIGID PVC SCHEDULE 40 CONDUIT WITH #8 CU CONDUCTORS AND #12 CU GROUND, QUANTITY AS INDICATED.

LIGHTING FIXTURE SCHEDULE

Project Name: WALNUT STREETSCAPE PROJECT, YANKTON SD 118022

TYPE	MFR.	NUMBER	LAMPS	VOLTS	DESCRIPTION	NOTES
AA	KIM	LTV82FF-NF-18L-4K-UV	LED/4000K	120	LED, IN-GRADE LANDSCAPE LUMINAIRE, ADJUSTABLE OPTICS, BLUETOOTH MODULE, 1400 LUMENS.	1,2
AA-ALT	KIM	LTV82FF-NF-12L-RGBW-UV	LED/RGB	120	LED, IN-GRADE LANDSCAPE LUMINAIRE, ADJUSTABLE OPTICS, BLUETOOTH MODULE, COLOR CHANGING.	1,3
BB			LED/PAR	120	PORCELAIN SOCKET WITH LED PAR LAMP TO MATCH EXISTING LANTERN LIGHTING. FIELD VERIFY REQUIREMENTS.	4

NOTES:
1. COORDINATE FINAL LOCATION WITH ENGINEER. INSTALL 'IN-CONCRETE' METHOD AS RECOMMENDED BY THE MANUFACTURER.
2. BASE BID LUMINAIRE.
3. ADD ALTERNATE LUMINAIRE (IN LIEU OF TYPE 'AA')
4. INSTALL IN LANTERN, SEE DETAIL ON CIVIL DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER
7911
BRADLEY JAMES
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

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YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

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YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
CONSTRUCTION DOCUMENTS 3/2/18

ACEI PROJECT #: 118022

ELECTRICAL NOTES

E2.00

PANEL SCHEDULE

PANEL: LL — LOCATION: CONTROLLER CABINET — VOLTS: 240 / 120 — PH: 1 — W: 3

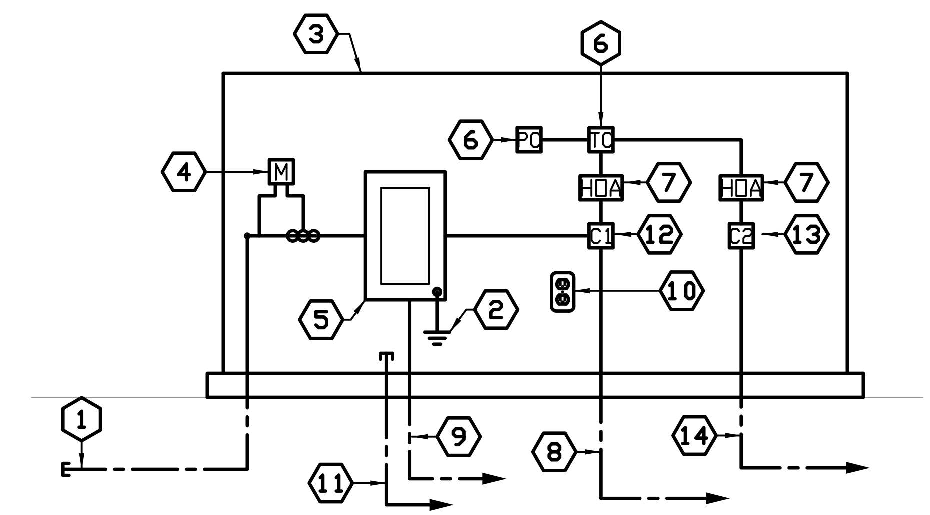
AMP MCB: 200 — AIC RATING: 10,000A — MOUNT: SURFACE

FED FROM: UTILITY POWER POLE

CIRCUIT DESCRIPTION	LOAD KVA	CKT BKR	P	CIR #	PH	CIR #	P	CKT BKR	LOAD KVA	CIRCUIT DESCRIPTION
NW RECEPTACLES	1.00	20	1	1	A	2	1	20	0.40	SE LIGHTING
NW RECEPTACLES	1.00	20	1	3	B	4	1	20	1.00	SE RECEPTACLES
NW LIGHTING	0.40	20	1	5	A	6	1	20	1.00	SE RECEPTACLES
NE LIGHTING	0.40	20	1	7	B	8	1	20	1.00	SW RECEPTACLES
NE RECEPTACLES	1.00	20	1	9	A	10	1	20	1.00	SW RECEPTACLES
NE RECEPTACLES	1.00	20	1	11	B	12	1	20	0.40	SW LIGHTING
VENDOR RECEPTACLE (GFI CB)	3.00	50	2	13	A	14	1	20	0.20	FIRE PIT
- -	3.00	- -	-	15	B	16	1	20	0.20	CONT. CAB RECEPT. AND CONTROLS.
VENDOR RECEPTACLE (GFI CB)	3.00	50	2	17	A	18	1	20		SPARE
- -	3.00	- -	-	19	B	20	1	20		SPARE
VENDOR RECEPTACLE	3.00	50	2	21	A	22	1	20		SPARE
- -	3.00	- -	-	23	B	24	1	20		SPARE
CENTER RECEPTACLES	1.00	20	1	25	A	26				SPACE
CENTER RECEPTACLES	1.00	20	1	27	B	28				SPACE
SPACE				29	A	30				SPACE

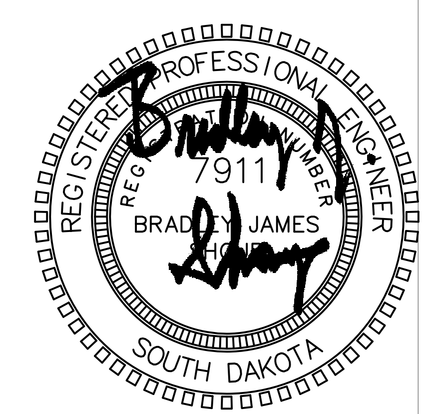
ELECTRICAL NOTES

1. SERVICE ENTRANCE RACEWAY BY ELECTRICAL CONTRACTOR, CONDUCTORS BY UTILITY.
2. GROUND PER NEC, LOCAL CODE REQUIREMENTS, AND SPECIFICATIONS.
3. CONTROLLER CABINET. SEE DETAIL.
4. UTILITY METER, INTEGRAL TO CONTROLLER CABINET. 120/240V/1ø, 200A, RINGLESS LEVER BYPASS TYPE METER SOCKET (COORDINATE WITH UTILITY).
5. 120/240V/1ø PANEL BOARD 'LL', 200A MAIN CIRCUIT BREAKER. INTEGRAL TO CONTROLLER CABINET.
6. PHOTOCELL AND TIMECLOCK (INTERMATIC T101P), INTEGRAL TO CONTROLLER CABINET.
7. HAND/OFF/AUTO SWITCH INTEGRAL TO CONTROLLER CABINET.
8. TO LIGHT FIXTURES.
9. TO VENDOR RECEPTACLES AND FIRE PIT.
10. DUPLEX RECEPTACLE INTEGRAL TO CONTROLLER CABINET.
11. 2 EACH 1' SPARE CONDUIT STUBBED TO THE NORTH.
12. LIGHTING CONTACTOR 'C1' (6 POLES, ELECTRONICALLY OPERATED AND HELD). INTEGRAL TO CONTROL CABINET.
13. LIGHTING CONTACTOR 'C2' (12 POLES, ELECTRONICALLY OPERATED AND HELD). INTEGRAL TO CONTROL CABINET.
14. TO CHRISTMAS LIGHT RECEPTACLES.



POWER RISER DIAGRAM

NO SCALE



Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

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215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
CONSTRUCTION DOCUMENTS 3/2/18

ACEI PROJECT #: 118022

ELECTRICAL DETAILS

E2.01

FEEDER SCHEDULE

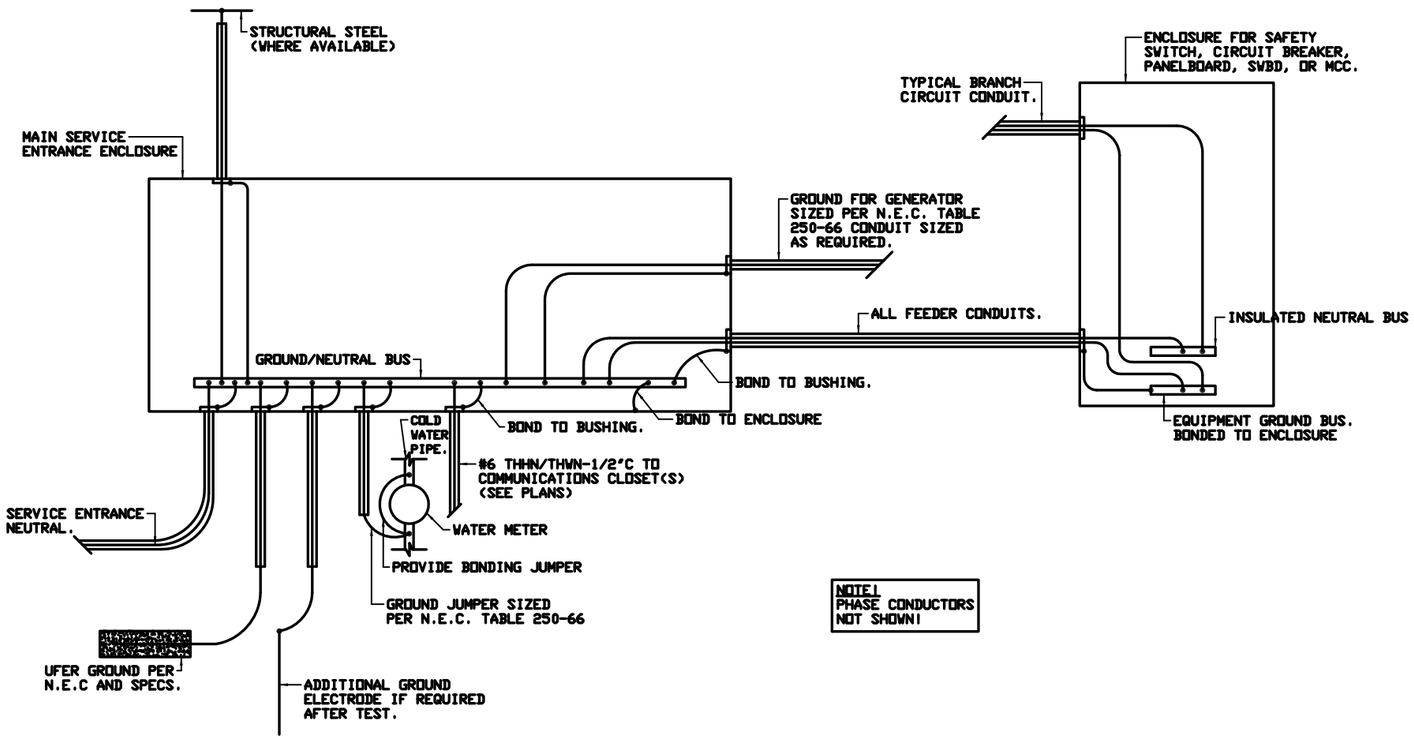
MARK (AMPS)	4-WIRE FEEDER SETS	PH	GND	C	3-WIRE FEEDER SETS	PH	GND	C	'K' RATED 4-WIRE FEEDER SETS	PH	N	GND	C	MARK (AMPS)
15	1	14	14	0.75	1	14	14	0.75	1	14	12	14	0.75	15
20	1	12	12	0.75	1	12	12	0.75	1	12	10	12	0.75	20
25	1	10	10	0.75	1	10	10	0.75	1	10	8	10	0.75	25
30	1	10	10	0.75	1	10	10	0.75	1	10	8	10	0.75	30
35	1	8	10	0.75	1	8	10	0.75	1	8	6	10	0.75	35
40	1	8	10	0.75	1	8	10	0.75	1	8	4	10	1.00	40
45	1	6	10	1.00	1	6	10	0.75	1	6	4	10	1.00	45
50	1	6	10	1.00	1	6	10	0.75	1	6	3	10	1.00	50
60	1	6	10	1.00	1	6	10	0.75	1	6	3	10	1.00	60
70	1	4	8	1.25	1	4	8	1.00	1	4	1/0	8	1.25	70
80	1	4	8	1.25	1	4	8	1.00	1	4	1/0	8	1.25	80
90	1	3	8	1.25	1	3	8	1.25	1	3	2/0	8	1.25	90
100	1	3	8	1.25	1	3	8	1.25	1	3	2/0	8	1.50	100
110	1	2	6	1.25	1	2	6	1.25	1	2	3/0	6	1.50	110
125	1	1	6	1.50	1	1	6	1.25	1	1	4/0	6	2.00	125
150	1	1/0	6	2.00	1	1/0	6	1.50	1	1/0	300	6	2.00	150
175	1	2/0	6	2.00	1	2/0	6	2.00	1	2/0	350	6	2.00	175
200	1	3/0	6	2.00	1	3/0	6	2.00	1	3/0	500	6	2.50	200

MOTOR & APPLIANCE FEEDER SCHEDULE (100 Amps & Less)

MARK (AMPS)	MOTOR LOAD (HP) 480V	208V	4-WIRE FEEDER PH	GND	C	3-WIRE FEEDER PH	GND	C	MARK (AMPS)
20	7.5 & LESS	3 & LESS	12	12	0.75	12	12	0.75	20
25	10	- -	10	10	0.75	10	10	0.75	25
30	15	- -	10	10	0.75	10	10	0.75	30
35	- -	5	8	10	0.75	8	10	0.75	35
40	15	- -	8	10	0.75	8	10	0.75	40
45	- -	- -	6	10	1.00	6	10	0.75	45
50	- -	7.5	6	10	1.00	6	10	0.75	50
60	20	10	6	10	1.00	6	10	0.75	60
70	25	- -	4	8	1.25	4	8	1.00	70
80	30	- -	4	8	1.25	4	8	1.00	80
90	40	15	3	8	1.25	3	8	1.25	90
100	50	20	3	8	1.25	3	8	1.25	100

NOTES:

1. FEEDERS SHALL BE 4-WIRE, UNLESS DENOTED WITH:
   '-3W' WHICH SHALL BE 3-WIRE (3W)
   '-IG' WHICH SHALL BE 4-WIRE PLUS INSULATED GROUND AND EQUIPMENT GROUND.
   '-K' WHICH SHALL BE 4-WIRE WITH OVERSIZED NEUTRAL.
2. SERVICE ENTRANCE CONDUCTORS SHALL NOT BE PROVIDED WITH GROUND CONDUCTOR.
3. ALL FEEDERS SHALL HAVE EQUIPMENT GROUND CONDUCTOR.
4. NEUTRAL SHALL BE SAME SIZE AS PHASE CONDUCTOR, UNLESS OTHERWISE NOTED.
5. CONDUCTOR SIZES FOR FEEDERS OVER 40A ARE BASED ON TERMINATIONS TO EQUIPMENT LISTED FOR 75°C, INCREASE FEEDER SIZES AS REQUIRED FOR TERMINATIONS TO EQUIPMENT NOT LISTED FOR 75°C.
6. RACEWAY AND CONDUCTOR SIZING IS BASED ON THE USE OF THHN/THWN COPPER CONDUCTORS AND EMT CONDUIT. MODIFY RACEWAY AND CONDUCTOR SIZES AS REQUIRED FOR THE USE OF OTHER RACEWAY AND CONDUCTOR TYPES.
7. NOT ALL FEEDER SIZES SHOWN IN THIS SCHEDULE ARE USED IN THIS PROJECT.



BUILDING SERVICE ENTRANCE GROUNDING DETAIL

NO SCALE

ELECTRICAL SYMBOL LEGEND

		MNT. HT.
A, a	CEILING MOUNTED FIXTURE. CAPITAL LETTER INDICATES FIXTURE TYPE. SMALL LETTER INDICATES SWITCHING. DIAGONAL LINE INDICATES RECESSED.	
	WALL MOUNTED FIXTURE	
	POLE MOUNTED LIGHT FIXTURE	
	BOLLARD	
RB	REMOTE BALLAST	
R	RELAY	
TC	TIME CLOCK	
PC	PHOTO CELL	
C	CONTACTOR	
CB	CIRCUIT BREAKER	
	DUPLEX RECEPTACLE	18"
	FOURPLEX RECEPTACLE	18"
	DUPLEX RECEPTACLE, ISOLATED GROUND	18"
	FOURPLEX RECEPTACLE, ISOLATED GROUND	
	DUPLEX RECEPTACLE, EMERGENCY CIRCUIT	18"
	FOURPLEX RECEPTACLE, EMERGENCY CIRCUIT	18"
	DUPLEX RECEPTACLE, HALF SWITCHED	18"
	CEILING MOUNTED RECEPTACLE OR DROP CORD	
	FLOOR BOX, SEE SPECIFICATIONS	
	SPECIAL PURPOSE OUTLET AS NOTED OR SPECIFIED.	
MOA	MULTI-OUTLET ASSEMBLY - M.O.A.	
	BRANCH CIRCUIT LIGHTING AND APPLIANCE PANELBOARD	
	CONTROL CABINET AS NOTED	
TR	TRANSFORMER	
	SPECIAL EQUIPMENT CABINET AS NOTED.	
	DISCONNECT	

		MNT. HT.
AC	ABOVE COUNTER - 3' ABOVE BACK SPLASH	
UC	UNDER COUNTER	18"
KS	KNEE SPACE	18"
I	ISOLATED GROUND	
GFI	GROUND FAULT INTERRUPTER	
WP	WEATHERPROOF	
E	EMERGENCY POWER	
EP	EXPLOSION PROOF	
TR	TAMPER RESISTANT	
	STEM ON DEVICE INDICATES WALL MOUNT	
00	TAG INDICATES SPECIFIC ELECTRICAL NOTE	
000	SPECIAL PURPOSE EQUIPMENT TAG. SEE APPLICABLE SCHEDULE.	
L1-1,3,5	HOME RUN TO PANELBOARD. ARROWS INDICATE QUANTITY OF CIRCUITS. NUMBERS INDICATE PANEL AND CIRCUITS. CROSS MARKS INDICATE NUMBER OF WIRES.	
	CONDUIT CONCEALED IN WALL OR CEILING, 'E' INDICATES EMERGENCY	
UP	CONDUIT UP	
DN	CONDUIT DN	
	CONDUIT CONCEALED IN FLOOR, 'E' INDICATES EMERGENCY	
	CONDUIT EXPOSED, 'E' INDICATES EMERGENCY	

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
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Fax 335-6220
E-mail acei@aceinet.com

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7911
BRADLEY M. JAMES
SOUTH DAKOTA

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA

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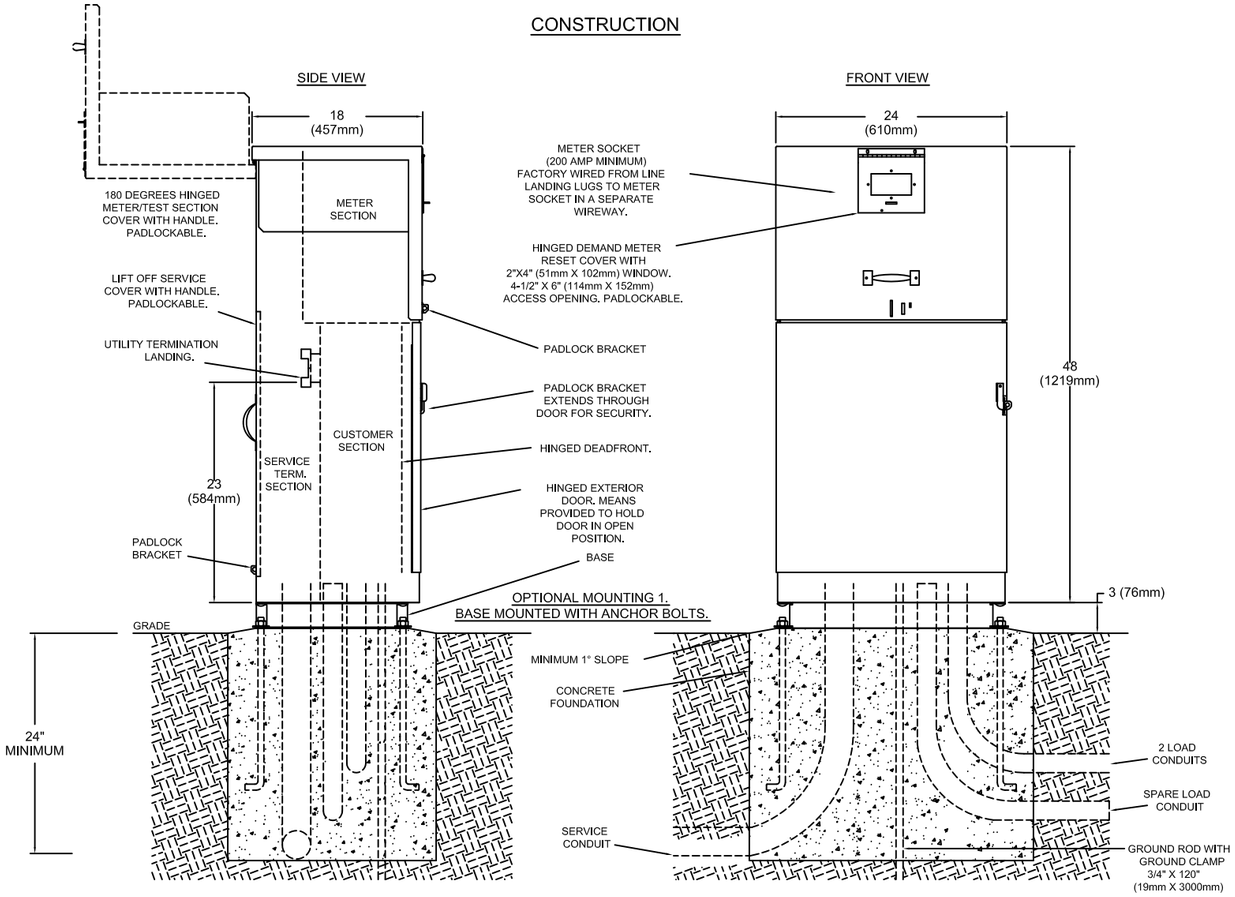
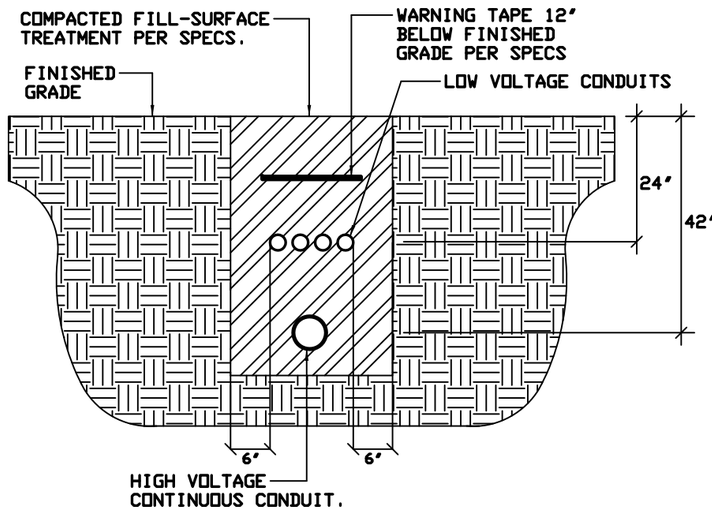
ACEI PROJECT #: 118022

ELECTRICAL DETAILS

E2.02

CONSTRUCTION

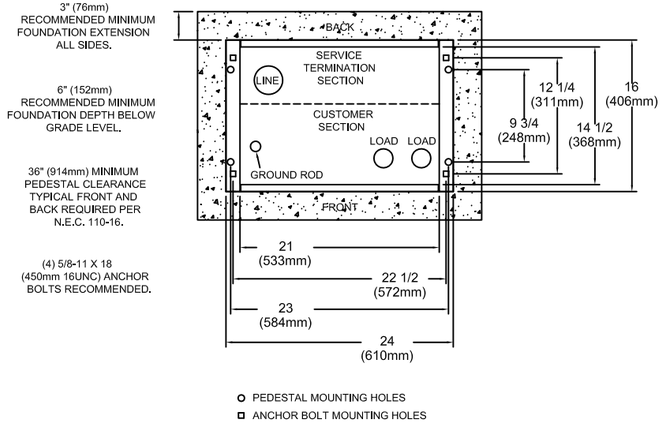




TYPICAL TRENCH DETAIL

NO SCALE

MOUNTING BASE DETAIL (TOP VIEW)



CONTROLLER CABINET MOUNTING DETAIL

NO SCALE

STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

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ELECTRICAL DETAILS

E2.03

REGISTERED PROFESSIONAL ENGINEER
REG. NUMBER 7911
BRADLEY JAMES ZIKMUND
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335-3720
Fax 335-6220
E-mail acei@aceinet.com

ELECTRICAL SPECIFICATIONS:

The work shall include all electrical work indicated on the Drawings and these specifications that are complementary to the electrical construction portion of this project.

QUALITY ASSURANCE:

Codes and Standards:

Work, materials and manner of placing material shall conform in every respect with the latest provisions of Local, State and National Codes.

Materials and equipment shall be new and of best quality, of the type best suited for the purpose intended, and be made by nationally recognized and substantially established manufacturers. The type and weight of material used for each purpose shall be as herein specified, and material shall conform with the requirements of the latest standard specifications of the "ASTM" for that particular material.

Electrical materials used in this work shall be listed by the Underwriters Laboratories, Inc. where testing is provided and shall bear their label.

Where the notation of NEMA is indicated, the equipment shall conform to National Electrical Manufacturers Association Standard.

The following list of codes, technical societies, trade organizations and governing agencies shall set the standards by which all work shall be executed:

City Electrical Ordinances
City Electrical Standards and Templates
State Electrical Laws and Statutes
National Electrical Code (NEC) Current Edition
National Board of Fire Underwriters (NBFU)
National Electrical Manufacturers Association (NEMA)
Underwriters Laboratories (UL)
Electrical Testing Laboratory (ETL)

SUBMITTALS:

The Contractor shall submit seven (7) copies of all shop drawings to the Engineer. Major components of the system shall be submitted at one time under a protective cover with each section indexed with visible file tabs.

Shop drawings shall indicate catalog number, dimensions, voltage and current characteristics, wire sizes, construction and rough_in data of all materials to be used. Each shop drawing shall be certified as being checked and approved by the Contractor before submittal.

Shop drawings not indicated as being approved by the Contractor will be returned without review.

The Contractor shall maintain two copies of approved shop drawings to be submitted with the Operating and Maintenance Manual.

The Engineer is not an error checker. Shop drawings submitted in error or with errors as compared to Specifications and Drawings will be the responsibility of the Contractor.

Shop drawings must only be those materials as specified or approved in published addendum. Others will be returned without review.

Submittals shall be provided for:

Light Fixtures.
Wiring Devices.
Receptacle Pedestals.
In–Grade Enclosures

Guarantee:

This Contractor shall assume responsibility for any defects which may develop in any part of his work caused by faulty workmanship, material or equipment, and agrees to replace, repair or alter, at his expense, any such faulty workmanship, material or equipment that has been brought to his attention during a period of one year from the date of the final certificate for payment. Acceptance of the work shall not waive this guarantee.

Operating and Maintenance Instructions:

This Contractor shall furnish two (2) copies of complete catalog data, manufacturer's literature and detailed manuals covering the operating, maintenance of equipment and parts list specified under this Division of the Specification.

Test Reports:

Work which is required to be placed within the construction or concealed shall be carefully tested and inspected before being permanently concealed.

The entire system shall be subject to a test at full operating and under normal usage conditions. This shall include voltage and current checks, resistance measurements and equipment operation. Defects in the work or workmanship which appear during these tests shall be properly remedied and a test again applied and continued to a satisfactory conclusion.

Electricity or other energy necessary for use in testing and adjusting and for the operation period will be supplied by the Owner.

Instruments for making tests shall be furnished by this Contractor. After testing the apparatus, the entire system shall be operated for one week under normal conditions. The final test shall be performed as soon as possible after the work is entirely completed.

JOB CONDITIONS:

Fees and Service Charges:

Permits, licenses, fees and service charges required in connection with the work shall be secured and paid for by this Contractor, and upon completion of the work he shall furnish proof of acceptance from the proper Local or State Department having jurisdiction.

Final Inspection:

Upon completion of the work, the Contractor shall notify the Architect or Engineer and make arrangements for a final observation. After the final observation is made, the Contractor will receive a list of items requiring adjustment, correction, replacement, or completion.

The Contractor shall comply completely with all the listed requirements within a negotiated number of days of receipt of list. Should the Contractor fail to complete items on the list within this time limit, the Owner reserves the right to have the work completed by others and the cost deducted from the contract price, including change orders.

BASIC MATERIALS AND METHODS

The section shall include but not be limited to:

Conduit, Fittings and Supports
Outlet Boxes, Pull Boxes and Junction Boxes
Wire and Cable
Location of Outlets and Equipment
Equipment Identification and Cleanup
Grounding
Connections to Special Equipment

CONDUIT, FITTINGS AND SUPPORT:

Unless otherwise noted or allowed by following paragraphs, all wiring 120V or greater shall be in conduit. Conduit shall be galvanized rigid steel (GRS), intermediate metallic conduit (IMC), electrical metallic tubing (EMT) or poly–vinyl chloride (PVC).

Conduits shall be sized as required by the NEC for number and size of conductors installed except that 1 inch shall be minimum size for branch circuit home runs and 1/2 inch shall be minimum size for other conduit runs. Maximum size shall be as allowed by the NEC and within the limits of commonly manufactured sizes. Conduit joints shall be cut square, threaded, reamed smooth and drawn up tight. Bends or offsets shall be made with standard conduit ells or field bends made with an approved bender.

Conduit and raceways shall be securely fastened with suitable fastenings.

Concealed conduits shall be run in a direct line with long sweep bends and offsets. Exposed conduits shall be run parallel to and at right angles to building lines and neatly grouped and supported with approved conduit hangers or channel supports. Conduits shall be continuous from outlet to outlet, from outlets to cabinets, pull or junction boxes and shall be secured to all boxes with locknuts and bushings. Conduit ends shall be capped to prevent entrance of foreign materials during construction. Changes in conduit sizes shall occur only at junction boxes. On conduit systems the connector fitting shall be of the insulated throat type. Conduit, elbows and couplings shall be as manufactured by Allied Tube & Conduit, The Republic Steel Company, Triangle, or equal and approved. Conduit fittings shall be of steel as manufactured by The Thomas and Betts Co., Steel City Company, Raco, or equal and approved.

Galvanized Rigid Steel Conduit: Galvanized rigid steel conduit (GRC) shall be used for all exposed conduits outside of the building above grade. Fittings shall be as specified above.

Intermediate Metal Conduit: Intermediate metal conduit (IMC) may be used in place of GRC, except where prohibited by the NEC. Fittings shall be threaded and installation shall comply with the previous paragraphs as specified herein.

Electrical Metallic Tubing: Electrical metallic tubing (EMT) may be used in equipment enclosures. EMT shall not be used in slab on grade, where exposed to moisture or earth or outside where exposed to weather. Indenter fitting shall not be used. Pressure cast fittings shall not be used. Set screw fittings may be used.

Rigid Non_Metallic Conduit (PVC): Use of PVC is specifically limited to underground or under slab–on–grade applications with all risers transitioned to metal conduit prior to extending above ground or above slab. Rigid non_metallic conduit (PVC) shall be made of virgin polyvinyl chloride resin, extruded, Schedule 40 or 80 PVC rigid conduit, light gray in color, supplied in 20 or 10 foot lengths each with a coupling. It shall be U.L. listed and bear the label for use underground direct burial and concrete encased. It shall be cut square with rough edges removed from ends to protect the wires from abrasion. Connections shall be made by solvent welding. Fittings shall be U.L. listed and installed in accordance with the manufacturer's recommended procedures. Expansion joints shall be provided wherever conduit crosses building expansion joints or where a wide temperature differential exists. Conduit and fittings shall be manufactured by Carlon, CertainTeed, Cantex or Johns_Manville. Rigid non_metallic conduit may be used for underground feeders and branch circuits. Transition to GRS conduit must occur before the conduit is exposed. All 90o ells for conduits larger than 1" in diameter must be made with galvanized rigid metal conduit. Rigid non_metallic conduit shall not be installed in concrete but may be installed below concrete slab.

Underground Warning Tape: Permanent, bright colored, continuous–printed, vinyl tape. Tape shall be not less than 6 inches wide by 4 mils thick, compounded for permanent direct–burial service, with embedded continuous metallic strip or core, and have a printed legend that indicates type of underground line.

OUTLET BOXES, PULL BOXES AND JUNCTION BOXES:

Outlet boxes shall be galvanized steel standard electrical type with knockout openings as required and shall be manufactured by Appleton, Steel City, National Electric, Raco, or equal and approved. Outlet boxes shall be at least 1_1/2 inches deep, single or gang style type of size to accommodate devices noted. Outlet boxes in masonry walls may be special masonry type. Outlet boxes on exposed conduit runs in unfinished areas and equipment rooms shall be 4 inch square or multi_gang boxes with matching raised covers. Outlet boxes on exposed conduit runs in finished areas or where indicated shall be cast FS type with covers as specified elsewhere. Exterior outlet boxes shall be cast aluminum type with weatherproof in–use cover, similar to . Outlet boxes for receptacle devices shall be provided with grounding lead lug or screw.

Outlet boxes installed in masonry, tile or concrete surfaces shall be provided with square corner type extension rings where special masonry boxes are not used. Outlet boxes shall be protected from entrance of foreign materials during the construction period.

Outlet boxes shall be concealed except where shown or noted otherwise. Outlet boxes, plaster rings or extension rings shall be installed flush with the finished surface. Openings for boxes in masonry, tile, paneling or similar surfaces shall be cut in by trades installing the surface material and shall be exact box size. The Contractor shall verify type and depth of finished surface so that outlet will be flush.

Outlet boxes noted as WP (weatherproof) shall be a flush FS type box with at least 4 machine screw connections for a gasketed device and cover.

REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER
7911
BRADLEY JAMES
SHOEMAKER
SOUTH DAKOTA

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335–3720
Fax 335–6220
E–mail acei@aceinet.com

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA

DOWNTOWN STREETSCAPE IMPROVEMENTS
WALNUT STREET & 2ND STREET
YANKTON, SOUTH DAKOTA

REVISION SCHEDULE
CONSTRUCTION DOCUMENTS 3/2/18

ACEI PROJECT #: 118022

ELECTRICAL SPECIFICATIONS

E3.00

WIRE AND CABLE:

General:

Wire and cable for feeder and branch circuits shall conform to the requirements of the current edition of the NEC and shall meet all relevant ASTM Specifications. Conductors shall be 600 volt rated, coated soft_drawn copper and unsoft_drawn copper and unless otherwise noted on the Plans and in these Specifications, shall have type THHN/THWN insulation. Wire and cable shall not be older than 12 months.

Aluminum wire shall not be used.

Conductor sizes shall be standard American wire gauge sizes and shall be as noted on the Drawings. Conductors No. 12 and smaller shall be solid; No. 10 and larger, stranded. Minimum size shall be No. 12, unless otherwise noted. Wire size requirements larger than No. 12 shall be as noted on Drawings or as required for the load.

Wire and cable shall be delivered to the job in standard coils or reels without splices and with approved tag noting length, wire size, insulation type, and manufacturer's name; shall be suitably protected from weather and damage during storage and handling.

Branch circuit lighting, receptacle and power wire shall be type THWN/THHN copper wire. Wire for special systems shall be as specified for the system. Service cables, panel feeders and 3 phase motor feeders shall be type THWN/THHN.

Wire shall not be drawn into conduit until after the conduit system is complete and has been thoroughly swabbed out. Wire shall not be drawn into conduit in such a manner as to injure the insulation. Splices shall be made on building wire with solderless_tapeless, mechanical wire connectors with spring action to maintain constant pressure on the conductors. Connections shall be Scotchlok Brand, Type Y, R and B, or equal and approved.

Wire and cable shall be factory color_coded by integral pigmentation, with a separate color for each phase and neutral conductor. The color code indicated in the accompanying chart shall be used consistently throughout the electrical installation. For 240/120V systems, use black and red for phases A and B, respectively. Wire and cable shall be as manufactured by General, Hatfield, South Wire, Triangle or equal and approved.

SURFACE METAL WIREWAYS:

Shall be Square D, or equal and approved, surface wireway, gray color, with matching boxes, fittings and combination hinged and screw cover. Wireways shall be of the lay_in type with standard knockouts and shall be securely supported by approved methods at 5 foot intervals. Wireways installed outdoors shall be rain_tight type. Size and mounting shall be as required.

LOCATION OF OUTLETS AND EQUIPMENT:

Outlets shall be installed at the heights and approximate designated positions as shown on Drawings and in the symbol legend. Mounting heights indicated on Drawings in the symbol legend shall be to center—line of outlet unless indicated otherwise. Heights may be adjusted to align with mortar joints as specified above; however, similar outlets in a given area shall be adjusted to the same height unless specifically noted at the outlet.

EQUIPMENT IDENTIFICATION AND CLEANUP:

The electrical equipment furnished by this Contractor shall be provided with identification indicating its use or function. Equipment to be identified shall include, but not be limited to, panelboards, special system control panels, special lighting or control switches, special receptacles, junction boxes and empty conduits provided for future use. Normal use lighting switches, receptacles and conduit will not require identification.

Identification shall be with black laminated plastic plates with white engraved letters mounted with drive pins or other approved fasteners. Standard lettering height shall be 1/8 inch. In equipment rooms and unfinished areas, painted stencils or engraved plates shall be used for identification.

Each panelboard shall be provided with a neatly typed directory with plastic protector, of circuits describing loads and areas served.

Hand lettering of identification will not be acceptable. Temporary labels used during construction shall be completely removed and surface repainted if required.

Cleanup: Special care must be taken for protection of panels, switches, light fixtures, etc. Damage from rust, paint, scratches, etc., shall be corrected as directed by the Engineer. Clean switchgear, controls, light fixtures, wiring devices, etc. and take special care to remove dirt, mortar, wire scraps, etc. from junction boxes and switchgear interiors. Clean light fixtures and lamps thoroughly, just prior to final inspection.

GROUNDING:

The conduit system and service neutral conductor shall be grounded together at the service entrance, see detail.

Grounding shall be in accordance with the NEC, as shown on the Drawings and as hereinafter specified.

For metallic conduits which terminate without mechanical connection to a housing of electrical equipment by means of locknut and bushings or adapters shall be provided with grounding bushings. Bushings shall be connected with a bare grounding conductor to the equipment ground bus.

Connect metallic conduits, which terminate without mechanical connection to the housing, by grounding bushings and ground wire to the ground bus.

For conduit systems: All conduit systems shall be provided with a separate ground conductor.

For feeders and branch circuits: Install green grounding conductors with all feeders and branch circuits.
Bond the grounding wires to each pullbox, junction box, outlet box, cabinets and other enclosures through which the ground wires pass. Provide lugs in each box and enclosure for ground wire termination.

CONNECTIONS TO SPECIAL EQUIPMENT:

Special equipment is hereby defined as equipment that is not specified under this contract but requires connections by this Contractor, as indicated on the Drawings. Such connections shall be performed by this Contractor. This Contractor shall verify the locations of such connections by securing from the equipment suppliers, templates, detail Drawings and roughing_in measurements. Unless otherwise specified the Contractor responsible for furnishing such equipment is also responsible for setting the equipment in place. Equipment included in this Division of the Specifications, requiring connections by other Contractors, shall be provided with proper openings, tappings, flanges, etc., ready for final connections.

ELECTRICAL SERVICE SYSTEM:

This Contractor shall furnish and install as shown or specified herein conduit, wire and electrical service equipment as shown on the drawings. This section shall include, but not limited to:

Electrical Services:
Controller Cabinet: Provide service raceways and controller cabinet as detailed on the drawings. Provide grounding in accordance with NEC, local code requirements, and specifications.

WIRING DEVICES:

Wiring devices shall be as specified below and as manufactured by Hubbell, Arrow Hart, Pass and Seymour, Leviton, General Electric or equal and approved.

Duplex receptacles shall be specification grade, 20 AMPS, 125 volt, GFCI, weather—resistant, 3 wire grounding type with grounding terminal and terminals arranged for back or side wiring. Devices shall have gray finish.

LIGHTING FIXTURES, LAMPS AND CONTROLS:

This Contractor shall furnish and install as shown or specified herein conduit, wire, lighting fixtures, lamps and controls. The section shall include but not be limited to:

Lighting Fixtures

Unless noted otherwise lighting units and fixtures shall be as scheduled and detailed on the drawings and shall be provided by the contractor.

QUALITY ASSURANCE:

Lighting fixtures shall conform to latest NEMA Standards.

LIGHTING FIXTURES:

Capital letter at fixture outlet symbol or in note on Drawings indicates the fixture type. Lower case letter at outlet symbol indicates switching pattern. Any outlets not specifically labeled shall be equipped with fixture similar to those in rooms used for like purposes.

STOCKWELL
STOCKWELL ENGINEERS, INC.
215 WALNUT ST.
YANKTON, SD 57078
PH: 605.665.8092
FAX: 605.665.0523

City of Yankton SOUTH DAKOTA
Where Life Flows

DOWNTOWN STREETSCAPE IMPROVEMENTS
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REGISTERED PROFESSIONAL ENGINEER
REGISTRATION NUMBER 7911
BRADLEY JAMES THOMAS
SOUTH DAKOTA

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ELECTRICAL SPECIFICATIONS

E3.01

Associated Consulting Engineering, Incorporated
340 S. Phillips Ave.
Sioux Falls, S.D. 57104
(605) 335—3720
Fax 335—6220
E—mail acel@aceinet.com