STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	1	46

CITY OF MCPHERSON

LAKESIDE POND BANK RESTORATION PROJECT

CITY OF MCPHERSON
MCPHERSON COUNTY, KANSAS

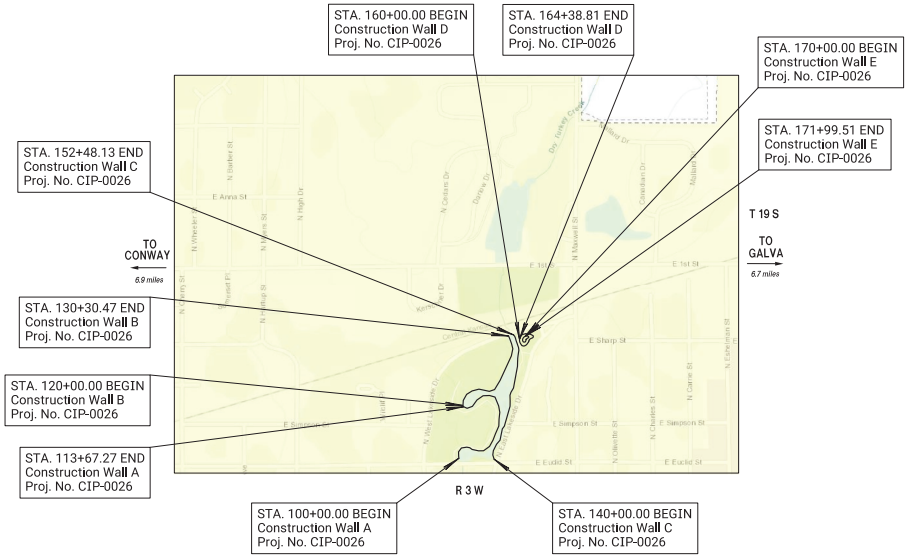
CITY PROJ. NO. CIP–0026

BENESCH PROJ. NO. 130803.00

RETAINING WALL
GRADING
SEEDING

INDEX OF SHEETS

1	Title Sheet
2	Typical Sections
3-12	Plan & Profile
13	Erosion Control Plan
14-15	Temporary Erosion and Pollution Control
16	Seeding
17	Construction Staging
18-46	Cross Sections



Field Check Plans
4-1-2022

NOT TO SCALE

WALL A				WALL D			
NET LENGTH OF PROJECT	1,367.27	FT.	0.259 MILES	NET LENGTH OF PROJECT	439.81	FT.	0.083 MILES
WALL B				WALL E			
NET LENGTH OF PROJECT	1,030.47	FT.	0.195 MILES	NET LENGTH OF PROJECT	200.51	FT.	0.038 MILES
WALL C							
NET LENGTH OF PROJECT	1,248.13	FT.	0.236 MILES				

TOTAL PROJECT

NET LENGTH OF PROJECT	4,286.19	FT.	0.812 MILES

CONVENTIONAL SIGNS

COUNTY LINE	CENTER LINE OF PROJECT
CITY LIMITS	TERRACE
STATE OR NATIONAL LINE	CULVERTS
TOWNSHIP, SECTION or GRANT LINE	DROP INLET & STORM SEWER
PROPERTY LINE	ACCESS CONTROL
HIGHWAY FENCE	POWER POLE
EXISTING FENCE	TELEPHONE POLE
GUARDRAIL	MARSH
CONSTRUCTION LIMITS	HEDGE
RIGHT OF WAY LINE	TREES
TRAVELED WAY	PROFILE ELEVATION
RAILROADS	STREAM or CREEK

benesch

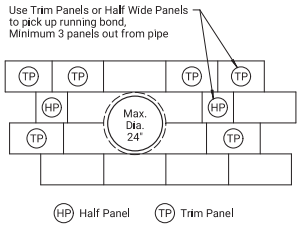
RECOM. FOR APPROVAL-DATE

Jeff Woodward, P.E., Director of Public Works
LOCAL PUBLIC OFFICIAL

	BY	DATE
SURVEYED		
PLOTTED		
INKED		
DESIGNED		
SQUAD		

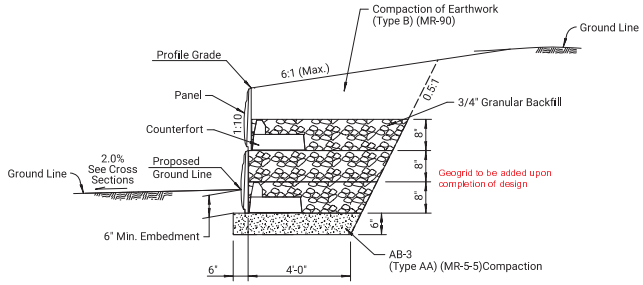
Plotted : 31-MAR-2022 14:43
Drawn By : junruh
File : 130803.00_TitleSht.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	2	46



Note:
1. Trim Panels to fit outside diameter of pipe.
2. No Geosynthetic Soil Reinforcement to be exposed around pipe.
3. Blockouts Shall be Subsidiary to "Landscape Retaining Wall".
4. The existing PVC pipes shall be extended or replaced as necessary if currently damaged to provide a clean finished look. Subsidiary to "Landscape Retaining Wall".

‹ 24" PIPE BLOCKOUT DETAIL



Note:
See Profile and Cross Sections for locations requiring 3 blocks in height.

RETAINING WALL

STA. 100+00.00 TO STA. 113+67.27
STA. 120+00.00 TO STA. 130+30.47
STA. 140+00.00 TO STA. 152+48.13
STA. 160+00.00 TO STA. 164+38.81
STA. 170+00.00 TO STA. 171+99.51

Retaining Wall General Notes

Modular Blocks:
All modular block units shall be the Lock+Load Retaining Wall System.

Contractor Construction Staking:
The Contractor is required to have a registered land surveyor lay out the retaining wall geometry to a construction tolerance not to exceed 2 inches.

Standard Specifications:
Standard Specifications relating to the Lock+Load system shall be followed and can be found at www.lock-load.com.

~~Submittal Requirements:~~
~~Actual retaining wall construction shall conform to the detail drawings as submitted by the Contractor and approved by the Engineer. The Contractor Shall submit one set of detail drawings and design calculations for the landscape retaining wall system 30 days prior to construction, for review and approval by the Engineer. Design calculations and detail drawings shall bear the seal of a professional engineer.~~

Basis of Payment:
The bid item "Landscape Retaining Wall", shall include all necessary ~~engineering design~~, geogrid reinforcement ~~if required~~, filter fabric, or any other items necessary for the installation of the wall in its entirety. ~~The wall will be designed per the manufacturer's recommendations~~. Excavation, Compaction, 3/4" Granular Backfill, and AB-3, will be included in other bid items. The bid price will be based on a "per face square foot" installed.

RECAPITULATION OF ROAD QUANTITIES

ITEM	QUANTITY	UNIT
Mobilization	LSUM	LSUM
Contractor Construction Staking	LSUM	LSUM
Removal of Existing Structures	LSUM	LSUM
Clearing and Grubbing	LSUM	LSUM
Common Excavation	2,215	CUYD
Compaction of Earthwork (Type AA)(MR-5-5)	366	CUYD
Compaction of Earthwork (Type B)(MR-90)	1,047	CUYD
Landscape Retaining Wall	14,241	FF
Aggregate Base (AB-3)	366	CUYD
3/4" Granular Backfill	1,942	CUYD
Sidewalk Construction (4")(AE)	402	SQYD
Concrete (Grade 4.0)(Plain)(Flume)	16	SQYD
Soil Erosion Mix	LSUM	LSUM
Silt Fence	3,663	LIN FT
Water (Erosion Control) (Set Price)	1	MGAL
Construction Access	LSUM	LSUM

Note: Traffic Control by Street Department

Note:
1. Existing Retaining Wall to be removed and Salvaged to the City of McPherson's stockpile at 1320 Treatment Plant Road. The material shall be relatively clean and free of soil. Any additional excavation during the project Shall be wasted off site at a location provided by the Contractor and approved by the Engineer. The existing wall is generally composed of old Sakrete material with sporadic rebar throughout. The existing wall removal will be paid for as "Removal of Existing Structures" and will be paid as a lump sum. The Existing Wall removal has been estimated at 4,300' in length, approximately 2' tall, and 1.25' deep.

SUMMARY OF QUANTITIES

Location	Sta. to Sta.	Landscape Retaining Wall (FF)	AB-3 (CY)	3/4" Granular Backfill (CY)	Common Excavation (CY)	Compaction (Type AA) (MR-5-5) (CY)	Compaction (Type B) (MR-90) (CY)
Wall A	100+00.00 - 113+67.27	4,827.4	116.5	669.7	752.3	116.5	421.3
Wall B	120+00.00 - 130+30.47	3,227.9	87.8	428.7	556.7	87.8	232.2
Wall C	140+00.00 - 152+48.13	4,515.9	106.3	634.0	595.5	106.3	275.5
Wall D	160+00.00 - 164+38.81	1,153.2	37.6	143.3	226.0	37.6	86.1
Wall E	170+00.00 - 171+99.51	516.3	17.2	65.4	83.6	17.2	31.7
	Totals	14,240.7	365.4	1,941.1	2,214.1	365.4	1,046.8

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

TYPICAL SECTION

Sh. No. 2

DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44
Drawn By : junruh
File : rts-01.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	3	46

CP-50:
5/8" Rebar w/Red GSS Cap at South end of project +/- 3.0' North of Concrete for disk golf course.
N=1934203.49 E=1555279.92

CP-53:
5/8" Rebar w/Red GSS Cap Northeast Quadrant Euclid and East Lakeside, +/- 4.0' South of sidewalk.
N=1934261.42 E=1555709.34

HORIZONTAL DATUM:
U.S. Survey Feet
NAD83-1502 Kansas South Zone

HORIZONTAL BASIS:
OPUS established control point
Point Number 1
N=1933411.98
E=1558343.15
Monument Description: 5/8" Rebar w/Green GSS Cap

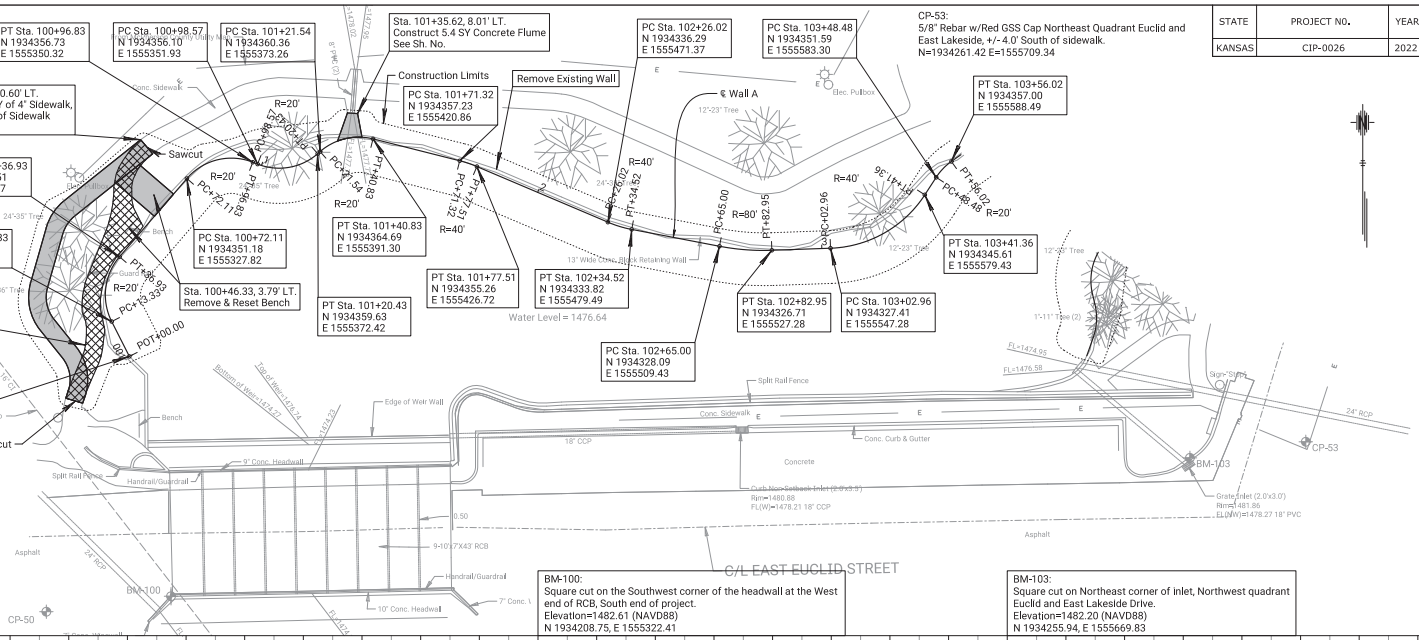
Project Coordinates have been modified to ground:
C.S.F.=0.999899424117
Scaling point:
N=1933411.98
E=1558343.15

VERTICAL DATUM:
NAVD88

VERTICAL BASIS:
OPUS established control point
Point Number 1
Elevation:1495.90 NAVD88
Monument Description: 5/8" Rebar w/Green GSS Cap

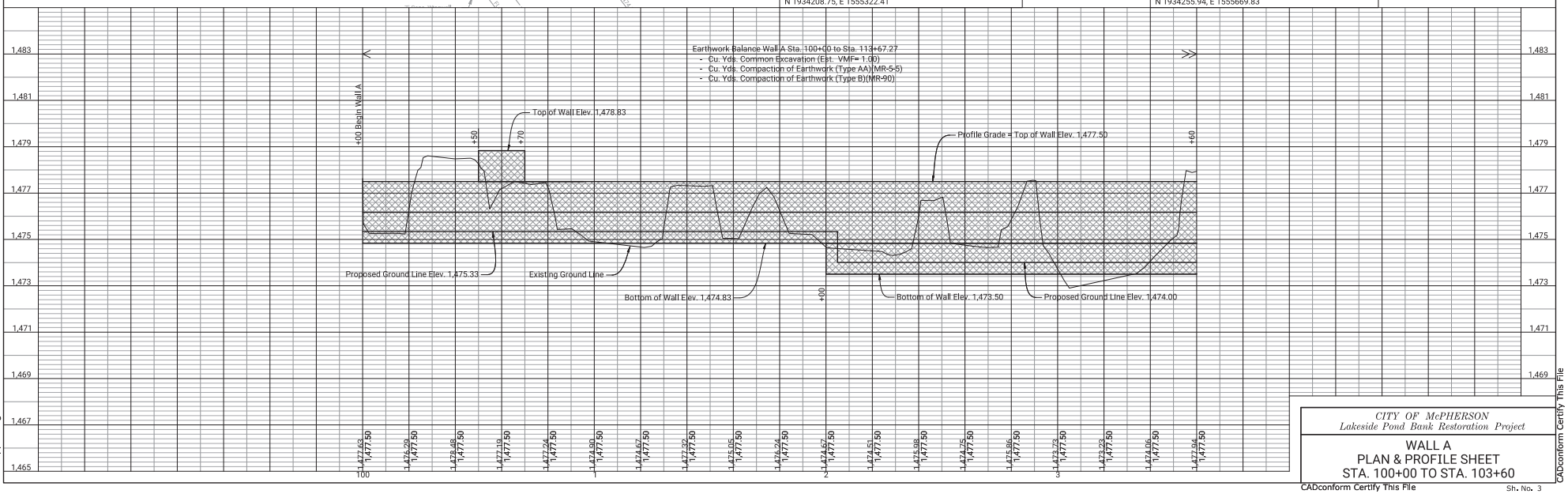
Legend
- Sidewalk Removal
- Proposed 4" Sidewalk

SCALE
PLAN: Lat. & Long. 20' 0 20' 40'
PROFILE: Horiz. same as above
Vert.



BM-100:
Square cut on the Southwest corner of the headwall at the West end of RCB, South end of project.
Elevation=1482.61 (NAVD88)
N 1934208.75, E 1555322.41

BM-103:
Square cut on Northeast corner of inlet, Northwest quadrant Euclid and East Lakeside Drive.
Elevation=1482.20 (NAVD88)
N 1934255.94, E 1555669.83



CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

WALL A
PLAN & PROFILE SHEET
STA. 100+00 TO STA. 103+60

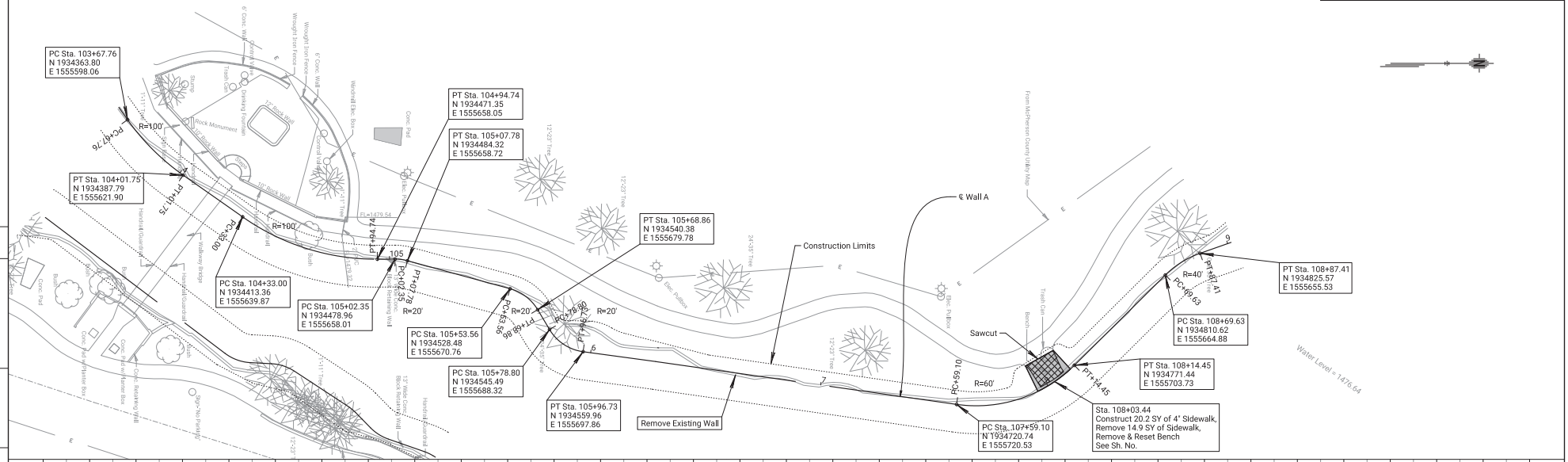
CADconform Certify This File

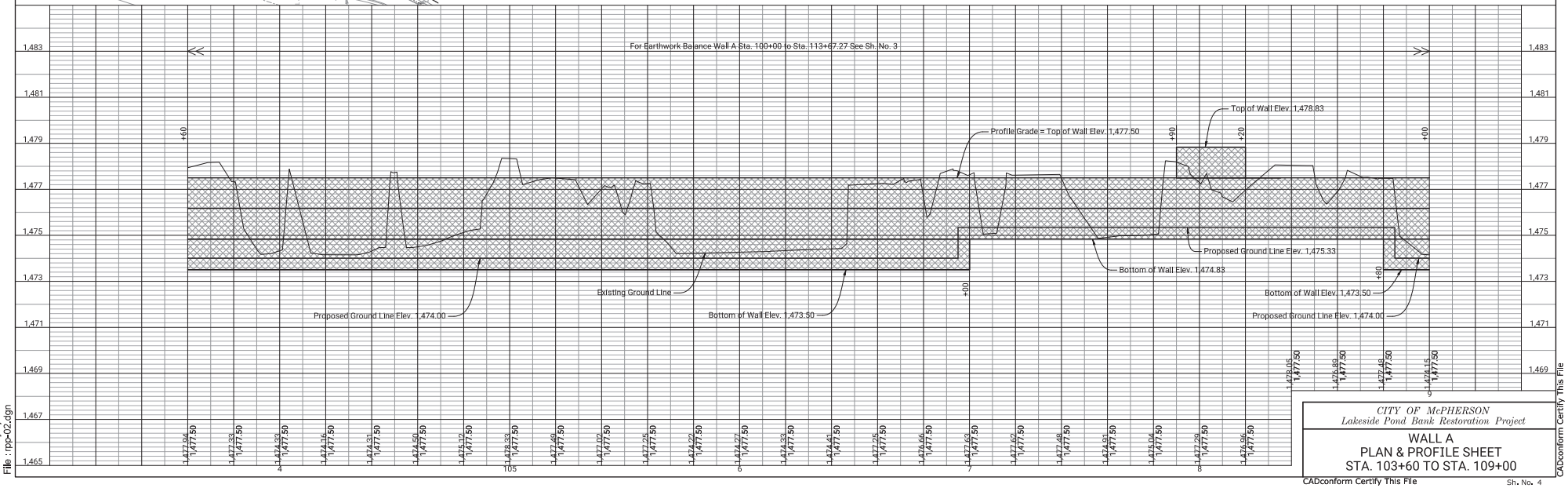
Sh. No. 3

DATE	BY	REFERENCES NOTED / REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44
Drawn By : junruh
File : rpp-01.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	4	46





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-02.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

WALL A
PLAN & PROFILE SHEET
STA. 103+60 TO STA. 109+00

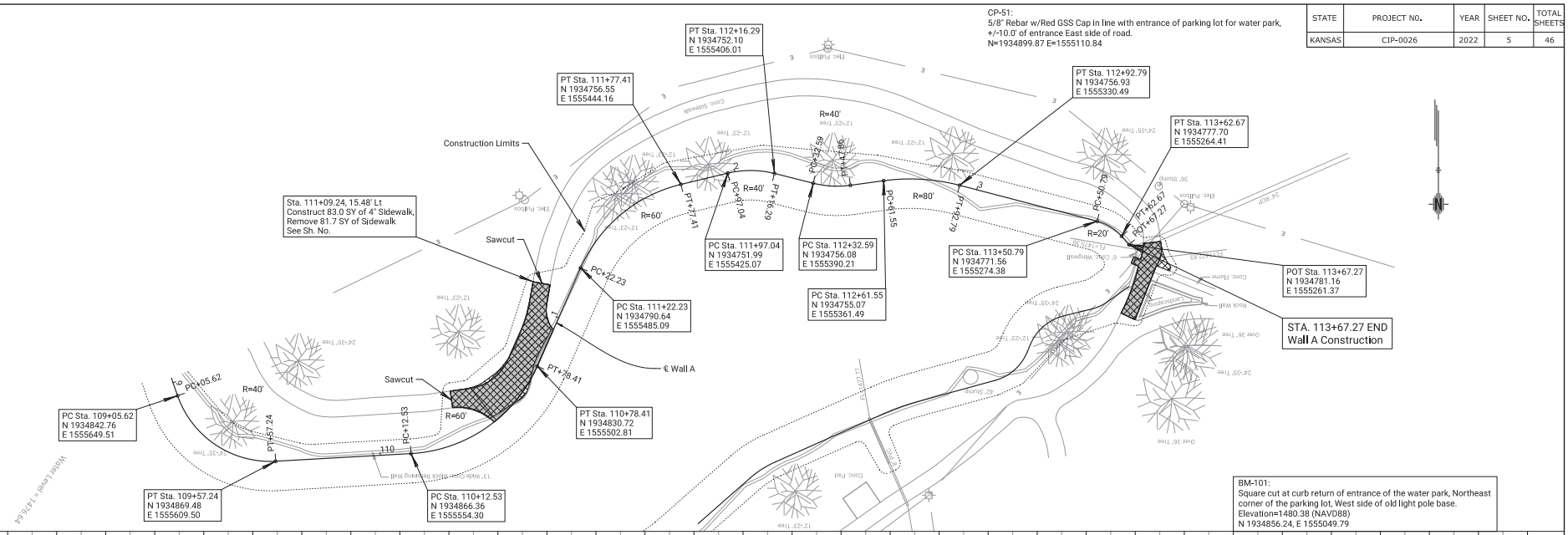
CADconform Certify This File

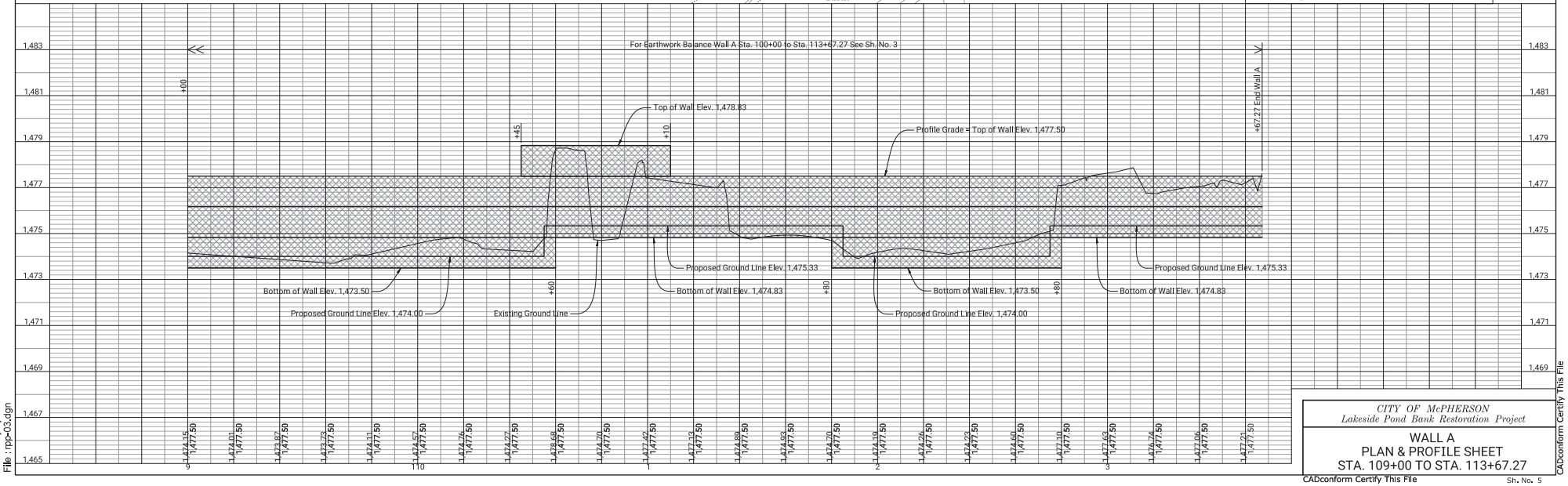
Sh. No. 4

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	5	46

CP-51:
5/8" Rebar w/Red GSS Cap in line with entrance of parking lot for water park, +/-10.0' of entrance East side of road.
N=1934899.87 E=1555110.84





CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

WALL A
PLAN & PROFILE SHEET
STA. 109+00 TO STA. 113+67.27

CADconform Certify This File

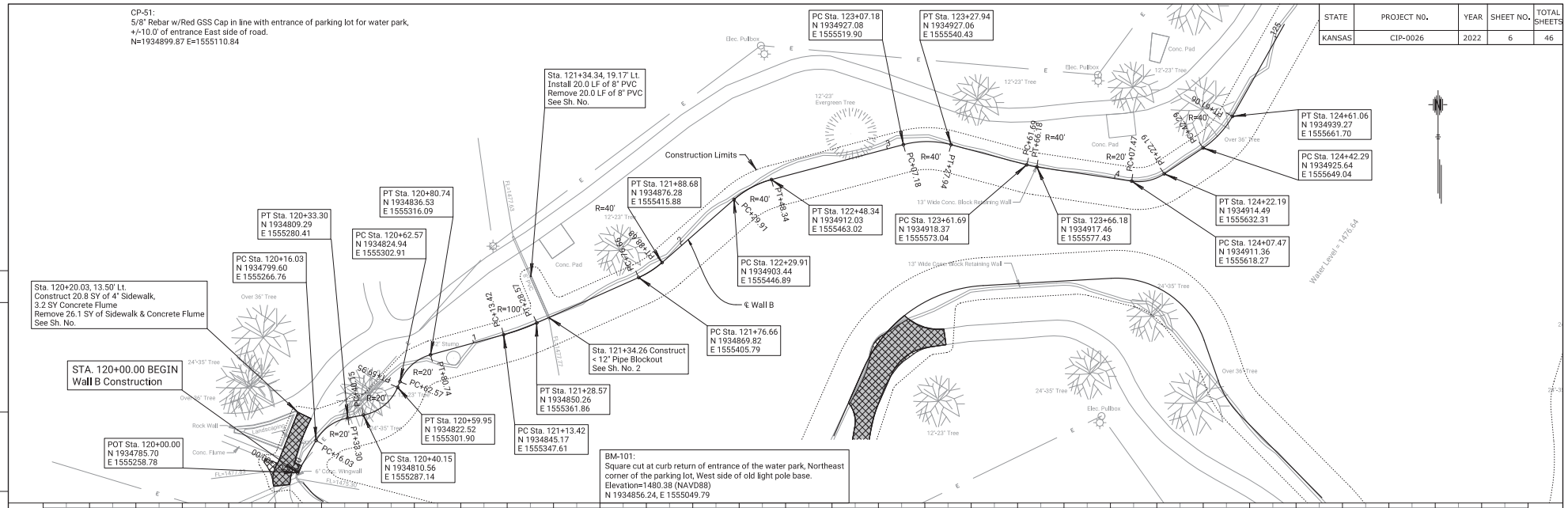
Sh. No. 5

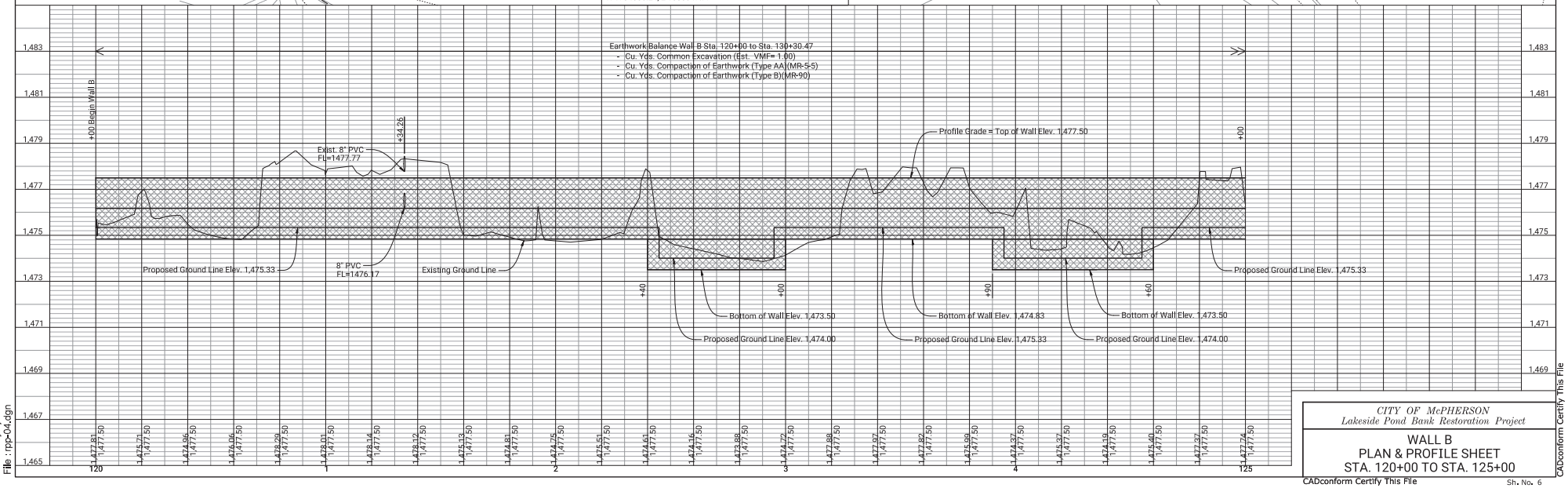
DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44
Drawn By : junruh
File : rpp-03.dgn

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	6	46





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-04.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

WALL B
PLAN & PROFILE SHEET
STA. 120+00 TO STA. 125+00

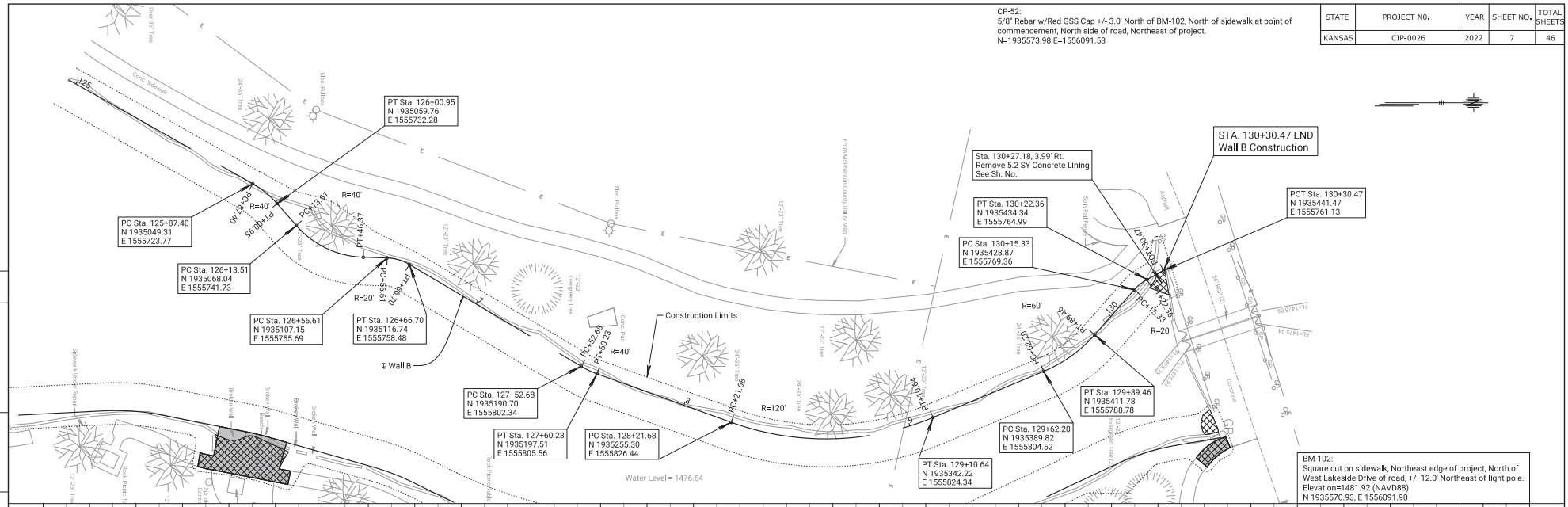
CADconform Certify This File

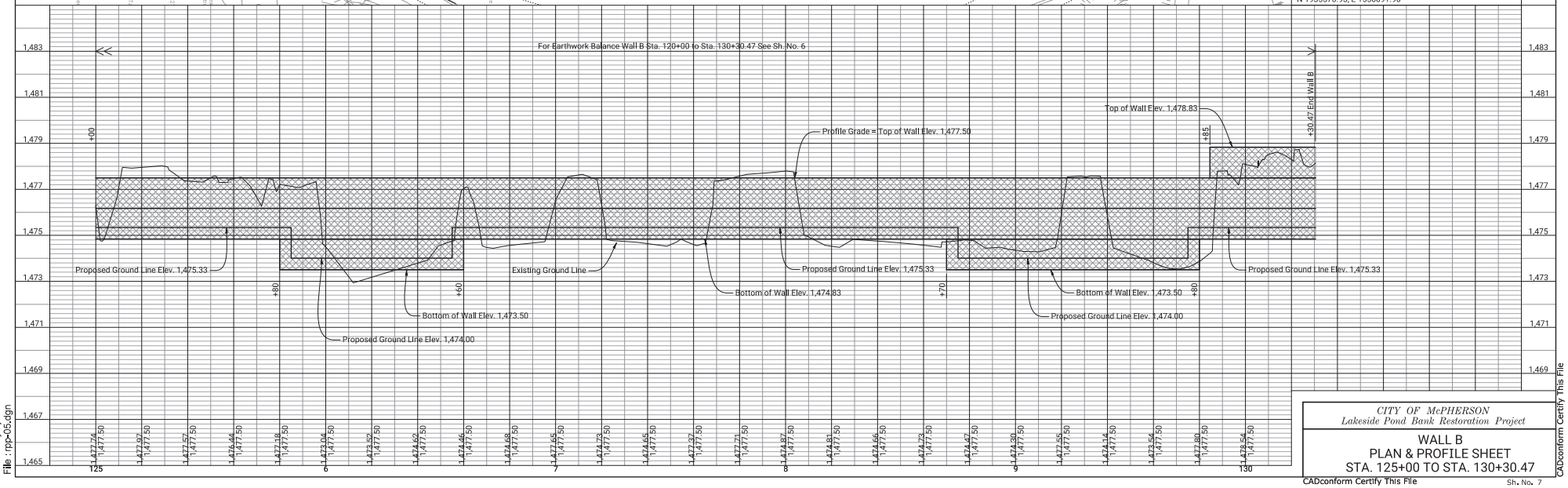
Sh. No. 6

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	7	46

CP-52:
5/8" Rebar w/Red GSS Cap +/- 3.0' North of BM-102, North of sidewalk at point of commencement, North side of road, Northeast of project.
N=1935573.98 E=1556091.53





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44
Drawn By : junruh
File : rpp-05.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

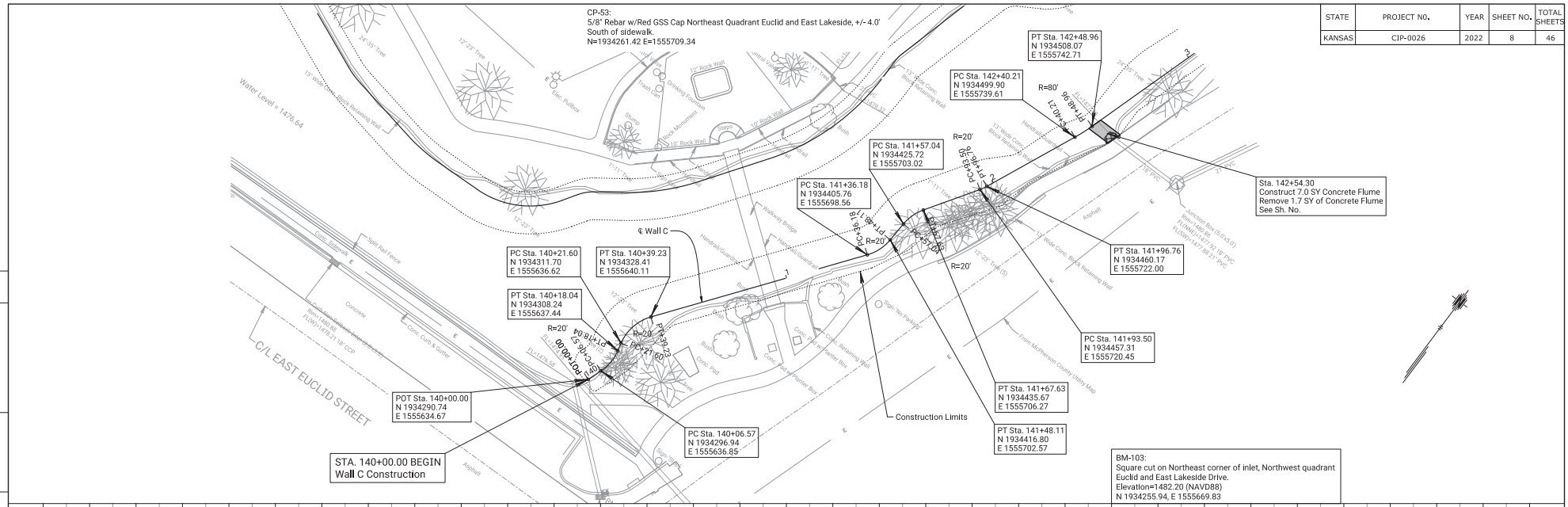
WALL B
PLAN & PROFILE SHEET
STA. 125+00 TO STA. 130+30.47

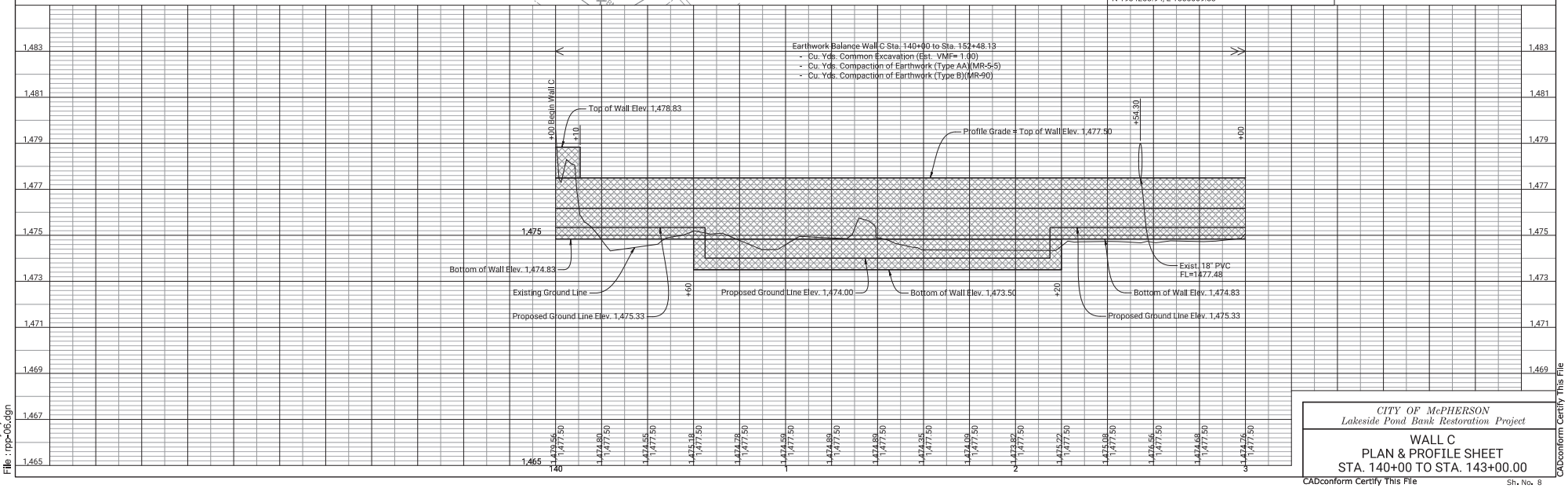
CADconform Certify This File

Sh. No. 7

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	8	46





DATE	BY	REFERENCES NOTED REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-06.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

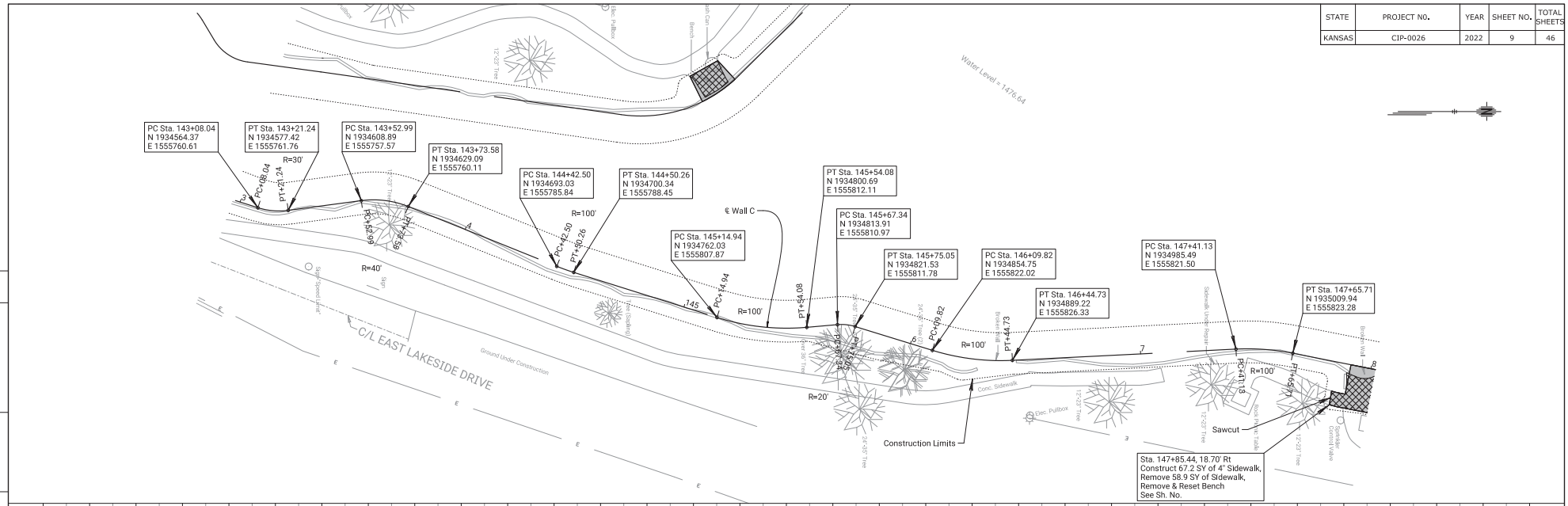
WALL C
PLAN & PROFILE SHEET
STA. 140+00 TO STA. 143+00.00

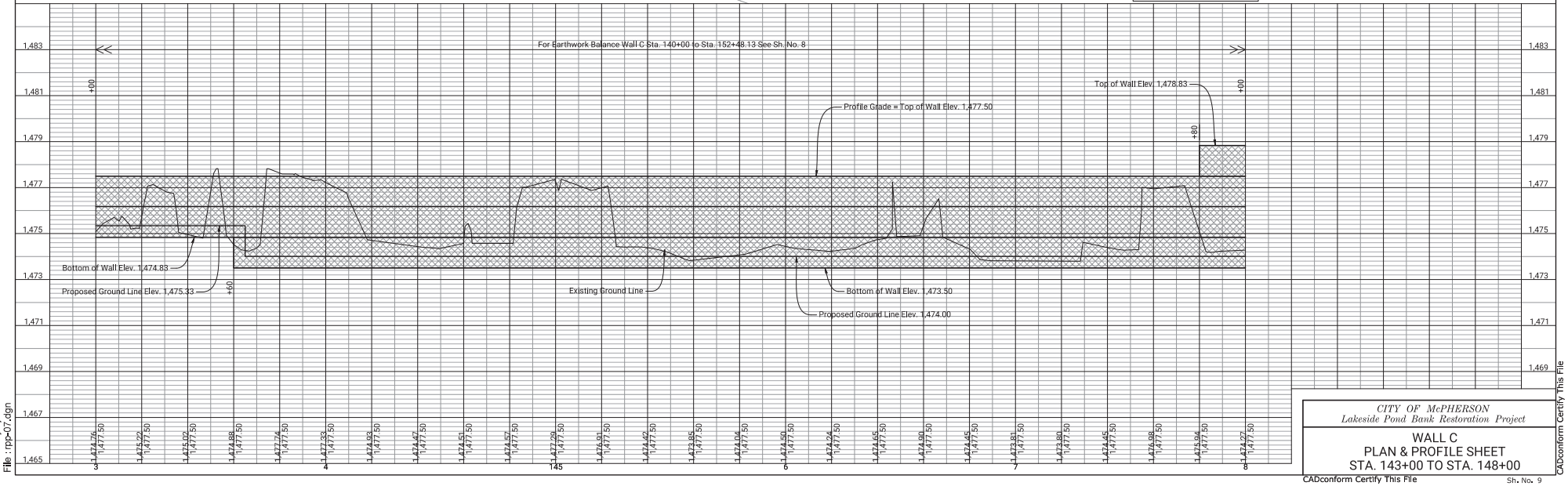
CADconform Certify This File

Sh. No. 8

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	9	46





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-07.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

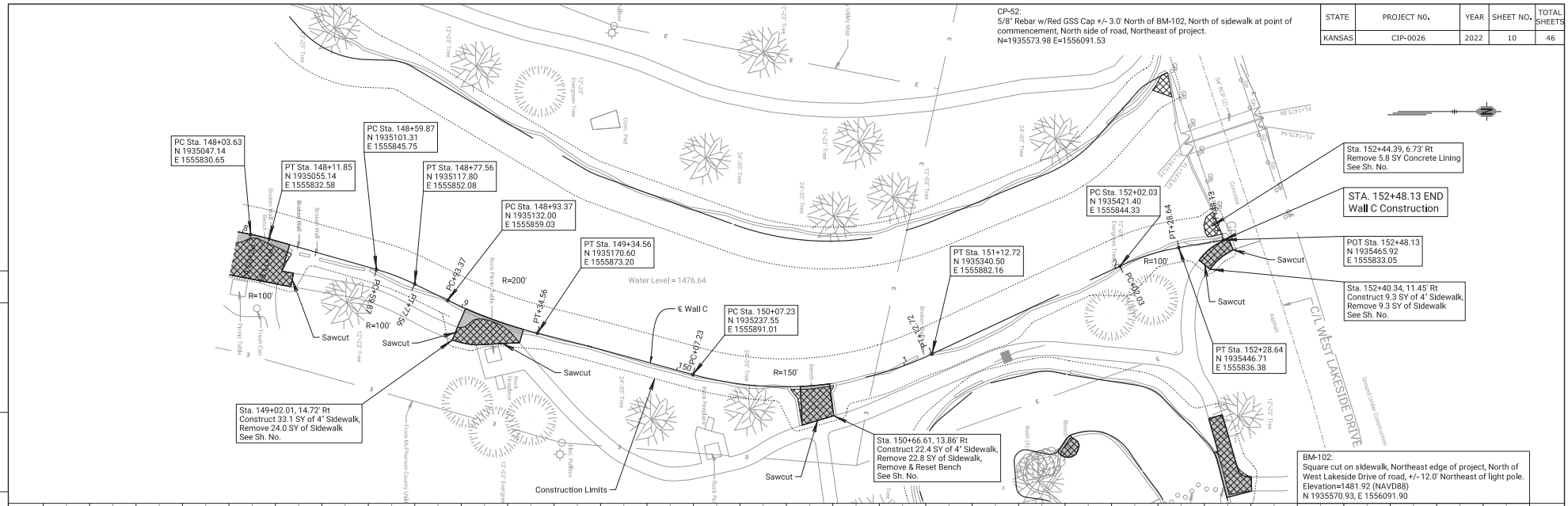
WALL C
PLAN & PROFILE SHEET
STA. 143+00 TO STA. 148+00

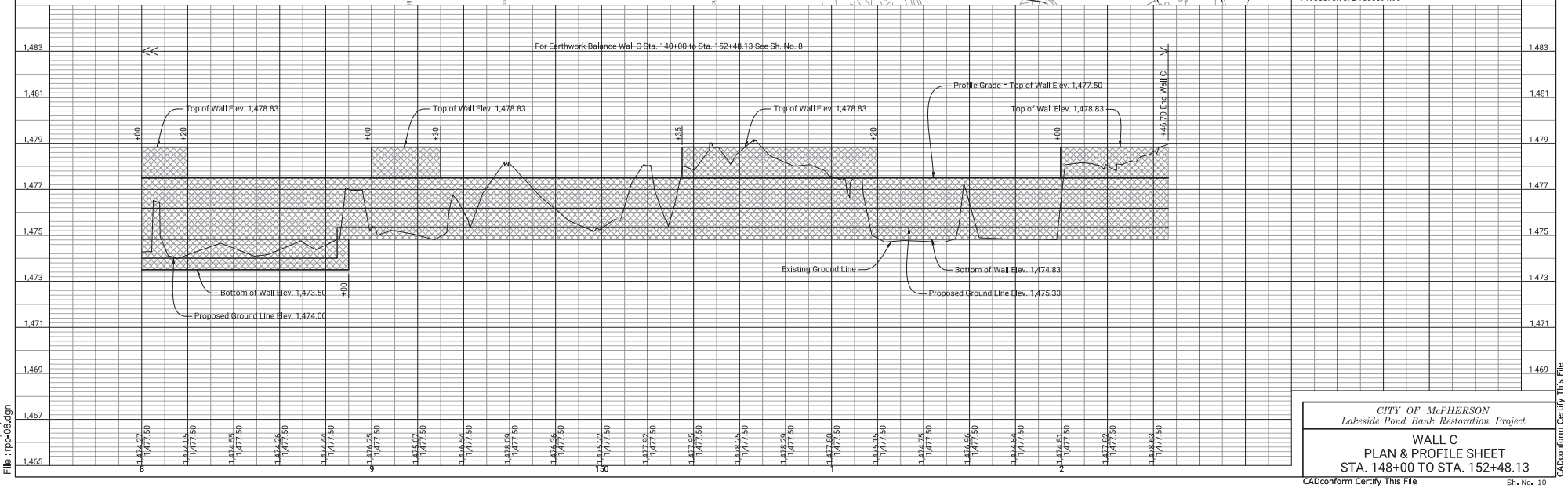
CADconform Certify This File

Sh. No. 9

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	10	46





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-08.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

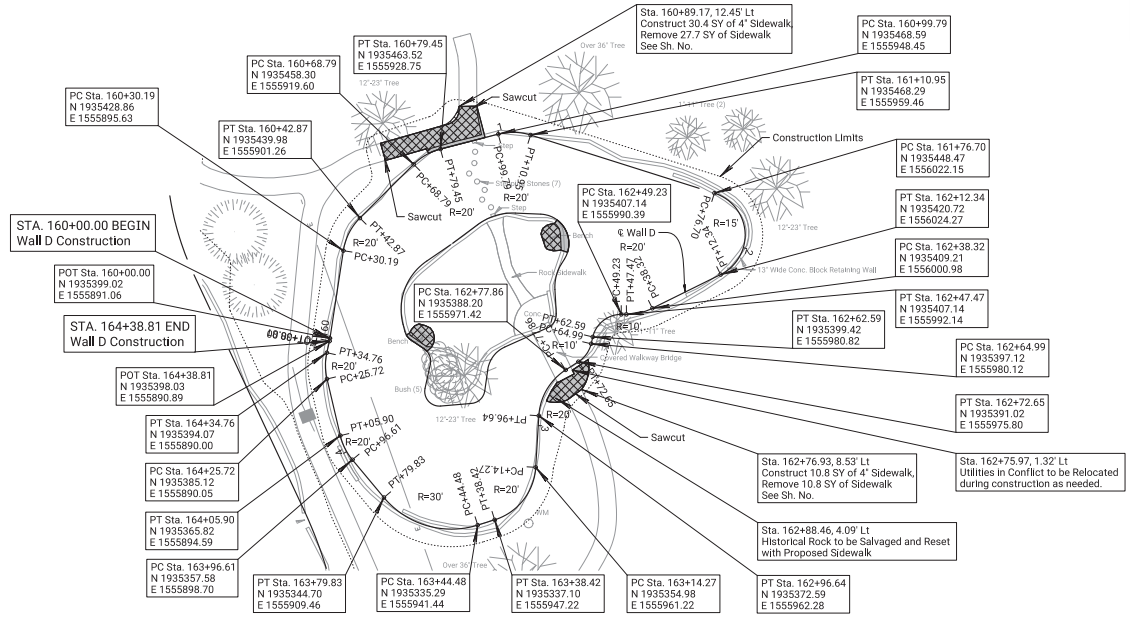
WALL C
PLAN & PROFILE SHEET
STA. 148+00 TO STA. 152+48.13

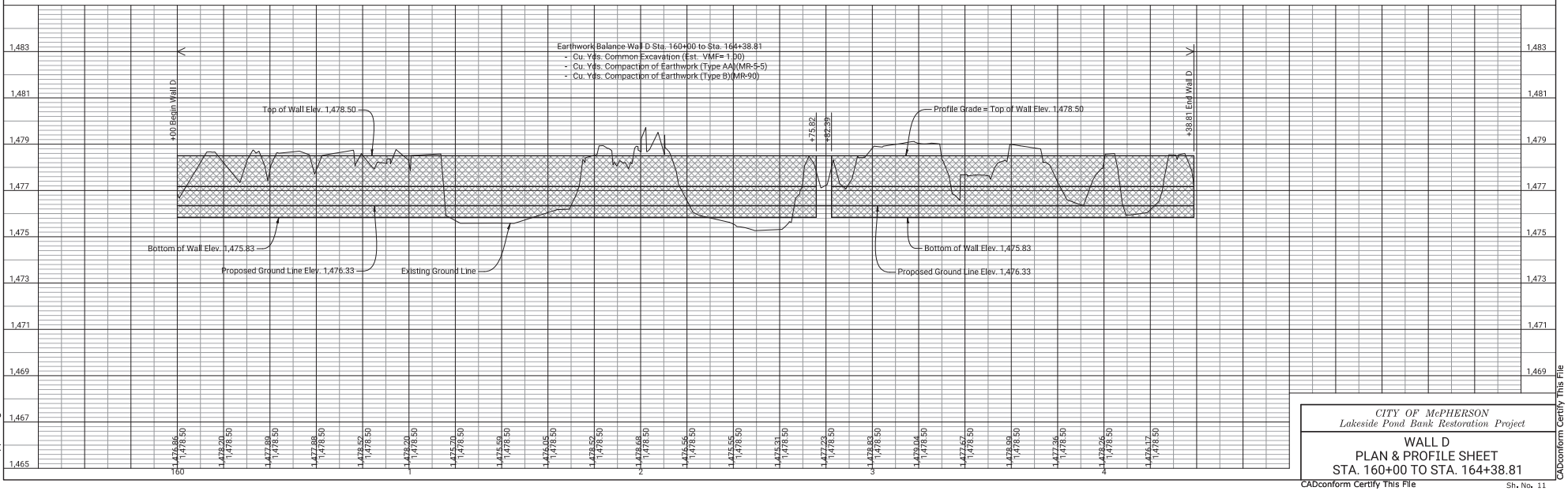
CADconform Certify This File

Sh. No. 10

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	11	46





DATE	BY	REFERENCES NOTED
		REFERENCES CHECKED

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : rpp-09.dgn

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

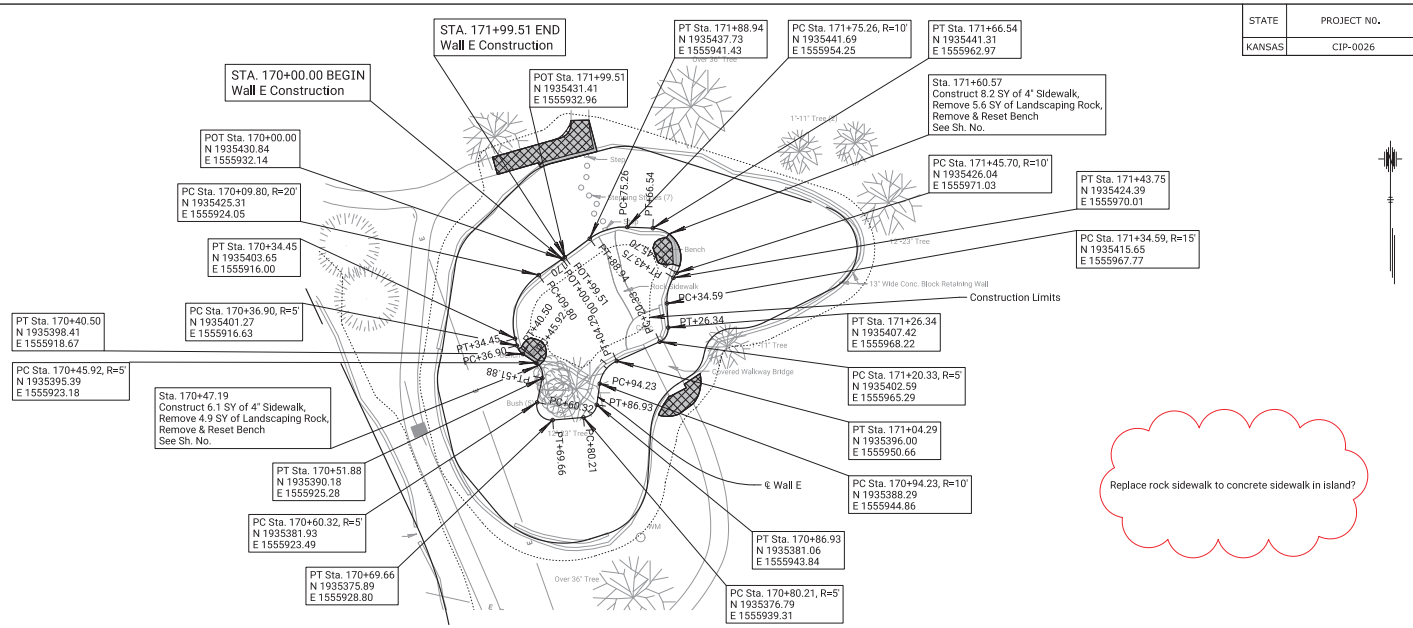
WALL D
PLAN & PROFILE SHEET
STA. 160+00 TO STA. 164+38.81

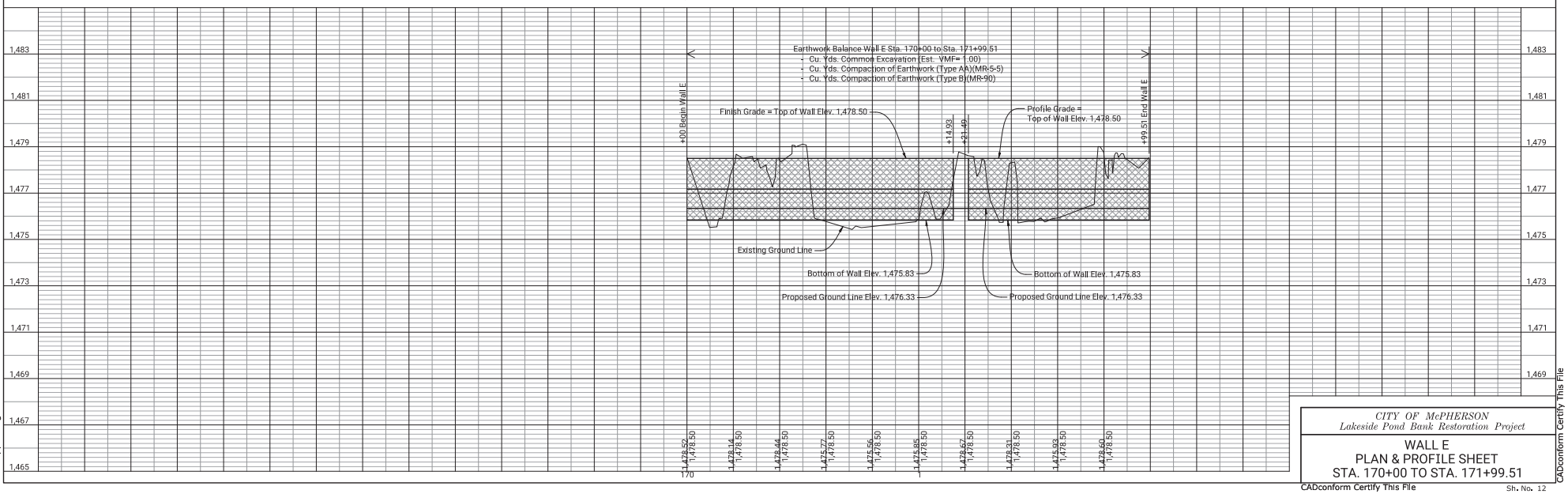
CADconform Certify This File

Sh. No. 11

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	12	46





CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

WALL E
PLAN & PROFILE SHEET
STA. 170+00 TO STA. 171+99.51

CADconform Certify This File

Sh. No. 12

REFERENCES NOTED	BY	DATE
REFERENCES CHECKED		

Plotted : 31-MAR-2022 14:44

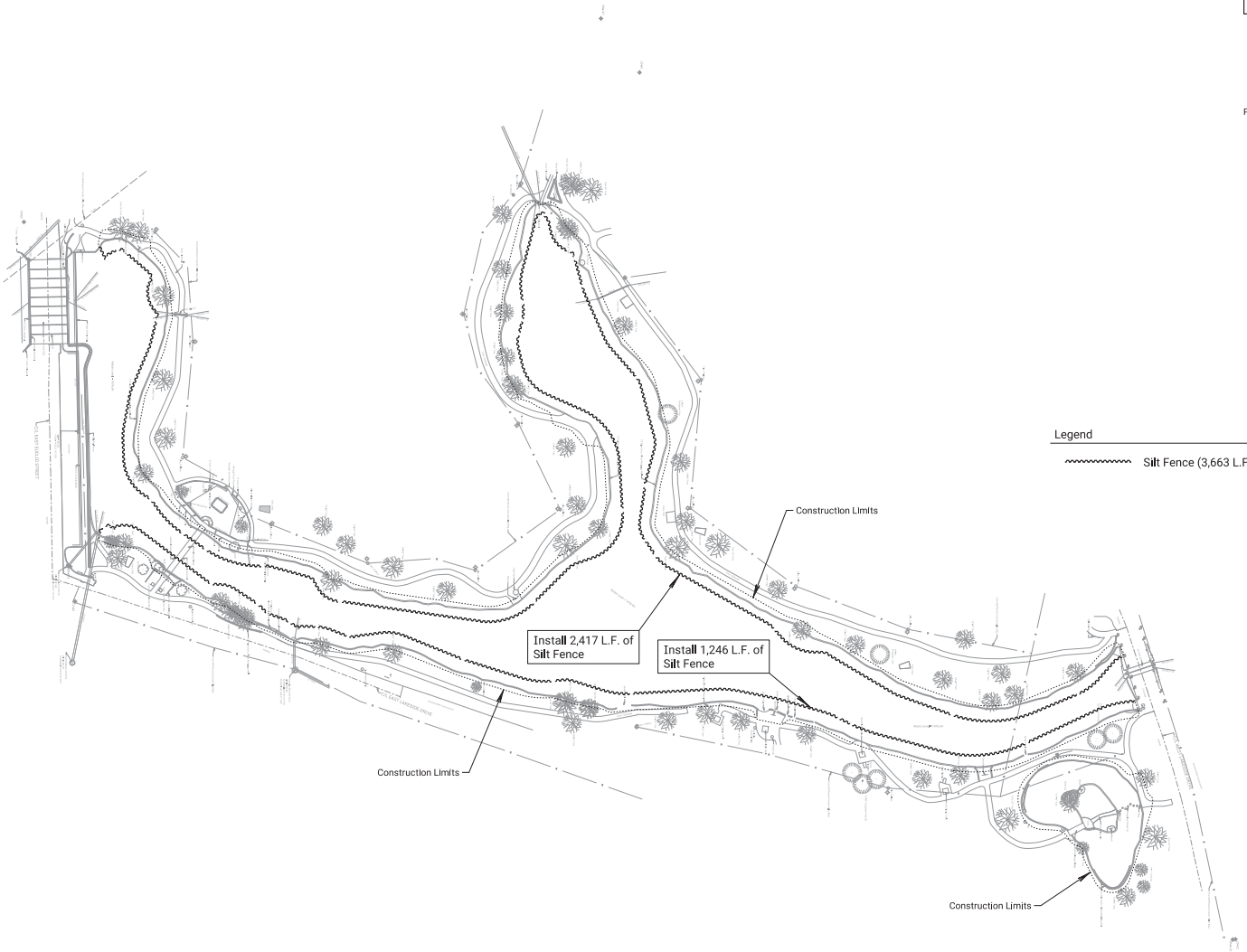
Drawn By : junruh
File : rpp-10.dgn

CADconform Certify This File

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0027	2022	13	46

SCALE

PLAN: Lat. & Long. 60' 0 60' 120'



Legend

Silt Fence (3,663 L.F.)

REFERENCES NOTED	BY	DATE
REFERENCES CHECKED		

Plotted : 31-MAR-2022 14:44

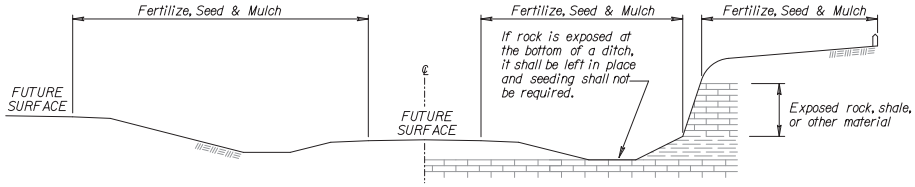
Drawn By : junruh
File : rec-01.dgn

CITY OF McPHERSON
Wall Park Bank Restoration Project

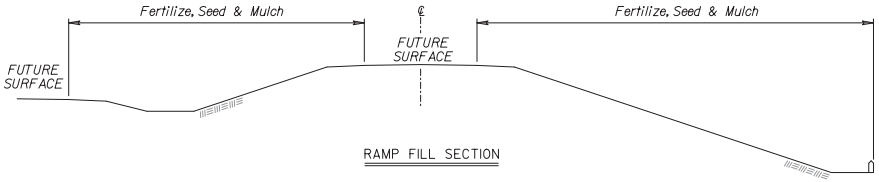
EROSION CONTROL PLAN

Sh. No. 13

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	14	46



RAMP CUT SECTION



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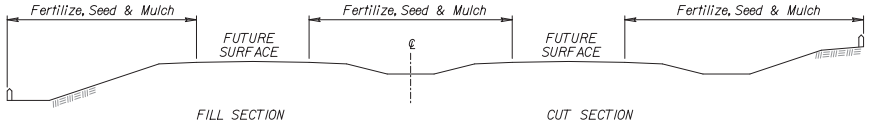


FILL SECTION CUT SECTION

TYPICAL SECTION - DUAL PAVEMENT

FERTILIZER: A ratio and application rate that equals or exceeds the required minimum rate per acre of N, P_2O_5, K_2O listed in Summary of Quantities will be acceptable.

* - N = Nitrogen Rate of Application
** - P_2O_5 = Phosphorous Rate of Application
*** - K_2O = Potassium Rate of Application

The Contractor will be required to finish areas of excavation, borrow and embankment in accordance with the specifications. Areas that require installation or construction of temporary water pollution control items will be finished in reasonable close conformity to the alignment, grade and cross section shown on the plans or as established by the Engineer.

CLT = Construction Limit Tract. This area is defined by the entire disturbed area of the project that requires seeding and erosion control measures to be placed. Any impervious areas (i.e. pavement, gravel, riprap, etc.) shall not be included in this measurement.

Slope = Defined by the area of the project that requires Class 1 erosion control material to be placed. This area shall be seeded using the Soil Erosion Mix prior to placement of the material. Drilling seed is preferred, however, broadcasting is acceptable if drilling is not possible.

Channel = Defined by the area of the project that requires Class 2 erosion control material to be placed. This area shall be seeded using the Soil Erosion Mix prior to placement of the material. Drilling seed is preferred, however, broadcasting is acceptable if drilling is not possible.

GENERAL NOTES

The entire disturbed area, excepting the paved or surfaced areas, steep rocky slopes and areas of undisturbed native sod or other desirable vegetation shall be fertilized (limed when required), seeded, and mulched. Soil preparation shall conform to the Standard Specifications.

Temporary seeding shall be done during any time of the year that the soil can be cultivated. After the temporary seeding has been completed on the entire project, permanent seeding shall be done during the normal seeding season.

MULCHING: Mulch shall be spread uniformly over all disturbed areas and punched in the soil, unless otherwise noted on the plans. The rate of application per acre, thickness in place, for the mulching materials is generally as follows:

$1\frac{3}{4}$ - $2\frac{1}{4}$ Tons per Acre = $1\frac{1}{2}$" loose depth spread uniformly over acre.

Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.
Other vegetative mulches are acceptable only with the Engineer's concurrence.

The above rate is a guide. It will be at the discretion of the Engineer to determine what rate is sufficient for adequate protection of newly seeded areas.

SUMMARY OF SEEDING / EROSION CONTROL QUANTITIES

P.L.S. RATE/ ACRE		ACRES		BID ITEM	QUANTITY	UNIT
CLT	SL/CH	CLT	SL/CH			
				Temporary Fertilizer (* - ** - ***)		LB
				Temporary Seed (Canada Wildrye)		LB
				Temporary Seed (Grain Oats)		LB
				Temporary Seed (Sterile Wheatgrass)		LB
				Soil Erosion Mix	XX	LB
				Erosion Control (Class 1, Type C)	XX	SQ YD
				Erosion Control (Class 2, Type Y)		SQ YD
				Sediment Removal (Set Price)		CU YD
				Synthetic Sediment Barrier		LF
				Temporary Berm (Set Price)		LF
				Temporary Ditch Check (Rock)		CU YD
				Temporary Inlet Sediment Barrier		EACH
				Temporary Sediment Basin		CU YD
				Temporary Slope Drain		LF
				Temporary Stream Crossing		EACH
				Biodegradable Log (9")		LF
				Biodegradable Log (12")		LF
				Biodegradable Log (20")		LF
				Filter Sock (****)		LF
				Geotextile (Erosion Control)		SQ YD
				Silt Fence	3,663	LF
				SWPPP Design †		LS
				SWPPP Inspection †		EACH
				Water Pollution Control Manager †		EACH
900 lbs / acre				Mulch Tacking Slurry		LB
2 tons / acre				Mulching		TON
				Water (Erosion Control) (Set Price)	1	MGAL

NOTE: Projects less than 1 acre shall be bid as "Seeding" by the lump sum. See Permanent Seeding Summary of Seeding Quantities sheet LA850 for further details.

Geotextile (Erosion Control) shall be removed prior to placement of permanent slope protection.

Regreen and Quick Guard are the approved sterile wheatgrass products.

† If the total disturbed area of the project, not just the seeding area, is 1 acre or more, then these bid items must be included.

**** List size of material.

The amount of mulch and mulch tacking slurry in the bid quantities is estimated. (Acres of Seeding X 1.5 X 2 Tons/Acre). The estimated quantity includes mulching associated with both temporary and permanent seeding operations. The total mulch and mulch tacking slurry required shall be determined in the field. The bid item for mulching and mulch tacking slurry shall be paid for according to the Standard Specifications.

Quantities for all erosion control items are estimated to give full flexibility for compliance with the NPDES permit. Final quantities will be determined in the field.

SOIL EROSION MIX

PLS RATE	NAME	QTY (lb)
150	Fertilizer (16 - 20 - 0)	XX.X
180	Seed (Fescue)(Tall Turf Type Blend)	XX.X
	Total (lb)	XX.X

The Soil Erosion Mix is to be placed under the Class 1 and/or Class 2 erosion control material.

The Soil Erosion Mix consists of the Shoulder Area of the Permanent Seed Mix used on the project.

NO.	DATE	REVISIONS	BY	APP'D
3	08/03/20	Added Note	MRD	ML
2	12/01/17	Revised Standard	MRD	SHS
1	06/01/17	Revised Standard	MRD	SHS

KANSAS DEPARTMENT OF TRANSPORTATION

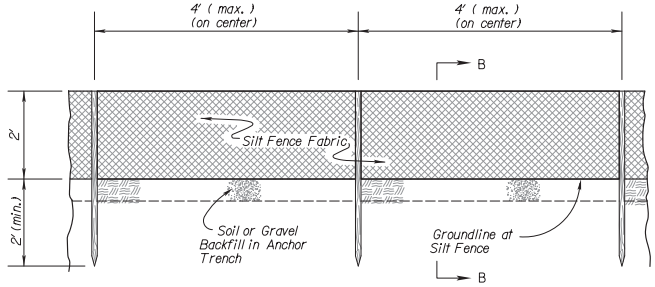
TEMPORARY EROSION AND POLLUTION CONTROL

LA852A

FHWA APPROVAL		1/26/2018	APP'D	Scott H. Shields	
DESIGNED	MRD	DETAILED	MRD	QUANTITIES	CADD
DESIGN CK.	SHS	DETAIL CK.	SHS	QUAN.CK.	CADD CK.

Std. Base File:
Plotted By: Jurrah | Plot Location:
File: la852a.dgn
Plot Date: 31-MAR-2022 14:44

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	15	46



TYPICAL ELEVATION

SILT FENCE BARRIER

NO SCALE

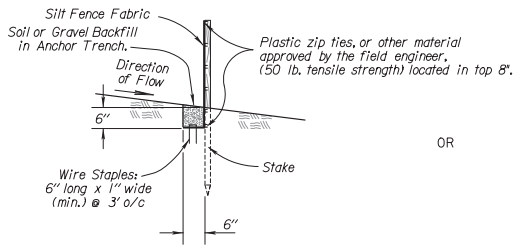
INSTALLATION NOTES

SILT FENCE:

1. Stakes shall be 4' (min.) long and of one of the following materials:
   a. Hardwood - 1 3/16" x 1 3/16";
   b. Southern Pine (No. 2) - 2 5/8" x 2 5/8";
   c. Steel U.T.L. or C Section - .95 lbs. per 1'-0"; or
   d. Synthetic - same strength as wood stakes.
2. Attach fence fabric with 3 zip ties within the top 8" of the fence
   Alternate attachment methods may be approved by the Engineer on a performance basis.
3. Use of high flow material is acceptable.
4. Refer to plan sheets to estimate the length of silt fence required.

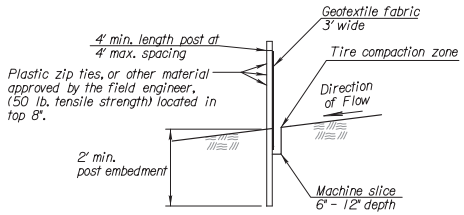
BIODEGRADABLE LOG OR FILTER SOCK

1. Place biodegradable logs or filter sock tightly together minimum overlap of 18".
2. Wood stakes shall be 2" x 2" (nom.).
3. Refer to plan sheets to estimate length of biodegradable log and filter sock required.
4. Each log or sock (except compost filter socks) should be keyed into the ground at a minimum of 25% of its height. Compost filter socks should be placed on smooth prepared ground with no gaps between the sock and soil.
5. Length of stakes should be 2 times the height of the log at a minimum with minimum ground embedment equal to the height of the log / sock.



SECTION B-B

OR



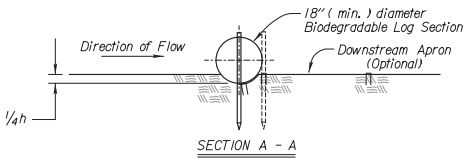
SECTION B-B

Biodegradable Log or Filter Sock Slope Interruptions

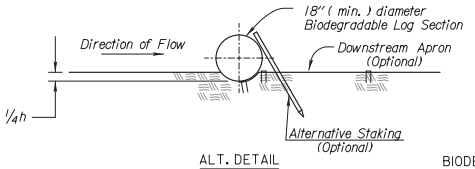
		PRODUCT		
		9" Sediment Log or 8" Filter Sock (ft)	12" Sediment Log or 12" Filter Sock (ft)	20" Sediment Log or 18" Filter Sock (ft)
Slope Gradient	≤4H:1V	40	60	80
	3H:1V	30	45	60

Deviations should be approved by the Field Engineer.

BIODEGRADABLE LOG MATERIAL		
	LOW FLOW	HIGH FLOW
9"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
12"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber
18"-20"	Straw/Compost	Excelsior / Wood Chips / Coconut Fiber

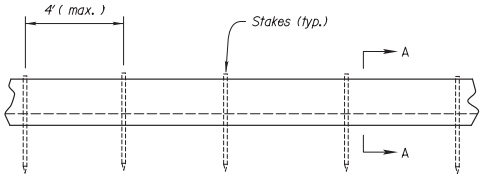


SECTION A - A



ALT. DETAIL

OPTIONAL



TYPICAL ELEVATION

BIODEGRADABLE LOG SLOPE INTERRUPTIONS

OR Filter Sock

GENERAL NOTES

1) Slope interruptions shall be placed along contour lines, with a short section turned upgrade at each end of the barrier.

2) The maximum length of the slope interruptions shall not exceed 250 feet, and the barrier ends need to be staggered.

3) Interruptions damaged by Contractor's negligence, including improper maintenance or lack of maintenance, shall be repaired immediately by Contractor at no additional cost to KDOT.

4) Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.

NO.	DATE	REVISIONS	BY	APP'D
3	6/28/16	Revised Standard	RA	SHS
2	3/01/15	Revised Standard	RA	SHS
1	6/01/13	Revised Standard	MRM	SHS

KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY EROSION AND POLLUTION CONTROL

SLOPE INTERRUPTIONS
BIODEGRADABLE LOG / SILT FENCE

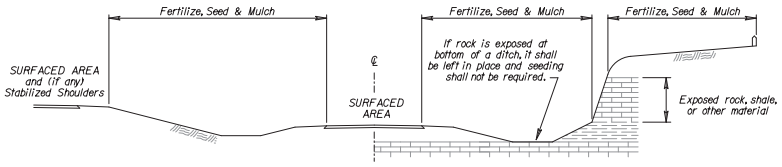
LA852D

FHWA APPROVAL		9/14/2016	APP'D		Scott H. Shields
DESIGNED	SHS	DETAILED	RA	QUANTITIES	CADD
DESIGN CK.	SHS	DETAIL CK.		QUAN.CK.	CADD CK.

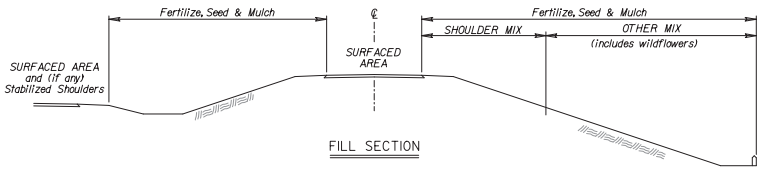
Sh. No. 15

Std. Base File:	
Plotted By: Jurrah	Plot Location:
File: la852d.dgn	
Plot Date: 31-MAR-2022 14:44	

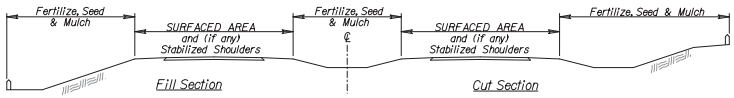
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	16	46



CUT SECTION



FILL SECTION



TYPICAL SECTION - DUAL PAVEMENT

GRASS & WILDFLOWER SEEDING SEASONS

COOL SEASON GRASSES	WARM SEASON GRASSES & WILDFLOWERS
February 15 thru April 20 August 15 thru September 30	November 15 thru June 1
SPECIES	SPECIES
Bluegrasses	Bermuda Grass
Brome Grasses	Big Bluestem
Canada Wildrye	Blue Grama
Fescues	Buffalo Grass
Prairie Junegrass	Indiangrass
Ryegrasses	Little Bluestem
Sterile Wheatgrass	Sand Bluestem
Tall Dropseed	Sand Dropseed
Western Wheatgrass	Sand Lovegrass
	Side Oats Grama
	Switchgrass
	Wildflower Mixes

When the area to be seeded is 1 acre or more, if Cool Season grasses are mixed with Warm Season grasses, seed the area during the Warm Season.

When the area to be seeded is less than 1 acre, seed the area any time of the year.

SODDING SEASONS

COOL SEASON GRASSES	WARM SEASON GRASSES
March 1 thru April 15 September 1 thru November 15	May 15 thru September 1
SPECIES	SPECIES
Bluegrass Sod	Buffalo Grass Sod
Fescue Sod	

If the soil is workable, the Engineer may allow placement of sod between November 15 and March 1. If sod is placed during this time, maintain the sod until 20 days after the beginning of the spring sodding season.

GENERAL NOTES

The entire disturbed area, excepting the paved or surfaced areas, steep rocky slopes and areas of undisturbed native sod or other desirable vegetation shall be fertilized (limed when required), seeded and mulched. Soil preparation shall conform to the Standard Specifications except as noted below.

All borrow areas shown on the plans are to be fertilized, seeded, and mulched. However, operation in borrow areas where crops are growing may be omitted when requested by the owner.

If temporary cover has provided stable slopes with no erosion, seed the permanent grasses into the existing cover. If there has been erosion that requires repair prior to seeding, then it may be necessary to regrade the area, resulting in bare ground.

FERTILIZER: A ratio and application rate that equals or exceeds the required minimum rate per acre of N. P_2O_5. K_2O listed in Summary of Seeding Quantities will be acceptable.

MULCHING: Mulch shall be spread uniformly over all disturbed areas and punched in the soil, unless otherwise noted on the plans. The rate of application per acre, thickness in place, for the mulching material is generally as follows:

1¾ - 2¼ Tons per Acre = 1½" loose depth spread uniformly over acre.

Agricultural products, such as native prairie hay, used for mulching and erosion control practices, excluding wood based mulch, shall meet the North American Weed Free Forage Standards.

Other vegetative mulches are acceptable only with the Engineer's concurrence.

The above rate is a guide. It will be at the discretion of the Engineer to determine what rate is sufficient for adequate protection of newly seeded areas.

**Permanent Seeding will be Performed by Others.

NATIVE WILDFLOWER MIX 1

PLS RATE	NAME	QTY (lb)
0.3	Butterfly Milkweed	
0.3	Common Milkweed	
0.3	Black Eyed Susan	
0.5	Blanket Flower	
0.5	False Sunflower	
0.5	Lance-Leaf Coreopsis	
0.2	Maximilian Sunflower	
0.1	New England Aster	
0.2	Pinnate Prairie Coneflower	
0.3	Plains Coreopsis	
0.3	Purple Coneflower	
0.3	Upright Prairie Coneflower	
0.3	Dames Rocket	
0.3	Lemon Mint	
0.2	Pitcher Sage	
0.2	Wild Bergamot	
1.0	Illinois Bundleflower	
0.2	Common Evening Primrose	
0.1	Hoary Verbena	
0.8	Purple Prairie Clover	
0.3	Roundhead Lespedeza	
3.0	Showy Partridge Pea	
0.2	White Prairie Clover	
10.3	Total (lb)	

NATIVE WILDFLOWER MIX 2

PLS RATE	NAME	QTY (lb)
0.3	Butterfly Milkweed	
0.3	Black Eyed Susan	
0.5	Black Sampson Coneflower	
1.0	Blanket Flower	
0.2	Maximilian Sunflower	
0.2	Plains Coreopsis	
0.2	Upright Prairie Coneflower	
0.2	Western Yarrow	
0.3	Lemon Mint	
0.4	Pitcher Sage	
1.5	Illinois Bundleflower	
0.2	Common Evening Primrose	
1.0	Blue Wild Indigo	
0.4	Leadplant	
0.4	Purple Prairie Clover	
0.3	White Prairie Clover	
7.4	Total (lb)	

Package and deliver the wildflower seed separately from the grass seed mix. Package and deliver the Tall Drop Seed separately from the grass seed and the wildflower mix. Place the grass seed (except Tall Drop Seed) in the large seed box and drill (cover) seed 1/8" - 1/4". Place the wildflower seed in a separate seed box and drill (cover) seed 1/16" maximum. Place the Tall Drop Seed in a separate (third) seed box and place the seed (using the seed drill) on the soil surface.

OPTION: Broadcast Tall Drop Seed on the soil surface.

SUMMARY OF SEEDING QUANTITIES (**FOR INFORMATION ONLY)

P.L.S. RATE/ACRE				ACRES				BID ITEM	QUANTITY	UNIT
SHLDR	OTHER			SHLDR	OTHER					
150				0.7				Fertilizer (16 - 20 - 0)	105.0	LB
180				0.7				Seed (Fescue)(Tall Turf Type Blend)	126.0	LB
								Mulching *		

SHLDR = Seeded with the Shoulder Mix. Typically 15 feet for 2-lane roads and 30 feet for 4-lane roads. Includes outside roadsides, turfed portions of shoulders, and turfed portion of the median.

OTHER = Seeded with the "Other" Mix. Designated as all other turf areas, except the Shoulder. Usually includes a Native Wildflower Mix.

NOTE: Projects less than 1 acre shall be bid as "Seeding" by the lump sum. All disturbed areas shall be seeded, fertilized and mulched at the listed rate per acre. The acres are estimated.

Refer to the Standard Specifications, Division 900, Section 904 'Seeding', and Section 907 'Sodding', for the seeding and sodding seasons.

** See LA852A for mulching quantity. The quantity of mulch is estimated (Acres of Seeding X 1.5 X 2 Tons/Acre). The total mulch required shall be determined in the field. The bid item for mulching shall be paid for according to the Standard Specifications.*

NO.	DATE	REVISIONS	BY	APP'D
2	11/25/20	Updated Seeding / Sodding Periods Charts	MRD	ML
1	08/03/20	Revised Standard	MRD	SHS

KANSAS DEPARTMENT OF TRANSPORTATION

PERMANENT SEEDING
SUMMARY OF SEEDING QUANTITIES

LA850

FHWA APPROVAL	05/06/2019	APP'D	Marvin Lare
DESIGNED MRD	DETAILED MRD	QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	QUAN.CK.	CADD CK.

Sh. No. 16

Std. Base File: ----------
Plotted By: Jurrah | Plot Location:
File: la850.dgn
Plot Date: 31-MAR-2022 14:44

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	17	46

SCALE

PLAN: Lat. & Long. 50' 0 50' 100'

Note:

CONTRACTOR STAGING AREA 1

1. The Contractor may use this area to store equipment and materials. Any damage such as rutting or vegetation to access the site, or any other area outside of 15' from the proposed wall will be the responsibility of the Contractor to regrade and re-seed to existing conditions. This will be paid for under the Bid item "Construction Access".

GENERAL

1. Light equipment is allowed on the existing sidewalks at the risk of the Contractor. It is recommended that video/pictures of the existing sidewalk be taken prior to construction. Any damage outside of the limits noted above will be the required to be fixed at the expense of the Contractor.

2. Contractor Shall Not disturb the two pedestrian bridges.

3. Traffic/Pedestrian Control to be set up as need prior to construction by the City of McPherson.

Costruction Staging to be discussed at Field Check

Need to discuss method of construction and the draining of the pond during field check.

CITY OF McPHERSON
Lakeside Pond Bank Restoration Project

COSTRUCTION STAGING

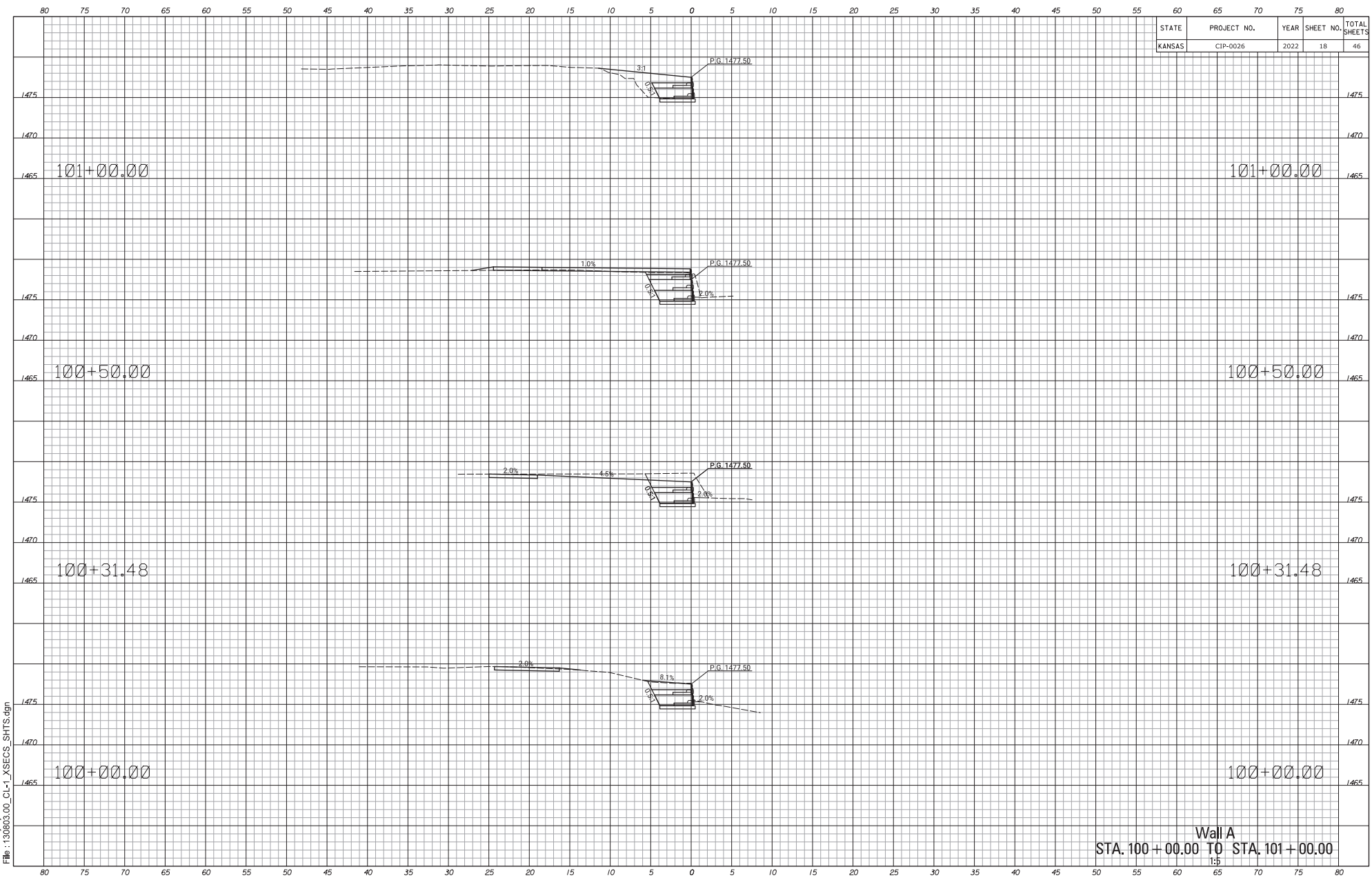
Sh. No. 17

REFERENCES NOTED	BY	DATE
REFERENCES CHECKED		

Plotted : 31-MAR-2022 14:44

Drawn By : junruh
File : const_staging

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	18	46



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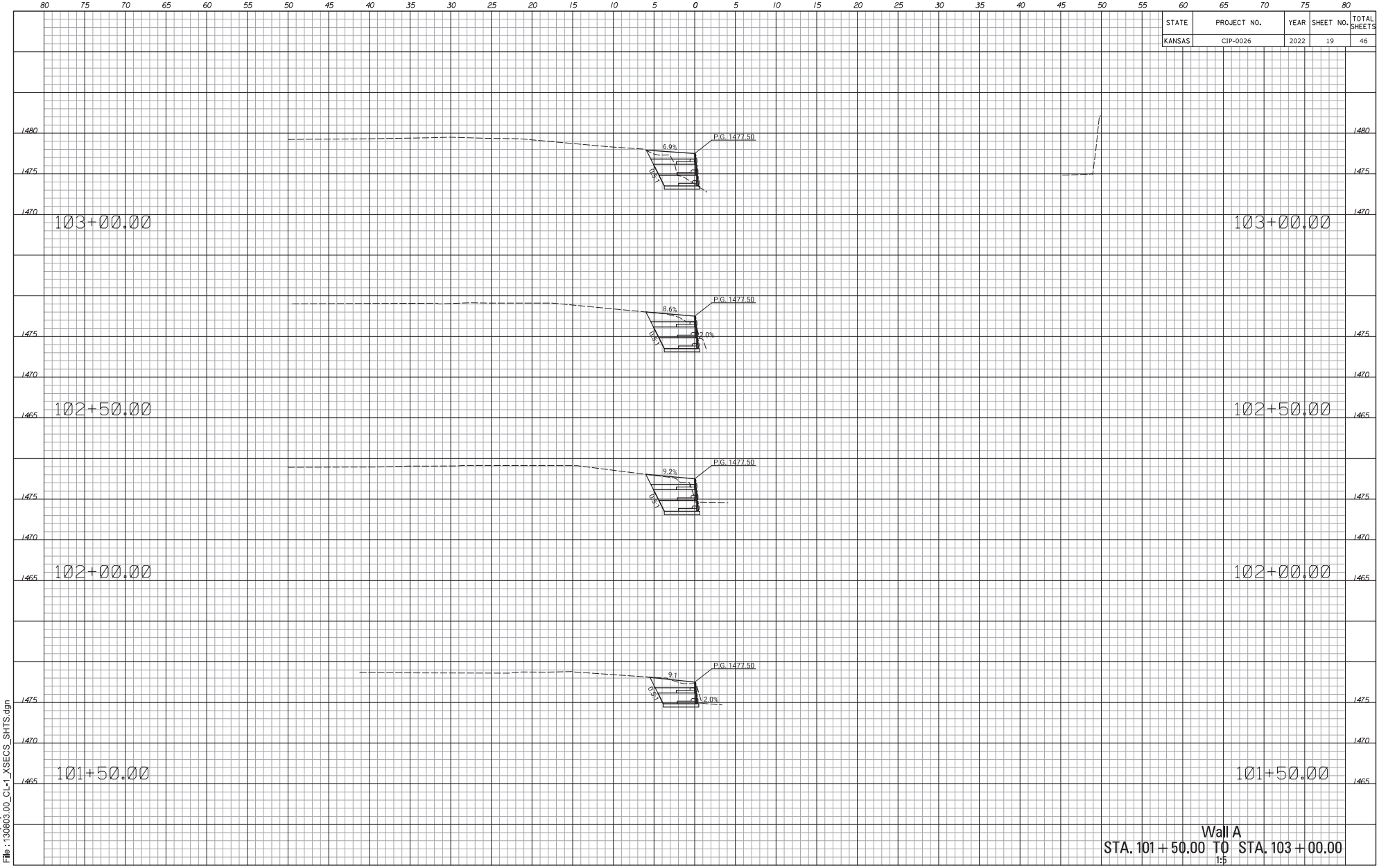
1:5

Drawn By : junruh
File : 130803.00_CL-1_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	19	46



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1:5

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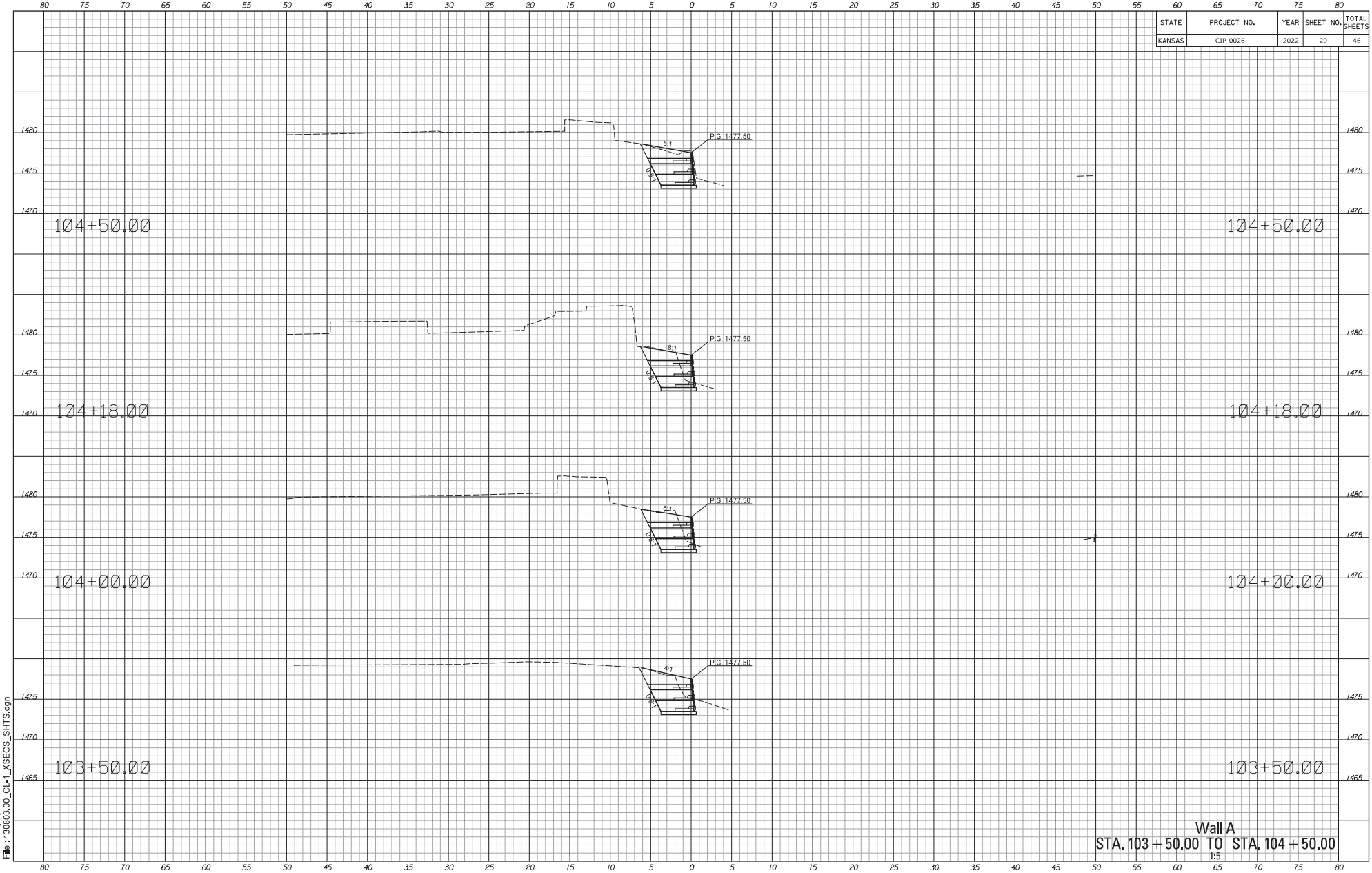
KANSAS	CIP-0026	2022	20	46



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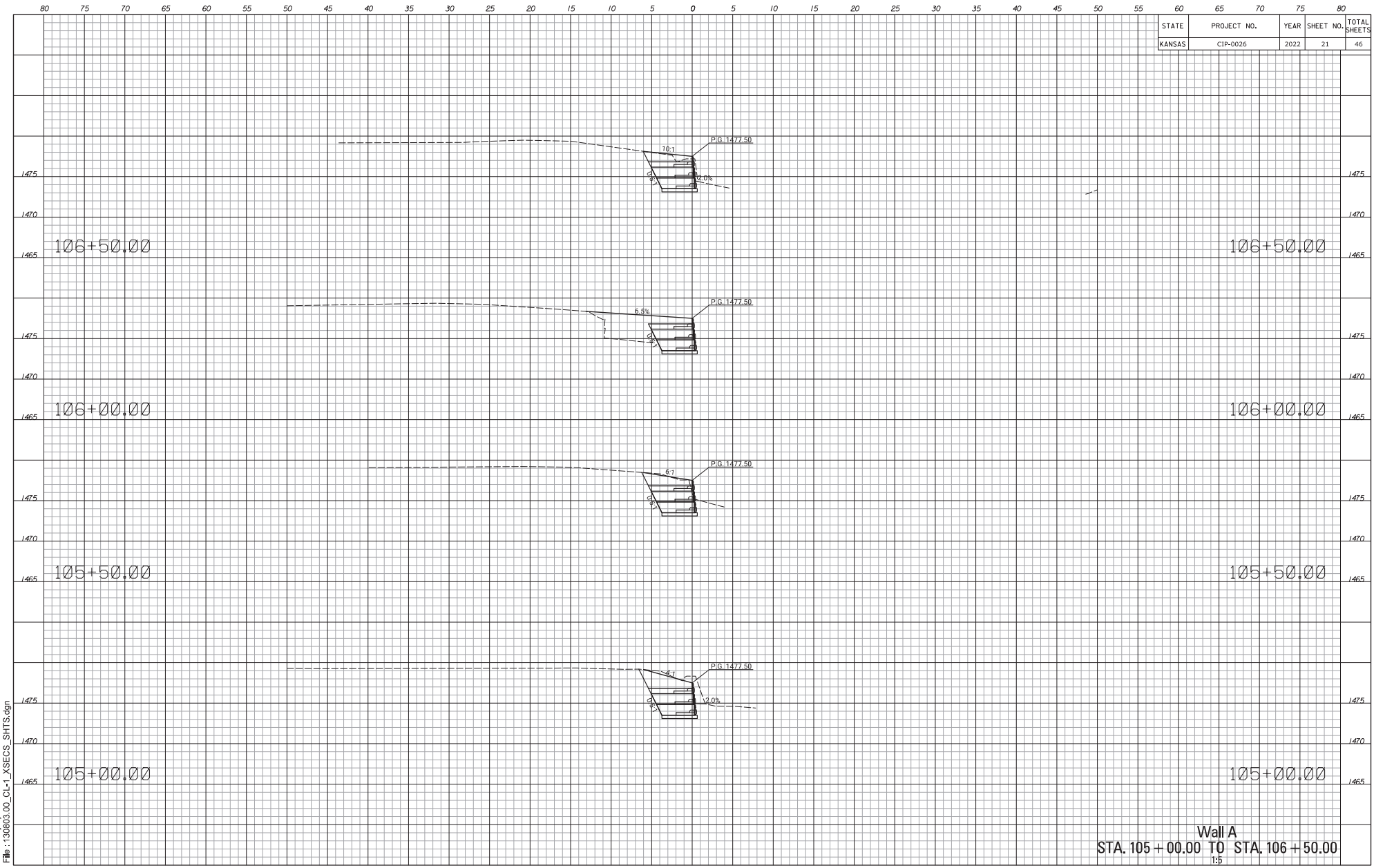
KANSAS	CIP-0026	2022	21	46



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Plotted : 31-MAR-2022 14:45

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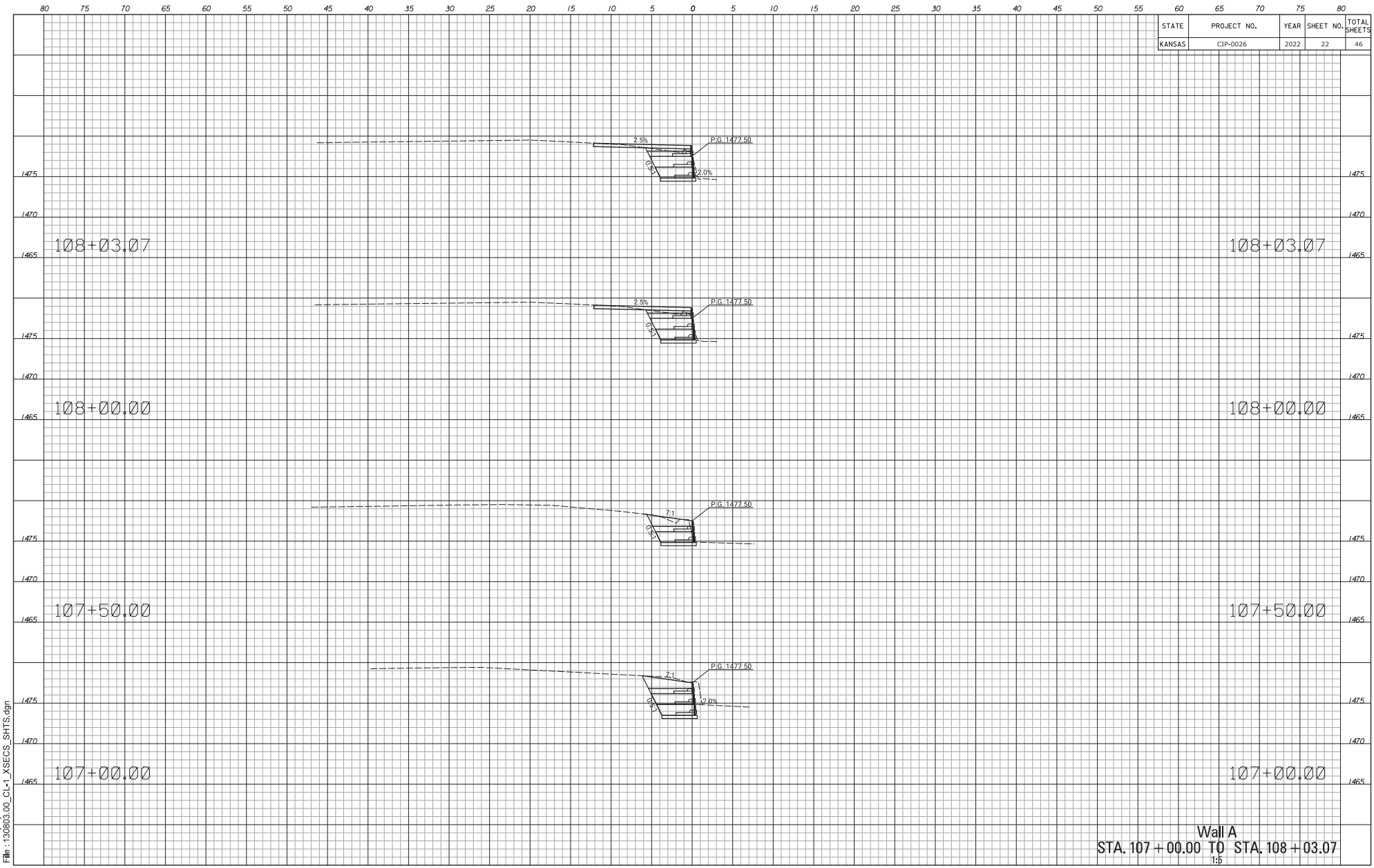
KANSAS	CIP-0026	2022	22	46



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1:5

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Plotted : 31-MAR-2022 14:45

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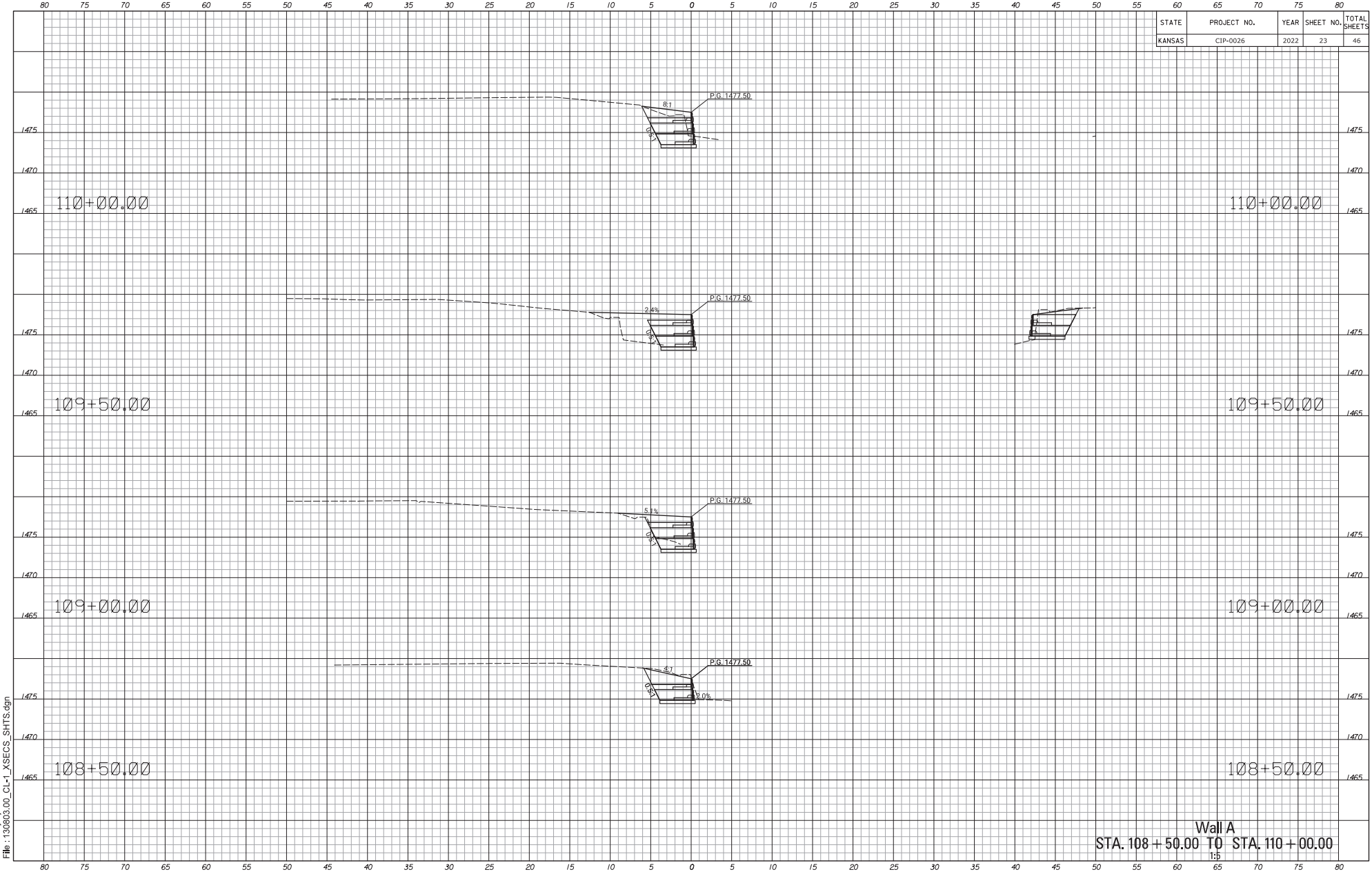
KANSAS	CIP-0026	2022	23	46



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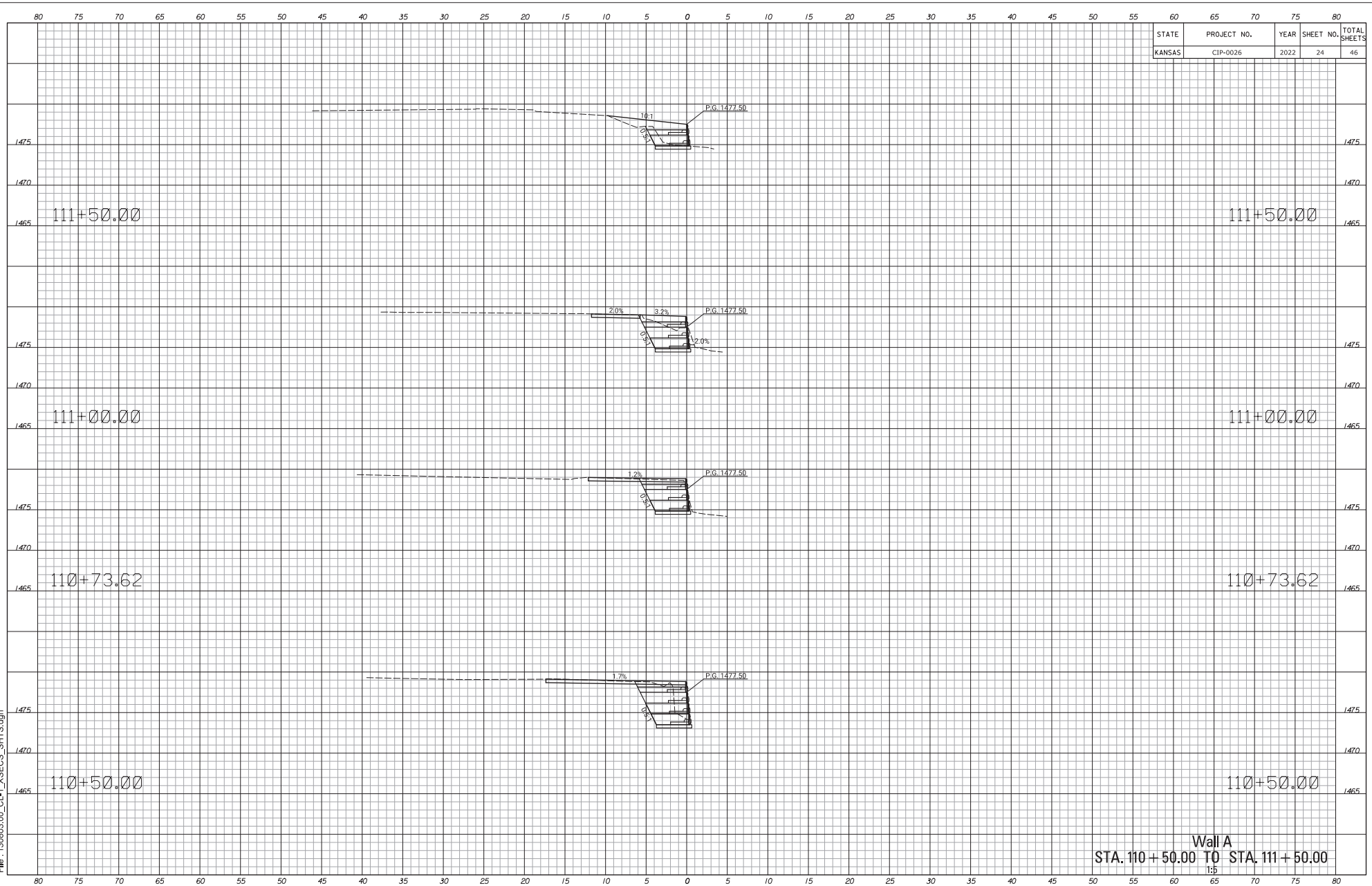
Drawn By : junruh
File : 130803.00_CL-1_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	24	46



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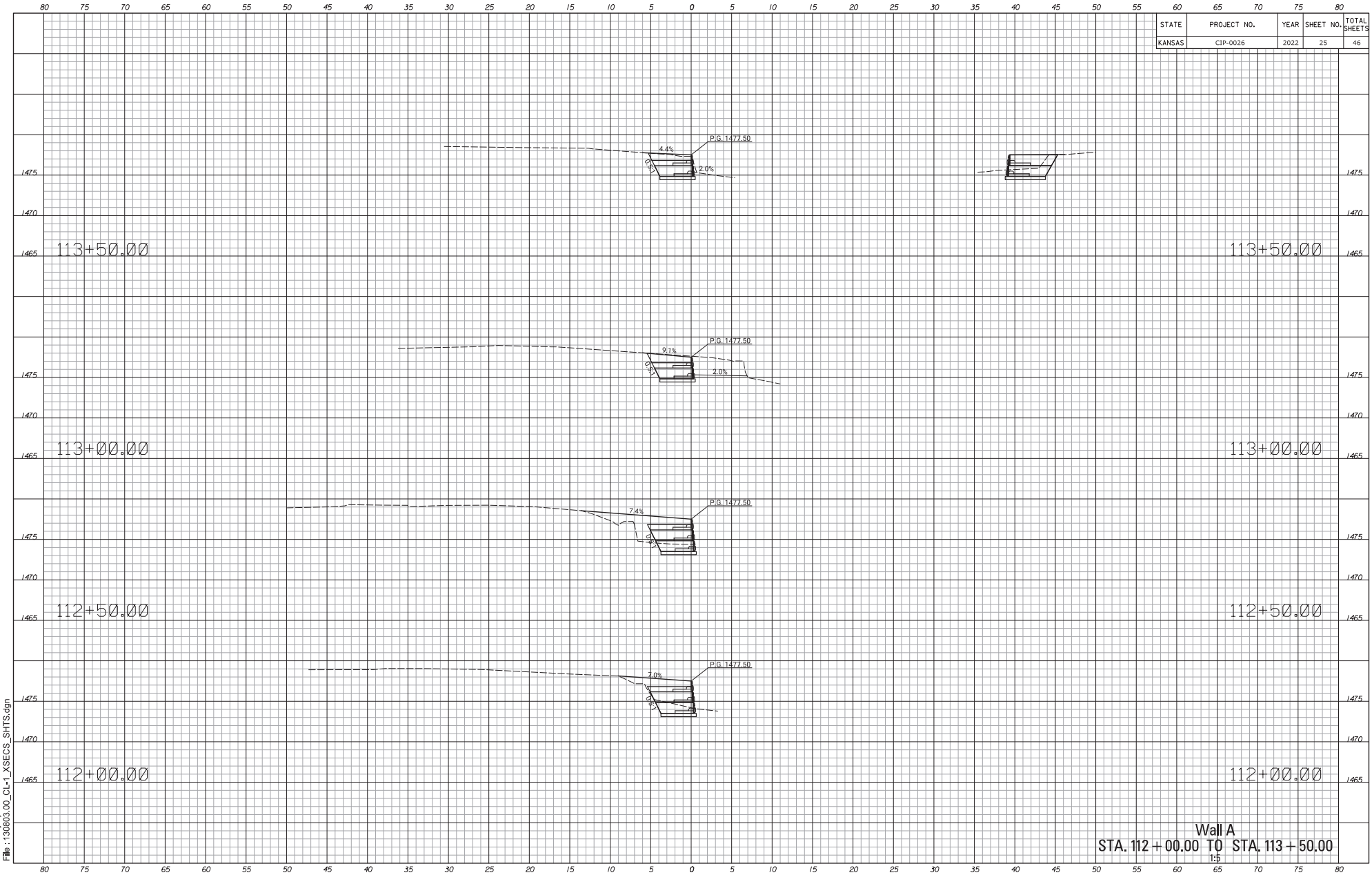
Plotted : 31-MAR-2022 14:45

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	25	46



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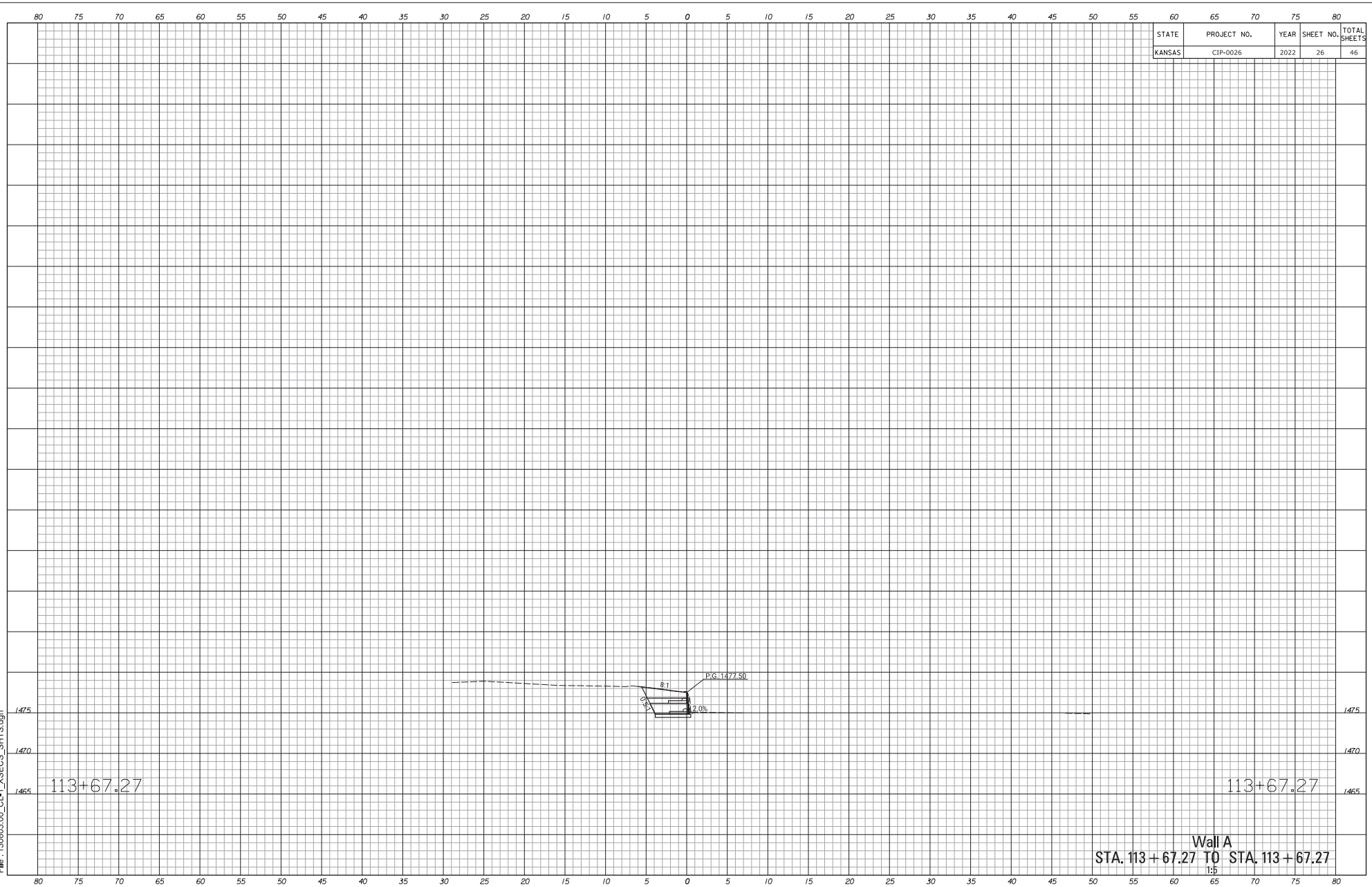
1:5

Drawn By : junruh
File : 130803.00_CL-1_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

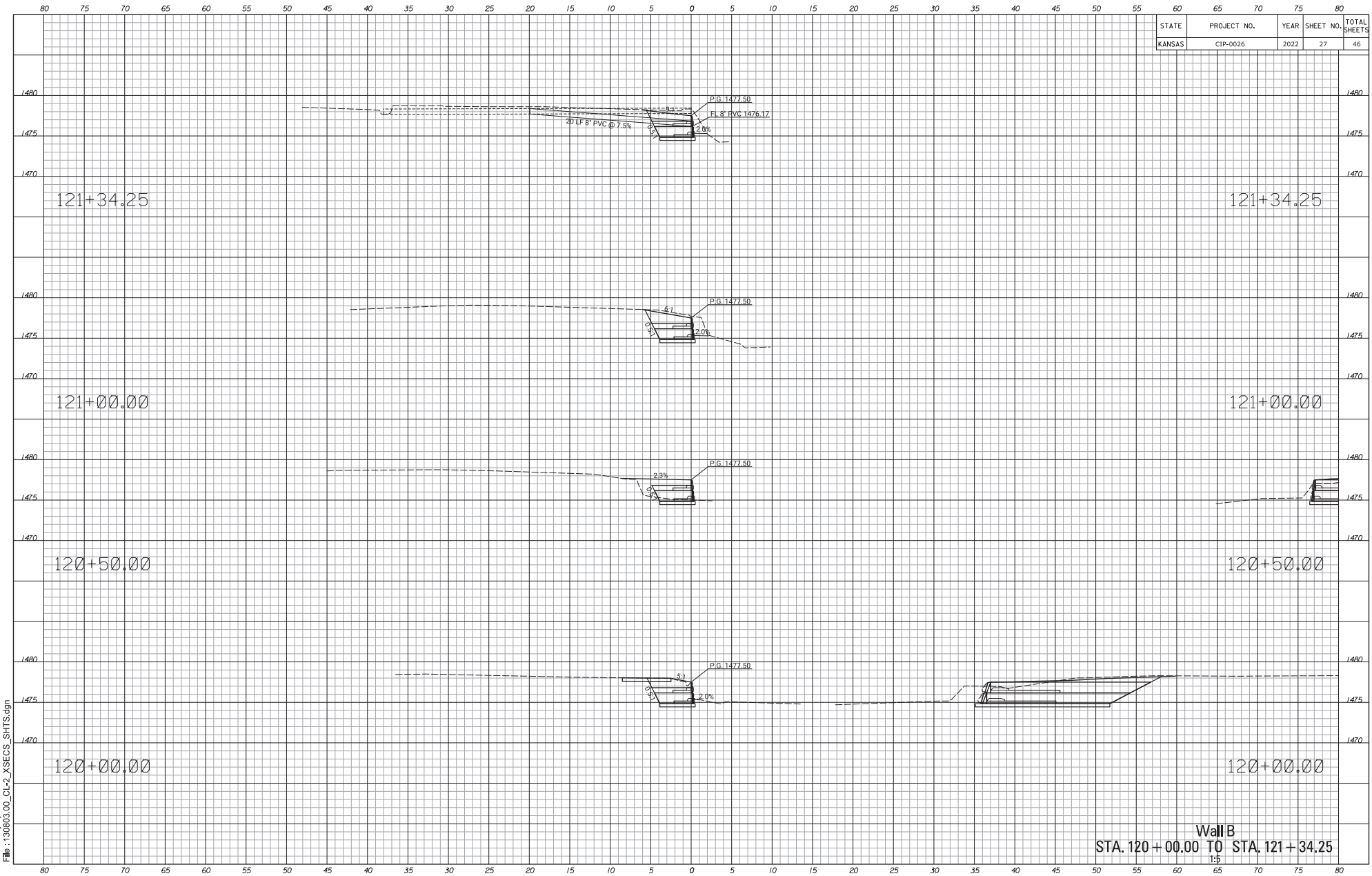
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	26	46



Wall A
STA. 113 + 67.27 TO STA. 113 + 67.27
1:5

Drawn By : junruh
File : 130803.00_CL-1_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

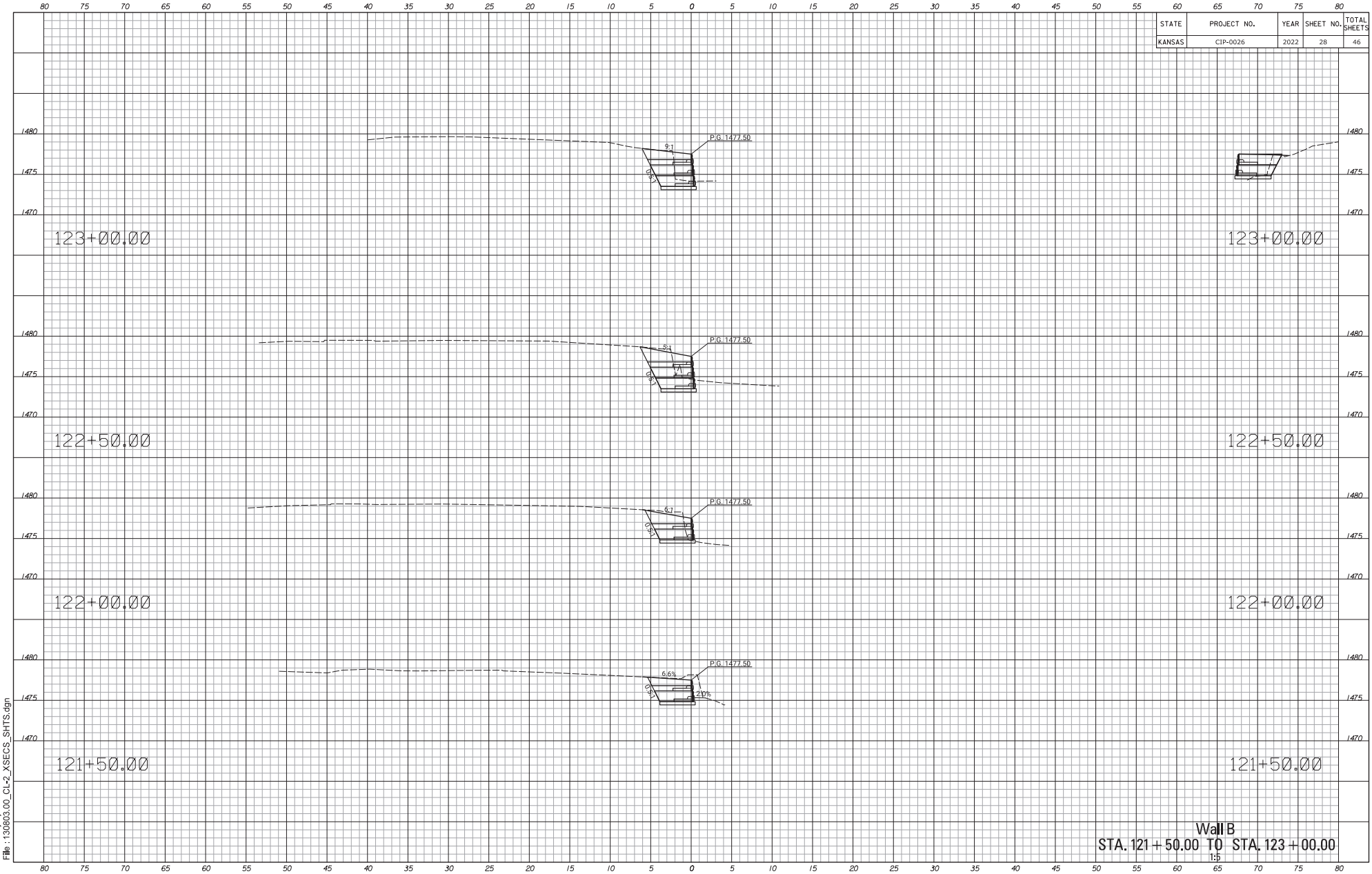
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	27	46



Wall B
STA. 120+00.00 TO STA. 121+34.25
1:5

Drawn By : junruh
File : 130803.00_CL-2_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

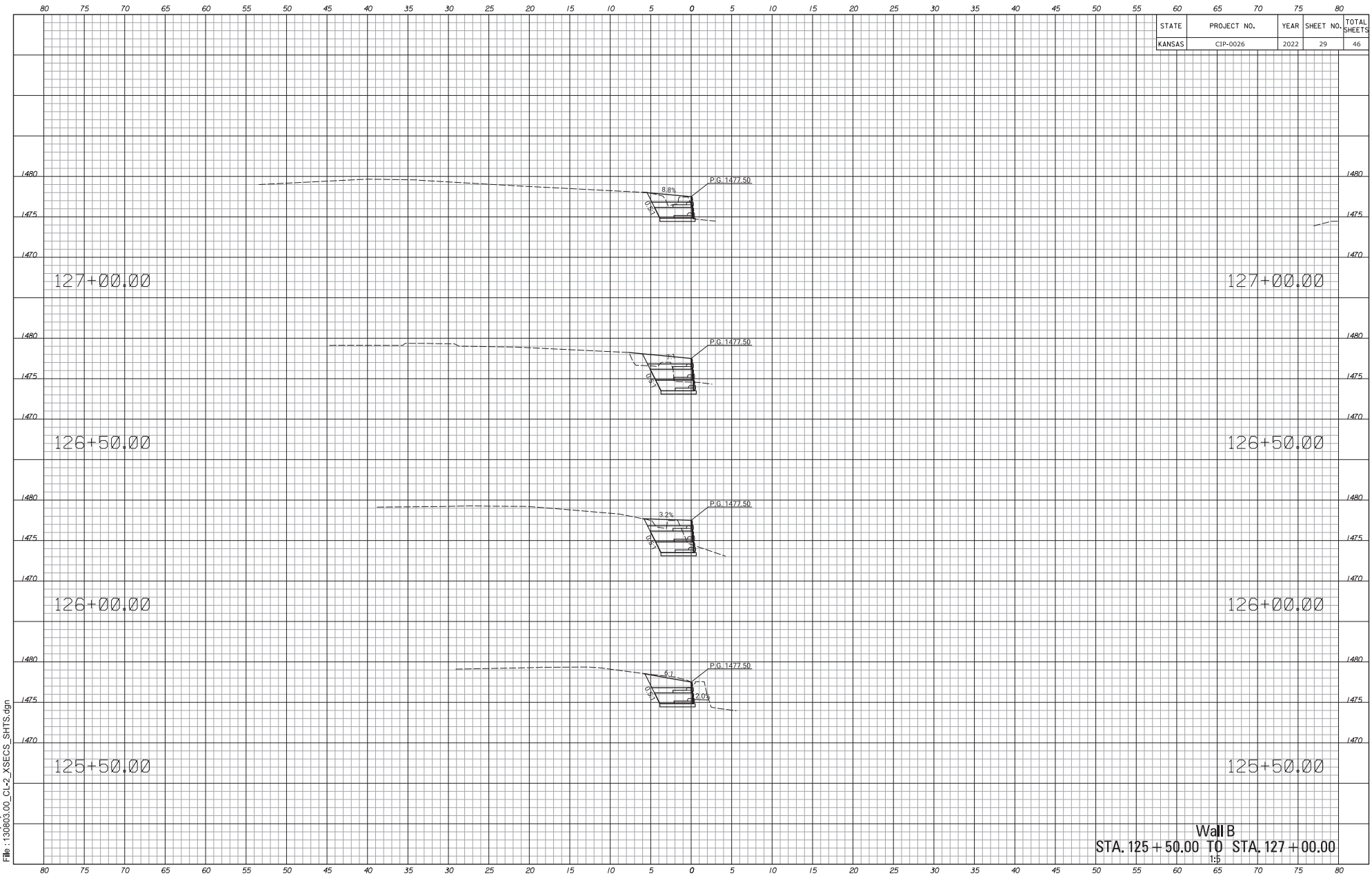
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	28	46



Wall B
STA. 121+50.00 TO STA. 123+00.00
1:5

Drawn By : junruh
File : 130803.00_CL-2_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

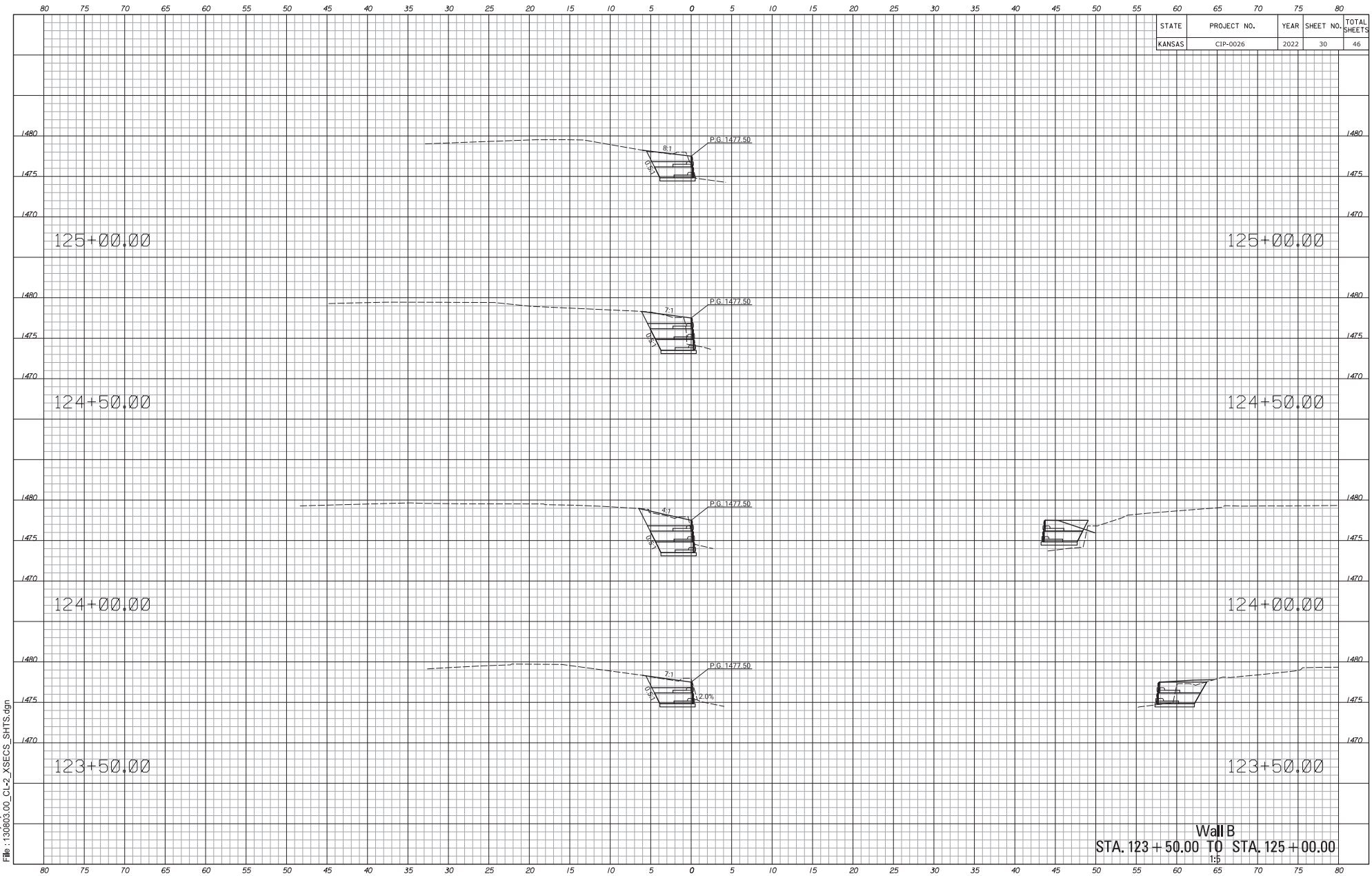
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	29	46



Wall B
STA. 125 + 50.00 TO STA. 127 + 00.00
1:5

Drawn By : junruh
File : 130803.00_CL-2_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

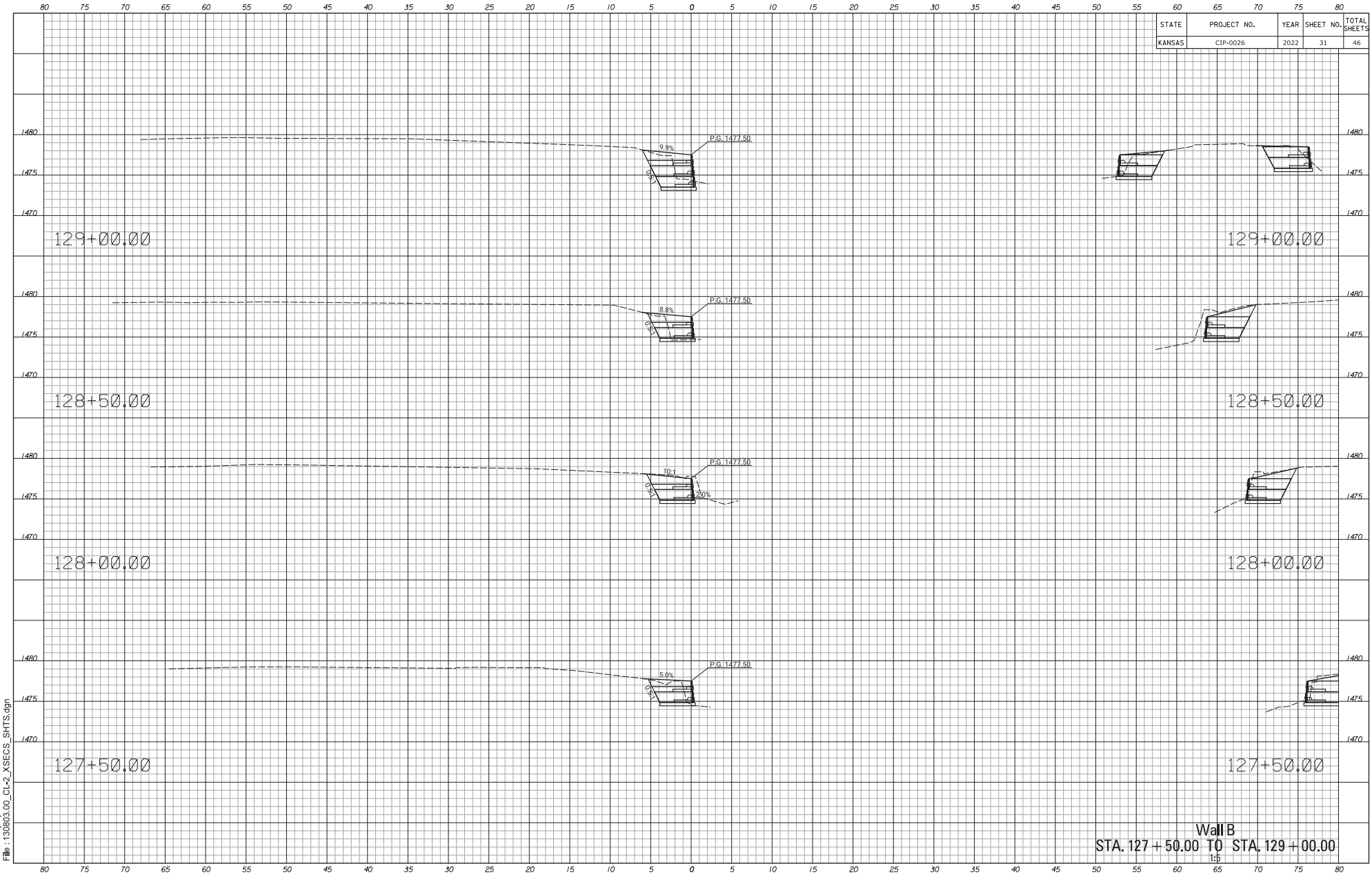
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	30	46



Wall B
STA. 123 + 50.00 TO STA. 125 + 00.00
1:5

Drawn By : junruh
File : 130803.00_CL-2_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

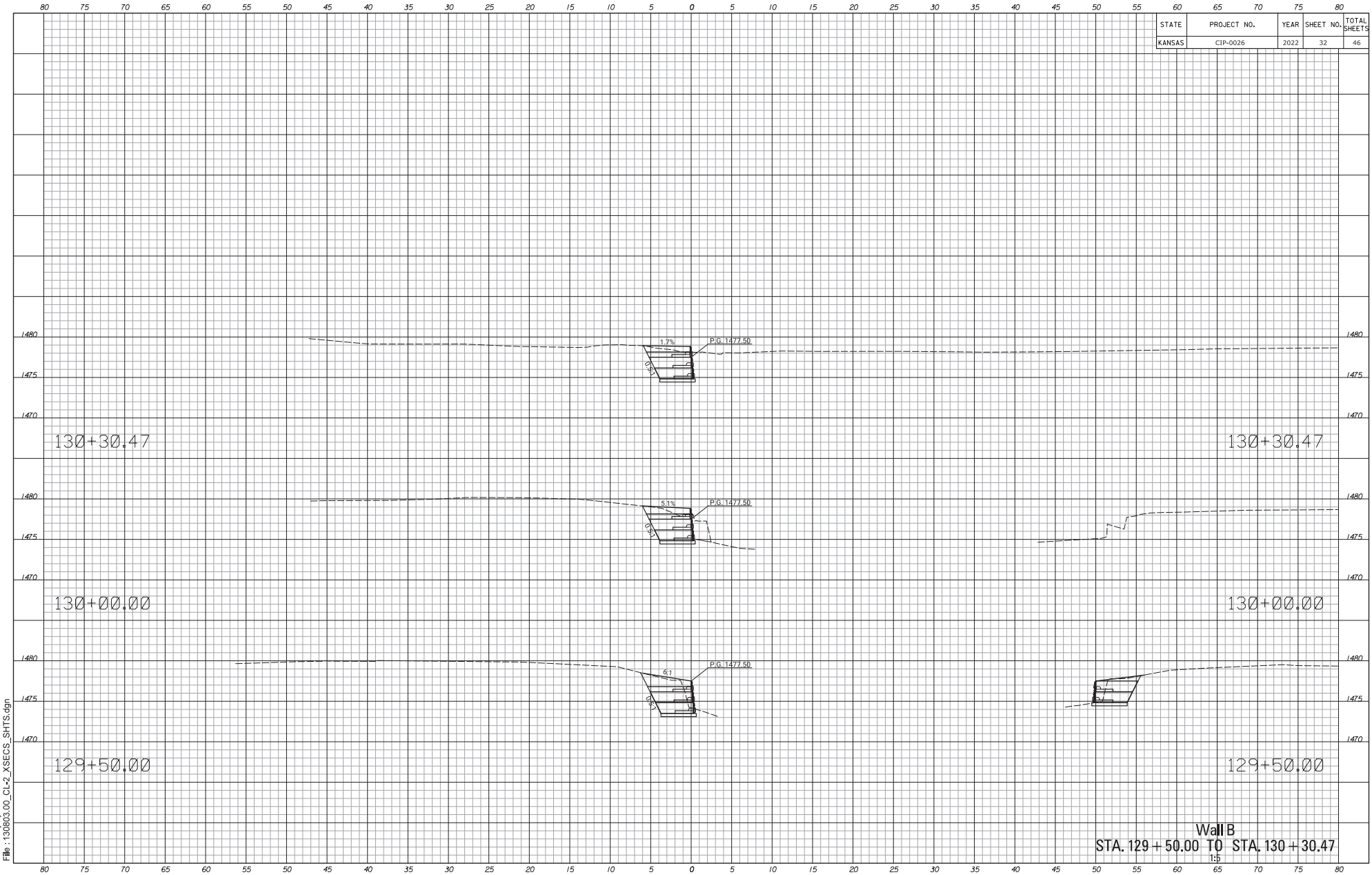
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	31	46



Wall B
STA. 127 + 50.00 TO STA. 129 + 00.00
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-2_XSECS_SHTS.dgn

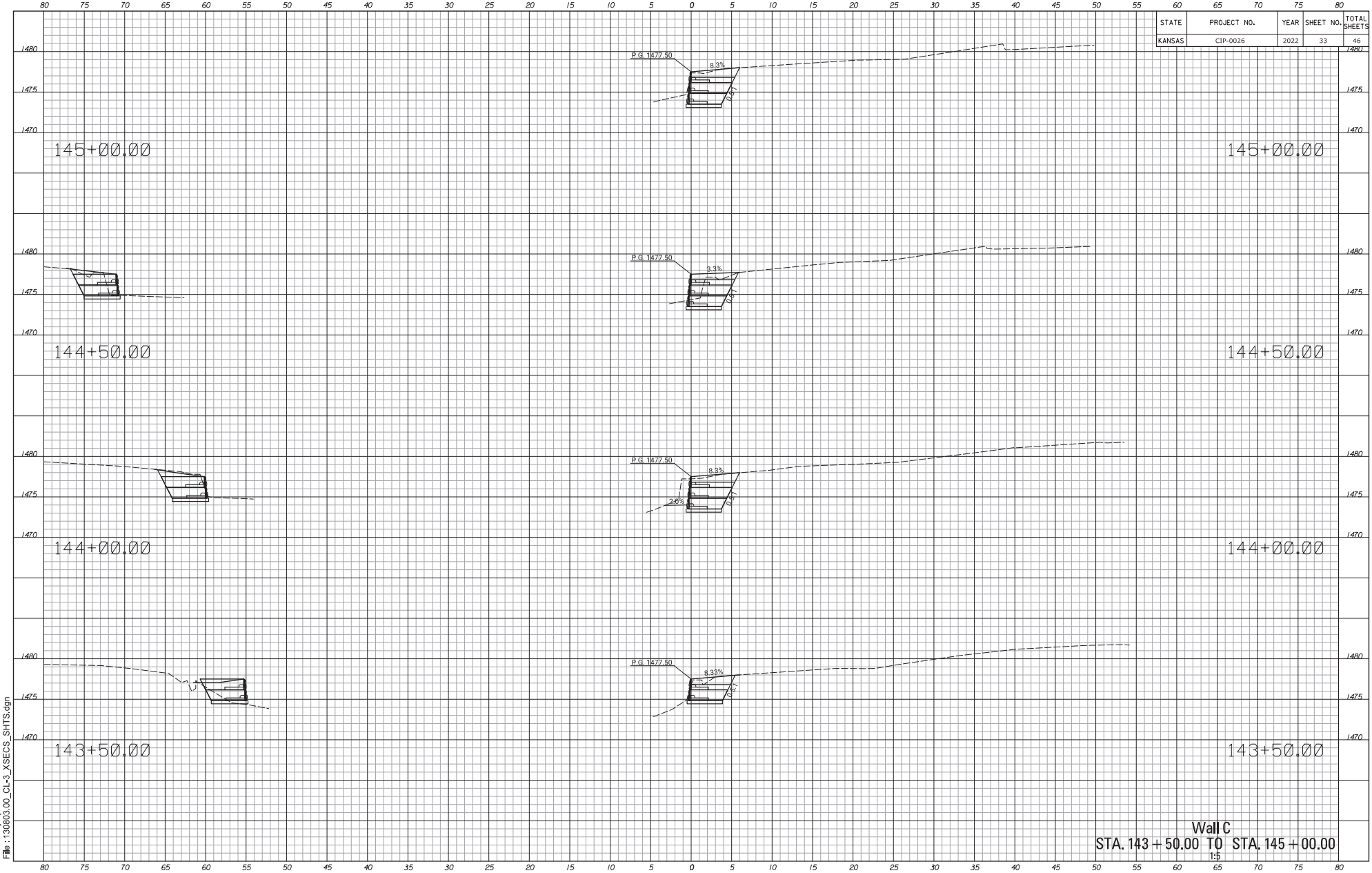
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	32	46



Wall B
STA. 129 + 50.00 TO STA. 130 + 30.47
1:5

Drawn By : junruh
File : 130803.00_CL-2_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

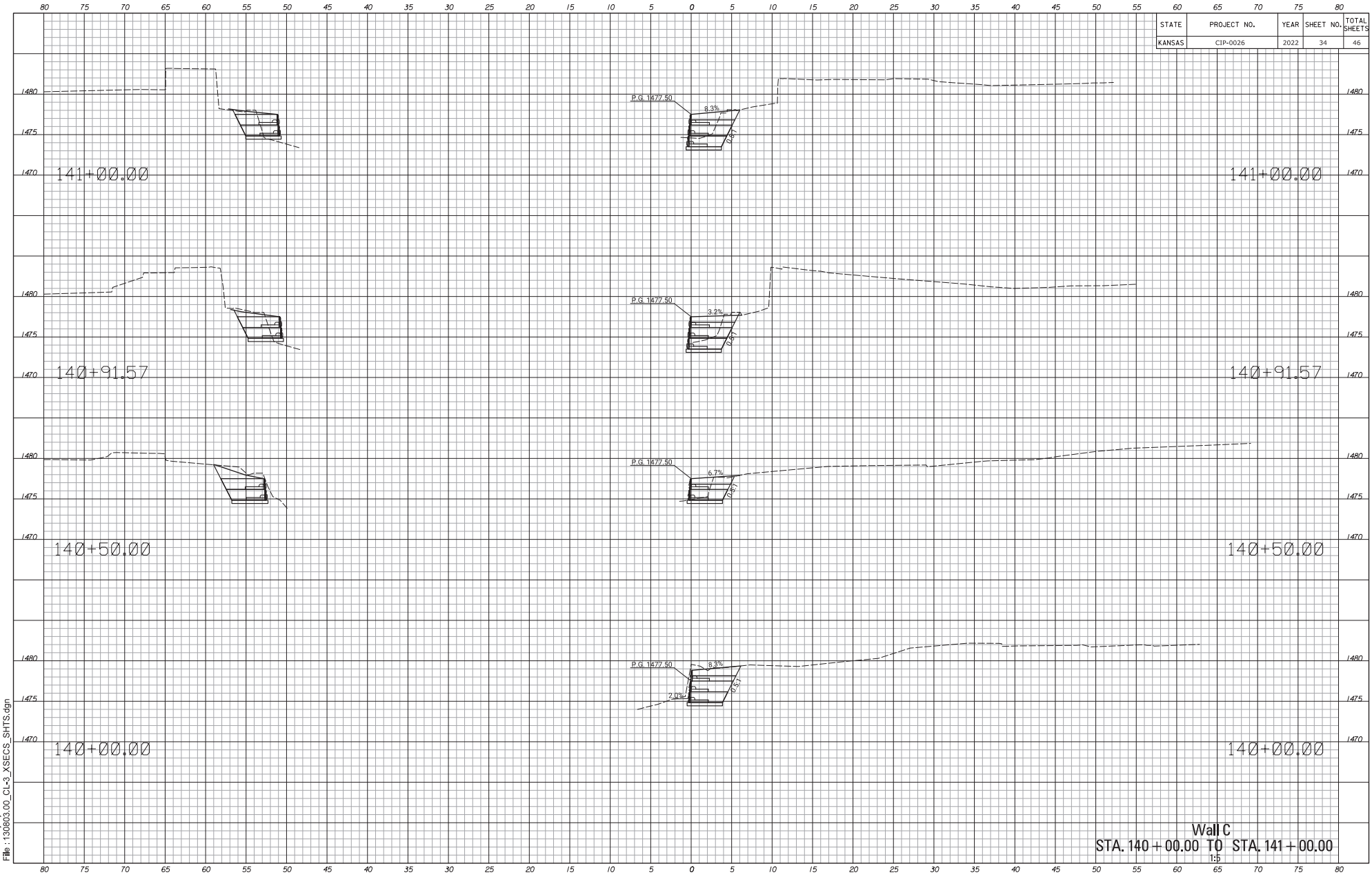
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	33	46



Wall C
STA. 143 + 50.00 TO STA. 145 + 00.00
1:5

Drawn By : junruh
File : 130803.00_CL-3_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

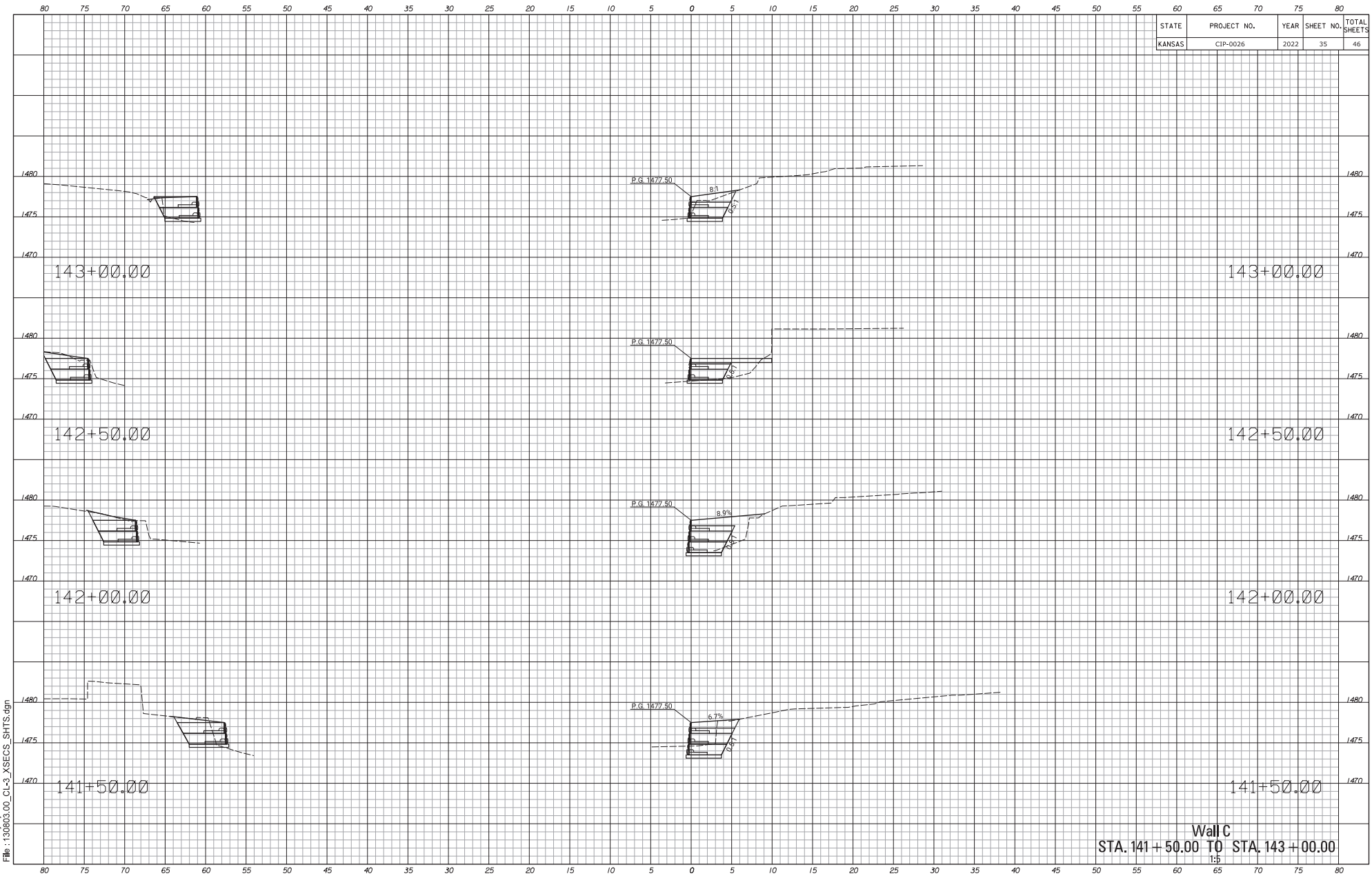
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	34	46



Wall C
STA. 140+00.00 TO STA. 141+00.00
1:5

Drawn By : junruh
File : 130803.00_CL-3_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

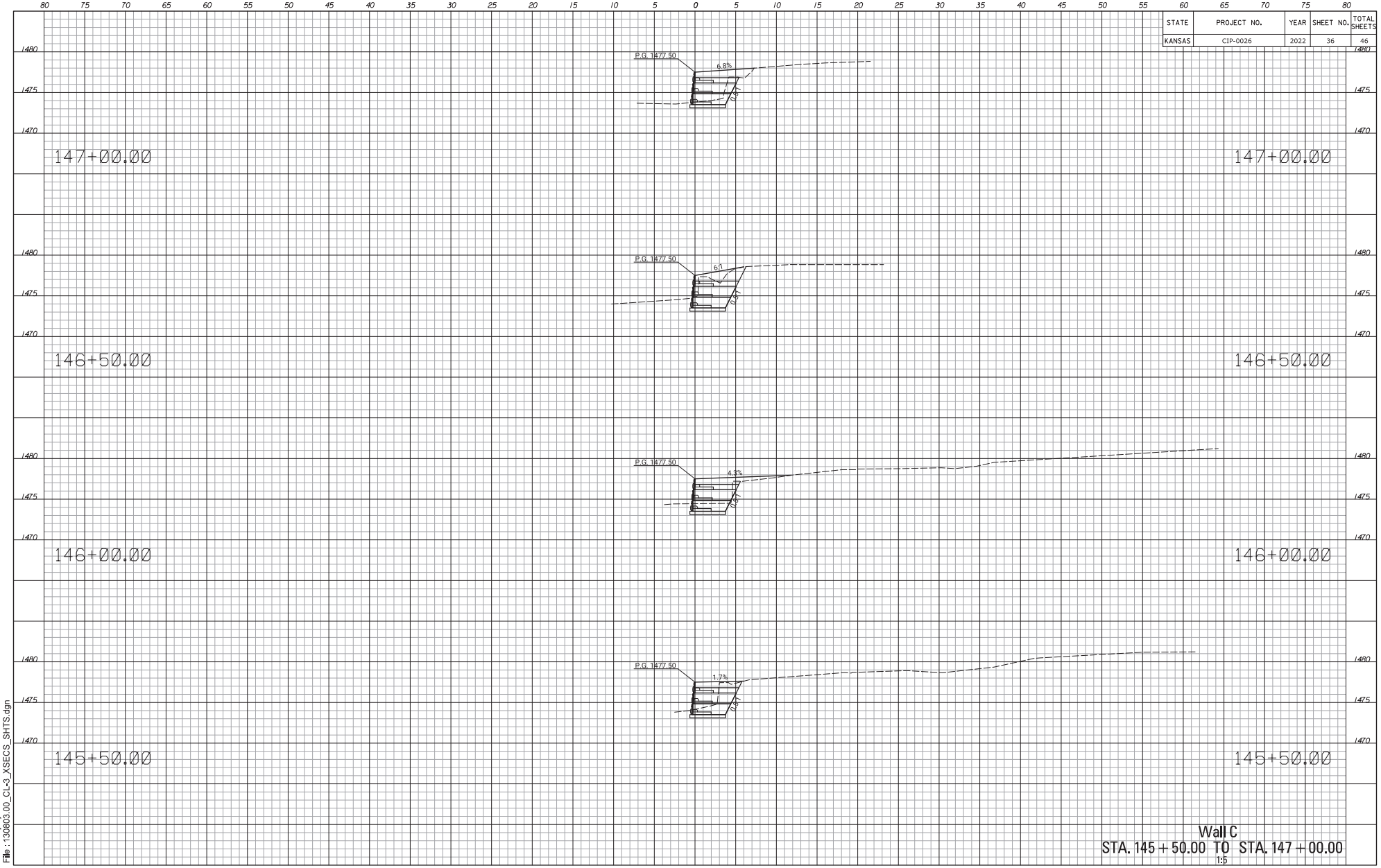
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	35	46



Wall C
STA. 141+50.00 TO STA. 143+00.00
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-3_XSECS_SHTS.dgn

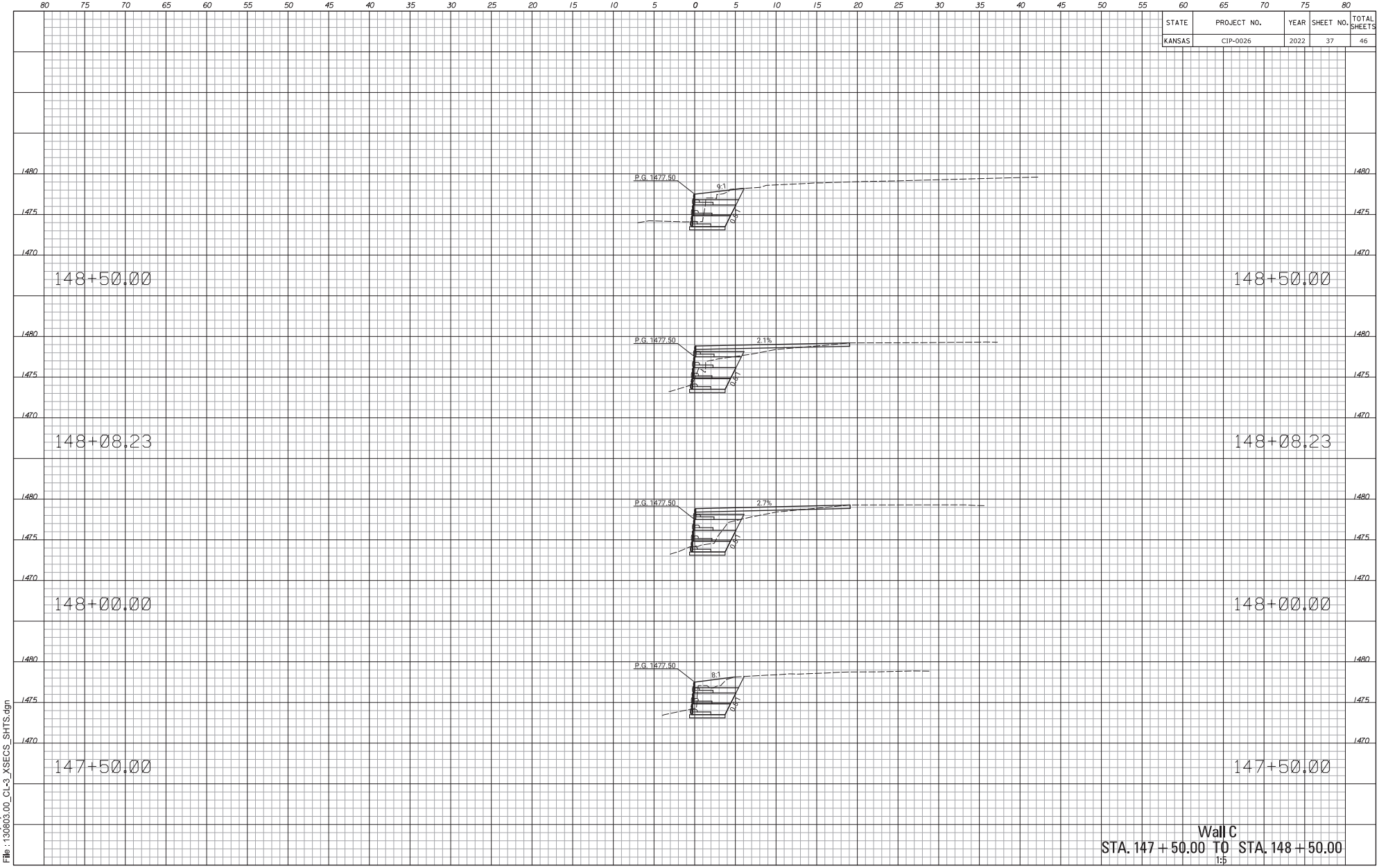
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	36	46



Wall C
STA. 145+50.00 TO STA. 147+00.00
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-3_XSECS_SHTS.dgn

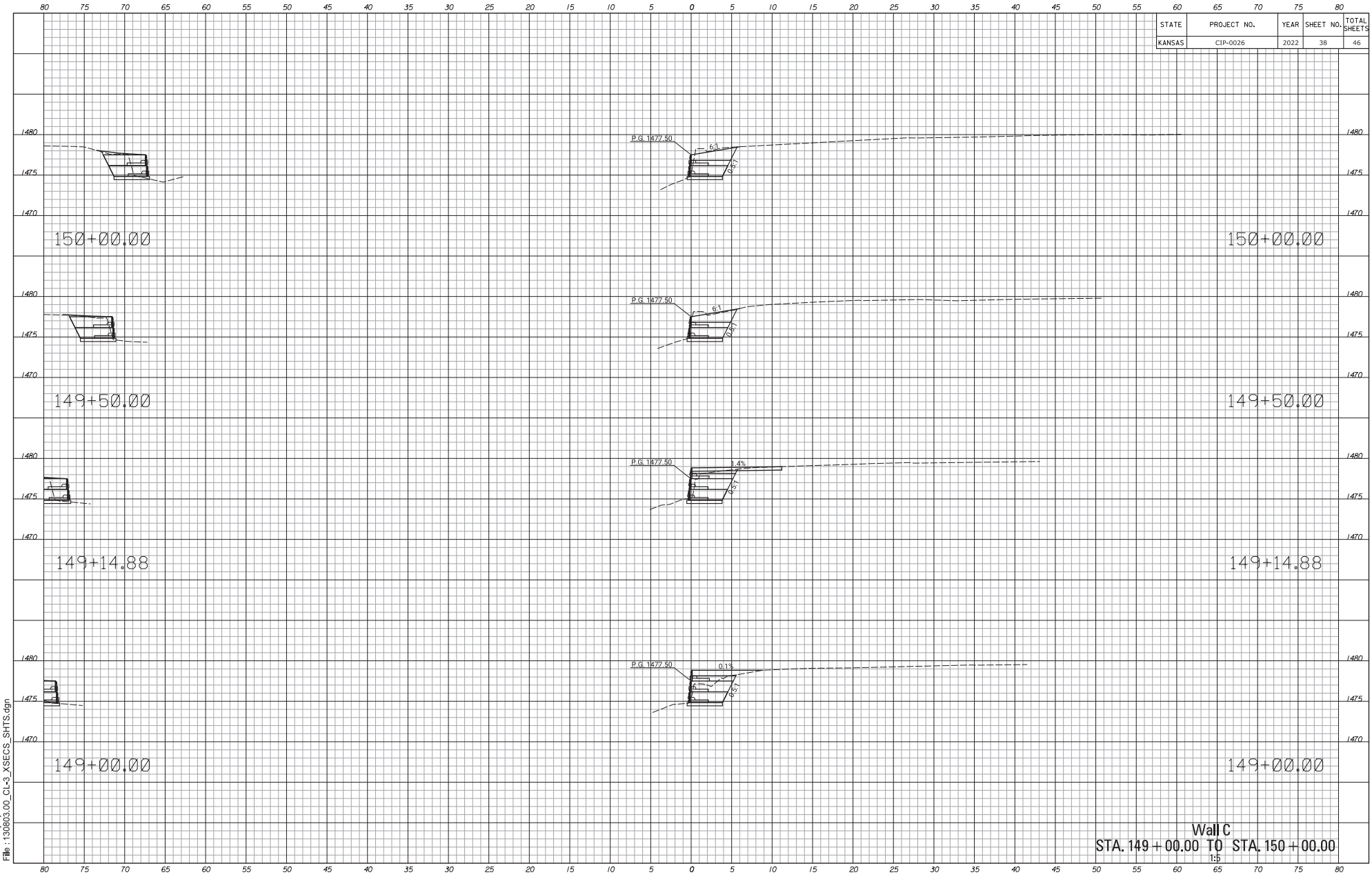
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	37	46



Wall C
STA. 147 + 50.00 TO STA. 148 + 50.00
1:5

Drawn By : junruh
File : 130803.00_CL-3_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

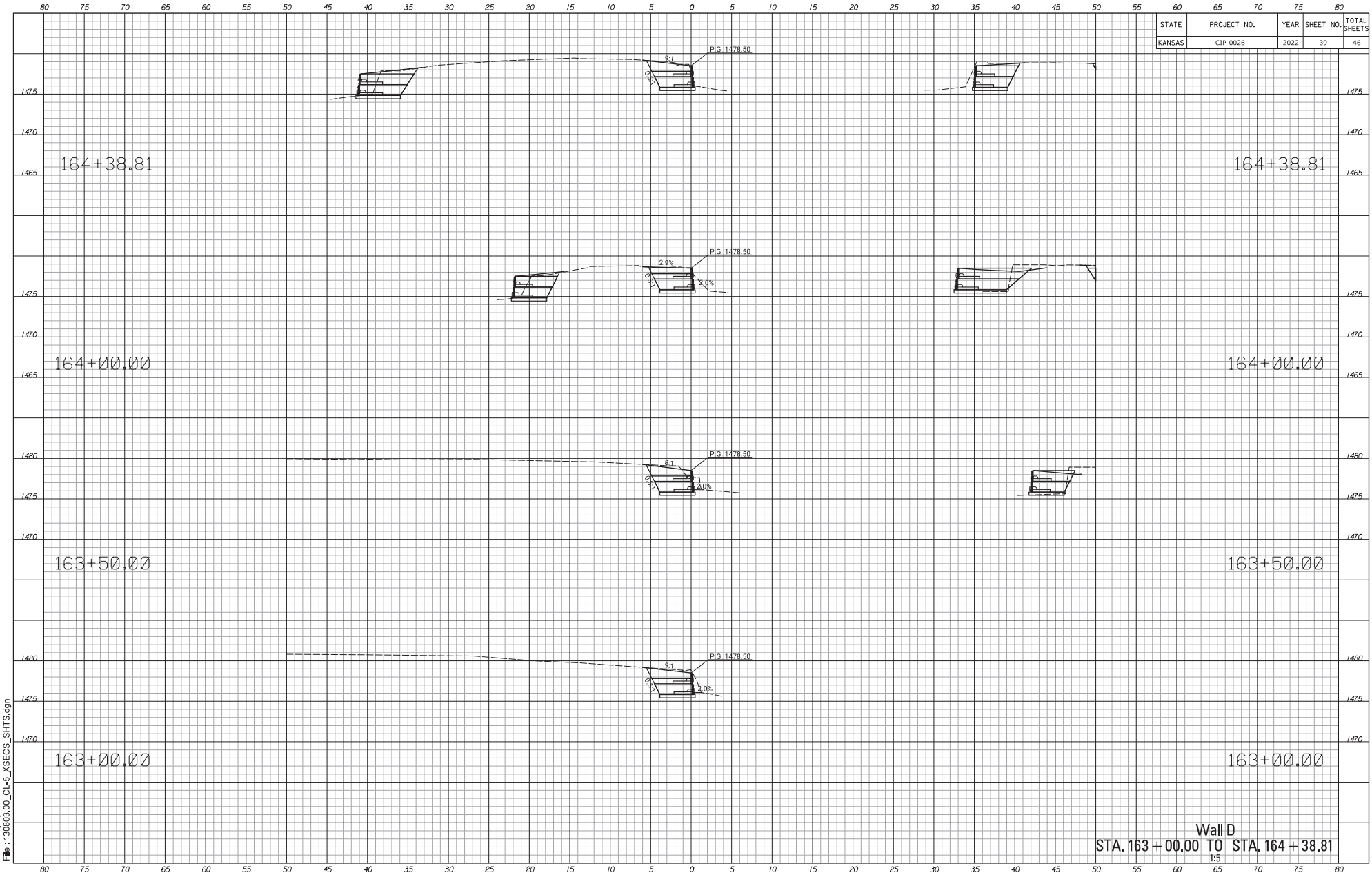
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	38	46



Wall C
STA. 149 + 00.00 TO STA. 150 + 00.00
1:5

Drawn By : junruh
File : 130803.00_CL-3_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

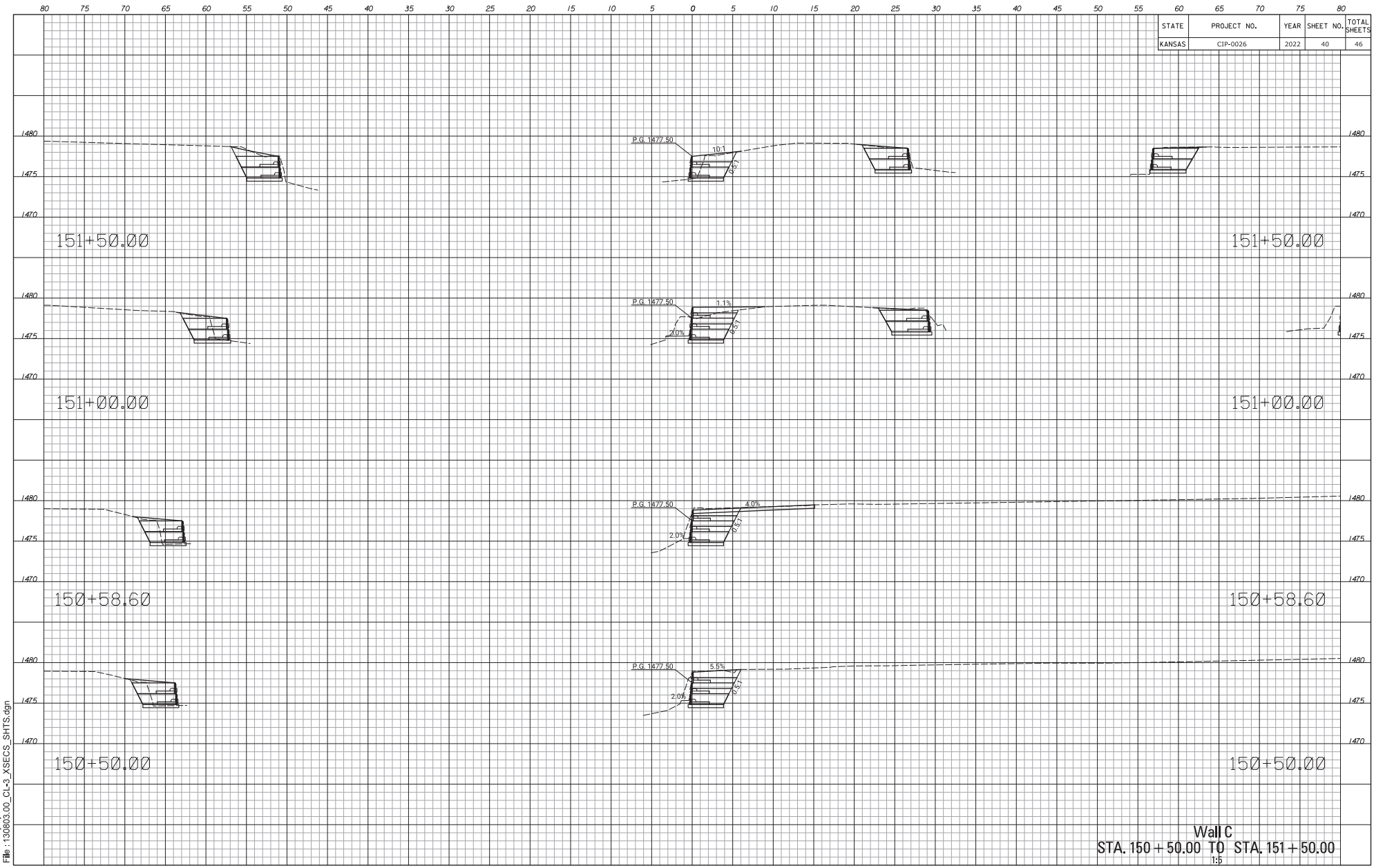
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	39	46



Wall D
STA. 163 + 00.00 TO STA. 164 + 38.81
1:5

Drawn By : junruh
File : 130803.00_CL-5_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

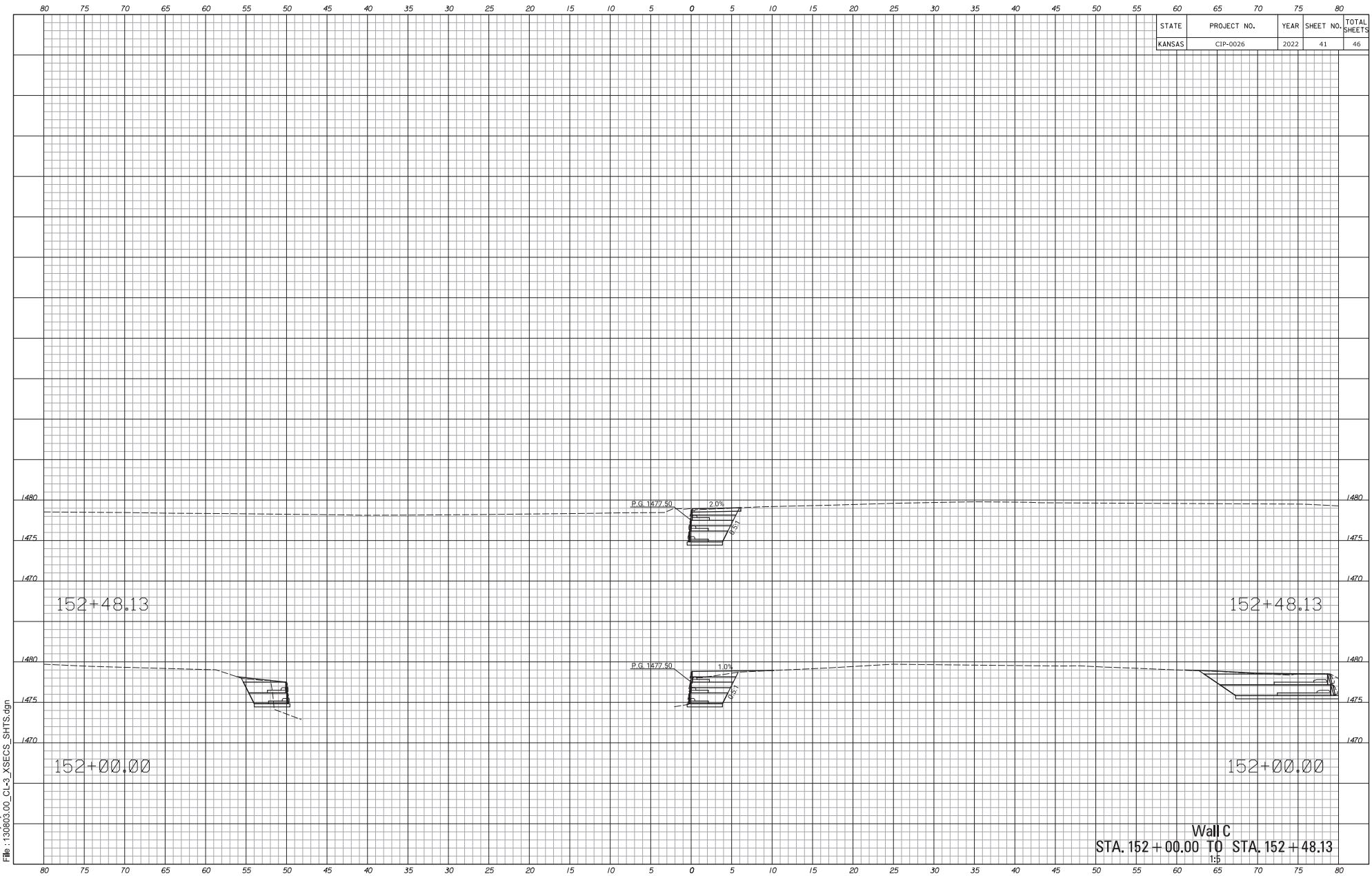
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	40	46



Wall C
STA. 150 + 50.00 TO STA. 151 + 50.00
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-3_XSECS_SHTS.dgn

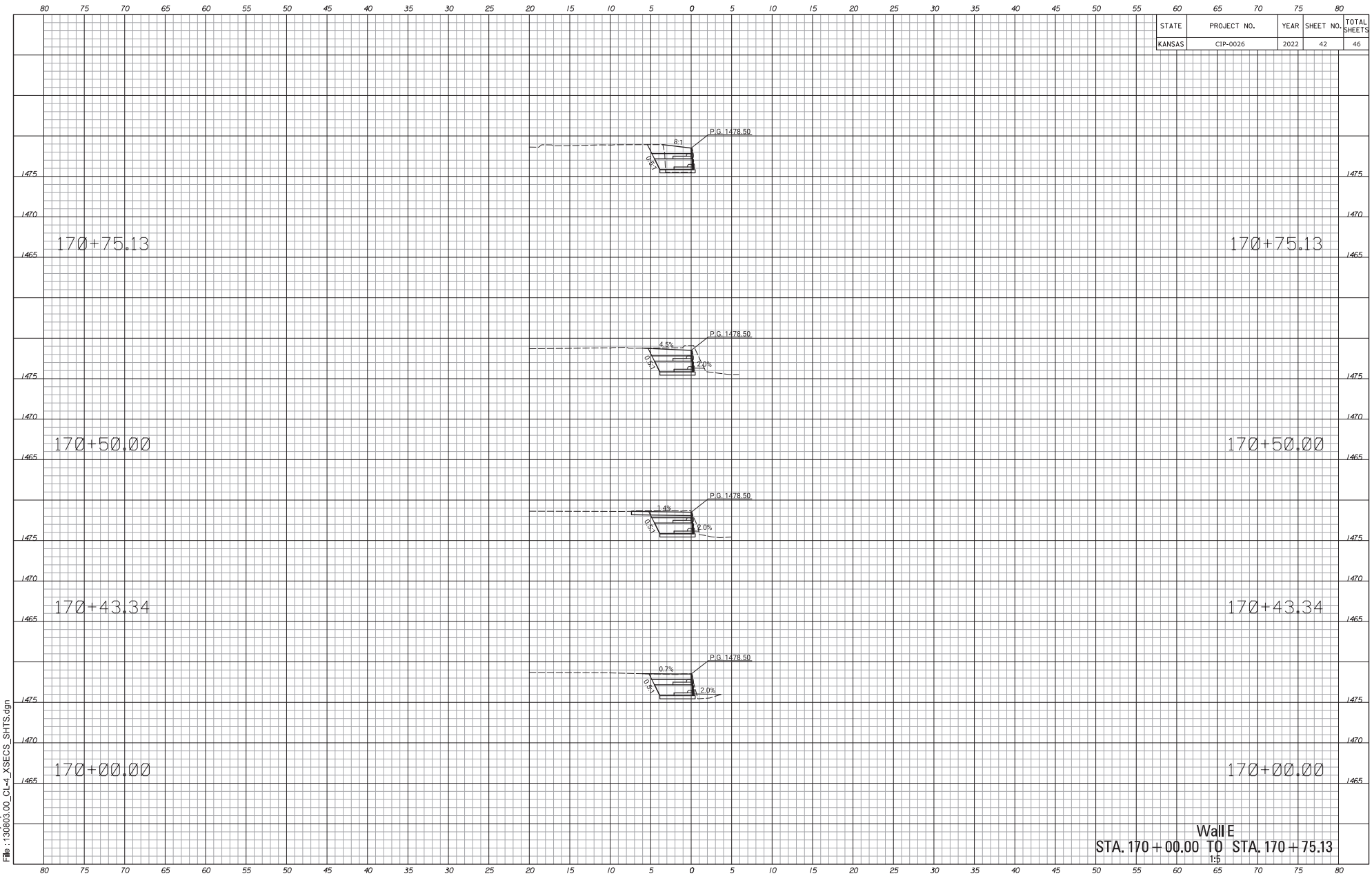
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	41	46



Wall C
STA. 152 + 00.00 TO STA. 152 + 48.13
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-3_XSECS_SHTS.dgn

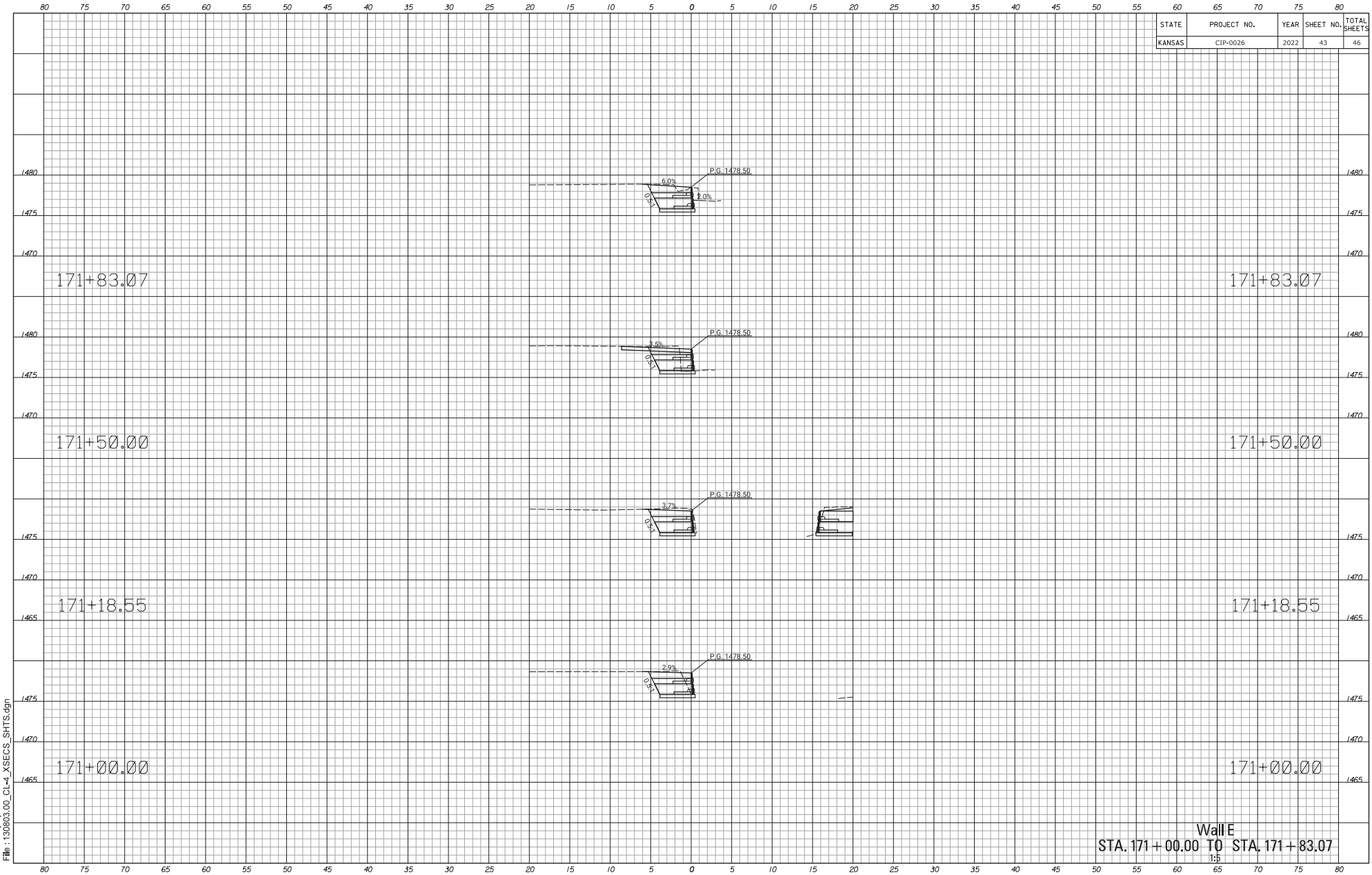
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	42	46



Wall E
STA. 170+00.00 TO STA. 170+75.13
1:5

Drawn By : junruh
File : 130803.00_CL-4_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

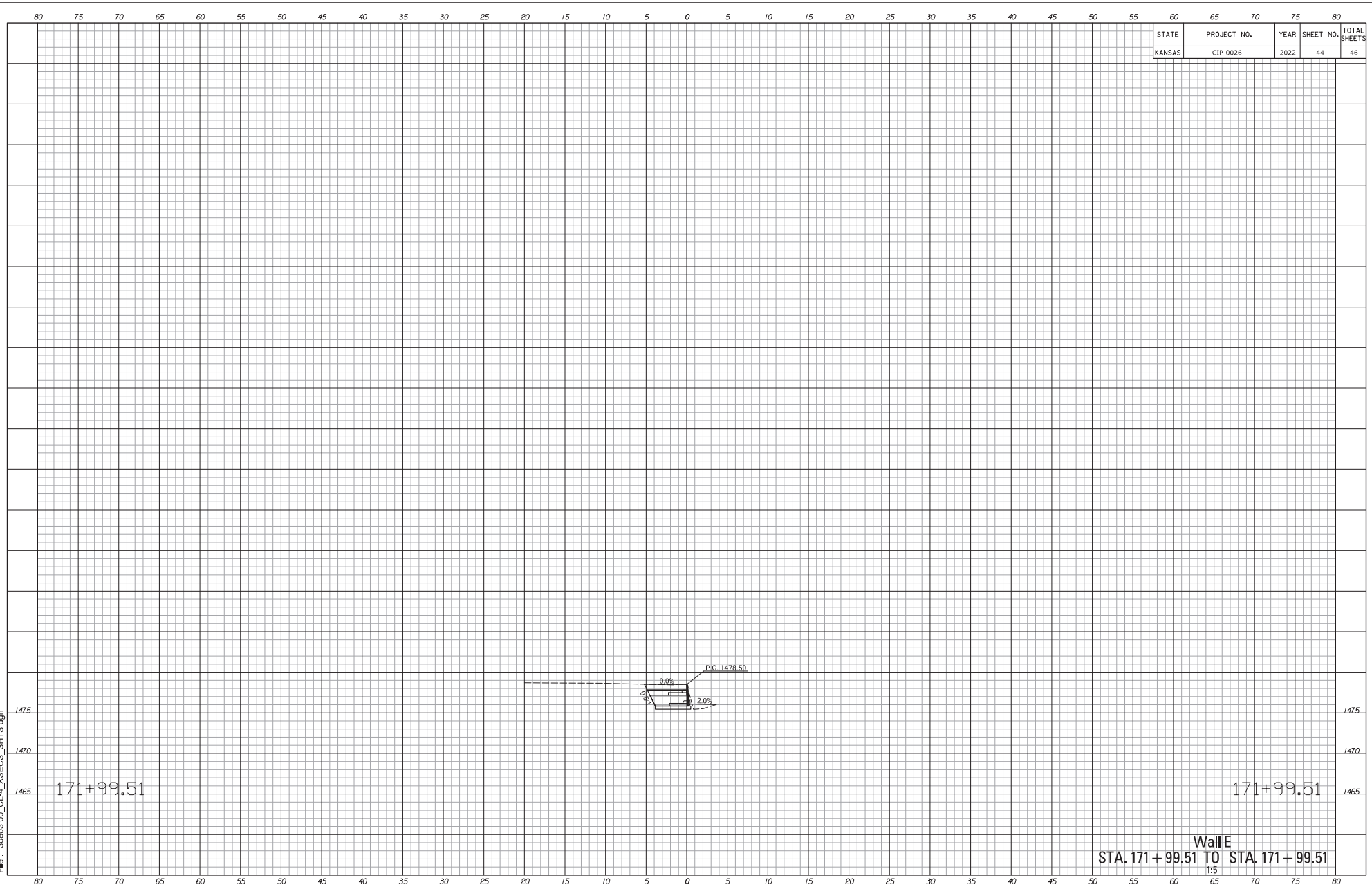
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	43	46



Wall E
STA. 171+00.00 TO STA. 171+83.07
1:5

Drawn By : junruh
File : 130803.00_CL-4_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

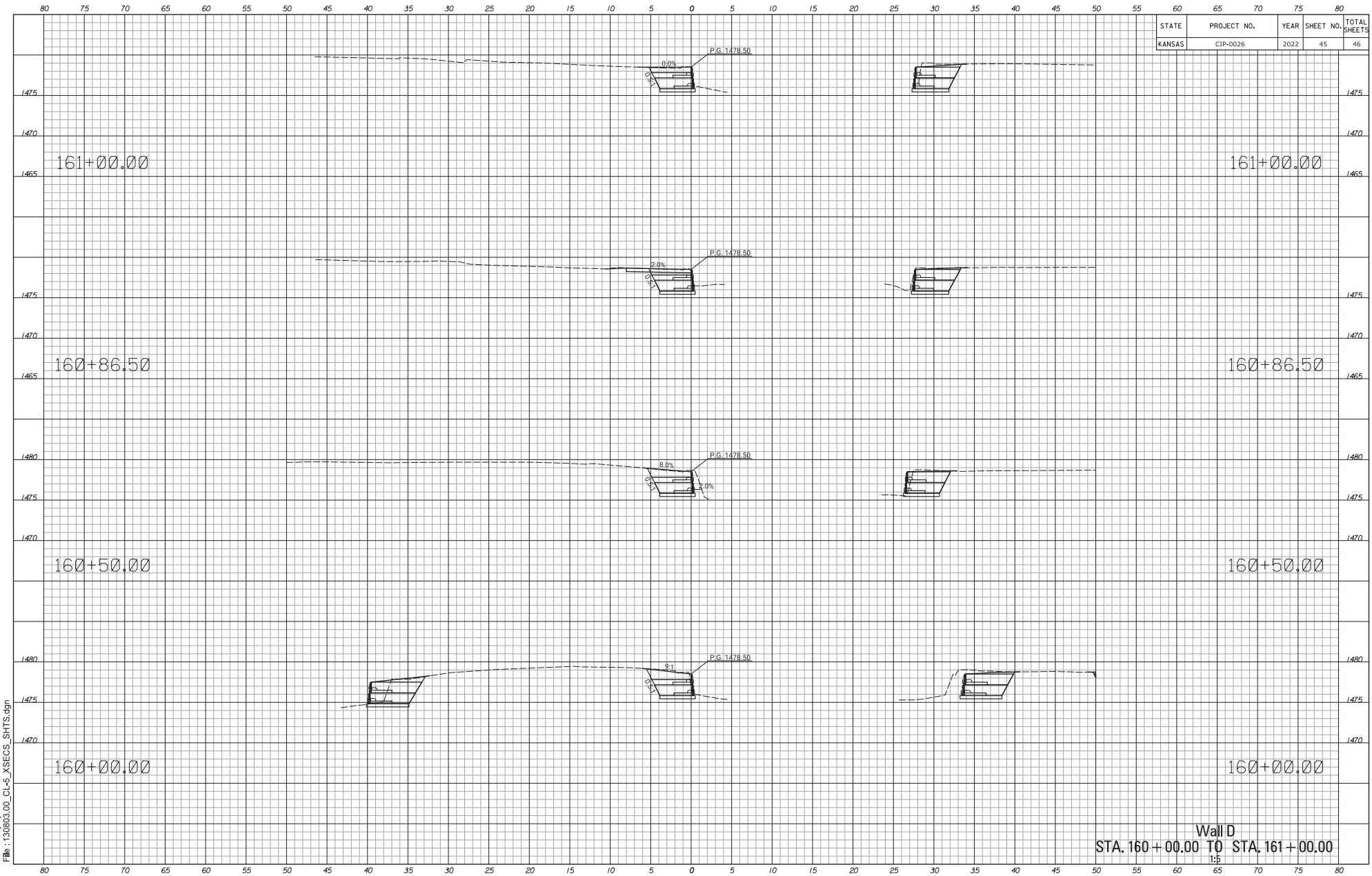
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	44	46



Wall E
STA. 171+99.51 TO STA. 171+99.51
1:5

Drawn By : junruh
File : 130803.00_CL-4_XSECS_SHTS.dgn
Plotted : 31-MAR-2022 14:45

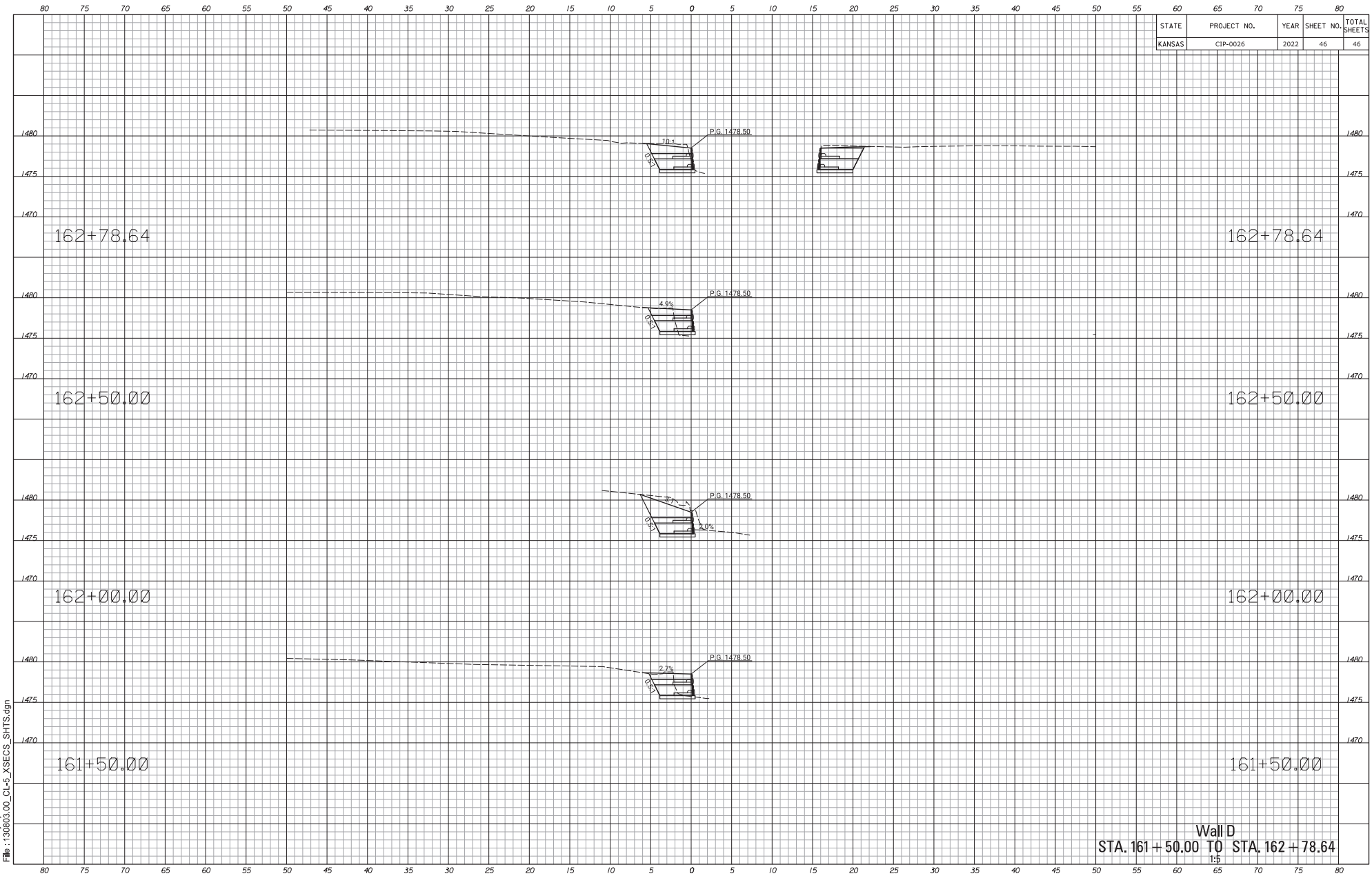
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	45	46



Wall D
STA. 160+00.00 TO STA. 161+00.00
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-5_XSECS_SHTS.dgn

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	CIP-0026	2022	46	46



Wall D
STA. 161+50.00 TO STA. 162+78.64
1:5

Drawn By : junruh Plotted : 31-MAR-2022 14:45
File : 130803.00_CL-5_XSECS_SHTS.dgn