STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	1	50

Plotting Date: 12/5/17
Revised Date: 6/28/18
Initials: TLW

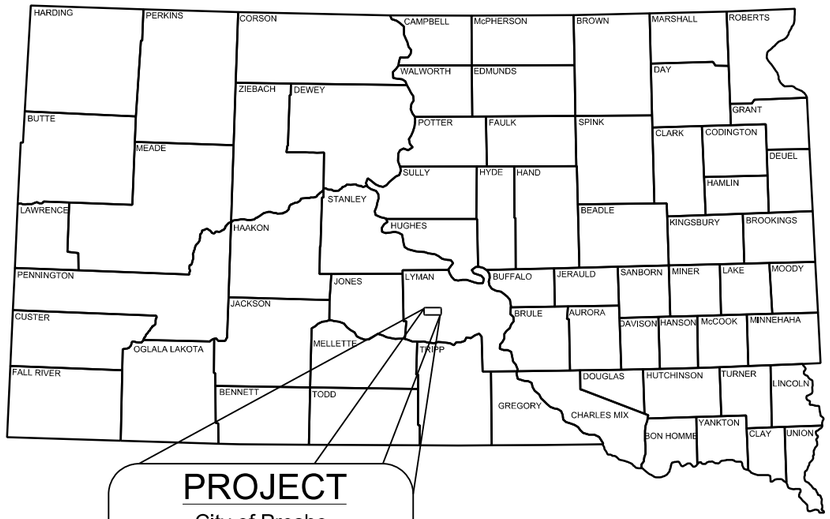
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT P TAPR (17)
LYMAN COUNTY

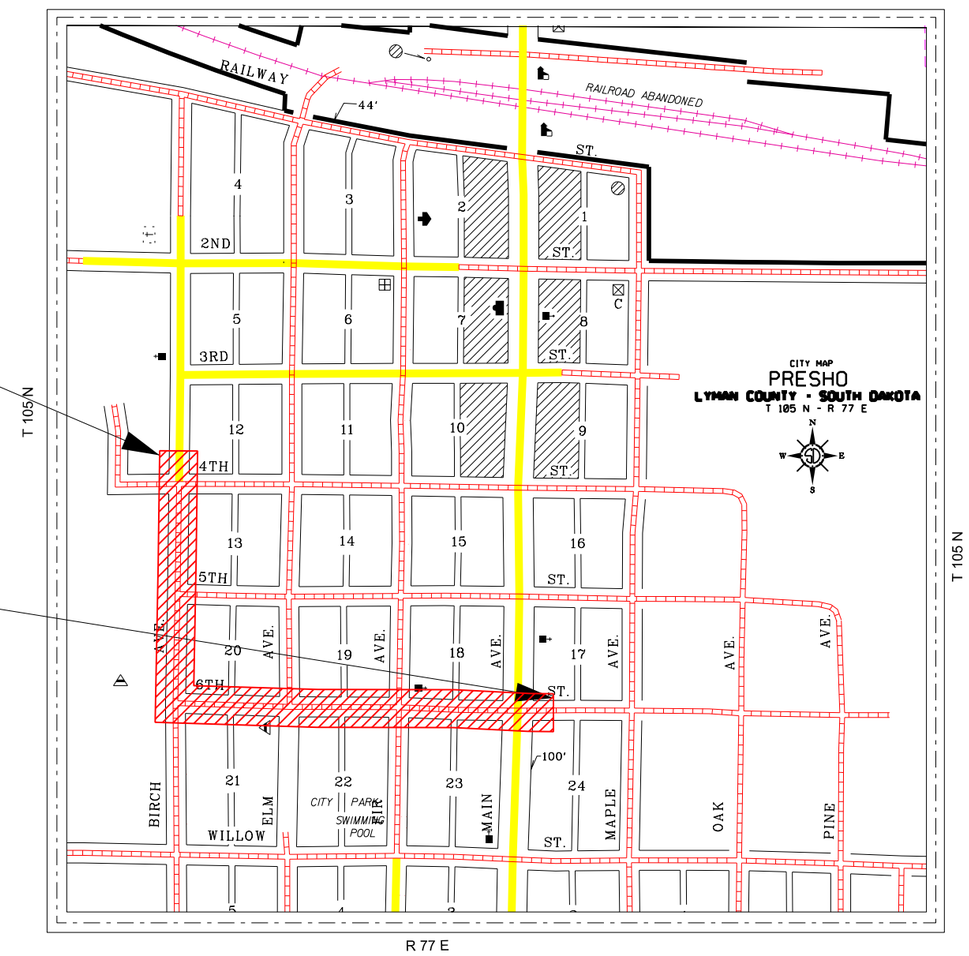
Concrete Sidewalk

PCN 05CJ



START PROJECT
At Sta. 0+47.85 = Intersection of Birch Avenue and 4th Street

END PROJECT
At Sta. 19+97.83 = Intersection of Main Avenue and 6th Steet



INDEX OF SHEETS

SHEET 1	TITLE AND LAYOUT MAP
SHEET 2-8	ESTIMATE OF QUANTITIES AND GENERAL NOTES
SHEET 9	CONTROL DATA / STAKING
SHEET 10	TOPO LEGEND
SHEET 11-12	PERMANENT SIGNING
SHEET 13	TRAFFIC CONTROL
SHEET 14-17	REMOVALS & EROSION CONTROL
SHEET 18	TYPICAL SECTION
SHEET 19-22	PLAN & PROFILE
SHEET 23-26	CURB & GUTTER
SHEET 27	DRAINAGE
SHEET 28-39	CROSS SECTIONS
SHEET 40-50	STANDARD PLATES

STORM WATER PERMIT

Major Recieving Body of Water:	Medicine Creek
Area Disturbed:	0.57 Acres
Total Project Area:	0.57 Acres
Latitude:	43° 42' 40.51"N
Longitude:	98° 28' 50.24"W

Gross length 1949.98 Feet 0.37 Miles

PLANS BEI# S16-P515

Survey by:	Brosz Engineering, Inc. Pierre, SD
Plans by:	Brosz Engineering, Inc. Pierre, SD

Estimate of Quantities

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	0.37	Mile
009E3250	Miscellaneous Staking	0.37	Mile
009E3280	Slope Staking	0.37	Mile
009E3300	Three Man Survey Crew	24	Hour
120E0010	Unclassified Excavation	422	CuYd
260E3010	Gravel Surfacing	60.0	Ton
320E2000	Maintenance Patching	10.0	Ton
380E3020	6” PCC Driveway Pavement	204.4	SqYd
380E3525	6” Reinforced PCC Approach Pavement	112.6	SqYd
380E4010	6” PCC Fillet Section	56.5	SqYd
450E4757	18" CMP 12 Gauge, Furnish	78	Ft
450E4760	18” CMP, Install	78	Ft
450E5211	18" CMP Flared End, Furnish	3	Each
450E5212	18" CMP Flared End, Install	3	Each
632E1320	2.0”x2.0” Perforated Tube Post	39	Ft
632E3203	Flat Aluminum Sign, Non removable Copy High Intensity	10.0	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	88.0	SqFt
634E0110	Traffic Control Signs	109.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E2000	Longitudinal Pedestrian Barricade	10	Ft
635E2000	Pedestal Signal Pole	2	Each
635E4010	1 Section Vehicle Signal Head	4	Each
635E5020	2' Diameter Footing	12	Ft
635E5410	Controller Cabinet	2	Each
635E5900	Pedestrian Push Button	2	Each
635E5930	Pedestrian Crossing Sign	2	Each
650E0060	Type B66 Concrete Curb and Gutter	513	Ft
651E0050	5” Concrete Sidewalk	9859	SqFt
651E5000	Sidewalk Drain	5	Ft
651E7000	Type 1 Detectable Warnings	210	SqFt
670E6000	Adjust Drop Inlet	4	Each
671E1060	60” Manhole	1	Each
671E6007	Type A7 Manhole Frame and Lid	1	Each
734E0154	12” Diameter Erosion Control Wattle	80	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	5	Each

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

SCOPE OF WORK

The project consists of constructing a new 5” concrete sidewalk. The work includes removals, sidewalk, curb & gutter, storm drainage and all other items and work to construct the path to Specifications.

The City will be doing part of the work as listed below. The contractor is to coordinate with the City for work and schedule of these items.

Work performed by City:

1. Remove Concrete Curb and/or Gutter
2. Remove Pipe Culvert
3. Remove Asphalt Concrete Pavement
4. Remove Concrete Pavement
5. Remove & Replace Topsoil
6. Remove Concrete Retaining Wall
7. Remove, Salvage, Relocate, and Reset Traffic Sign
8. Sweeping
9. Type D Permanent Seed Mixture
10. Fertilizing
11. Clearing
12. Pavement Marking Paint, 24" White

SEQUENCE OF OPERATIONS

1. Install Erosion & Sediment Control
2. Removals
3. Storm Sewer
4. Curb & Gutter
5. Concrete Sidewalk
6. Signing & Pavement Markings
7. Seeding & Mulching

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor’s primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre or more of earth disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

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

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

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

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the Public ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating “No Dumping Allowed”.

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

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

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

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

UTILITIES

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor shall contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

South Dakota One Call	1-800-781-7474
City of Presho, Water, Sewer & Electric	1-605-895-2337
Kennebec Telephone, Telephone	1-605- 869-2200
West Central Electric, Electric	1-800- 242-9232

UNCLASSIFIED EXCAVATION

The cost of water shall be incidental to the contract unit prices per cubic yard for Unclassified Excavation and Contractor Furnished Borrow Excavation.

Excavation and construction of embankments for grading shall be performed in accordance with Section 120 of the Specifications. Compaction of embankments shall be governed by the Ordinary Compaction Method.

The path will be constructed to the typical sections shown in the plans. Additional grading may be required as directed by the Engineer to provide a smooth profile free from abrupt changes in grade. The grade shall conform to the guidelines as stated in the current AASHTO publication of “Guide for development of Bicycle Facilities”.

All costs for excavation and construction of embankments required for grading shall be incidental to the contract unit prices per cubic yard for “Unclassified Excavation” or “Contractor Furnished Borrow Excavation”.

TABLE OF CONCRETE PAVEMENT REMOVAL
(For Information Only, work to be done by the City)

Station	to	Station	Description	Quantity (SqYd)
0+51		0+59	Sidewalk	8.0
0+45		0+65	Sidewalk	8.8
0+92		2+14	Sidewalk	52.2
2+23		2+66	Driveway	80.2
11+50		11+58	Fillet	7.9
11+99		12+14	Fillet	6.0
11+99		13+77	Sidewalk	67.8
13+77		13+98	Driveway	30.0
14+19		14+22	Sidewalk	3.6
15+21		15+31	Sidewalk	14.0
15+21		15+31	Fillet	8.5
15+22		15+22	Sidewalk	8.6
15+85		15+94	Fillet	5.1
15+85		16+09	Sidewalk	18.0
16+99		17+34	Sidewalk	20.7
18+99		18+95	Sidewalk	10.8
19+11		19+20	Fillet	6.6
19+65		19+75	Fillet	7.2
19+86		19+90	Sidewalk	6.9
19+88		19+88	Sidewalk	8.3
			Total:	379.2

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL
(For Information Only, work to be done by the City)

Station	to	Station	L/R	Quantity (SqYd)
3+37		3+57	R	40.3
4+53		4+66	R	21.5
			Total:	61.8

TABLE OF CONCRETE GUTTER REMOVAL
(For Information Only, work to be done by the City)

Station	to	Station	L/R	Quantity (Ft)
0+46		0+60	L	15
0+47		0+65	L	30
4+66		4+88	L	20
6+47		6+47	L/R	15
11+50		11+41	R	9
11+58		11+58	L	10
11+96		11+99	L	8
12+14		15+21	R	307
15+31		15+37	L/R	13
15+15		15+21	R	7
15+85		15+85	L	9
15+94		16+09	R	12
18+93		19+11	R	17
19+20		19+20	R	5
19+65		19+65	L	5
19+75		19+96	R	22
19+78		19+93	R	15
			Total:	519

GRAVEL SURFACING

Gravel surfacing is to be used at gravel street crossing and along new curb & gutter area’s.

CORRUGATED METAL PIPE

Corrugated metal pipes shall have 2 ⅔-inch x ½-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes shall have 3-inch x 1-inch or 5-inch x 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

The gauge of the corrugated metal elbows, tees, crosses, wyes, and ends shall match the thickest gauge of corrugated metal pipe it is connected to.

PERMANENT SIGNS

The Contractor shall provide all labor and equipment necessary to install permanent signing, remove existing signs, and reset existing signs as detailed in these plans and/or as required by the Engineer. Payment for furnishing and installing permanent signs will be paid for at the contract unit price for each type of sign based on sheeting requirements per square foot of sign. All signs shall have ASTM D4956 Type IV (very high intensity) or Type XI (super very/high intensity), as detailed in plans. Payment for new signposts, hardware, bases, and labor will be made at the contract unit price per foot for “2.0” x 2.0” Perforated Tube Post”.

See breakaway post details and fixed post details regarding posts, hardware, bases, and footings. *Measurement of post lengths for payment will be for above ground post lengths as field measured.* The sign post contract items shall include post bases and all hardware. The post lengths shall be verified by the Contractor.

The Contractor is urged to cut posts to length on job site after verification of post length.

The Contractor shall use Telespar brand (or equivalent) posts and bases on all new signs as approved by the Engineer. All post materials shall conform to Section 982 of the Specifications, and be in accordance with ASTM specifications. The height of the post shall not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the

sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off. All posts and bases shall be accompanied by Certificates of Compliance and shall meet all safety standards as set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

Payment for 2.0” x 2.0” perforated tube post shall include all cost for labor, equipment, and materials necessary to complete the following work:

1. Furnishing all posts, stiffeners, breakaway bases, soil stabilizers, and hardware.
2. Assembly and installation of breakaway base sign supports as per details shown in these plans.
3. Assembly of sign(s) to sign post as per erection details for Highway Signs as shown in these plans.
4. Installation of signpost and sign(s).

PERMANENT SIGN SHEETING GUIDANCE

The following signs shall utilize ASTM D4956 Type XI (Super/Very High Intensity*)
Sheeting:

- STOP (R1-1)
- YIELD (R1-2)
- DO NOT ENTER (R5-1)
- WRONG WAY (R5-1a)
- All Warning Signs
- All Overhead Guide Signs – does not include street name signs on signal mast arms
- All Interstate Guide Signs
- All Extruded Aluminum Panel signs used on Interstates and Expressways, except those with a blue or brown background
- All Delineators
- All School Zone Signs

All other signs shall be designated as ASTM D4956 Type IV (High Intensity) Sheeting. 3 All Warning signs shall be fluorescent yellow. All School signs and Pedestrian Crossing signs shall be fluorescent yellow-green. *SDDOT Policy refers to Type XI sheeting as "Cubic Prismatic," SDDOT plan notes and bid items refer to Type XI Sheeting as "Super/Very High Intensity Sheeting," and ASTM D4956 refers to Type XI Sheeting as "cube corner microprismatic."

GENERAL MAINTENANCE OF TRAFFIC

The Contractor shall provide details at the preconstruction meeting for all breakaway sign support assemblies

All traffic control sign locations shall be set in the field by the Contractor and verified by the Engineer prior to installation.

Crash Testing: All sign assemblies installed within public Right-of-Way shall meet the requirements of NCHRP Report 350 and/or MASH crash testing requirements or shall be protected by a crash-worthy device.

ADJUSTMENT OF DROP INLET

The Contractor shall adjust drop inlets to the extent necessary on this project. Adjusting the drop inlets may consist of removing the upper course of brick or removing the concrete walls, replacing the removed materials with brick or Class M6 concrete, placing adjusting rings if necessary, and resetting the drop inlet frame and lid. The elevation of the lid shall be set at the same elevation of the adjacent new pavement or surrounding ground. All frames, lids, and rings that are cracked or broken due to carelessness of the Contractor shall be replaced with new frames, lids, and rings that conform with the Specifications at the Contractor's expense. Drop Inlets shall be adjusted to the satisfaction of the Engineer. All costs involved in adjusting the manholes shall be incidental to the contract unit price per each for "Adjust Drop Inlet".

The Engineer may direct adjustment of drop inlet that were not included in these plans. Payment for adjusting drop inlets that were not included in the plans will be at the contract unit price per each for "Adjust Drop Inlet".

TABLE OF ADJUST DROP INLET

Station	L/R	Type of Adjustment
15+27	R	Elevation
15+84	R	Elevation
19+22	R	Elevation
19+65	R	Elevation

TABLE OF TYPE B66 CONCRETE CURB AND GUTTER

Station	to	Station	L/R	Quantity (Ft)
0+60		0+46	L	15
0+45		0+56	R	12
0+64		0+64	L	13
4+66		4+85	L	20
6+47		6+47	L/R	9
11+41		11+50	L/R	9
11+58		11+58	R	9
11+99		11+99	L/R	11
12+14		15+22	R	308
15+37		15+37	L/R	12
15+15		15+21	R	7
15+85		15+85	L	5
15+96		16+09	R	14
18+93		19+11	R	18
19+20		19+20	L/R	5
19+65		19+65	R	5
19+78		19+97	R	22
19+75		19+96	R	19
			Total:	513

6" PCC FILLET SECTIONS

Payment for "6" PCC Fillet Section" shall be based on plans quantity. If additions or reductions to the area of PCC fillet sections are ordered by the Engineer, payment will be made in accordance with the contract unit price per square yard for "6" PCC Fillet Section".

TABLE OF 6" PCC FILLET SECTION

Station	to	Station	L/R	Radius (Ft)	Quantity (SqYd)
0+64		0+56	L/R	8.0	6.5
11+58		11+50	R	8.0	7.0
11+99		12+14	R	9.5	8.6
15+22		15+37	R	9.5	8.6
15+85		15+96	L/R	9.5	8.6
19+10		19+20	L/R	9.5	8.6
19+65		19+75	L/R	9.5	8.6
				Total:	56.5

DETECTABLE WARNINGS

Detectable warnings shall be in compliance with the Americans with Disabilities Act regulations.

The detectable warnings shall be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material shall be placed below the Type 1

Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness shall be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings shall be a brick red color for application in concrete curb ramps. Cast iron plates may be a natural patina (weathered steel).

When Type 1 Detectable Warnings are specified, the Contractor shall furnish and install only one of the products listed in the Type 1 Detectable Warnings table.

Type 1 Detectable Warnings

Product	Manufacturer
Detectable Warning Plate Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/
Detectable Warning Plate Cast Iron Plate(No Coating)	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 http://www.ejiw.com
TufTile (wet-set) Cast Iron Replaceable Tile	TufTile 1200 Flex Court Lake Zurich, IL 60047 888-960-8897 http://www.tuftile.com/
	M.R. Castings, Inc.
Pre-Manufactured Detectable Warning Paver Concrete Panel	PO Box 34232 Omaha, NE 68134 402-510-3279 http://mrcastings.com/
TufTile (wet-set)lymer Replaceable Tile	TufTile 1200 Flex Court Lake Zurich, IL 60047 888-960-8897 http://www.tuftile.com/

TABLE OF DETECTABLE WARNINGS

Station	L/R	Detectable Warnings (Type)	Quantity (SqFt)
0+55	49.46 L	1	10
0+54	8.86 L	1	10
0+62	CL	1	10
0+95	CL	1	10
6+45	CL	1	10
6+75	CL	1	10
11+47	9.24 R	1	10
11+56	CL	1	10
12+01	CL	1	10
11+47	41.43 R	1	10
15+23	CL	1	10
15+35	CL	1	10
15+22	42 R	1	10
15+23	53 R	1	10
15+88	CL	1	10
16+01	CL	1	10
18+97	3 R	1	10
19+15	CL	1	10
19+69	CL	1	10
19+88	3 R	1	10
19+88	49 R	1	10
	Total Type 1 Detectable Warnings:		210

TABLE OF 5" CONCRETE SIDEWALK

Station	to	Station	L/R	Quantity (SqFt)
0+47		0+46	R	142
0+51		0+59	R	79
0+93		2+27	R	660
2+63		3+37	R	360
3+57		4+54	R	478
4+66		6+47	R	914
6+73		8+48	R	867
8+70		9+76	R	531
10+03		11+00	R	480
11+00		11+58	R	356
11+99		13+45	R	2324
12+55		13+78	R	132
11+47		11+47	R	84
13+96		15+37	L	947
15+22		15+22	R	142
16+99		17+34	R	172
17+62		19+20	R	907
19+65		19+96	L	224
19+88		19+93	R	60
			Total:	9859

TABLE OF 6" PCC DRIVEWAY PAVEMENT

Station	to	Station	L/R	Quantity (SqYd)
2+27		2+63	L/R	78.8
3+37		3+57	L/R	40.3
4+54		4+66	L/R	21.5
8+48		8+70	C/L	11.9
9+76		10+03	C/L	15.3
13+45		13+55	C/L	7.1
13+78		13+96	L	29.6
			Total:	204.4

6" REINFORCED PCC APPROACH PAVEMENT

6" approaches shall have a header joint installed to protect the edge of the approach where it is crosses a gravel street. Refer to Typical Section for installation details. The header joints shall be incidental to the contract unit price per square yard for (6" Reinforced PCC Approach Pavement).

TABLE OF 6" REINFORCED PCC APPROACH PAVEMENT

Station	to	Station	L/R	Quantity (SqYd)
6+50		6+73	R/L	13.0
11+61		12+01	L/R	19.9
11+47		11+47	R	14.2
13+55		13+78	L/R	14.7
15+40		15+69	L/R	16.1
15+22		15+22	R	19.1
17+34		17+62	L/R	15.6
			Total:	112.6

TABLE OF REMOVE AND RESET SIGNS
(For Information Only, work to be done by the City)

Station	L/R	Quantity (Each)
0+59	L	1
0+99	L	1
8+43	R	1
15+22	R	1
15+27	R	1
15+91	L	1
19+93	R	1
19+96	R	1
	Total:	8

REMOVE AND REPLACE TOPSOIL
(For Information Only, work to be done by the City)

Topsoil shall also be salvaged and stockpiled prior to constructing concrete sidewalk. Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 130 CuYd.

All costs associated with removing and replacing the topsoil along areas to be resurfaced shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

FERTILIZING
(For Information Only, work to be done by the City)

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

The fertilizer shall be applied at a rate of 100 pounds per acre in accordance with the manufacturer's recommended method of application.

PERMANENT SEEDING
(For Information Only, work to be done by the City)

This item will be incidental to Erosion Control. The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal	1.4
Chewings Fescue	Ambrose, K2, VNS, Zodiac	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
	Total:	7

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
6+49	R	12		10
8+28	R	12		10
8+73	R	12		10
10+11	R	12		10
7+06	R	12		10
11+32	R	12		10
11+32	R	12		10
18+79	R	12		10
			Total:	80

SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlet with Frame and Grate shall be installed prior to working in the vicinity of the drop inlets.

The Contractor shall be responsible for maintaining and repairing the sediment control devices for the duration of the project for which sediment control measures are required. Maintenance shall be scheduled to prevent storm water from backing up into the driving lane.

"Sediment Control at Inlet with Frame and Grate" will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced. All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlet with Frame and Grate shall be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

Sediment collection devices shall be:

A commercial made sediment collection device from the "Sediment Control at Inlet with Frame and Grate" list or an approved equal. The device shall be installed in reinforced concrete drop inlets according to the manufacturer's recommendations.

A sediment control device as shown on Standard Plate 734.10. Filter fabric used for constructing the sediment control at inlets with frames and grates shall be the same type of fabric that is used in high flow silt fence from the approved product list. The approved product list may be viewed at the following internet site:

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

Sediment Control at Inlet with Frame and Grate Approved List:

Product	Manufacturer
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 www.royalenterprises.net
Dandy Curb Sack	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 www.silttrapper.com
DIP Basket	Skyview Construction Co., LLC Waubay, SD Phone: 1-605-520-0555 www.skyviewconst.com
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 www.inletfilters.com
GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com
Sediment Catchers	Shaun Jensen Brookings, SD Phone: 1-605-690-4950
Grate FX, Slammer, or VertPro	Enviroscape ECM, Ltd. Oakwood, OH Phone: 1-419-594-3210 www.strawblanket.com
BX Inlet Sediment Boxes	BX Civil and Construction Dell Rapids, SD Phone: 1-605-428-5483 bx-cc.com

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

Station	L/R	Quantity (Each)
15+23	R	1
15+27	R	1
15+84	R	1
19+22	R	1
19+65	R	1
	Total:	5

POLE FOOTINGS

Where indicated on the Drawings, footings shall be installed by the Contractor in accordance with Standard Plate 635.55. Footing design data is located in the Drawings.

All labor and materials required shall be paid for at the contract unit price per foot for "2' Diameter Footing".

TABLE OF FOOTING DATA

Site Designation	Footing Diameter	* Footing Depth	**Spiral Diameter	**Spiral Length	Vertical Reinforcement
19+16.36 – R	**2' - 0"**	**6' - 0"**	**1' - 8"**	**44' - 3"**	**8-#7 x 5' - 6"**
19+71.86 - R	**2' - 0"**	**6' - 0"**	**1' - 8"**	**44' - 3"**	**8-#7 x 5' - 6"**

* Footing depth shall be below ground level.
** The size of all spirals shall be #3.

BREAKAWAY BASES

A statement is required, signed by a Professional Engineer registered in the State of South Dakota, certifying that the breakaway base devices meet the

design requirements, including breakaway and structural adequacy, of the "AASHTO Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals". The physical testing procedures outlined in Section 8 of the Fifth Edition of the Aluminum Association's "Specifications for Aluminum Structures" may be used to establish service limits for structural adequacy certification of aluminum breakaway transformer bases and frangible couplings. If requested, test data of production samples to support the certification shall be provided.

PEDESTAL SIGNAL POLES

Pedestal signal poles may be aluminum. Aluminum poles shall conform to the following requirements:

Aluminum shall conform to ASTM B221, Alloy 6061, and Temper T6.

Poles shall be round with a minimum outside pole diameter of 4 inches, and the pole assembly shall have a square, cast aluminum base with aluminum access door. The base shall conform to the breakaway requirements of NCHRP 350 or MASH. A grounding lug shall be provided in the base.

The pole to base connection shall be a threaded connection; threads shall be 8 TPI, NPT. A collar (integral or non-integral) to prevent wind-induced loosening of pole shall be provided. All bolt and connection threads shall be coated with a commercially available anti-seize compound intended for use in aluminum-to-aluminum and steel-to-aluminum connections.

The pole finish shall either be brushed satin or spun. The top of the pole shall be sealed by the traffic signal head mounting hardware or by an aluminum cap.

Measurement and payment for aluminum poles shall be as specified in Specifications Section 635

SOLAR POWERED PEDESTRIAN CROSSING FLASHING BEACON

Solar Powered Pedestrian Crossing Flashing Beacon shall conform to FHWA Interim Approval Memorandum (1A-11). Beacons shall be provided at the locations specified in the plans and constructed in accordance with the detail located in the plans. Beacons shall operate in a flash pattern in conformance with the MUTCD. Furnishing and installation of flashing beacons shall be paid for at the contract unit price per each for 1 section vehicle signal head.

An aluminum controller cabinet shall be furnished and installed to house the battery, flasher unit, wireless radio, and controller. Cabinet shall also include a circuit breaker and surge arrestor. Flasher unit shall be furnished and installed capable of alternating signal beacon flash cycles in accordance with MUTCD. Activation of the beacons shall be by pedestrian push button. Wireless radio shall initiate beacon on other side of crosswalk. Controller shall be capable of adjusting length of beacon initiation. Contractor shall supply a service representative to initially program the controller and to provide a minimum of 2 hours of instruction to 4 people.

Solar Panel, Cabinet, Flasher, and Controller units shall be of same manufacturer to ensure compatibility. Solar Panel, Flasher Unit, Controller, controller cabinet, radio transmitter, and initial programming and instruction shall be paid for at the contract unit price per each for “Controller Cabinet”.

A pedestrian instruction sign (R10-25) with the legend PUSH BUTTON TO TURN ON WARNING LIGHTS should be mounted adjacent to or integral with each pedestrian pushbutton.

A small light directed at and visible to pedestrians in the crosswalk shall be installed integral to the push button to give confirmation that it is in operation.

Except as otherwise provided above, all other provisions of the MUTCD applicable to Warning Beacons shall apply.

The manufacturer shall provide an energy balance worksheet consisting of (Energy In)/(Energy Out), ALR and System Autonomy calculations.

Energy-In is based on Electric charge, in Ah, entering the battery from the charger, accounting for:

•The energy from the solar panel based on applicable peak sun hours insolation available at the installation location for the panel’s inclination angle. The insolation figure used shall be the worst-case month of the calendar year. The source of the insolation data shall be the NASA Atmospheric Data Center.
•Shading from nearby trees, buildings or other structures unique to a particular location are to be factored in and the calculations shall clearly show and justify the de-rating of the solar panel energy input.
•Efficiency losses from the charger, including conversion efficiency of a Maximum Power Point Tracking (MPPT) Charger, where applicable.
•MPPT Charger current boost, if applicable.
•Battery charger efficiency losses

Energy-Out is based on the sum of quiescent and operating load in all circuitry over 24 hours with an operating capacity of 300 20-second activations, including:

•Baseline wireless over 24 hours
•Operating load of push button at rated operating capacity per activation
•Additional operating load of the wireless system per activation
•Operating load of lightbars including pedestrian indicators at rated intensity per activation. The number of lightbars and their electrical load details (volts, current and watts) shall be clearly indicated.

ALR

System Array-to-Load (ALR) ratio shall be calculated as: Energy-In divided by Energy-Out as defined above.
Systems shall be designed to a minimum Array-to-Load (ALR) ratio of 1.2.

Autonomy

System autonomy shall be a minimum of 10 days or as recommended by the NASA Atmospheric Data Center for the location and shall be calculated by the following method:

(Temperature-derated battery capacity minus battery capacity unavailable due to Low Voltage Disconnect) divided by Daily total energy consumption with an operating capacity of 300 20-second activations (as calculated above).

CROSSWALK MARKINGS
(For Information Only, work to be done by the City)

All crosswalks shall be marked as shown in the plans. Crosswalk markings shall be white, 24” wide and a minimum of 8’ long. Spacing between markings shall be no more than 2.5’.

STREET SWEEPING
(For Information Only, work to be done by the City)

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

MAINTENANCE PATCHING

This item is to be used to patch in around the fillet section on Main Avenue. The contractor will install asphalt concrete composite as specified on the plans sheets. Asphalt concrete composite will conform to section 324 of the specifications and will be paid for at the contract unit price per ton for Maintenance Patching.

TABLE OF TREE REMOVAL
(For Information Only, work to be done by the City)

Tree removal is incidental to the contract lump sum price for Clearing.

Station	Offset	Quantity
4+04.08	1.48 R	1
4+10.17	2.50 R	1
4+18.00	2.93 R	1
10+32.01	0.25 L	1
11+31.31	1.16 L	1
11+43.61	1.62 L	1
18+28.65	1.96 R	1
	Total:	7

CONTROL DATA

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP 1	1+16.32	3.50’ R	BARCAP	574226.11	2039712.53	1811.47
CP 2	4+86.50	3.50’ R	PIPE	573859.88	2039715.65	1806.53
CP 3	12+15.44	11.90’ L	PIPE	573561.87	2040141.12	1803.82
CP 4	13+63.57	11.24’ L	REBAR	573562.69	2040289.25	1804.47

EXISTING TOPOGRAPHY SYMBOLOGY AND LEGEND

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	10	50

Plotting Date: 1/30/17
Revised Date: xx/xx/xx
Initials: TLW

Anchor
Antenna
Approach
Assumed Corner
Azimuth Marker
BBQ Grill/ Fireplace
Bearing Tree
Bench Mark
Box Culvert
Bridge
Brush
Buildings
Bulk Tank
Cattle Guard
Cemetery
Centerline
Cistern
Clothes Line
Commercial Sign Double Face
Commercial Sign One Post
Commercial Sign Overhead
Commercial Sign Two Post
Concrete Symbol
Creek Edge
Curb/Gutter
Curb
Dam Grade/Dike/Levee
Deck Edge
Ditch Block
Doorway Threshold
Drainage Profile
Drop Inlet
Edge Of Asphalt
Edge Of Concrete
Edge Of Gravel
Edge Of Other
Edge Of Shoulder
Elec. Trans./Power Jct. Box
Fence Barbwire
Fence Chainlink
Fence Electric
Fence Misc.
Fence Rock
Fence Snow
Fence Wood
Fence Woven
Fire Hydrant
Flag Pole
Flower Bed
Gas Valve Or Meter
Gas Pump Island
Grain Bin
Guardrail
Guide Sign One Post
Guide Sign Two Post
Gutter
Guy Pole
Haystack

Hedge
Highway R.O.W. Marker
Interstate Close Gate
Iron Pin
Irrigation Ditch
Lake Edge
Lawn Sprinkler
Mailbox
Manhole Electric
Manhole Gas
Manhole Misc
Manhole Sanitary Sewer
Manhole Storm Sewer
Manhole Telephone
Manhole Water
Merry-Go-Round
Microwave Radio Tower
Misc. Line
Misc. Property Corner
Misc. Post
Overhang Or Encroachment
Overhead Utility Line — OH —
Parking Meter
Pipe With End Section
Pipe With Headwall
Pipe Without End Section
Playground Slide
Playground Swing
Power And Light Pole
Power And Telephone Pole
Power Meter
Power Pole
Power Pole And Transformer
Power Tower Structure
Propane Tank
Property Pipe
Property Pipe With Cap
Property Stone
Public Telephone
Railroad Crossing Signal
Railroad Milepost Marker
Railroad Profile
Railroad R.O.W. Marker
Railroad Signs
Railroad Switch
Railroad Track
Railroad Trestle
Rebar
Rebar With Cap
Reference Mark
Regulatory Sign One Post
Regulatory Sign Two Post
Retaining Wall
Riprap
River Edge
Rock And Wire Baskets
Rockpiles
Satellite Dish
Septic Tank

Shrub Tree
Sidewalk
Sign Face
Sign Post
Slough Or Marsh
Spring
Stream Gauge
Street Marker
Subsurface Utility Exploration Test Hole
Telephone Fiber Optics — T/F —
Telephone Junction Box
Telephone Pole
Television Cable Jct Box
Television Tower
Test Wells/Bore Holes
Traffic Signal
Trash Barrel
Tree Belt
Tree Coniferous
Tree Deciduous
Tree Stumps
Triangulation Station
Underground Electric Line — P —
Underground Gas Line — G —
Underground High Pressure Gas Line — HG —
Underground Sanitary Sewer — S —
Underground Storm Sewer — S —
Underground Tank
Underground Telephone Line — T —
Underground Television Cable — TV —
Underground Water Line — W —
Warning Sign One Post
Warning Sign Two Post
Water Fountain
Water Hydrant
Water Meter
Water Tower
Water Valve
Water Well
Weir Rock
Windmill
Wingwall
Witness Corner

State and National Line
County Line
Section Line
Quarter Line
Sixteenth Line
Property Line
Construction Line
R. O. W. Line
New R. O. W. Line
Cut and Fill Limits
Control of Access
New Control of Access
Proposed ROW
(After Property Disposal)

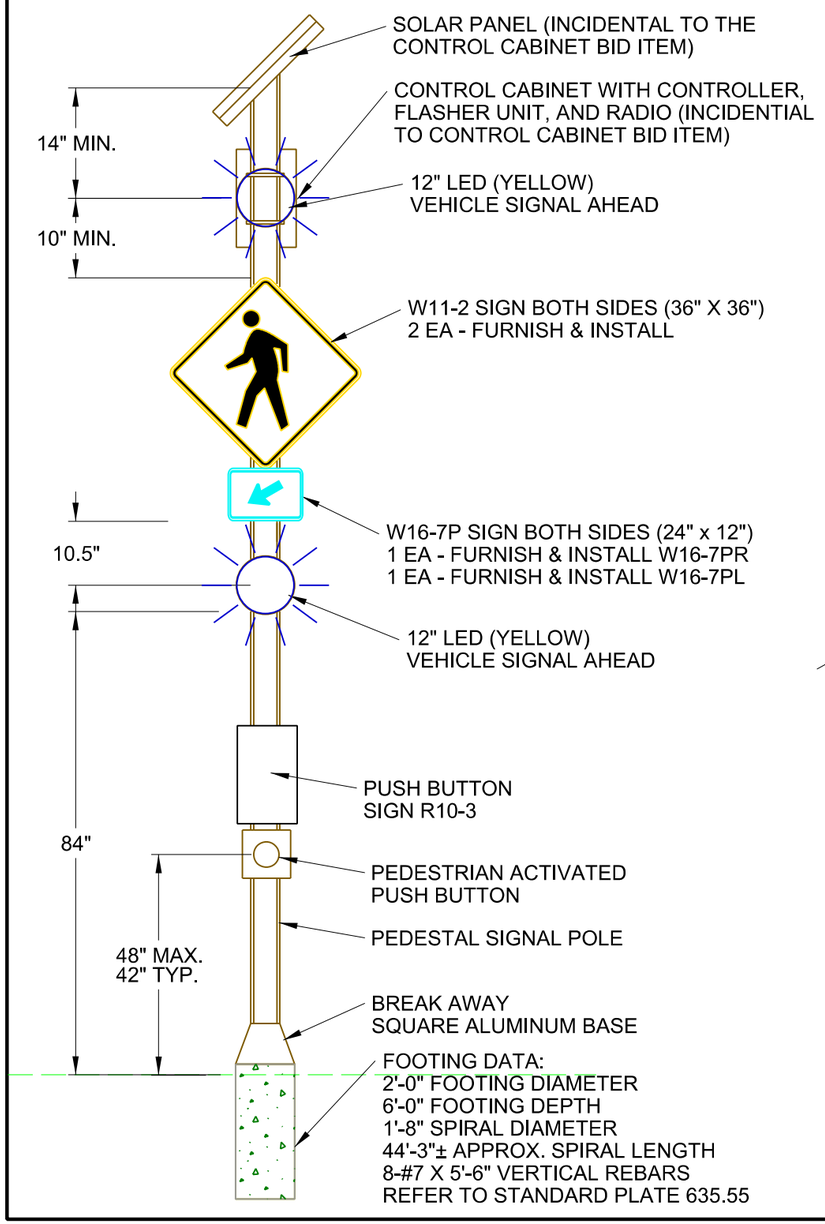
PERMANENT SIGNING

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	11	50

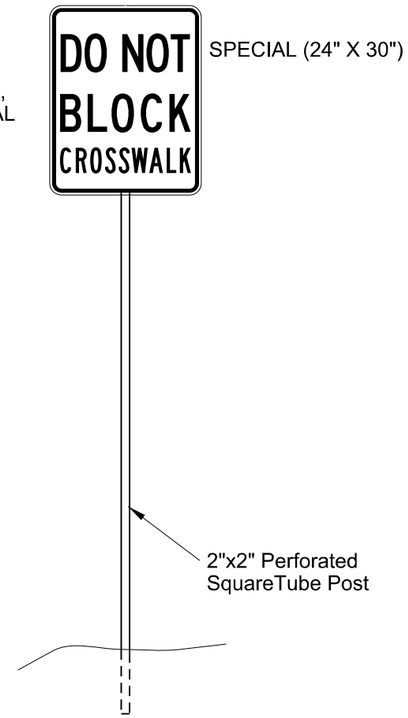
Plotting Date: 2/11/16
Revised Date: 11/30/17
Initials: TLW

DETAIL A

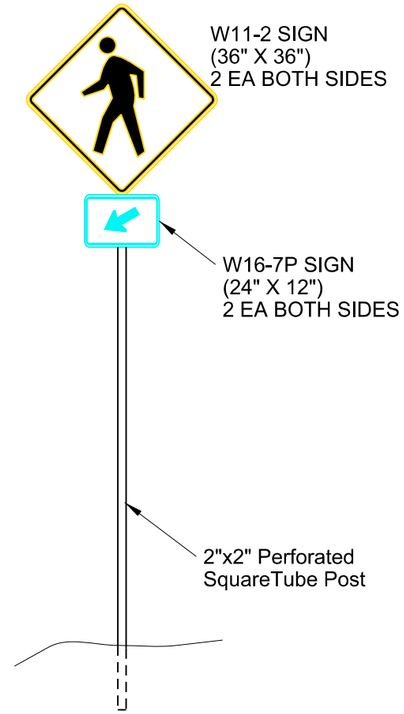
SOLAR POWERED PEDESTRIAN CROSSING



DETAIL B



DETAIL C



NOTES:

1. Anchor rods shall be hot dipped galvanized per ASTM A-123.
2. Bolts shall be Grade 5 with minimum length of 60 inches.

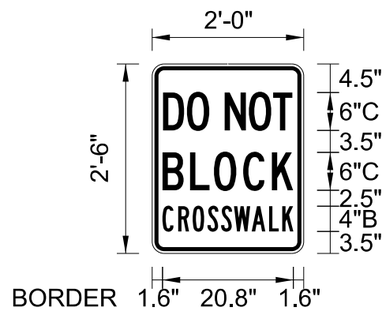
Sign	Location	Intensity	Size	SqFt	Posts
W11-2 (Pedestrian Crossing) (2 EA)	Sta. 6+32.73 - 5.50 L	XI	36"x36"	18.0 SqFt	10' (2" x 2")
W11-2 (Pedestrian Crossing) (2 EA)	Sta. 6+77.42 - 5.53' R	XI	36"x36"	18.0 SqFt	10' (2" x 2")
W16-7P SIGN (Downward Diagonal Arrow) One Direction (2 EA)	Sta. 6+32.73 - 5.50 L	XI	24"x12"	4.0 SqFt	
W16-7P SIGN (Downward Diagonal Arrow) One Direction (2 EA)	Sta. 6+77.42 - 5.53' R	XI	24"x12"	4.0 SqFt	
SPECIAL (DO NOT BLOCK CROSSWALK)	Sta. 6+16.73 - 5.50 L	IV	24"x30"	5.0 SqFt	9.5' (2" x 2")
SPECIAL (DO NOT BLOCK CROSSWALK)	Sta. 7+16.39 - 16.55' R	IV	24"x30"	5.0 SqFt	9.5' (2" x 2")
W11-2 (Pedestrian Crossing) (2 EA)	Sta. 19+16.36 - 4.52 L	XI	36"x36"	18.0 SqFt	
W11-2 (Pedestrian Crossing) (2 EA)	Sta. 19+71.86 - 3.52' R	XI	36"x36"	18.0 SqFt	
W16-7P SIGN (Downward Diagonal Arrow) One Direction (2 EA)	Sta. 19+16.36 - 4.52 L	XI	24"x12"	4.0 SqFt	
W16-7P SIGN (Downward Diagonal Arrow) One Direction (2 EA)	Sta. 19+71.86 - 3.52' R	XI	24"x12"	4.0 SqFt	
			Total :	98.0 SqFt	39 Ft

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	12	50

Plotting Date: 11/1/17
Revised Date: xx/xx/xx
Initials: TLW

SIGN DETAIL

1:20



BORDER
R=1.5"
TH=0.63"
IN=0.38"

SIGN NUMBER	SN 1	
WIDTH x HGHT.	2'–0" x 2'–6"	
BORDER WIDTH	0.63"	
CORNER RADIUS	1.5"	
MOUNTING	Ground	
BACKGROUND	TYPE:	Reflective
	COLOR:	Black/White
LEGEND/BORDER	TYPE:	Reflective
	COLOR:	Black/White

SYMBOL	ROT	X	Y	WID	HT

Panel Style: ND_Misc_Regulatory.ssi
Dimensions are in inches.tenths

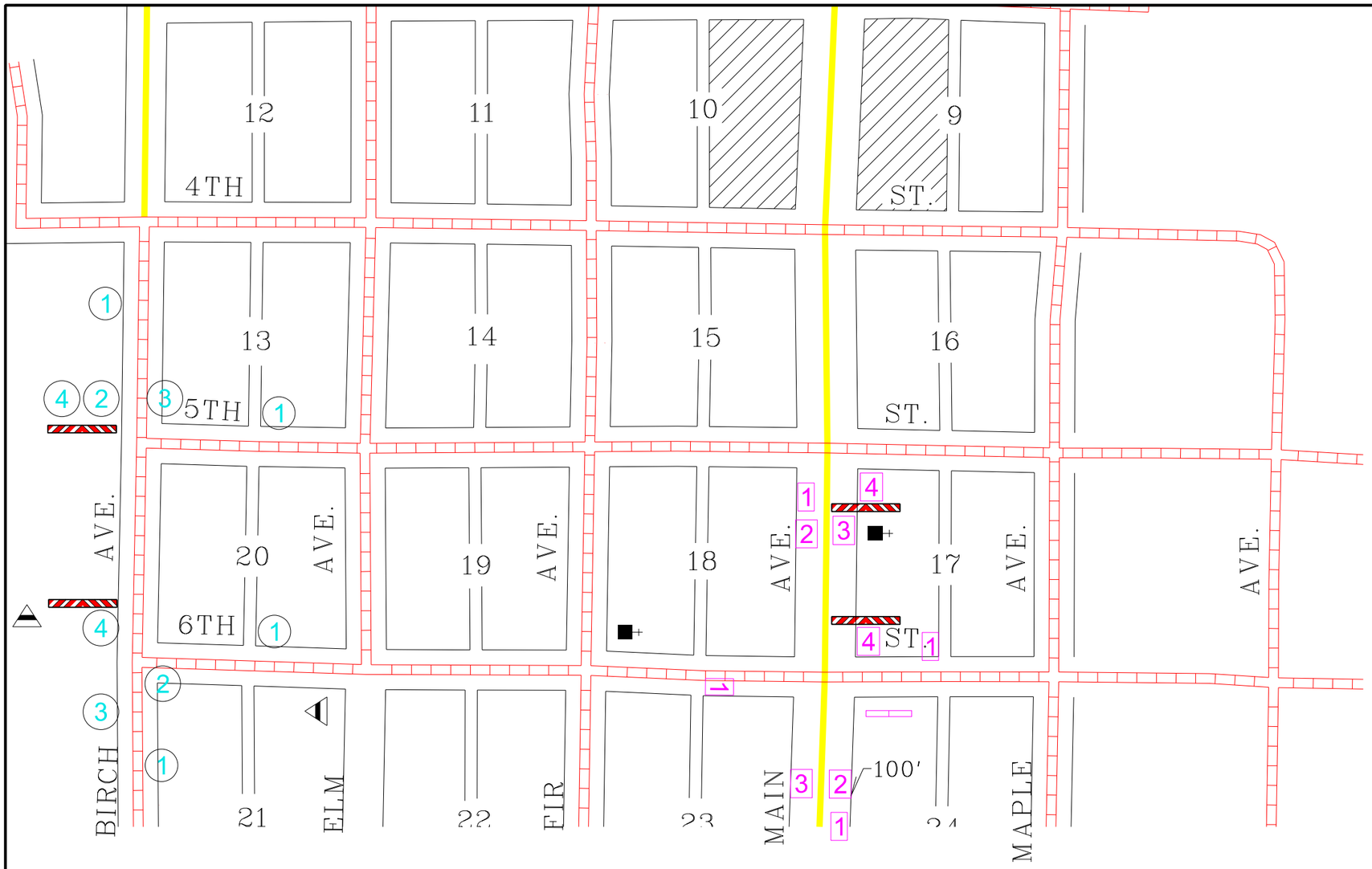
Letter locations are panel edge to lower left corner

LETTER POSITIONS (X)

																																				LENGTH	SERIES/SIZE
D	O		N	O	T																																C 2000
1.7	5.5	9	11.5	15.3	19.1																															20.5	6
B	L	O	C	K																																	C 2000
1.6	6	9.8	14.4	19																																20.7	6
C	R	O	S	S	W	A	L	K																													B 2000
1.6	4.1	6.4	8.8	10.9	13	15.8	18.5	20.6																												20.8	4

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	13	50

Plotting Date: 10/15/17
Revised Date: 11/30/17
Initials: TLW



0 20' 40'

WORK ZONE 1

1. ROAD WORK AHEAD
2. SHOULDER WORK
3. END ROAD WORK
4. SIDEWALK CLOSED

LONGITUDINAL PEDESTRIAN BARRICADE

WORK ZONE 2

1. ROAD WORK AHEAD
2. SHOULDER WORK
3. END ROAD WORK
4. SIDEWALK CLOSED

LONGITUDINAL PEDESTRIAN BARRICADE

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

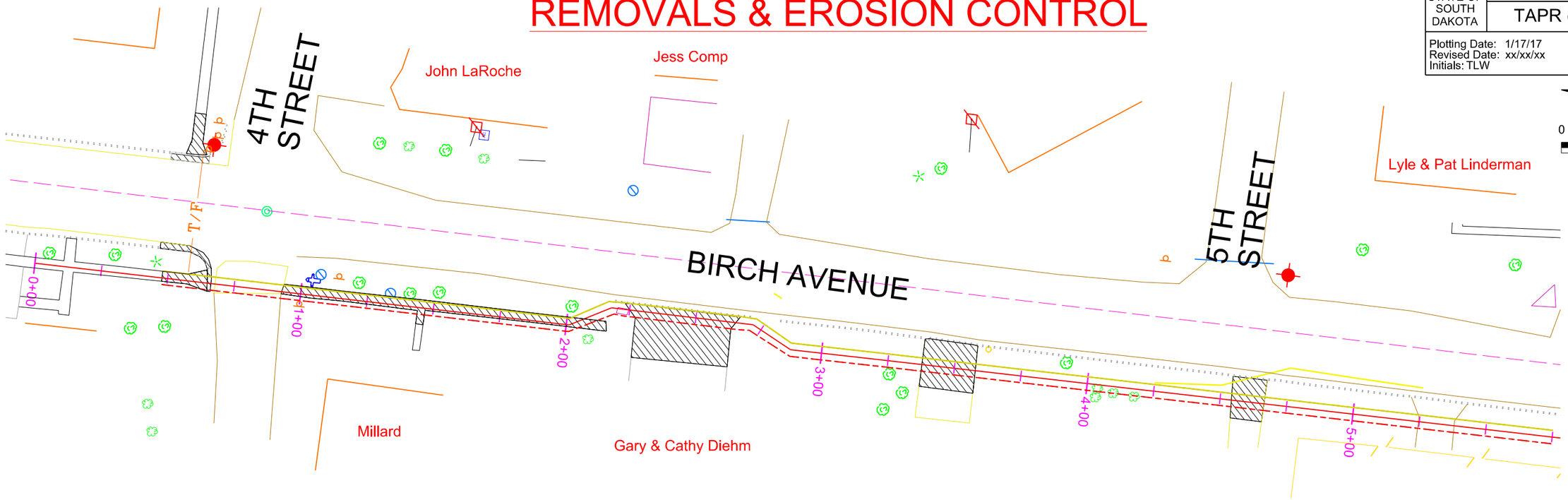
SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R9-9	SIDEWALK CLOSED	2	24" x 12"	2.0	4.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W21-5	SHOULDER WORK	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			109.0

NOTE: Contractor shall only work in one zone at a time.
The moving of the signs from one zone to another will be paid for at the contract lump sum price for (Traffic Control, Miscellaneous).
Signs may be moved around to different areas as needed.

REMOVALS & EROSION CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	14	50

Plotting Date: 1/17/17
Revised Date: xx/xx/xx
Initials: TLW



REMOVALS (For Information Only, work to be done by the City)

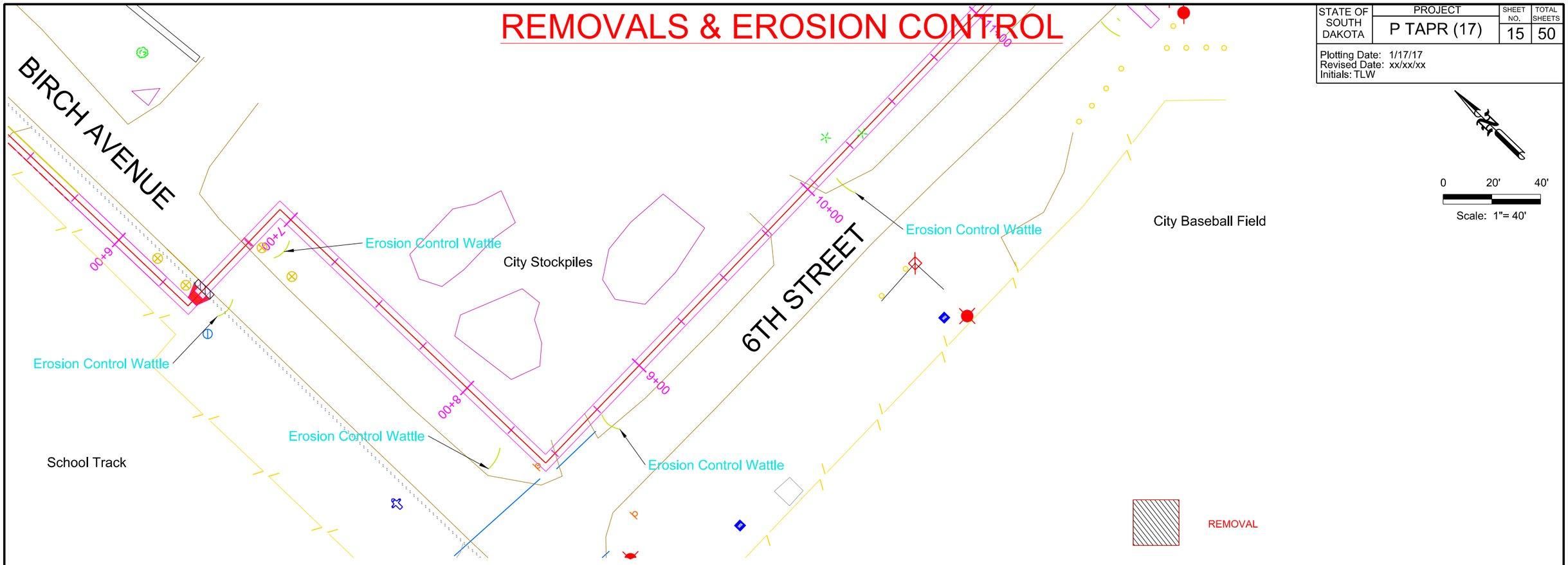
Sta 0+45.92 to 0+65.08	Remove 8.8 SY Sidewalk
Sta 0+46.08 to 0+60.28 - 48.43 L	Remove 15 LF Curb and or Gutter
Sta 0+47.84 to 0+65.08	Remove 30 LF Curb and or Gutter
Sta 0+51.52 to 0+59.26 - 47.46 L	Remove 8.0 SY Sidewalk
Sta 0+59.76 - 49.94	Remove & Reset Sign
Sta 0+99.94 - 3.77	Remove & Reset Sign
Sta 0+92.70 to 2+14.39	Remove 52.2 SY Sidewalk
Sta 2+23.18 to 2+66.50	Remove 80.2 SY Concrete Driveway
Sta 3+37.64 to 3+57.87	Remove 40.3 SY Asphalt Driveway
Sta 4+04.08 - 1.48 R	Remove Tree
Sta 4+10.17 - 2.50 R	Remove Tree
Sta 4+18.00 - 2.93 R	Remove Tree
Sta 4+53.85 to 4+66.73	Remove 21.5 SY Asphalt Driveway
Sta 4+66.73 to 4+88.39	Remove 20 LF Curb and or Gutter

REMOVAL

REMOVALS & EROSION CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	15	50

Plotting Date: 1/17/17
Revised Date: xx/xx/xx
Initials: TLW



REMOVALS (For Information Only, work to be done by the City)

Sta 6+47.47 - 4.49 L to 6+47.35 - 4.51	Remove 15 LF Curb & Gutter
Sta 8+45.83 - 4.89 R to 8+66.22 - 5.87 R	Remove CMP Pipe
Sta 8+43.02 - 3.05 L	Remove & Reset Sign
Sta 10+32.01 - 0.25 L	Remove Tree

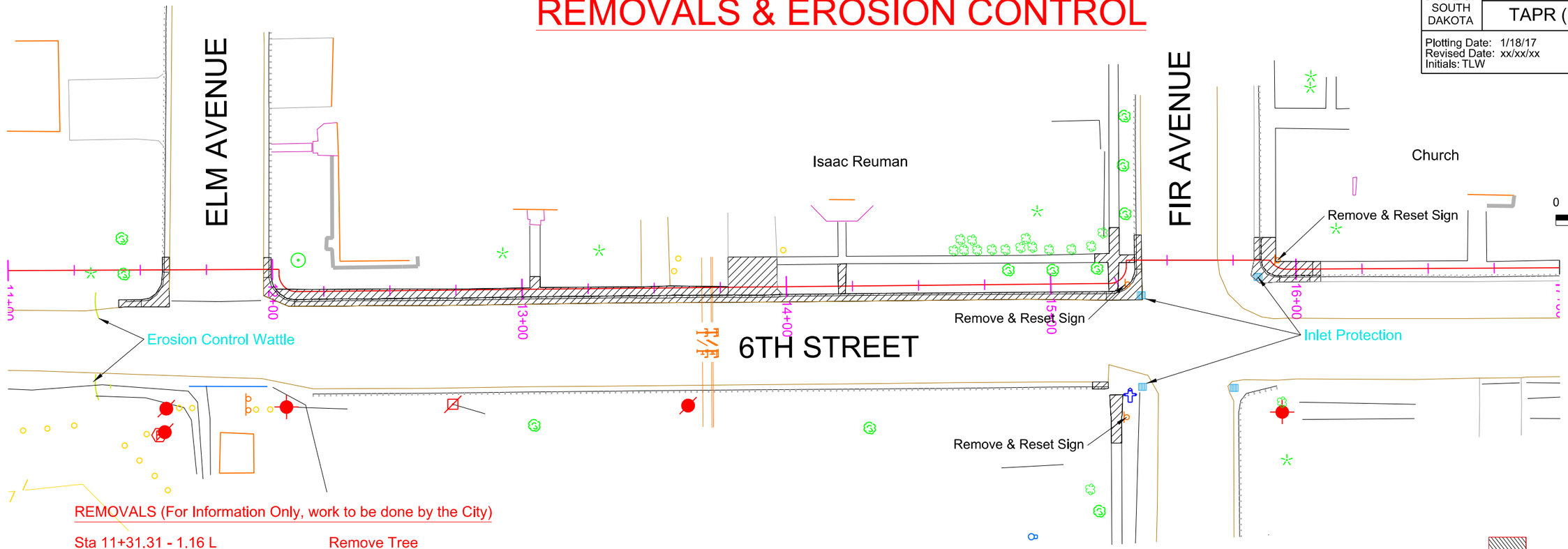
EROSION CONTROL

Sta 6+49.15 - 12.89 R	Install 10' Erosion Control Wattle
Sta 7+06.97 - 11.31 R	Install 10' Erosion Control Wattle
Sta 8+28.76 - 12.95 R	Install 10' Erosion Control Wattle
Sta 8+73.84 - 7.72 R	Install 10' Erosion Control Wattle
Sta 10+11.30 - 10.47 R	Install 10' Erosion Control Wattle

REMOVALS & EROSION CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	16	50

Plotting Date: 1/18/17
Revised Date: xx/xx/xx
Initials: TLW



REMOVALS (For Information Only, work to be done by the City)

Sta 11+31.31 - 1.16 L	Remove Tree
Sta 11+43.61 - 1.62 L	Remove Tree
Sta 11+50.39 to 11+41.81	Remove 9 LF Curb and or Gutter
Sta 11+50.39 to 11+58.44	Remove 7.9 SY Concrete Fillet
Sta 11+58.35 to 11+58.44	Remove 10 LF Curb and or Gutter
Sta 11+96.35 to 11+99.50	Remove 8 LF Curb and or Gutter
Sta 11+99.50 to 12+14.18	Remove 6.0 SY Concrete Fillet
Sta 11+99.50 to 13+77.99	Remove 67.8 SY Sidewalk
Sta 12+14.18 to 15+21.99	Remove 307 LF Curb and or Gutter
Sta 13+77.99 to 13+98.36	Remove 30.0 SY Concrete Driveway
Sta 14+19.55 to 14+22.30	Remove 3.6 SY Concrete Sidewalk
Sta 15+21.99 to 15+31.62	Remove 14.0 SY Sidewalk
Sta 15+31.62 to 15+37.57	Remove 13 LF Curb and or Gutter
Sta 15+21.99 to 15+31.62	Remove 8.5 SY Concrete Fillet
Sta 15+15.42 to 15+21.39 - 37.18 R	Remove 7 LF Curb and or Gutter
Sta 15+22.47 to 15+22.38 4- 2.20 R	Remove 8.6 SY Sidewalk

REMOVALS (For Information Only, work to be done by the City)

Sta 15+85.53 to 15+85.55	Remove 9 LF Curb and or Gutter
Sta 15+85.55 to 15+94.50	Remove 5.1 SY Concrete Fillet
Sta 15+94.50 to 16+09.34	Remove 12 LF Curb and or Gutter
Sta 15+85.53 to 16+09.34	Remove 18.0 SY Sidewalk
Sta 15+22.86 - 50.98 R	Remove & Reset Sign
Sta 15+27.30 - 3.31 R	Remove & Reset Sign
Sta 15+91.19 - 2.17 L	Remove & Reset Sign

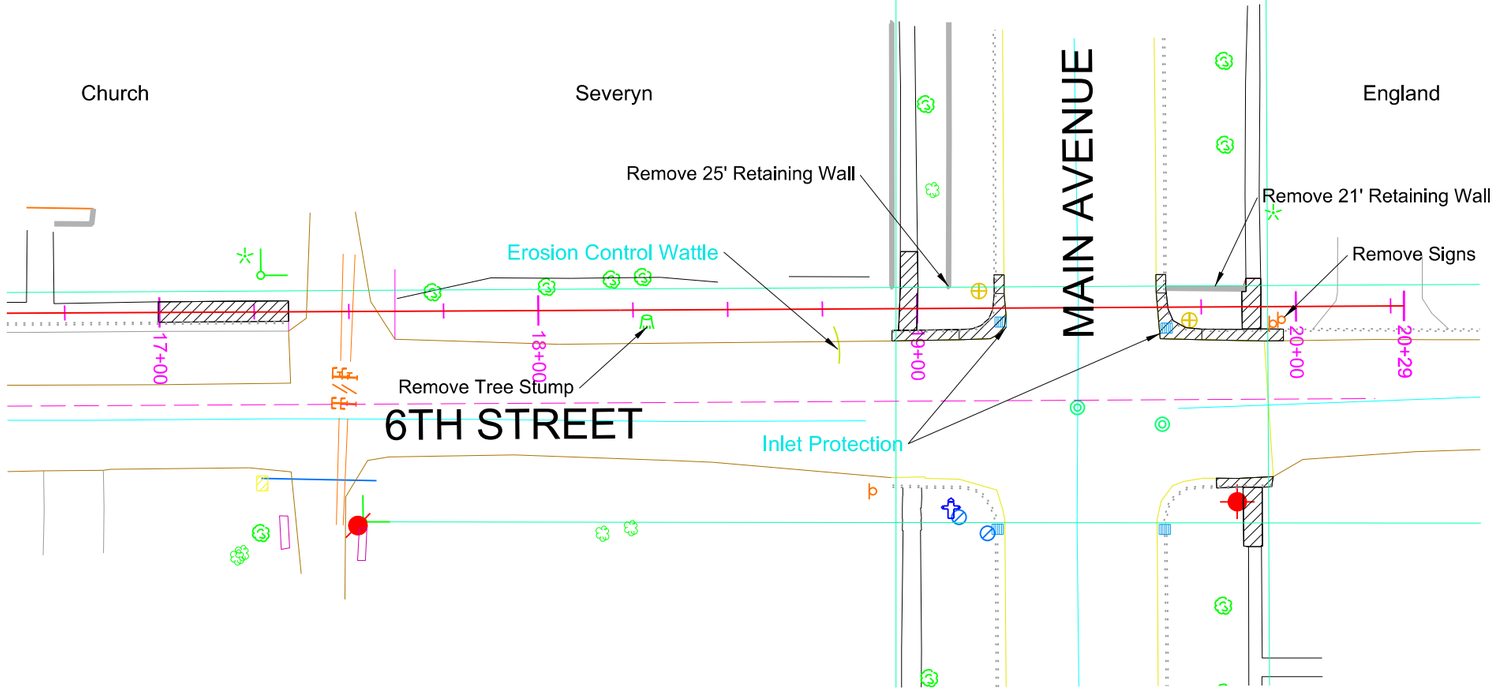
EROSION CONTROL

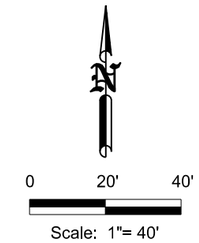
Sta 11+32.98 - 13.37	Install 10' Erosion Control Wattle
Sta 11+32.85 - 44.31	Install 10' Erosion Control Wattle
Sta 15+23.86 - 40.83	Install Inlet Protection
Sta 15+27.54 - 9.88	Install Inlet Protection
Sta 15+84.37 - 6.33	Install Inlet Protection

REMOVALS & EROSION CONTROL

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	17	50

Plotting Date: 1/17/17
Revised Date: xx/xx/xx
Initials: BJB





REMOVAL

REMOVALS (For Information Only, work to be done by the City)

Sta 16+99.70 to Sta 17+34.06	Remove 20.7 SY Sidewalk
Sta 18+28.65 - 1.96 R	Remove Tree Stump
Sta 18+99.90 to Sta 18+95.68	Remove 10.8 SY Sidewalk
Sta 18+93.40 to Sta 19+11.05	Remove 17 LF Curb and or Gutter
Sta 19+08.65 to 30.06 to 25.80 L	Remove 25 LF Retaining Wall
Sta 19+11.05 to Sta 19+20.36	Remove 6.6 SY Concrete Fillet
Sta 19+65.69 to Sta 19+86.63 - 4.99 L	Remove 21 LF Wooden Retaining Wall

REMOVALS (For Information Only, work to be done by the City)

Sta 19+65.71 to Sta 19+65.79	Remove 5 LF Curb and or Gutter
Sta 19+65.79 to Sta 19+75.17	Remove 7.2 SY Concrete Fillet
Sta 19+75.17 to Sta 19+96.68	Remove 22 LF Curb and or Gutter
Sta 19+86.81 to Sta 19+90.68	Remove 6.9 SY Sidewalk
Sta 19+78.72 to Sta 19+93.78	Remove 15 LF Curb and or Gutter
Sta 19+88.32 to Sta 19+88.86	Remove 8.3 SY Sidewalk
Sta 19+93.92 - 4.55	Remove & Reset Sign
Sta 19+96.20 - 3.50	Remove & Reset Sign

EROSION CONTROL

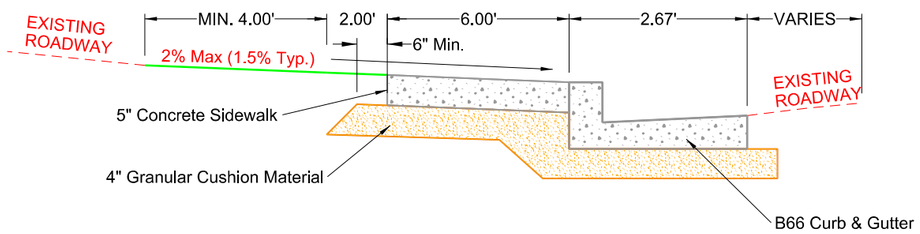
Sta 18+79.32 - 9.49	Install 10' Erosion Control Wattle
Sta 19+22.06 - 3.69	Install Drop Inlet Protection
Sta 19+65.83 - 5.55	Install Drop Inlet Protection

TYPICAL SECTIONS

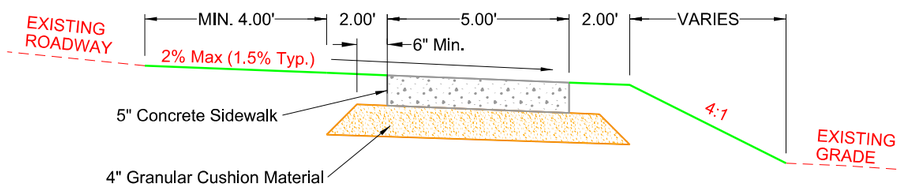
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	18	50

Plotting Date: 2/11/16
Revised Date: 6/19/18
Initials: TLW

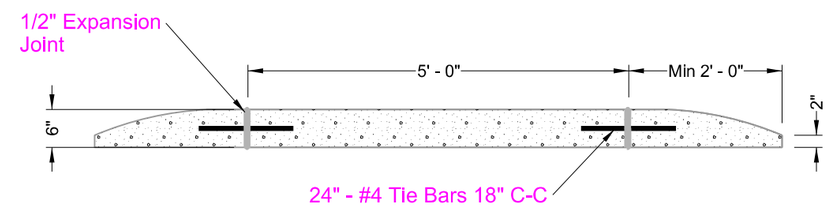
SECTION 11+99 TO 15+37



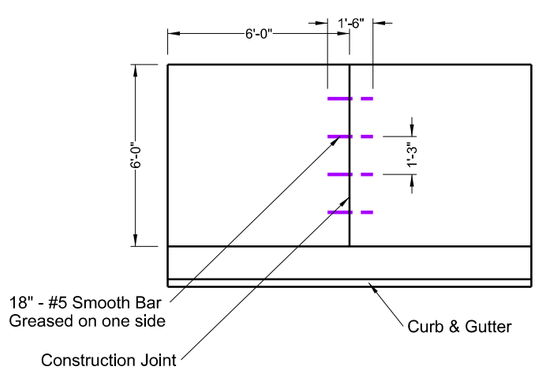
SECTION 0+47 TO 11+58
&
SECTION 17+34 TO 19+90



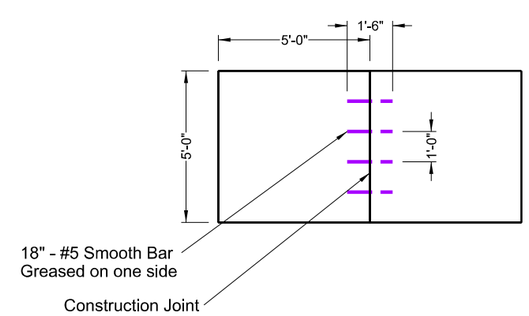
APPROACH DETAIL W / HEADER JOINTS



6' WIDE CURBSIDE SIDEWALK



5' WIDE BOULEVARD SIDEWALK



PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	19	50

Plotting Date: 1/17/17
Revised Date: 6/28/18
Initials: TLW

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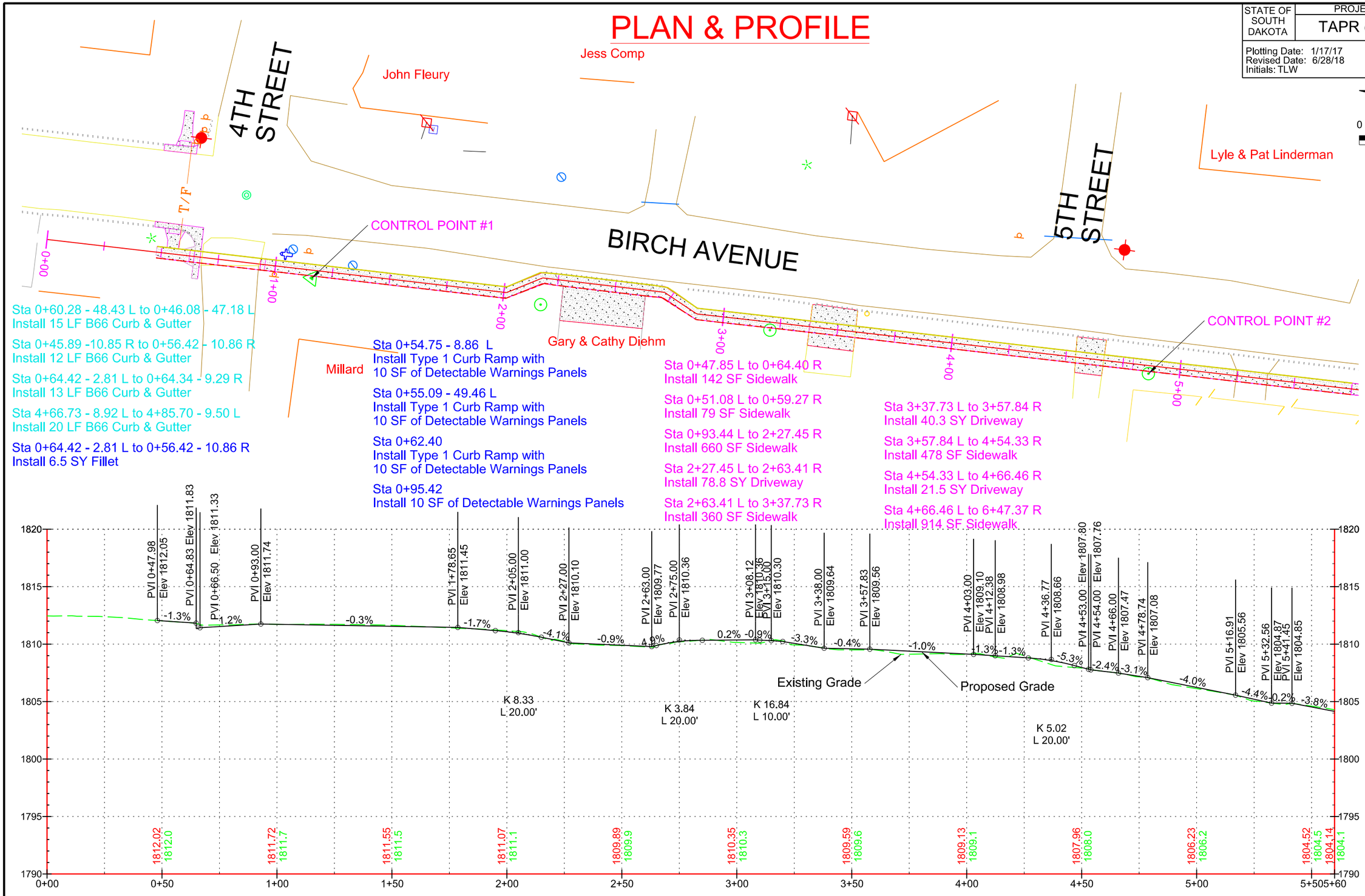
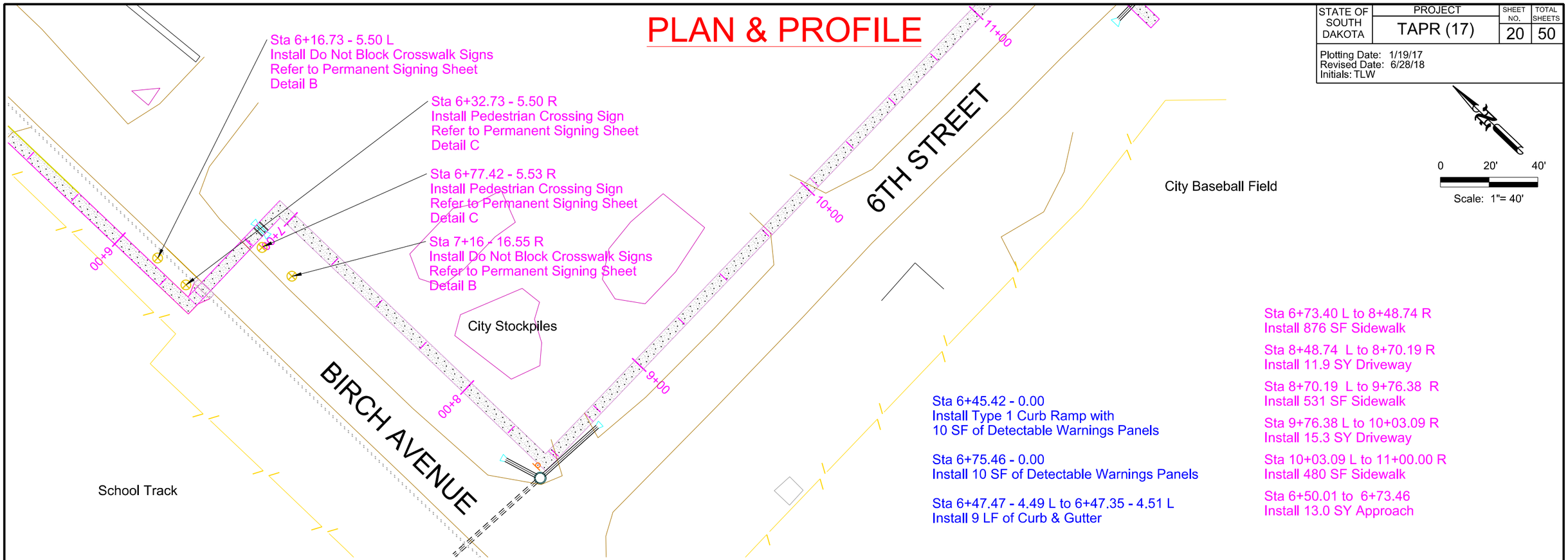
Scale: 1"= 40'



PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	20	50

Plotting Date: 1/19/17
Revised Date: 6/28/18
Initials: TLW



Sta 6+45.42 - 0.00
Install Type 1 Curb Ramp with
10 SF of Detectable Warnings Panels

Sta 6+75.46 - 0.00
Install 10 SF of Detectable Warnings Panels

Sta 6+47.47 - 4.49 L to 6+47.35 - 4.51 L
Install 9 LF of Curb & Gutter

Sta 6+73.40 L to 8+48.74 R
Install 876 SF Sidewalk

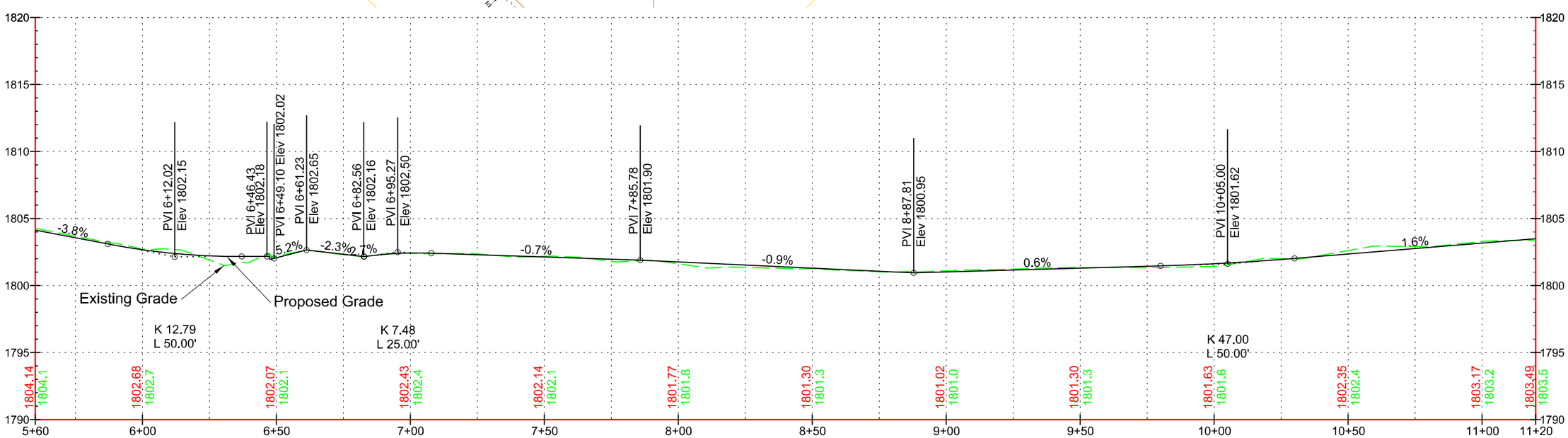
Sta 8+48.74 L to 8+70.19 R
Install 11.9 SY Driveway

Sta 8+70.19 L to 9+76.38 R
Install 531 SF Sidewalk

Sta 9+76.38 L to 10+03.09 R
Install 15.3 SY Driveway

Sta 10+03.09 L to 11+00.00 R
Install 480 SF Sidewalk

Sta 6+50.01 to 6+73.46
Install 13.0 SY Approach



PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	21	50

Plotting Date: 1/19/17
Revised Date: 6/28/18
Initials: BJB

Sta 11+47.89 - 9.24 R
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 11+56.33
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 12+01.51
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 11+47.77 - 41.43 R
Install 10 SF Detectable Warning Panels

Sta 15+23.95 - 0.67 R
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 15+35.61 - 0.02 R
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 15+22.46 - 42.05 R
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

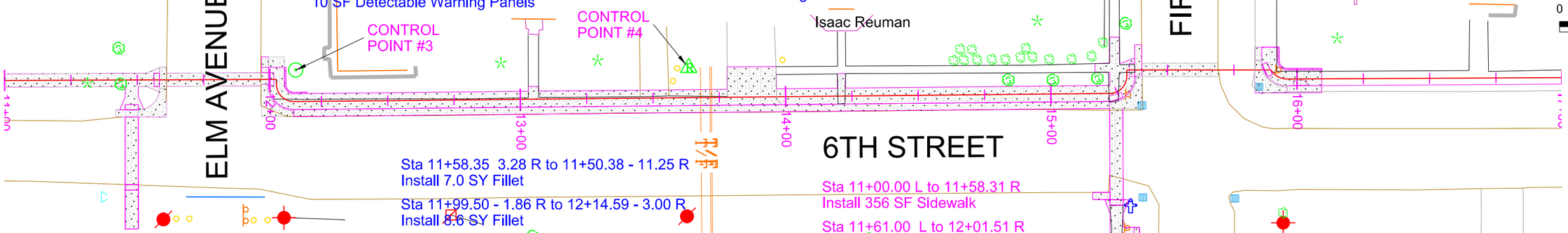
Sta 15+23.12 - 53.63 R
Install 10 SF Detectable Warning Panels

Sta 15+88.51 - 0.62 R
Install Type 3 Curb Ramp with
10 SF Detectable Warning Panels

Sta 16+01.26 - 0.49 R
Install Type 3 Curb Ramp with
10 SF Detectable Warning Panels

Sta 15+27.54 - 9.88 R
Adjust Drop Inlet

Sta 15+84.37 - 6.33 R
Adjust Drop Inlet



Sta 11+58.35 3.28 R to 11+50.38 - 11.25 R
Install 7.0 SY Fillet

Sta 11+99.50 - 1.86 R to 12+14.59 - 3.00 R
Install 8.6 SY Fillet

Sta 15+22.08 - 3.00 R to 15+37.64 - 2.32 R
Install 8.6 SY Fillet

Sta 15+85.54 - 3.59 L to 15+96.26 - 2.50 R
Install 8.6 SY Fillet

Sta 11+00.00 L to 11+58.31 R
Install 356 SF Sidewalk

Sta 11+61.00 L to 12+01.51 R
Install 19.9 SY Approach

Sta 11+99.50 L to 13+45.23 R
Install 2324 SF Sidewalk

Sta 13+45.23 L to 13+55.94 R
Install 7.1 SY Driveway

Sta 13+55.94 L to 13+78.01 R
Install 132 SF Sidewalk

Sta 11+47.87 - 13.91 R to
Sta 11+47.77 - 39.43 R
Install 14.2 SY Approach

Sta 11+47.77 - 39.43 R to
Sta 11+47.70 - 56.06 R
Install 84 SF Sidewalk

Sta 13+78.01 L to 13+96.56 R
Install 29.6 SY Driveway

Sta 13+96.56 R to 15+37.64 L
Install 947 SF Sidewalk

Sta 15+23.37 to 15+22.48 40.5 R
Install 19.1 SY Approach

Sta 15+40.37 to 15+69.17
Install 16.1 SY Approach

Sta 15+22.48 - 40.05 R to
Sta 15+22.61 - 60.59 R
Install 142 SF Sidewalk

Sta 11+41.81 - 11.21 L to 11+50.38 - 11.25 R
Install 9 LF B66 Curb & Gutter

Sta 11+58.35 - 4.83 R to 11+58.55 - 3.25 R
Install 9 LF B66 Curb & Gutter

Sta 11+99.53 - 4.50 L to 11+99.50 - 1.86 R
Install 11 LF B66 Curb & Gutter

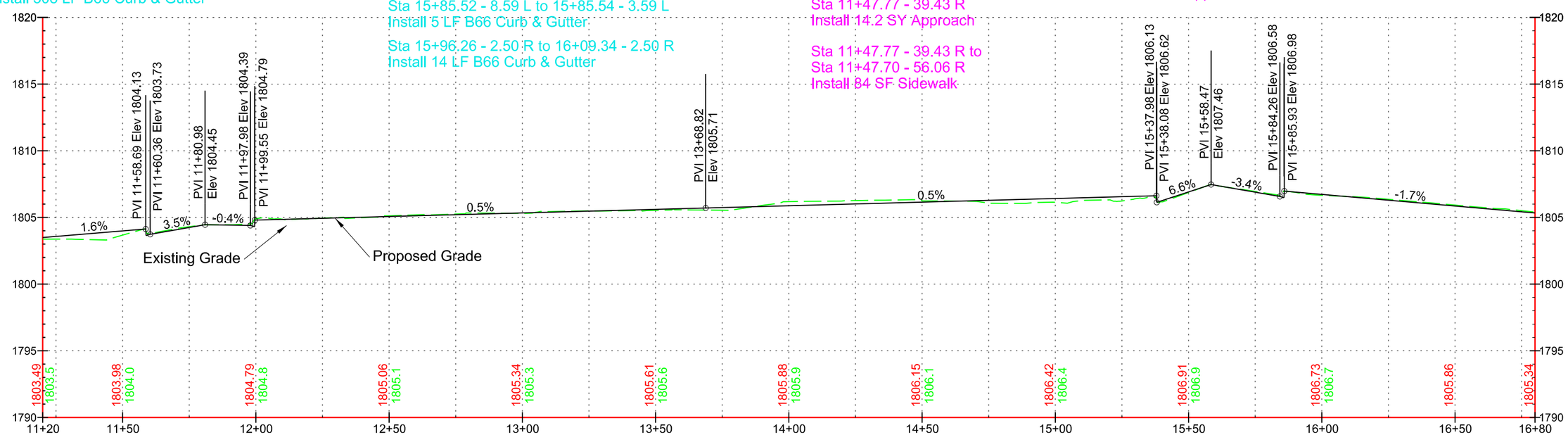
Sta 12+14.59 - 3.00 R to 15+22.08 - 3.00 R
Install 308 LF B66 Curb & Gutter

Sta 15+37.57 - 9.50 L to 15+37.64 - 2.32 R
Install 12 LF B66 Curb & Gutter

Sta 15+15.39 - 39.85 R to 15+21.07 - 39.95 R
Install 7 LF B66 Curb & Gutter

Sta 15+85.52 - 8.59 L to 15+85.54 - 3.59 L
Install 5 LF B66 Curb & Gutter

Sta 15+96.26 - 2.50 R to 16+09.34 - 2.50 R
Install 14 LF B66 Curb & Gutter



PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	22	50

Plotting Date: 1/17/17
Revised Date: 6/28/18
Initials: TLW

Sta 16+99.68 L to 17+34.06 R
Install 172 SF Sidewalk

Sta 17+34.06 L to 17+62.19 R
Install 15.6 SY Approach

Sta 17+62.19 L to 19+20.36 R
Install 907 SF Sidewalk

Sta 19+65.71 L to 19+96.68 R
Install 224 SF Sidewalk

Sta 19+88.34 - 47.63 R to
19+93.12 - 57.63 R
Install 60 SF Sidewalk

Sta 18+97.74 - 3.69
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 19+15.88
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 19+69.86
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

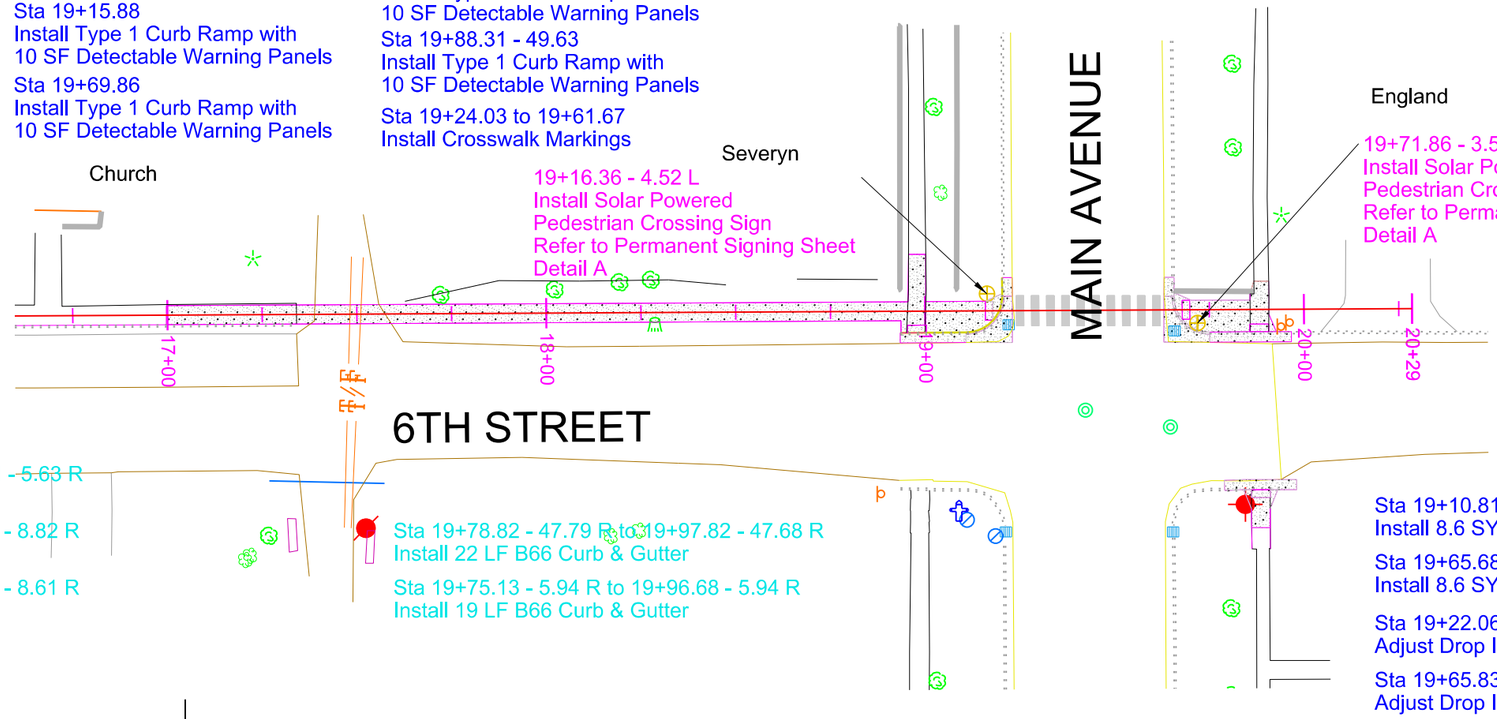
Sta 19+88.19 - 3.84
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 19+88.31 - 49.63
Install Type 1 Curb Ramp with
10 SF Detectable Warning Panels

Sta 19+24.03 to 19+61.67
Install Crosswalk Markings

19+16.36 - 4.52 L
Install Solar Powered
Pedestrian Crossing Sign
Refer to Permanent Signing Sheet
Detail A

19+71.86 - 3.52 R
Install Solar Powered
Pedestrian Crossing Sign
Refer to Permanent Signing Sheet
Detail A



Sta 18+93.40 - 5.72 R to 19+11.81 - 5.63 R
Install 18 LF B66 Curb & Gutter

Sta 19+20.36 - 3.82 L to 19+20.36 - 8.82 R
Install 5 LF B66 Curb & Gutter

Sta 19+65.68 - 3.61 L to 19+65.71 - 8.61 R
Install 5 LF B66 Curb & Gutter

Sta 19+78.82 - 47.79 R to 19+97.82 - 47.68 R
Install 22 LF B66 Curb & Gutter

Sta 19+75.13 - 5.94 R to 19+96.68 - 5.94 R
Install 19 LF B66 Curb & Gutter

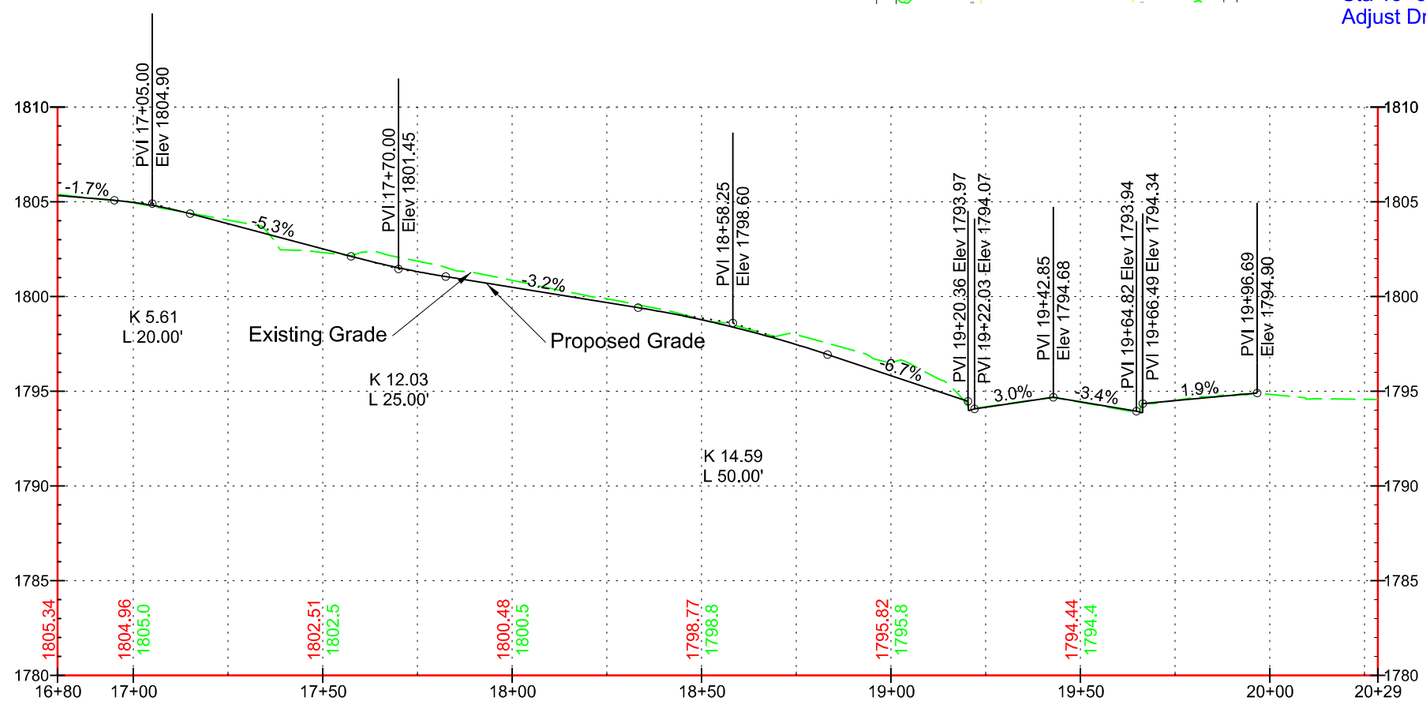
Sta 19+10.81 - 5.63 L to 19+20.36 - 3.82 R
Install 8.6 SY Fillet

Sta 19+65.68 - 3.61 L to 19+75.13 - 5.94 R
Install 8.6 SY Fillet

Sta 19+22.06 - 3.69 R
Adjust Drop Inlet

Sta 19+65.83 - 5.55 R
Adjust Drop Inlet

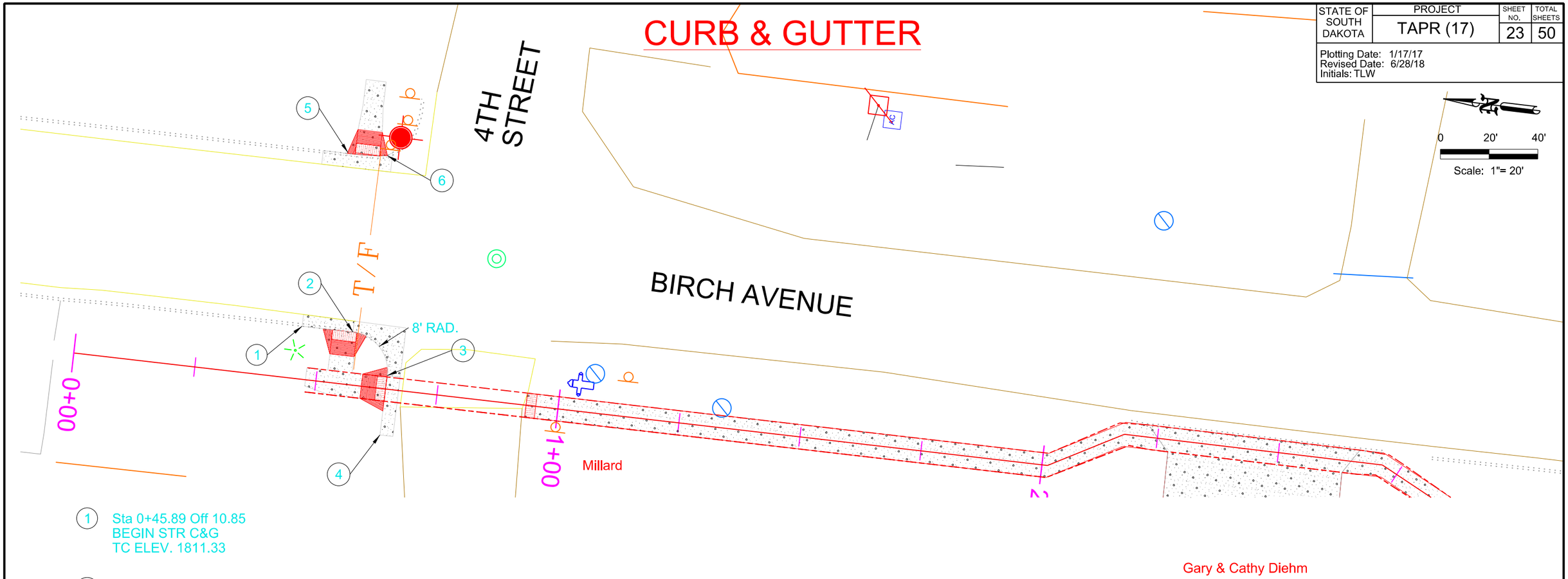
0 20' 40'
Scale: 1"= 40'



CURB & GUTTER

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	23	50

Plotting Date: 1/17/17
Revised Date: 6/28/18
Initials: TLW



1. Sta 0+45.89 Off 10.85
   BEGIN STR C&G
   TC ELEV. 1811.33

2. Sta 0+56.42 Off 10.86
   END STR
   BEGIN 6" PCC FILLET SECTION
   TC ELEV. 1811.72

3. Sta 0+64.42 Off 2.81
   END 6" PCC FILLET SECTION
   BEGIN STR
   TC ELEV. 1811.69

4. Sta 0+64.34 Off 9.50
   END STR
   TC ELEV. 1811.60

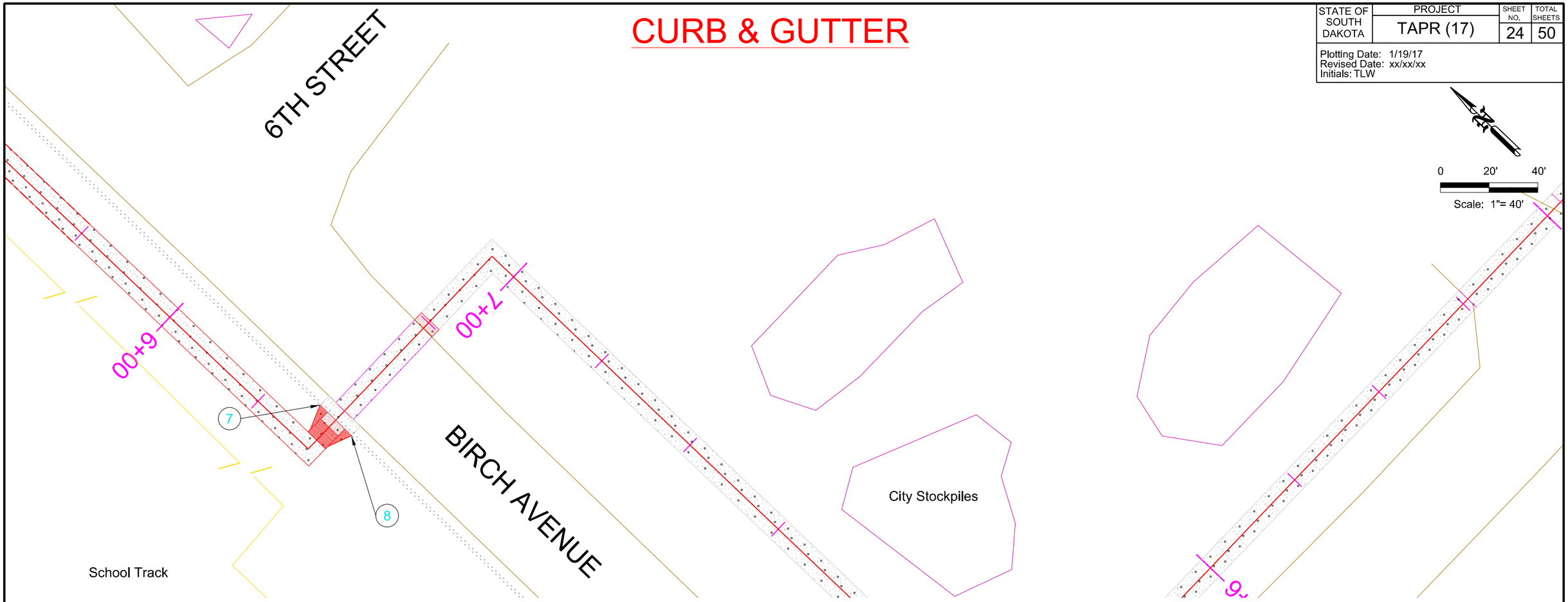
5. Sta 0+46.08 Off 47.18
   MATCH
   TC ELEV. 1813.07

6. Sta 0+60.28 Off 48.43
   MATCH
   TC ELEV. 1813.03

CURB & GUTTER

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	24	50

Plotting Date: 1/19/17
Revised Date: xx/xx/xx
Initials: TLW



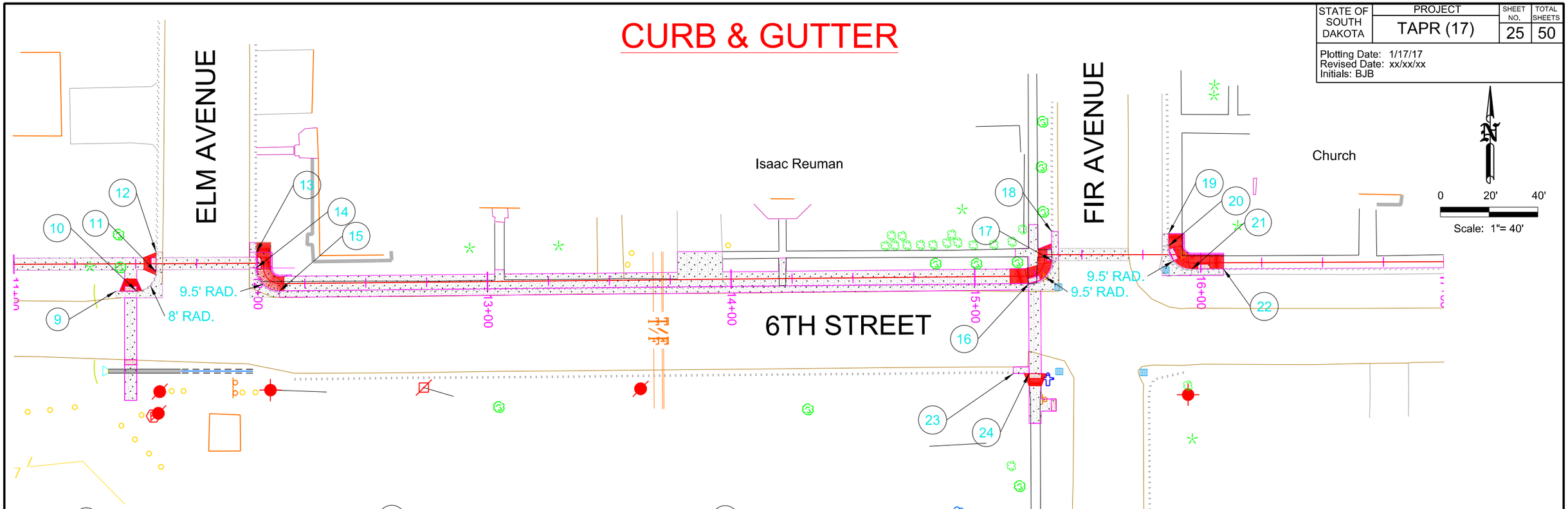
7 Sta 6+47.47 Off 4.49
MATCH
TC ELEV. 1802.48

8 Sta 6+47.35 Off 4.51
MATCH
TC ELEV. 1802.36

CURB & GUTTER

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	25	50

Plotting Date: 1/17/17
Revised Date: xx/xx/xx
Initials: BJB



9 Sta 11+58.35 Off 4.83
BEGIN STR
TC ELEV. 1804.03

10 Sta 11+58.31 Off 3.28
END STR
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1804.07

11 Sta 11+50.38 Off 11.25
END 6" PCC FILLET SECTION
BEGIN STR
TC ELEV. 1804.12

12 Sta 11+41.81 Off 11.21
END STR MATCH
TC ELEV. 1804.17

13 Sta 11+99.53 Off 4.50
MATCH
BEGIN STR
TC ELEV. 1804.90

14 Sta 11+99.50 Off 1.86
END STR
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1804.85

15 Sta 12+14.59 Off 3.00
END 6" PCC FILLET SECTION
BEGIN STR

16 Sta 15+37.57 Off 9.50
END STR
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1806.45

17 Sta 15+37.64 Off 2.32
END 6" PCC FILLET SECTION
BEGIN STR
TC ELEV. 1806.55

18 Sta 15+22.08 Off 3.00
END STR MATCH
TC ELEV. 1806.61

19 Sta 15+85.53 Off 8.59
MATCH BEGIN STR
TC ELEV. 1807.00

20 Sta 15+85.54 Off 3.59
END STR
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1806.95

21 Sta 15+96.26 Off 2.50
END PCC FILLET SECTION
BEGIN STR
TC ELEV. 1806.72

22 Sta 16+09.34 Off 2.50
END STR MATCH
TC ELEV. 1806.49

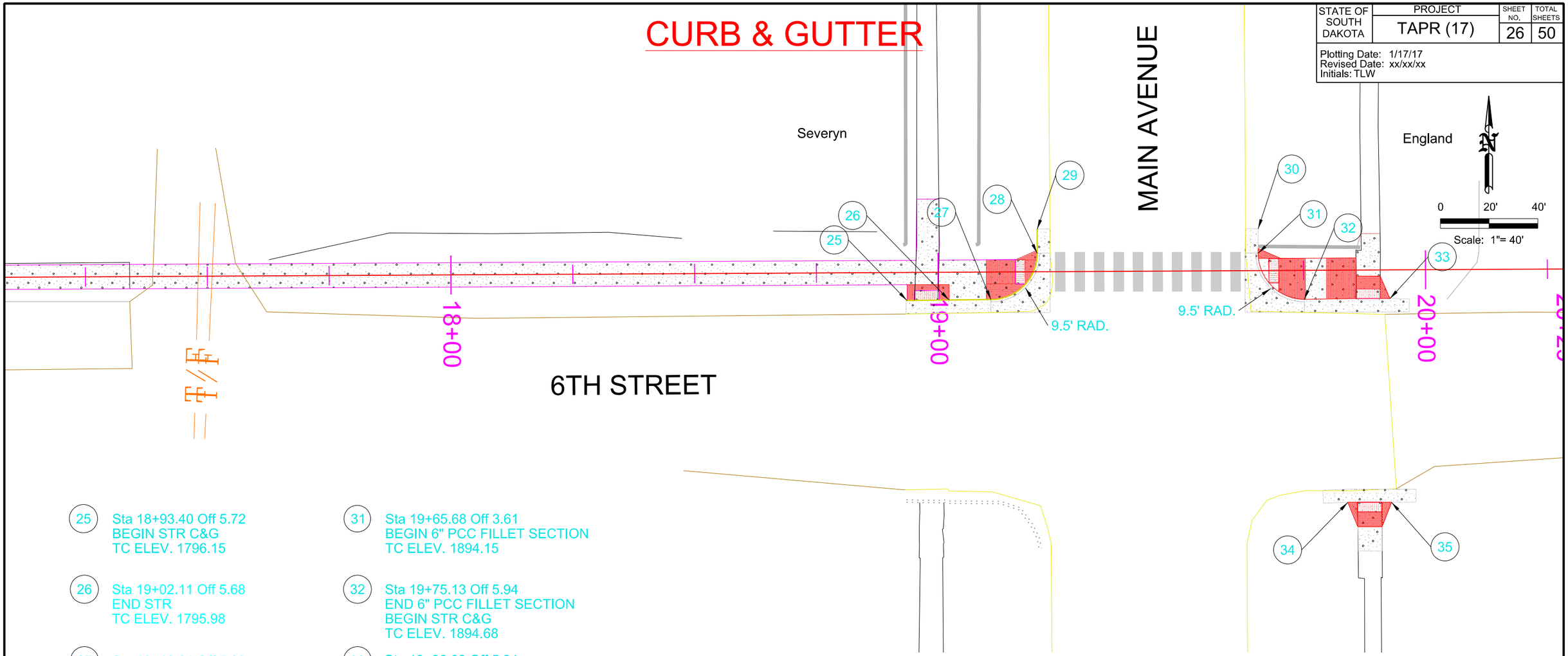
23 Sta 15+15.39 Off 39.85
MATCH BEGIN STR
TC ELEV. 1805.83

24 Sta 15+21.87 Off 39.96
END STR
THEO. TC ELEV. 1805.85

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	26	50

Plotting Date: 1/17/17
Revised Date: xx/xx/xx
Initials: TLW

CURB & GUTTER



25 Sta 18+93.40 Off 5.72
BEGIN STR C&G
TC ELEV. 1796.15

26 Sta 19+02.11 Off 5.68
END STR
TC ELEV. 1795.98

27 Sta 19+10.81 Off 5.63
END STR
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1794.47

28 Sta 19+20.36 Off 3.82
END 6" PCC FILLET SECTION
BEGIN STR
TC ELEV. 1794.06

29 Sta 19+20.36 Off 8.78
END STR
TC ELEV. 1894.06

30 Sta 19+65.71 Off 8.61
MATCH BEGIN STR
TC ELEV. 1894.10

31 Sta 19+65.68 Off 3.61
BEGIN 6" PCC FILLET SECTION
TC ELEV. 1894.15

32 Sta 19+75.13 Off 5.94
END 6" PCC FILLET SECTION
BEGIN STR C&G
TC ELEV. 1894.68

33 Sta 19+96.68 Off 5.94
END STR MATCH
TC ELEV. 1894.78

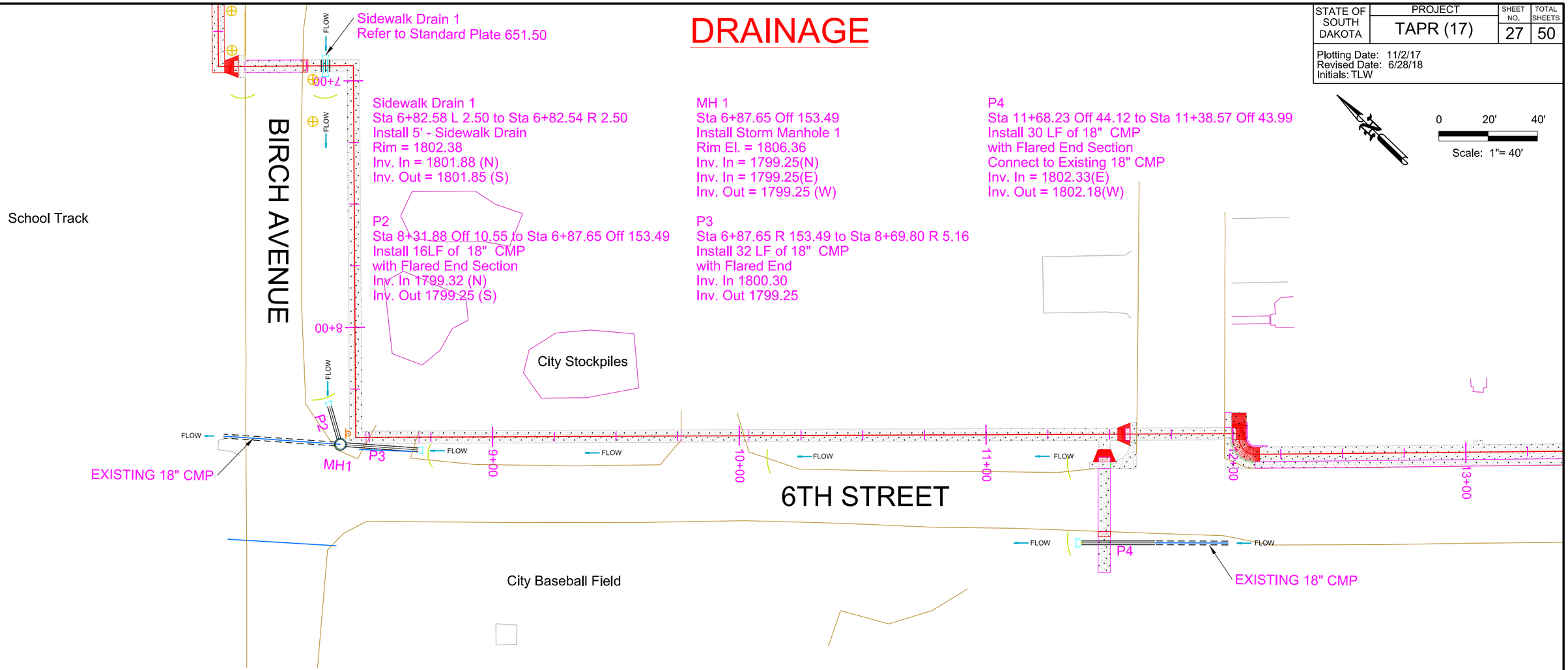
34 Sta 19+78.82 Off 47.79
BEGIN STR MATCH
TC ELEV. 1897.05

35 Sta 19+97.82 Off 47.68
END STR
TC ELEV. 1897.24

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	27	50

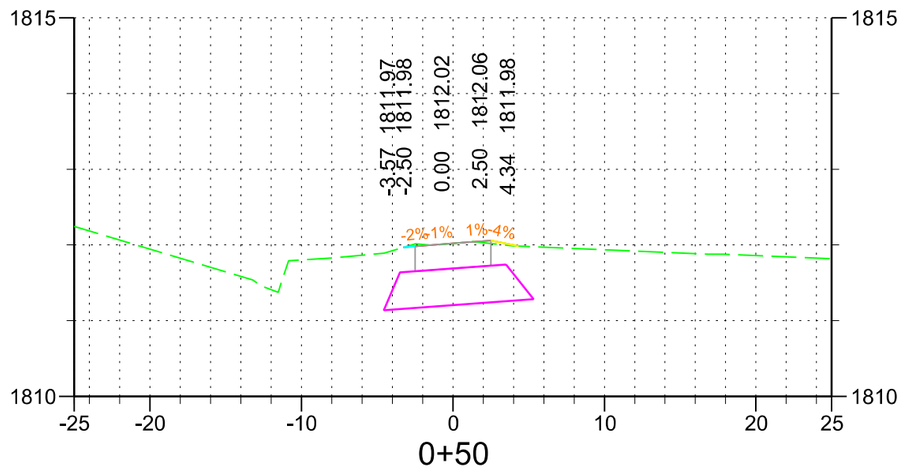
Plotting Date: 11/2/17
Revised Date: 6/28/18
Initials: TLW

DRAINAGE



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	28	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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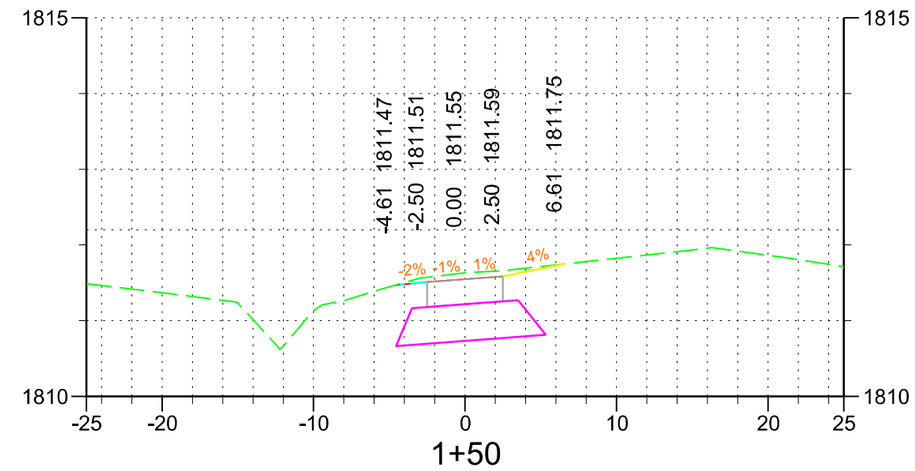

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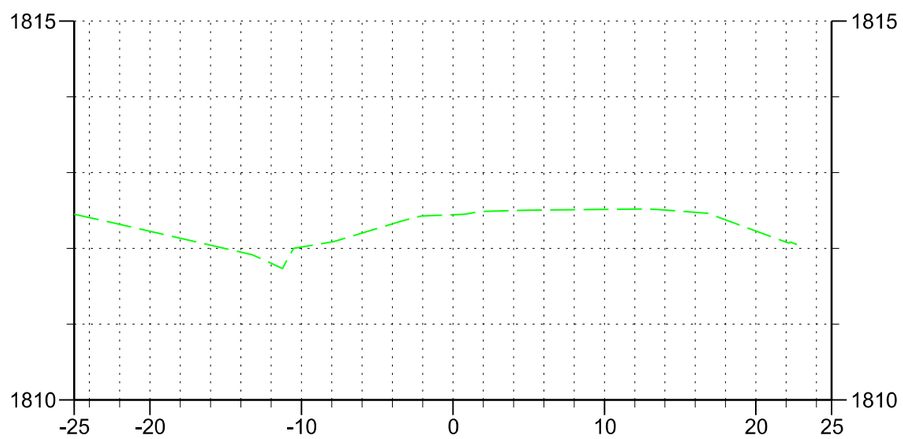

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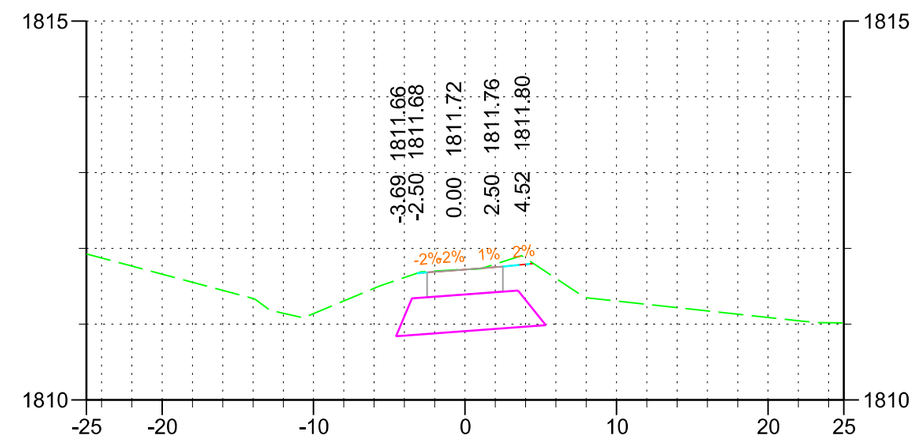
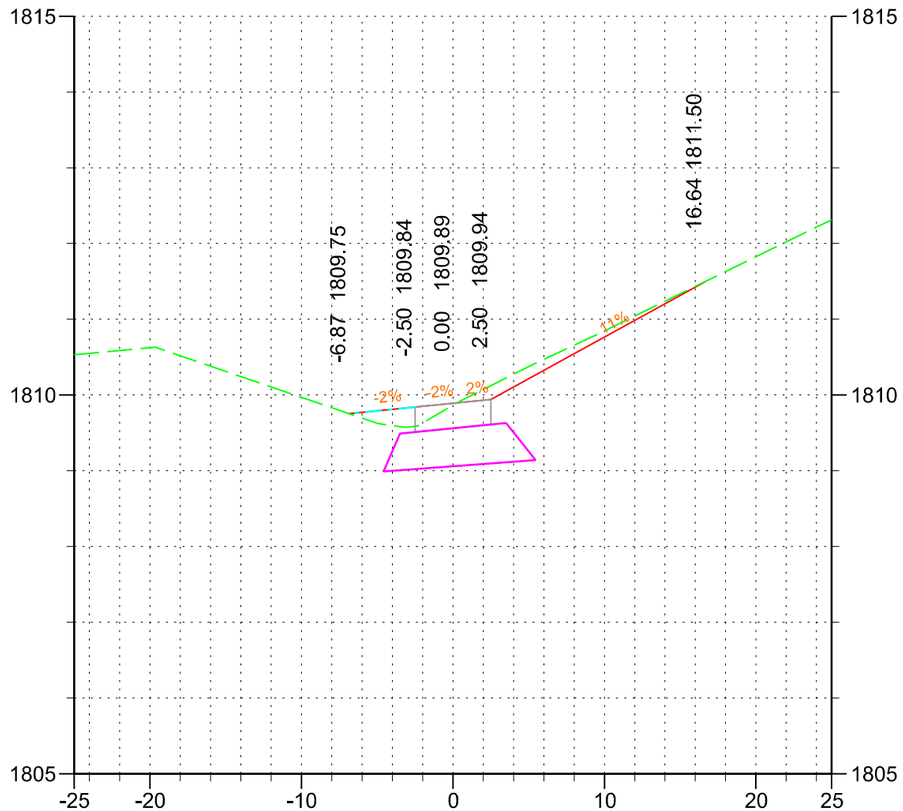


1+00

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	29	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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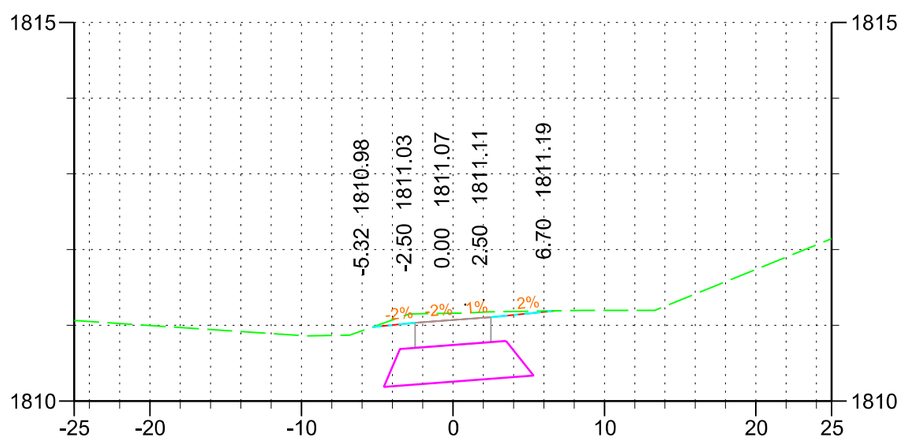

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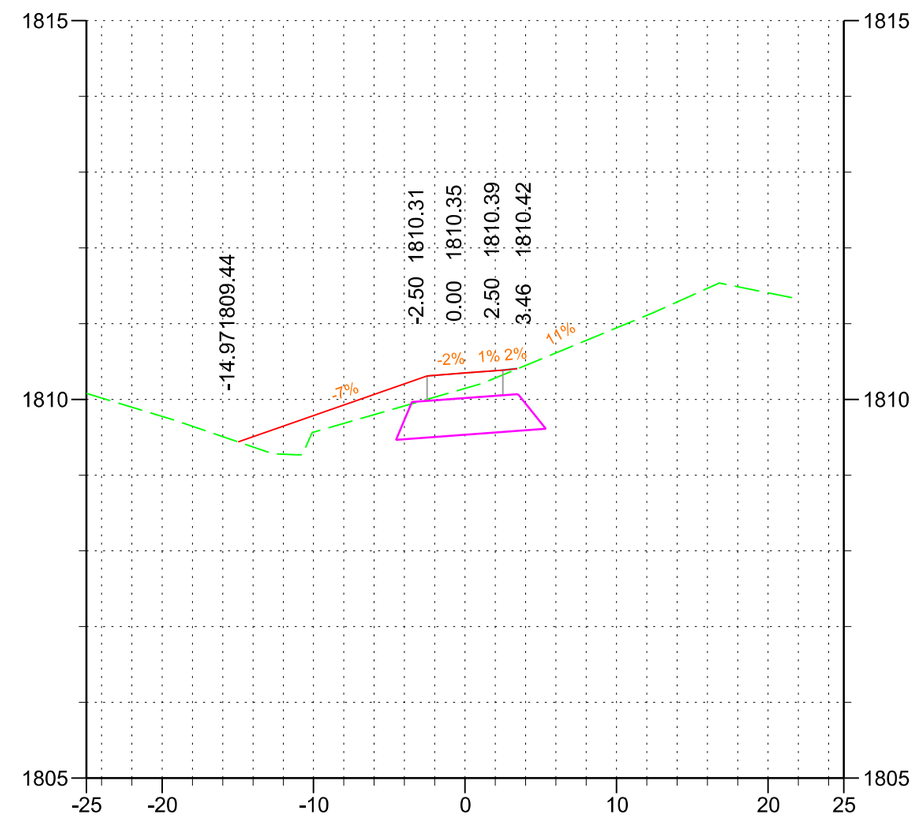

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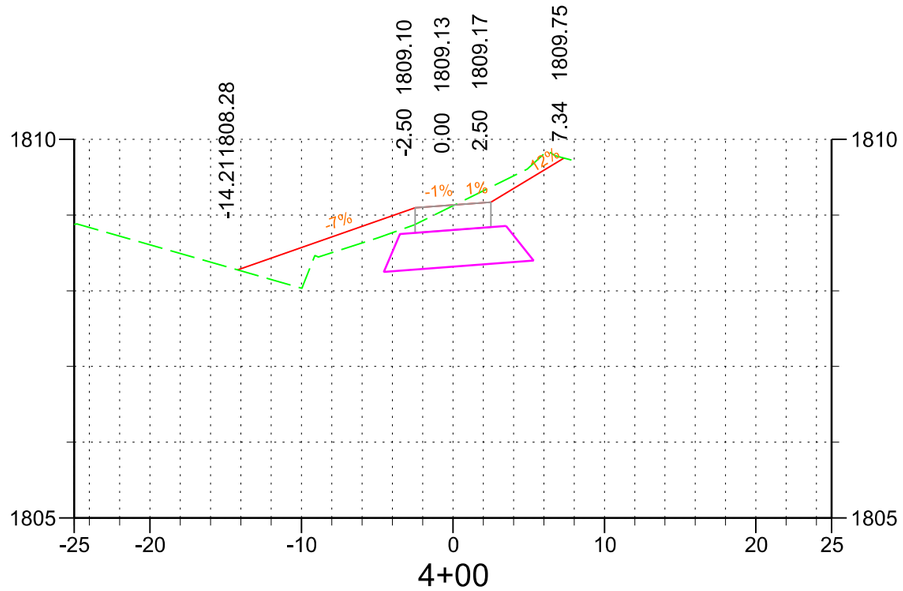
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	30	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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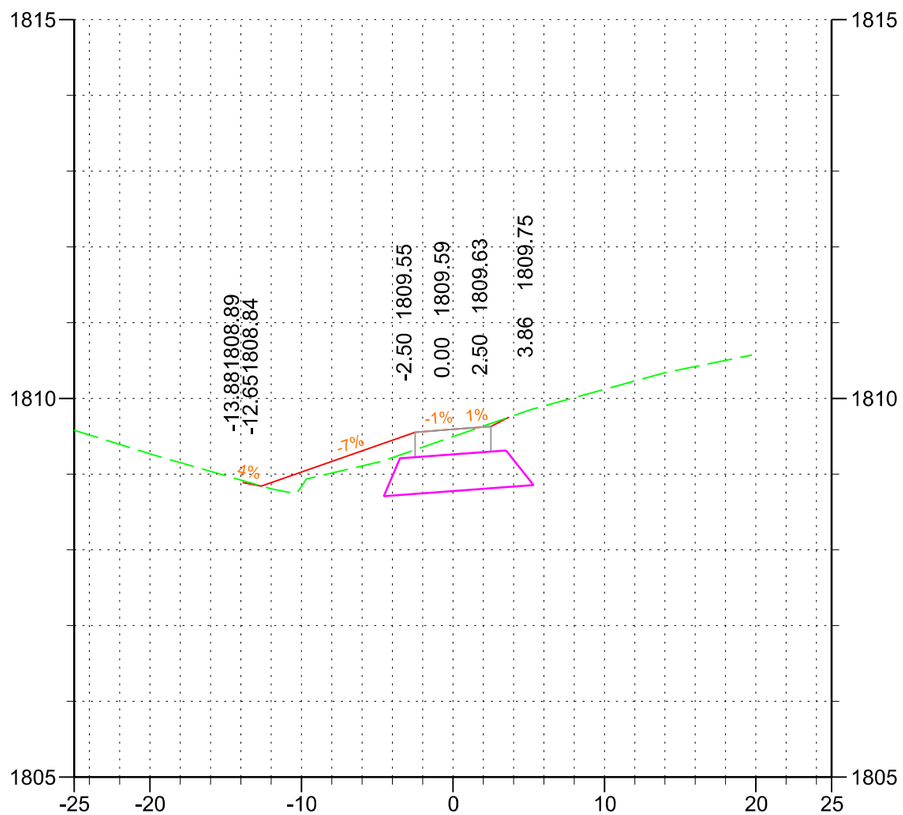

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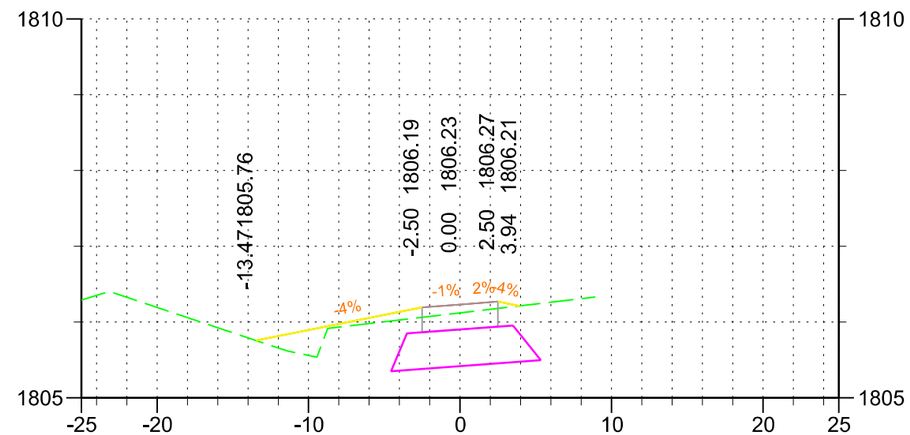

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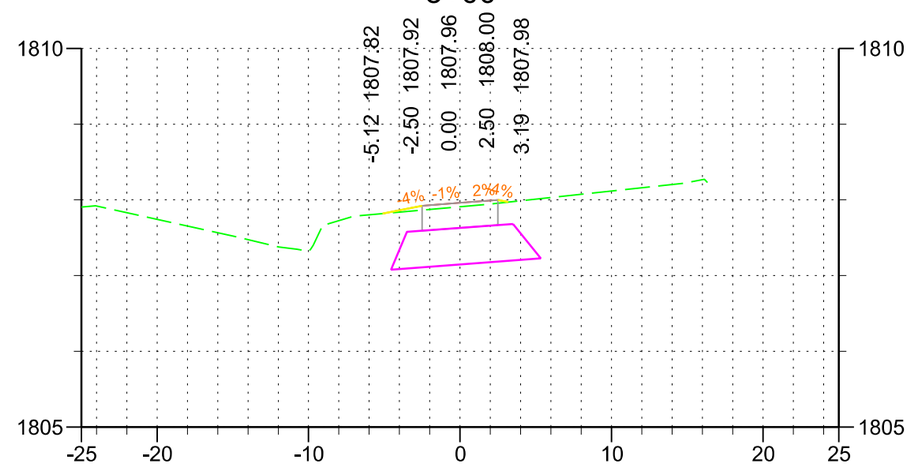

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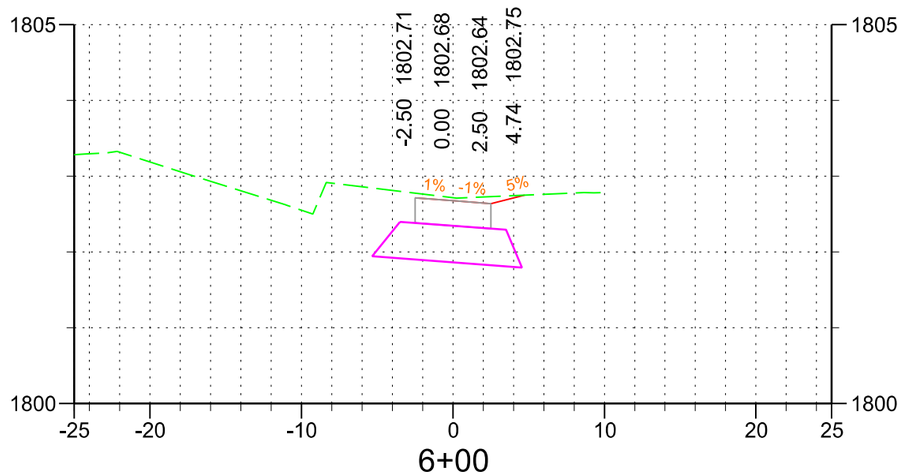
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	31	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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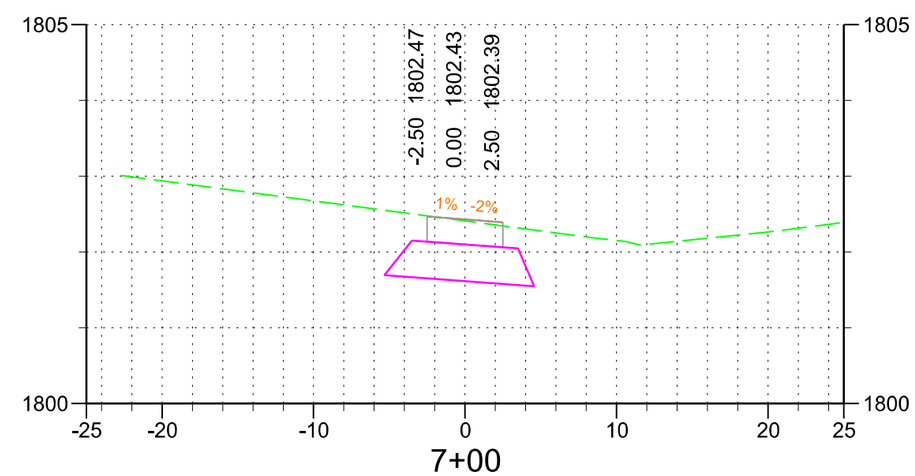

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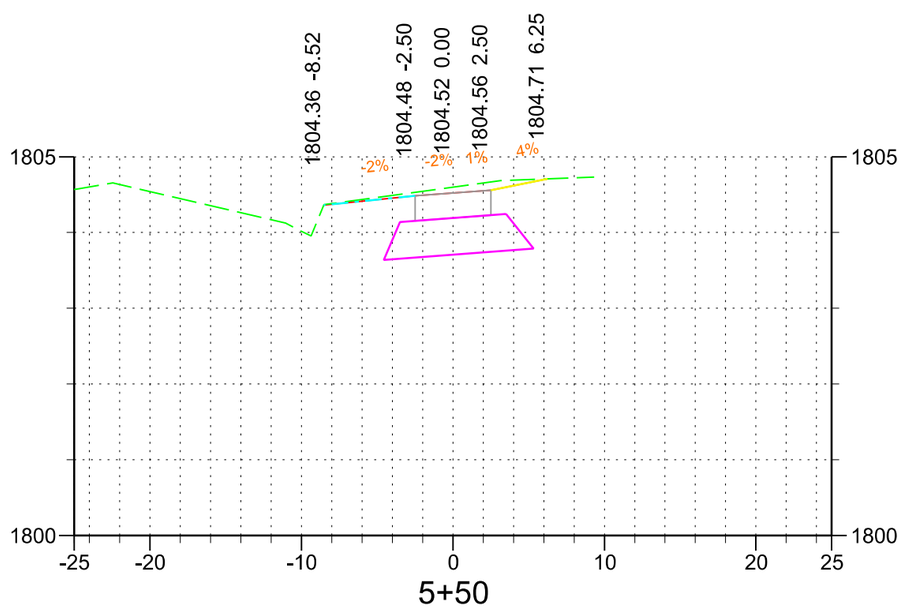

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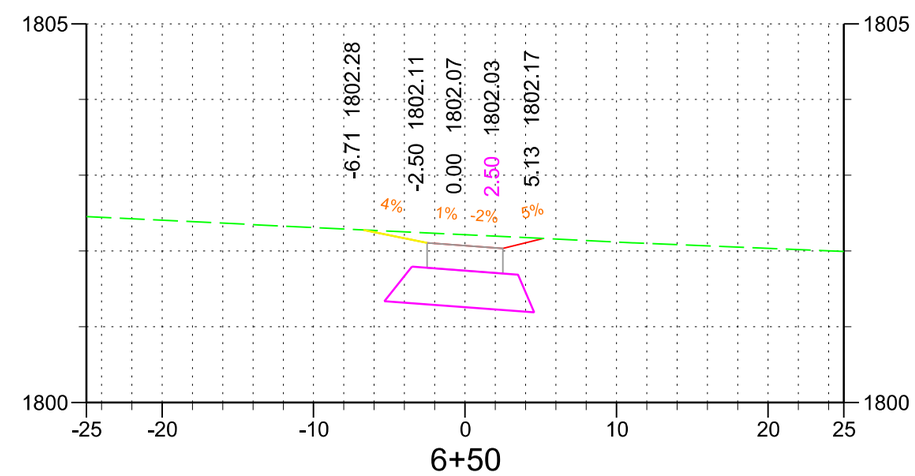

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	32	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
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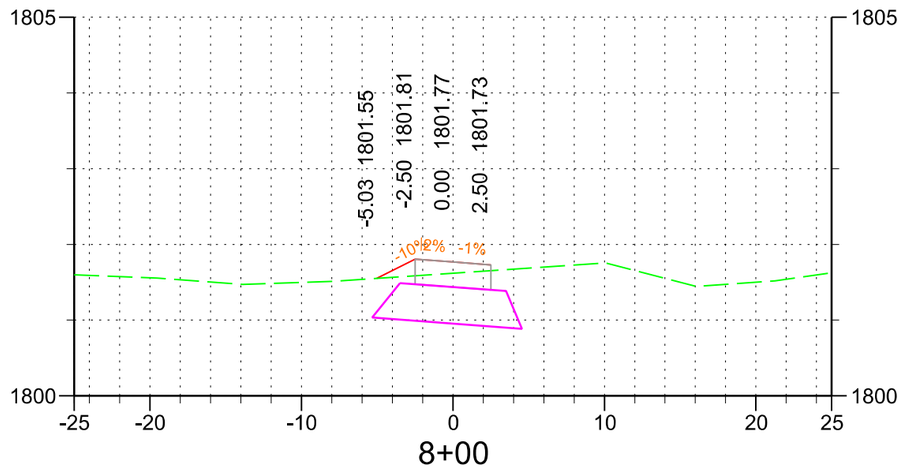

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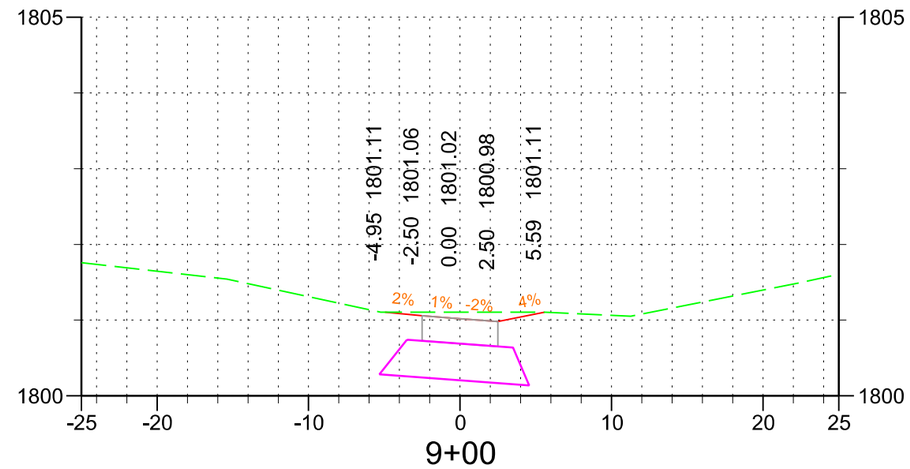

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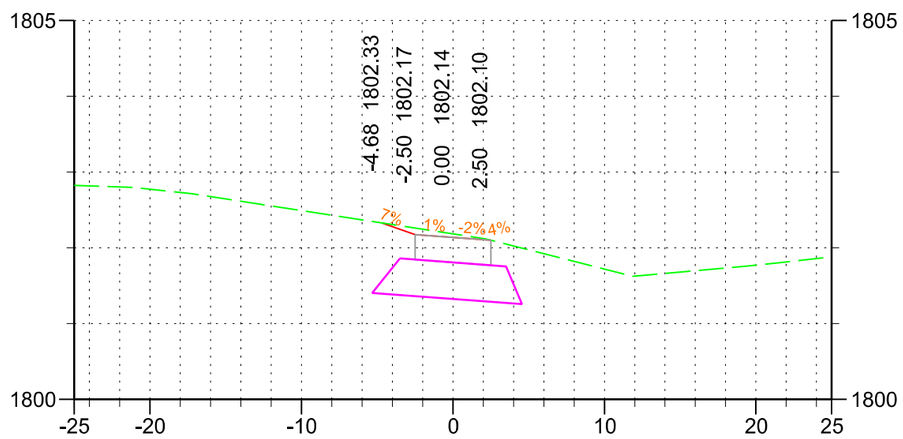

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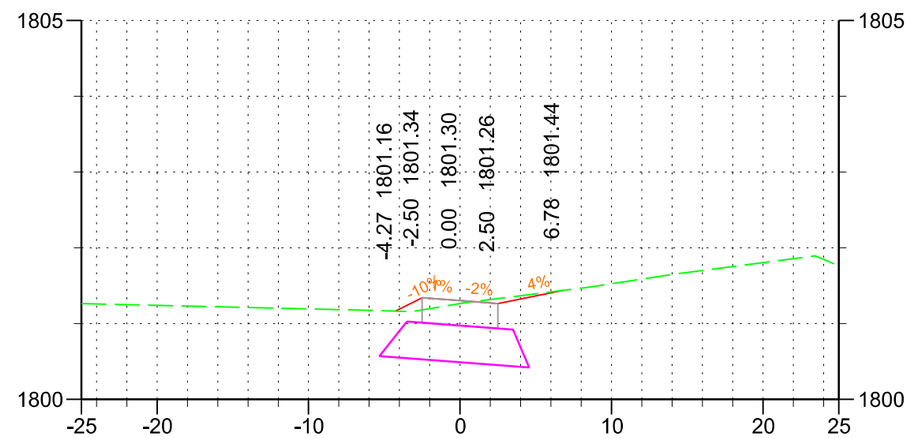

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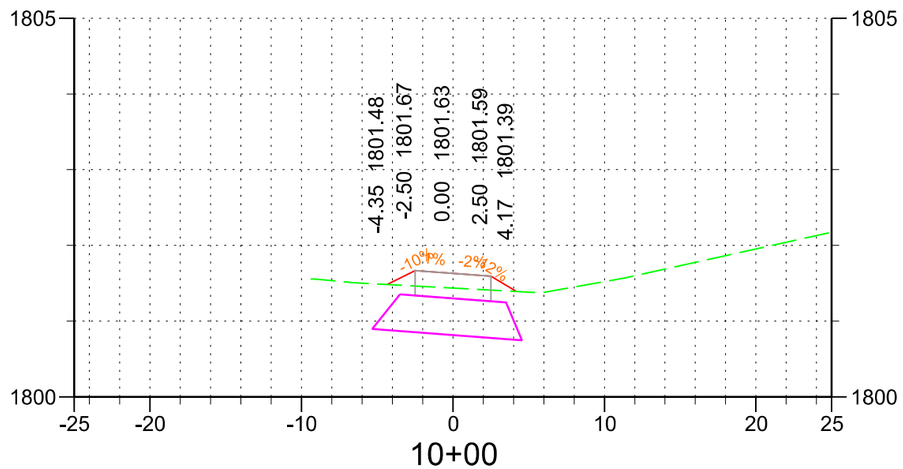
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	33	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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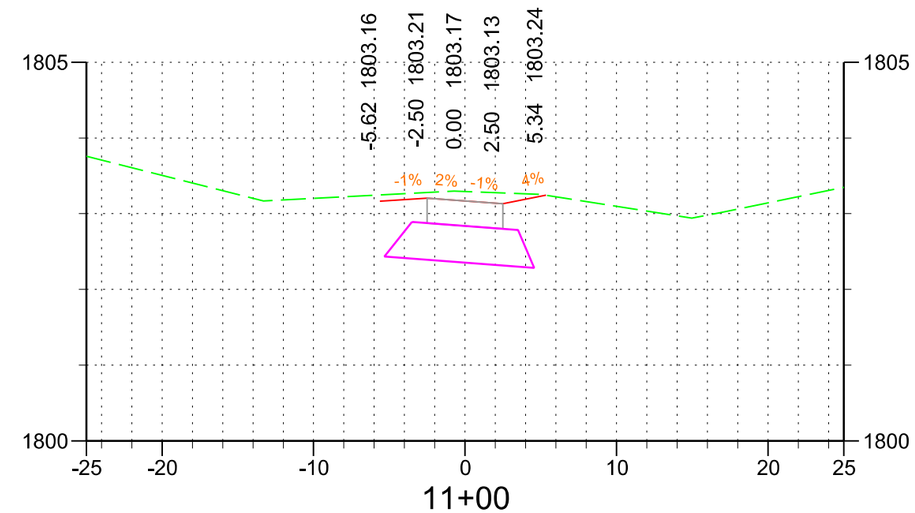

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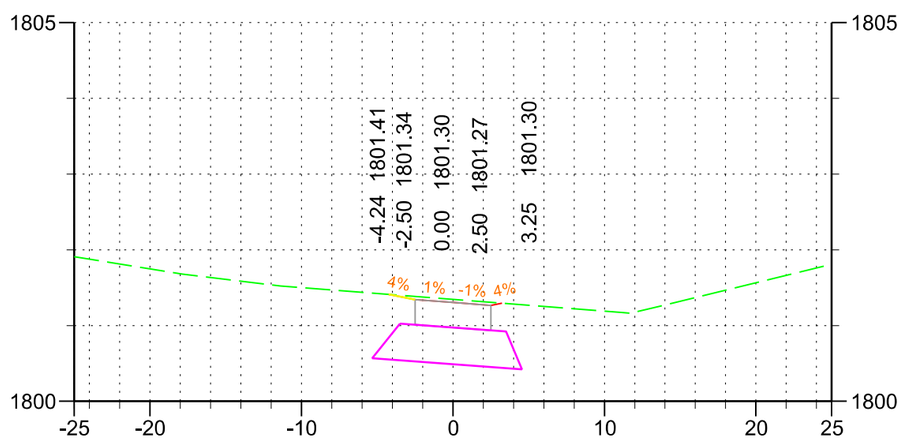

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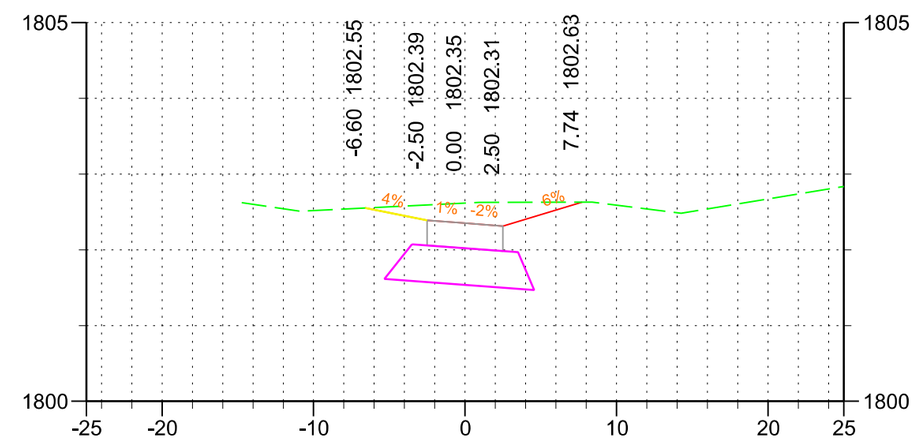

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	34	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
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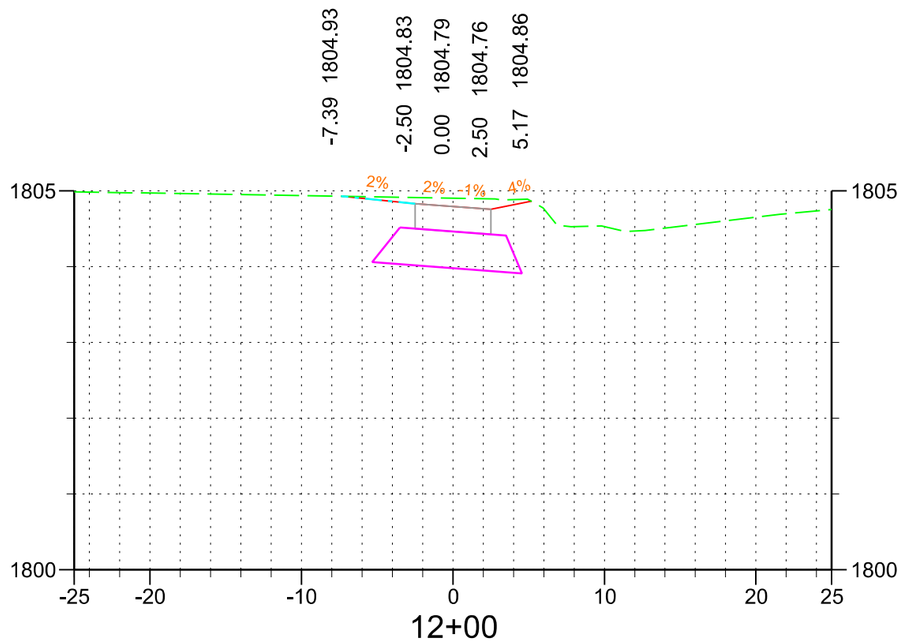

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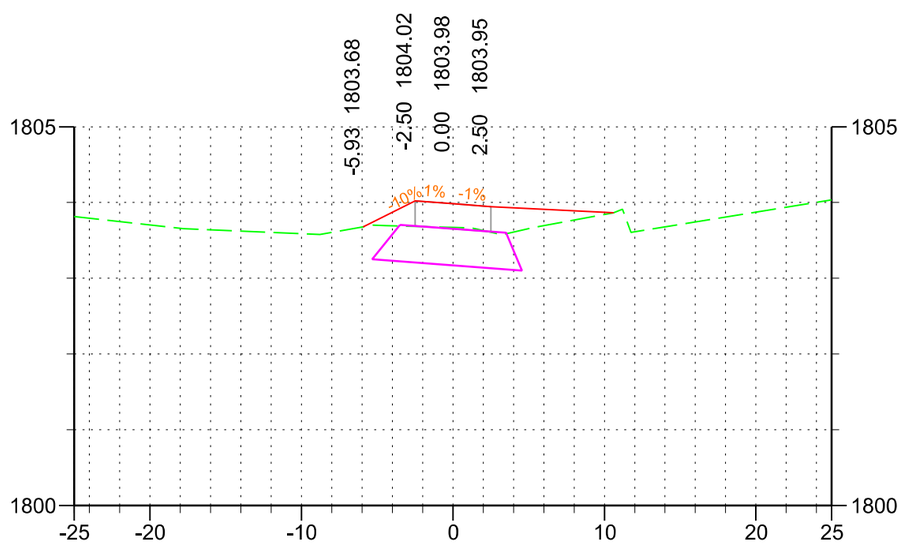

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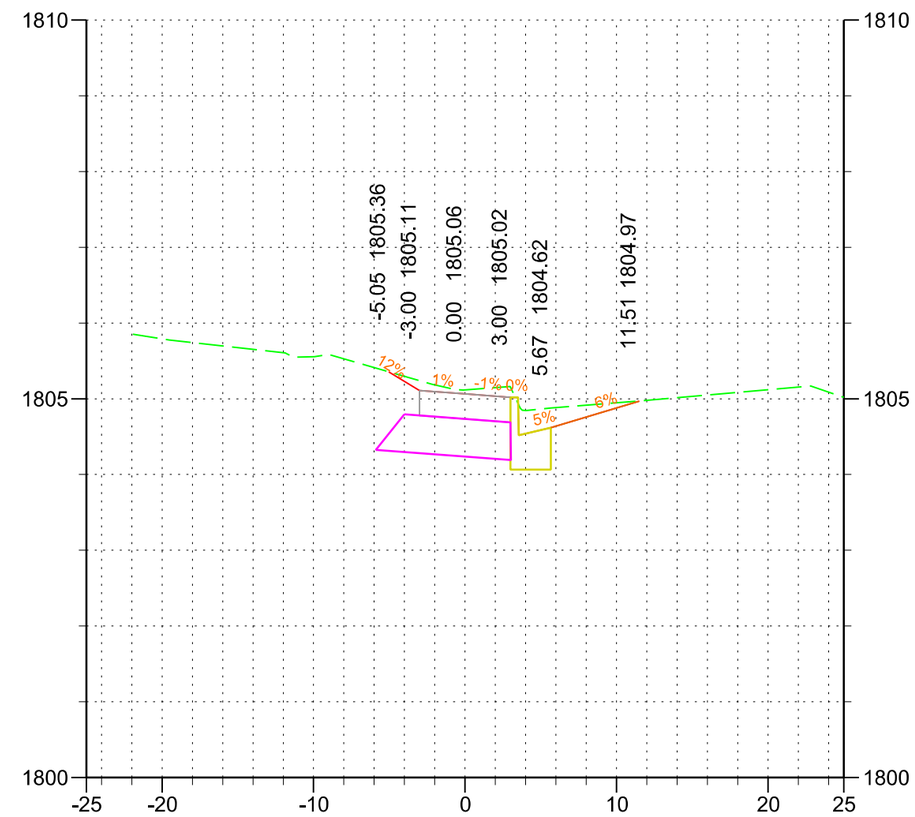

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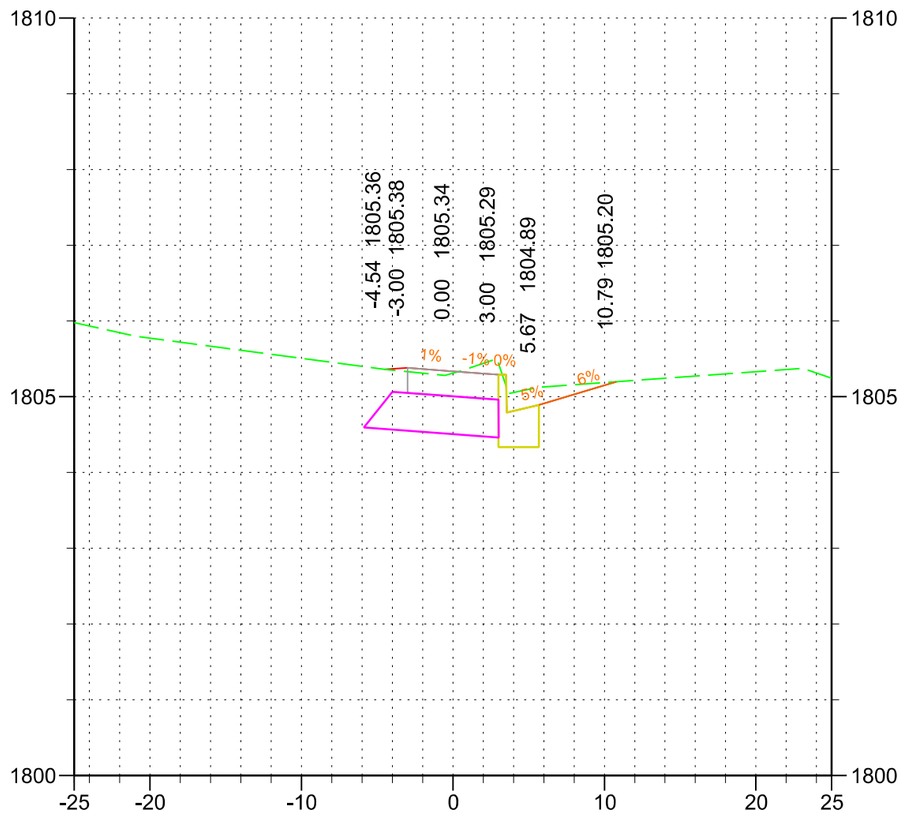
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	35	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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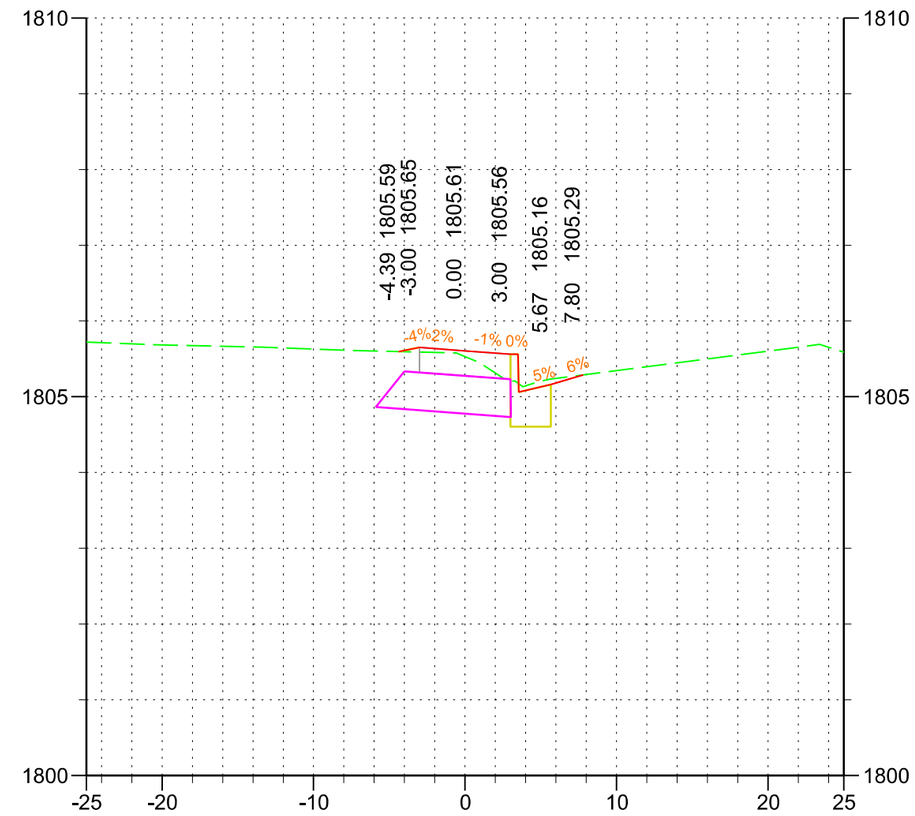

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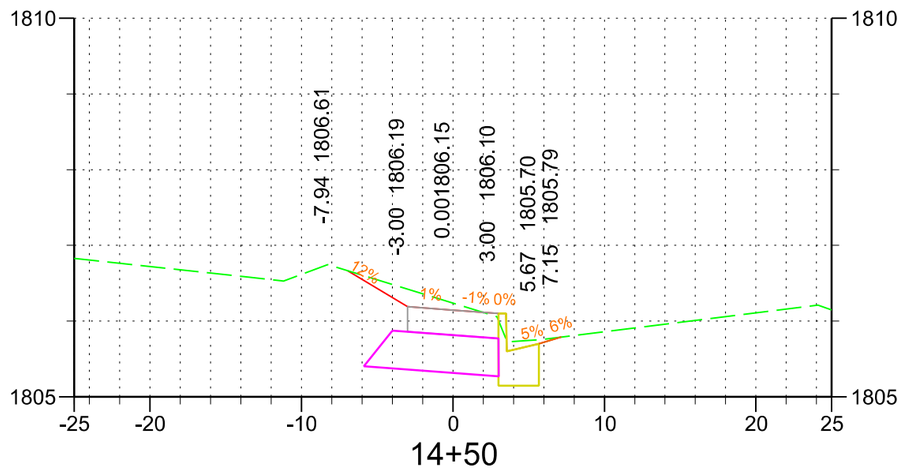
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	36	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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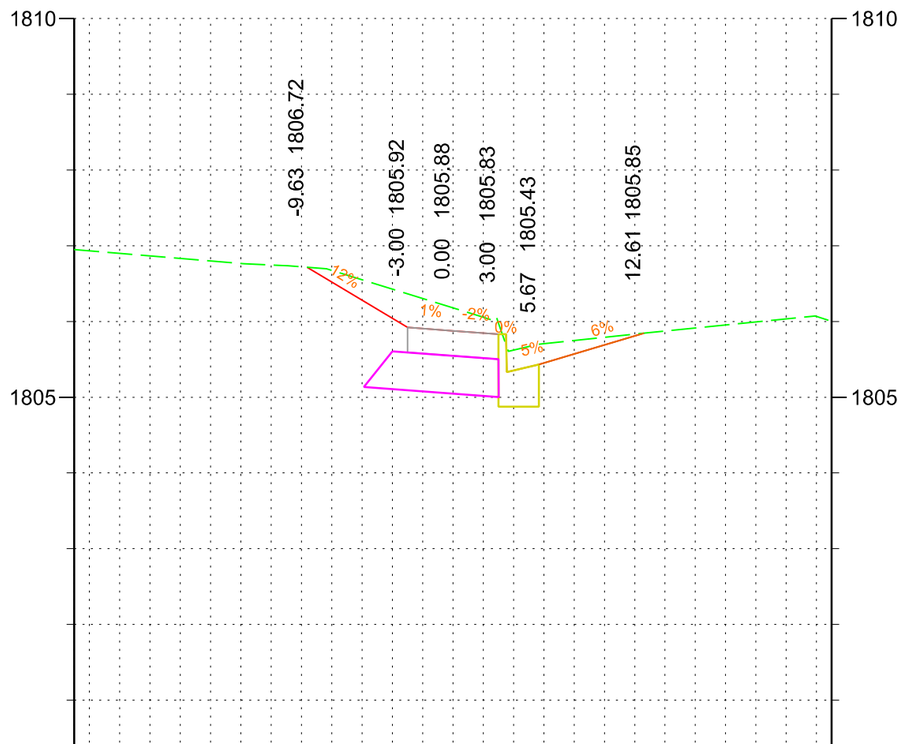

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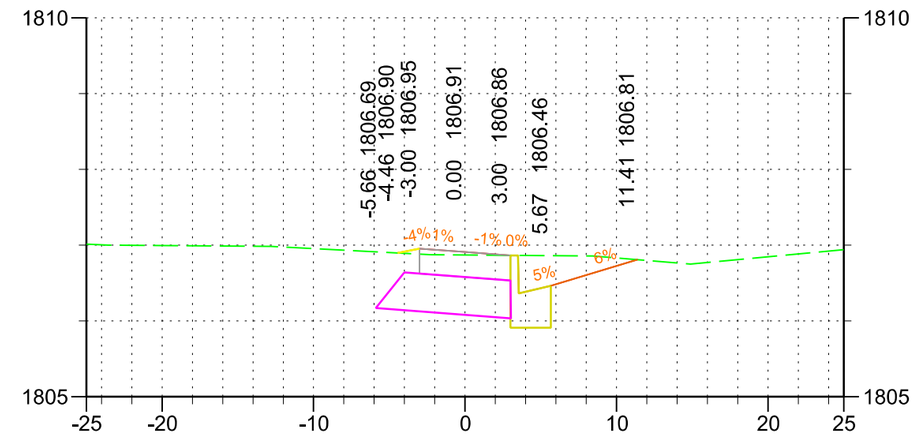

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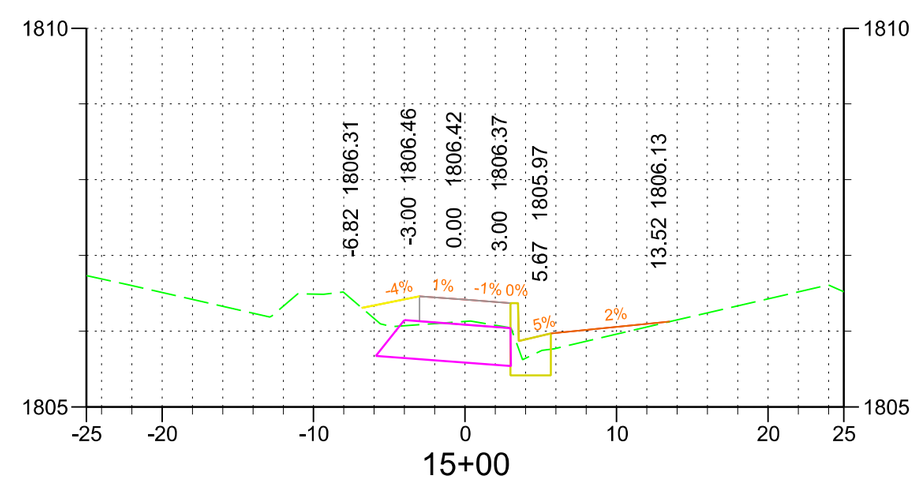

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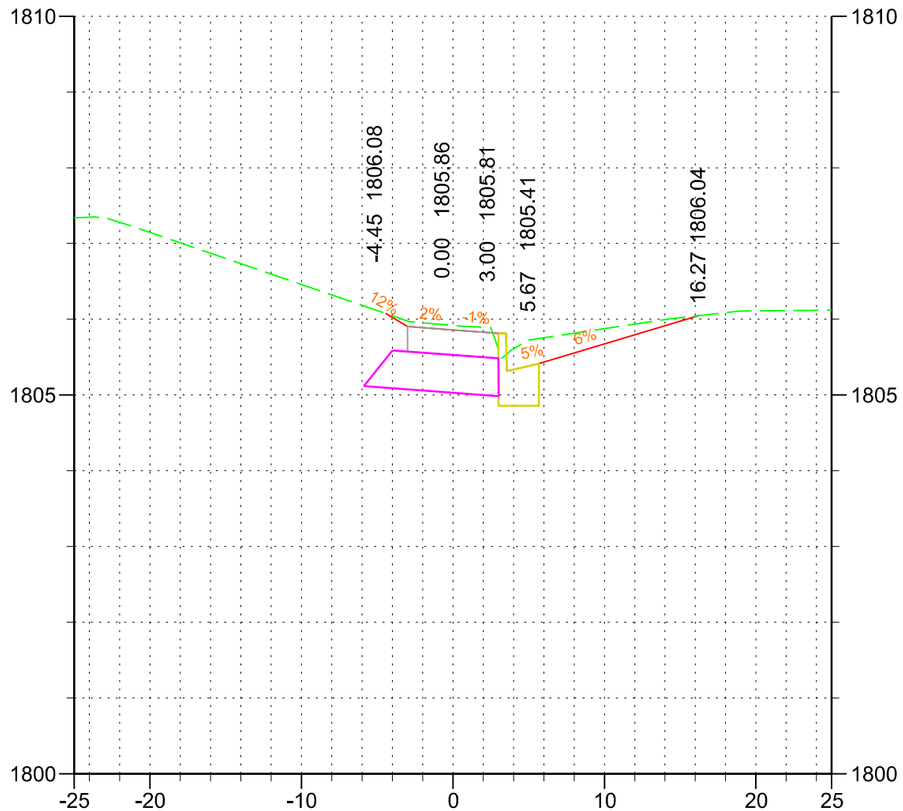
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	37	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
Initials: TLW



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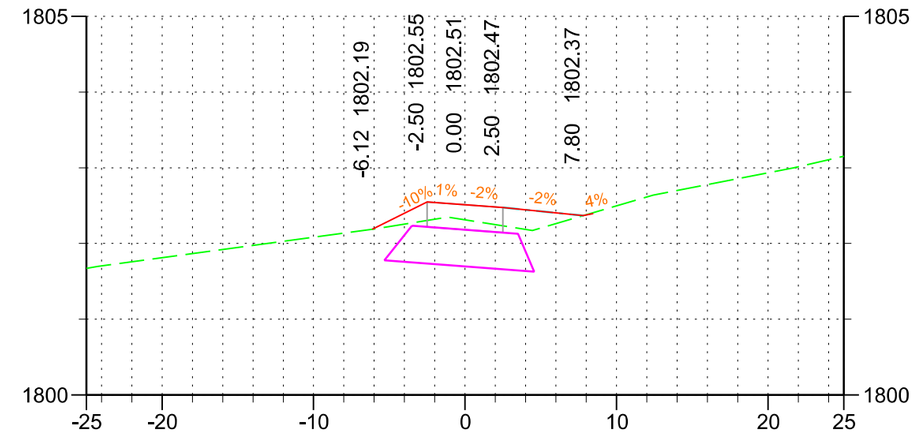

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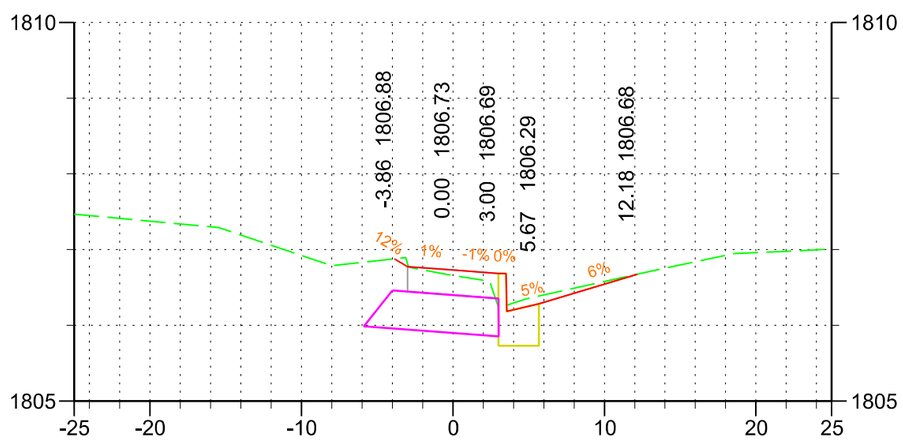

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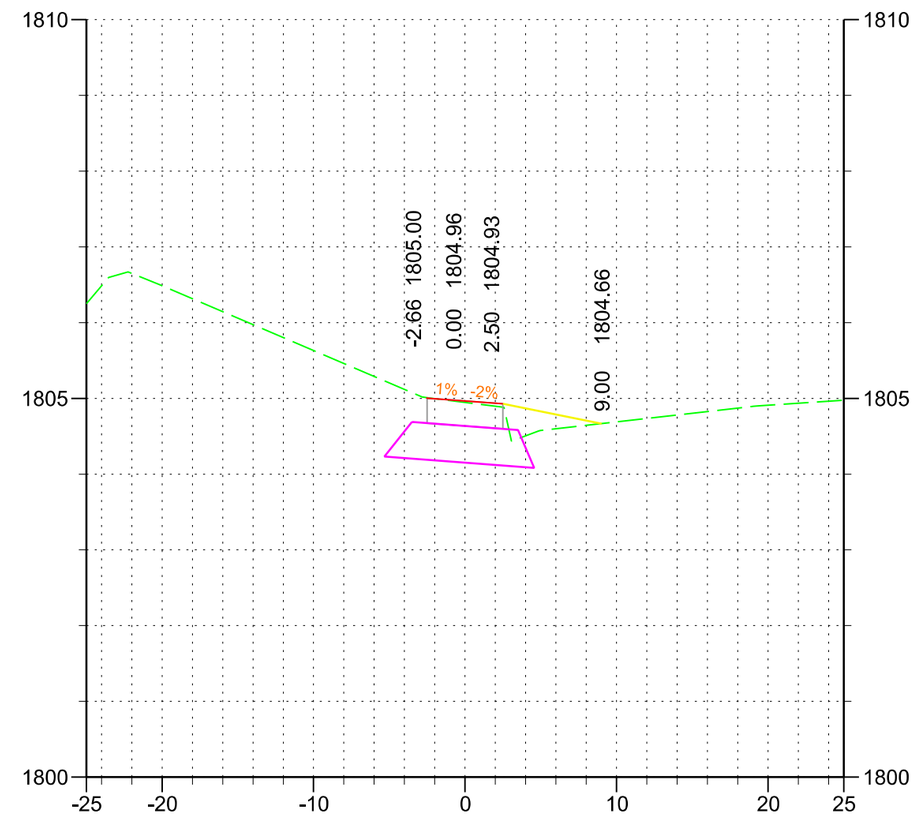

17+00

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	38	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
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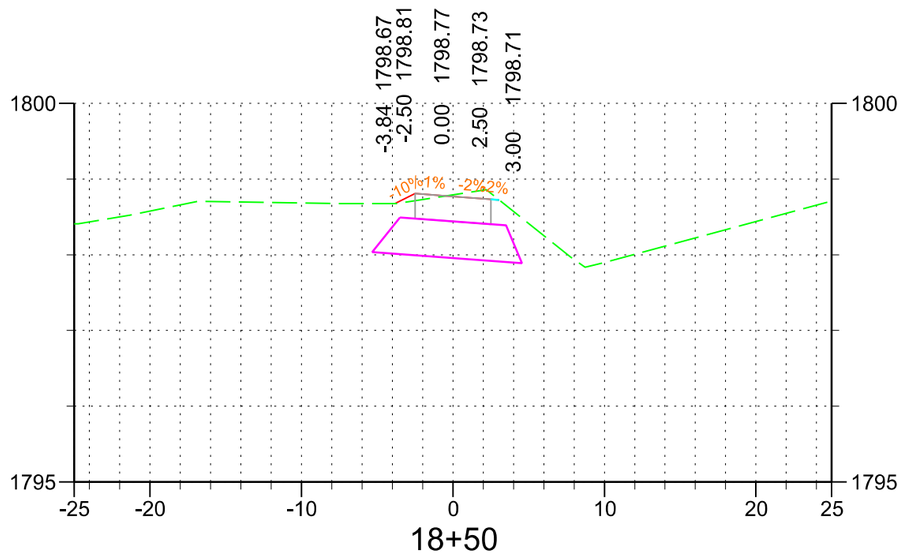

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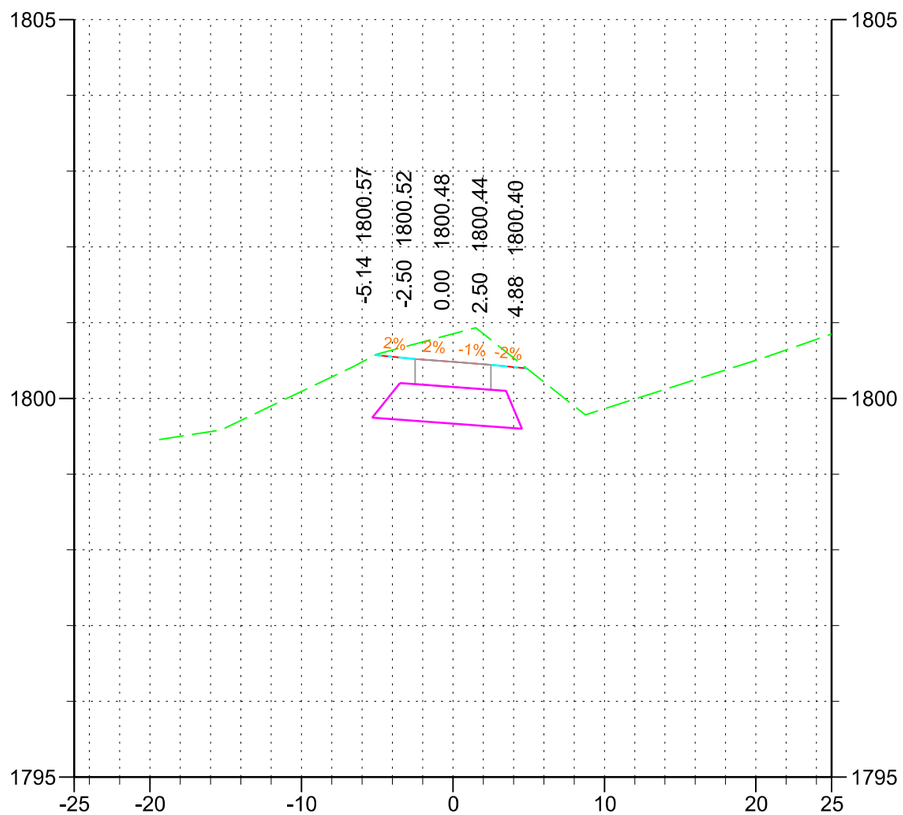

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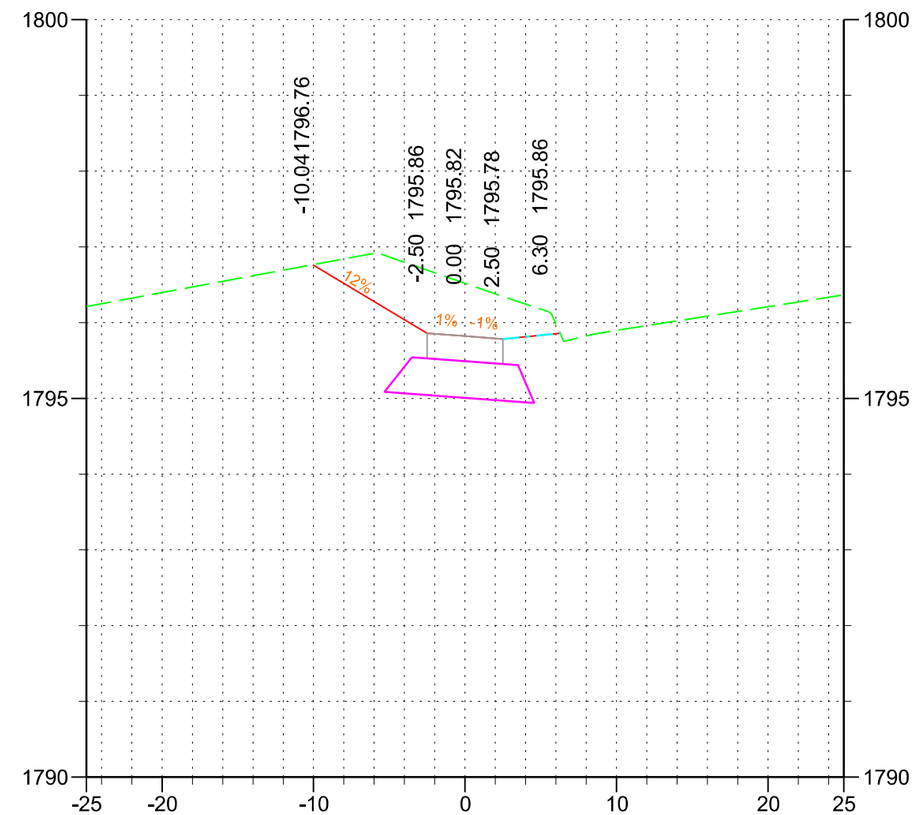

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	TAPR (17)	39	50

Plotting Date: 1/3/17
Revised Date: xx/xx/xx
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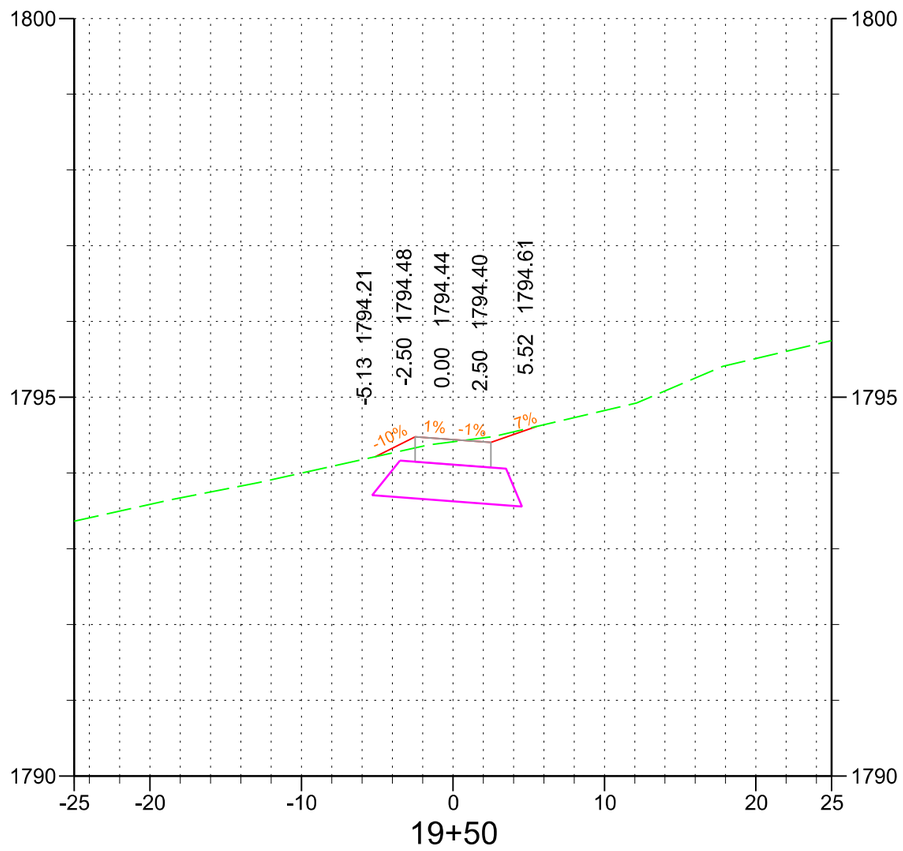
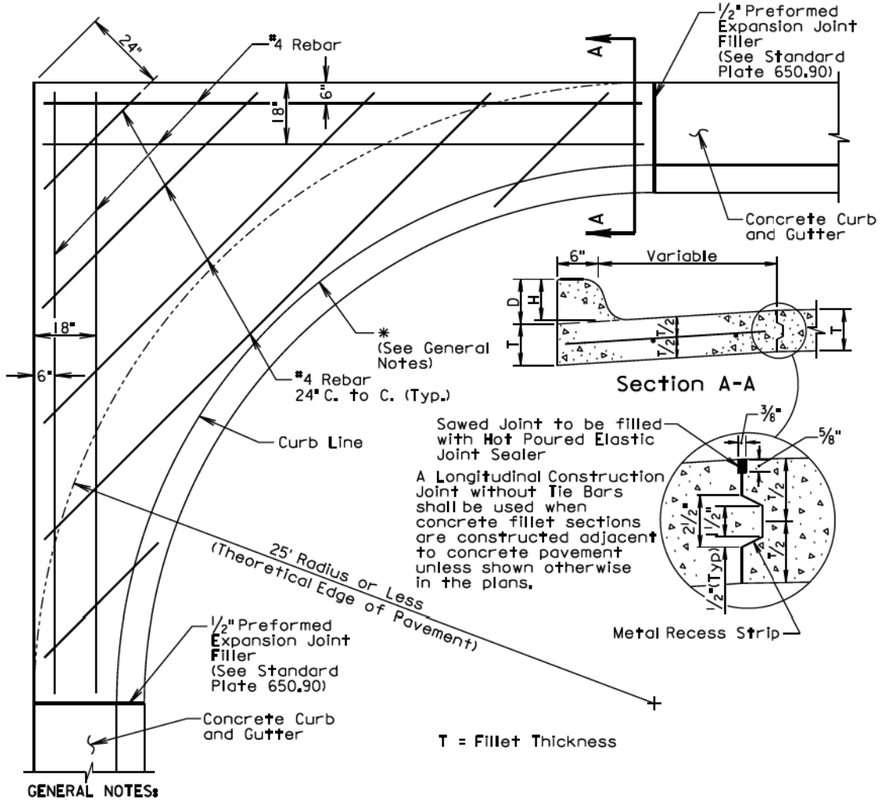




GENERAL NOTES:

* If a curb ramp is constructed adjacent to a PCC fillet section, the curb will need to be modified. Refer to the corresponding curb ramp standard plate or other special details in the plans for modification of the PCC fillet section.

Dimensions D, H, and T shall conform to those shown on the appropriate curb and gutter standard plate.

All rebar shall be in conformance with Sections 480 and 1010 of the Specifications. All rebar shall have a minimum of 3" clear cover.

Class M6 Concrete shall be used in construction of the fillets.

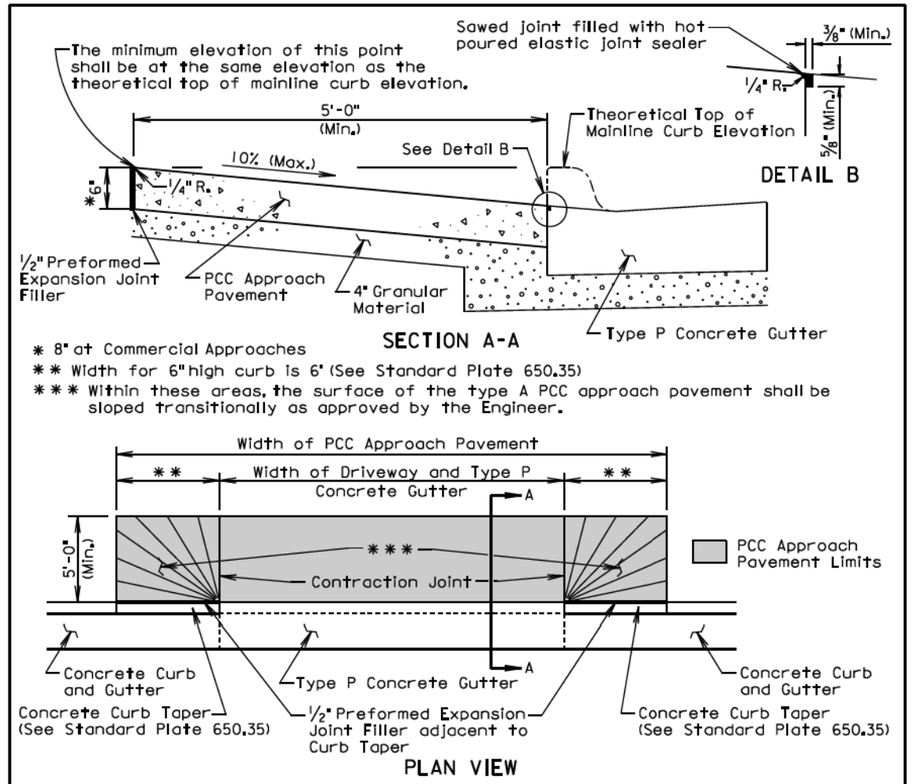
The concrete curb shall be monolithic with the concrete fillet. No separate payment for this curb will be made as the curb is considered a part of the fillet.

Joints shall be constructed at 10' intervals except when fillets are constructed adjacent to PCC Pavement. If there is adjacent PCC Pavement the joints shall be extended from edge of pavement through the fillet section as directed by the Engineer.

The cost for all materials, labor, and incidentals necessary to construct the PCC fillet section with curb and gutter shall be incidental to the contract unit price per square yard for the corresponding PCC fillet section bid item.

June 26, 2015

Published Date: 4th Qtr. 2017	SDDOT	PCC FILLET SECTION WITH TYPE B CURB AND GUTTER	PLATE NUMBER 380.16
			Sheet 1 of 1



* 8" at Commercial Approaches

** Width for 6" high curb is 6' (See Standard Plate 650.35)

*** Within these areas, the surface of the type A PCC approach pavement shall be sloped transitionally as approved by the Engineer.

GENERAL NOTES:

The concrete for the type A PCC approach pavement and adjacent driveway shall comply with the requirements of the Specifications for class M6 concrete unless otherwise stated in the plans.

Contraction joints in the type A PCC approach pavement shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the approach pavement. Additional contraction joints not shown in the Plan View shall be spaced as follows:

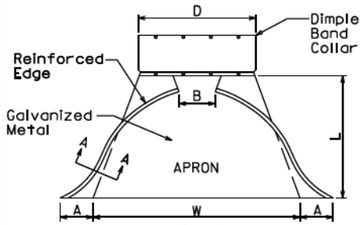
One joint at the center of the approach for driveways 16' to 24' wide.
Two joints spaced at equal intervals for driveways greater than 24' to 40' wide.

All costs for furnishing and placing the type A PCC approach pavement and constructing the expansion and contraction joints including labor, equipment, excavation, and materials including the earthen backfill and granular material, shall be incidental to the contract unit price per square yard for the corresponding PCC Approach Pavement bid item.

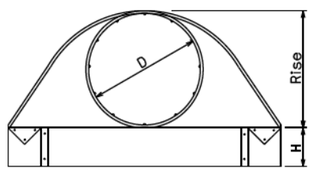
September 14, 2017

Published Date: 4th Qtr. 2017	SDDOT	TYPE A PCC APPROACH PAVEMENT	PLATE NUMBER 380.40
			Sheet 1 of 1

Alternate Type Connector Sections may be used with approval of the Engineer.



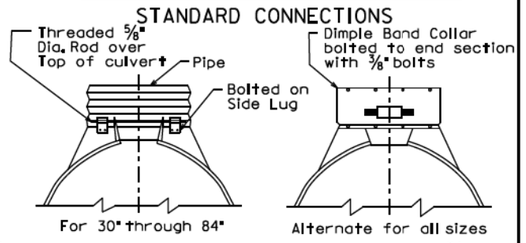
PLAN

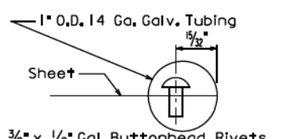


ELEVATION

Dia. D (in.)	Ga.	DIMENSIONS (in.) A	B	H	L	W	Approx. Slope	Body
12	16	6	6	6	21	24	2 1/2:1	1 Pc.
15	16	7	8	6	26	30	2 1/2:1	1 Pc.
18	16	8	10	6	31	36	2 1/2:1	1 Pc.
21	16	9	12	6	36	42	2 1/2:1	1 Pc.
24	16	10	13	6	41	48	2 1/2:1	1 Pc.
30	14	12	16	8	46	60	2 1/2:1	1 Pc.
36	14	14	19	9	51	72	2 1/2:1	2 Pc.
42	12	16	22	11	60	84	2 1/2:1	2 Pc.
48	12	18	27	12	69	90	2 1/4:1	2 Pc.
54	12	18	30	12	78	102	2:1	3 Pc.
60	12	18	33	12	84	114	1 3/4:1	3 Pc.
66	12	18	36	12	87	120	1 1/2:1	3 Pc.
72	12	18	39	12	87	126	1 1/3:1	3 Pc.
78	12	18	42	12	87	132	1 1/4:1	3 Pc.
84	12	18	45	12	87	138	1 1/6:1	3 Pc.

STANDARD CONNECTIONS

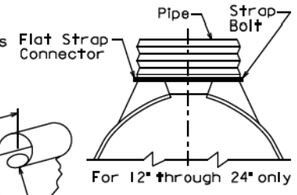


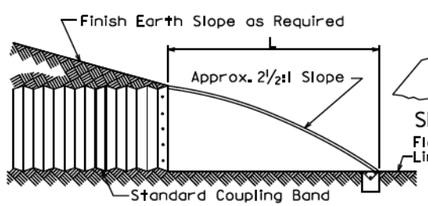


3/8" x 1/2" Gal. Buttonhead Rivets spaced 6" C. to C. Overall length of rivets=0.78"

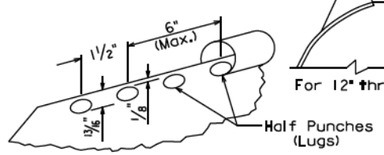
TUBING ATTACHMENT DETAILS
SECTION A-A

NOTE:
Tubing is slipped over the sheet and rivets or lugs prior to forming operations of the apron.

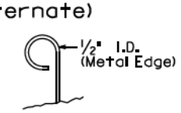




TYPICAL CROSS-SECTION



SECTION A-A (alternate)



SECTION A-A (alternate)

GENERAL NOTES:

All 3 pc. bodies shall have 12 Ga. sides and 10 Ga. center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies to have lap seams tightly joined by 3/8" Dia. galvanized rivets or bolts.

For 60" through 84" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles will be 2" x 2" x 1/4" for 60" through 72" diameters and 2 1/2" x 2 1/2" x 1/4" for 78" and 84" diameters. The angles shall be attached by 3/8" diameter galvanized nuts and bolts.

Rivets and Bolts shall be 3/8" Dia. Min. for 10 Ga. and 12 Ga. sheet, and 5/16" Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

Published Date: 4th Qtr. 2017	SDDOT	C.M.P. FLARED ENDS	PLATE NUMBER 450.35
			Sheet 1 of 1

The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

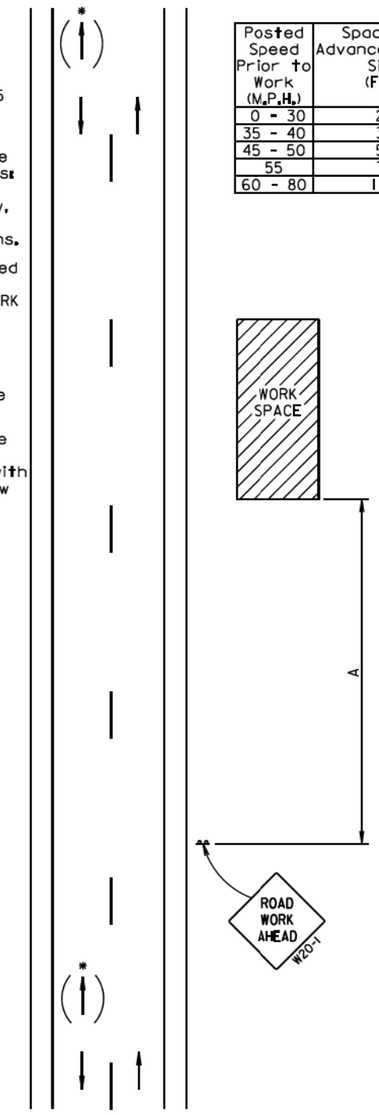
The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Posted Speed Prior to Work (N_a,P_a,H_a)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

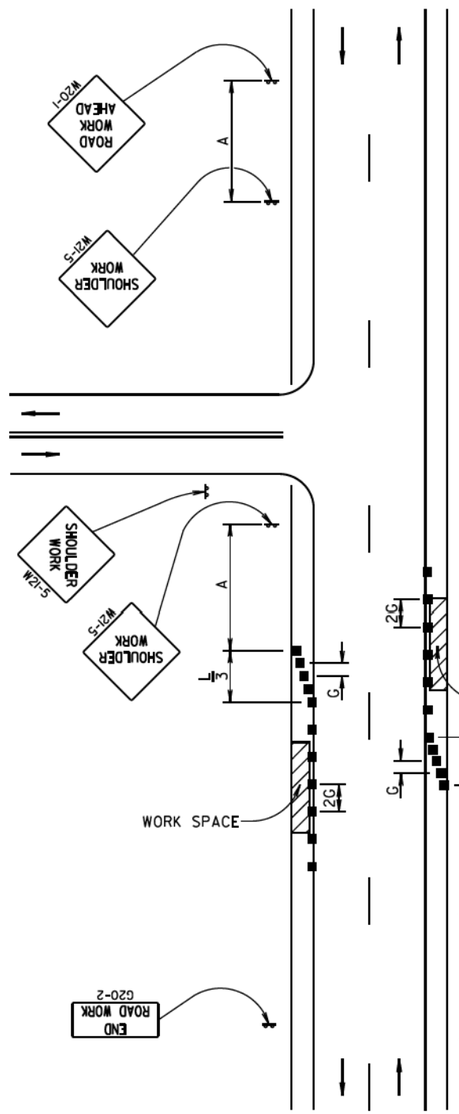


April 15, 2015

Published Date: 4th Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER	PLATE NUMBER 634.01
			Sheet 1 Of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	42	50

Plotting Date: 2/11/16
Revised Date: xx/xx/xx
Initials: TLW



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK
G20-2

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

June 3, 2016

Published Date: 4th Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03 Sheet 1 of 1

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

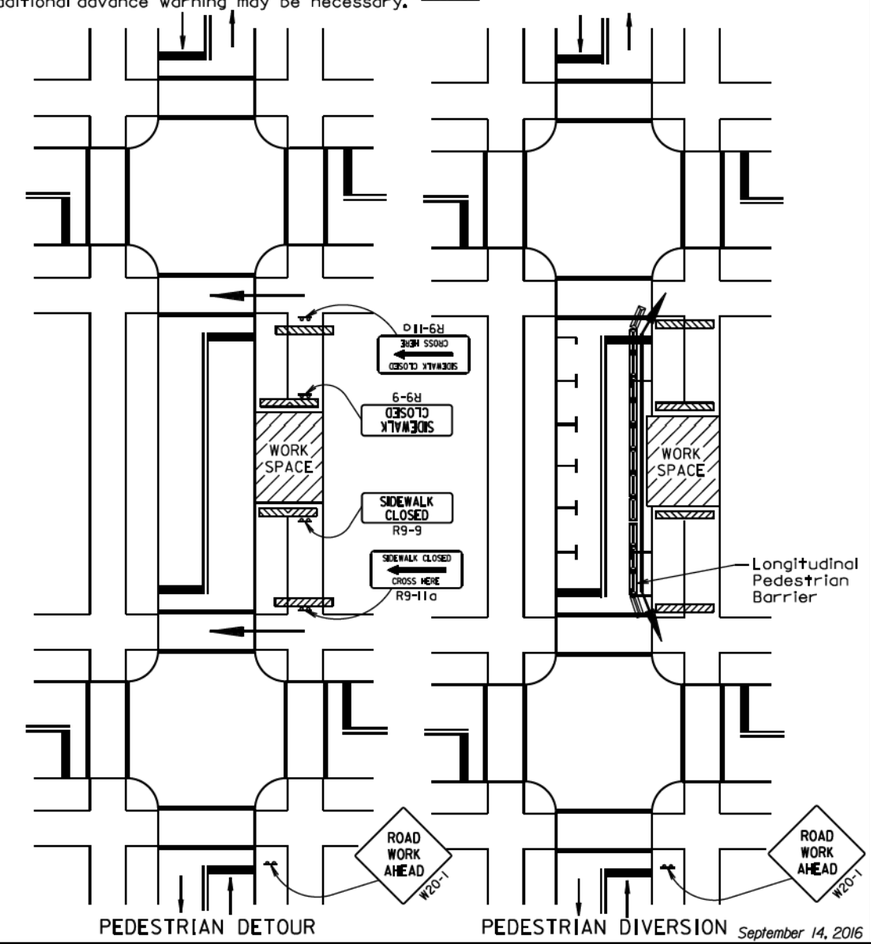
Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

Additional advance warning may be necessary.

For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks. Type C steady-burn lights may be used on channelizing devices separating the temporary pedestrian diversion from vehicular traffic.

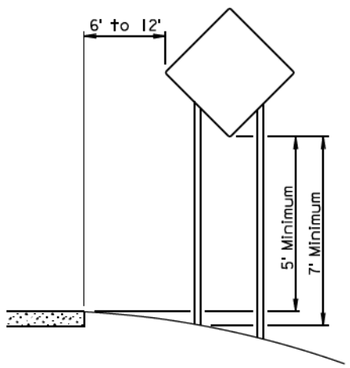
Street lighting should be considered.

Longitudinal Pedestrian Barricade and

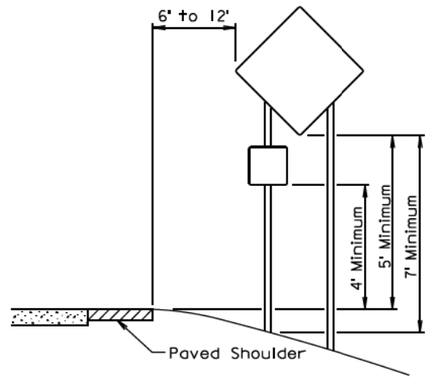


September 14, 2016

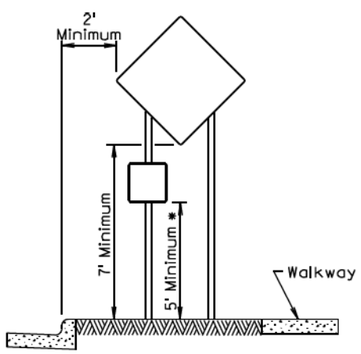
Published Date: 4th Qtr. 2017	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES PEDESTRIAN DETOUR AND PEDESTRIAN DIVERSION	PLATE NUMBER 634.34 Sheet 1 of 1



RURAL DISTRICT

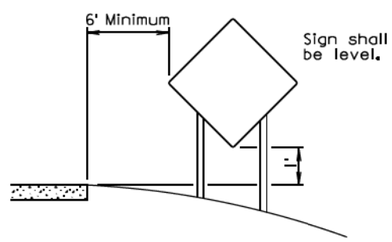


RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

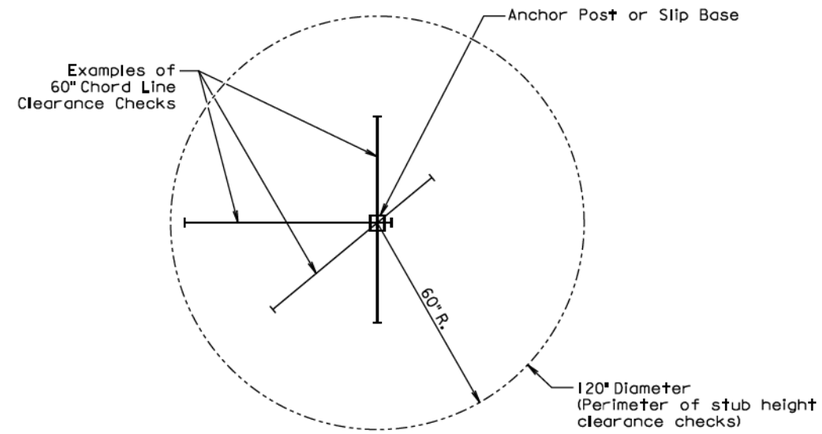
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



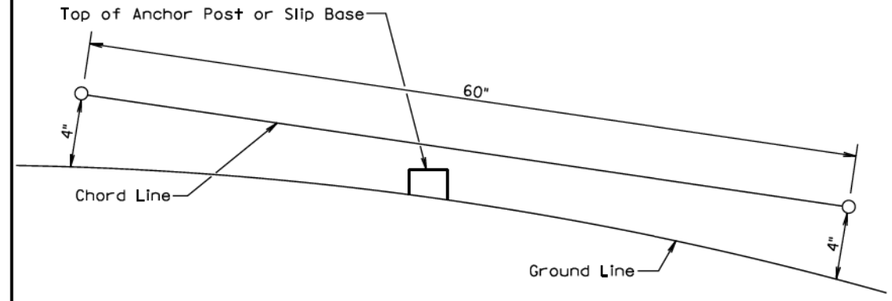
RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

September 22, 2014

Published Date: 4th Qtr. 2017	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

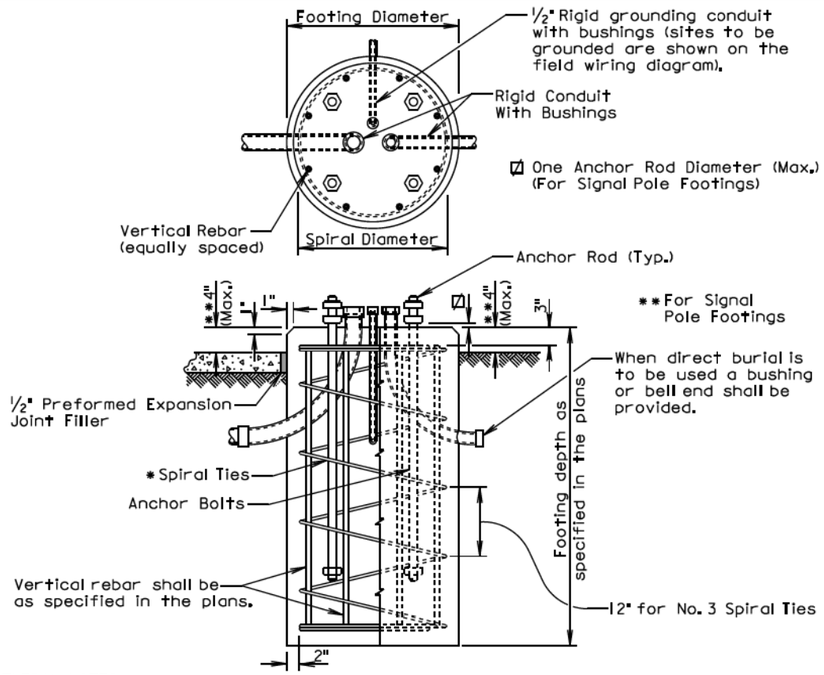
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 4th Qtr. 2017	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



GENERAL NOTES:

* Circular ties may be used in lieu of the spiral ties. The No. 3 ties shall be spaced 12 inches apart except for the top two which shall be spaced 6 inches apart. The ties shall be lapped 18 inches and the laps shall be staggered around the cage.

Spiral ties shall have 1-1/2 extra turns at each end.

See Section 985 of the Specifications for footing materials.

Conduits and bushings may project 2½ inches to 6 inches above footing for fixed base poles but shall not project above the slip plane or fracture plane for breakaway poles.

Conduits shall be sealed water-tight during all phases of construction until poles are in place.

The anchor rods shall fit inside the reinforcing steel cage. If the anchor rods designed by the Pole Manufacturer do not fit, contact the Office of Bridge Design for footing redesign. No additional payment will be made for the redesigned footing.

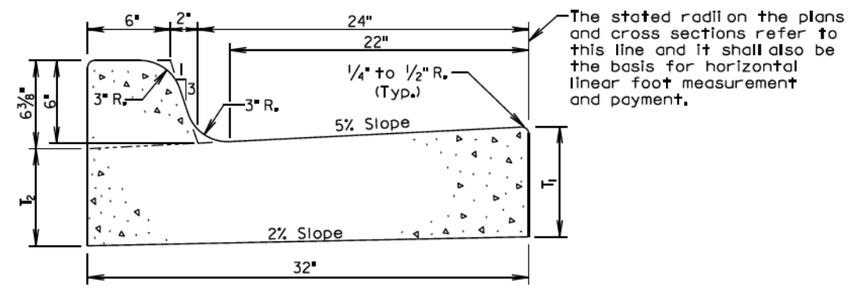
Costs of conduit and conduit bushings shown on footing detail shall be incidental to the footing bid item(s).

The pole shall not be installed until the concrete has attained design strength (4000 psi).

The contour of the area surrounding the breakaway pole shall be flat, though not necessarily level for a distance of 5 feet in all directions. The Contractor may be required to provide finish grading at some breakaway pole locations.

June 26, 2015

Published Date: 4th Qtr. 2017	SDDOT	POLE FOOTING	PLATE NUMBER 635.55
			Sheet 1 of 1



Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

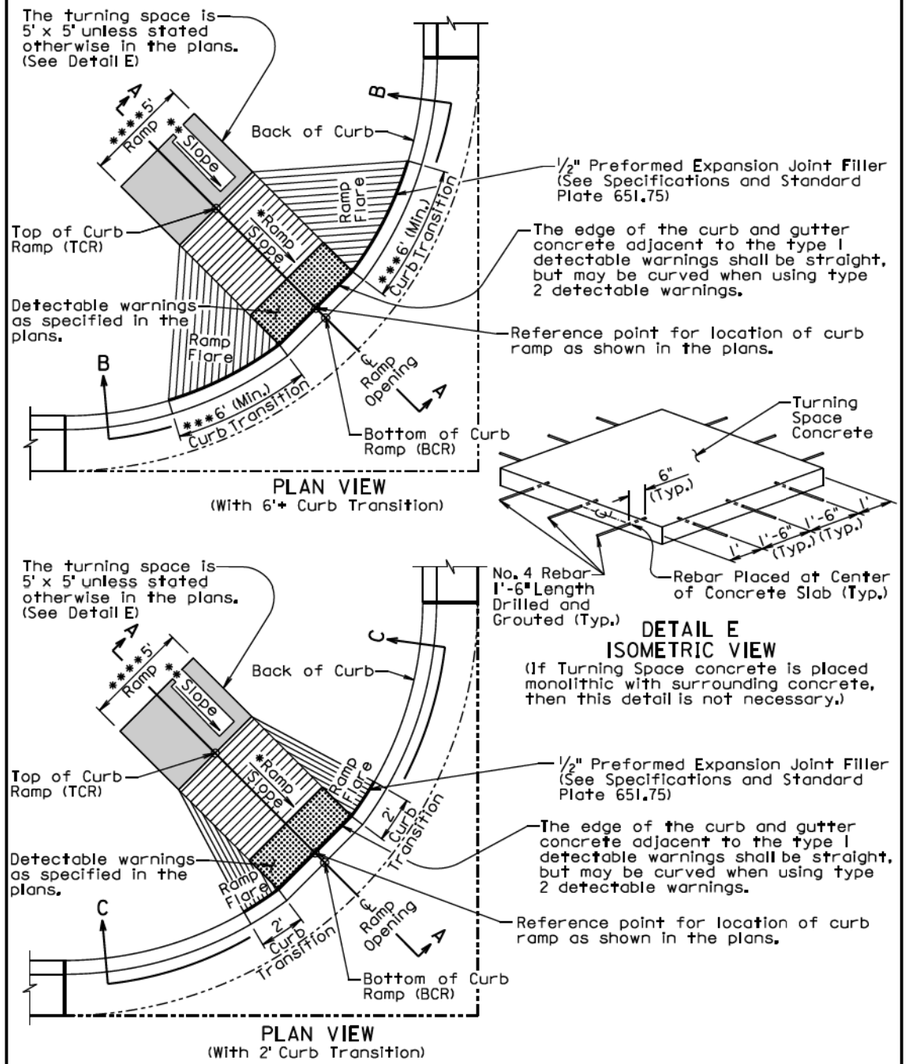
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

See Standard Plate 650.90 for expansion and contraction joints in the curb and gutter.

September 6, 2008

Published Date: 4th Qtr. 2017	SDDOT	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



September 6, 2015

Published Date: 4th Qtr. 2017	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 1 of 3

* Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% and shall not exceed 15' in length unless stated otherwise in the plans.

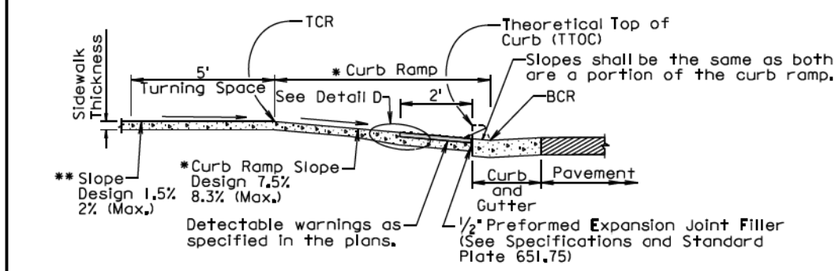
The curb ramp length may be computed based on the intersection of a continuous 1.5% theoretical slope from theoretical top of curb (TTOC) with the curb ramp using a continuous 7.5% curb ramp slope. The elevation of point TCR shall always be higher than the elevation of point TTOC unless specified otherwise in the plans. The curb ramp length dimension as shown in the plans shall be adjusted as necessary to meet all slope and length requirements based on field geometrics.

The cross slope of the ramp shall not be steeper than 2%. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

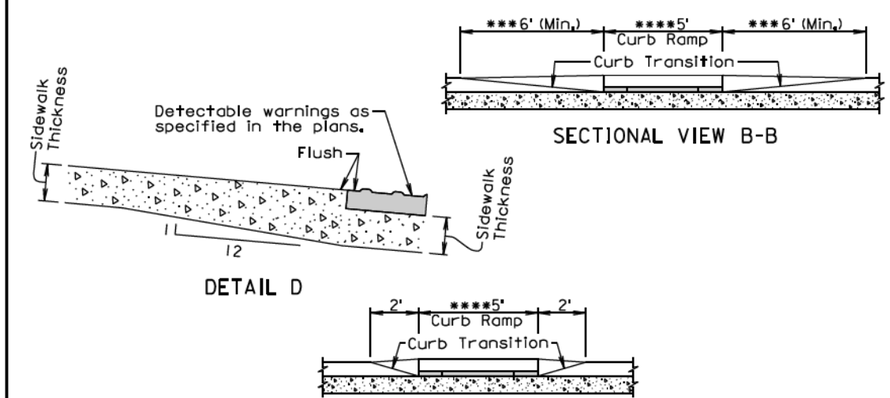
** The slope in the turning space shall not be steeper than 2% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

*** The curb transition shall be a minimum of 6' long, a maximum of 10' long, and the curb transition slope shall not be steeper than 10% unless stated otherwise in the plans. The curb transition length shall be adjusted as necessary to meet slope and length requirements based on field geometrics.

**** The ramp width is 5' unless stated otherwise in the plans.



SECTION A-A



September 6, 2015

Published Date: 4th Qtr. 2017	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 2 of 3

GENERAL NOTES:

For illustrative purpose only, type I detectable warnings are shown in the drawings.

For illustrative purpose only, PCC fillet sections are shown in the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or curb and gutter.

For illustrative purpose only, the curb ramp location is shown at the center of a PCC fillet section. The curb ramp shall be placed at the location stated in the plans.

Sidewalk shall not be placed adjacent to the curb ramp flares when a 2' curb transition is used unless shown otherwise in the plans.

* Care shall be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

Surface texture of the curb ramp shall be obtained by coarse brooming transverse to the slope of the curb ramp.

The normal gutter line profile shall be maintained through the area of the ramp opening.

Joints shall be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.

Care shall be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings shall be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings shall be incidental to the corresponding detectable warning bid item.

There will be no separate payment for curb ramps. The curb ramp shall be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk bid item. The square foot area of the detectable warnings shall be included in the measured and paid for quantity of sidewalk.

If rebar is placed in the Turning Space as depicted in DETAIL E, the cost of the materials, labor, and equipment to furnish and install the rebar shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

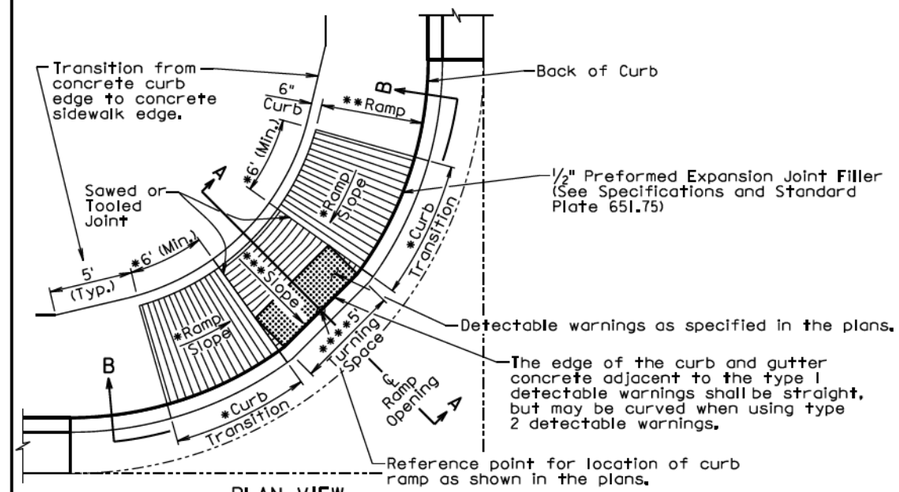
The curb transitions and ramp opening shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used. The curb transitions and ramp opening shall be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section bid item when a PCC fillet section is used.

The type I detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type I detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type I Detectable Warnings".

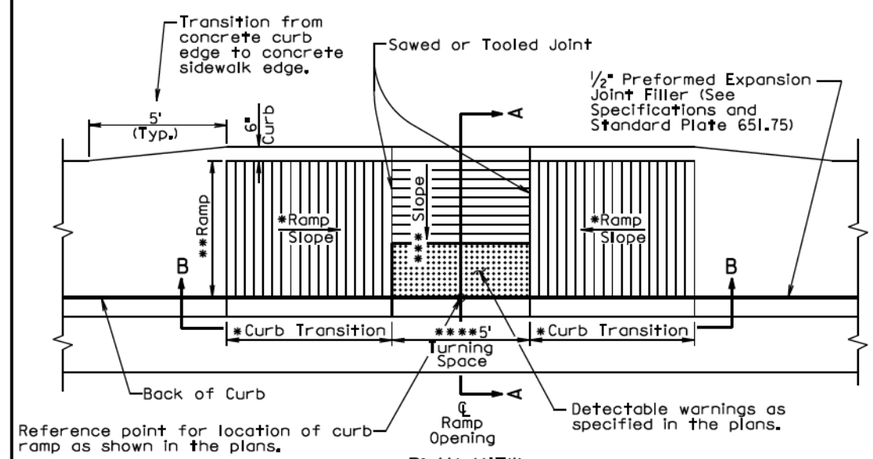
The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2015

Published Date: 4th Qtr. 2017	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 3 of 3



PLAN VIEW
(With Curved Curb and Gutter)



PLAN VIEW
(With Straight Curb and Gutter)

September 6, 2015

Published Date: 3rd Qtr. 2017	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 1 of 3

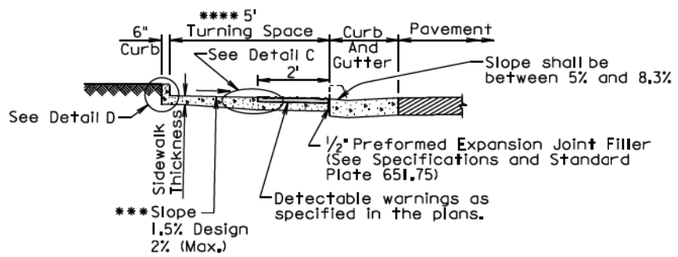
* The curb transition slope shall match the curb ramp slope. Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% at any location of the curb ramp and shall not exceed 15' in length unless stated otherwise in the plans. The curb transitions and curb ramp lengths shall be adjusted as necessary to meet all slope and length requirements based on field geometrics.

** The cross slope of the ramp shall not be steeper than 2% and the ramp width is 5' unless stated otherwise in the plans. Plans are designed using a 1.5% cross slope for the ramp unless stated otherwise in the plans.

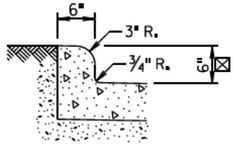
*** The slope in the turning space shall not be steeper than 2% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

**** The turning space is 5' x 5' unless stated otherwise in the plans.

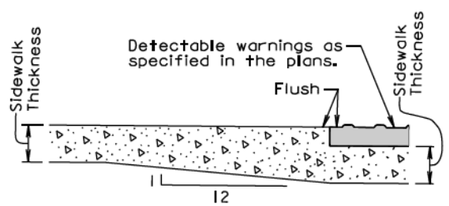
☒ The curb height shall be 6" unless stated otherwise in the plans.



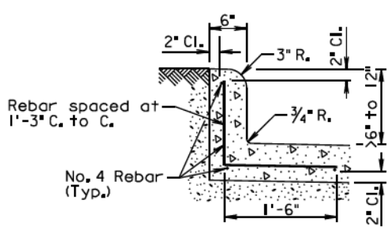
SECTION A-A



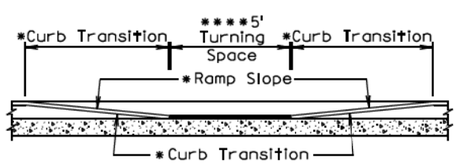
DETAIL D



DETAIL C



DETAIL D
(Use this detail when the curb height is greater than 6" and less than 12")



SECTIONAL VIEW B-B

September 6, 2015

Published Date: 3rd Qtr. 2017	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 2 of 3

GENERAL NOTES:

For illustrative purpose only, type 1 detectable warnings are shown in the drawings.

For illustrative purpose only, a PCC fillet section is shown in one of the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or with curb and gutter.

The curb ramp shall be placed at the location stated in the plans.

Sidewalk adjacent to the curb ramp shall be as shown in the plans.

Care shall be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

Surface texture of the curb ramp shall be obtained by coarse brooming transverse to the slope of the curb ramp.

The normal gutter line profile shall be maintained through the area of the ramp opening.

Joints shall be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking (see plan view for joint location).

Care shall be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings shall be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings shall be incidental to the corresponding detectable warning bid item.

When curb height is greater than 6" and less than 12", reinforcing steel is required in accordance with the detail on sheet 2 of 3. The reinforcing steel shall conform to ASTM A615, Grade 60. Cost for furnishing and installing the reinforcing steel shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

There will be no separate payment for curb ramps. The curb ramp shall be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk bid item. The square foot area of the detectable warnings and the curb along the short radius shall be included in the measured and paid for quantity of sidewalk.

The curb transitions and ramp opening shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used. The curb transitions and ramp opening shall be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section bid item when a PCC fillet section is used.

The type 1 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

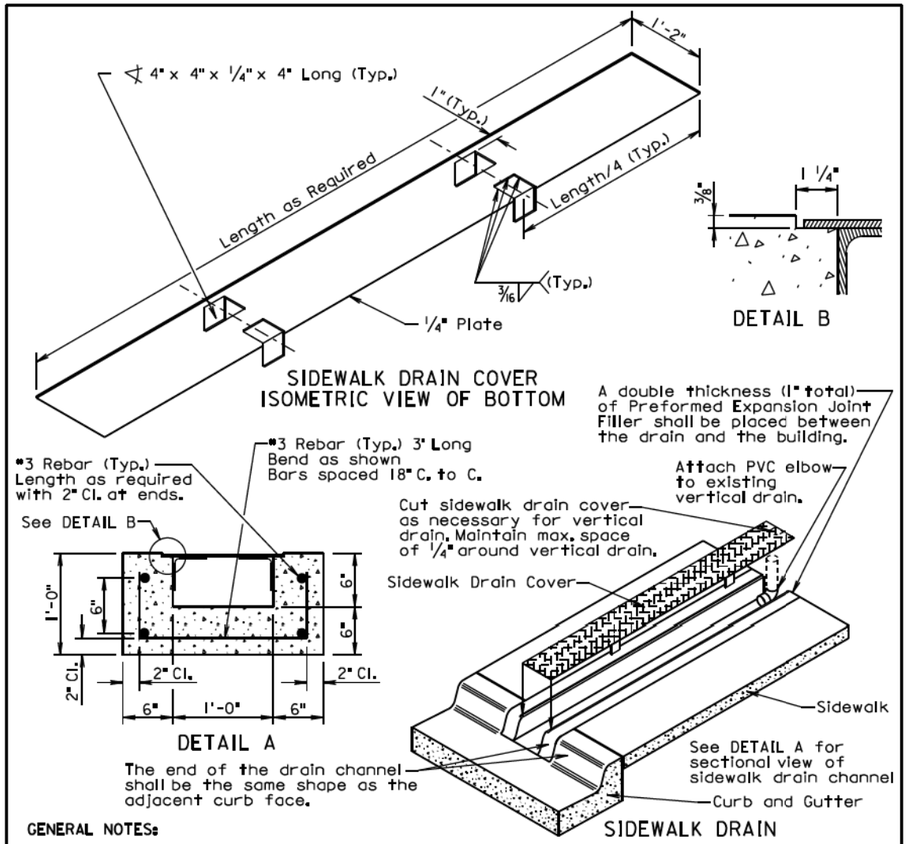
The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2015

Published Date: 3rd Qtr. 2017	SDDOT	TYPE 3 CURB RAMP (PARALLEL CURB RAMP)	PLATE NUMBER 651.03
			Sheet 3 of 3

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR (17)	48	50

Plotting Date: 2/11/16
Revised Date: 11/30/17
Initials: TLW



GENERAL NOTES:

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

Reinforcing steel shall conform to ASTM A615, Grade 60.

Structural Steel shall conform to ASTM A36. The sidewalk drain cover 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.

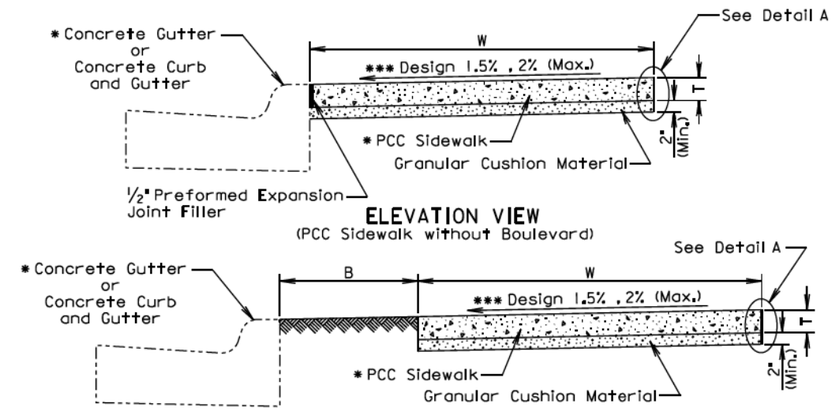
The cover plate assembly shall be galvanized after fabrication. Galvanizing shall be in accordance with ASTM A123.

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.

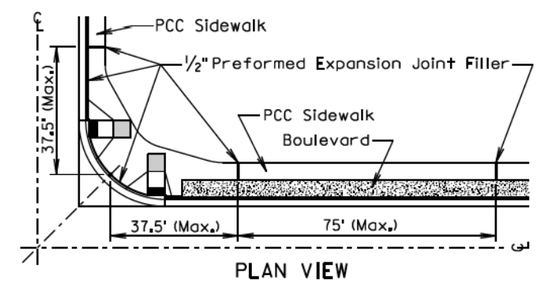
The sidewalk drain shall be measured and paid for to the nearest tenth of a foot. The length of the drain shall be measured from the gutter to the necessary end location adjacent to the building. All costs associated with furnishing and installing the sidewalk drain channel and cover including the attachment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

June 26, 2015

Published Date: 4th Qtr. 2017	SDDOT	SIDEWALK DRAIN	PLATE NUMBER 651.50
			Sheet 1 of 1



B Width of boulevard as specified in the plans.
T Thickness of PCC sidewalk as specified in the plans.
W Width of PCC sidewalk as specified in the plans.
* Type as specified in the plans.



GENERAL NOTES:

The PCC sidewalk shall be constructed in accordance with Section 651 of the Specifications.

***The cross slope of the sidewalk is designed at 1.5% and the maximum slope allowed is 2% unless specified otherwise in the plans.

The maximum length between expansion joints in PCC sidewalk is 75 feet.

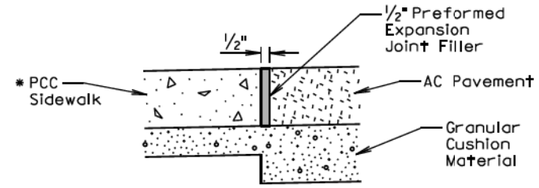
PCC sidewalk placed adjacent to intersection of roadways shall have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See PLAN VIEW.

An expansion joint in PCC sidewalk shall consist of a 1/2 inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

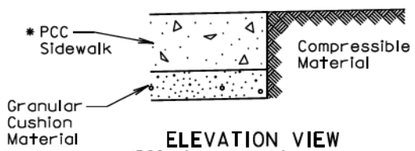
**Large areas of PCC pavement adjacent to PCC sidewalk may require a different joint treatment than shown in the detail. If a different joint detail is necessary, plans will contain the joint detail and the Contractor shall construct the joint treatment in accordance with the plans.

September 6, 2015

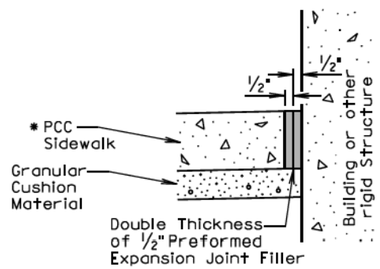
Published Date: 4th Qtr. 2017	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 1 of 2



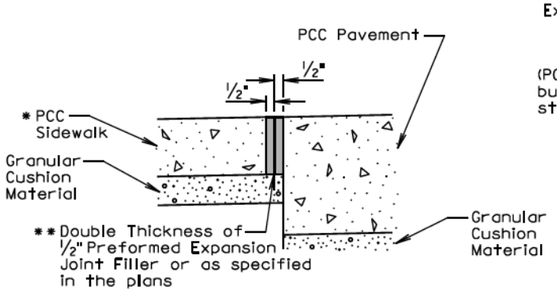
ELEVATION VIEW
(PCC sidewalk adjacent to asphalt concrete pavement)



ELEVATION VIEW
(PCC sidewalk adjacent to earthen material, landscape rock, or other compressible materials)



ELEVATION VIEW
(PCC sidewalk adjacent to building or other rigid structure)

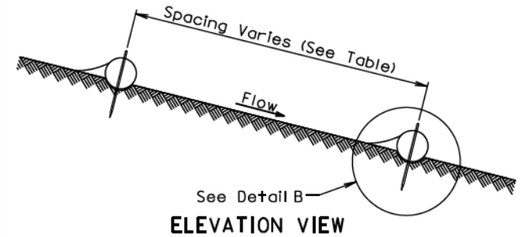


ELEVATION VIEW
(PCC sidewalk adjacent to PCC pavement)

Detail A
(Use Appropriate Detail(s))

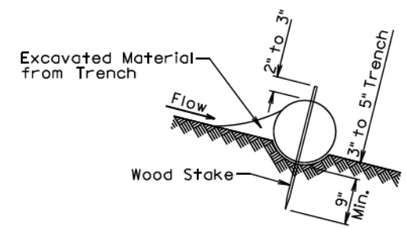
September 6, 2015

Published Date: 4th Qtr. 2017 | SDDOT | PCC SIDEWALK | PLATE NUMBER 651.75 | Sheet 2 of 2

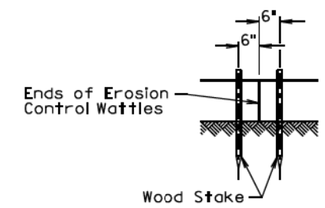


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

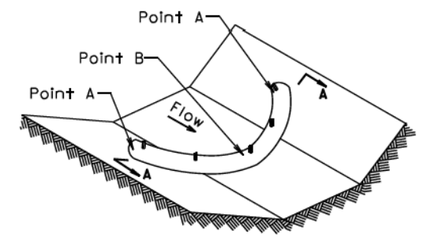
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



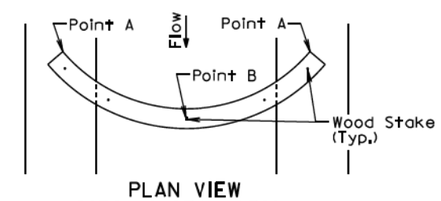
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

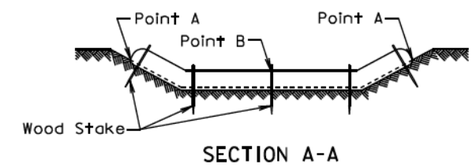


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

December 23, 2004

Published Date: 4th Qtr. 2017 | SDDOT | EROSION CONTROL WATTLE | PLATE NUMBER 734.06 | Sheet 1 of 2

GENERAL NOTES:

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than ½". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

December 23, 2004

Published Date: 4th Qtr. 2017	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2