2020-005
5TH STREET RECONSTRUCTION
FROM BROADWAY TO GREEN

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	1	41
COVER SHEET		

INDEX OF SHEETS

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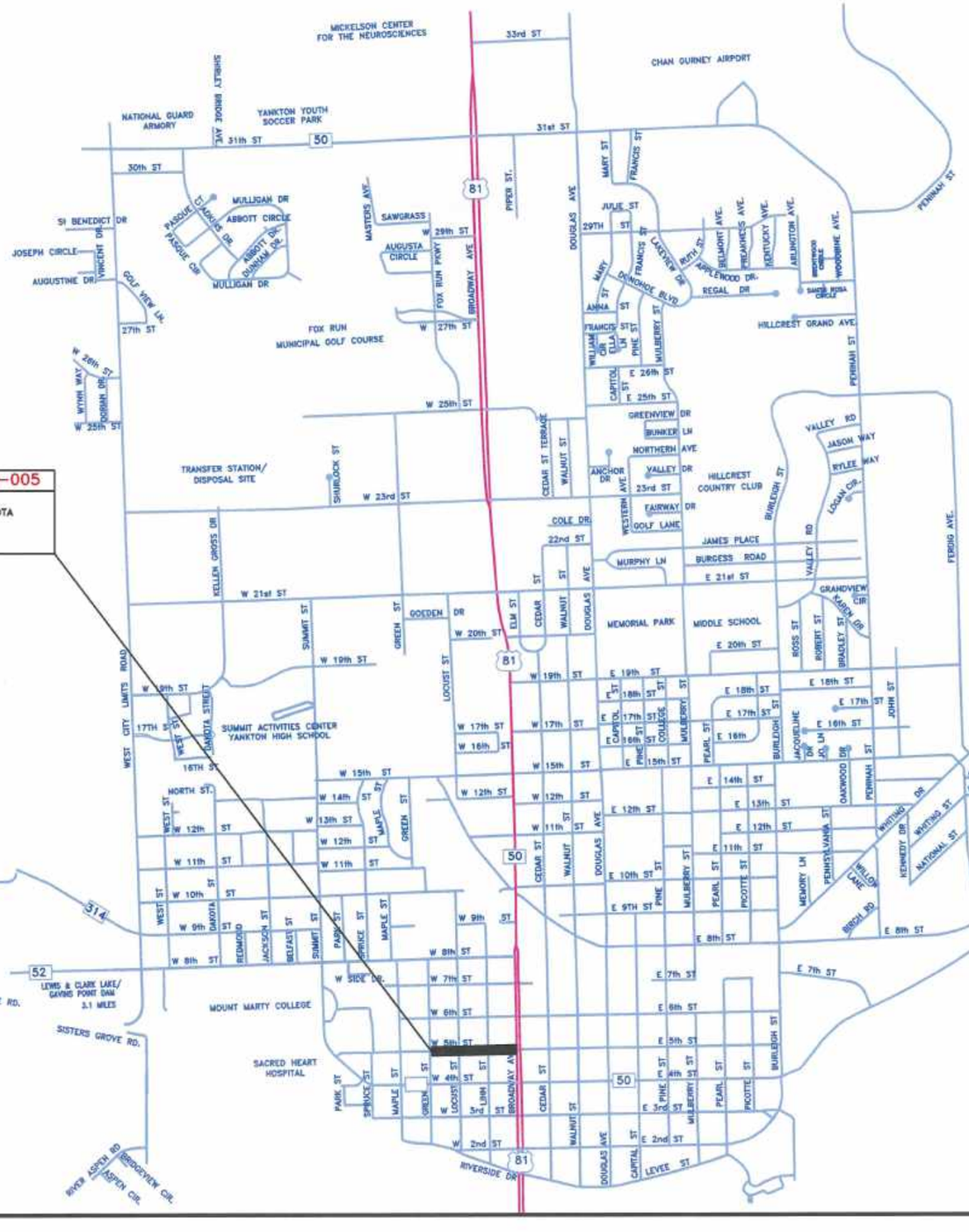
PROJECT SITE 2020-005

5TH STREET RECONSTRUCTION
CITY OF YANKTON, SOUTH DAKOTA
NW 1/4 SEC 13 T93N, R56W



Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	2	41
LEGEND OF SYMBOLS		

LEGEND OF SYMBOLS

EXISTING FIRE HYDRANT
EXISTING VALVE & BOX
EXISTING TEE
EXISTING REDUCER
EXISTING SLEEVE
EXISTING CROSS
EXISTING WATER MANHOLE
EXISTING SANITARY MANHOLE
EXISTING JUNCTION BOX
1400 EXISTING CONTOURS
8" S VCP EX. SANITARY SEWER (SIZE/TYPE/MATERIAL)

MATERIAL FOR LINES:

VCP VITRIFIED CLAY PIPE
PVC SOLID WALL POLYVINYL CHLORIDE PIPE
DIP DUCTILE IRON PIPE
RCP REINFORCED CONCRETE PIPE
CIP CAST IRON PIPE

8"W EXISTING WATER MAIN & SIZE
18"SS EXISTING STORM SEWER & SIZE
2"G GAS MAIN & SIZE
UT UNDERGROUND TELEPHONE
OT OVERHEAD TELEPHONE
UP UNDERGROUND POWER
OP OVERHEAD POWER
F FIBER OPTIC
UTV UNDERGROUND CABLE TV
OTV OVERHEAD CABLE TV
TR TRAFFIC

WS WATER SERVICE
8"S GRAVITY SANITARY SEWER (TYPE/SIZE)
SFM FORCE MAIN SANITARY SEWER
WATER SHUTOFF
8"W WATER MAIN & SIZE
CLEAN OUT
CAP END
PROPOSED MANHOLE
CONSTRUCTION PLATE MARKER
V PROPOSED VALVE & BOX
T PROPOSED TEE
X PROPOSED CROSS
R PROPOSED REDUCER OR INCREASER
S PROPOSED SLEEVE
H PROPOSED FIRE HYDRANT
B90 PROPOSED 90° BEND
B45 PROPOSED 45° BEND
B22 PROPOSED 22 1/2° BEND
B11 PROPOSED 11 1/4° BEND
SJP PROPOSED S.J. PLUG
MJP PROPOSED M.J. PLUG
Y PROPOSED WYE
VTC VEHICLE TRACKING CONTROL
INLET PROTECTION

WOOD FENCE
CHAIN LINK FENCE
CENTERLINE
PROPERTY LINE
CONC. CURB & GUTTER
PROPOSED APPROACH
PROPOSED SIDEWALK
18"SS STORM SEWER & SIZE
PROPOSED DROP INLET
PROPOSED B1 INLET
D PROPOSED STORM SEWER JUNCTION BOX
1400 PROPOSED CONTOURS
#4 TEST HOLE AND NUMBER
STREET LIGHT
TRAFFIC SIGNAL LIGHT
PEDESTRIAN SIGNAL LIGHT
GUY ANCHOR
POWER POLE
UTILITY CLOSURE
F FIBER OPTIC VAULT BOX
SIGN
SPRINKLER HEAD
CONTROL POINT
GAS METER
MAILBOX
HEDGE, BRUSH, SHRUBS, WOODS
30" DECIDUOUS TREE & SIZE
8' CONIFEROUS TREE & SIZE

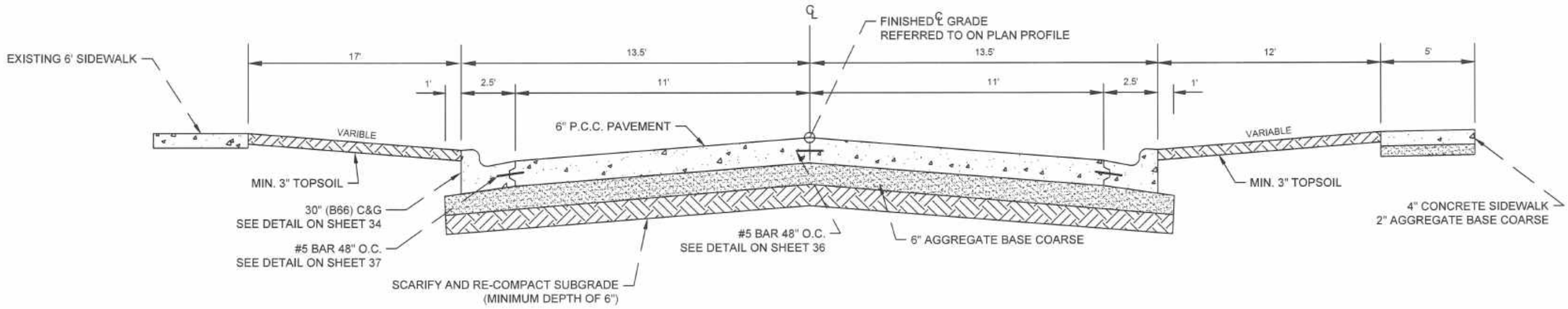
Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	3	41
ESTIMATE OF QUANTITIES		

	GENERAL ITEMS		
1	MOBILIZATION	1	LS
2	INCIDENTAL	1	LS
	TRAFFIC CONTROL		
3	TRAFFIC CONTROL	1726	UNITS
4	TRAFFIC CONTROL MISCELLANEOUS	1	LS
	EROSION CONTROL		
5	SEEDING, MULCHING, FERTILIZER	1	LS
6	VEHICLE TRACKING CONTROL	6	EA
7	INLET SEDIMENT CONTROL	10	EA
8	SILT FENCE	50	LF
9	GEOTEXTILE FABRIC	750	SY
	REMOVALS AND GRADING		
10	SAW EXISTING CONCRETE	392	LF
11	SAW EXISTING ASPHALT	27	LF
12	REMOVAL OF CONCRETE PAVEMENT	2485	SY
13	REMOVAL OF ASPHALT PAVEMENT	878	SY
14	REMOVAL OF CURB & GUTTER	1920	LF
15	CLEAR AND GRUB TREE	10	EA
16	REMOVE HEDGES/BUSHES	1	LS
17	UNCLASSIFIED EXCAVATION	1	LS
18	UNDERCUTTING	100	CY
19	TOPSOIL	1	LS
20	WATER FOR EMBANKMENT OR GRANULAR MATERIAL	10	KGAL
	STORM SEWER		
21	F&I 4'x4' JUNCTION BOX (4' DEEP)	1	EA
	SURFACING		
22	6" AGGREGATE BASE COURSE	3095	SY
23	CONCRETE CURB & GUTTER (B66)	1924	LF
24	6" PCC PAVEMENT	2347	SY
25	INSERT STEEL BARS IN PCC PAVEMENT	114	EA
26	6" APPROACH PAVEMENT	3455	SF
27	4" SIDEWALK	5031	SF
28	6" SIDEWALK	1493	SF
29	CONCRETE STEPS	8	SF
30	DETECTABLE WARNING PANEL	80	SF

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	4	41
TYPICAL SECTION		

TYPICAL STREET DETAIL
5TH STREET
Sta. 4+71 to Sta. 8+07
&
Sta. 13+32 to Sta. 16+40



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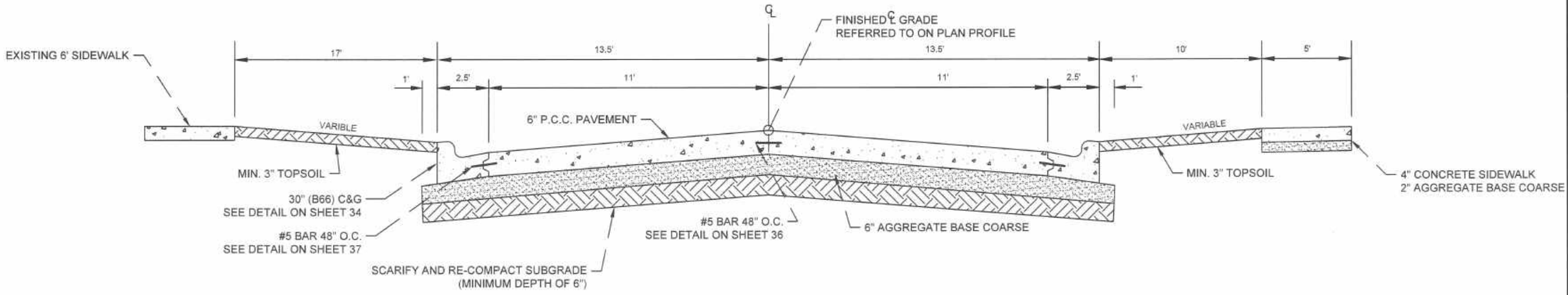
1-31-2020
SOUTH DAKOTA

TYPICAL STREET DETAIL
5TH STREET
Sta. 9+04 to Sta. 12+21



GENERAL NOTES

SPECIFICATIONS TO BE USED

City of Yankton Standard Specifications and the South Dakota Department of Transportation (SDDOT) Standard Specifications for Roads and Bridges 2015 Edition and Required Provisions, Supplemental Specifications, and/or Special Provisions as included in the Proposal.

UTILITIES

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

Utility locations are coordinated by calling: 1-800-781-7474 or dial 811

SEQUENCE OF OPERATIONS

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

Intersections are to remain open to north/south traffic unless contractor is actively working in the intersections.

Aggregate Base Course will be used in lieu of Service Gravel, as directed by the engineer, to temporarily re-open portions of streets and alleys after the pavement is removed.

ACCEPTANCE TESTING

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

INCIDENTAL WORK

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

Salvable materials will be picked up by the City.

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

Remove, salvage and reinstall landscape rock at the following location. Landscape rock shall be free of dirt and debris. Contractor to furnish and install weed barrier, as needed, prior to placing landscaping rock.

Sta 5+00 RT. – 673 SF
Sta. 7+30 RT. – 68 SF
Sta. 14+20 LT – 150 SF.
Sta. 15+20 RT. – 350 SF
Sta. 16+00 LT – 265 SF

TRAFFIC CONTROL NOTES

TRAFFIC CONTROL

The unit quantity for Traffic Control was determined and based on the proposed sequence of operations. Any change in sequence requested by and primarily for the benefit of the Contractor which increases the quantity, will be at the contractor's expense.

PEDESTRIAN TRAFFIC

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

TRUCK ROUTES

The Contractor shall only haul materials in and out of the construction site on the streets shown in the traffic control plans. All fully loaded trucks delivering materials or hauling out removals shall only utilize the streets labeled as "Primary Haul Route." Empty or lightly loaded trucks may utilize "Secondary Haul Routes" with the permission of the Engineer.

EROSION CONTROL NOTES

DEWATERING AND EROSION CONTROL

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

SITE MAINTENANCE

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

SILT FENCE NOTES

1. CONSTRUCTION

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

After rainfall events, the Contractor shall take all necessary precautions to prevent silt from being carried away when water is being pumped off of the project site.

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

2. MATERIALS

A. Steel Fence Posts

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

B. Silt Fabric

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

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

3. BACKFILL

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

4. PAYMENT

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

VEHICLE TRACKING CONTROL

1. CONSTRUCTION

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

2. MATERIALS

Aggregate base course shall be used for the temporary vehicular tracking control surface. If necessary 11/2" to 3" rock shall be used for stabilization underneath of the service gravel.

3. LABOR AND EQUIPMENT

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

4. PAYMENT

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

INLET SEDIMENT CONTROL

Refer to Standard Plates 734.10 - Drop inlet sediment filters.
Refer to Standard Plates 734.11. Drop inlet sediment filters.

STREET SWEEPING

The contractor shall be responsible for maintaining a clean and well-kept work site. Adjacent streets shall be swept clean of construction debris at the Engineer's request. Street sweeping shall be considered incidental to the project. No separate payment will be made.

REMOVAL NOTES

GENERAL NOTES

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

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

REMOVAL OF EXISTING CONCRETE PAVEMENT

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

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

REMOVAL OF EXISTING ASPHALT PAVEMENT

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

WASTE DISPOSAL SITE

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

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

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

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

UNCLASSIFIED EXCAVATION

Unclassified Excavation will be paid for on a lump sum basis. The bid item for "Unclassified Excavation" shall include removing the existing material to a depth of 20 inches below the new road surface shown on the typical sections. Estimated quantities in cubic yards are shown below. These estimates are based on the assumption of 4 inches of existing Asphalt Pavement and 8 inches of Concrete Pavement being removed separately.

Estimate of 3500 cu yds. of removal. Excess material is to be hauled to City property located at 33rd and Douglas Ave.

PAVING & RESTORATION NOTES

GEOTEXTILE FABRIC FOR SUBGRADE STABILIZATION

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

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

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

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

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

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

AGGREGATE BASE COURSE

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

SURFACING THICKNESS DIMENSIONS

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

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

8" & 6" NONREINFORCED CONCRETE PAVEMENT

The Coarse Aggregate shall be Crushed Ledge Rock.

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

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

Portland Cement Concrete Pavement shall have a minimum cement content of 600 pounds per cubic yard.

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

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

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

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

MANHOLE FRAME & COVER

All costs for adjustment of the sewer manhole frame and lid to finished grade including removal and repair upper courses of brick or concrete, grouting, water-proofing and adjustment rings shall be incidental to the contract unit price per each for "Manhole Frame & Cover".

All existing rims & covers will be replaced with Neenah R1733 frame and lid. The lids shall contain concealed pick holes and be equipped with a gasketed self-sealing type covers.

MANHOLE EXTERNAL FRAME SEAL

The furnishing and installing of the manhole frame seal shall be paid for under replace and adjust manhole frame and lid bid item. Furnishing and installing of the complete manhole frame seal and all appurtenances necessary shall be included to the contract unit price per each for "External Frame Seal" (See section 210 of the City of Yankton standard specifications for sanitary sewer mains, service lines and appurtenances for approved products list).

STEEL BAR INSTALLATION

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

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

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

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

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

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

Steel bars shall be installed at the following locations:

LOCATION	#5 BARS EACH
4+72 – 13.5'R TO 13.5'L	19
8+07 – 13.5'R TO 13.5'L	19
9+04 – 13.5'R TO 13.5'L	19
12+21 – 13.5'R TO 13.5'L	19
13+33 – 13.5'R TO 13.5'L	19
16+20 – 13.5'R TO 13.5'L	19
TOTAL	114

CONCRETE JOINT SEALER

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

4" & 6" CONCRETE SIDEWALK

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

CURING OF CONCRETE

Portland Cement Concrete Pavement, Concrete Curb & Gutter, Sidewalks, Valley Gutters, and Fillets shall be cured. All concrete shall be cured in accordance with section 380.3.M2 of the 2015 SDDOT Standard Specifications for Roads and Bridges except as modified in this note. All concrete shall be cured with a White Pigmented Linseed Oil Base Emulsion Compound when cured using the Impervious Membrane Method. Curing compound material shall be in accordance with section 821.1.

DETECTABLE WARNING PANEL

In order to comply with the Americans with Disabilities Act (ADA), detectable warning panels are to be placed at locations designated in the plan set. Detectable Warnings consist of a composite or polymer type of panel and should be installed into wet concrete. Surface applied products that are applied to cured concrete are not allowed. The detectable warnings shall be a brick red color for application in concrete curb ramps.

Current detectable warning panels approved for use and installation within the public right of way are:

Product	Manufacturer
Armor Tile Modular Paver Series	Engineered Plastics Inc. 300 International Drive, Suite 100 Williamsville, NY 14221 800-682-2525 http://www.armor-tile.com/
Detectable Warning Tile Composite Wet-Set	ADA Solutions, Inc. 323 Andover Street Wilmington, MA 01887 800-372-0519 http://www.adatile.com

Other detectable panels, meeting the necessary requirements may be allowed with written approval from the City Engineer's Office. In no case will the stamping of concrete be allowed as a method of creating the domes on the tactile warning panels.

SALVAGING, STOCKPILING, AND PLACING TOPSOIL

Existing vegetation shall be salvaged, incorporated and placed with the topsoil as far as practicable.

The areas to be covered with topsoil to a depth of +/- 3 inches comprise all newly graded areas. Material shall be free of rock and debris.

The estimated amounts of salvaged topsoil required to cover the designated areas to the specified depth are as follows:

Table of Topsoil	Cu.Yd.
5th STREET	125

SEEDING

All grass areas disturbed by construction are to be hydro-mulched. Lump sum price will be for all areas disturbed by Contractor. Price shall also include the cost for fertilizer and fiber mulch, refer to SD-DOT Standard Specs 2015 Edition section 730. The following will be provided, by the Contractor, for use on the project unless an alternate is approved by the Engineer. Topsoil not seeded within 14 days of being placed shall have the top 2" tilled and regraded prior to seeding.

The estimated amount of area to be seeded: 15200 sf

SEED MIXTURE	PURE LIVE SEED/ 1000 FT. SQ.
Kentucky Bluegrass	1 pound
Perennial Rye Grass	1 pound
Park Kentucky Bluegrass	1 pound

FERTILIZER AND MULCHING

Fertilizer shall be a guaranteed analysis of 12-24-6. Rate applied shall be 3.2 lbs. per 1000 S.F. All areas shall be wood fiber mulched at a rate of 50 lbs./1000 S.F. with tackifier at a rate of 1.5lbs./1000 S.F. Method of payment will be incidental to the seeding lump sum bid price. Refer to SD-DOT Specs. 2015 Edition-section 731 and 732 for additional requirement for fertilizer and fiber mulch.

PRIVATE SPRINKLER SYSTEM

Private sprinkler systems are located within the construction limits. The City will notify all property owners about the expected construction and the procedures for preparing their systems for construction. When found, the Contractor shall notify the Engineer and take reasonable measures to minimize any damage to the system. It will be the responsibility of the City to pay the property owner's sprinkler contractor directly for repairs. The Contractor will be responsible for any damaged due to the Contractor's negligence.

The Contractor shall notify the Engineer when the sprinkler system can be restored and the City will coordinate with the property owner and sprinkler contractor. The system should be restored before seed or sod placement and the Contractor shall make reasonable accommodations to allow for the homeowner's sprinkler contractor to make final repairs and adjustments.

GREEN STREET STORM SEWER JUNCTION BOX

The Contractor shall remove the existing junction box at the intersection of Green Street and 5th Street, being careful not to damage the existing storm sewer pipe. The new junction box shall be a 4'x4' cast in place junction box. The Contractor shall furnish and install a new manhole frame and cover and prepare the gravel base prior to paving. Asphalt paving to be done by others. The Contractor will be responsible for any damaged caused due to the Contractor's negligence.

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	9	41
TRAFFIC CONTROL		

TRAFFIC CONTROL
LAYOUT FOR REMOVALS & PAVING OPERATIONS

PROJECT AREA

TUBULAR MARKERS

PEDESTRIAN TRAFFIC CONTROL
TRAFFIC CONTROL DEVICES FOR SIDEWALK CLOSURES AND PEDESTRIAN DETOURS SHALL BE PAID FOR UNDER TRAFFIC CONTROL MISC.
(SDDOT STANDARD PLATE #634.33 MAY BE USED AS A GUIDE FOR THESE SITUATIONS. SHOWN ON SHEET 66)

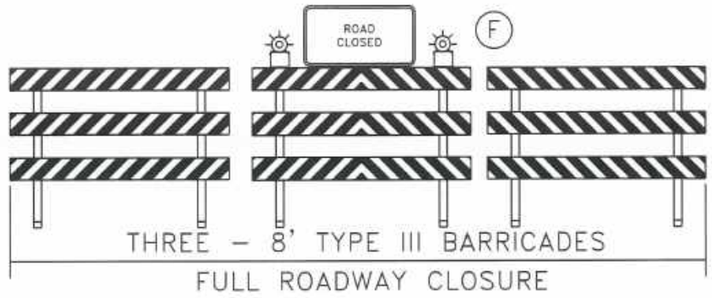
ITEMIZED LIST FOR TRAFFIC CONTROL BID ITEM

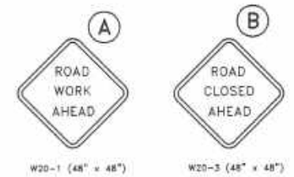
SIGN NUMBER	SIGN SIZE	DESCRIPTION	AMOUNT REQUIRED	UNITS PER AMOUNT	SUB TOTAL
R11-2	48" x 30"	ROAD CLOSED	12	27	324
R3-1	24" x 24"	NO RIGHT TURN (SYMBOL)	6	15	90
R3-2	24" x 24"	NO LEFT TURN (SYMBOL)	6	15	90
W20-1	48" x 48"	ROAD WORK AHEAD	8	34	272
W20-5	48" x 48"	CENTER LANE CLOSED 200 FT	1	34	34
W9-3	48" x 48"	CENTER LANE CLOSED AHEAD	1	34	34
W20-3	48" x 48"	ROAD CLOSED AHEAD	2	34	68
---	---	TYPE III BARRICADES	144 L.F.	5 UNITS/L.F.	720
				TOTAL	

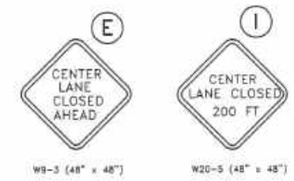
LIST OF OTHER TRAFFIC CONTROLS FOR ROAD CONSTRUCTION

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

SCALE: 1" = 200'







PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	10	41
TRAFFIC CONTROL		

LEGEND

- PRIMARY HAUL ROUTE
- SECONDARY HAUL ROUTE
- PROJECT AREA

TRAFFIC CONTROL

PRIMARY & SECONDARY HAUL ROUTES

SCALE: N.T.S.

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	11	41
SWPPP		

STORM WATER POLLUTION PREVENTION PLAN

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

❖ **SITE DESCRIPTION (4.2 1)**

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☒ Clearing and grubbing
  - ☐ Excavation/borrow
  - ☒ Grading and shaping
  - ☐ Filling
  - ☒ Cutting and filling
  - ☐ Other (describe):
- **Total Project Area** 1.3 acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 1.1 acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 5%
- **Soil Properties:** AASHTO Soil Classification **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Missouri River **(4.2 1.e.)**

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

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

- **Special sequencing requirements** (see sheet).
- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, storm sewers, curb and gutter.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving and sealing of concrete.**
- **Complete traffic control installation and protection devices.**
- **Reseed areas disturbed by removal activities**.

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

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☒ Temporary or Permanent Seeding
  - ☐ Sodding
  - ☐ Planting
  - ☐ Mulching (Straw or Cellulose Fiber)
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☐ Gabions-Gabion Mattress
  - ☐ Other
- **Structural Temporary Erosion and Sediment Controls**
  - ☒ Silt Fence
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☐ Straw Wattles or Rolls
  - ☐ Diversion Channels/Swales
  - ☐ Channel Liners (TRM)
  - ☐ Stone Rip Rap Sheet
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☒ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection
  - ☒ Curb Inlet Protection
  - ☐ Stabilized Construction Entrances
  - ☐ Other
- **Wetland Avoidance**

  Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.
- **Storm Water Management (4.2 2.b., (1) and (2))**

  Storm water management will be handled by temporary controls outlined in Section 3 above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**

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

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

    Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

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

- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- **Maintenance and Inspection Practices(Continued)**
  - Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
  - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
  - Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
  - All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
  - Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
  - The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.

❖ **Non-Storm Water Discharges (3.0)**

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

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

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

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

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

SWPPP

❖ **(4.2 2.c.(2))**

➢ **Material Management Spill Prevention**

- Housekeeping
  - Only needed products will be stored on-site by the contractor.
  - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
  - Products must be stored in original containers and labeled.
  - Material mixing will be conducted in accordance with the manufacturer's recommendations.
  - When possible, all products will be completely used before properly disposing of the container off site.
  - The manufacturer's directions for disposal of materials and containers will be followed.
  - The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
  - Dust generated will be controlled in an environmentally safe manner.
  - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

- Hazardous Materials
  - Products will be kept in original containers unless the container is not resealable.
  - Original labels and material safety data sheets will be retained in a safe place to relay important product information.
  - If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
  - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
  - Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
  - Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➢ **Product Specific Practices (6.8)**

- Petroleum Products
  All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- Fertilizers
  Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

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

- Paints
  All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
- Concrete Trucks
  Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➢ **Spill Control Practices (4.2 2 c.(2))**

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as booms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➢ **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.

➢ **Spill Response (4.2 2 c.(2)) (Continued)**

- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

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

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

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

❖ **Construction Changes (4.4)**

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

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	13	41
SWPPP		

❖ CERTIFICATIONS

➢ Certification of Compliance with Federal, State, and Local Regulations

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

➢ City of Yankton

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

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

➢ Prime Contractor

This section is to be executed by the General Contractor after the award of the contract and at least 15 days prior to the beginning of construction. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

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

❖ CONTACT INFORMATION

➢ Contractor Information:

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

➢ City Project Engineer

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

➢ SD DENR Contact Spill Reporting

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

➢ SD DENR Contact for Hazardous Materials.

- (605) 773-3153

➢ National Response Center Hotline

- (800) 424-8802.

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	14	41

EROSION CONTROL

LEGEND

- INLET PROTECTION

VTC -VEHICLE TRACKING CONTROL

LINN STREET

BROADWAY AVENUE

SCALE: 1" = 40'

5th STREET

VTC

VTC

VTC

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1-31-2020
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GREEN STREET

LOCUST STREET

5th STREET

VTC

VTC

VTC

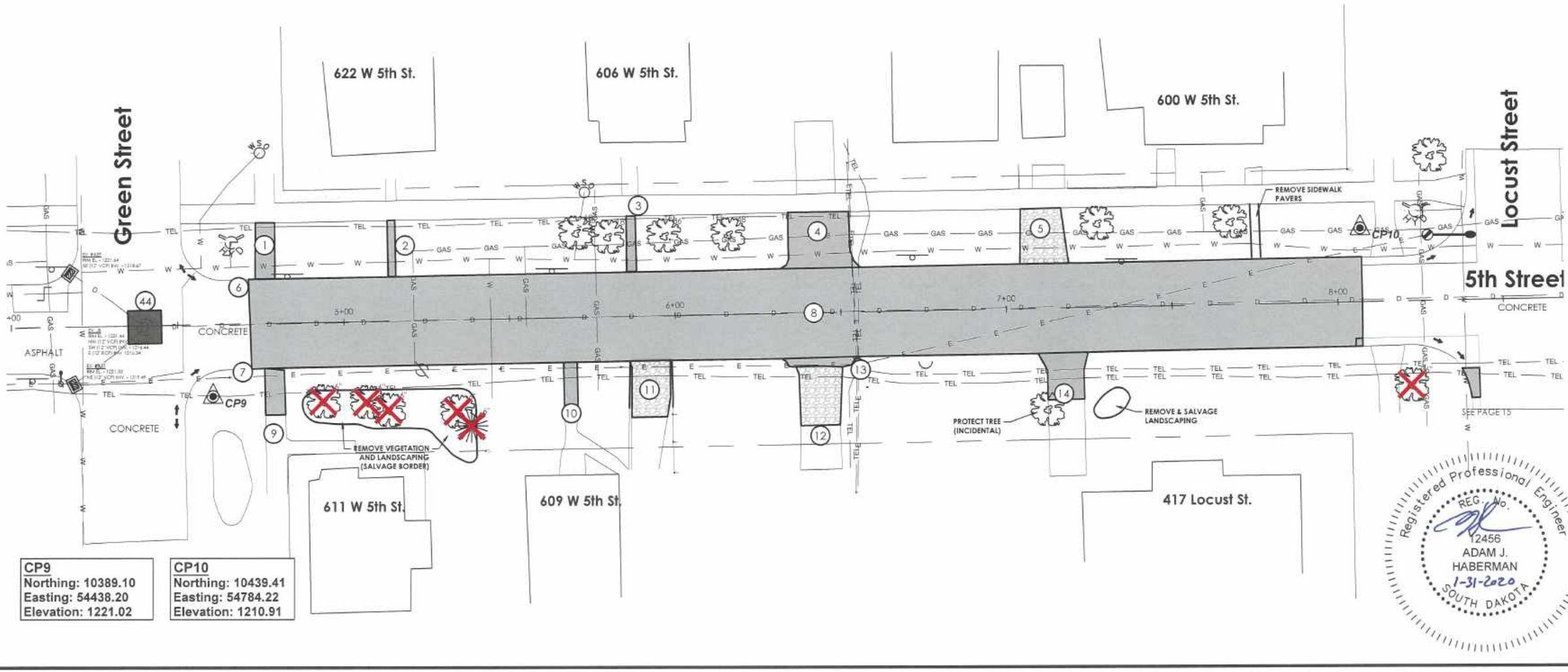
PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	15	41
REMOVALS		

LEGEND

- REMOVE ASPHALT CONCRETE PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE GRAVEL SURFACING
- CLEAR AND GRUB TREE

1. **STA. 4+73.8-30.6'L TO 4+79.4-13.6'L**
   REMOVE 11.1 SY OF CONCRETE SIDEWALK
2. **STA. 5+13.7-30.5'L TO 5+16.0-13.4'L**
   REMOVE 4.4 SY OF CONCRETE SIDEWALK
3. **STA. 5+85.7-30.5'L TO 5+88.6-13.6'L**
   REMOVE 5.3 SY OF CONCRETE SIDEWALK
4. **STA. 6+34.5-30.7'L TO 6+56.2-13.6'L**
   REMOVE 35.9 SY OF CONCRETE PAVEMENT
5. **STA. 7+04.7-30.3'L TO 7+19.0-13.5'L**
   REMOVE 25.0 SY OF GRAVEL SURFACING
6. **STA. 4+71.5-13.5'L TO 8+07.3-13.7'L**
   REMOVE 336 LF OF CURB & GUTTER
7. **STA. 4+72.0-13.7'R TO 8+07.2-13.4'R**
   REMOVE 336 LF OF CURB & GUTTER
8. **STA. 4+71.5-13.0'L TO 8+07.2-12.9'R**
   REMOVE 1007 SY OF CONCRETE PAVEMENT
9. **STA. 4+75.9-13.6'R TO 4+81.9-27.7'R**
   REMOVE 9.1 SY OF CONCRETE SIDEWALK
10. **STA. 5+66.1-13.5'R TO 5+70.2-27.7'R**
    REMOVE 6.4 SY OF CONCRETE SIDEWALK
11. **STA. 5+86.7-13.1'R TO 5+98.2-30.7'R**
    REMOVE 15.3 SY OF GRAVEL SURFACING
12. **STA. 6+36.1-16.2'R TO 6+49.2-34.0'R**
    REMOVE 25.0. SY OF GRAVEL SURFACING
13. **STA. 6+31.7-13.7'R TO 6+52.9-15.9'R**
    REMOVE 6.1 SY OF CONCRETE PAVEMENT
14. **STA. 7+07.2-13.6'R TO 7+23.1-27.6'R**
    REMOVE 18.5 SY OF CONCRETE PAVEMENT
44. **STA. 4+35.1-1.6'L TO 4+45.2-5.4'R**
    REMOVE 11.1 SY OF ASPHALT PAVEMENT

SCALE: 1"= 30'



CP9
Northing: 10389.10
Easting: 54438.20
Elevation: 1221.02

CP10
Northing: 10439.41
Easting: 54784.22
Elevation: 1210.91

Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	16	41
REMOVALS		

LEGEND

- REMOVE ASPHALT CONCRETE PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE GRAVEL SURFACING
- CLEAR AND GRUB TREE

15. **STA. 9+04.4-13.6'L TO 12+21.4-13.5'L**
REMOVE 317 LF OF CURB & GUTTER

16. **STA. 9+15.4-17.5'L TO 10+22.1-13.7'L**
REMOVE 1.2 SY OF CONCRETE SIDEWALK

17. **STA. 10+19.3-17.5'L TO 9+18.4-13.7'L**
REMOVE 1.2 SY OF CONCRETE SIDEWALK

18. **STA. 10+52.8-31.3'L TO 10+75.8-13.5'L**
REMOVE 41.4 SY OF CONCRETE PAVEMENT

19. **STA. 11+88.7-21.9'L TO 12+08.3-13.3'L**
REMOVE 18.9 SY OF CONCRETE PAVEMENT

20. **STA. 9+04.39-13.1'L TO 12+21.1-13.2'R**
REMOVE 953.7 SY OF CONCRETE PAVEMENT

21. **STA. 9+04.0-13.6'R TO 12+21.1-13.6'R**
REMOVE 317 LF OF CURB & GUTTER

22. **STA. 9+71.1-16.6'R TO 9+80.6-38.5'R**
REMOVE 12.2 SY OF CONCRETE SIDEWALK

23. **STA. 9+73.9-13.6'R TO 9+89.8-30.5'R**
REMOVE 20.4 SY OF CONCRETE PAVEMENT

24. **STA. 10+51.1-13.5'R TO 10+68.9-25.4'R**
REMOVE 29.0 SY OF GRAVEL SURFACING

25. **STA. 10+80.5-13.4'R TO 10+90.3-29.8'R**
REMOVE 16.2 SY OF CONCRETE PAVEMENT

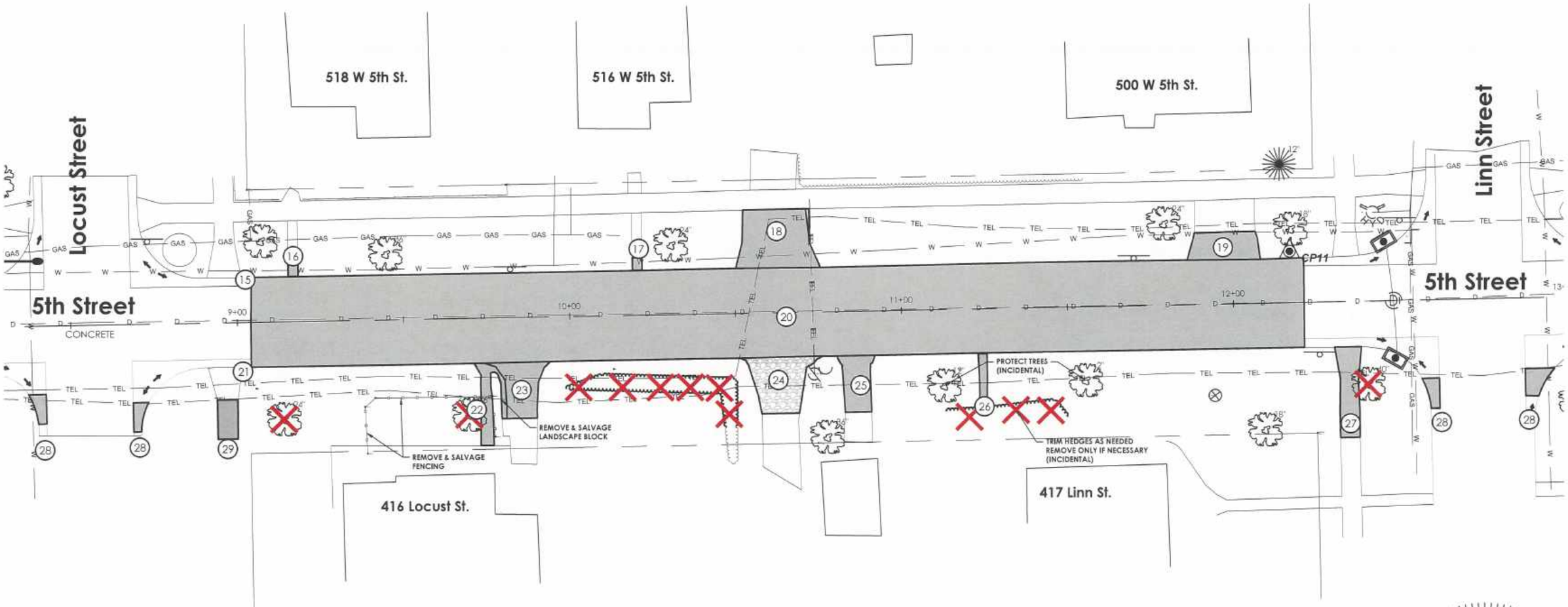
26 **STA. 11+22.9-13.5'R TO 11+25.4-28.7'R**
REMOVE 4.4 SY OF CONCRETE SIDEWALK

27. **STA. 13+30.2-13.7'R TO 12+37.4-41.0'R**
REMOVE 18.6 SY OF CONCRETE SIDEWALK

28. **STA. 8+37.1-20.8'R TO 12+91.6-29.7'R**
REMOVE 15.7 SY OF CONCRETE FILLET

29. **STA. 8+93.6-23.3'R TO 8+99.7-35.2'R**
REMOVE 8.1 SY OF CONCRETE SIDEWALK

SCALE: 1"= 30'



CP11
Northing: 10439.94
Easting: 55194.34
Elevation: 1208.40

Registered Professional Engineer
REG. No. 12456
ADAM J. HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	17	41
REMOVALS		

LEGEND

- REMOVE ASPHALT CONCRETE PAVEMENT
- REMOVE CONCRETE PAVEMENT
- REMOVE GRAVEL SURFACING
- CLEAR AND GRUB TREE

30. **STA. 13+32.3-13.5'L TO 16+39.9-13.5'L**
REMOVE 307 LF OF CURB & GUTTER

31. **STA. 14+31.7-22.9'L TO 14+73.1-13.6'L**
REMOVE 38.8 SY OF CONCRETE PAVEMENT

32. **STA. 14+75.7-32.1'L TO 14+98.3-13.3'L**
REMOVE 41.3 SY OF CONCRETE PAVEMENT

33. **STA. 15+20.3-32.1'L TO 15+23.7-13.7'L**
REMOVE 6.9 SY OF CONCRETE SIDEWALK

34. **STA. 15+70.7-31.7'L TO 15+74.3-13.6'L**
REMOVE 6.3 SY OF CONCRETE SIDEWALK

35. **STA. 15+85.2-31.5'L TO 15+94.4-14.2'L**
REMOVE 19.6 SY OF CONCRETE PAVEMENT

36. **STA. 16+20.2-31.6'L TO 16+24.3-13.3'L**
REMOVE 8.0 SY OF CONCRETE SIDEWALK

37. **STA. 13+32.3-13.5'L TO 13+50.9-13.5'R**
REMOVE 53.1 SY OF CONCRETE PAVEMENT

38. **STA. 13+50.6-16.5'L TO 16+39.8-13.4'R**
REMOVE 866.6 SY OF ASPHALT PAVEMENT

39. **STA. 13+34.1-13.7'R TO 16+39.8-13.4'R**
REMOVE 307 LF OF CURB & GUTTER

40. **STA. 13+82.5-13.9'R TO 14+10.1-27.7'R**
REMOVE 40.1 SY OF CONCRETE PAVEMENT

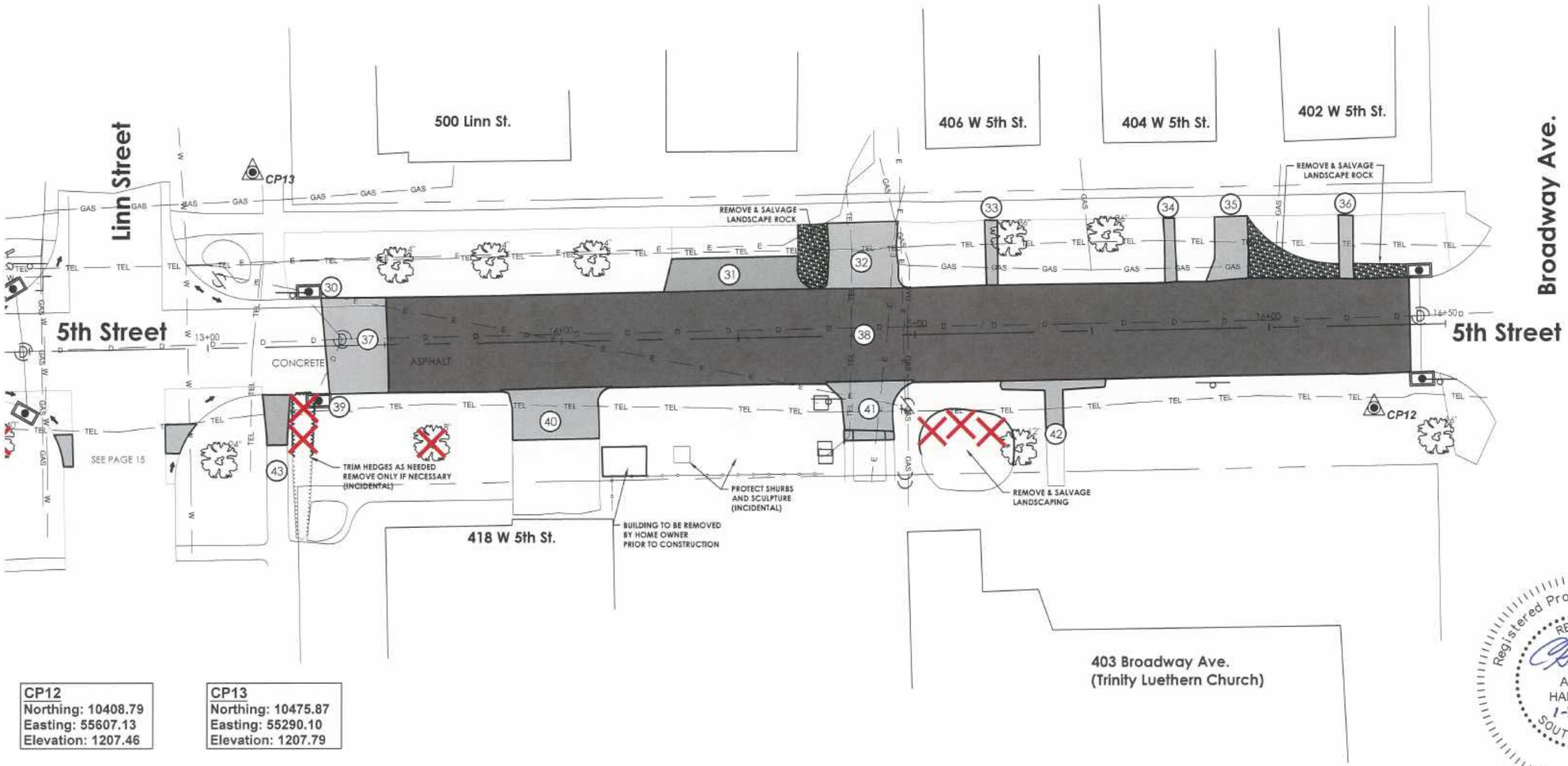
41. **STA. 14+74.6-13.0'R TO 14+93.1-29.7'R**
REMOVE 26.5 SY OF CONCRETE PAVEMENT
REMOVE 10 LF OF CURB & GUTTER

42. **STA. 15+24.2-13.6'R TO 15+41.4-27.7'R**
REMOVE 14.8 SY OF CONCRETE SIDEWALK

43. **STA. 13+15.3-13.5'R TO 13+22.0-27.8'R**
REMOVE 10.6 SY OF CONCRETE SIDEWALK

N

SCALE: 1"= 30'



CP12
Northing: 10408.79
Easting: 55607.13
Elevation: 1207.46

CP13
Northing: 10475.87
Easting: 55290.10
Elevation: 1207.79

Registered Professional Engineer
REG. No.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	18	41
PAVING		

LEGEND

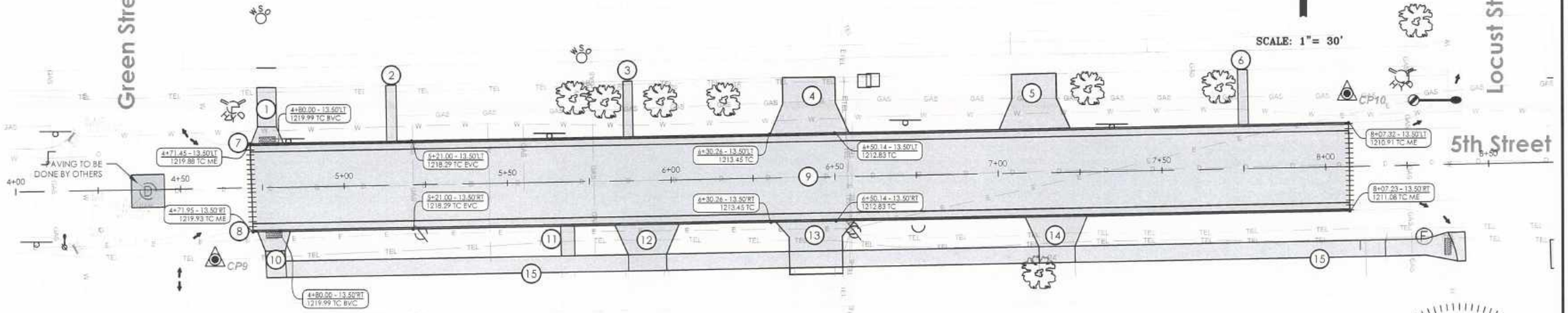
- 6" PCC PAVEMENT
- 4" PCC SIDEWALK
- DETECTABLE WARNING PANEL
- DRAINAGE FLOW DIRECTION

1. **STA. 4+73.8-30.6'L TO 4+81.6-13.5'L**
   INSTALL 109 SF OF 6" CONCRETE SIDEWALK
   INSTALL 10 SF OF DETECTABLE WARNING PANEL
2. **STA. 5+13.7-30.6'L TO 5+16.0-13.5'L**
   INSTALL 53.5 SF OF 4" CONCRETE SIDEWALK
3. **STA. 5+85.7-30.6'L TO 5+88.6-13.5'L**
   INSTALL 48.1 SF OF 4" CONCRETE SIDEWALK
4. **STA. 6+34.5-30.6'L TO 6+54.5-13.5'L**
   INSTALL 311 SF OF 6" CONCRETE APPROACH
5. **STA. 7+04.7-30.3'L TO 7+22.2-13.5'L**
   INSTALL 266 SF OF 6" CONCRETE APPROACH
6. **STA. 7+73.7-30.4' TO 7+76.7-13.5'L**
   INSTALL 50.5 SF OF 4" CONCRETE SIDEWALK

622 W 5th St. | 606 W 5th St. | 600 W 5th St.

CP10
Northing: 10439.41
Easting: 54784.22
Elevation: 1210.91

SCALE: 1"= 30'



CP9
Northing: 10389.10
Easting: 54438.20
Elevation: 1221.02

611 W 5th St. | 609 W 5th St. | 417 Locust St.

7. **STA. 4+71.5-13.5'L TO 8+07.3-13.5'L**
   INSTALL 336 LF OF B66 CURB & GUTTER
8. **STA. 4+72.0-13.7'R TO 8+07.2-13.5'R**
   INSTALL 336 LF OF B66 CURB & GUTTER
9. **STA. 4+71.5-11.0'L TO 8+07.2-11.0'R**
   INSTALL 820.4 SY OF 6" PCC PAVEMENT
10. **STA. 4+73.3-13.5'R TO 4+81.9-27.7'R**
    INSTALL 96.6 SF OF 6" CONCRETE SIDEWALK
    INSTALL 10 SF OF DETECTABLE WARNING PANEL
11. **STA. 5+66.1-13.5'R TO 5+70.2-22.7'R**
    INSTALL 37.6 SF OF 4" CONCRETE SIDEWALK
12. **STA. 5+82.6-13.5'R TO 5+98.2-22.7'R**
    INSTALL 143 SF OF 6" CONCRETE APPROACH
13. **STA. 6+31.7-13.5'R TO 6+52.0-22.7'R**
    INSTALL 168 SF OF 6" CONCRETE APPROACH
14. **STA. 7+08.0-13.5'R TO 7+23.0-22.7'R**
    INSTALL 137 SF OF 6" CONCRETE APPROACH
15. **STA. 4+81.7-22.7'R TO 8+41.4-29.6'R**
    INSTALL 316 SF OF 6" CONCRETE SIDEWALK
    INSTALL 1486 SF OF 4" CONCRETE SIDEWALK
    INSTALL 10 SF OF DETECTABLE WARNING PANEL
    INSTALL 3.5 SY OF 6" CONCRETE FILLET

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PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	19	41
PAVING		

LEGEND

- 6" PCC PAVEMENT
- 4" PCC SIDEWALK
- DETECTABLE WARNING PANEL
- DRAINAGE FLOW DIRECTION

16. **STA. 9+04.4-13.6'L TO 12+21.4-13.5'L**
INSTALL 317 LF OF B66 CURB & GUTTER

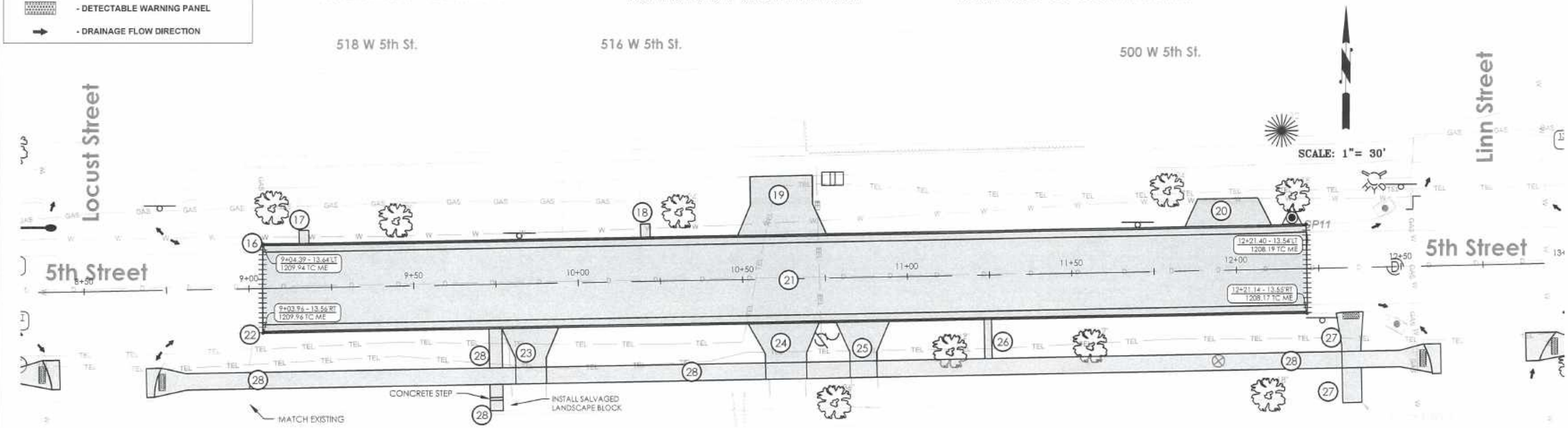
17. **STA. 9+15.4-17.5'L TO 9+18.4-13.5'L**
INSTALL 11.6 SF OF 4" CONCRETE SIDEWALK

18. **STA. 10+19.3-17.5'L TO 9+18.4-13.5'L**
INSTALL 11.5 SF OF 4" CONCRETE SIDEWALK

19. **STA. 10+52.8-31.3'L TO 10+75.8-13.5'L**
INSTALL 372 SF OF 6" CONCRETE APPROACH

20. **STA. 11+88.7-21.9'L TO 12+10.9-13.5'L**
INSTALL 185 SF OF 6" CONCRETE APPROACH

21. **STA. 9+04.3-11.0'L TO 12+21.3-11.0'R**
INSTALL 776.1 SY OF 6" CONCRETE PAVEMENT



CP11
Northing: 10439.94
Easting: 55194.34
Elevation: 1208.40

22. **STA. 9+04.0-11.0'L TO 12+21.1-13.6'R**
INSTALL 317 LF OF B66 CURB & GUTTER

23. **STA. 9+76.6-13.5'R TO 9+89.9-25.5'R**
INSTALL 148 SF OF 6" CONCRETE APPROACH

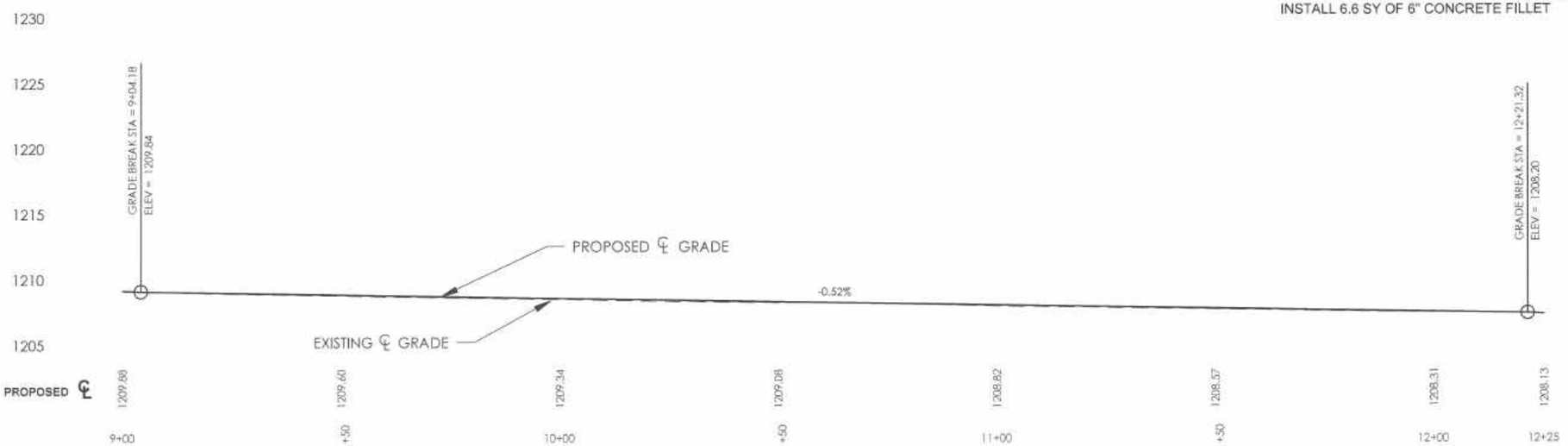
24. **STA. 10+51.6-13.5'R TO 10+68.9-25.4'R**
INSTALL 190 SF OF 6" CONCRETE APPROACH

25. **STA. 10+78.1-13.5'R TO 10+90.3-25.5'R**
INSTALL 135 SF OF 6" CONCRETE APPROACH

26. **STA. 11+23.2-13.5'R TO 12+25.4-25.5'R**
INSTALL 26.5 SF OF 4" CONCRETE SIDEWALK

27. **STA. 12+30.0-13.8'R TO 12+37.3-41.1'R**
INSTALL 144 SF OF 6" CONCRETE SIDEWALK
INSTALL 10 SF OF DETECTABLE WARNING PANEL

28. **STA. 8+68.4-23.8'R TO 12+61.6-32.8'R**
INSTALL 458 SF OF 6" CONCRETE SIDEWALK
INSTALL 1586 SF OF 4" CONCRETE SIDEWALK
INSTALL 8 SF OF CONCRETE STEPS
INSTALL 20 SF OF DETECTABLE WARNING PANEL
INSTALL 6.6 SY OF 6" CONCRETE FILLET



PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	20	41
PAVING		

LEGEND

- 6" PCC PAVEMENT
- 4" PCC SIDEWALK
- DETECTABLE WARNING PANEL
- DRAINAGE FLOW DIRECTION

29. **STA. 13+32.3-13.5'L TO 16+39.9-13.5'L**
INSTALL 307 LF OF CURB & GUTTER

30. **STA. 14+31.7-22.9'L TO 14+71.3-13.5'L**
INSTALL 375 SF OF 6" CONCRETE APPROACH

31. **STA. 14+76.2-32.1'L TO 14+99.1-13.5'L**
INSTALL 391 SF OF 6" CONCRETE APPROACH

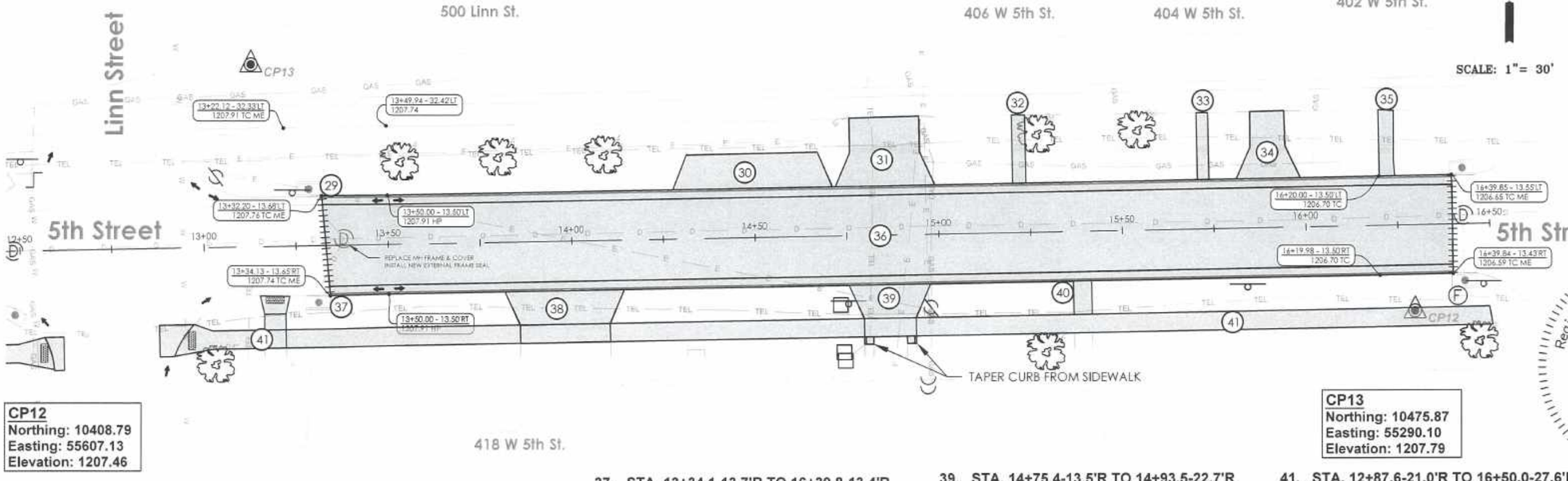
32. **STA. 15+20.3-32.1'L TO 15+24.0-13.5'L**
INSTALL 67.3 SF OF 4" CONCRETE SIDEWALK

33. **STA. 15+70.7-31.7'L TO 15+73.9-13.5'L**
INSTALL 57.0 SF OF 4" CONCRETE SIDEWALK

34. **STA. 15+85.3-31.8'L TO 15+98.6-13.5'L**
INSTALL 207 SF OF 6" CONCRETE APPROACH

35. **STA. 16+20.3-31.6'L TO 16+24.4-13.5'L**
INSTALL 71.5 SF OF 4" CONCRETE SIDEWALK

36. **STA. 13+32.4-11.2'L TO 16+39.8-11.0'L**
INSTALL 750 SY OF 6" CONCRETE PAVEMENT



CP12
Northing: 10408.79
Easting: 55607.13
Elevation: 1207.46

CP13
Northing: 10475.87
Easting: 55290.10
Elevation: 1207.79

418 W 5th St.

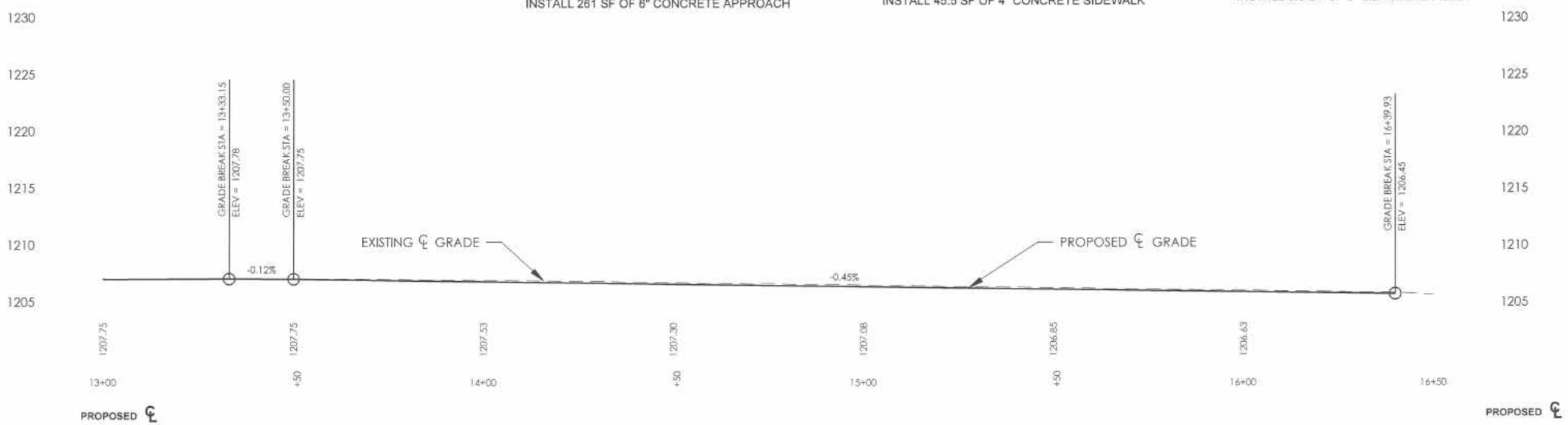
37. **STA. 13+34.1-13.7'R TO 16+39.8-13.4'R**
INSTALL 307 LF OF B66 CURB & GUTTER

38. **STA. 13+81.6-13.5'R TO 14+10.1-22.7'R**
INSTALL 261 SF OF 6" CONCRETE APPROACH

39. **STA. 14+75.4-13.5'R TO 14+93.5-22.7'R**
INSTALL 166 SF OF 6" CONCRETE PAVEMENT
INSTALL 4 LF OF SF66 CURB & GUTTER

40. **STA. 15+36.5-13.5'R TO 15+41.4-22.7'R**
INSTALL 45.5 SF OF 4" CONCRETE SIDEWALK

41. **STA. 12+87.6-21.0'R TO 16+50.0-27.6'R**
INSTALL 1447.2 SF of 4" CONCRETE SIDEWALK
INSTALL 348.8 SF OF 6" CONCRETE SIDEWALK
INSTALL 20 SF OF DETECTABLE WARNING PANEL
INSTALL 6.0 SY OF 6" CONCRETE FILLET



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1-31-2020
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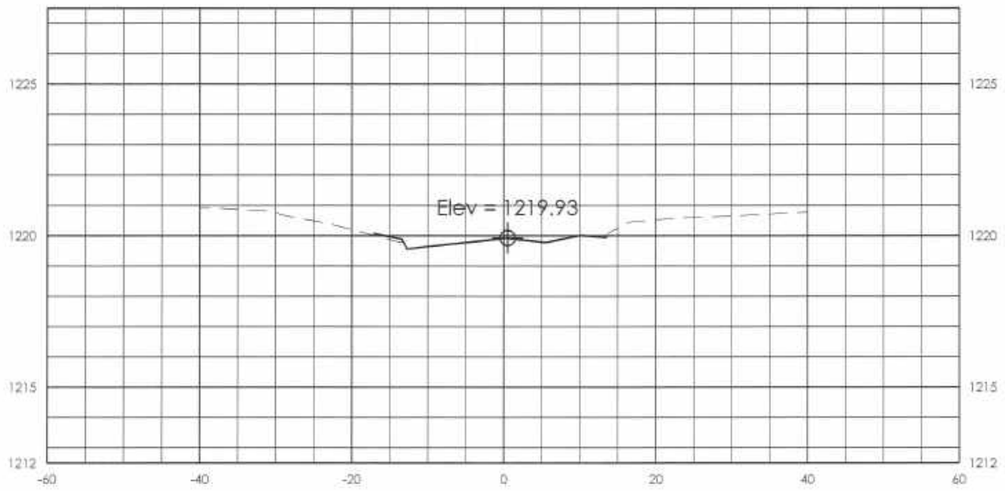
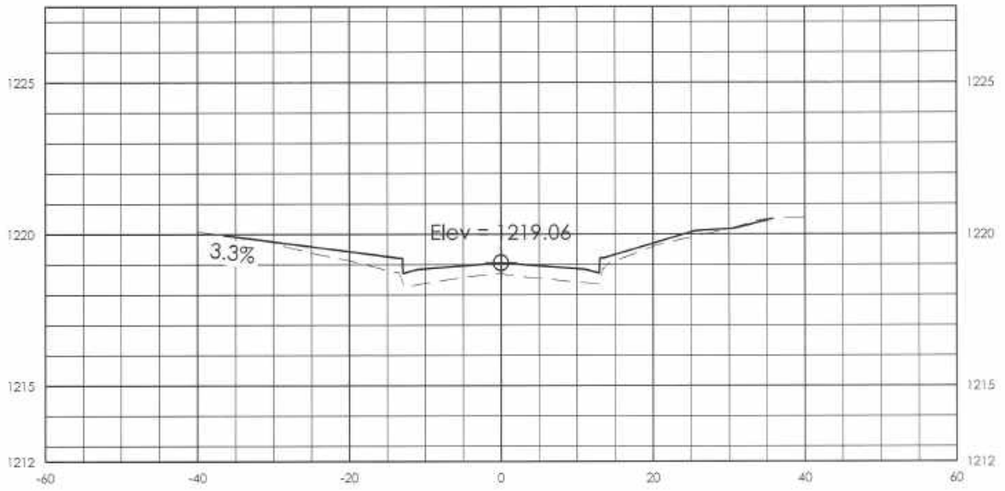
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	21	41
CROSS SECTIONS		

4+71.95



5+00



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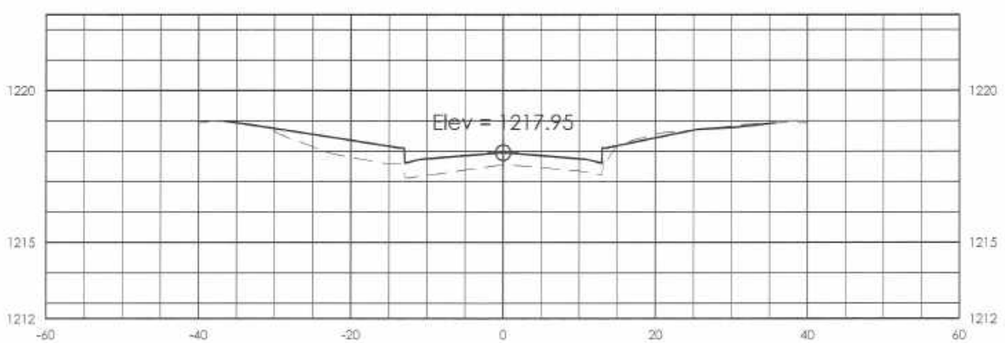
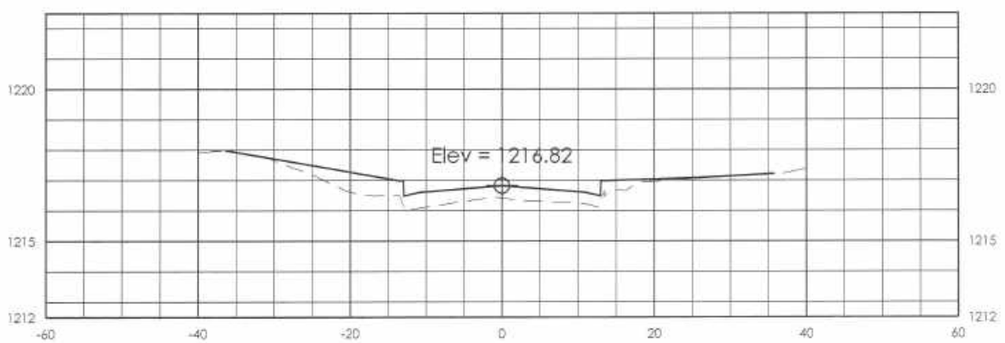
5+25



5+50

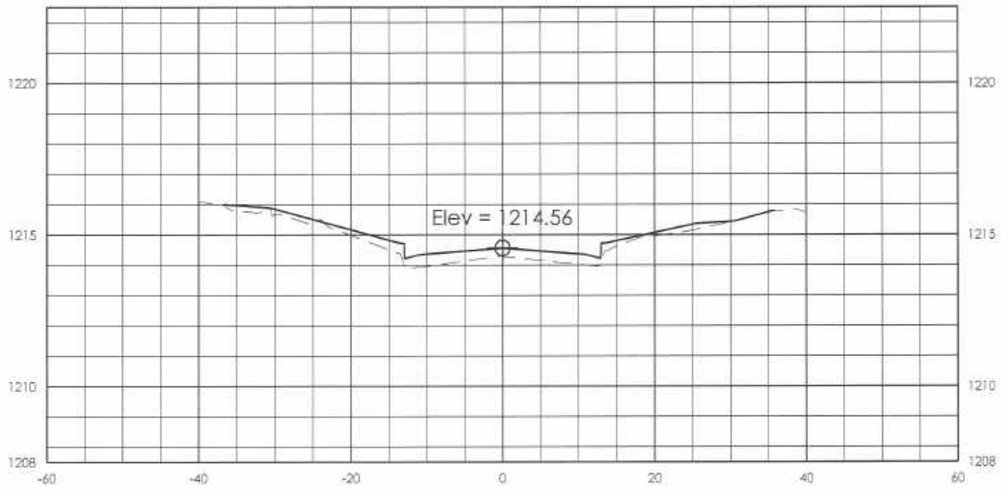


HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	22	41
CROSS SECTIONS		

5+75

6+00



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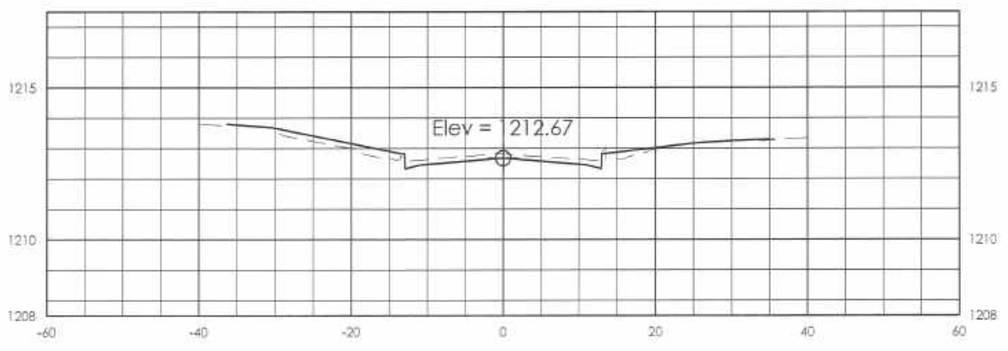
6+25

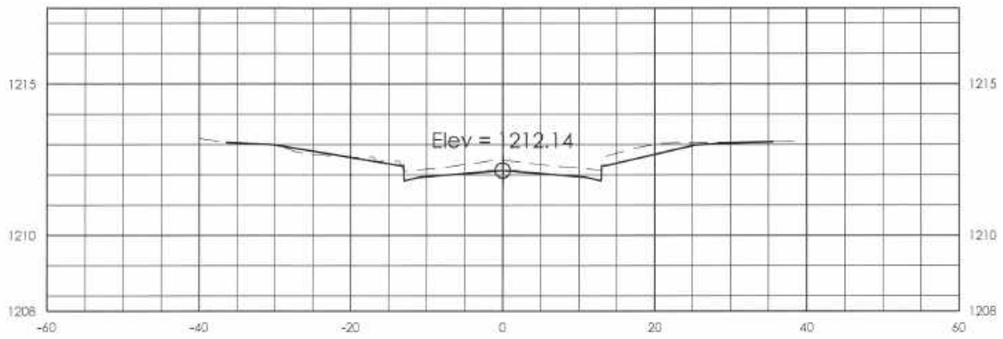
6+50



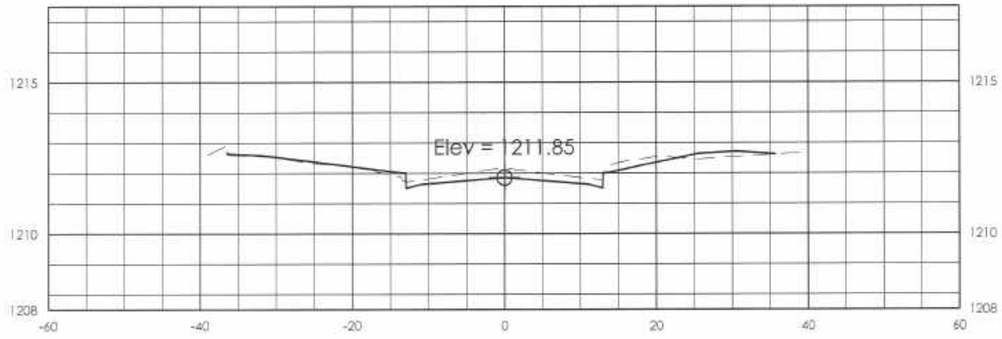
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	23	41
CROSS SECTIONS		

6+75



7+00



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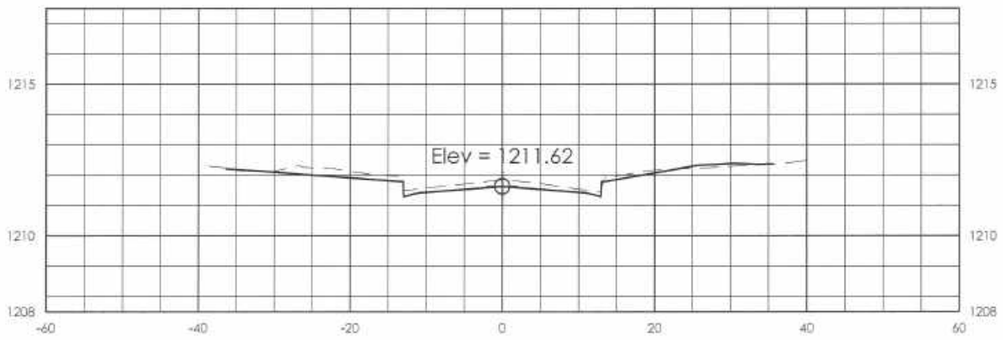
7+25

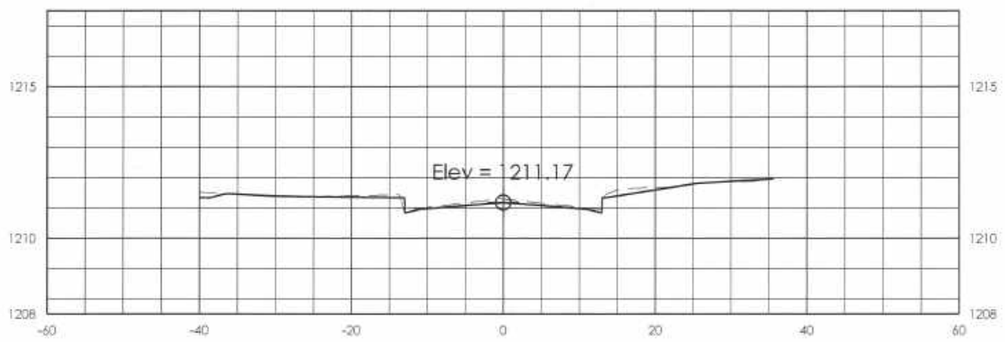


7+50

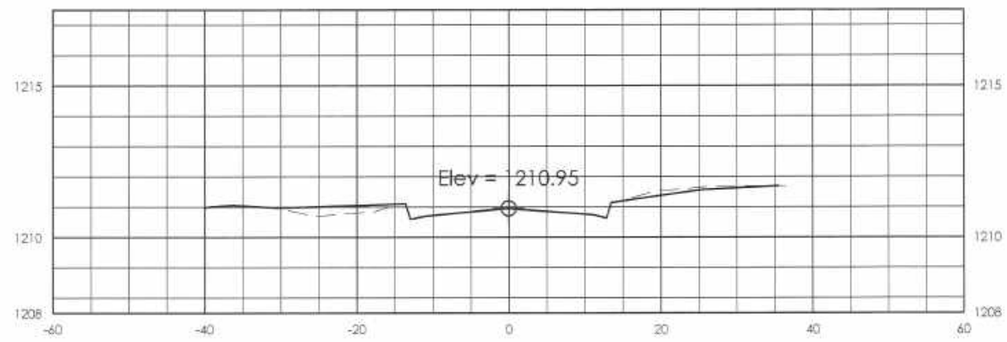
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

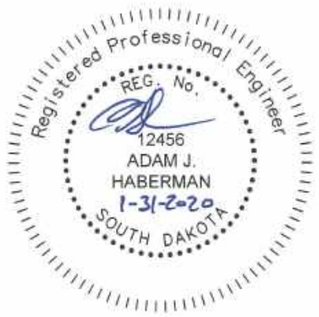
PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	24	41
CROSS SECTIONS		

7+75

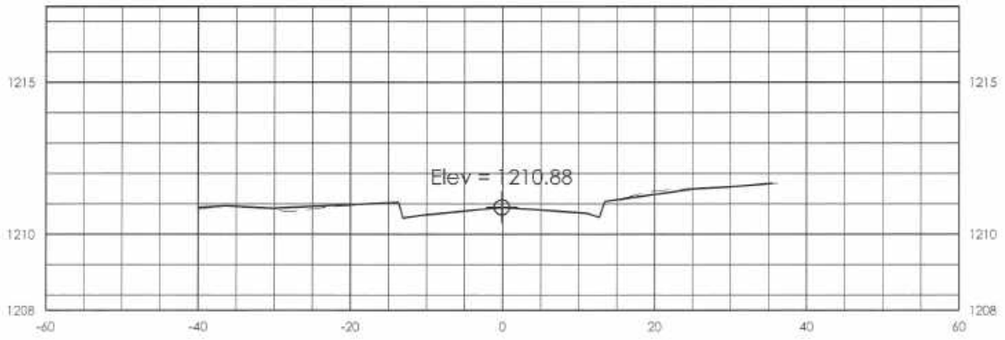


8+00





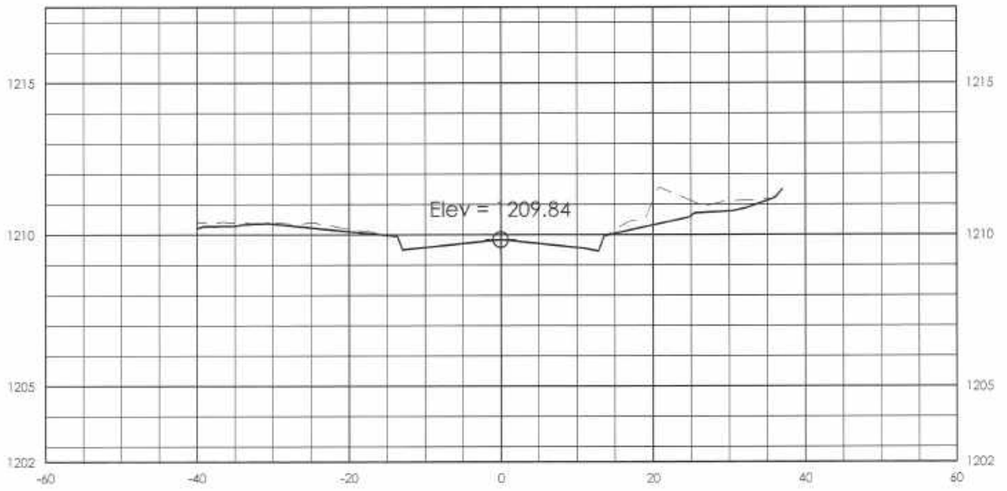
8+07.23



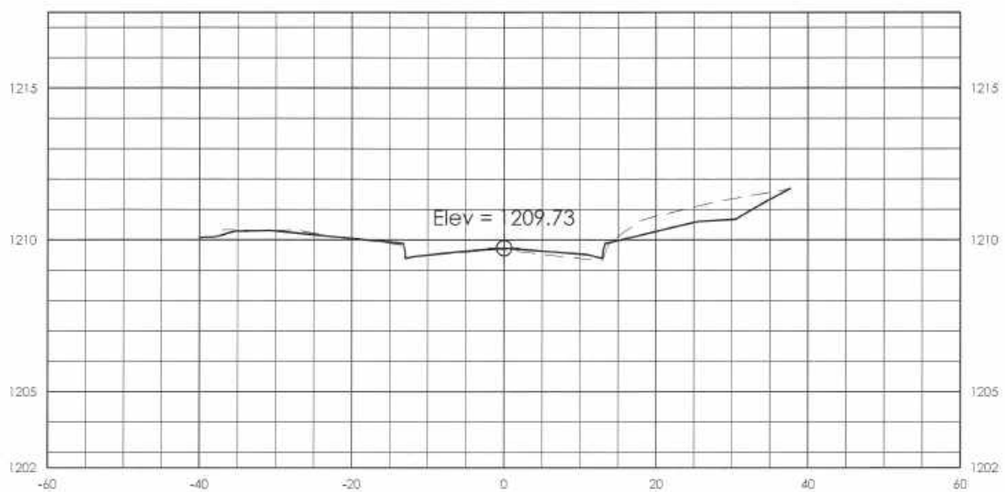
PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	25	41
CROSS SECTIONS		

HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

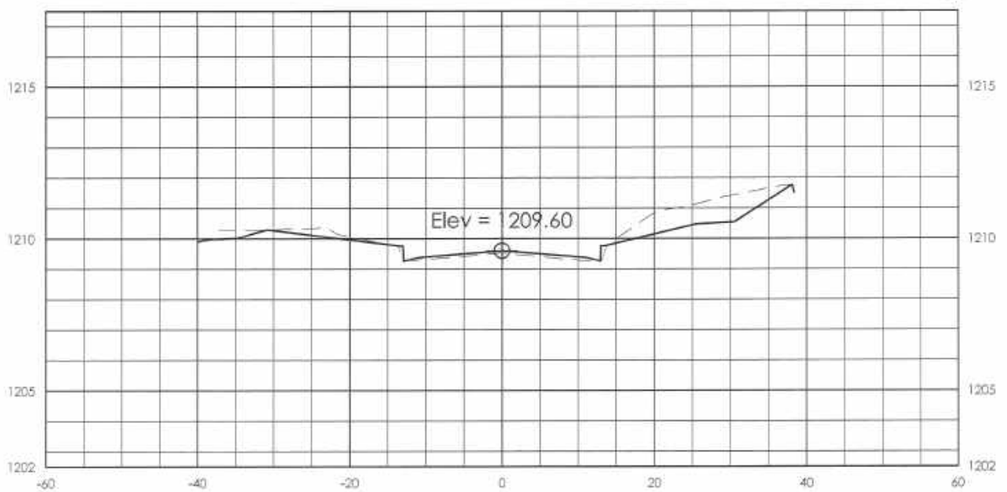
9+04.39



9+25



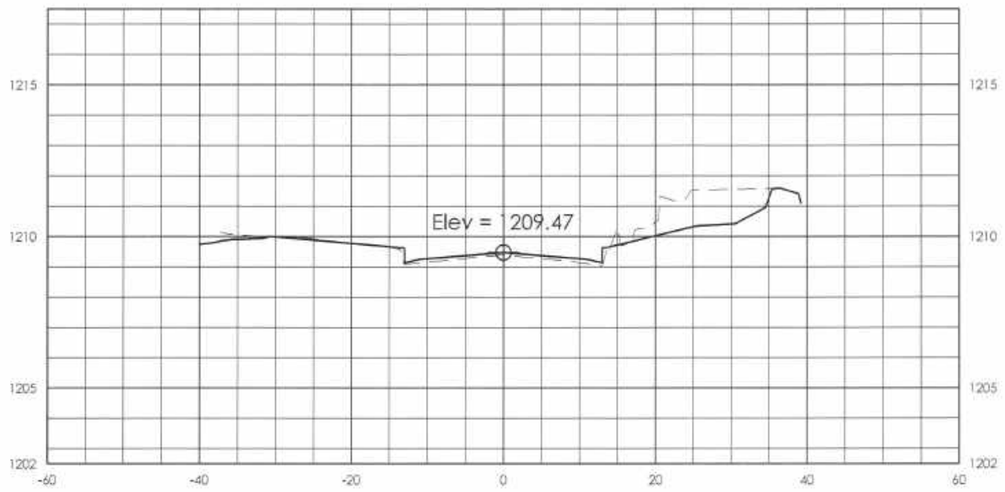
9+50



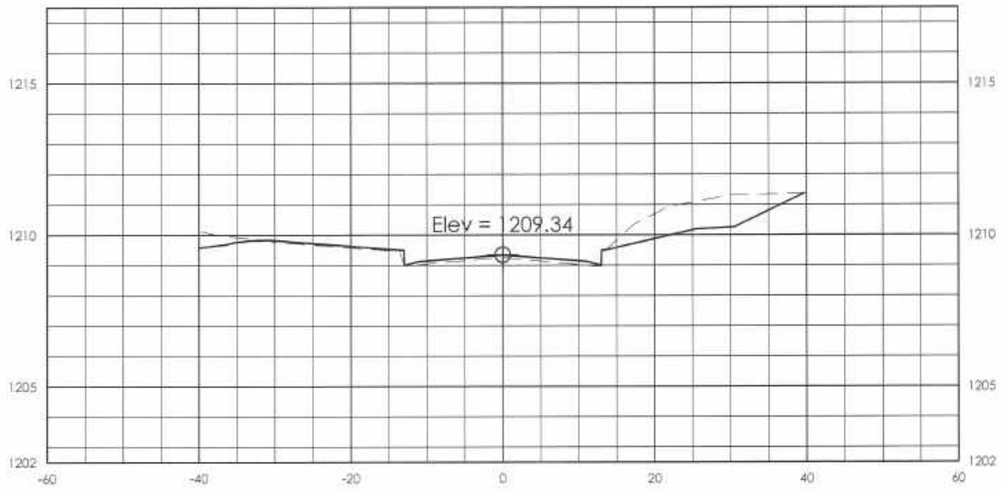
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	26	41
CROSS SECTIONS		

9+75



10+00



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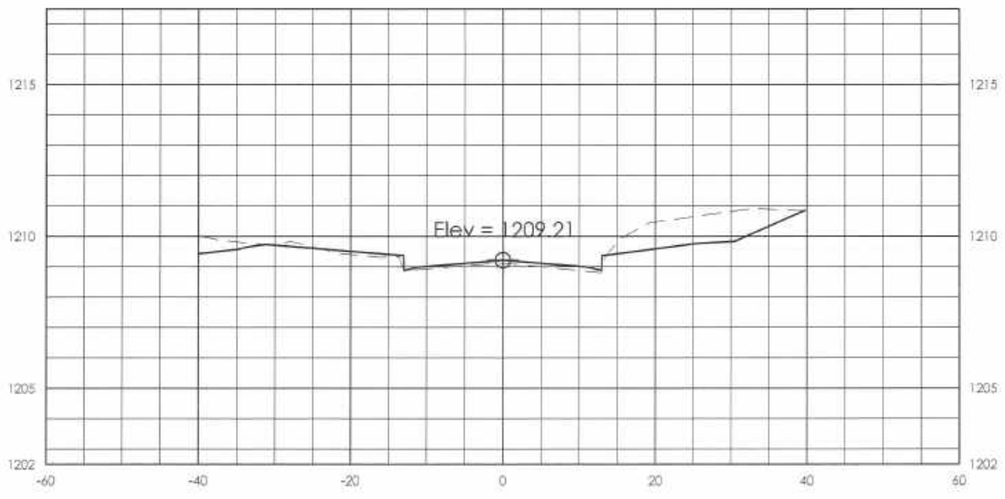
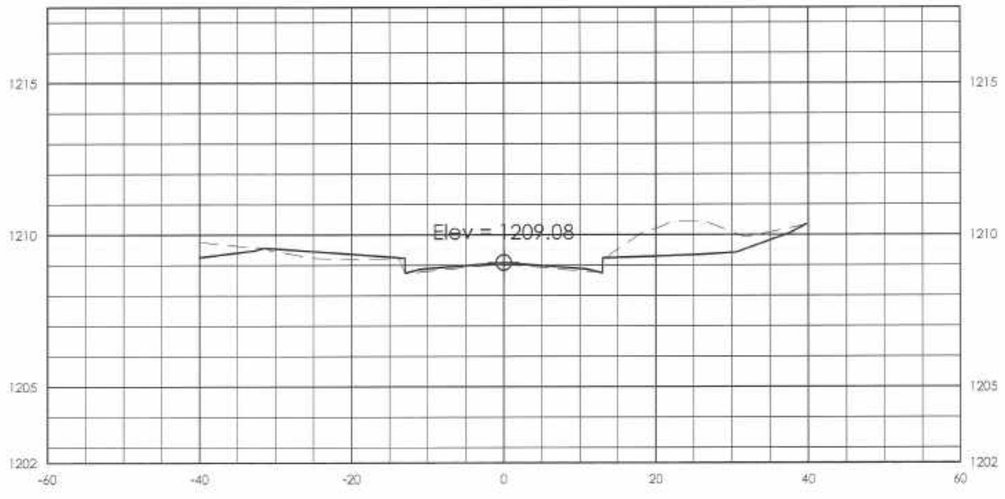
10+25



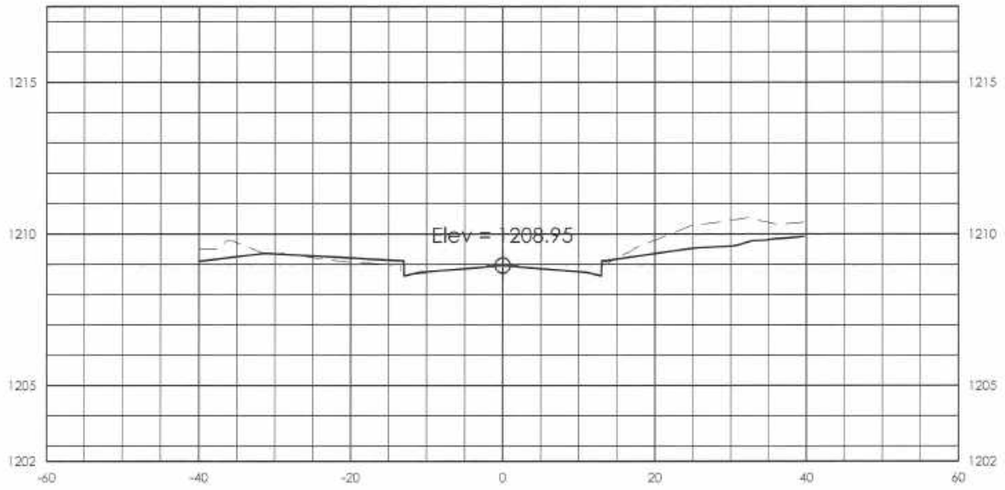
10+50



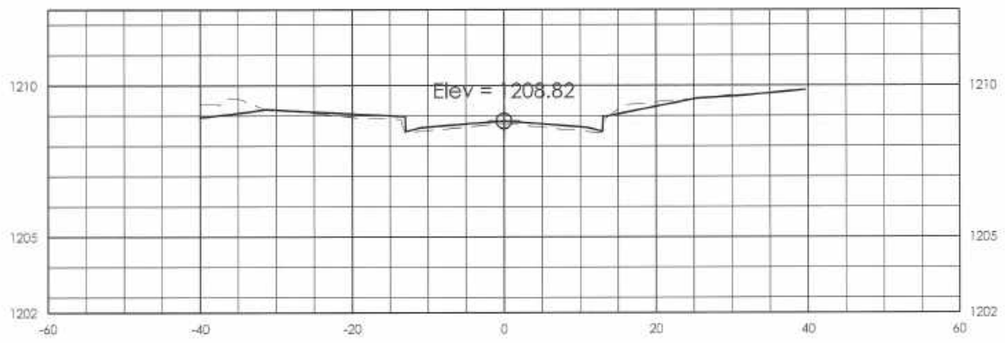
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	27	41
CROSS SECTIONS		

10+75



11+00



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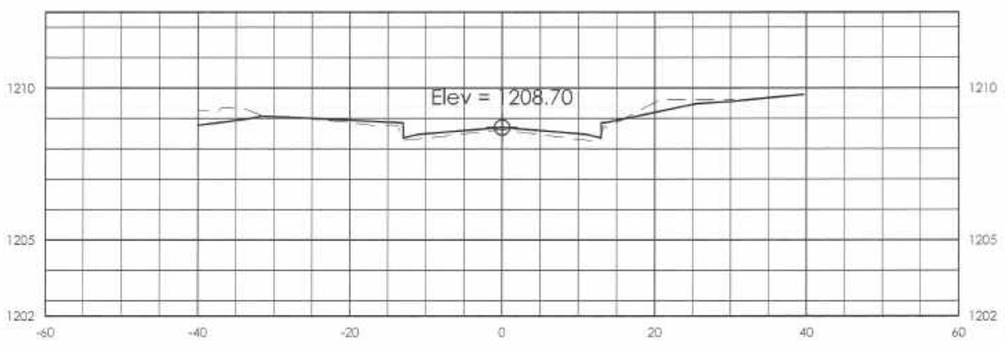
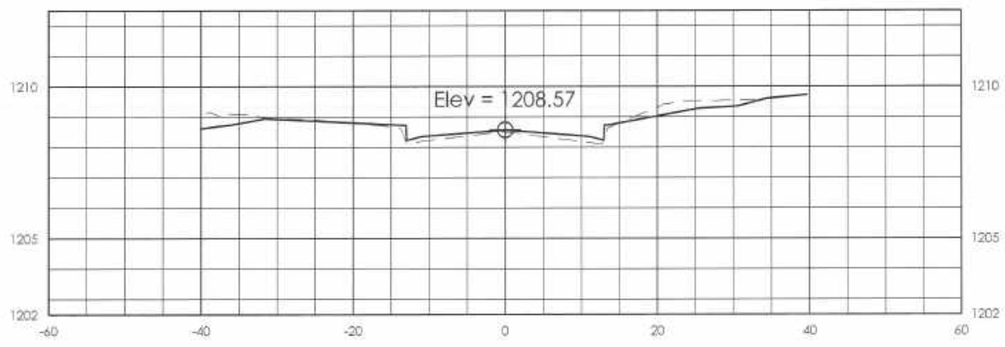
11+25



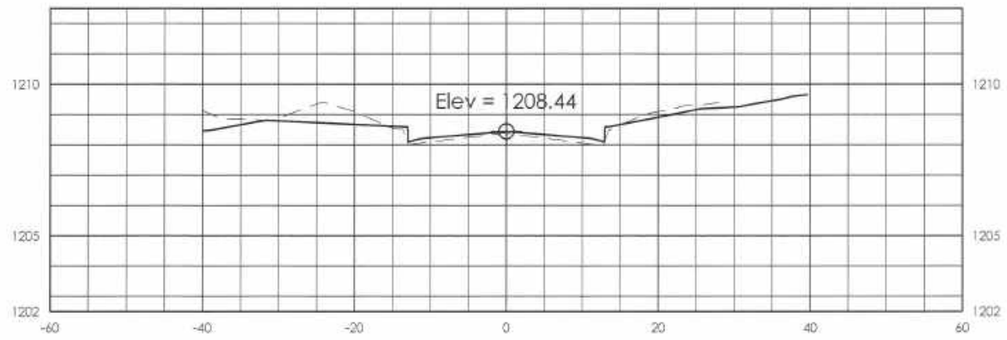
11+50



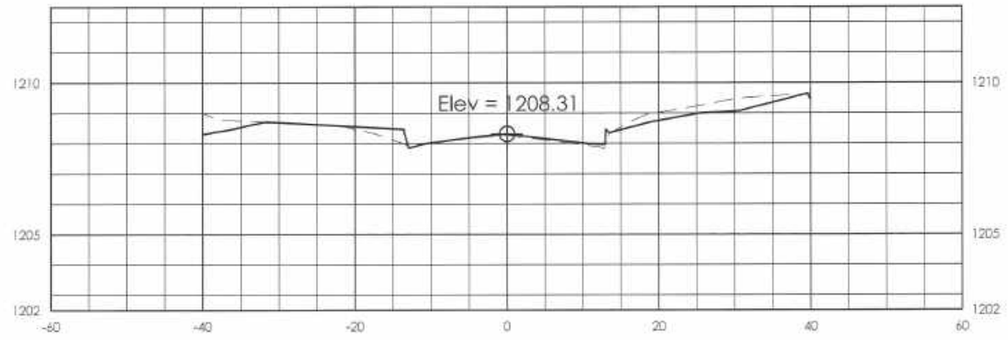
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	28	41
CROSS SECTIONS		

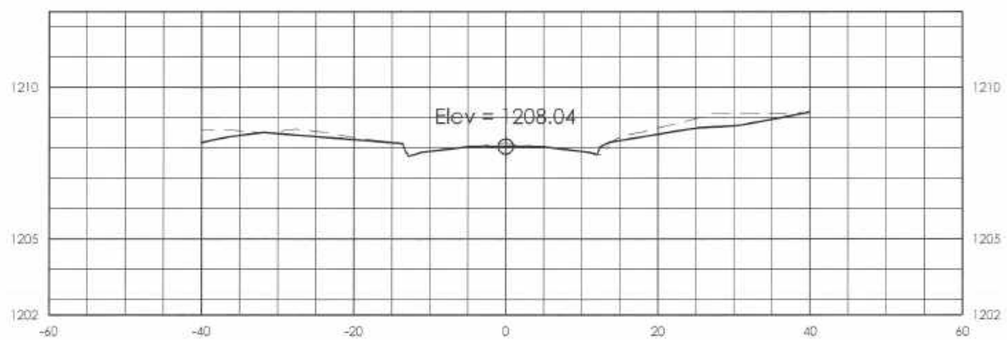
11+75



12+00



12+25



HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	29	41
CROSS SECTIONS		

Registered Professional Engineer
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1-31-2020
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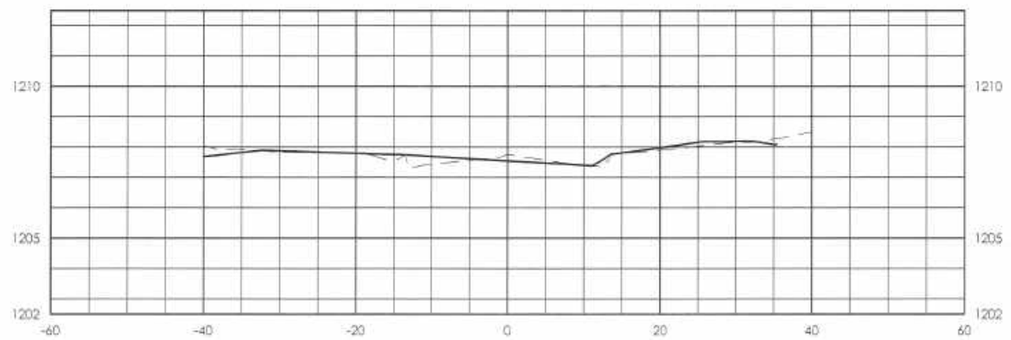
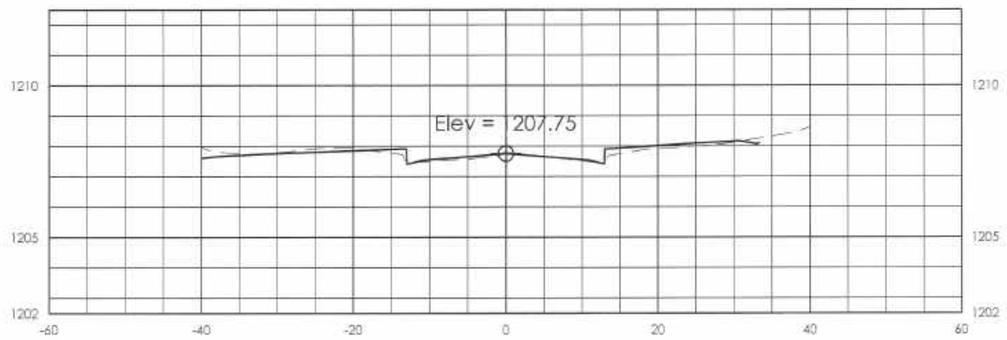
13+25



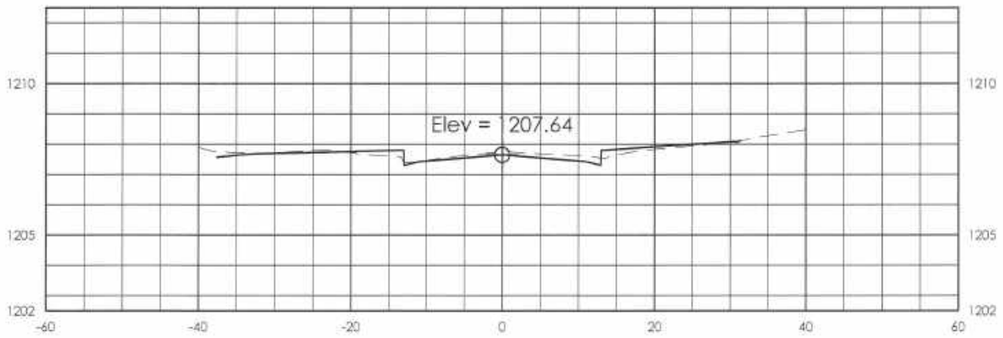
13+50



HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	30	41
CROSS SECTIONS		

13+75



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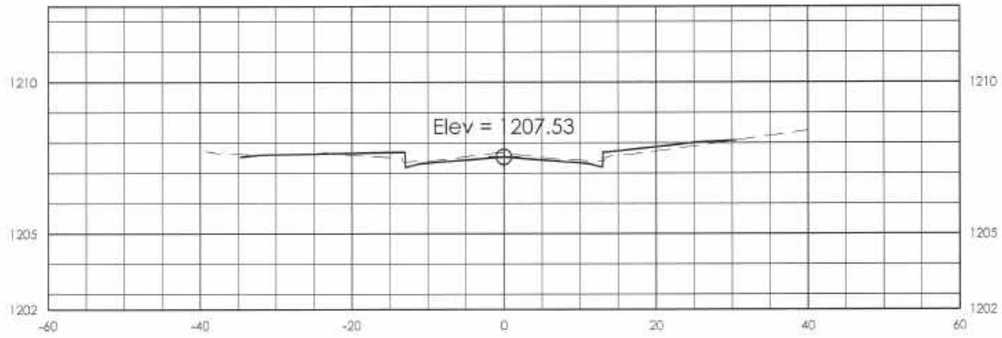

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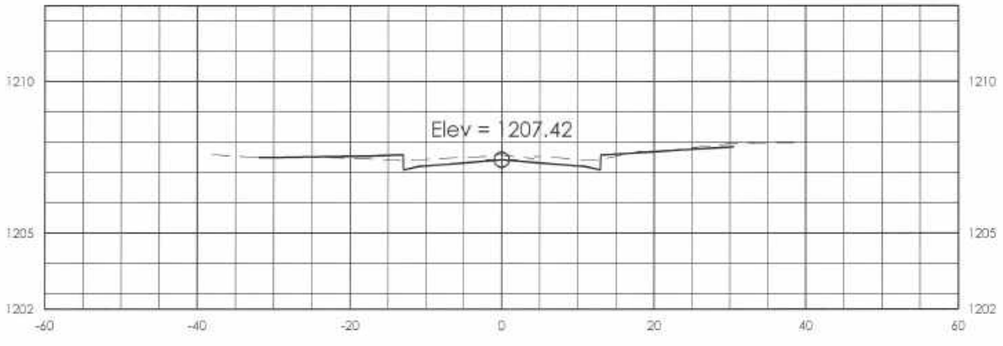
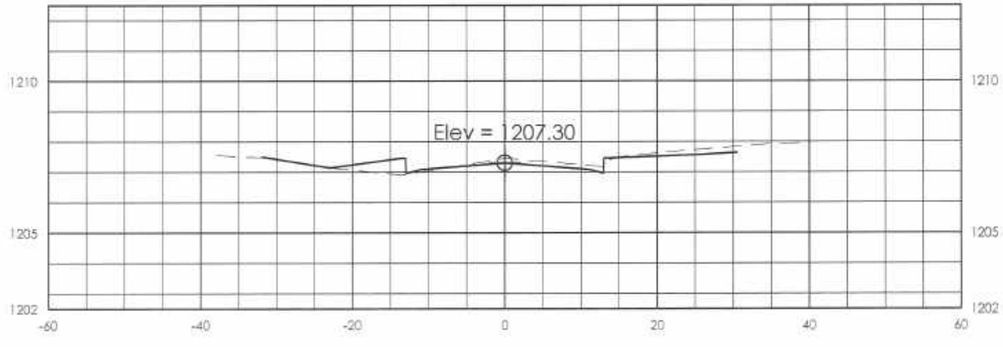
14+25



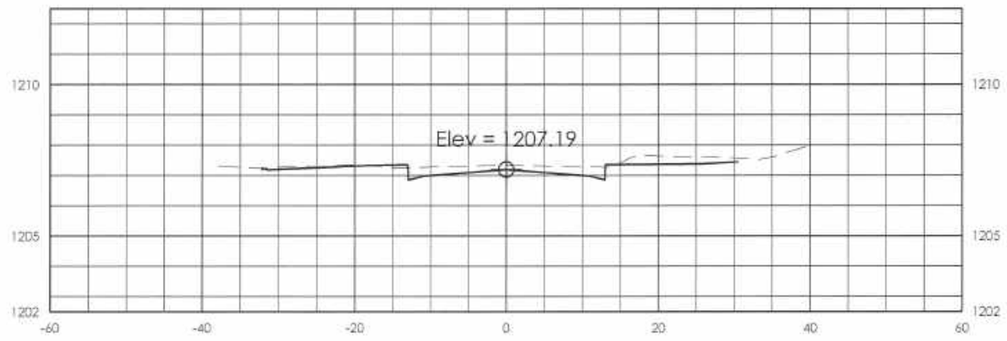
14+50



HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	31	41
CROSS SECTIONS		

14+75



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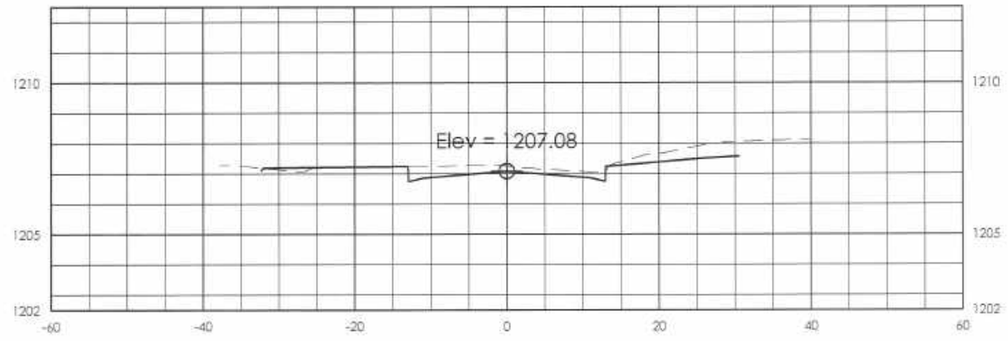

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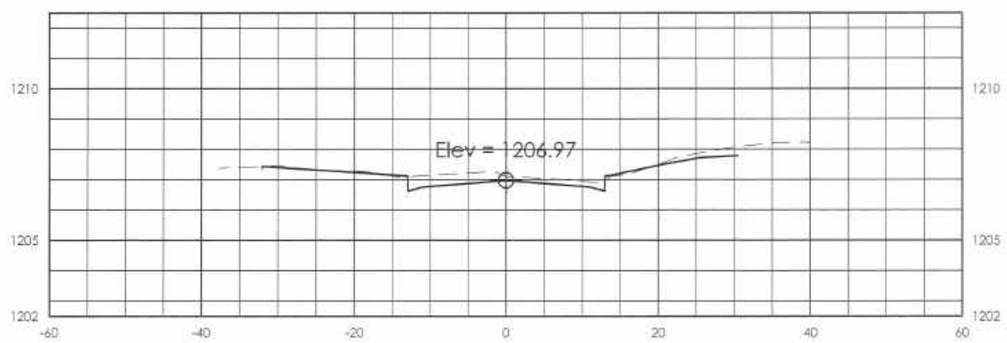
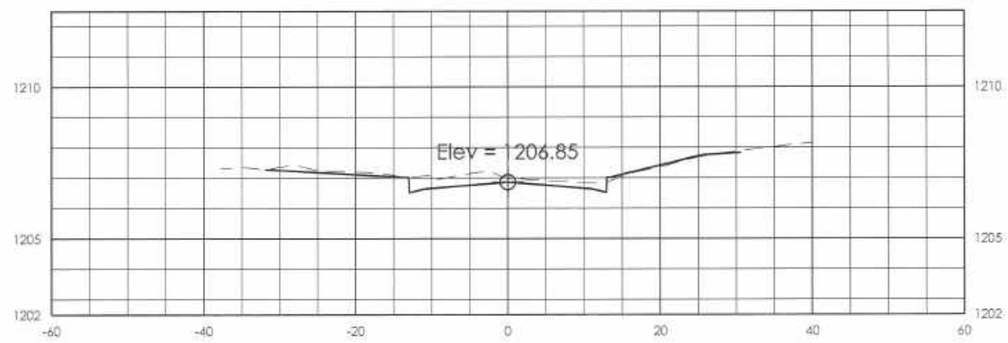
15+25



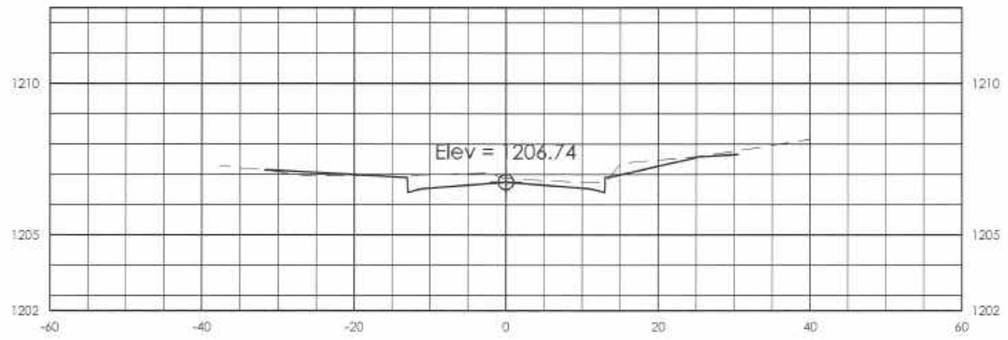
15+50



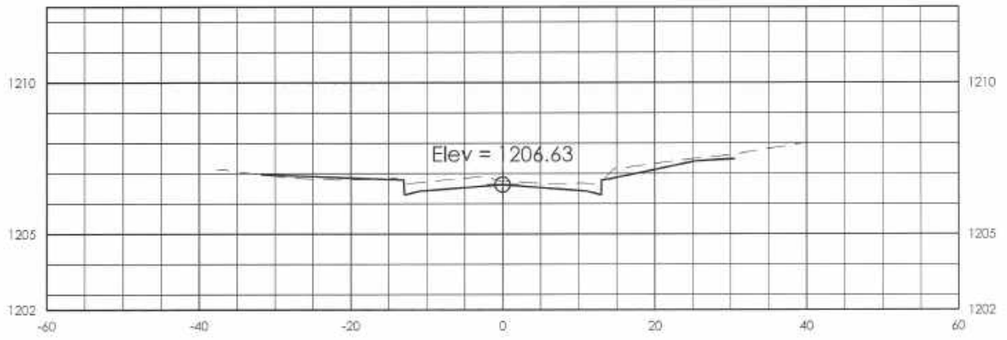
HORIZONTAL: 1"=20'
VERTICAL: 1"=5'

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	32	41
CROSS SECTIONS		

15+75



16+00



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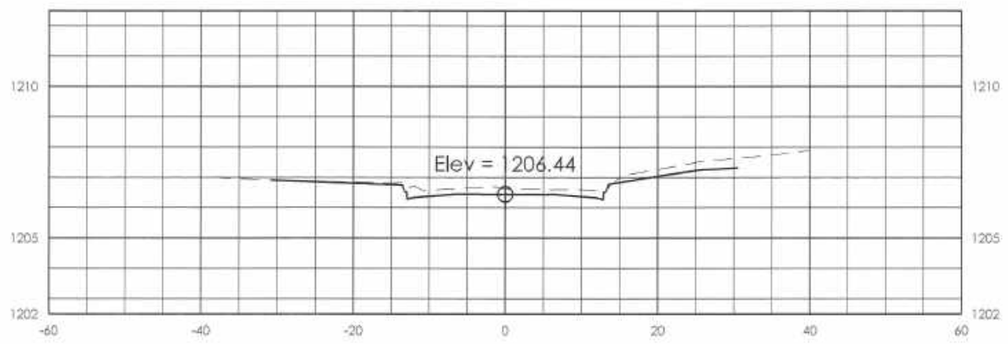
16+25



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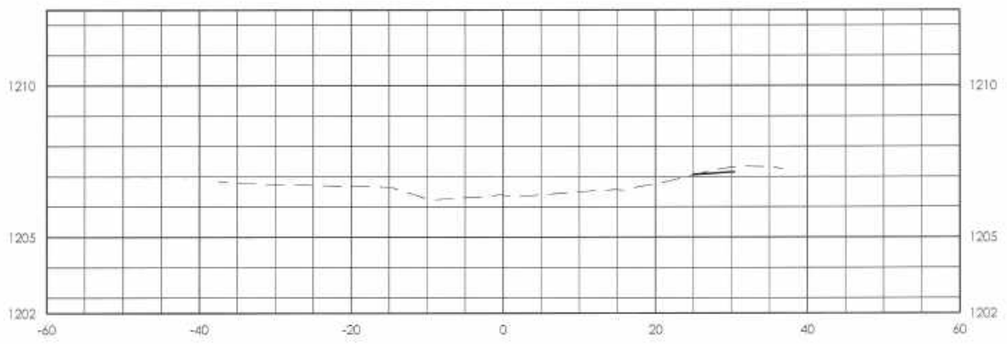
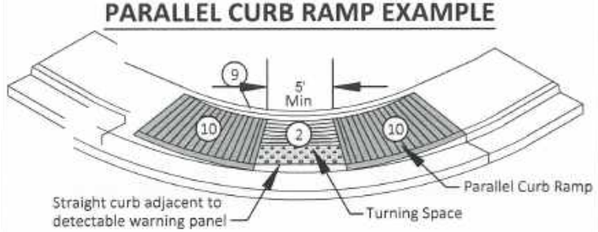


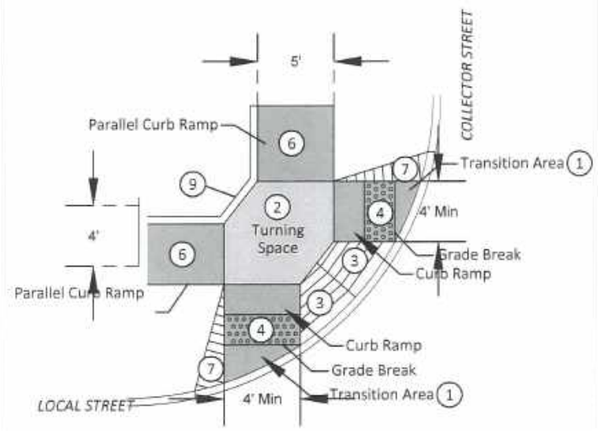
PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	33	41
STANDARD PLATES & DETAILS		

PARALLEL CURB RAMP EXAMPLE

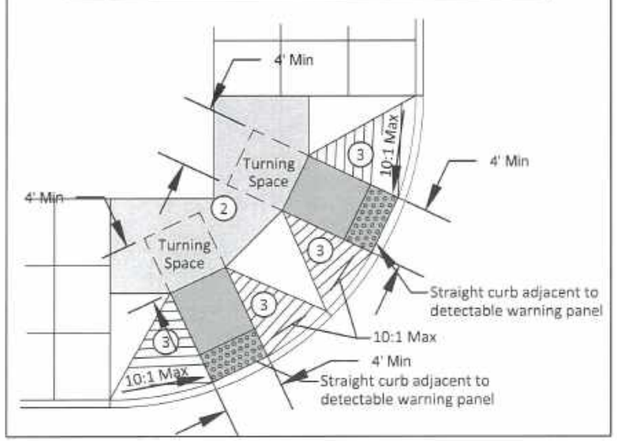


DIRECTIONAL SIDEWALK RAMP EXAMPLE

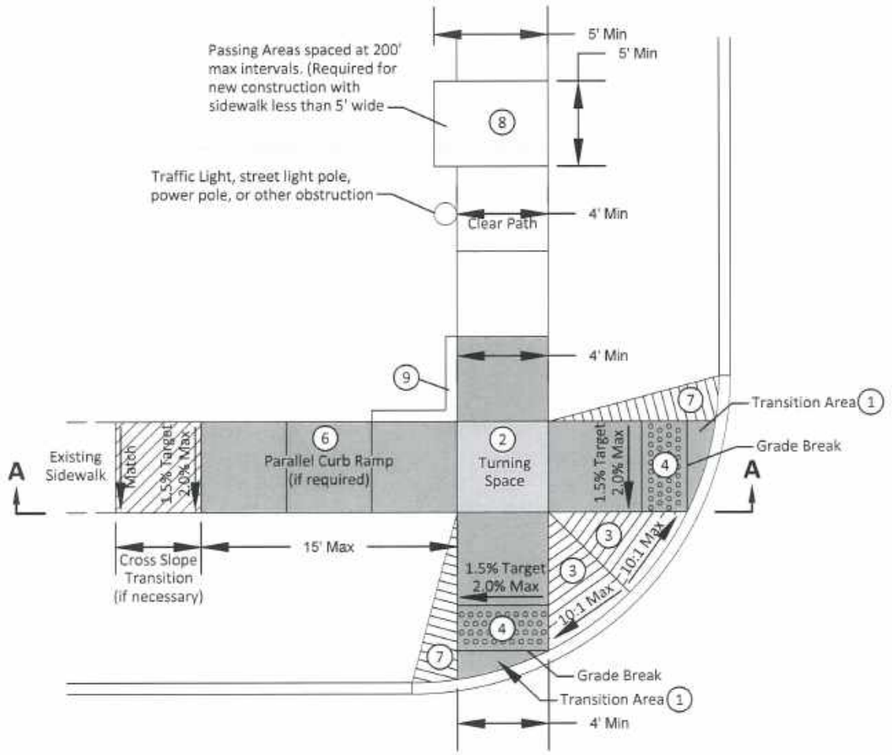
(Typical of a local/collector intersection with a 20' radius)



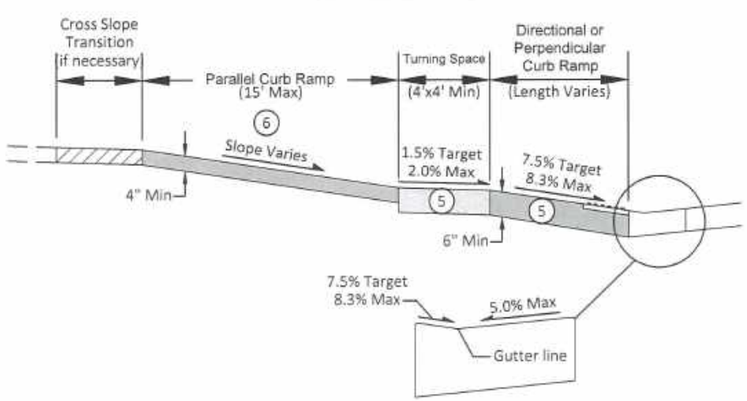
PERPENDICULAR CURB RAMP EXAMPLE



DIRECTIONAL SIDEWALK RAMP EXAMPLE



SECTION A-A



NOTES:

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

GENERAL NOTES:

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

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

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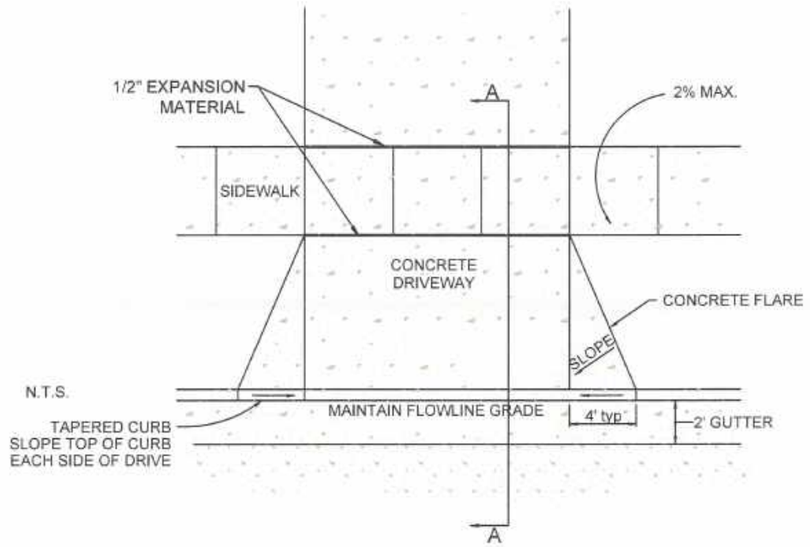
Revised: December 2016

CITY OF SIOUX FALLS
ENGINEERING DIVISION

ACCESSIBLE CURB RAMPS

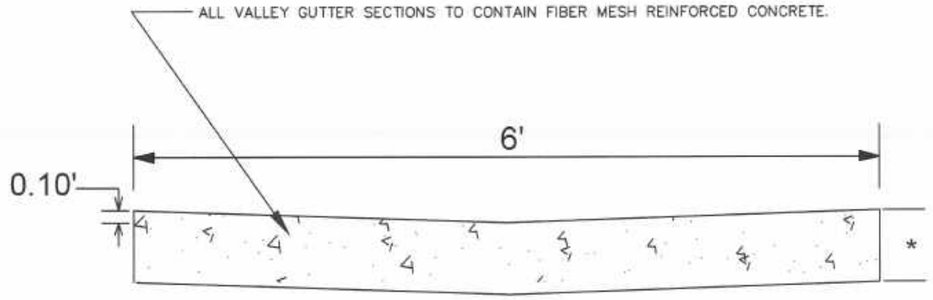
SPECIFICATION REFERENCE	PLATE NUMBER
NO. 650	651.02

PROJECT	SHEET NO.	TOTAL SHEETS
2020-005	34	41
STANDARD PLATES & DETAILS		



DETAIL FOR CONCRETE FLARES AND TAPERED CURB AT DRIVEWAYS

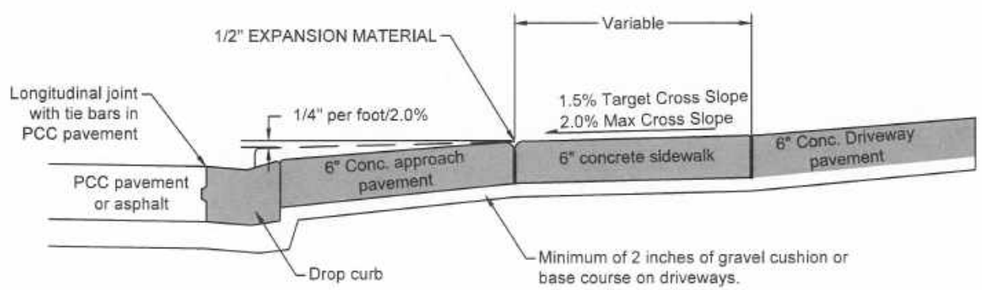
N.T.S.



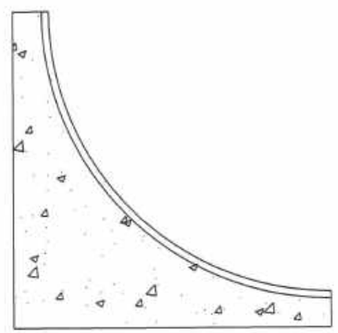
TYPICAL VALLEY GUTTER DETAIL

N.T.S.

* ALL VALLEY GUTTER SECTIONS TO A MINIMUM OF 8" OR THE SAME THICKNESS AS THE ADJOINING CONCRETE PAVING.



Section View A-A



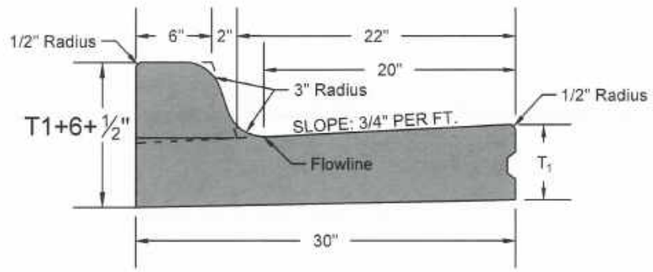
TYPICAL FILLET SECTION

N.T.S.

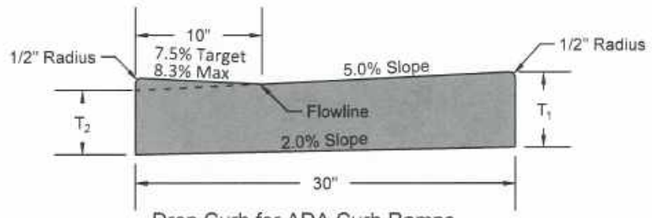
All Fillet sections to contain fiber mesh reinforced concrete.

30" CONCRETE CURB AND GUTTER

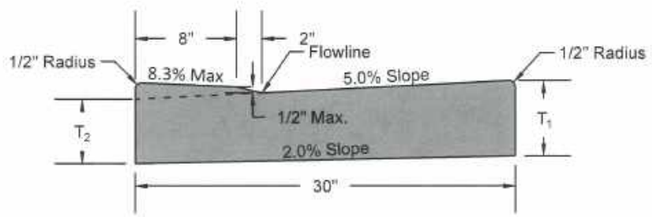
N.T.S



Standard Curb and Gutter



Drop Curb for ADA Curb Ramps



Drop Curb for Driveway Approach

T_1 = Thickness shall be equal to the depth of the adjacent pavement but not less than 6"
$T_2 = T_1$-7/8"

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

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

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

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

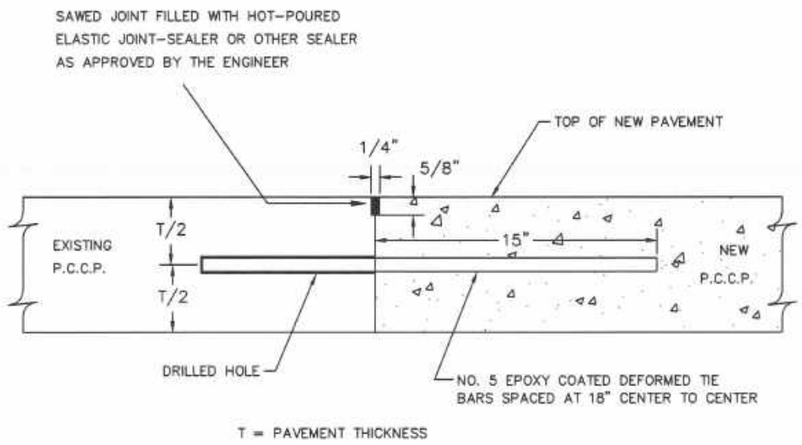
Weakened Plane Joints shall be constructed at Approx. 10' intervals. The joints shall be constructed to a minimum depth of one inch by scoring with a tool which coincide with pavement joints leave the corners rounded and insure a free movement of the Concrete at the joint.

GENERAL NOTES:

1) On PCC pavement a keyway longitudinal joint with tie bars shall be used when curb and gutter is poured separately.

2) Curb and gutter shall be constructed using M-6 concrete unless monolithically constructed with the adjacent pavement. In monolithic paving, concrete mix for the curb and gutter may be the same as the adjacent concrete pavement.

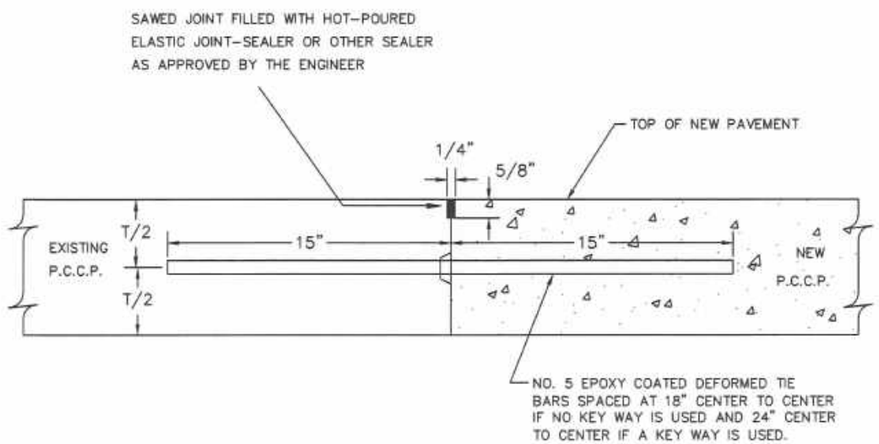
3) The curb transition length at ADA curb ramps will be dependent on the type of curb ramp being installed. The plans should call out the length of the transitions. Refer to plate 651.02 for additional curb transition information.



T = PAVEMENT THICKNESS

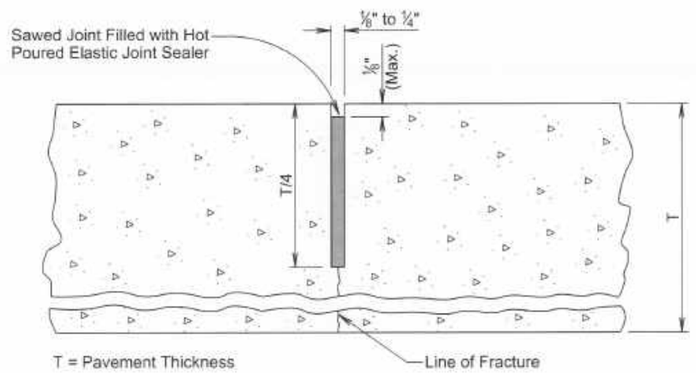
GENERAL NOTES

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



T = PAVEMENT THICKNESS

PCC PAVEMENT TRANSVERSE JOINTS WITH TIE BARS



GENERAL NOTES:

If an early entrance saw cut does not develop the full transverse crack, then the saw cut to control cracking will be a minimum ¼ of the thickness of the pavement.

All hot poured elastic joint sealer material spilled on the surface of the concrete pavement will be removed as soon as the material has cooled. The extent of removal of material will be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material will be borne by the Contractor.

June 26, 2019

Published Date: 4th Qtr. 2019	SDDOT	*PCC PAVEMENT TRANSVERSE CONTRACTION JOINT WITH OR WITHOUT DOWEL BAR ASSEMBLY*	*PLATE NUMBER* 380.05 *Sheet 1 of 1*

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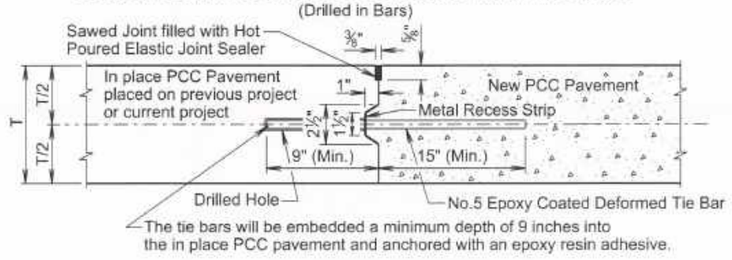
LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

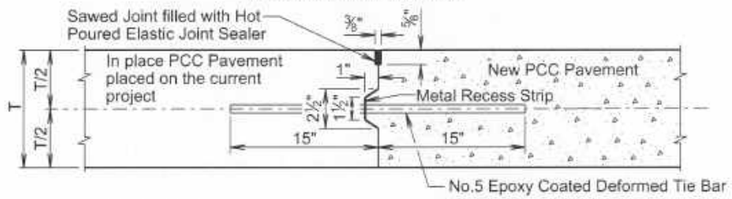
(Drilled in Bars)



T = Pavement Thickness

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(Inserted or Formed in Bars)



GENERAL NOTES (For the details above):

The epoxy coated deformed tie bars will be spaced in accordance with the following tables:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

TIE BAR SPACING 30" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
5' to 7'	2
7.5' to 9.5'	3
10' to 12'	4
12.5' to 14.5'	5
15' to 17'	6
17.5' to 19.5'	7
20' to 22'	8

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

The required number of tie bars as shown in the table will be uniformly spaced within each panel. The uniformly spaced tie bars will be spaced a maximum of 48 inches center to center for a female keyway and will be spaced a maximum of 30 inches center to center for a vertical face and male keyway. The maximum tie bar spacing will apply to tie bars within each panel.

The keyway illustrated in the above details depict a female keyway.

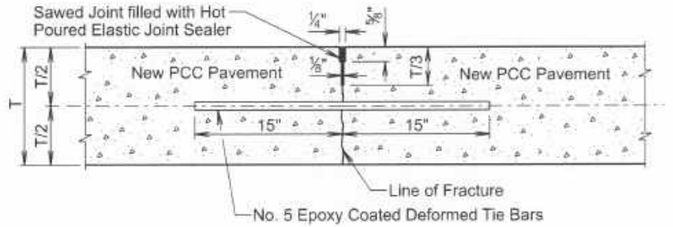
The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required.

June 26, 2019

Published Date: 4th Qtr. 2019	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10 Sheet 1 of 2

SAWED LONGITUDINAL JOINT WITH TIE BARS

(Poured Monolithically)



T = Pavement Thickness

GENERAL NOTES (For the detail above):

The epoxy coated deformed tie bars will be spaced in accordance with the following table:

TIE BAR SPACING 48" MAXIMUM	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

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

The required number of tie bars as shown in the table will be uniformly spaced within each panel with a maximum space of 48 inches center to center. The maximum tie bar spacing will apply to tie bars within each panel.

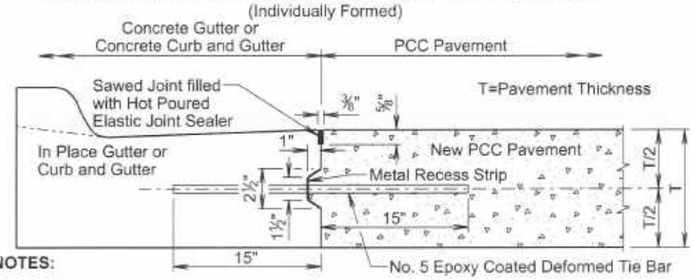
The first saw cut to control cracking will be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer is necessary.

June 26, 2019

Published Date: 4th Qtr. 2019	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10 Sheet 2 of 2

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(Individually Formed)



GENERAL NOTES:

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

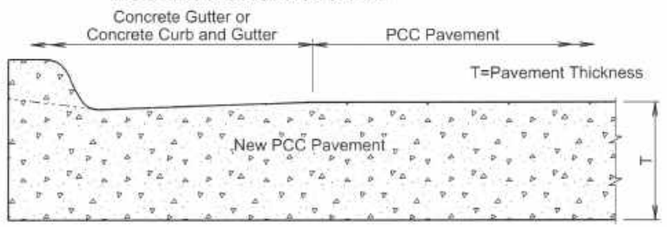
The tie bars will be placed a minimum of 15 inches from existing transverse contraction joints.

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

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

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

POURED MONOLITHICALLY



GENERAL NOTES:

The mainline curb and gutter may be placed monolithically with the PCC pavement if the mainline lane width is less than or equal to 12 feet. If this method of construction is used, the tie bars and the sawed joint between the curb and gutter and the PCC pavement will be eliminated.

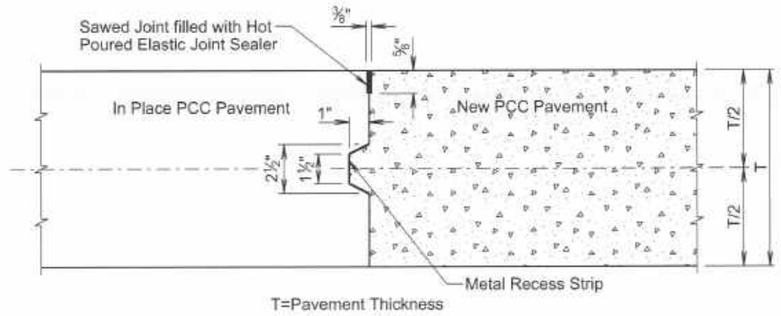
The gutter or curb and gutter will be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter will be sawed and sealed same as the transverse contraction joints in the PCC pavement.

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

June 26, 2019

Published Date: 4th Qtr. 2019	SDDOT	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.11 Sheet 1 of 1

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS

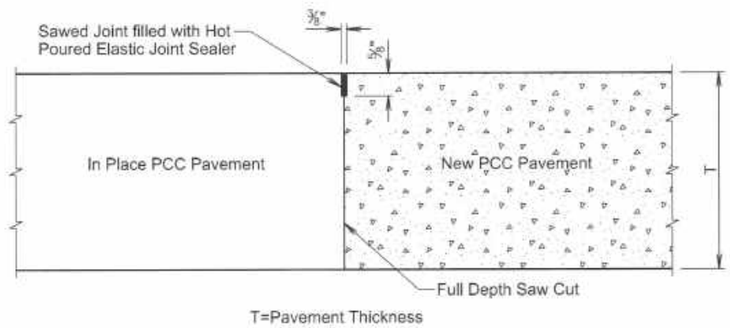


GENERAL NOTES:

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

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

LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS

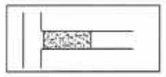


GENERAL NOTE:

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

June 26, 2019

Published Date: 4th Qtr. 2019	SDDOT	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.12 Sheet 1 of 2



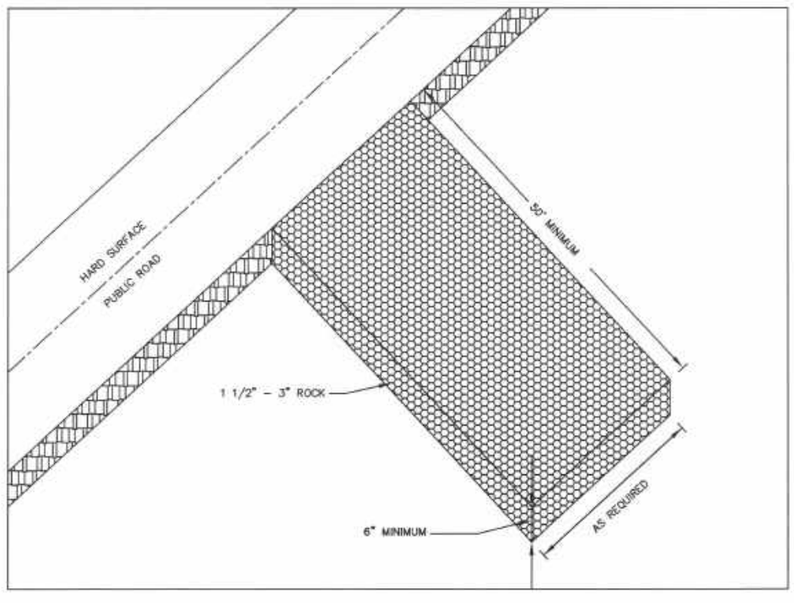
VEHICLE TRACKING CONTROL

DEFINITION:

A STONE STABILIZED PAD LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE.

PURPOSES:

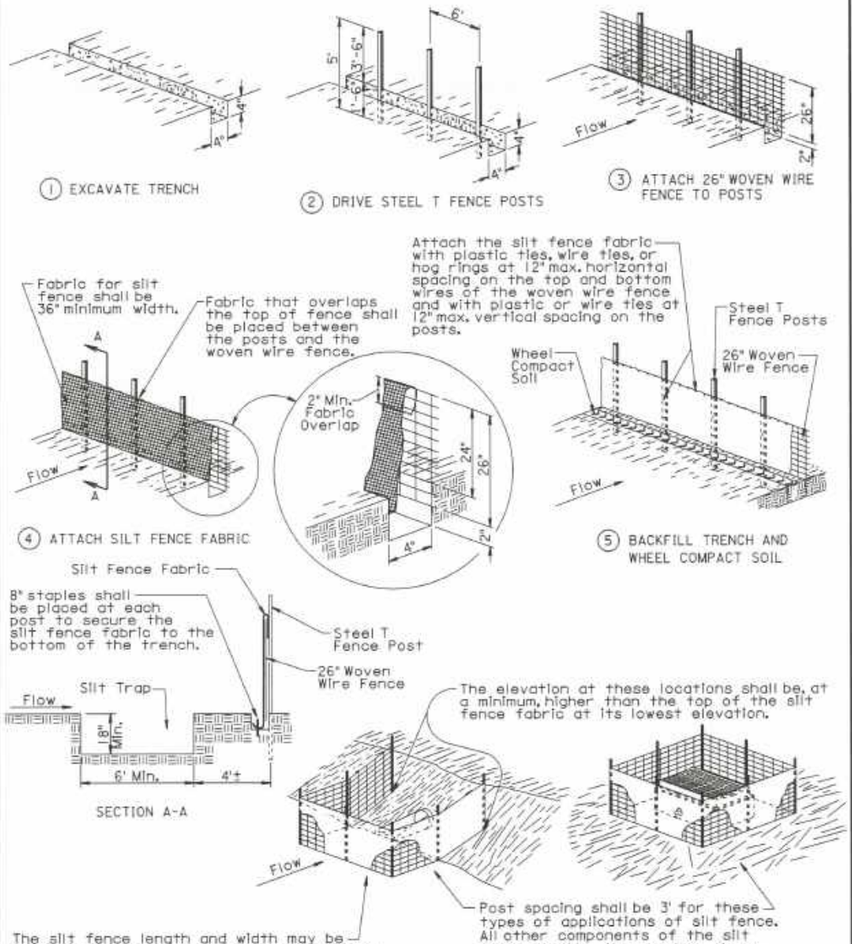
TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF.



REVISED: MAY 2003

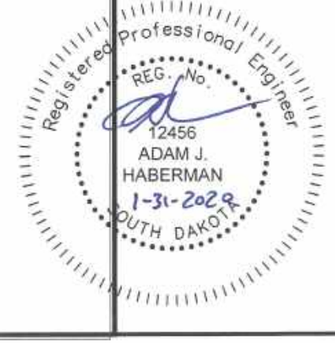
SPECIFICATION REFERENCE NO.	CITY OF SIOUX FALLS ENGINEERING DIVISION TEMPORARY VEHICLE TRACKING CONTROL	PLATE NUMBER
734		734.02

MANUAL LOW FLOW SILT FENCE INSTALLATION

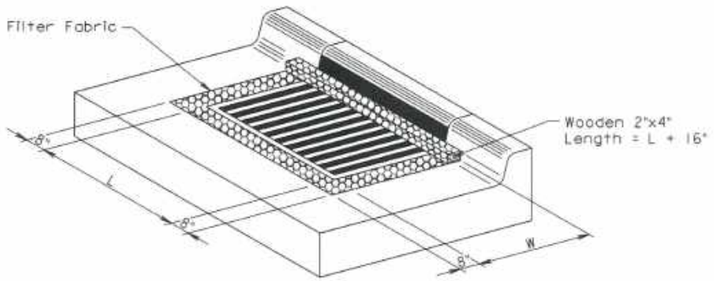


December 23, 2003

Published Date: 4th Qtr. 2007	SDDOT	LOW FLOW SILT FENCE AND SILT TRAP	PLATE NUMBER 734.04
			Sheet 1 of 2



L = Length of Grate
W = Width of Grate



ISOMETRIC VIEW

GENERAL NOTES:

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

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

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

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

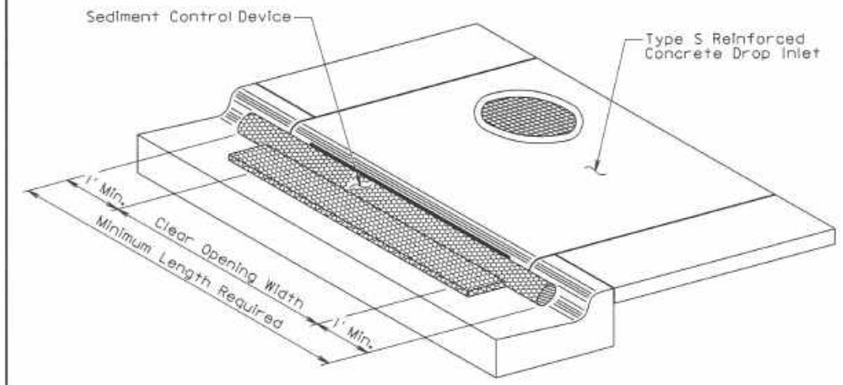
The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

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

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

September 14, 2005

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



ISOMETRIC VIEW

GENERAL NOTES:

The type of sediment control device shown is for illustrative purposes only.

The type of sediment control device used shall be one of the types as specified in the plans.

The sediment control device shall be placed at the drop inlets according to the manufacturers' installation instructions.

The sediment control at inlet for type S reinforced concrete drop inlet shall be placed at locations stated in the plans or at locations determined by the Engineer.

The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing the device, removing accumulated sediment, and resetting the device.

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

Payment for the "Sediment Control at Type S Drop Inlet" shall be based on the minimum length required at the drop inlets. Some of the sediment control devices specified in the plans will have to be longer due to available length.

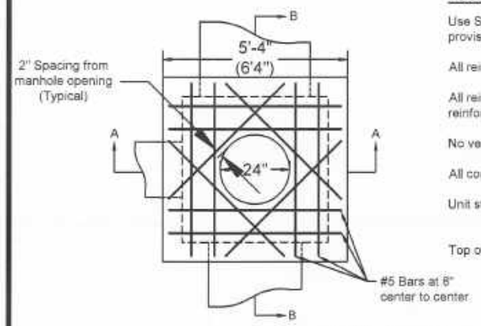
All costs for furnishing, installing, inspecting, maintaining, removing, and resetting the sediment control device at the drop inlet including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Sediment Control at Type S Reinforced Concrete Drop Inlet".

September 14, 2005

Published Date: 1st Qtr. 2012	SDDOT	SEDIMENT CONTROL AT INLETS FOR TYPE S REINFORCED CONCRETE DROP INLETS	PLATE NUMBER 734.11 Sheet 1 of 1

Registered Professional Engineer
REG. NO.
12456
ADAM J.
HABERMAN
1-31-2020
SOUTH DAKOTA

Top View



General Notes

Use South Dakota Standard Specifications for Roads and Bridges, latest edition and required provisions, supplemental specifications and/or special provisions.

All reinforcing steel shall conform to A.S.T.M. A615, Grade 60.

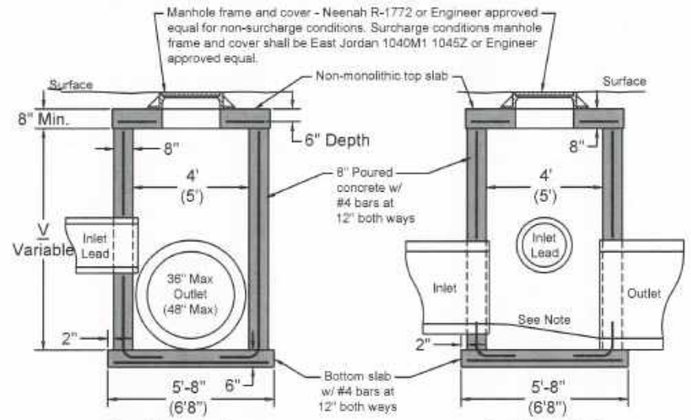
All reinforcing steel shall be cut and/or bent in the field to maintain a minimum of 2" cover on all reinforcing steel.

No vertical construction joints are allowed.

All concrete shall be class M-6.

Unit stresses: Concrete Fc = 1600 P.S.I.
Reinforcing steel Fc = 20,000 P.S.I.

Top of manhole cover to be set flush with finished surface elevation.



Section A-A

Section B-B

Estimated Quantities

Item	Unit	4' X 4' Junction Box		5' X 5' Junction Box	
		Constant	Variable	Constant	Variable
* Class M6 concrete	CuYds	1.29	0.46V	1.93	0.56V
Reinforcing Steel	LBS	103	23V	131	35V
Manhole rim & cover-as specified	Each	1	—	1	—

* Constant shall be reduced for the appropriate pipe or combination of pipes, thus;
12" Dia.=-0.03 C.Y., 15" Dia=-0.04 C.Y., 18" Dia.=-0.05 C.Y., 21" Dia.=-0.07 C.Y., 24" Dia.=-0.09 C.Y.,
27" Dia.=-0.11 C.Y., 30" Dia=-0.14 C.Y., 33" Dia.=-0.17 C.Y., 36" Dia.=-0.20 C.Y., 42" Dia.=-0.26 C.Y.,
48" Dia.=-0.34 C.Y.

Notes:

Top slab steel reinforcement requires 12-#5 bars 5'(6') long to be placed as shown.
2" From manhole opening and 8" center to center at a depth of 6" w/min. cover thickness of 8".

Floor of junction box to be finished in such a manner to insure uninterrupted flow thru the box.

When pipe sizes differ thru junction box, top of pipe to match when possible.

( ) Indicates specifications for a 5' x 5' junction box. Maximum pipe size allowed for 4' x 4' junction box is 36" R.C.P. Maximum pipe size allowed for a 5' x 5' junction is 48" R.C.P. Standard plate is applicable to variable depth up to 8'

Exhibit depicts a 4'x4' junction box at 8' variable height.

Revised: May 2019

CITY OF SIOUX FALLS PUBLIC WORKS Providing a Better Quality of Life for You!	**Standard Storm Drainage Junction Box Type I**	Specification Reference No. 460	Plate Number 460.05