

# CBD PROJECT

BIRMINGHAM, ALABAMA



## • Phase 3

- Project Overview
- RME Interchange
- Demolition of Existing Bridges
- Segmental Bridge Overview
- Casting Yard
- Segmental Bridge Substructure
- Segmental Superstructure Erection
- Lighting







**BHM**

CBD PROJECT

# PHASE 3

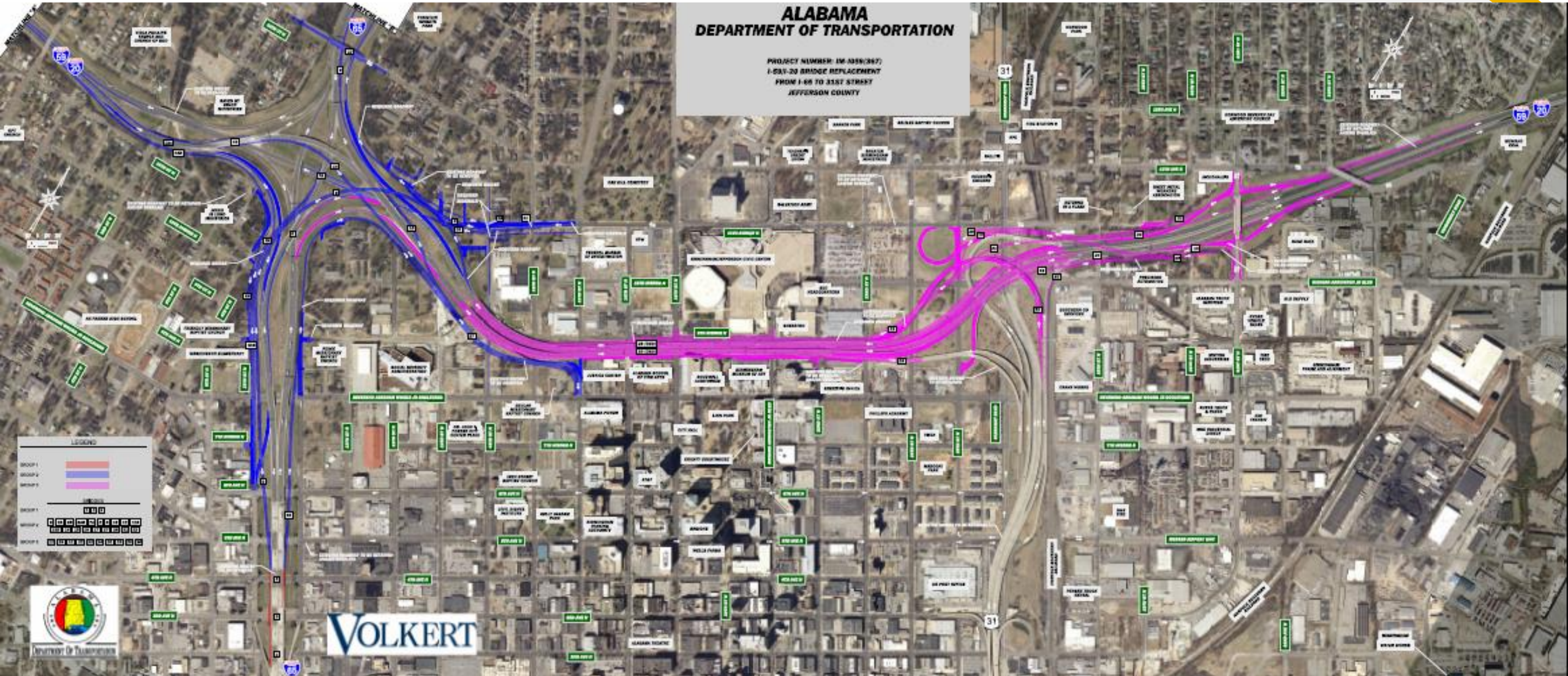
Overview





# Project Overview

FR





# PHASE 3 – PROJECT DETAILS

## Contract Completion Date

November 1<sup>st</sup> 2020  
(42 Months)

Contract Let  
April 14<sup>th</sup> 2017

## Bid Amount

\$474,778,175.95  
(Largest in ALDOT History)

## Awarded to

Johnson Bros Construction

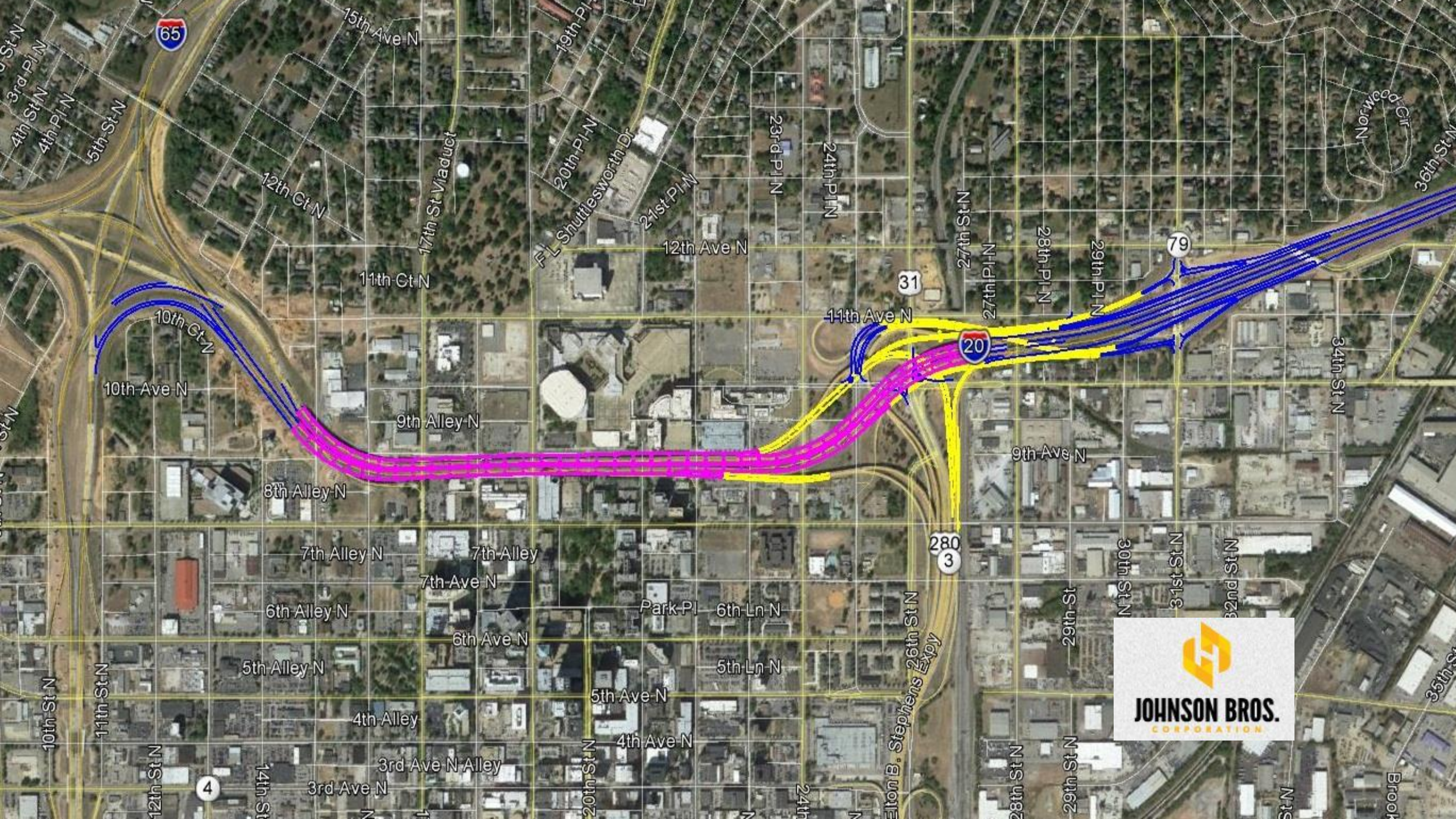
# INCENTIVE FOR PHASE 3



- CONTRACT COMPLETION DATE – NOVEMBER 1, 2020  
LIQUIDATED DAMAGES WILL BE ASSESSED \$35,000/DAY FOR LATE COMPLETION
- CONTRACTOR WILL HAVE 14 MONTHS TO CLOSE THE INTERSTATE FOR DEMOLITION AND RECONSTRUCTION OF THE CBD BRIDGES\*  
CONTRACTOR WILL RECEIVE \$250,000/DAY INCENTIVE FOR EARLY COMPLETION WITH \$15 MILLION MAXIMUM  
CONTRACTOR WILL BE ASSESSED \$250,000/DAY DISINCENTIVE FOR LATE COMPLETION WITH NO MAXIMUM

***\*14 MONTH PERIOD BEGAN JANUARY 22, 2019***









Sheraton/BJCC

Uptown

Phillips Academy

31







Phillips Academy

Sheraton/BJCC

Uptown

31







Airport

N

Uptown

BJCC/Sheraton  
Parking

INTERSTATE  
59

INTERSTATE  
20

31





Airport

N

Uptown

BJCC/Sheraton  
Parking

31

INTERSTATE  
59

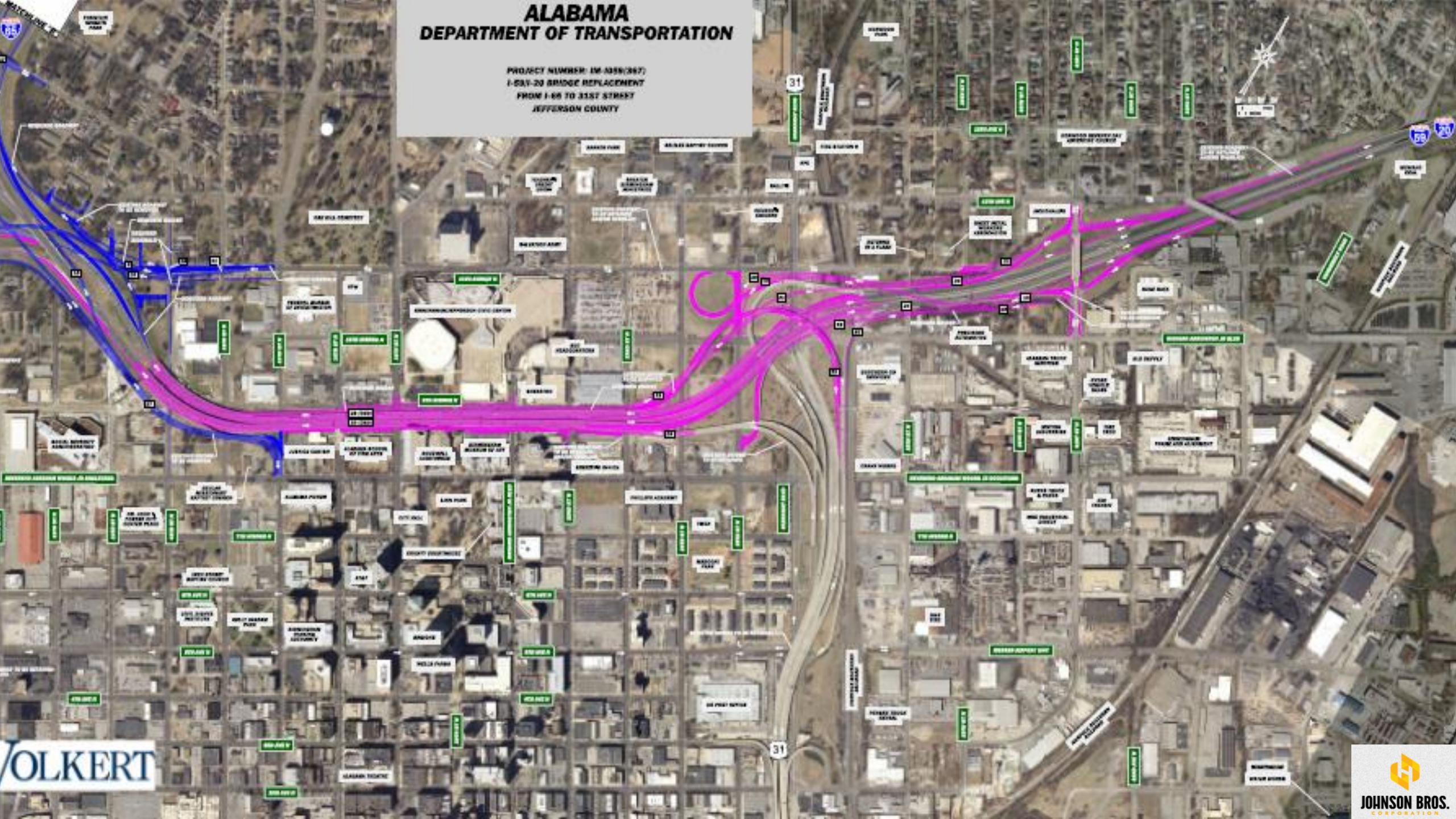
INTERSTATE  
20





# ALABAMA DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: IM-059(267)  
I-55V-20 BRIDGE REPLACEMENT  
FROM I-65 TO 31ST STREET  
JEFFERSON COUNTY















N COUNTY

BRADY BLVD

BRADY BLVD

1000 STATION B

1000 STATION B

STANLEY UNIVERSITY

STANLEY UNIVERSITY

STANLEY UNIVERSITY

STANLEY UNIVERSITY

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STANLEY UNIVERSITY























EXP. 106 A

|            |            |            |               |          |
|------------|------------|------------|---------------|----------|
| SOUTH      | WEST       | NORTH      | I-65          | I-20     |
| Montgomery | Tuscaloosa | Huntsville | Carraway Blvd | Downtown |
| ↑          | ↑          | ↑          | ↘             | ↗        |
|            |            |            | 100           | 200      |





N COUNTY

BRADY BLVD

BRADY BLVD

BRADY BLVD

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BRADY BLVD



















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# CBD Demolition





































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# Segmental Bridges

How They Work





11th Ct N

17th

FL Sh

12th Ave N

27th

27th Pl N

31

11th Ave N

20

9th Alley N

Alley N

7th Alley N

7th Alley

7th Ave N

Alley N

Park Pl

6th Ln N

6th Ave N

280  
3

6th St N

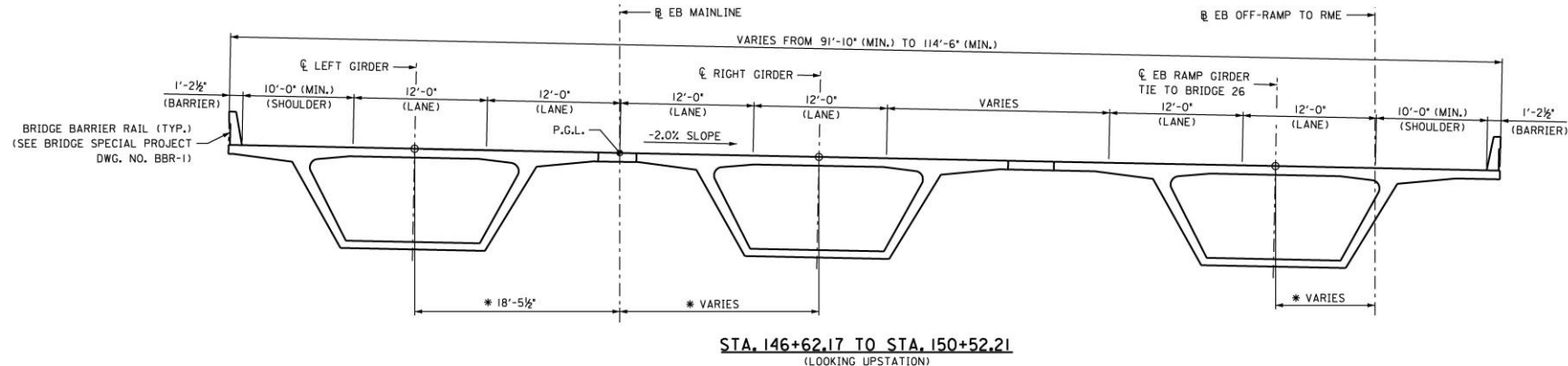
10th



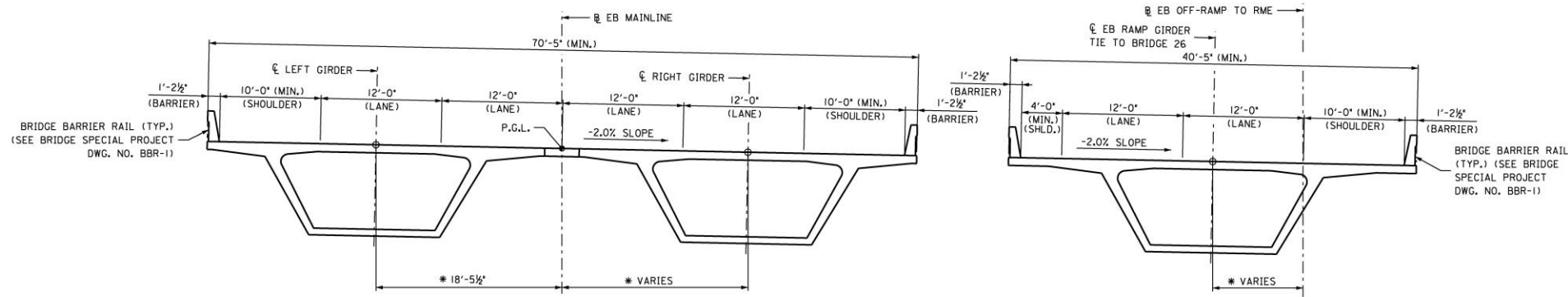




|                          |             |              |
|--------------------------|-------------|--------------|
| REFERENCE PROJECT NUMBER | FISCAL YEAR | SHEET NUMBER |
| ACIMF-1059(385)          | 2016        | 2602         |



STA. 146+62.17 TO STA. 150+52.21  
(LOOKING UPSTATION)



STA. 150+52.21 TO STA. 151+47.17  
(LOOKING UPSTATION)

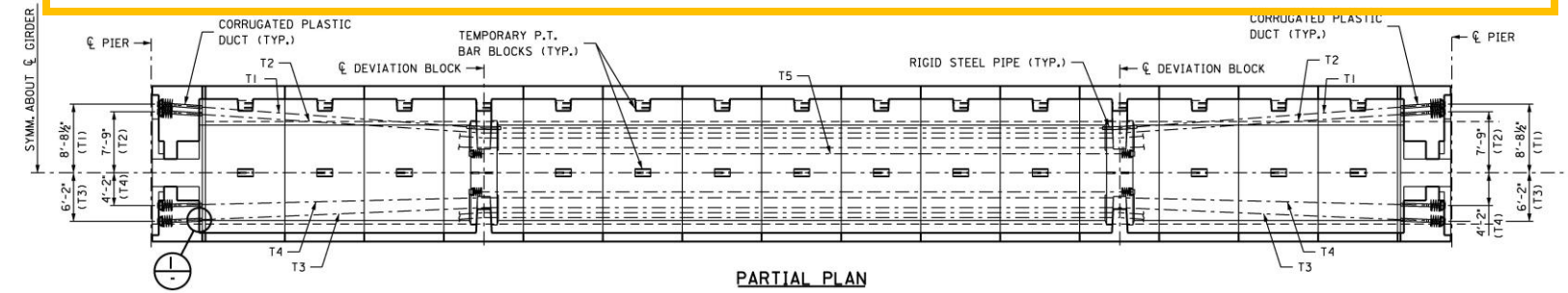
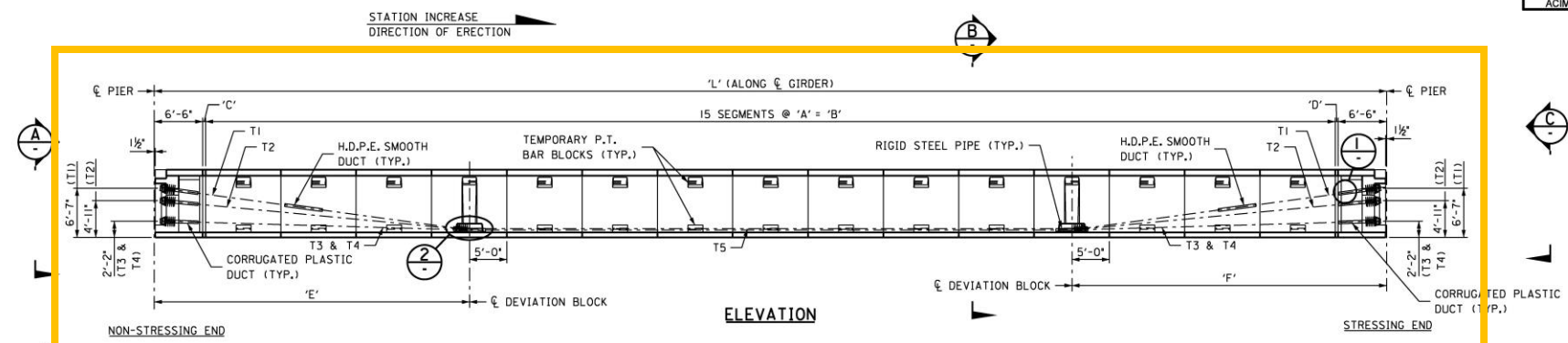
- NOTES:
1. DIMENSIONS SHOWN ARE MEASURED PERPENDICULAR TO EB MAINLINE.
  2. STATIONS SHOWN ARE ALONG EB MAINLINE.
  3. DIMENSIONS PREFIXED WITH AN ASTERISK (\*) ARE MEASURED IN THE HORIZONTAL PLANE.
- ALL OTHER DIMENSIONS ARE MEASURED ALONG THE SLOPE OF THE BRIDGE DECK.

| ALABAMA DEPARTMENT OF TRANSPORTATION  |   |
|---------------------------------------|---|
| BRIDGE SHEET NO. 32 OF 474            | CORVEN ENGINEERING, INC.  |
| REVISIONS                             | PROJECT NO. ACIMF-1059(385)<br>I-59/20 CBD BRIDGE REPLACEMENT<br>BRIDGES 29 (WB) & 30 (EB)<br>JEFFERSON COUNTY, ALABAMA |
|                                       | SUPERSTRUCTURE CROSS-SECTIONS 3<br>(EB MAINLINE)  |
| ESTIMATED QUANTITIES DESIGNED BY: ECA | DRAWN BY: JSP   |
| COMPUTED BY: N/A                      | CHECKED BY: CSM DATE DRAWN: 6-15  |
| VERIFIED BY: N/A                      | DATE CHECKED: 6-15 SCALE: 1/4"=1'-0"  |

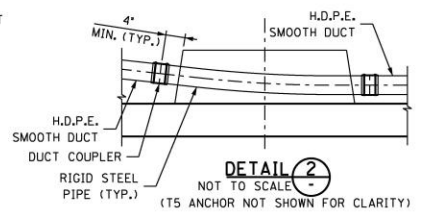
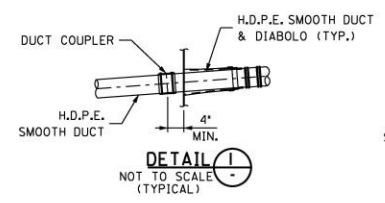
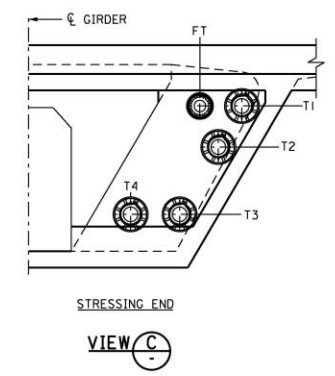
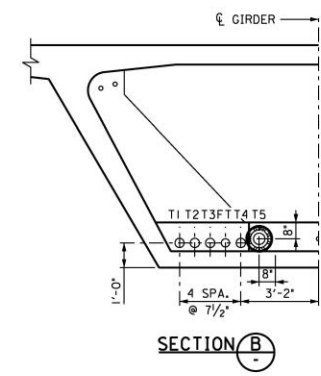
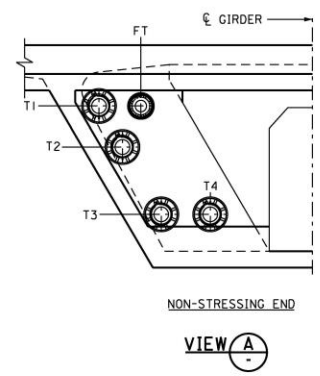
\$\$\$DESIGN FILE SPECIFICATIONS\$\$\$

Project: SYSTEM DATE/TIME





| VARIABLE DIMENSIONS        |                                       |       |         |                                  |                                   |                                       |                                       |
|----------------------------|---------------------------------------|-------|---------|----------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|
| WB MAINLINE - LEFT GIRDER  |                                       |       |         |                                  |                                   |                                       |                                       |
| SPAN                       | 'L'                                   | 'A'   | 'B'     | 'C'                              | 'D'                               | 'E'                                   | 'F'                                   |
| 27                         | 159'-7 <sup>5</sup> / <sub>16</sub> " | 9'-8" | 145'-0" | 9 <sup>5</sup> / <sub>16</sub> " | 9 <sup>11</sup> / <sub>16</sub> " | 40'-11 <sup>5</sup> / <sub>16</sub> " | 41'-3 <sup>11</sup> / <sub>16</sub> " |
| WB MAINLINE - RIGHT GIRDER |                                       |       |         |                                  |                                   |                                       |                                       |
| SPAN                       | 'L'                                   | 'A'   | 'B'     | 'C'                              | 'D'                               | 'E'                                   | 'F'                                   |
| 27                         | 160'-0"                               | 9'-8" | 145'-0" | 1'-0"                            | 1'-0"                             | 41'-2"                                | 41'-6"                                |



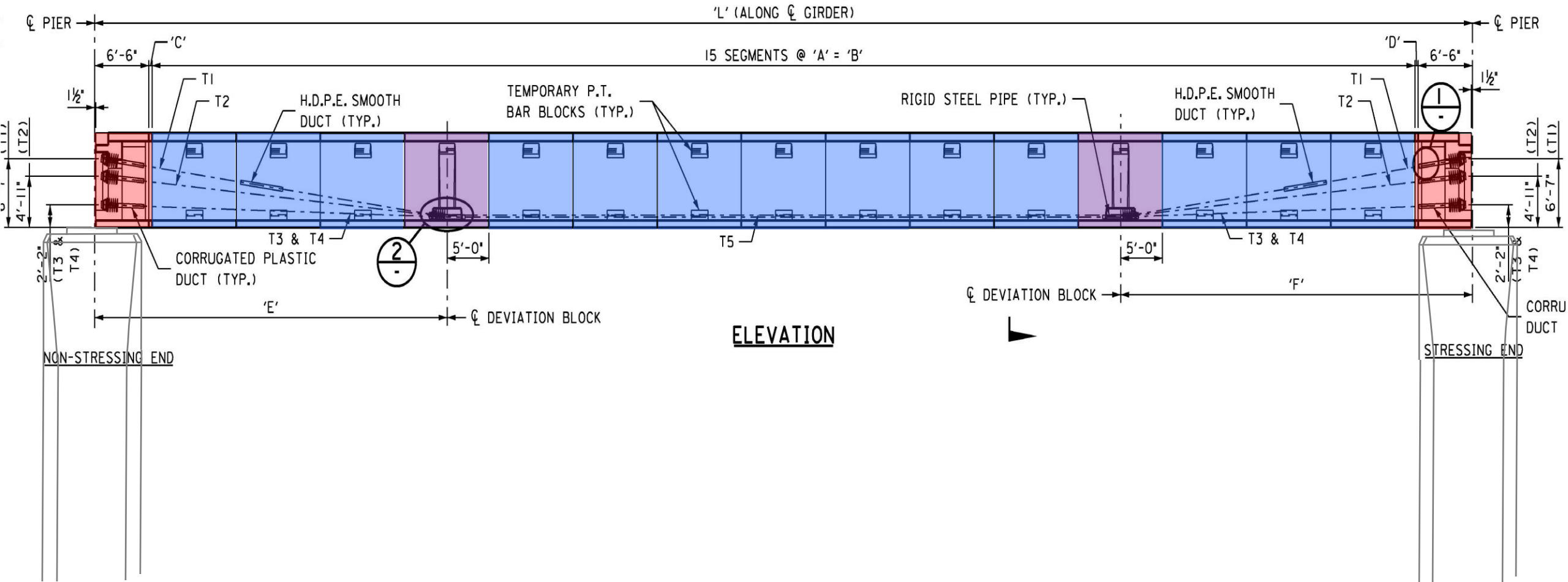
- NOTES:**
1. ALL DIMENSIONS ARE ALONG CENTERLINE GIRDER.
  2. FOR TENDON DEVIATION DETAILS, SEE INDIVIDUAL SEGMENT P.T. DETAILS.
  3. FOR TENDON SIZES AND QUANTITIES, SEE P.T. QUANTITIES AND STRESSING SCHEDULE SHEETS.
  4. FOR FUTURE TENDON (FT) DETAILS, SEE FUTURE P.T. LAYOUT SHEETS.

|   |   |
|---|---|
| <b>ALABAMA DEPARTMENT OF TRANSPORTATION</b> |   |
| BRIDGE SHEET NO. 322 OF 474                 | CORVEN ENGINEERING, INC.  |
| REVISIONS                                   | PROJECT NO. ACIMF-1059(385)<br>I-59/20 CBD BRIDGE REPLACEMENT<br>BRIDGES 29 (WB) & 30 (EB)<br>JEFFERSON COUNTY, ALABAMA |
| 160' SIMPLE SPAN P.T. LAYOUT                |   |
| ESTIMATED QUANTITIES DESIGNED BY: PAM       | DRAWN BY: JLS   |
| COMPUTED BY: N/A                            | CHECKED BY: ECA   |
| DATE DRAWN: 10-13                           | SCALE: 1/4"=1'-0"   |
| VERIFIED BY: N/A                            | DATE CHECKED: 1-18  |

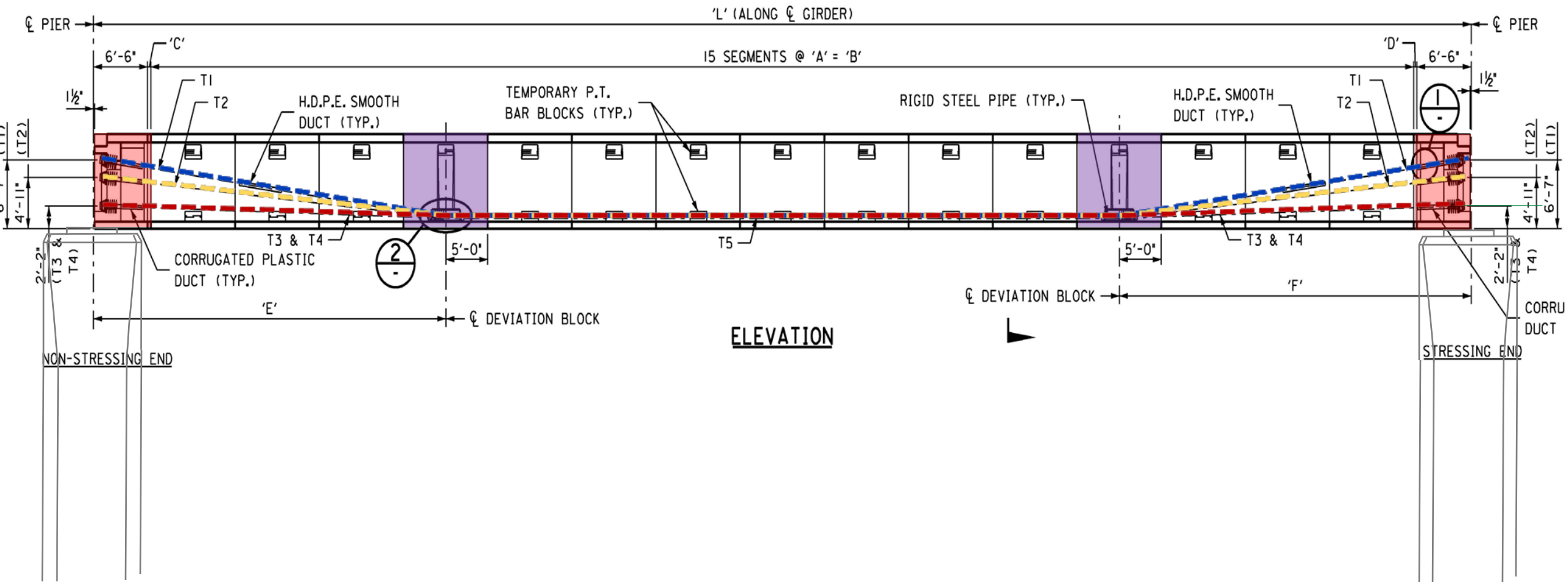
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P00000: SYSTEM DATE&TIME

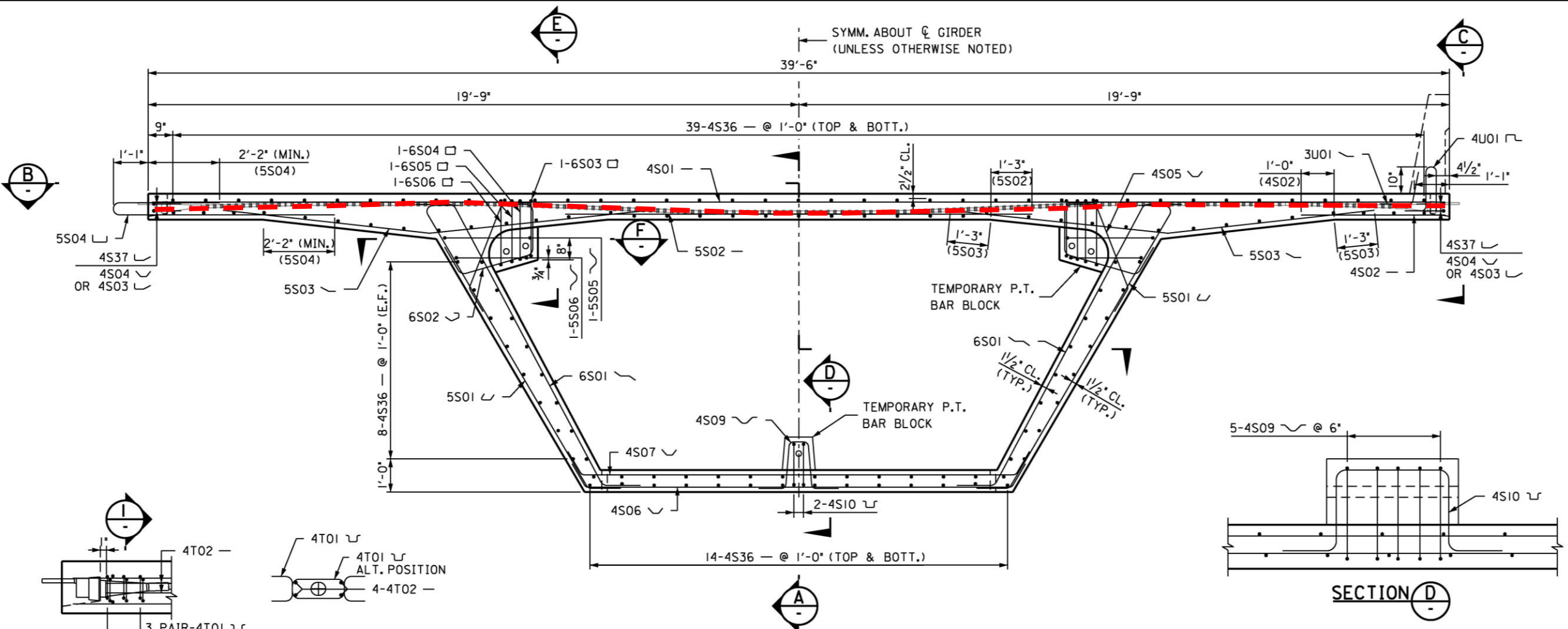












**CROSS-SECTION**

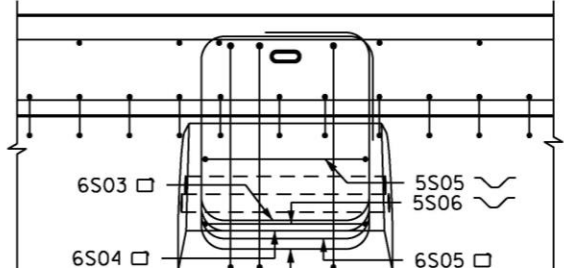
(RIGHT GIRDER SHOWN, LEFT GIRDER OPPOSITE ABOUT  $\phi$  GIRDER.)

**SECTION ALONG TENDON**

**SECTION I**

**TRANSVERSE TENDON REINFORCING DETAIL**

(TYPICAL EACH TRANSVERSE TENDON ANCHOR)





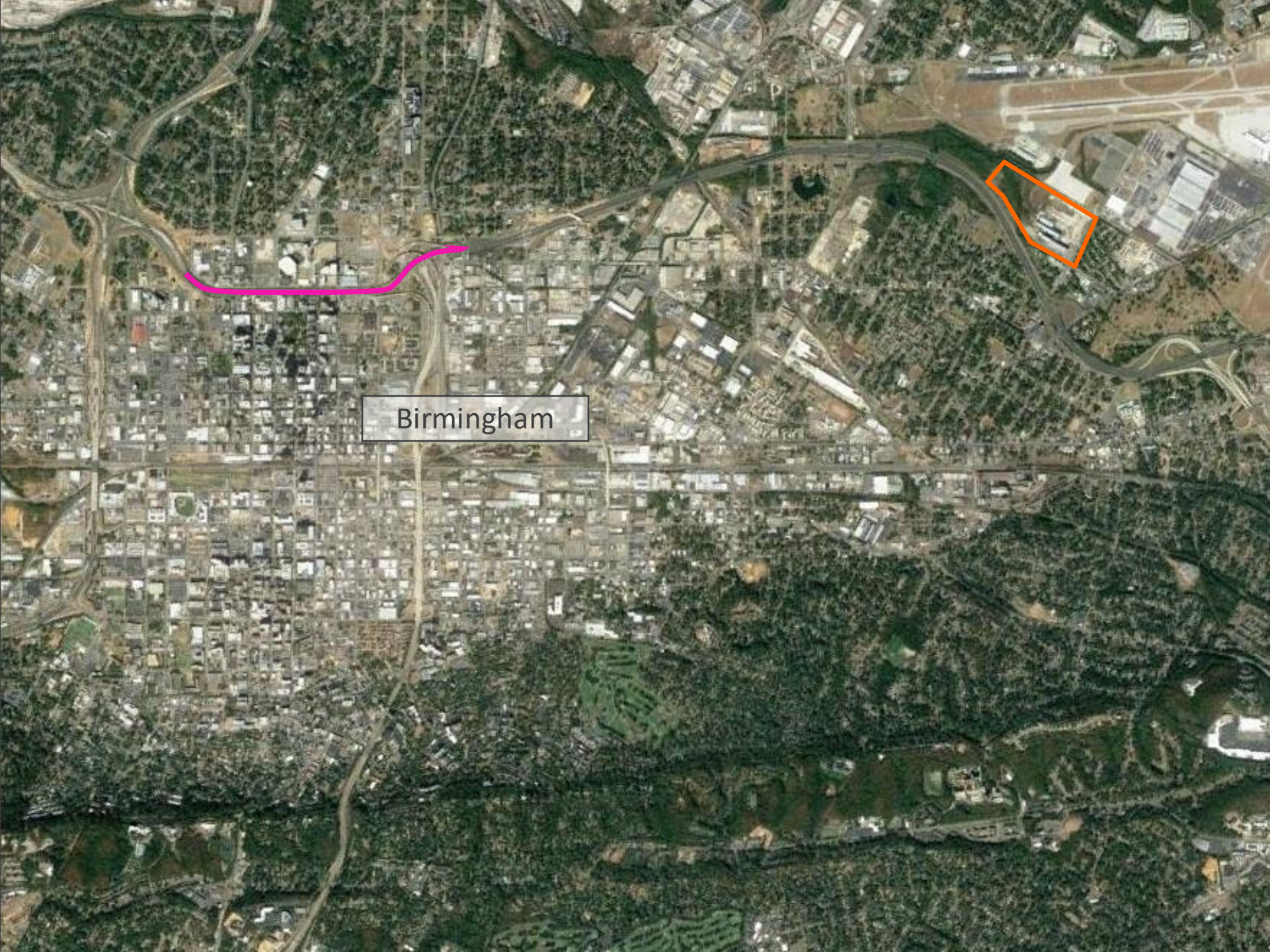


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Casting Yard





Birmingham

























BED  
#5

DURABOX

Pro-End  
K-1-1000  
D84













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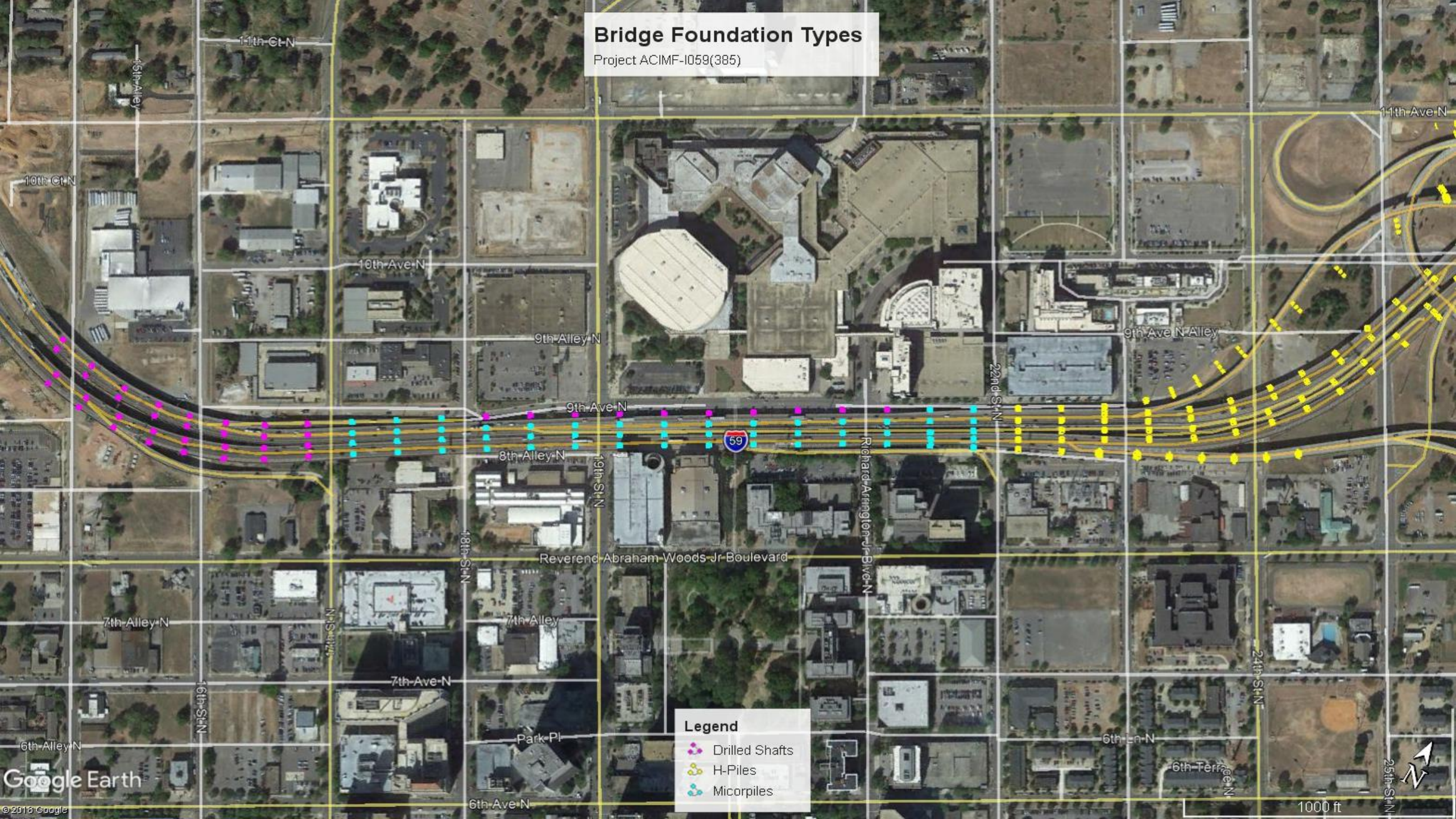
# Substructure

## Segmental Bridges



# Bridge Foundation Types

Project ACIMF-I059(385)



**Legend**

- Drilled Shafts
- H-Piles
- Micropiles



# Micro-Piles





# H-Piles





# H-Piles





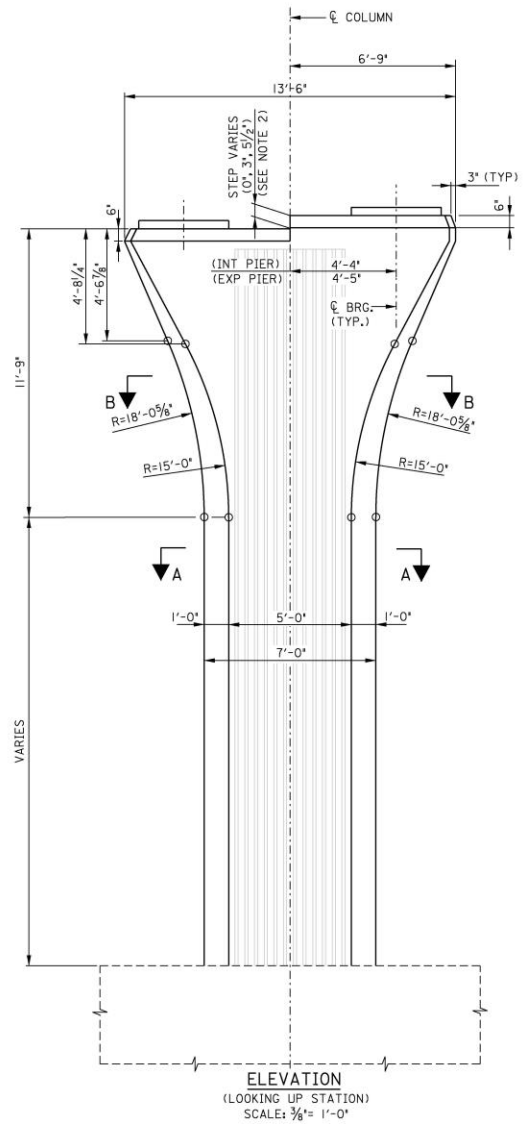
# Drilled Shafts



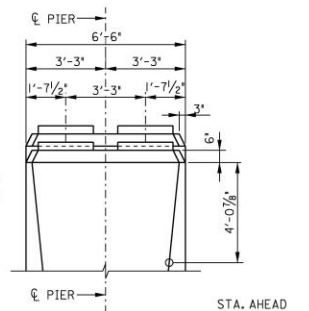




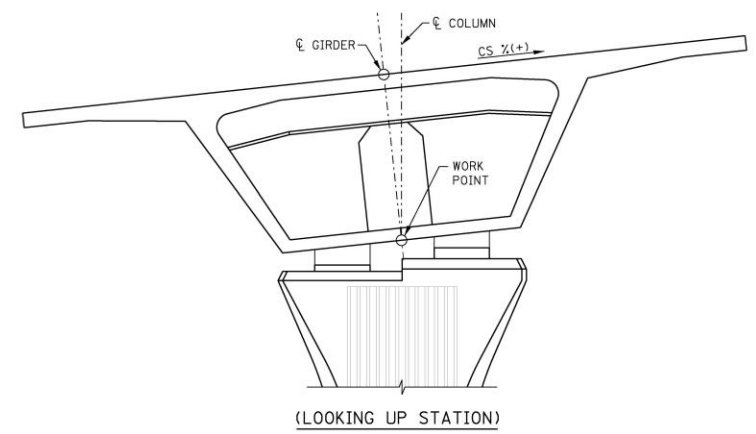
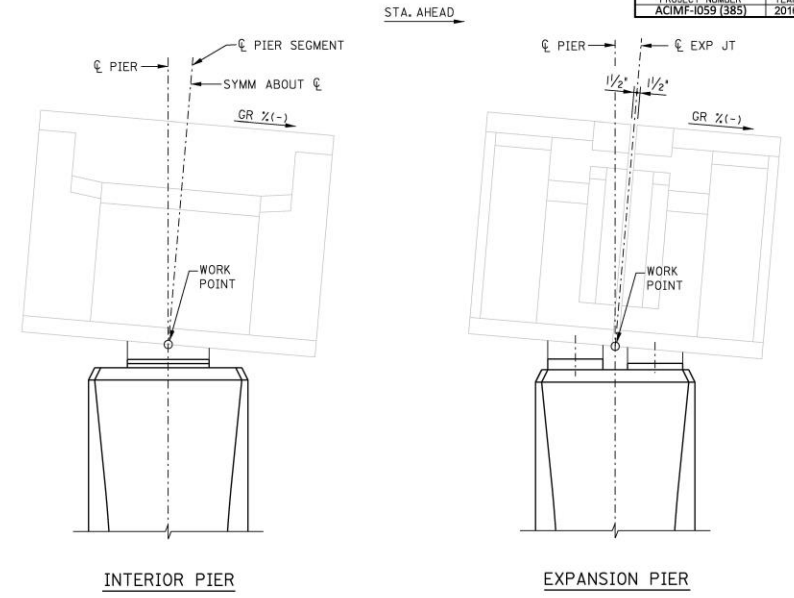
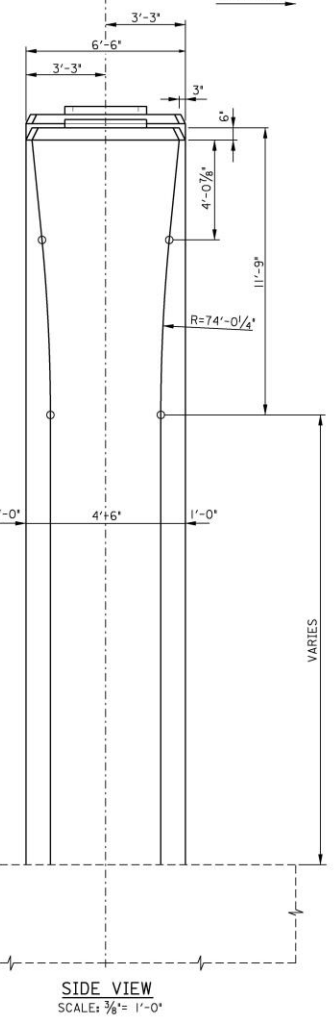
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 Plot: ...  
 \$\$\$\$\$DESIGN FILE SPECIFICATIONS\$\$\$\$  
 \$\$\$\$\$SYSTEM DATE/TIME\$\$\$\$



**EXPANSION PIER**



**INTERIOR PIER**



**NOTES:**

- CAP STEP SHOWN FOR POSITIVE CROSS-SLOPE (CS). LEFT HALF OF CAP IS HIGHER FOR NEGATIVE CROSS-SLOPE. SEE SHEETS 420-445 FOR CAP STEP DIMENSIONS.
- FOR DETAILS CONCERNING COLUMNS REQUIRING LIGHTING CONDUIT SEE ELECTRICAL SHEETS.

| ALABAMA DEPARTMENT OF TRANSPORTATION |        |                                      |                 |
|--------------------------------------|--------|--------------------------------------|-----------------|
| BRIDGE SHEET NO. 417 OF 474          |        | VOLKERT, INC. - CONSULTING ENGINEERS |                 |
| REVISIONS                            |        | PROJECT NO. ACIMF-1059(385)          |                 |
|                                      |        | 1-59 /20 CBD BRIDGE REPLACEMENT      |                 |
|                                      |        | BRIDGES 29 (WB) & 30 (EB)            |                 |
|                                      |        | JEFFERSON COUNTY, ALABAMA            |                 |
|                                      |        | TYPICAL PIER COLUMN DETAILS          |                 |
|                                      |        | (1 OF 3)                             |                 |
| ESTIMATED QUANTITIES                 |        | DESIGNED BY:                         | C.D.W.          |
| COMPUTED BY:                         |        | CHECKED BY:                          | M.M.D.          |
| DATE DRAWN:                          |        | DATE CHECKED:                        | SCALE:          |
| WB                                   | EB     | VERIFIED BY:                         | N.A.            |
| 021225                               | 021226 | DATE CHECKED:                        | SCALE: AS NOTED |





















**BHM**

CBD PROJECT

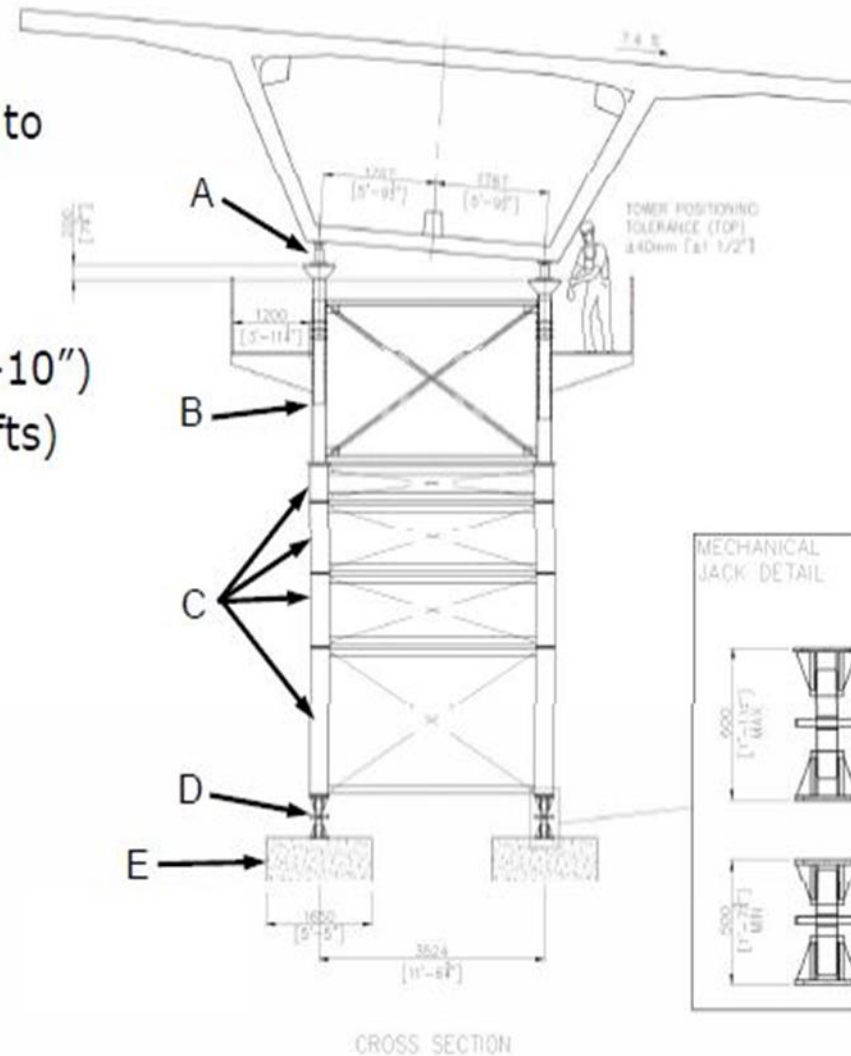
# Segmental Erection







- Shoring towers are made of (from top to bottom):
  - Hydraulic jacks (10" to 1'-2")
  - Telescopic tower head with working platform (8'-2" to 10'-10")
  - Scaffolding tower base (4 shafts)  
Composed of elements of
    - » 1' - 7 3/4" Sections
    - » 3' - 3 3/4" Sections
    - » 6' - 6 3/4" Sections
  - Mechanical jacks (1'-8" to 2')
- The shoring towers are supported on concrete pads (E)











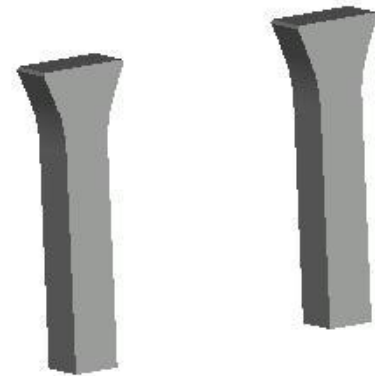
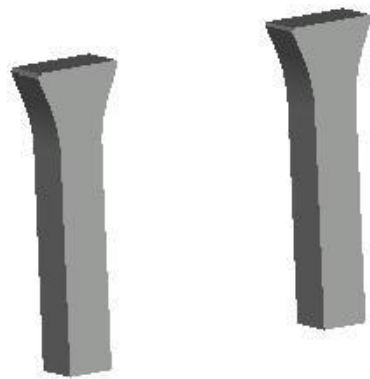
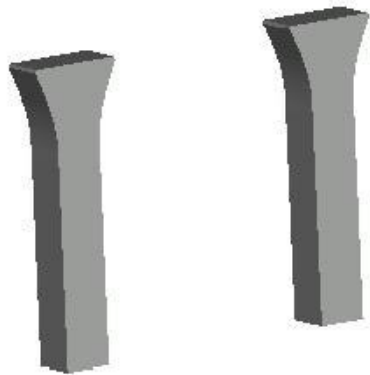
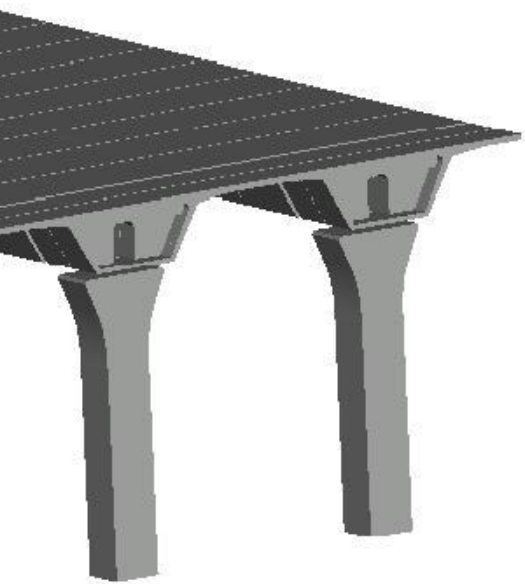
**SOUTHLAND**  
HOLDINGS

Southland Contracting, Inc. | Oscar Renda Contracting, Inc.  
Johnson Bros. Corporation | Mole Constructors | Heritage Asphalt

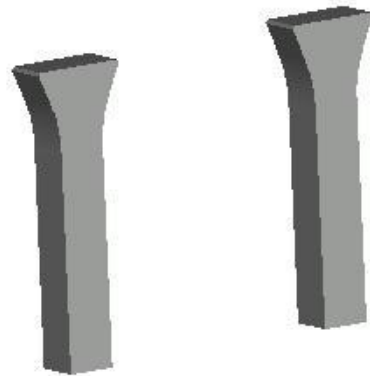
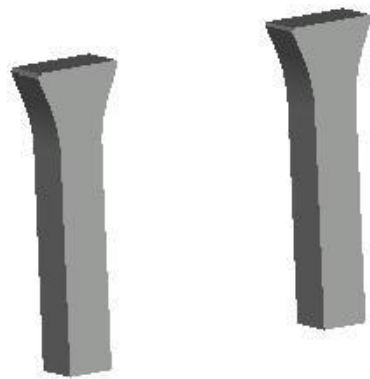
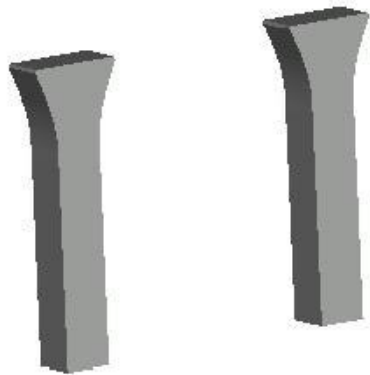
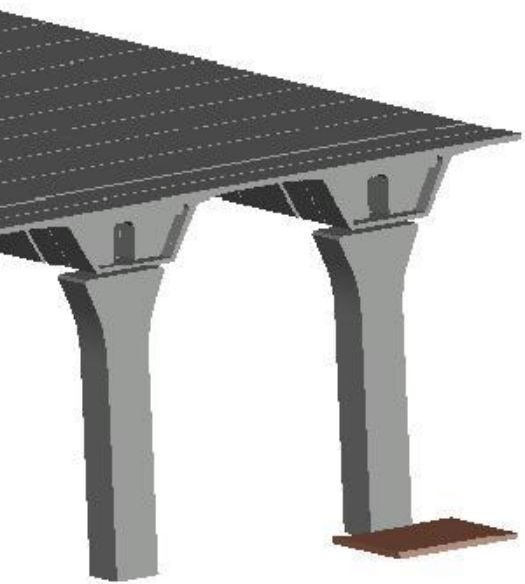
## ERECTION TYPICAL SPAN

Johnson Bros.  
Corporation

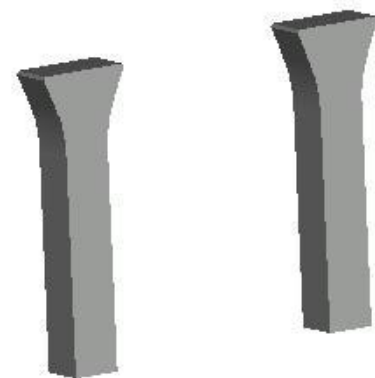
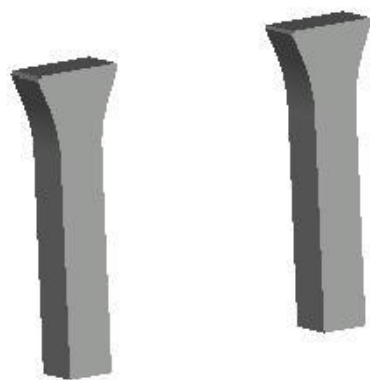
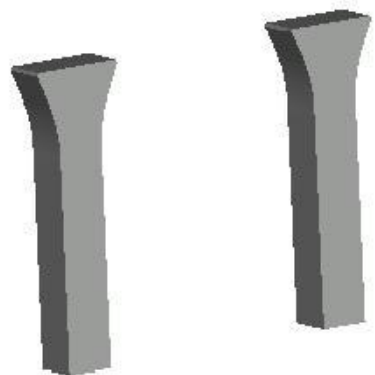
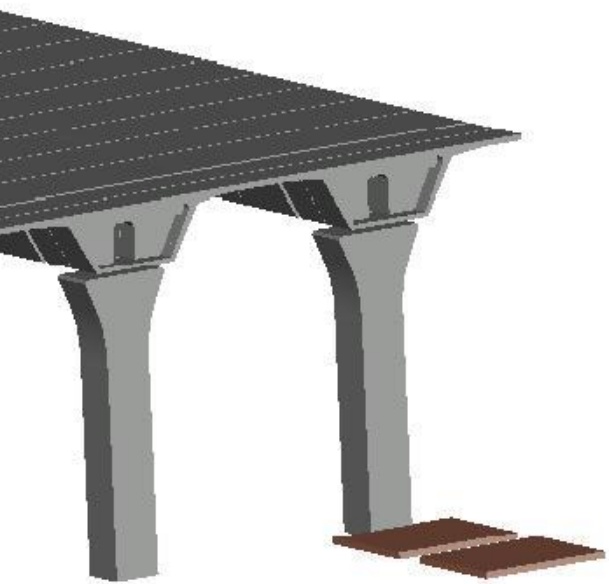




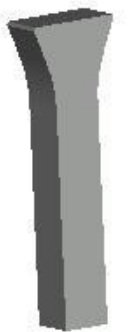
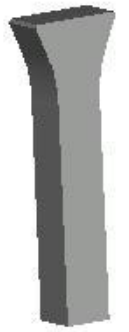
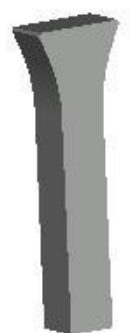
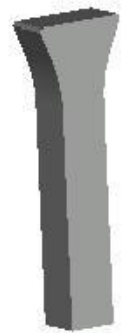
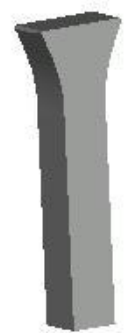
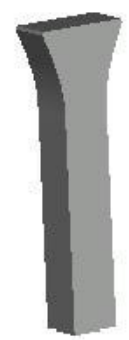
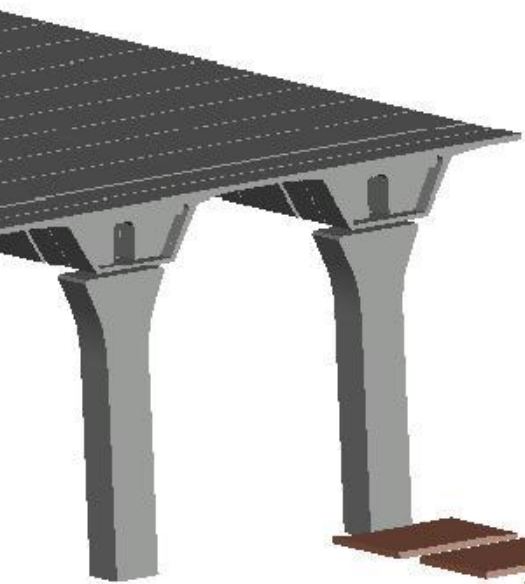




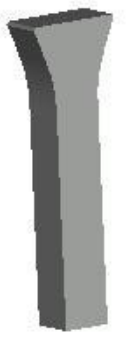
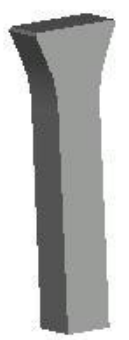
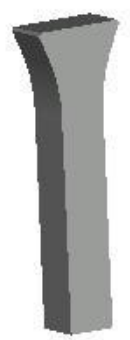
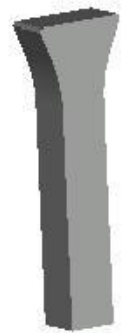
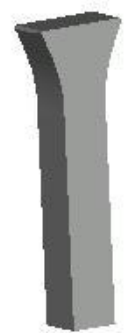
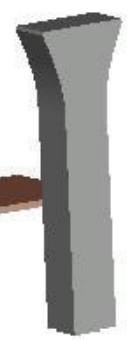
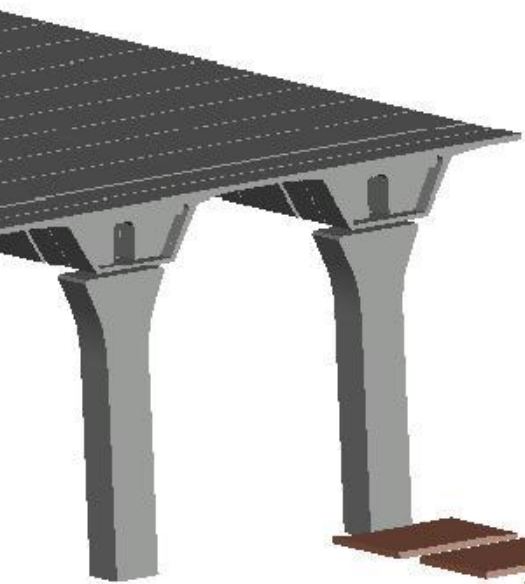




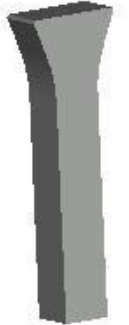
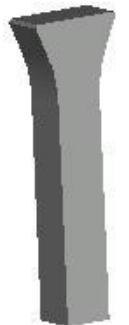
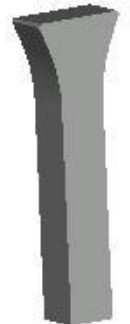
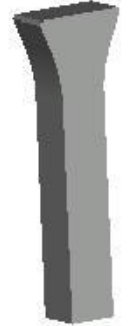
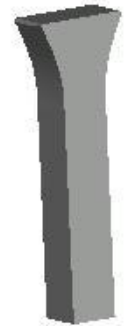
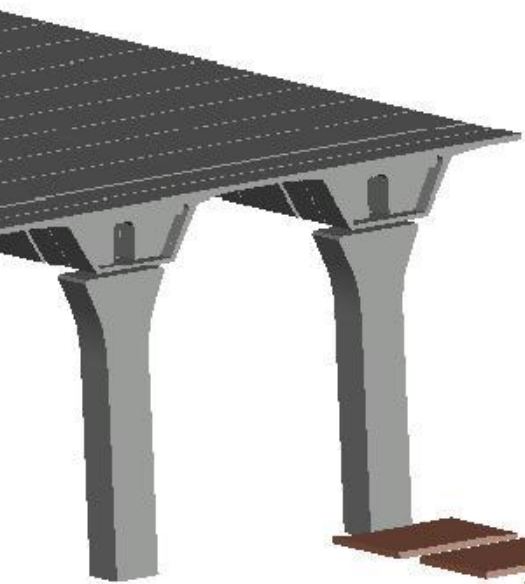




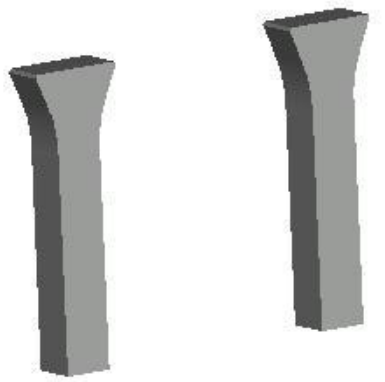
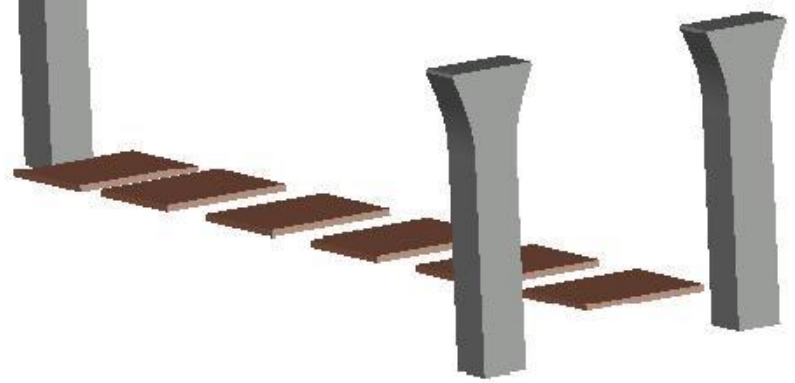
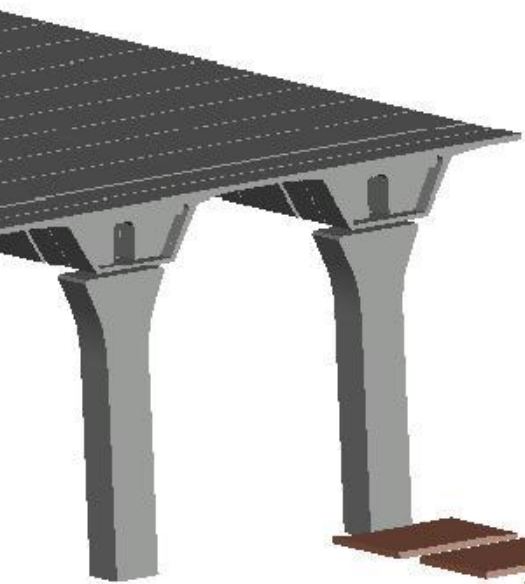




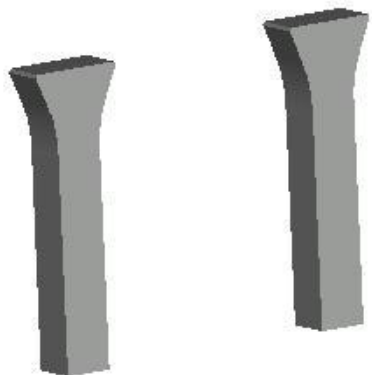
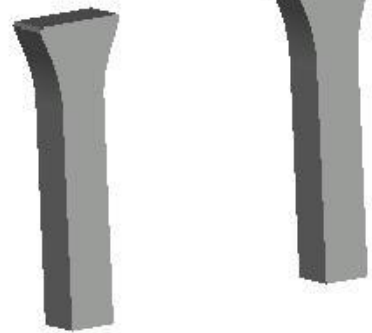
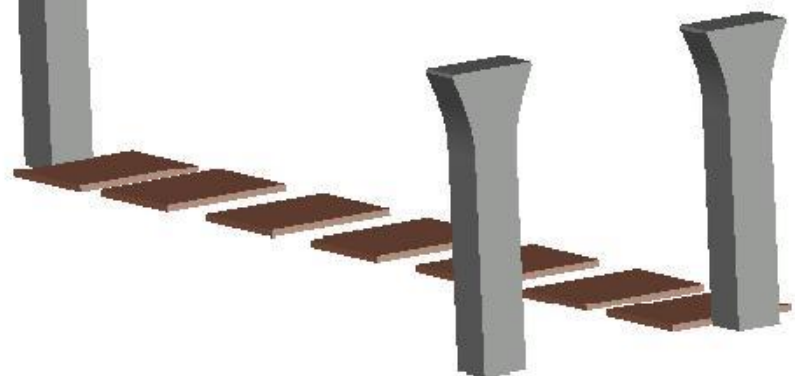
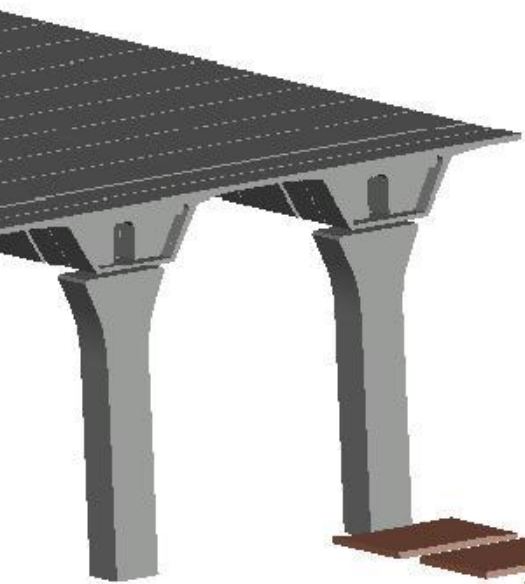




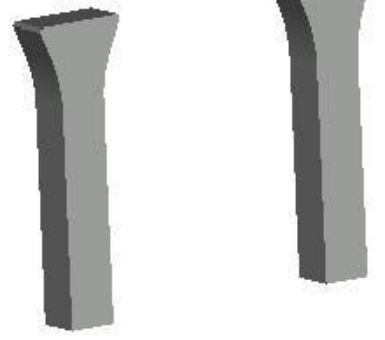
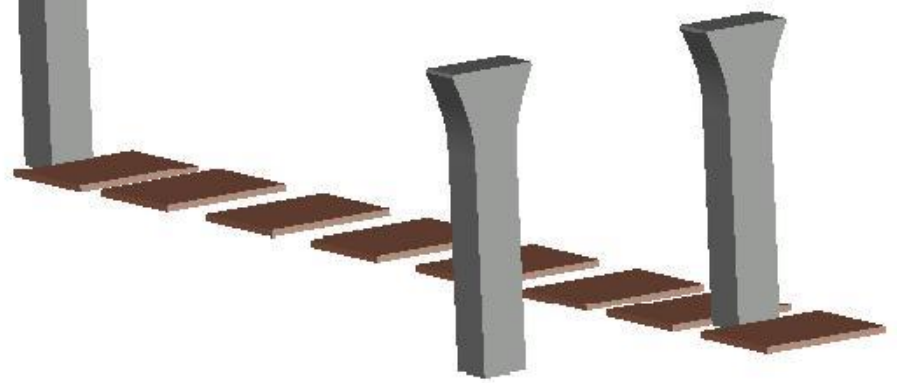
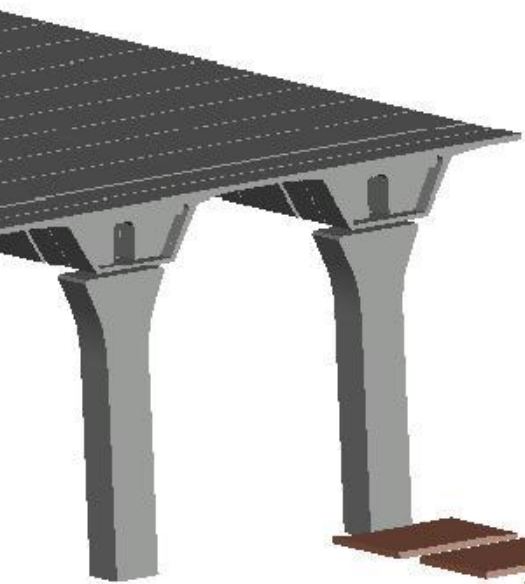




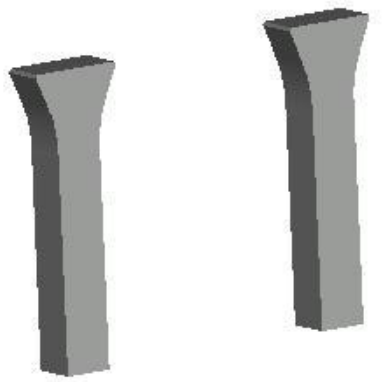
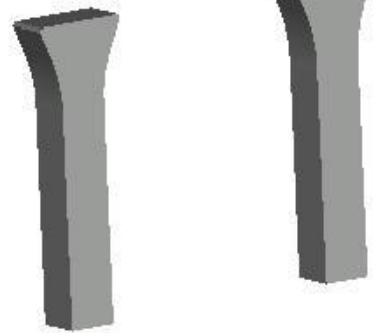
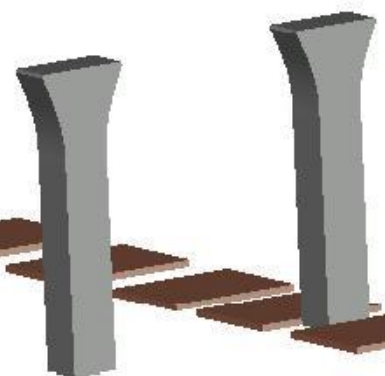
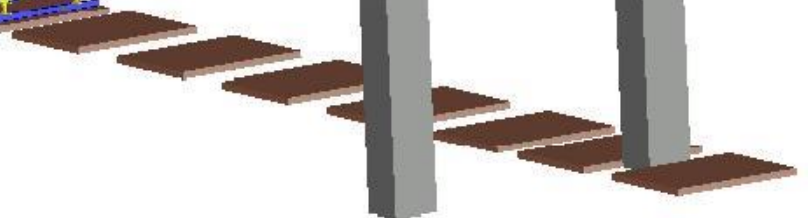
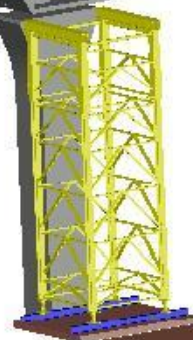
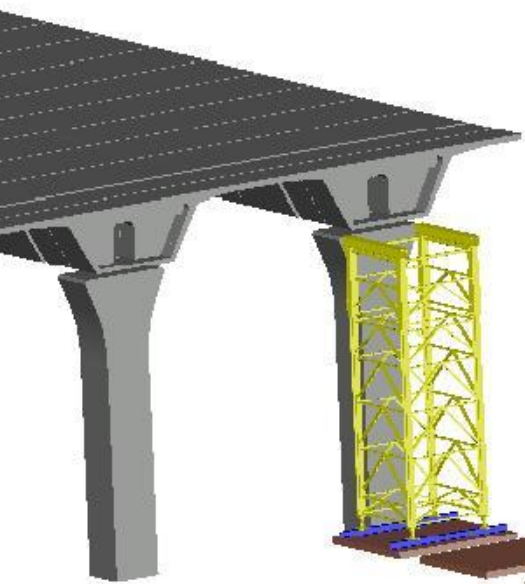
















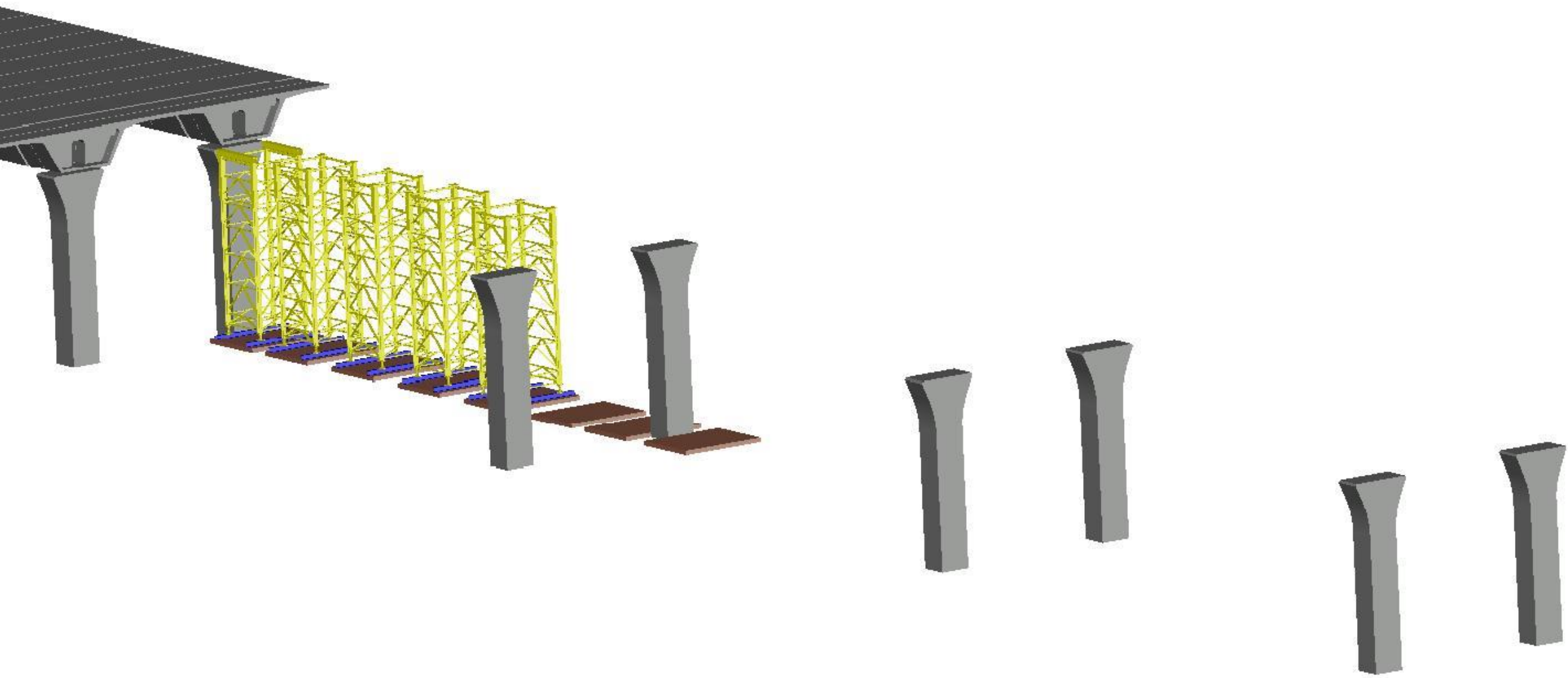




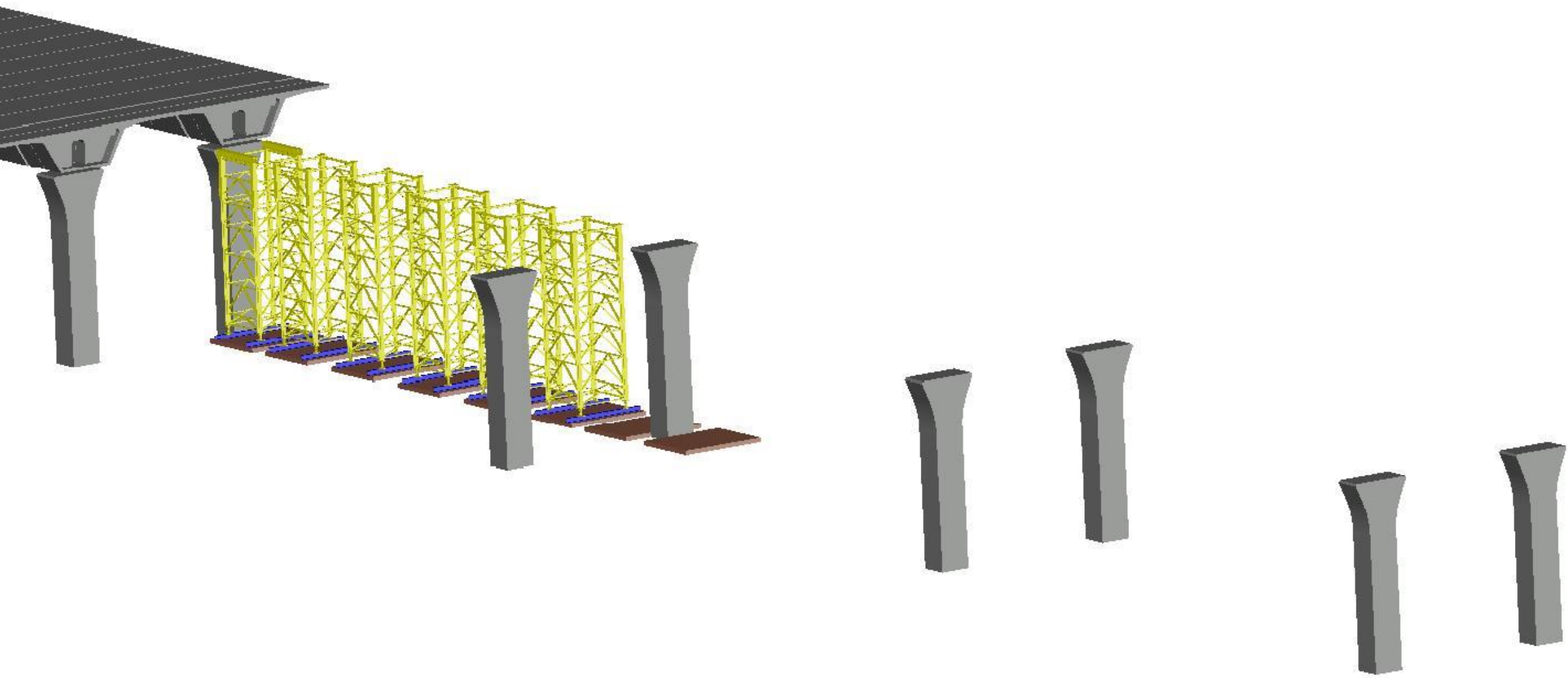




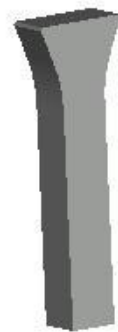
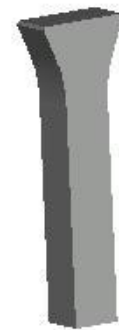
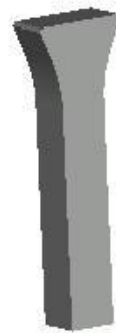
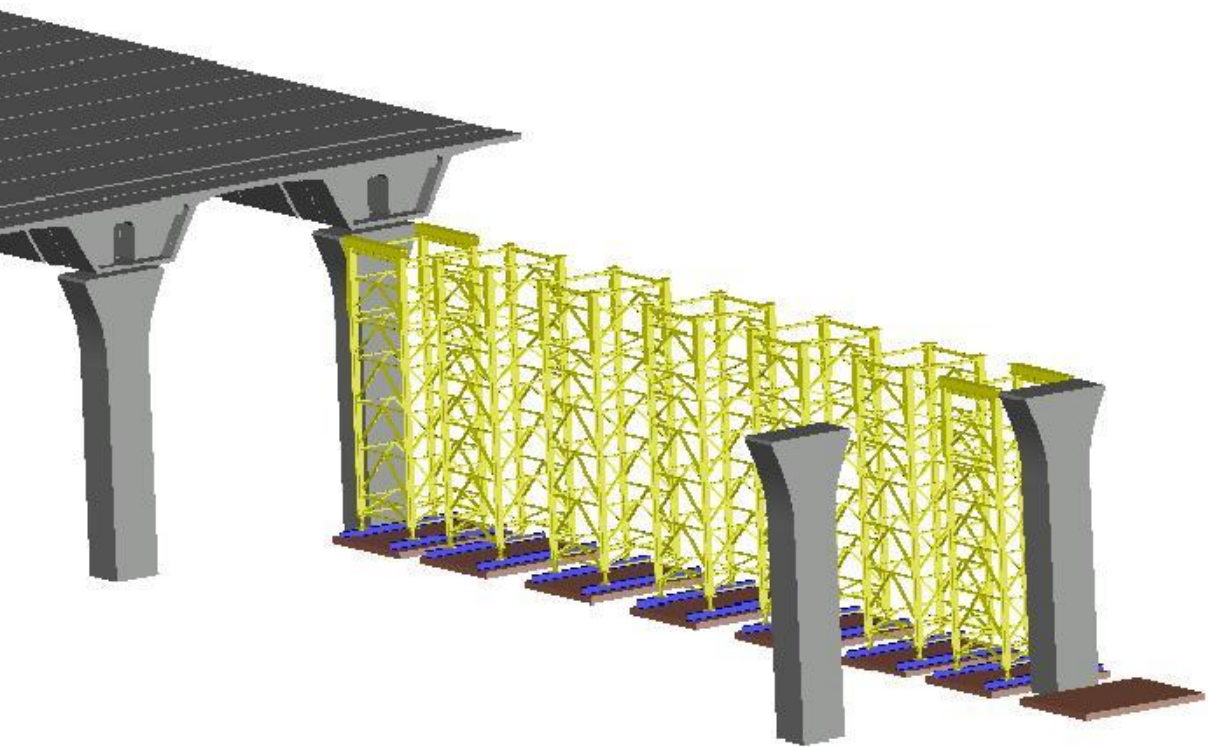




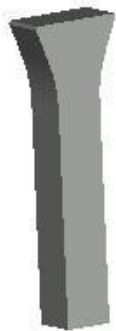
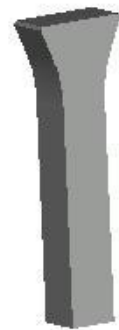
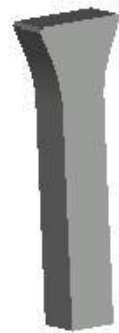
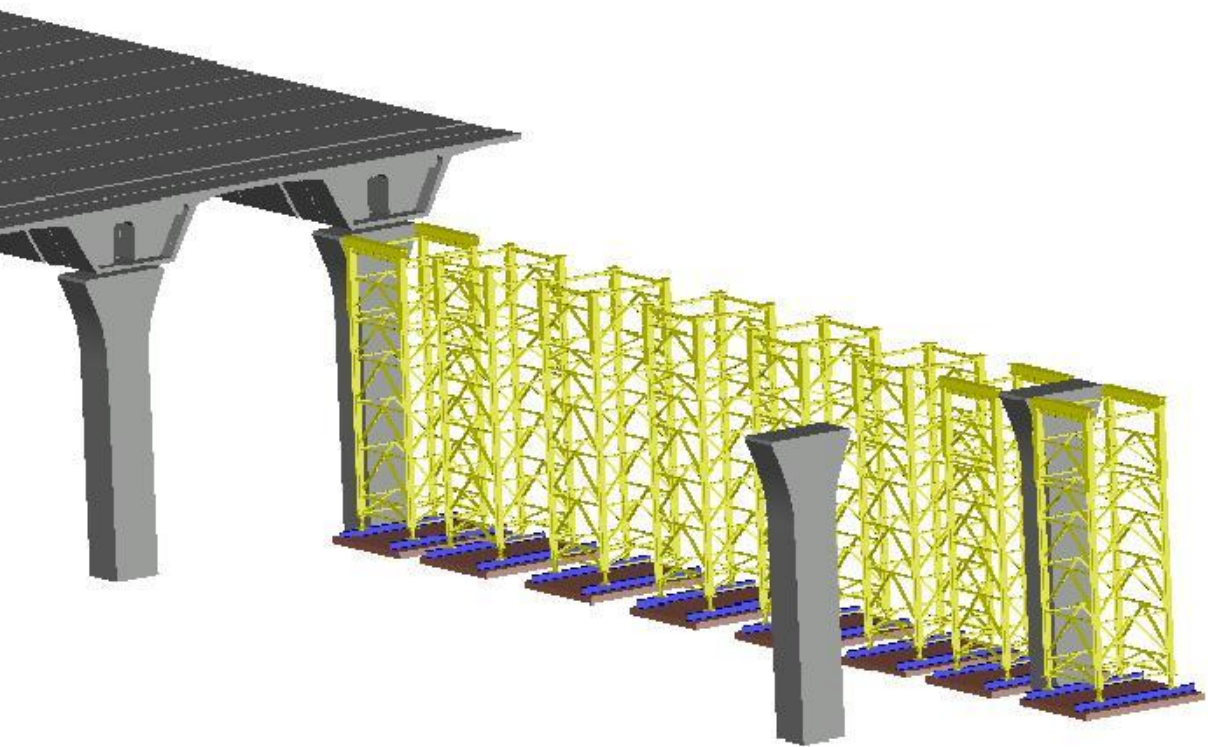




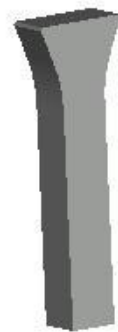
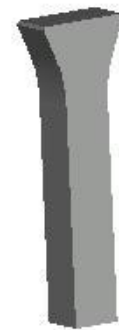
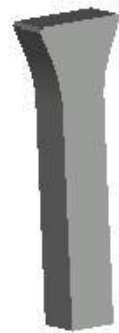
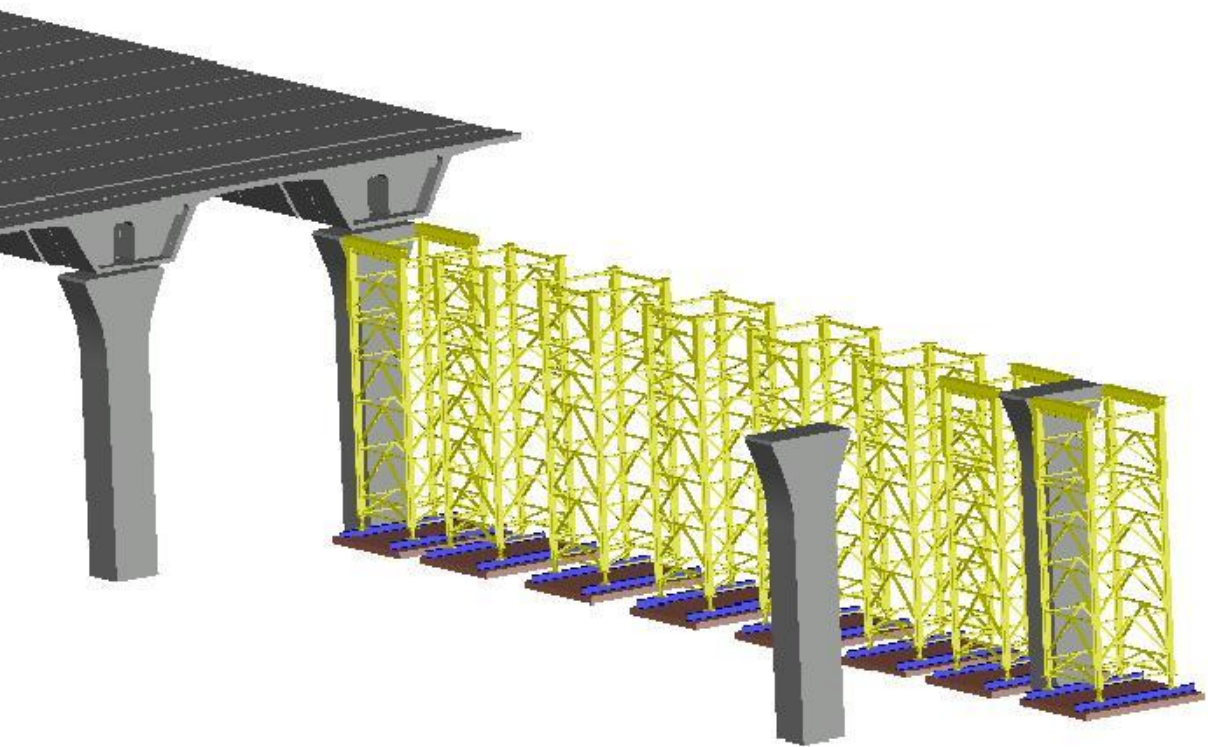




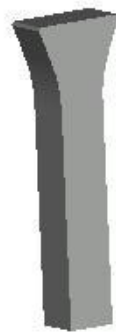
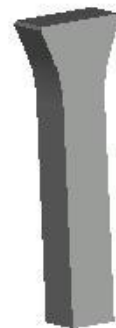
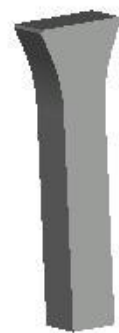
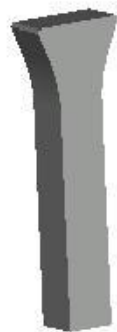
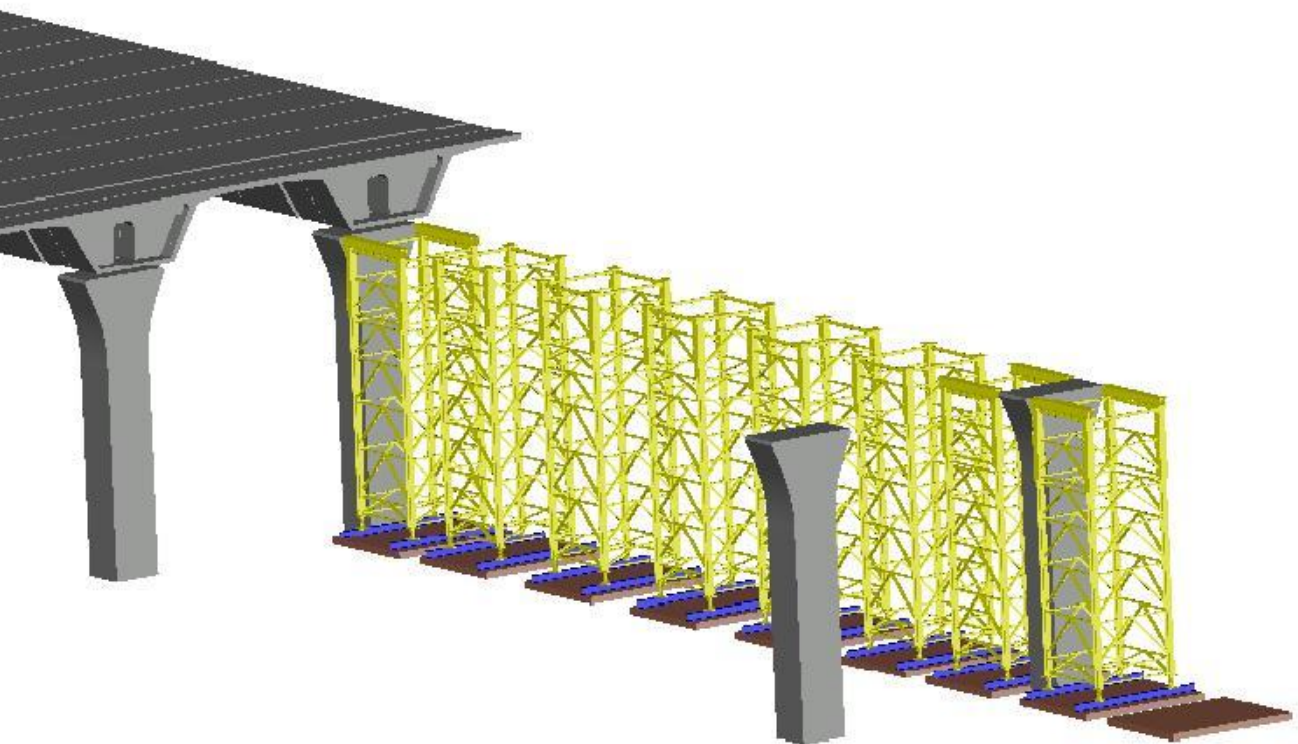




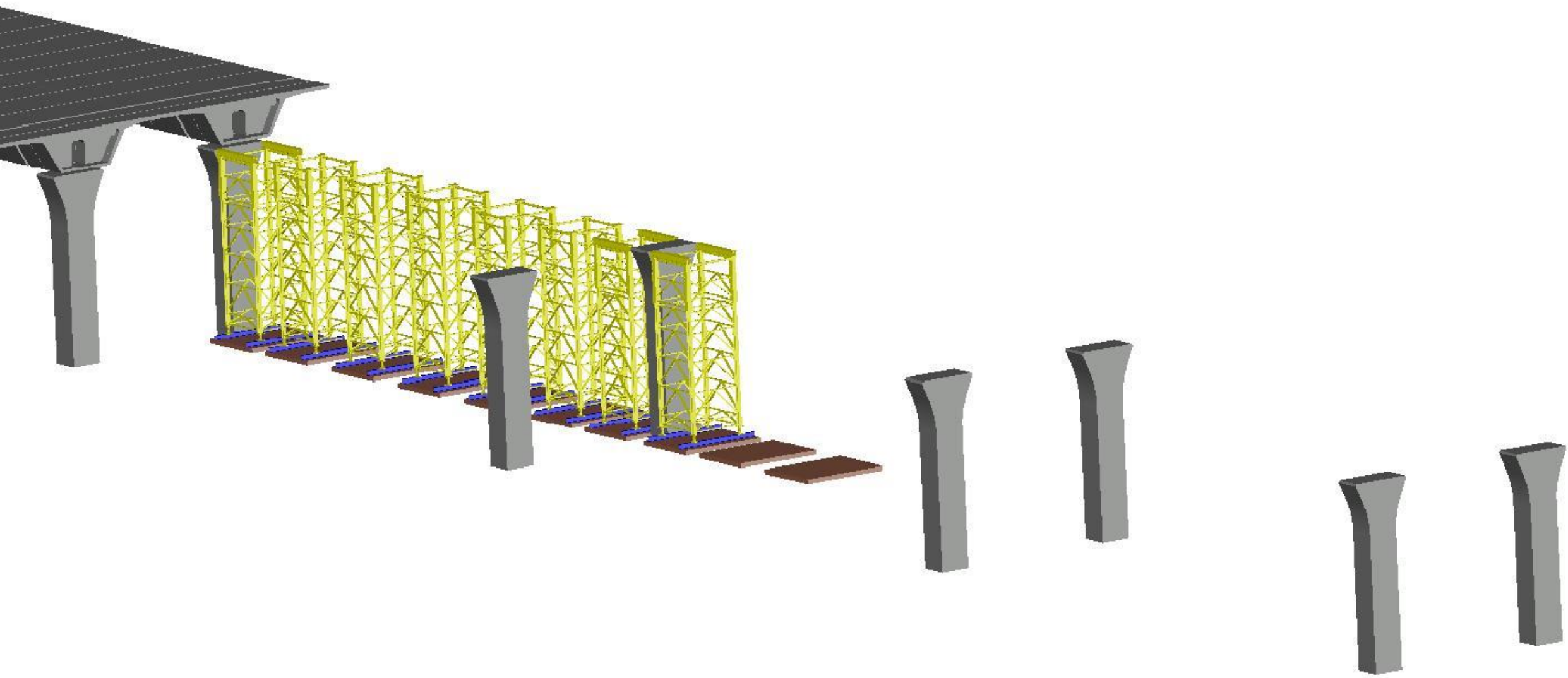




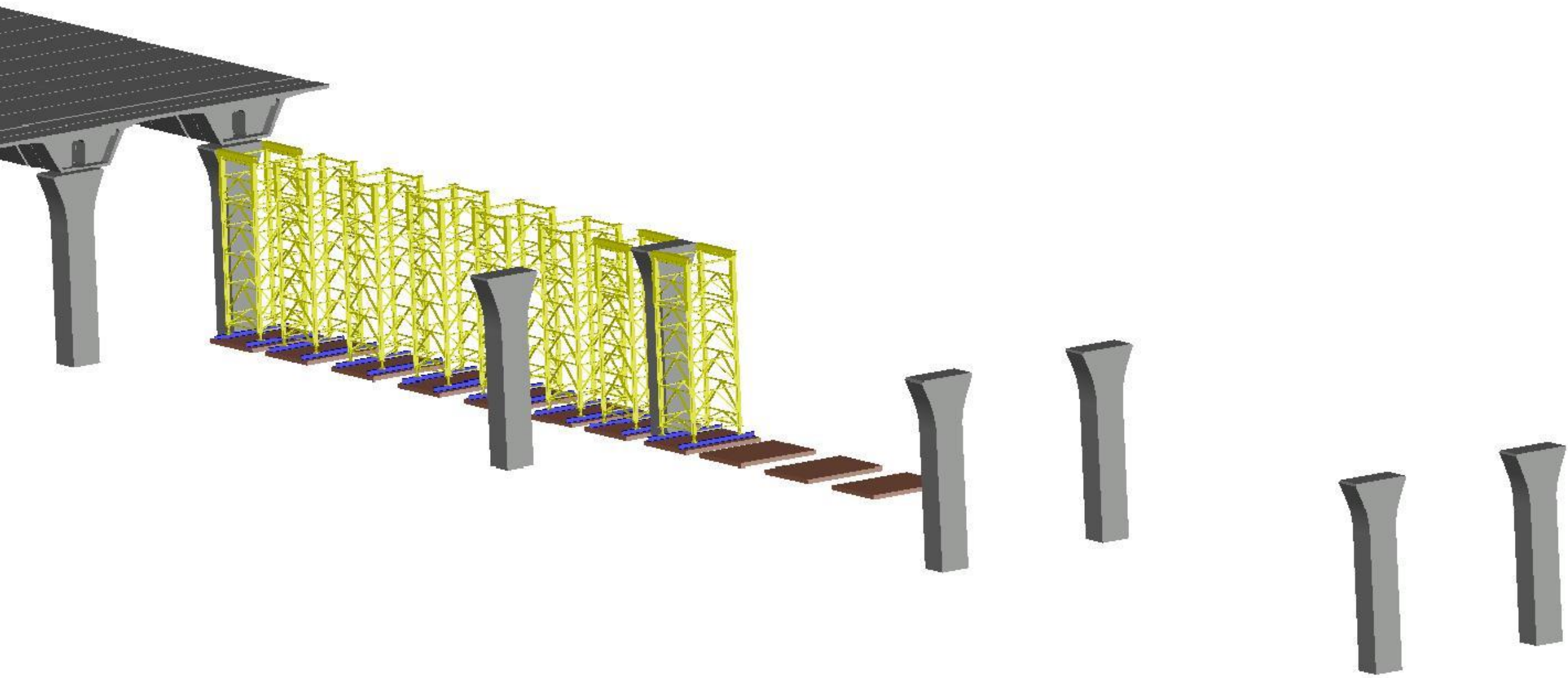




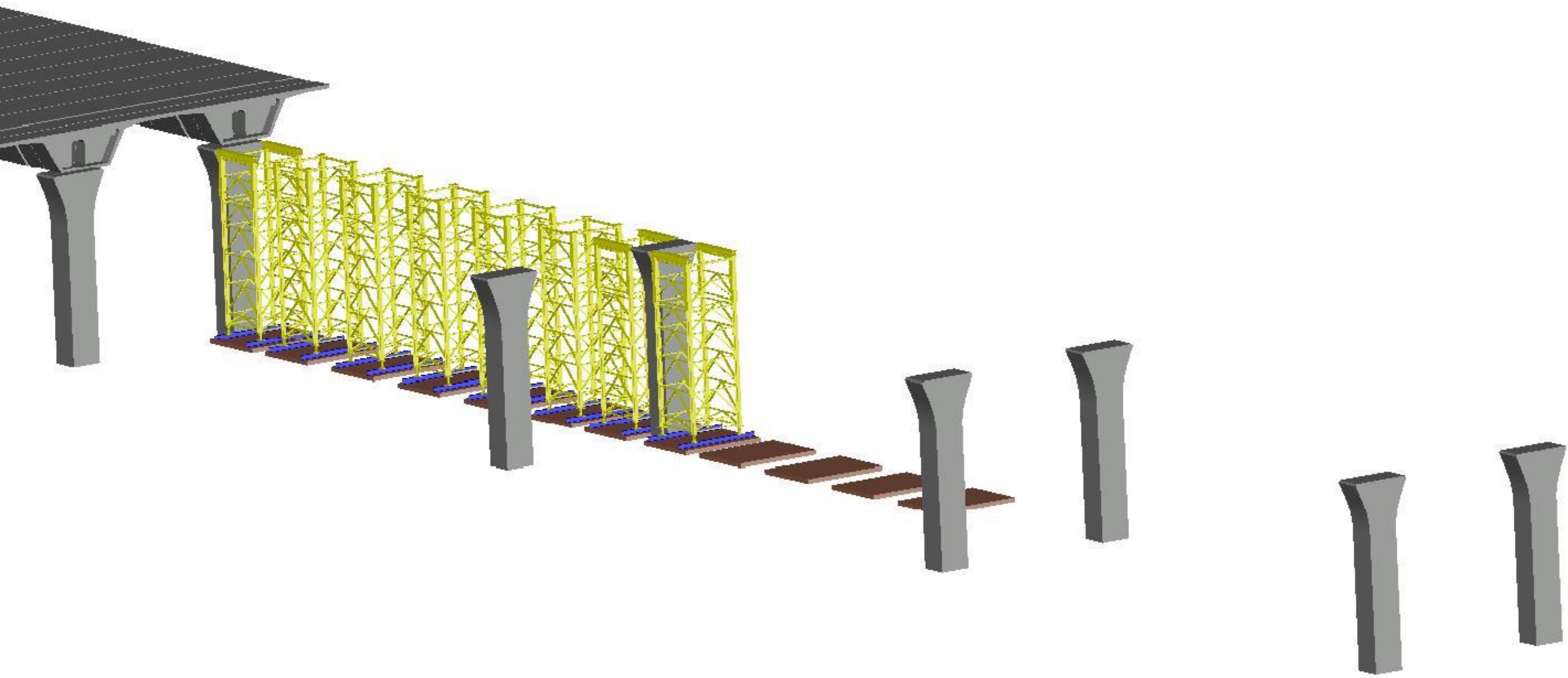




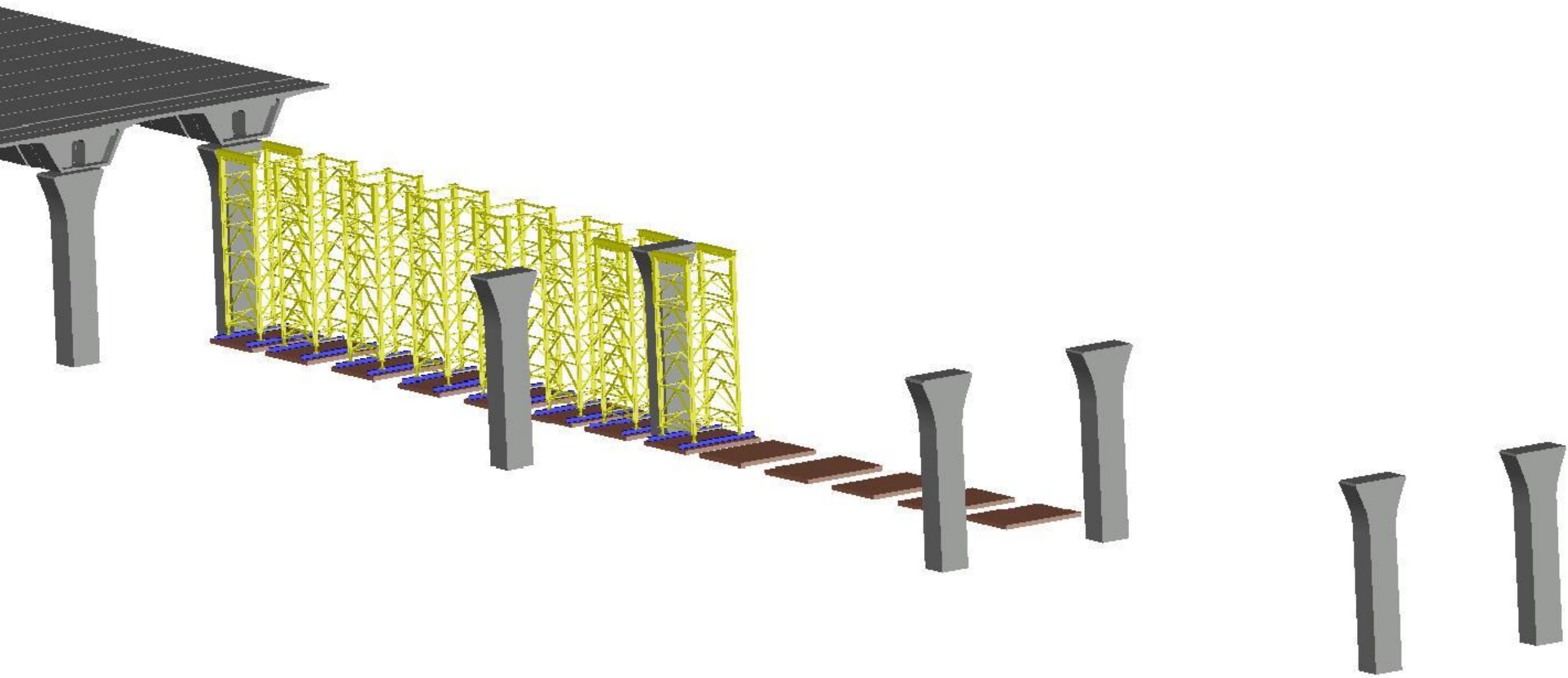




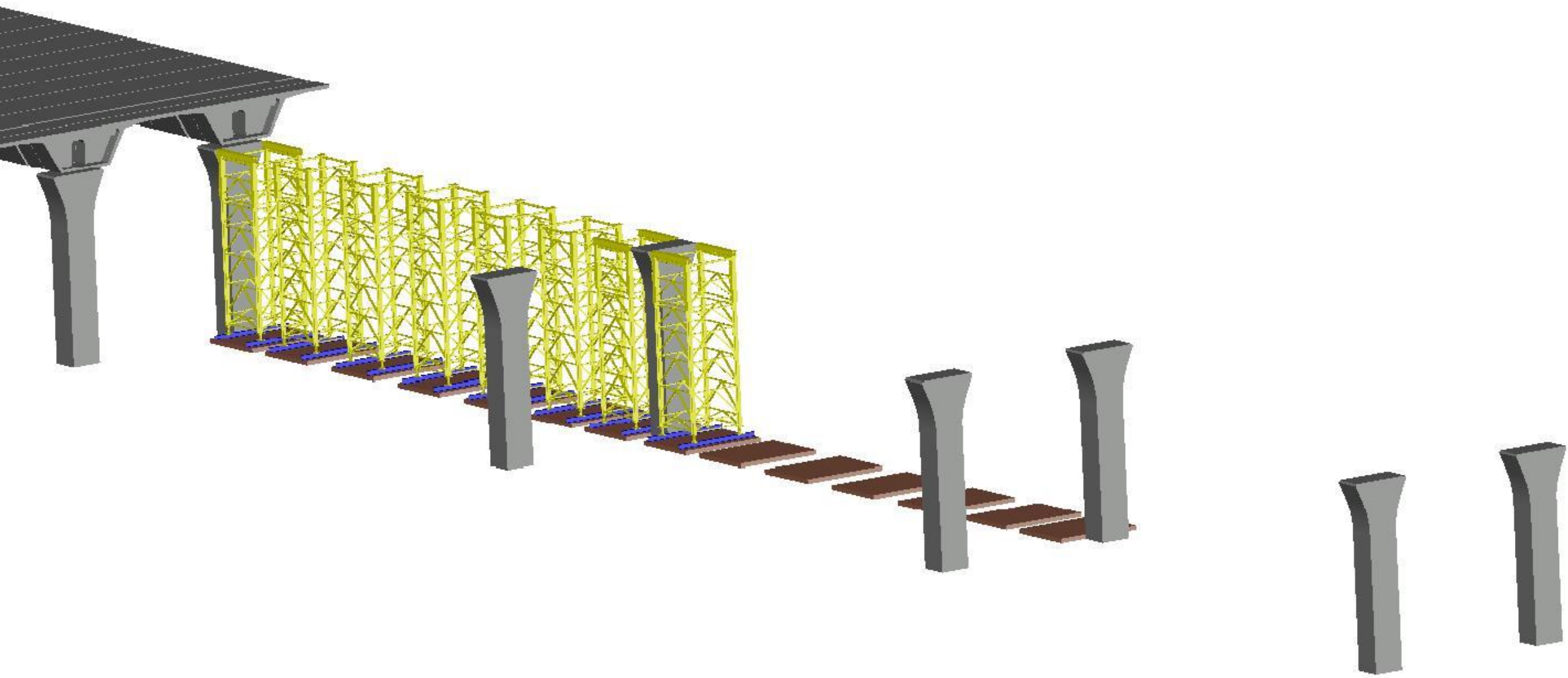




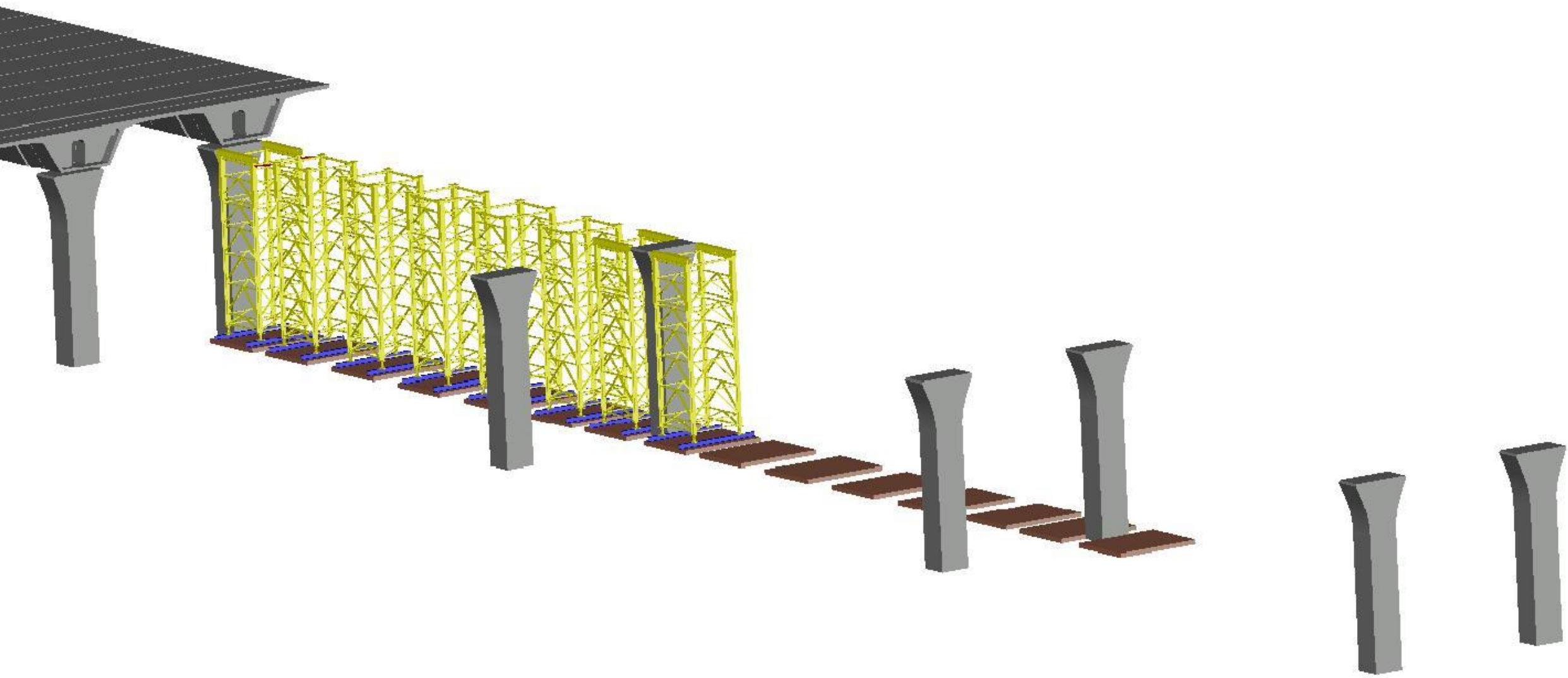




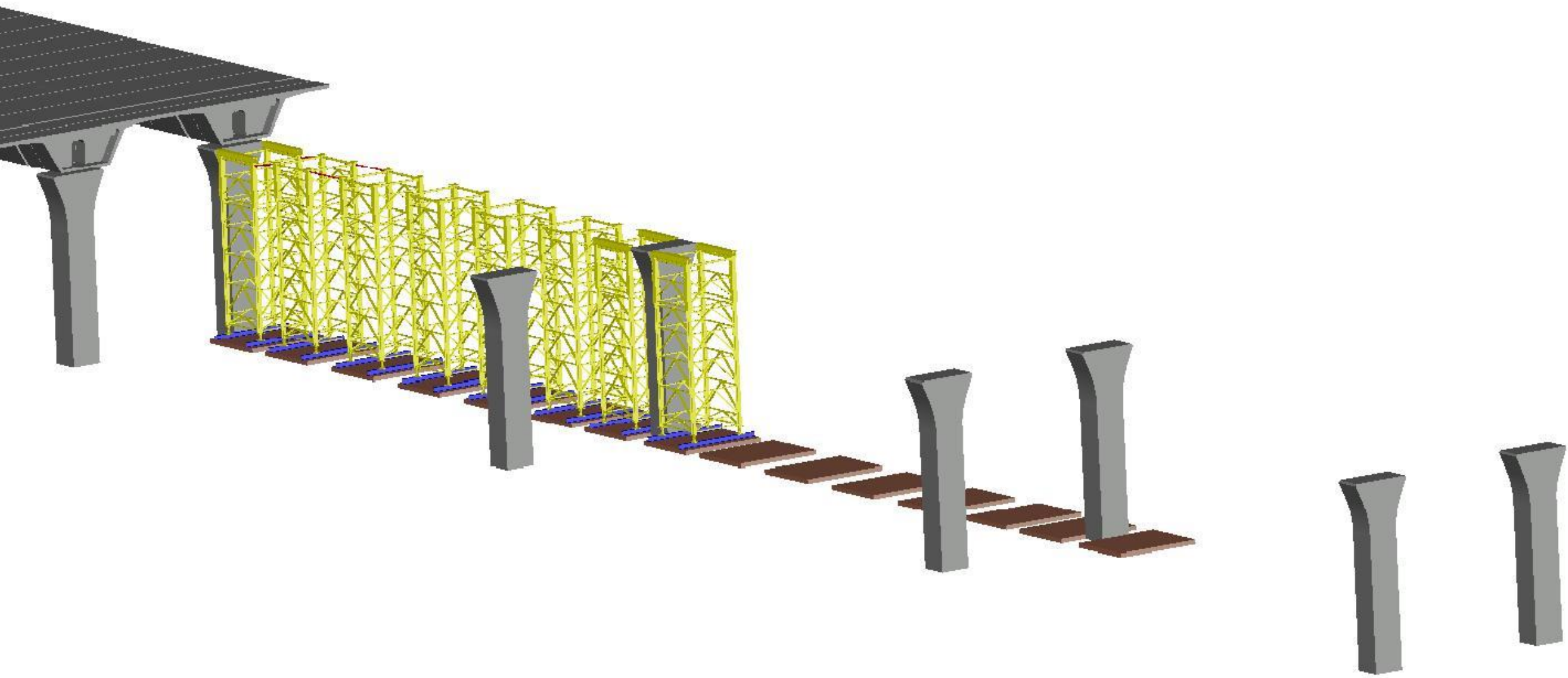




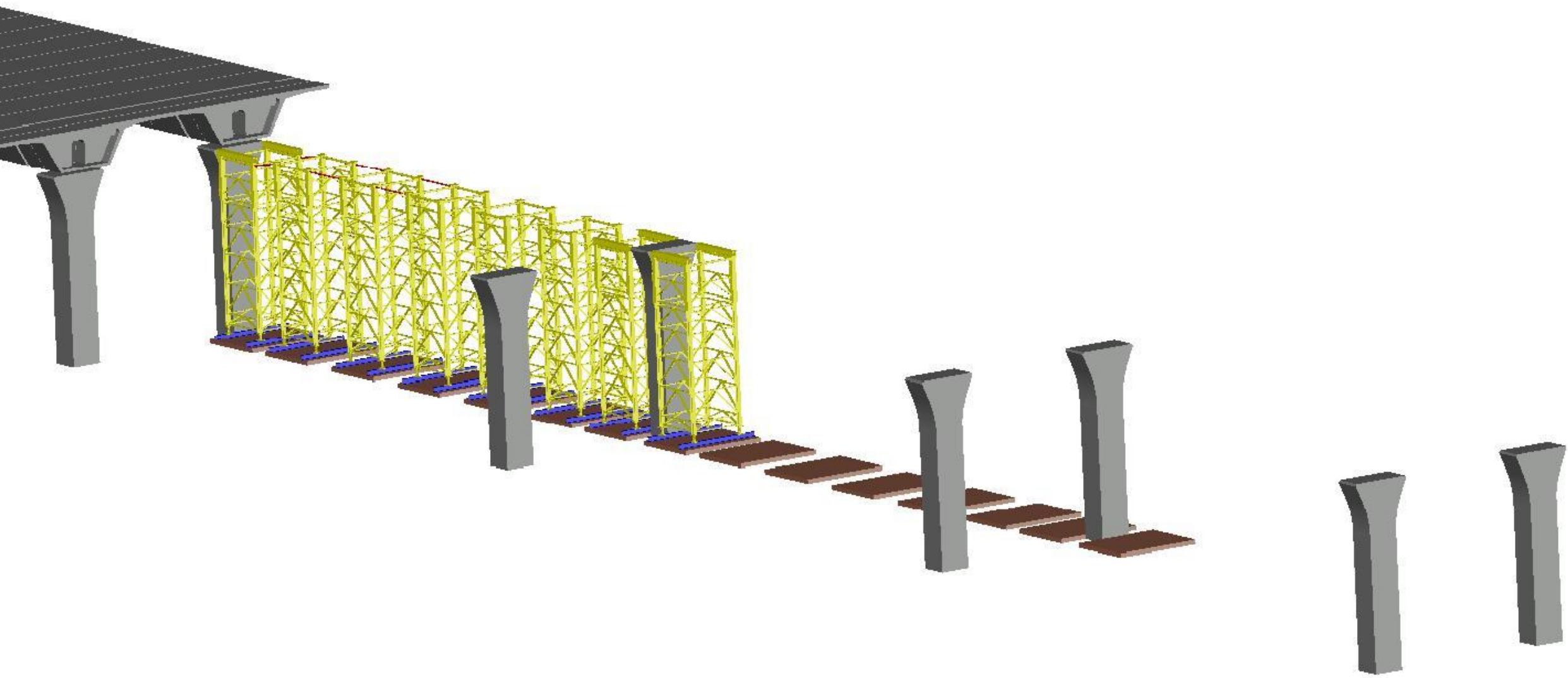




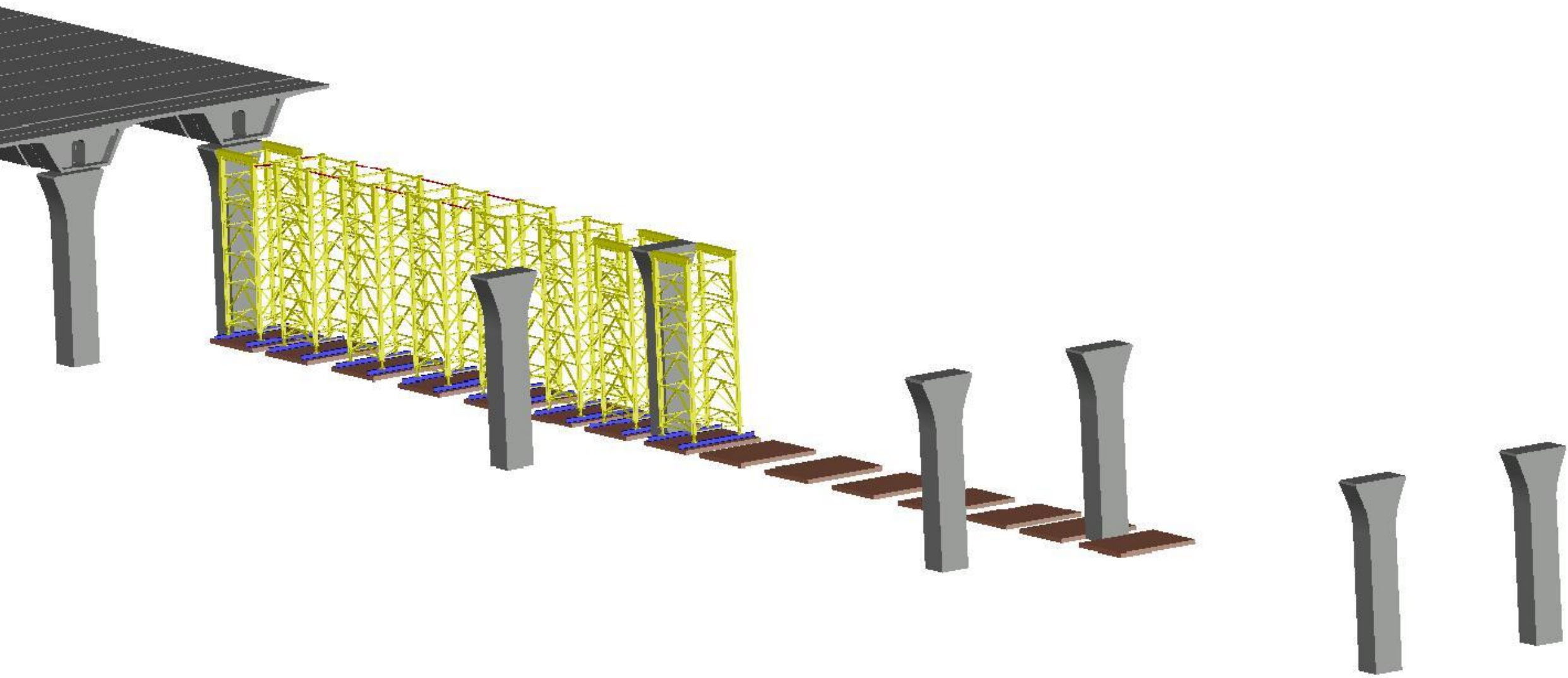




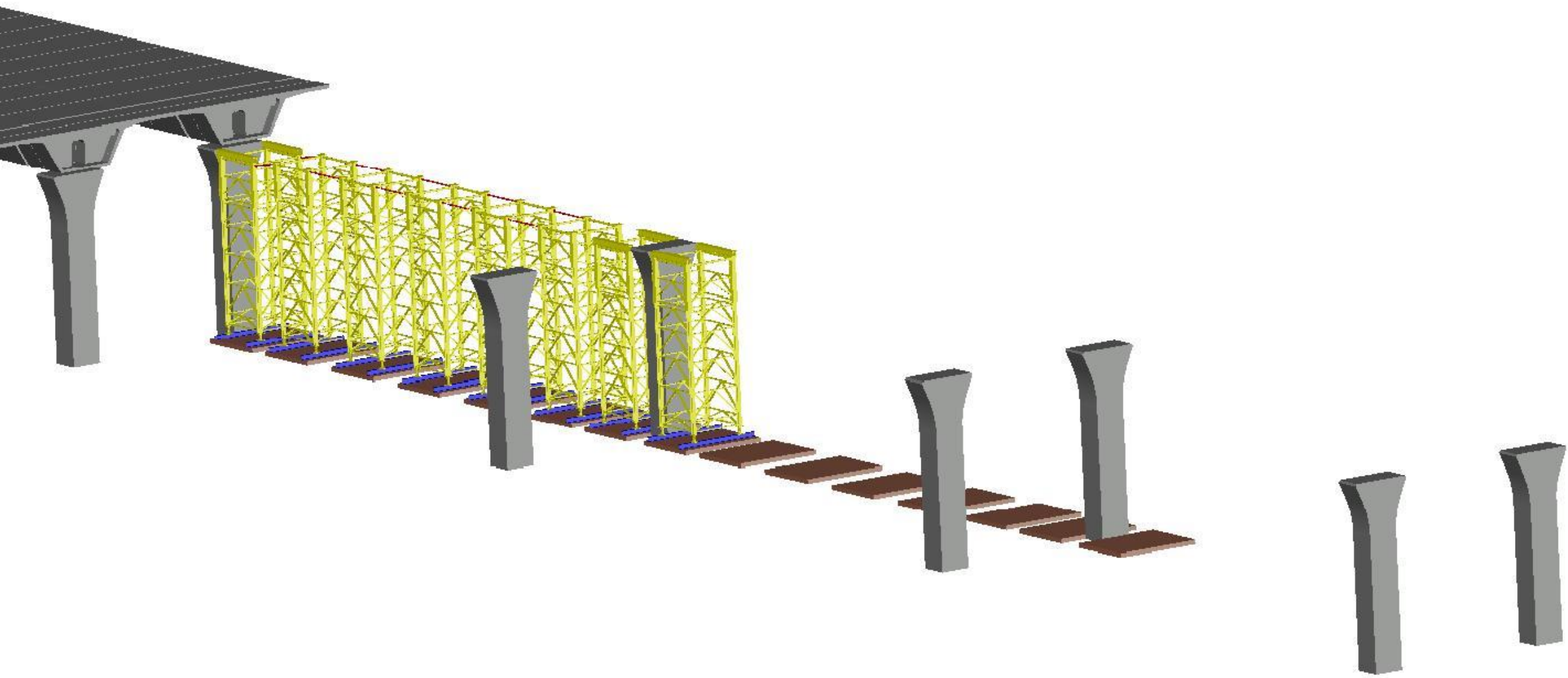




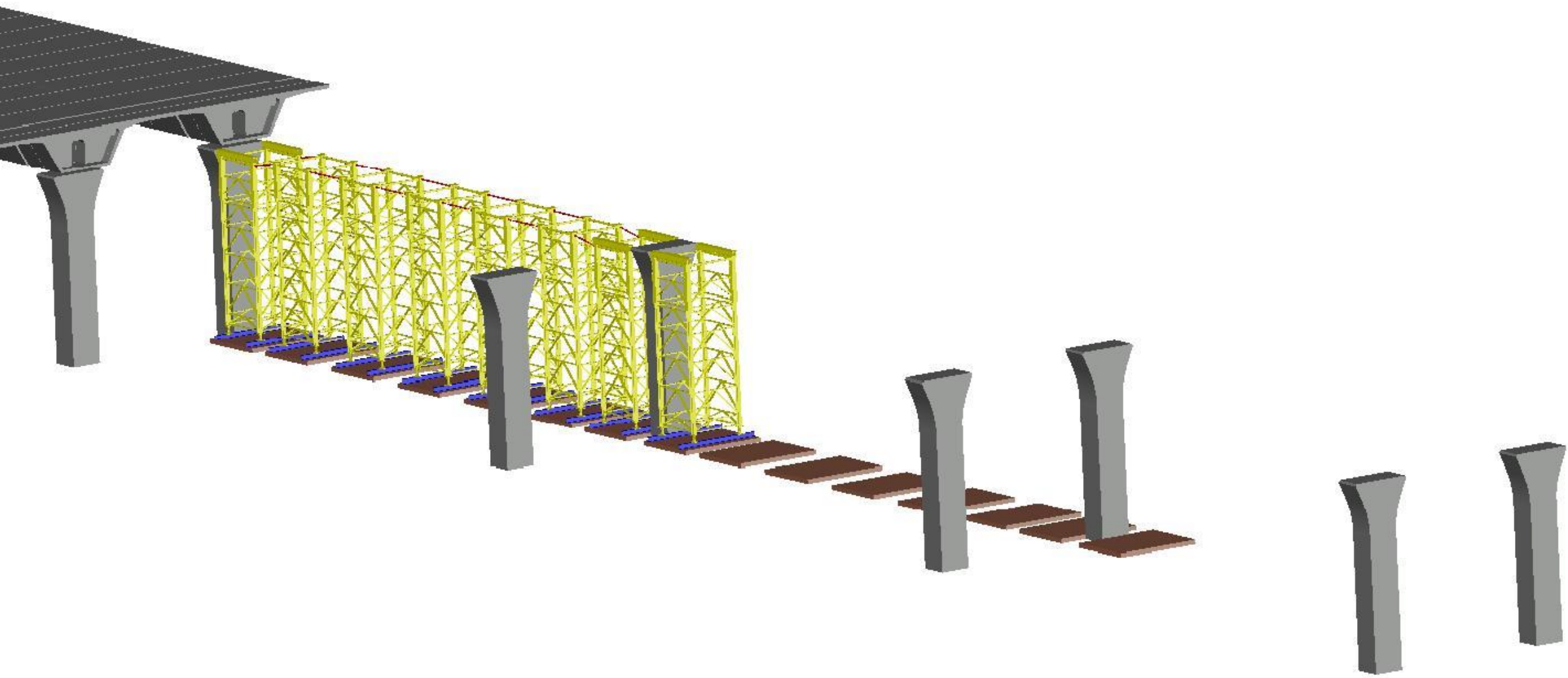




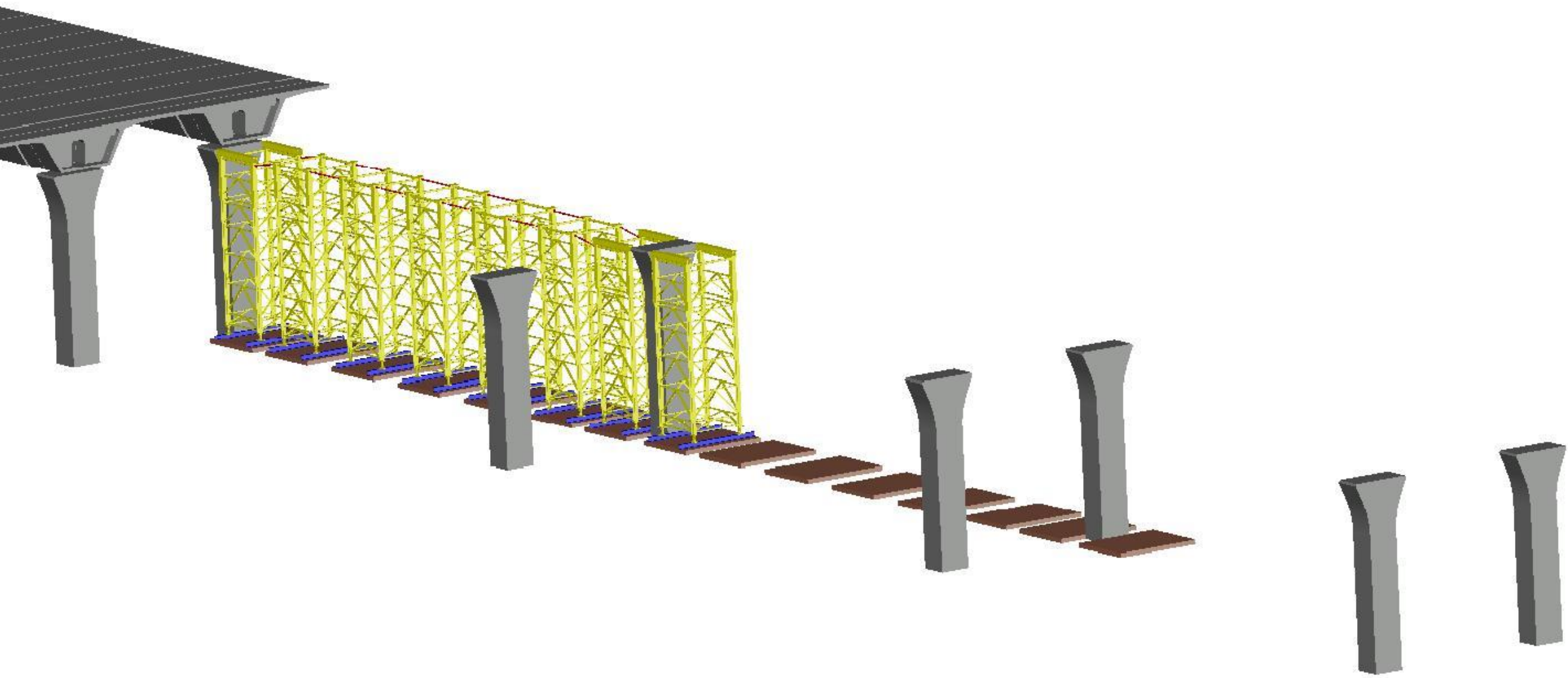




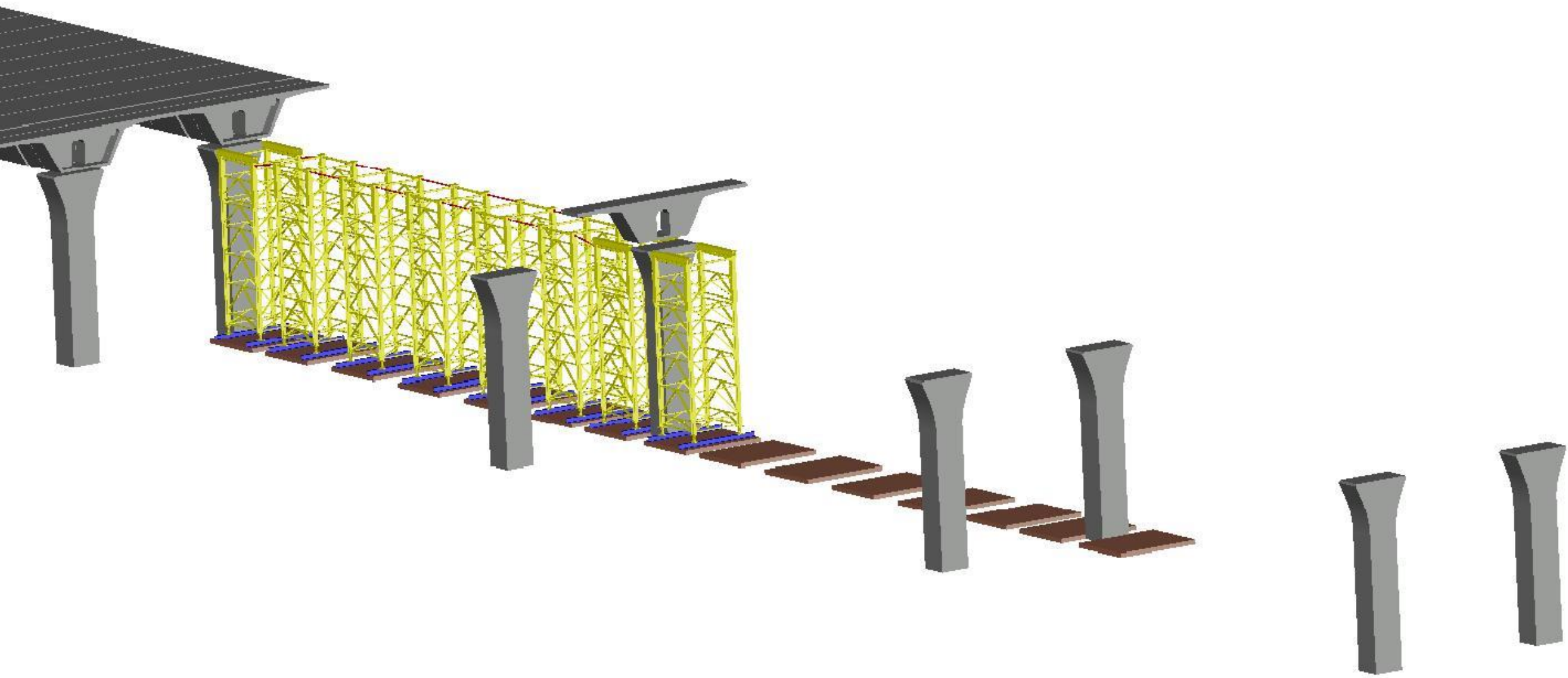




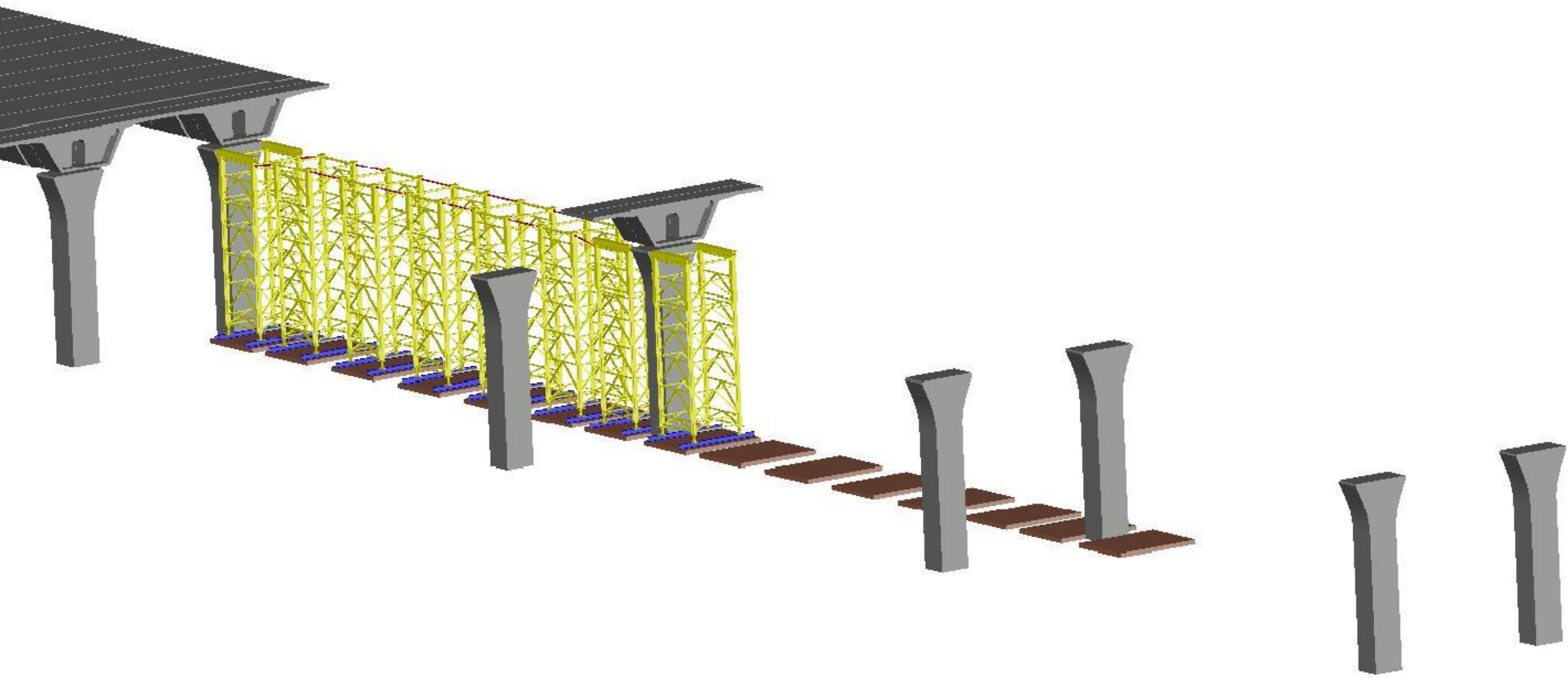




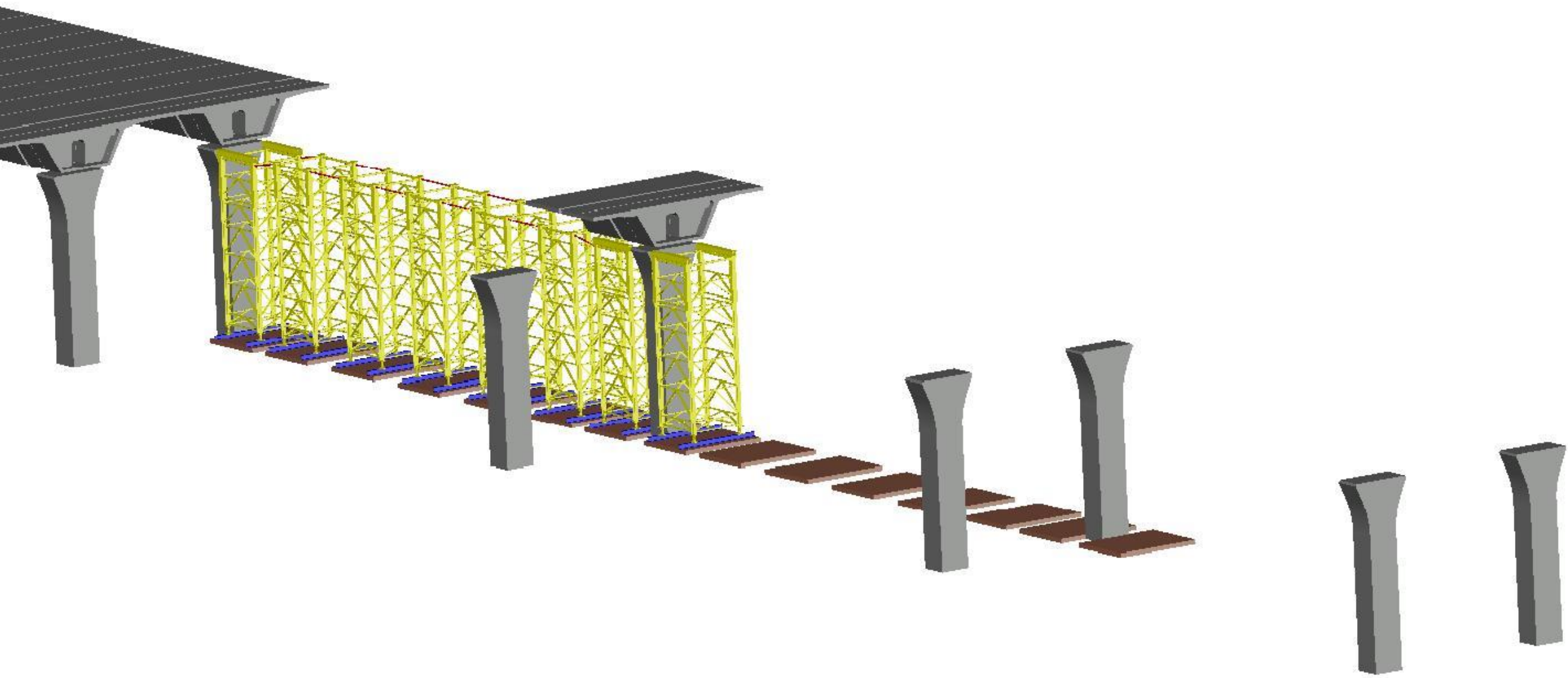


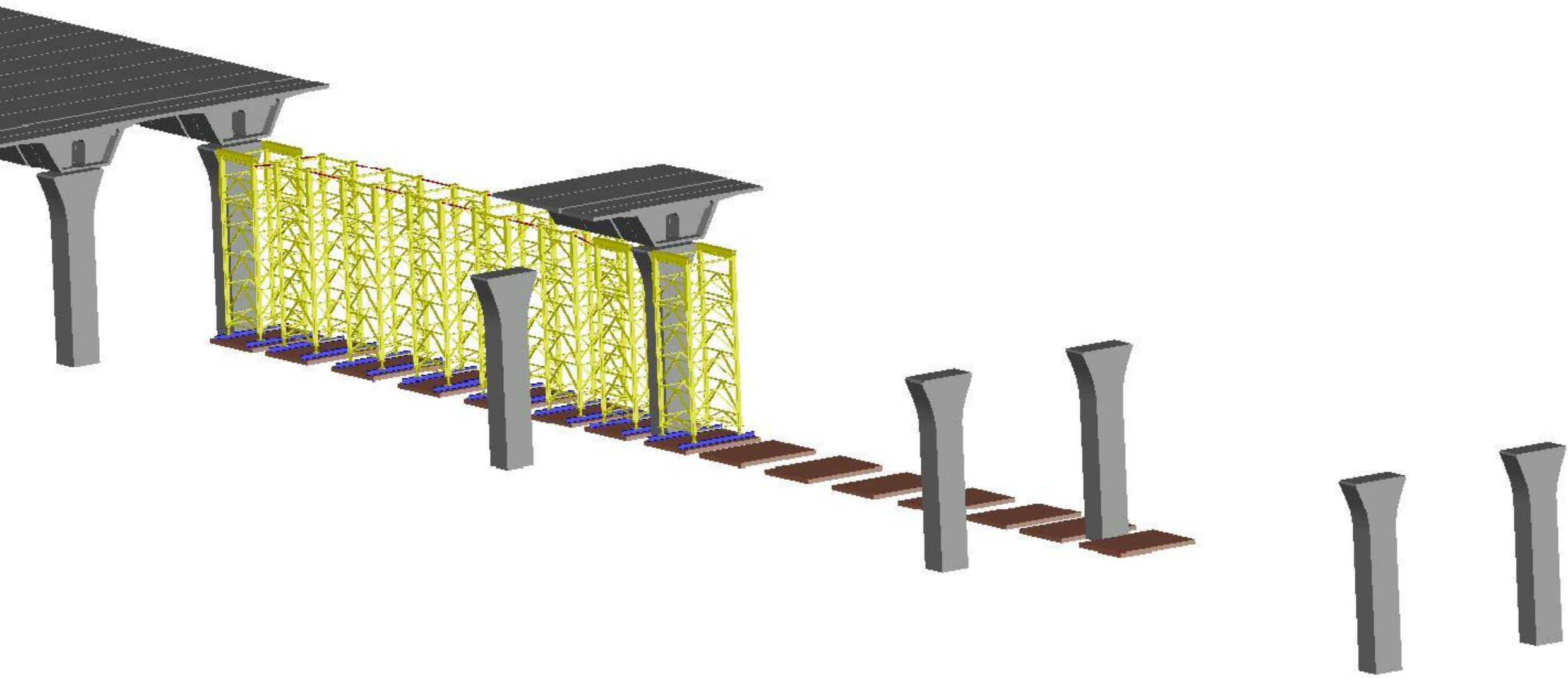




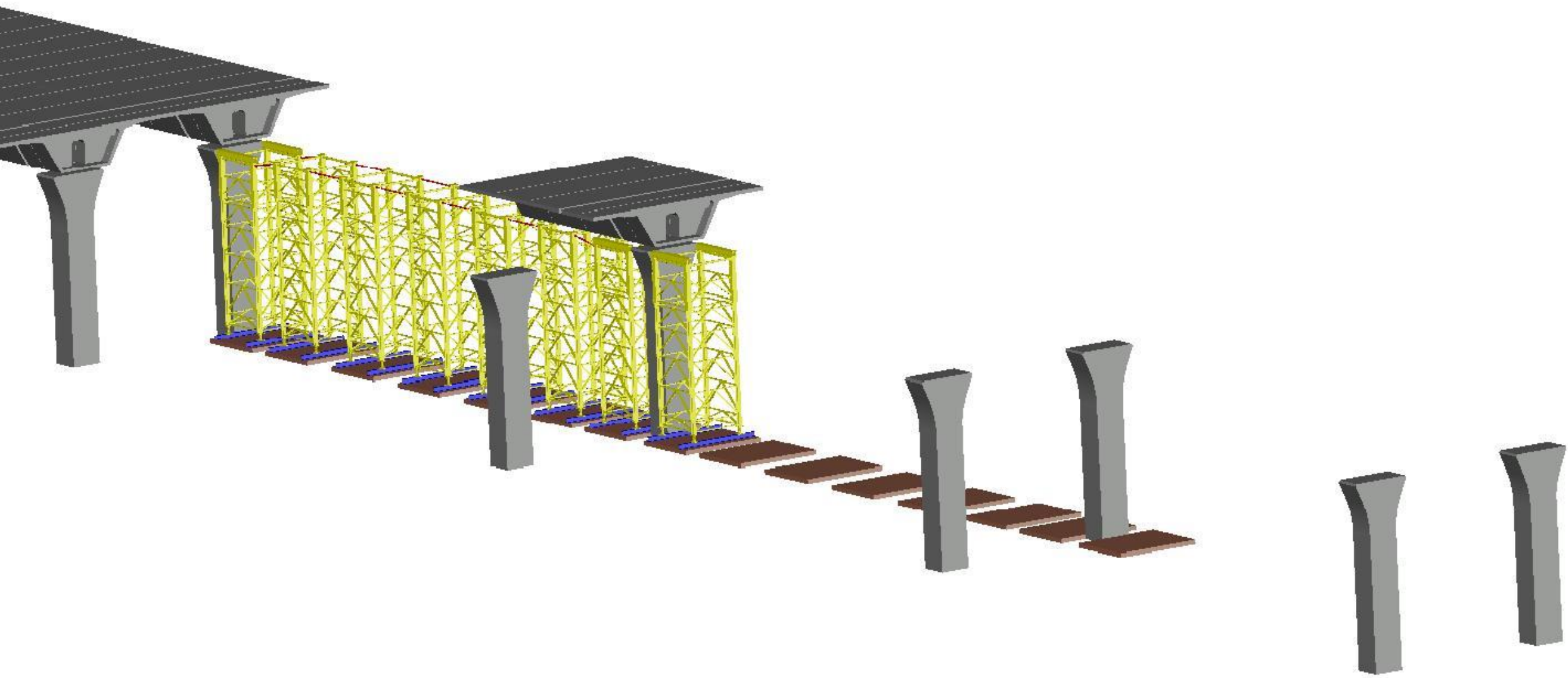


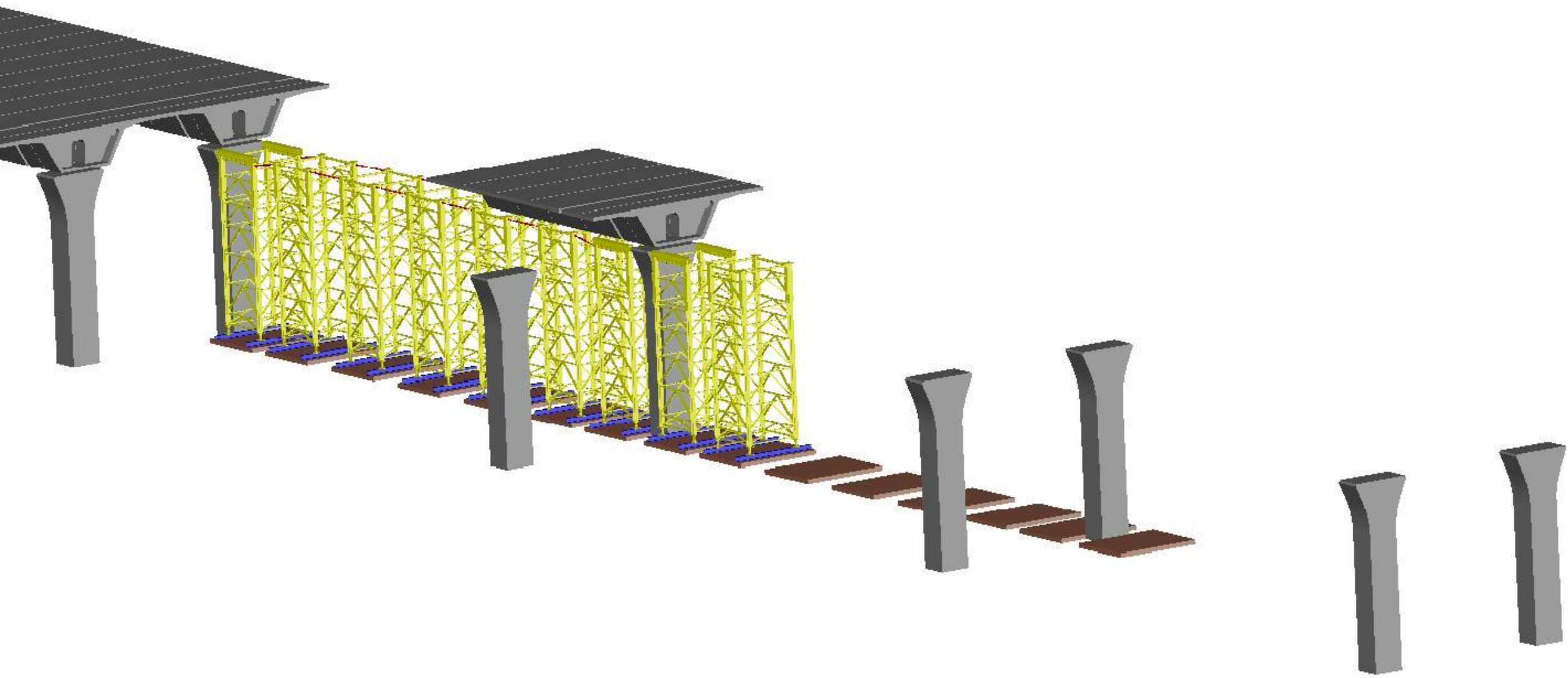




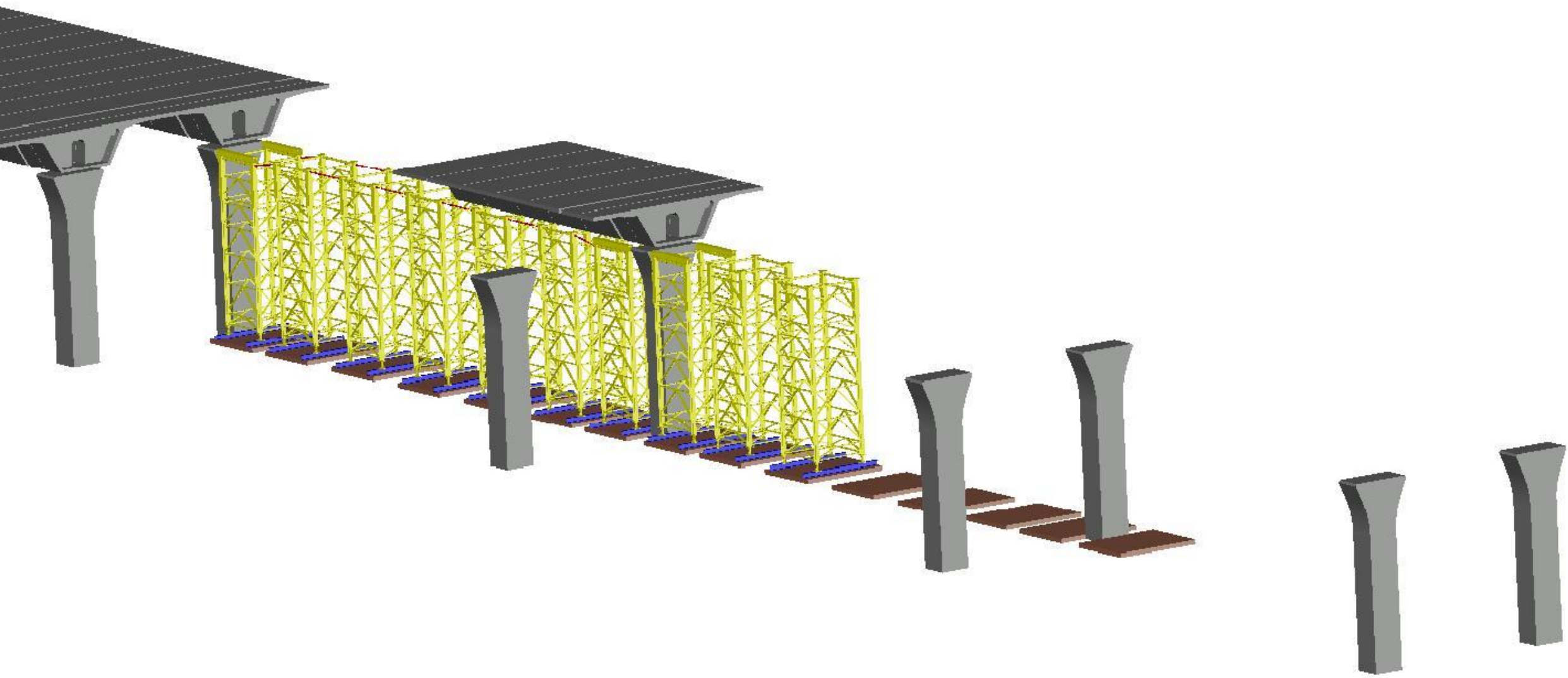


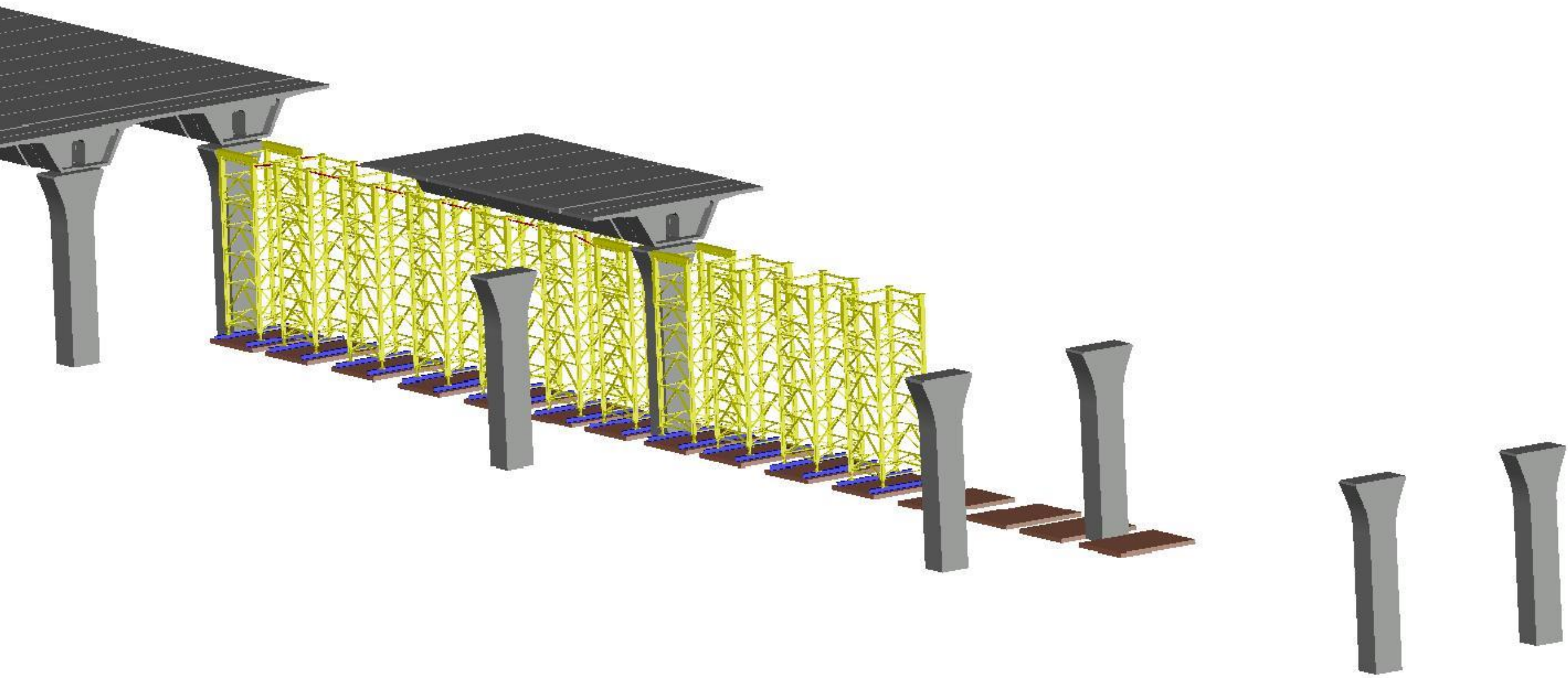




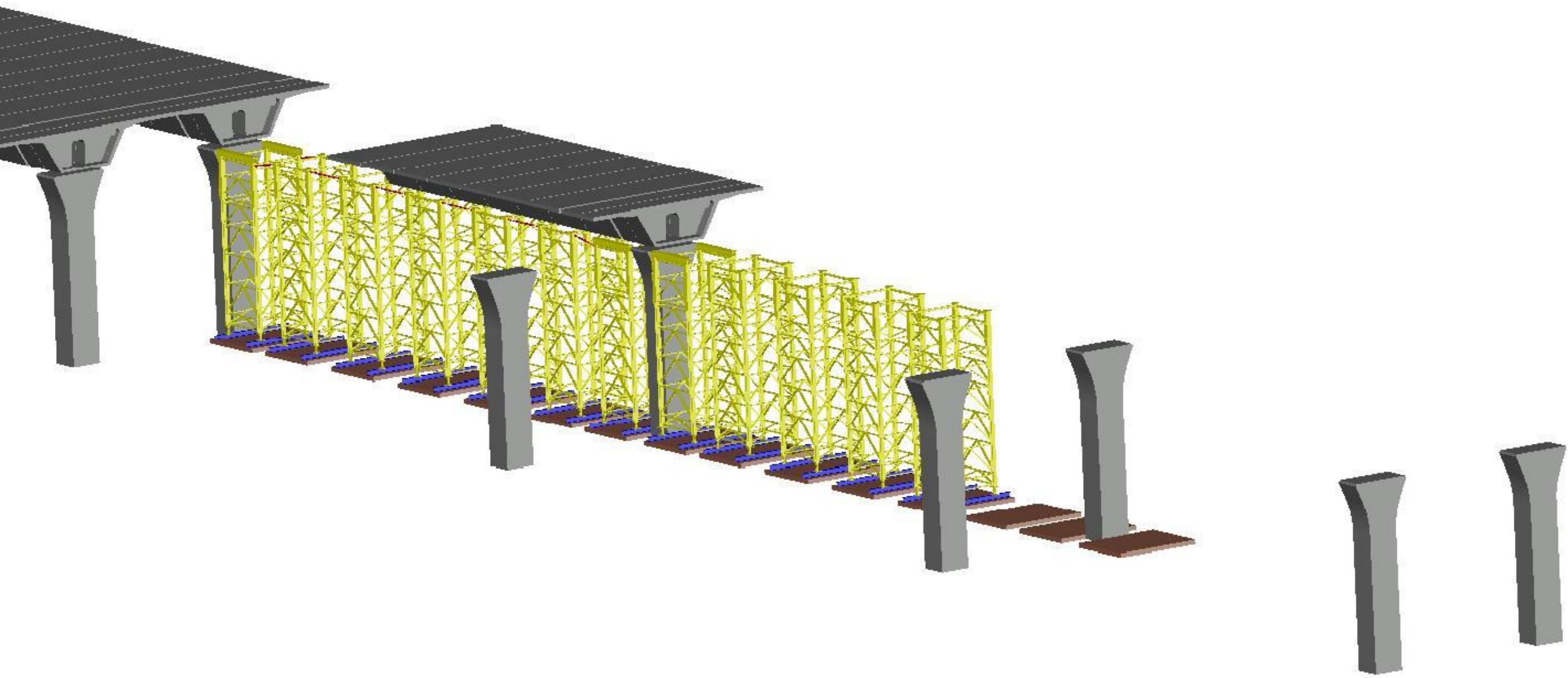


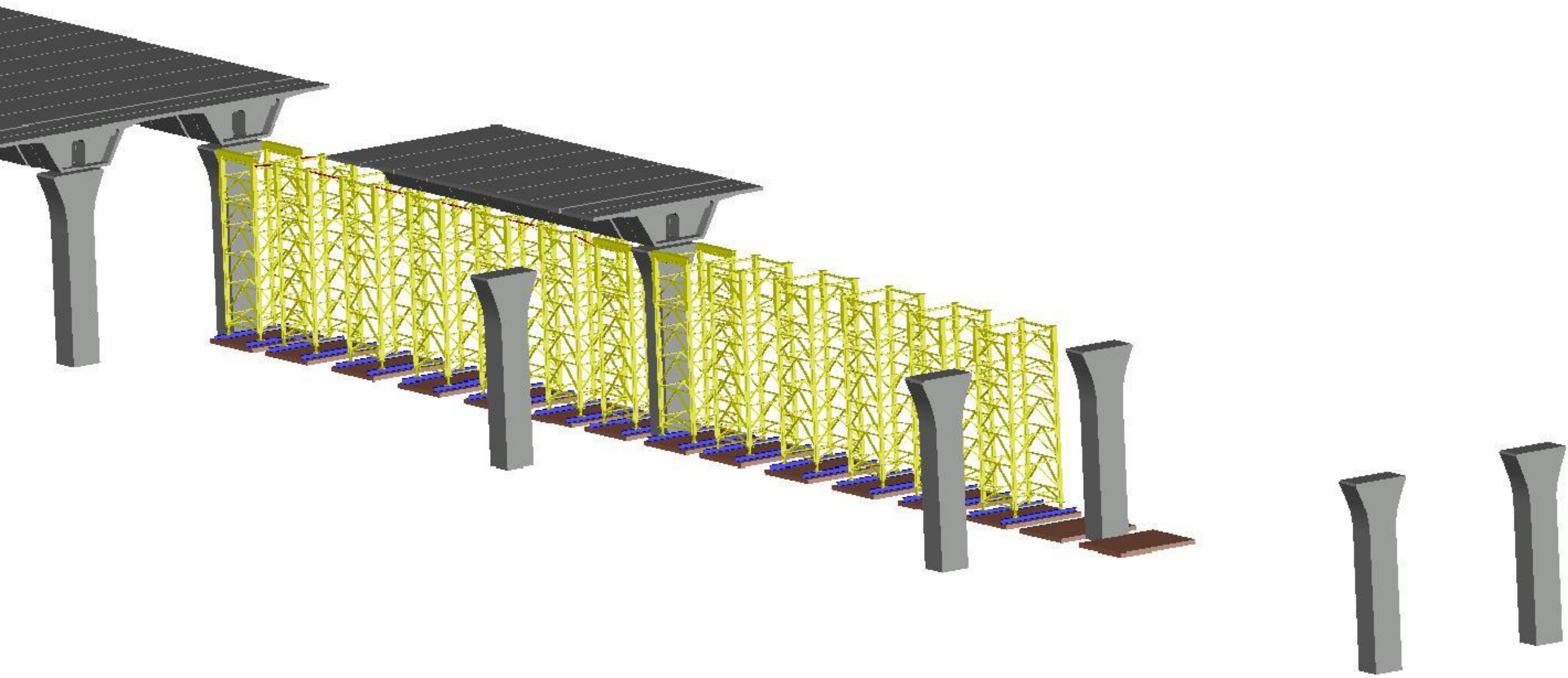




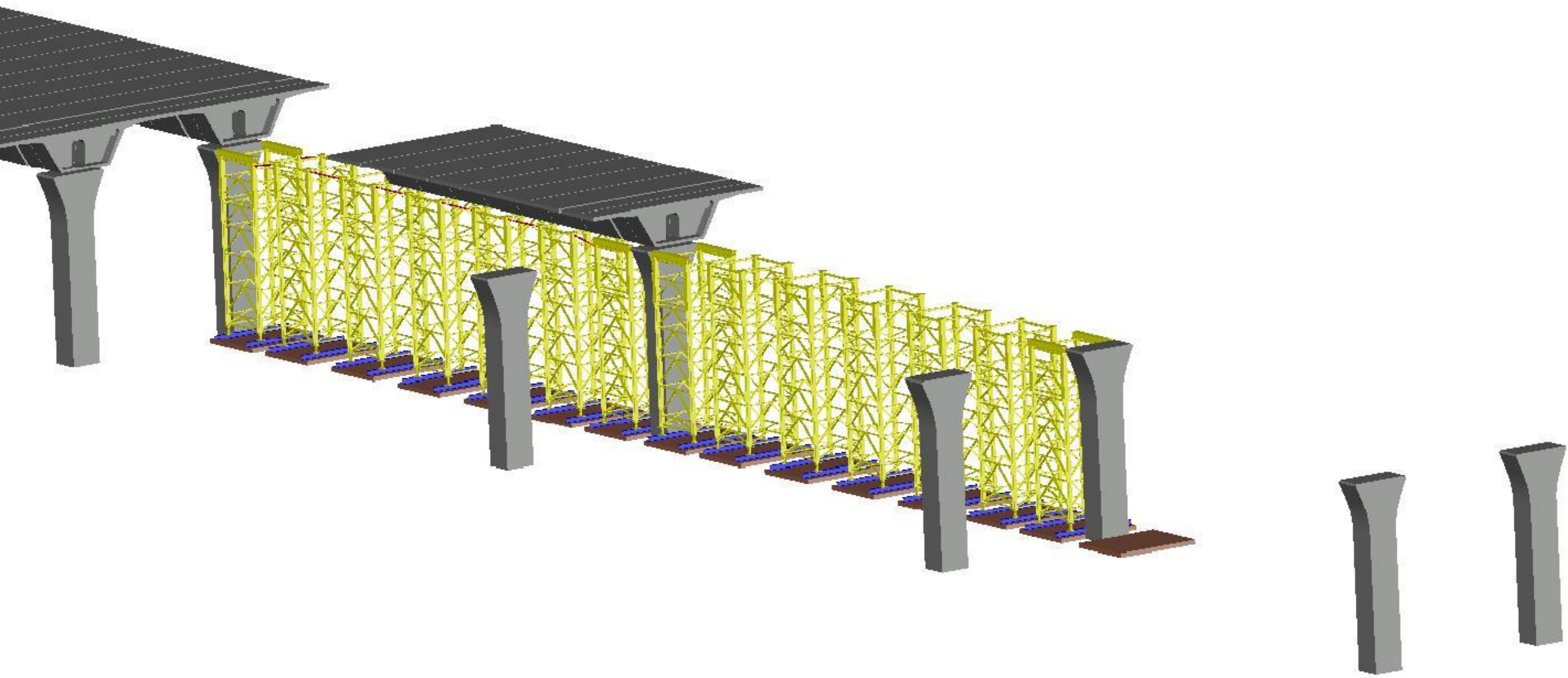


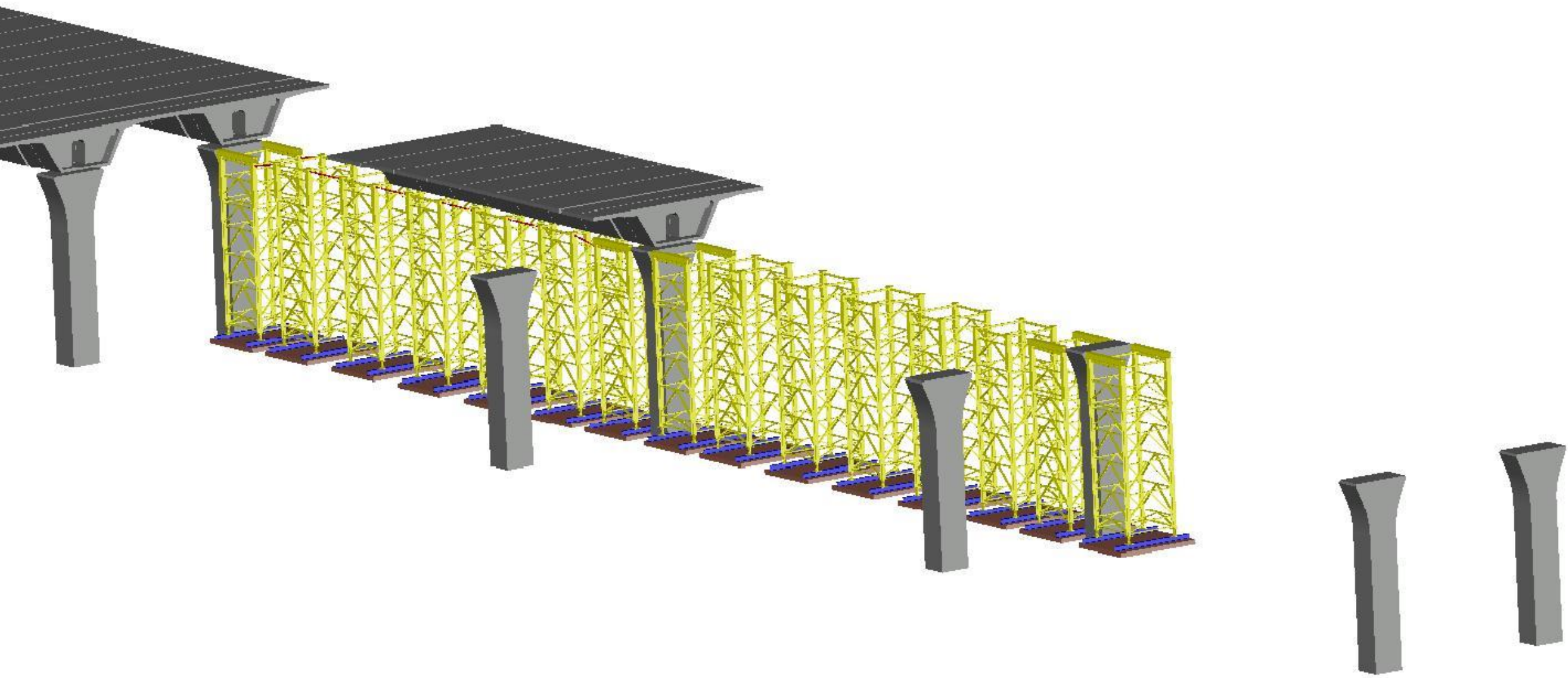




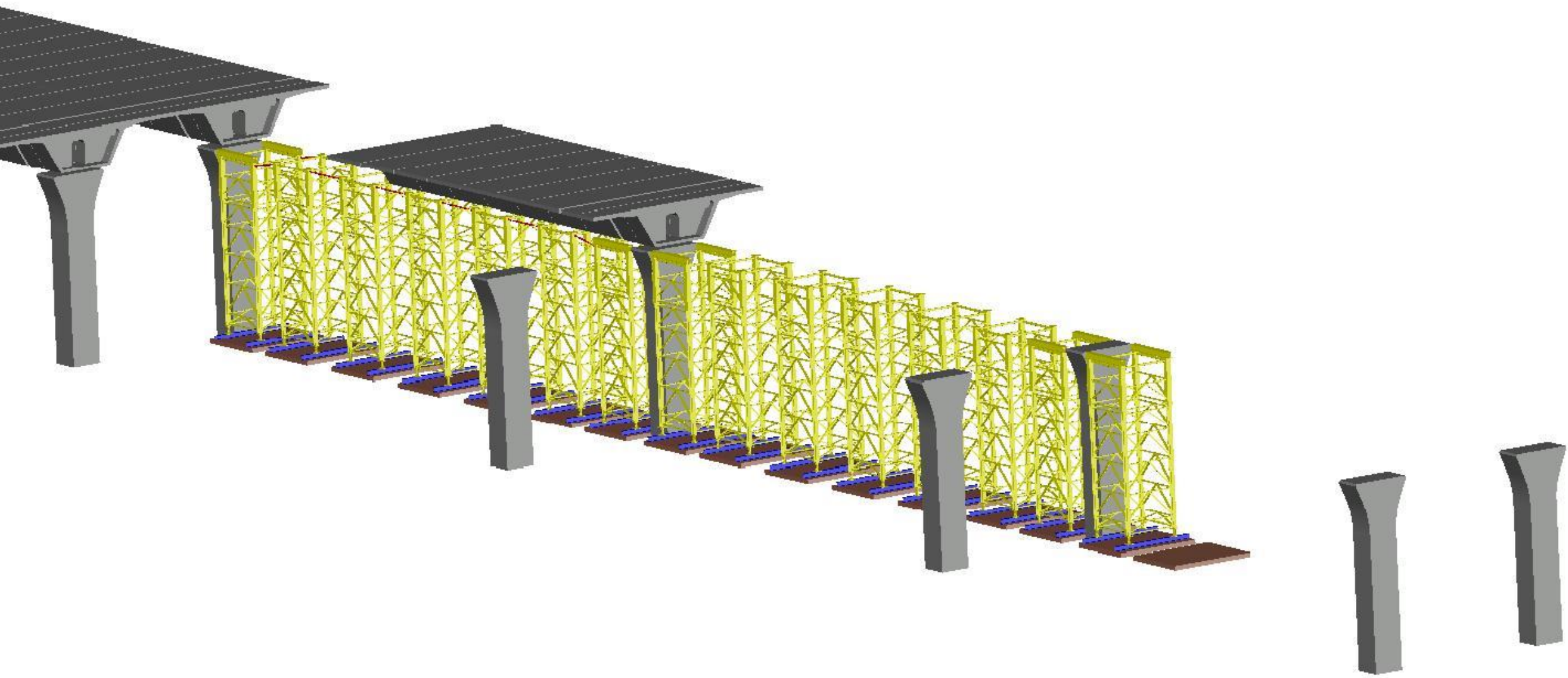


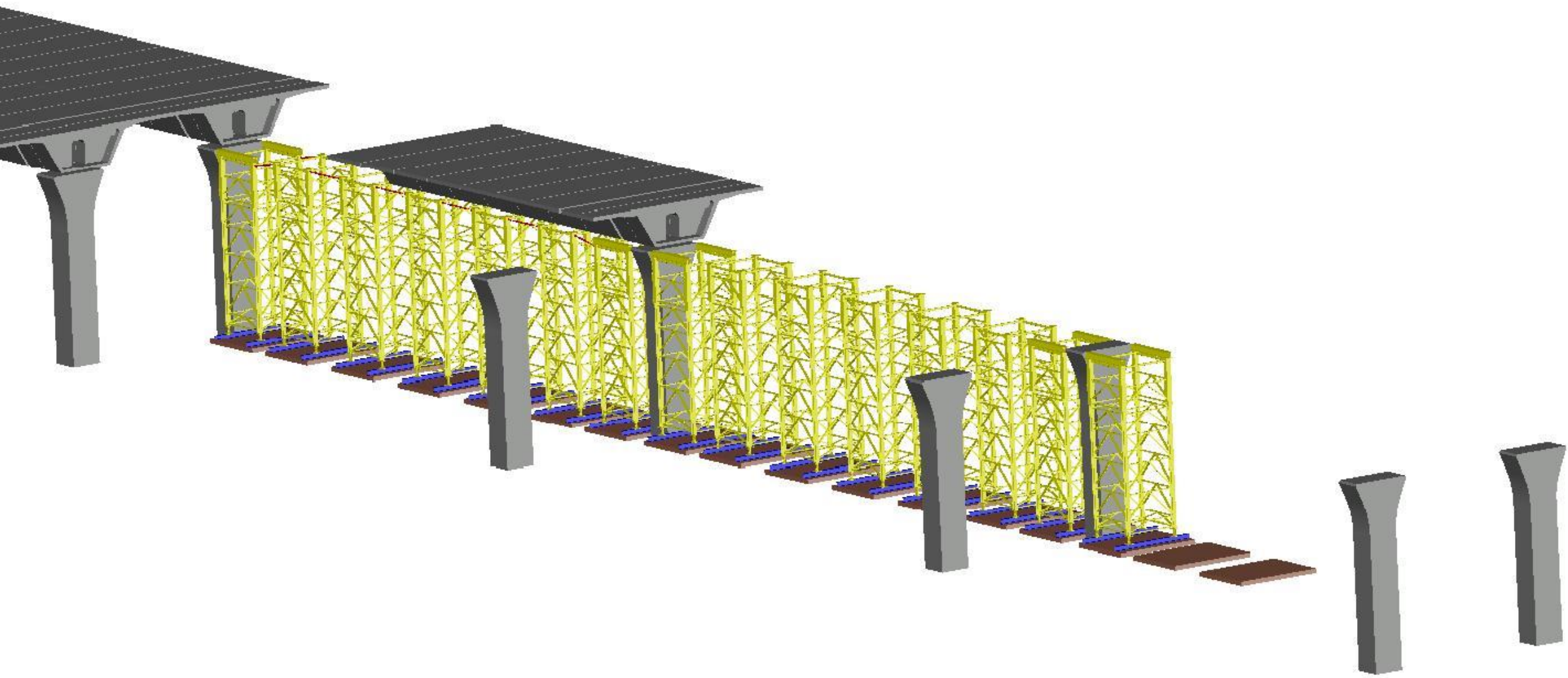




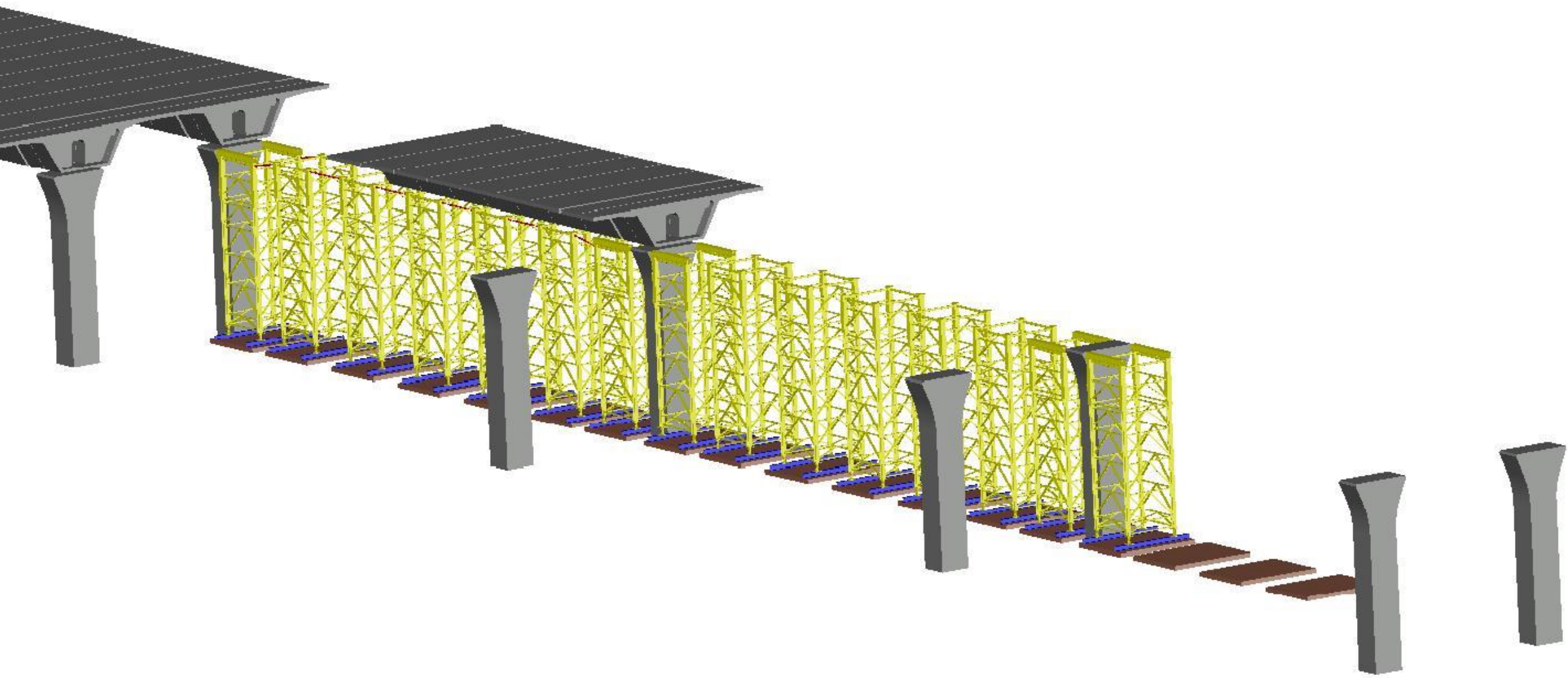


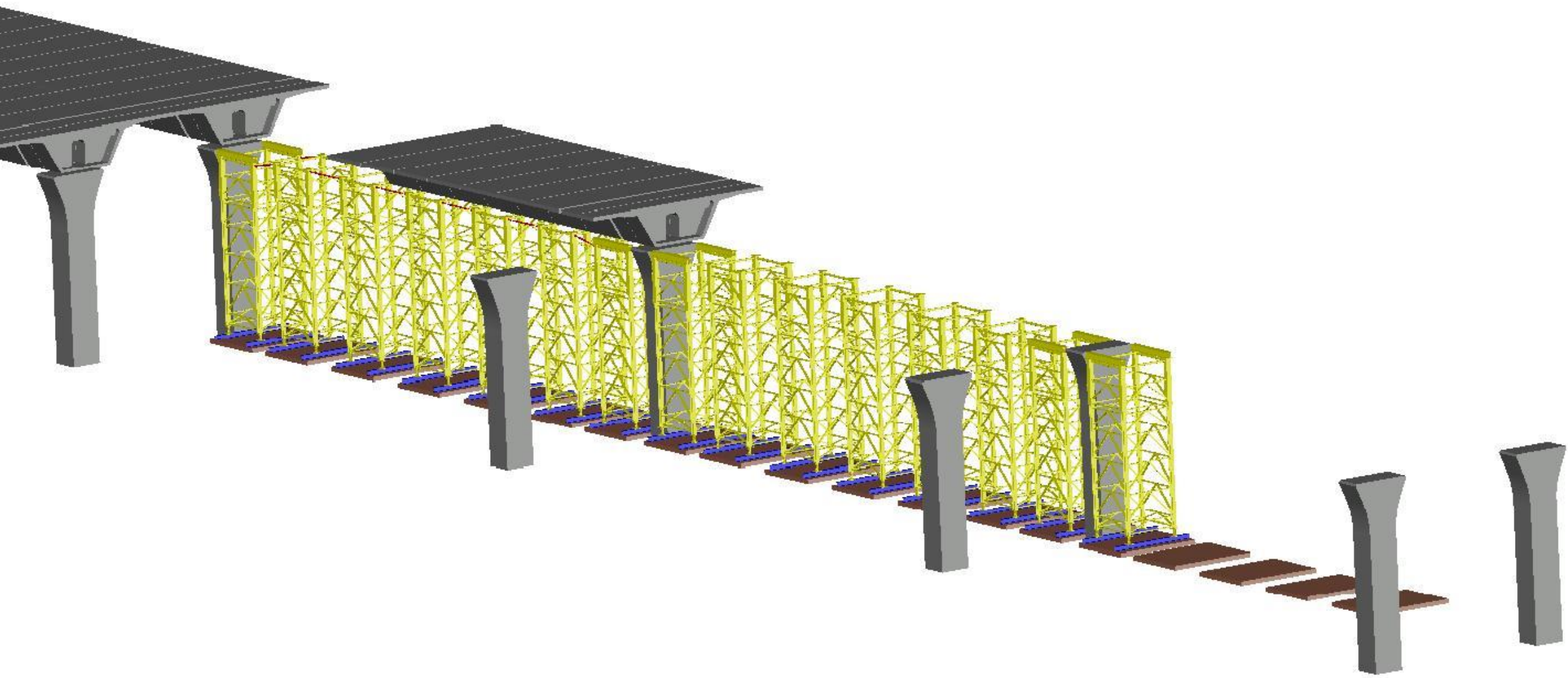




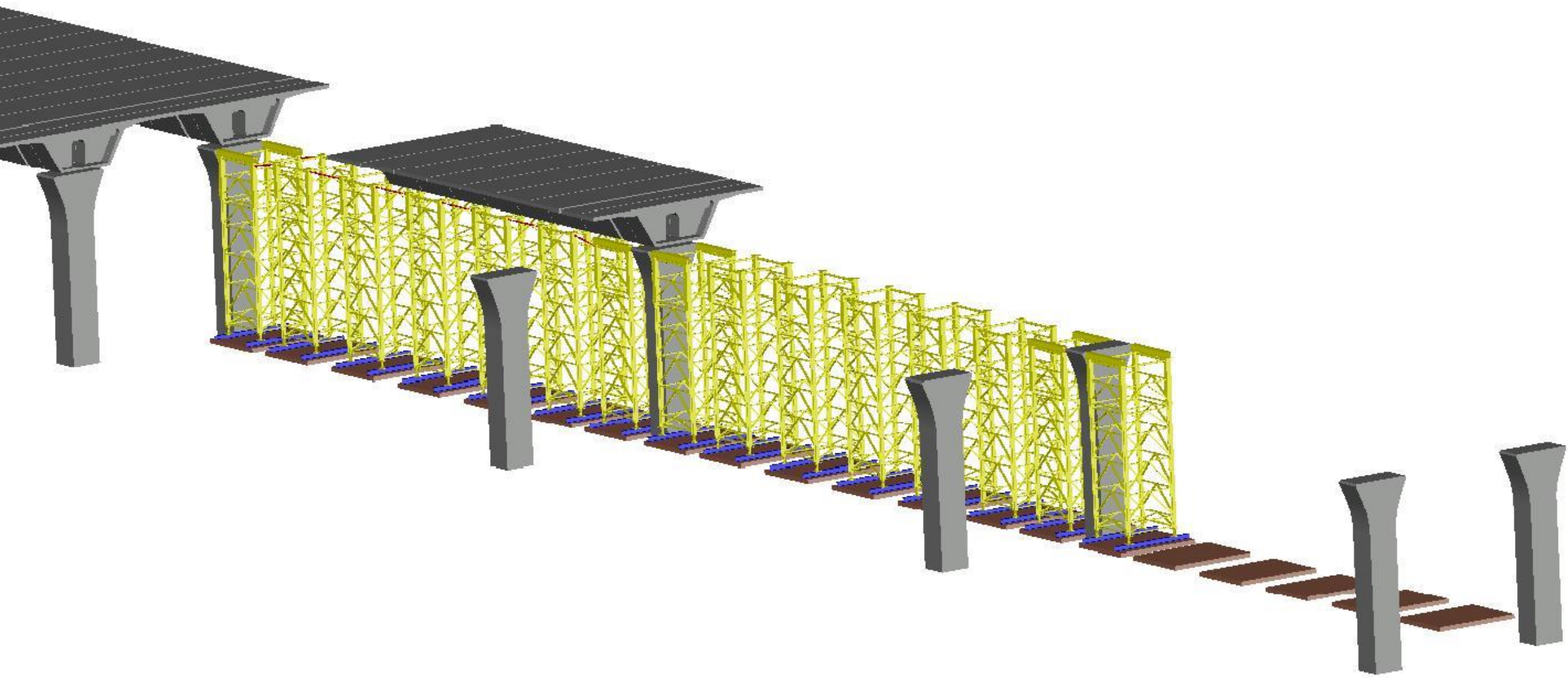


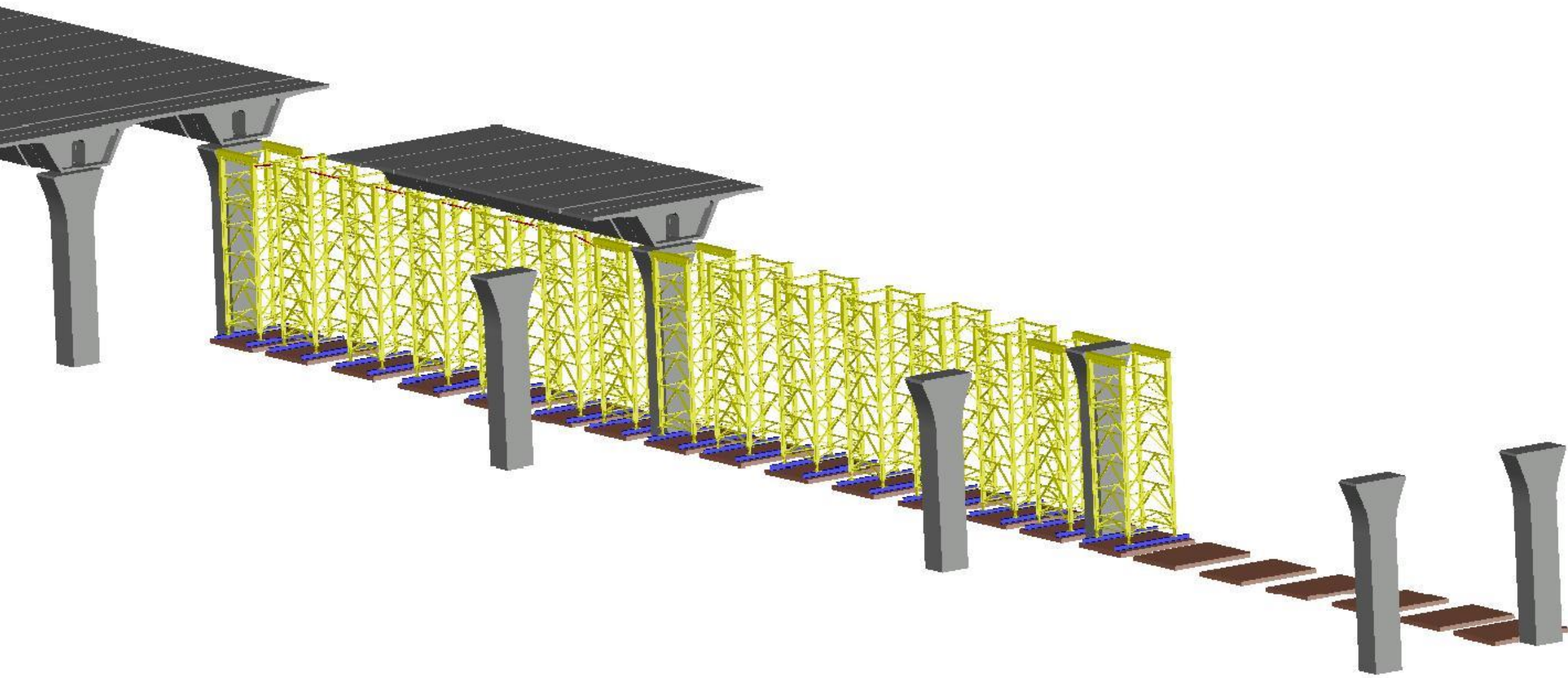




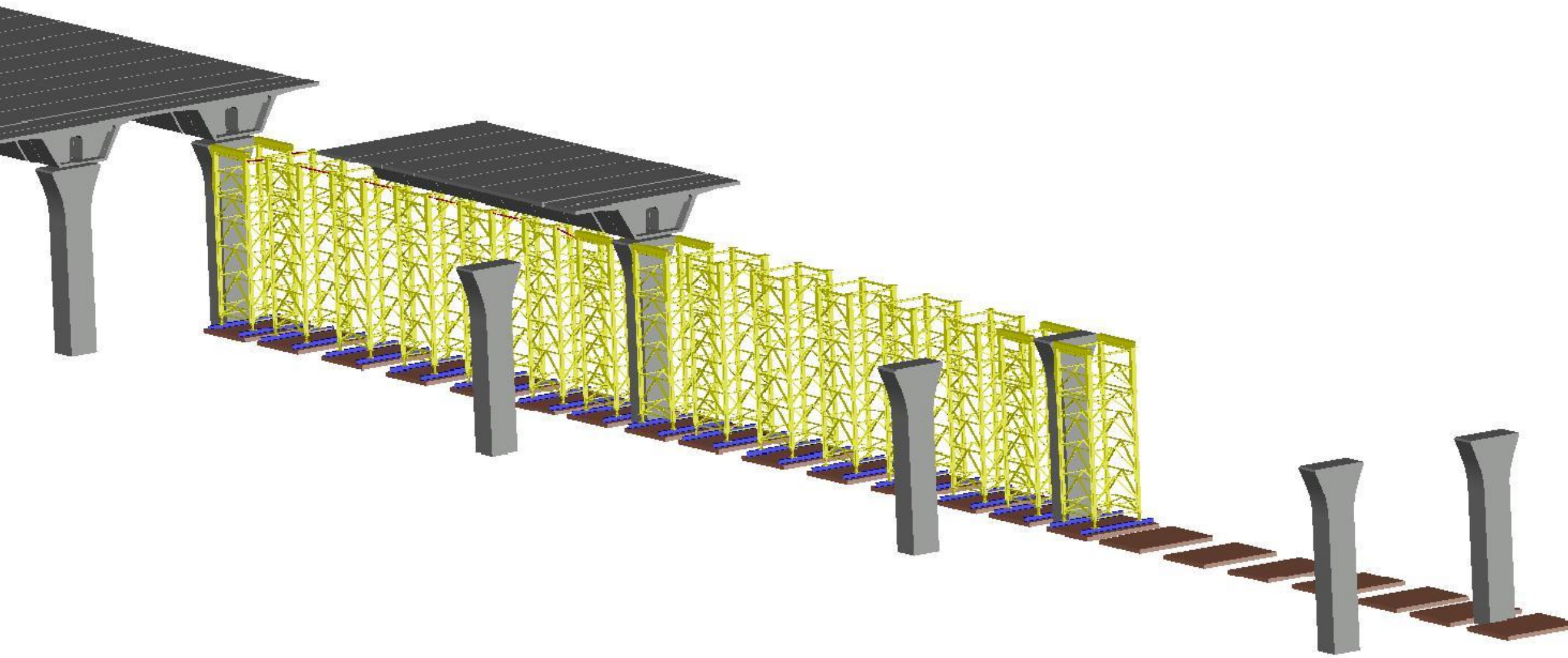


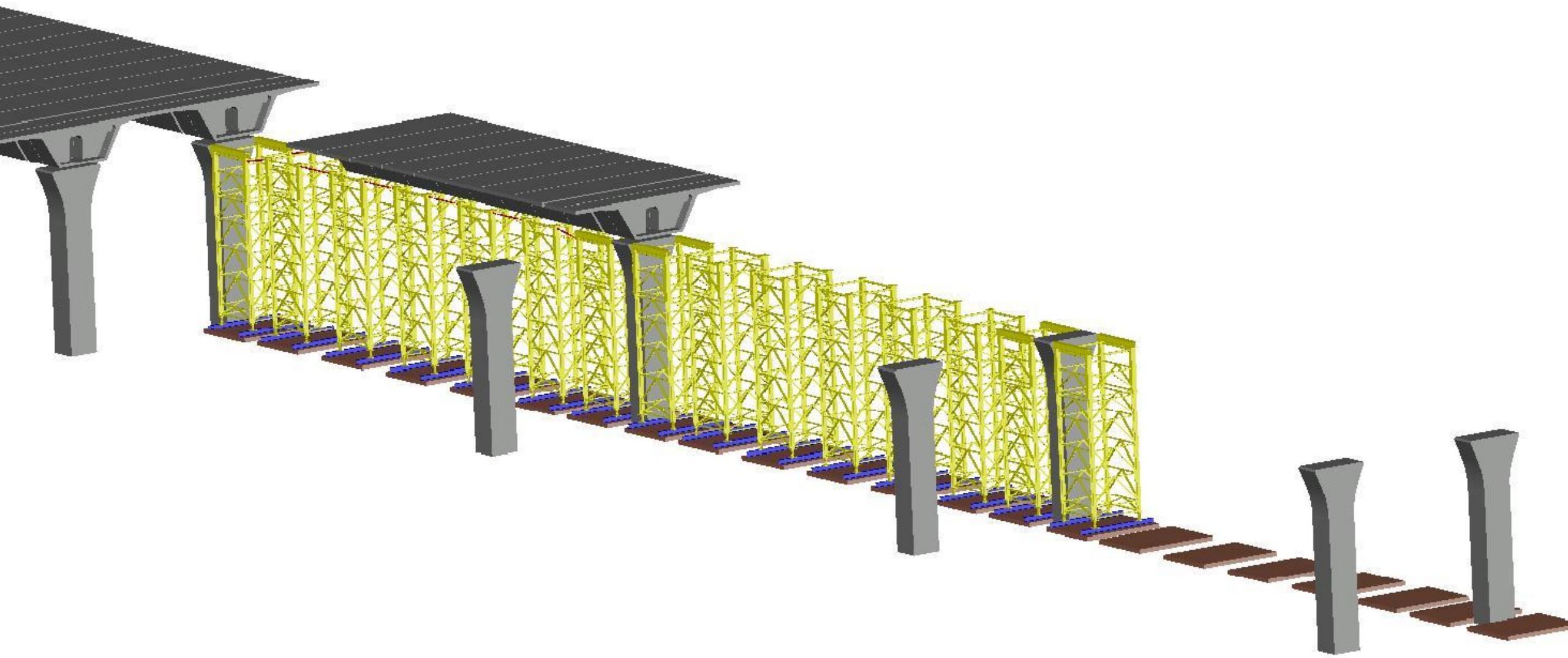




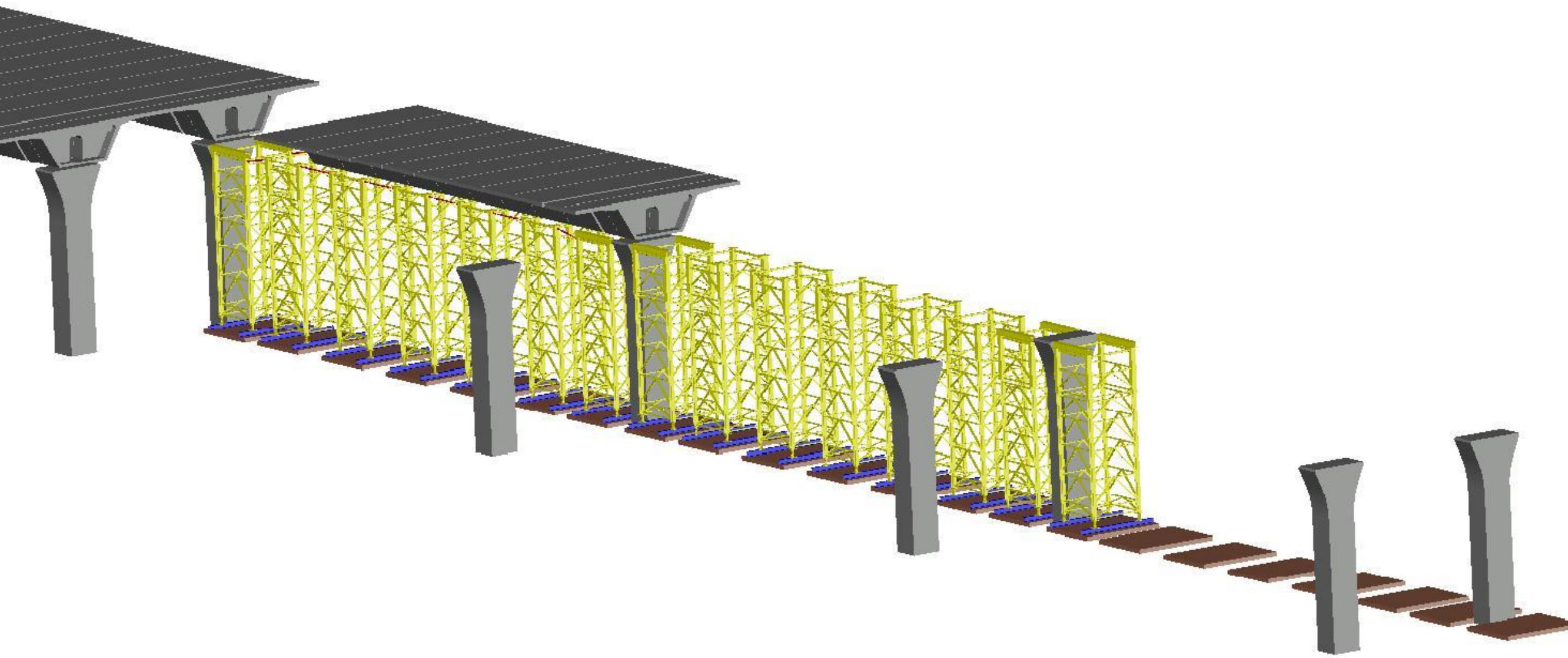


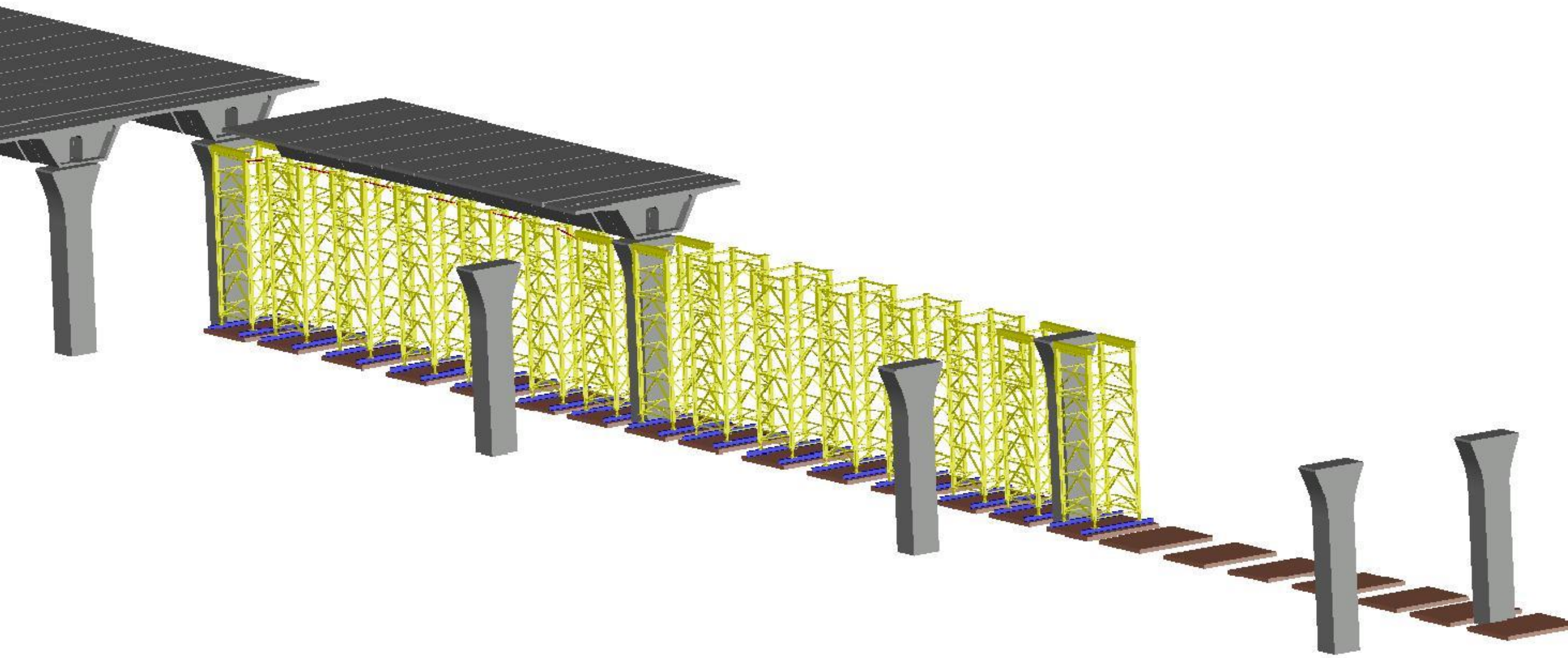




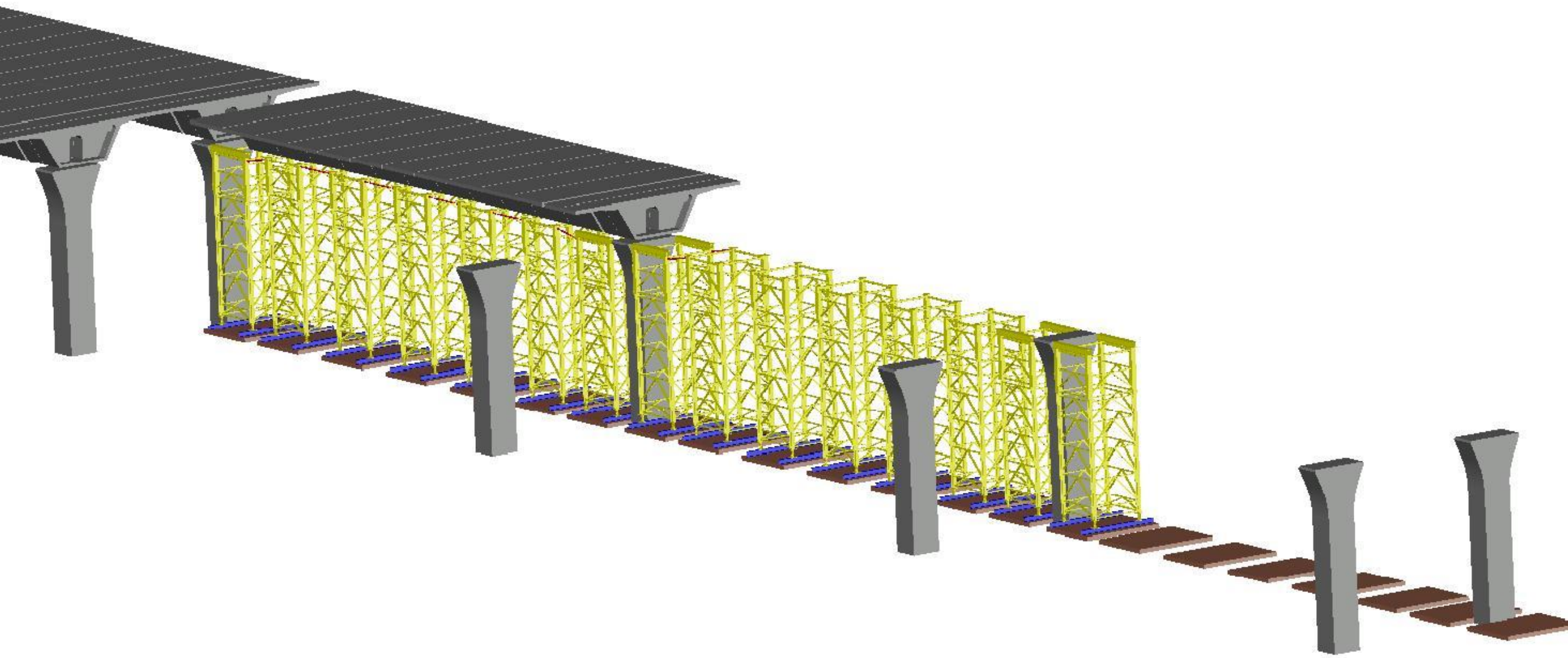


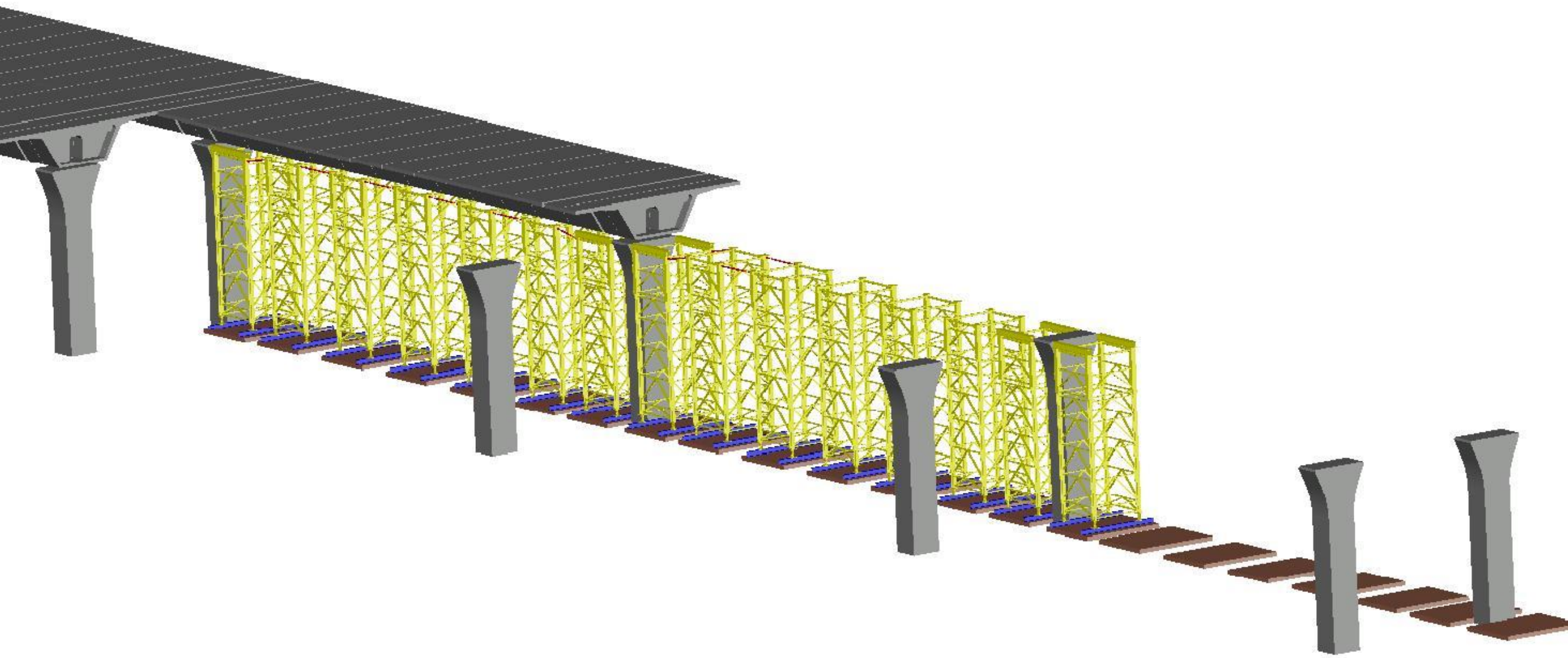




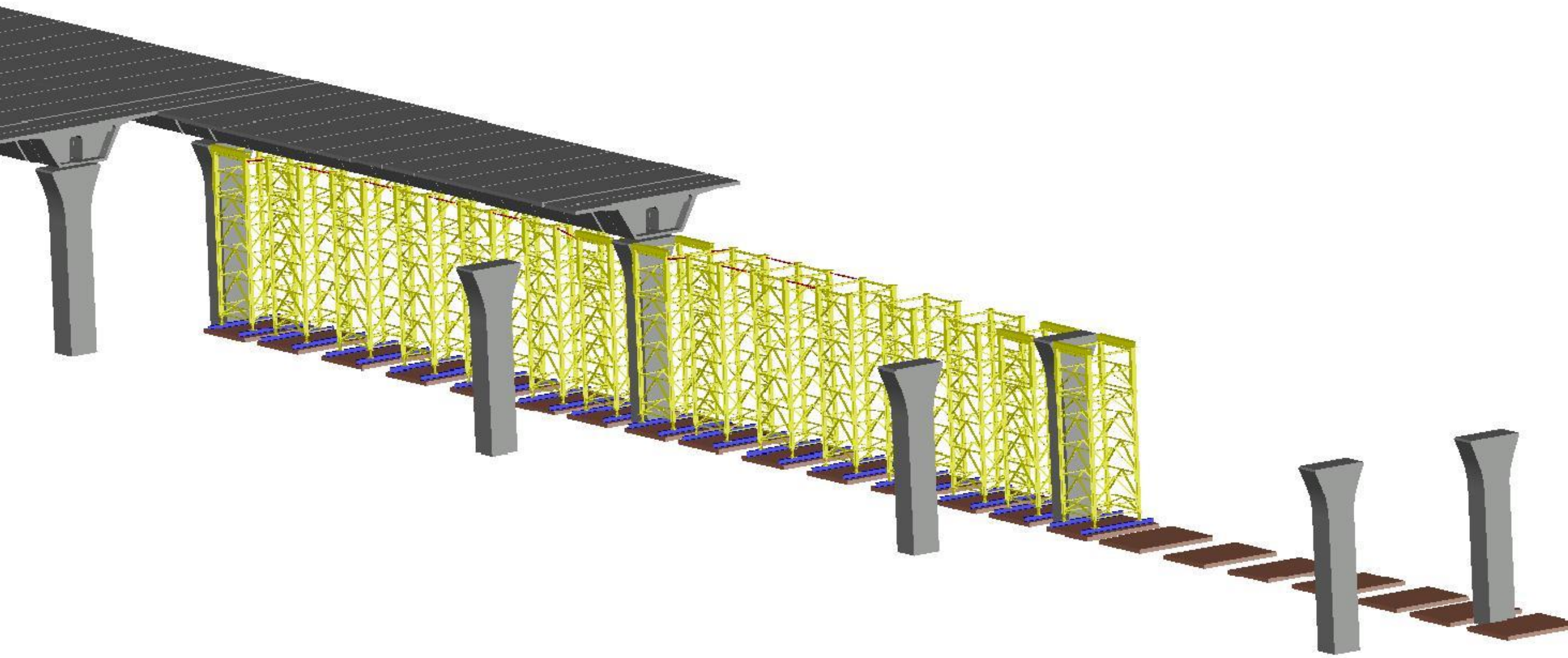


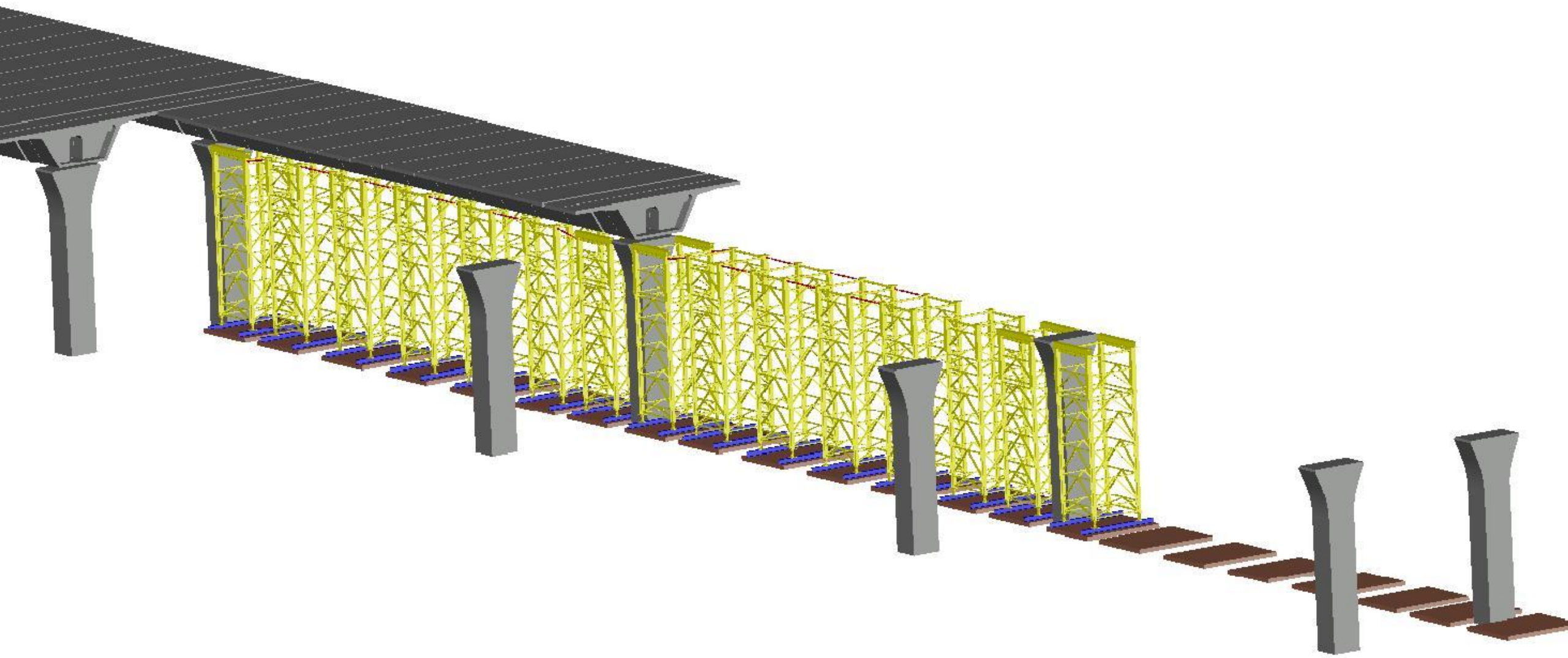




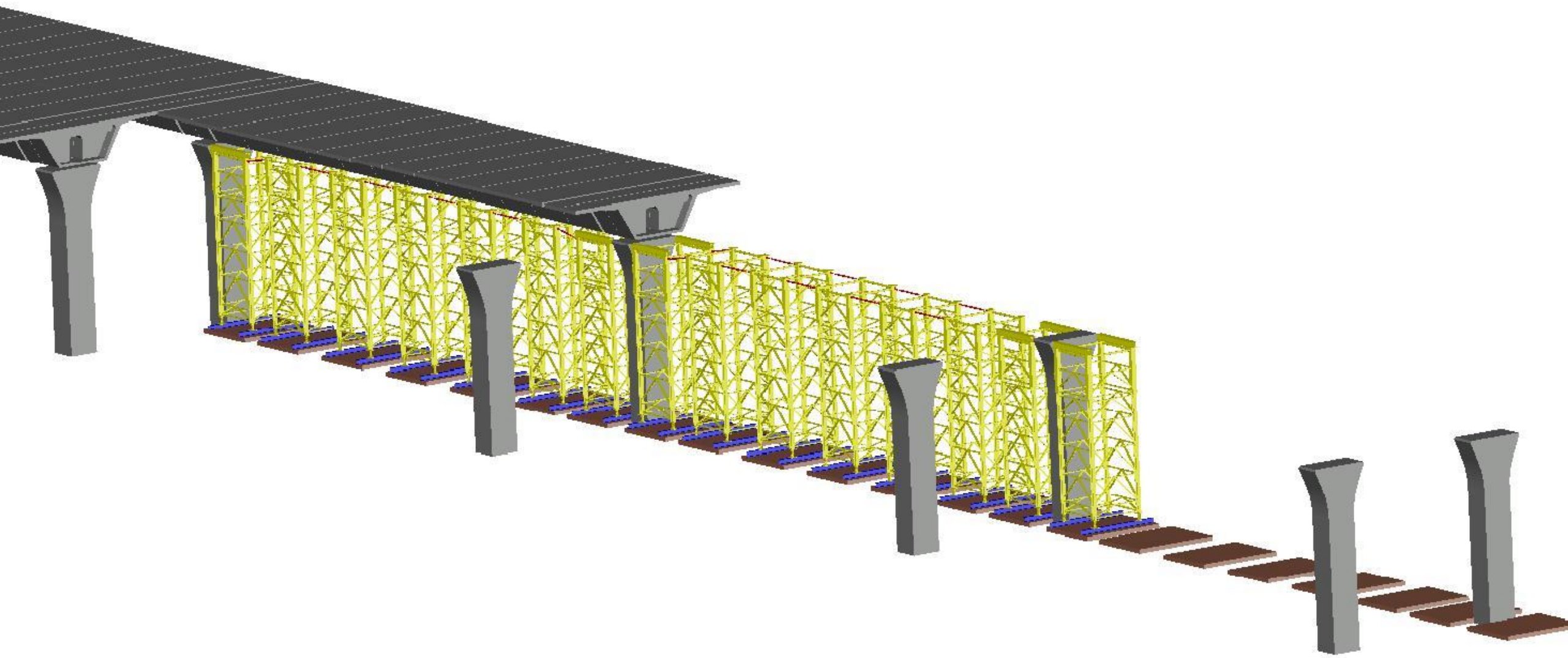


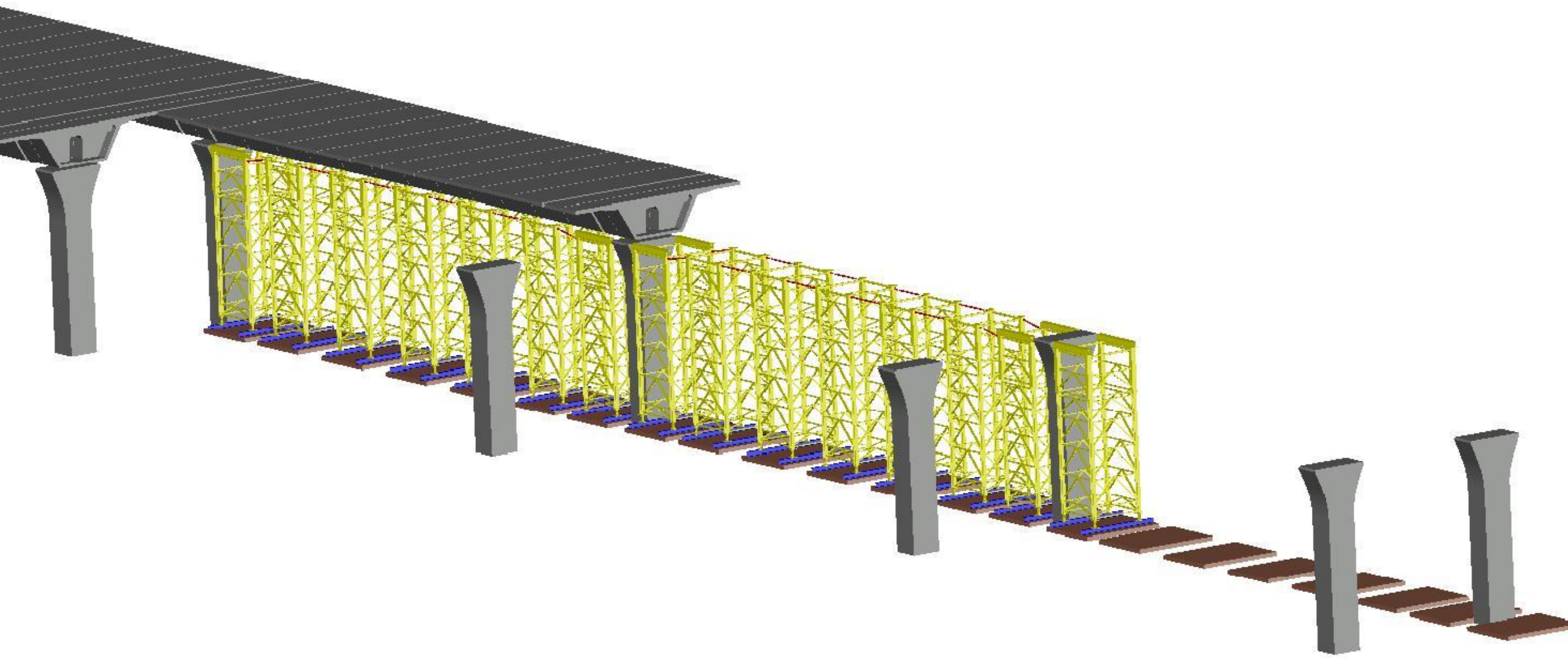




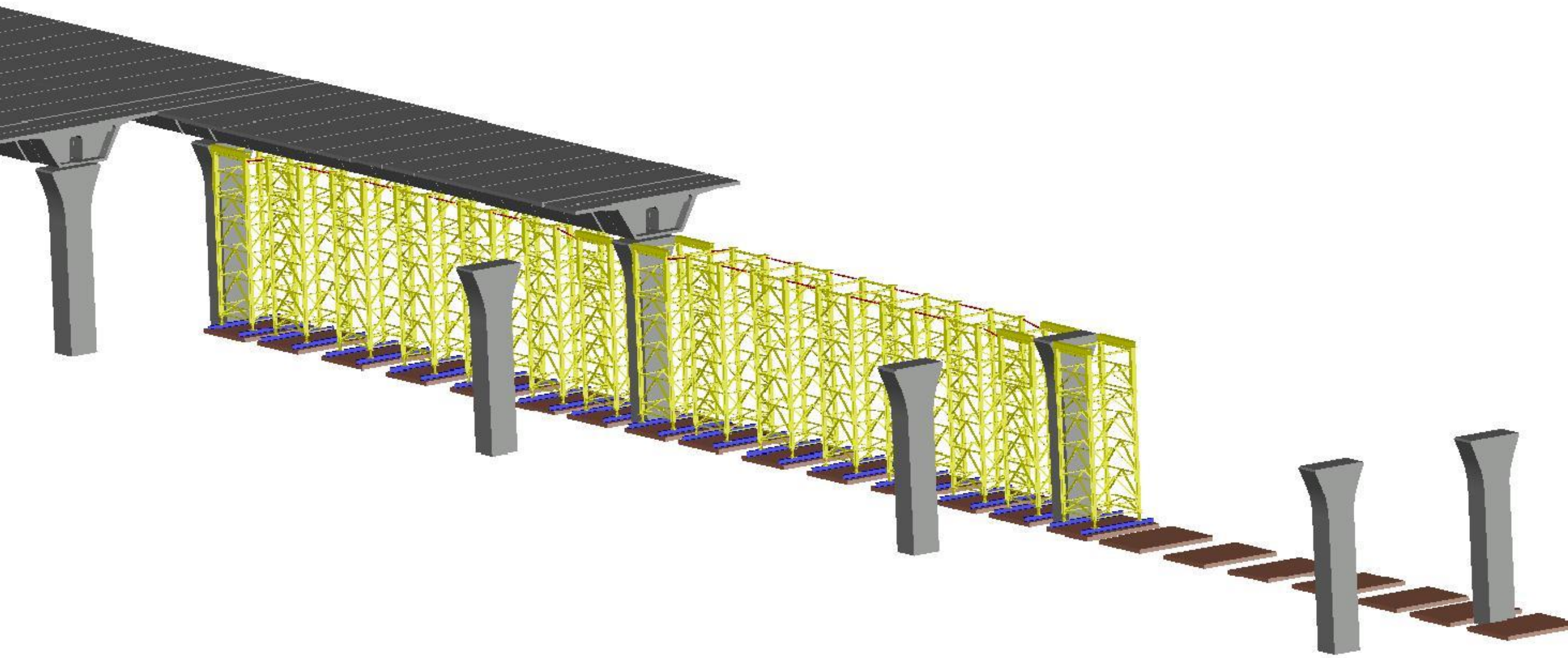


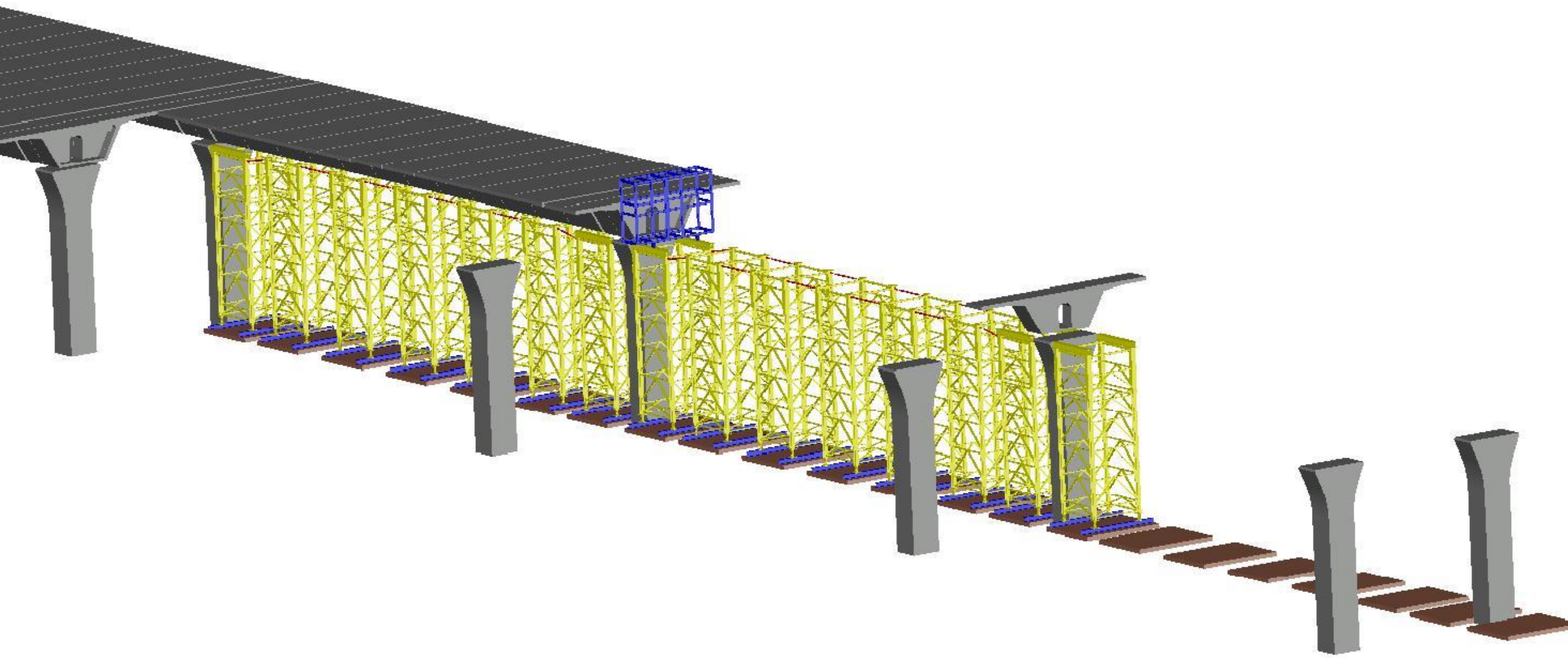




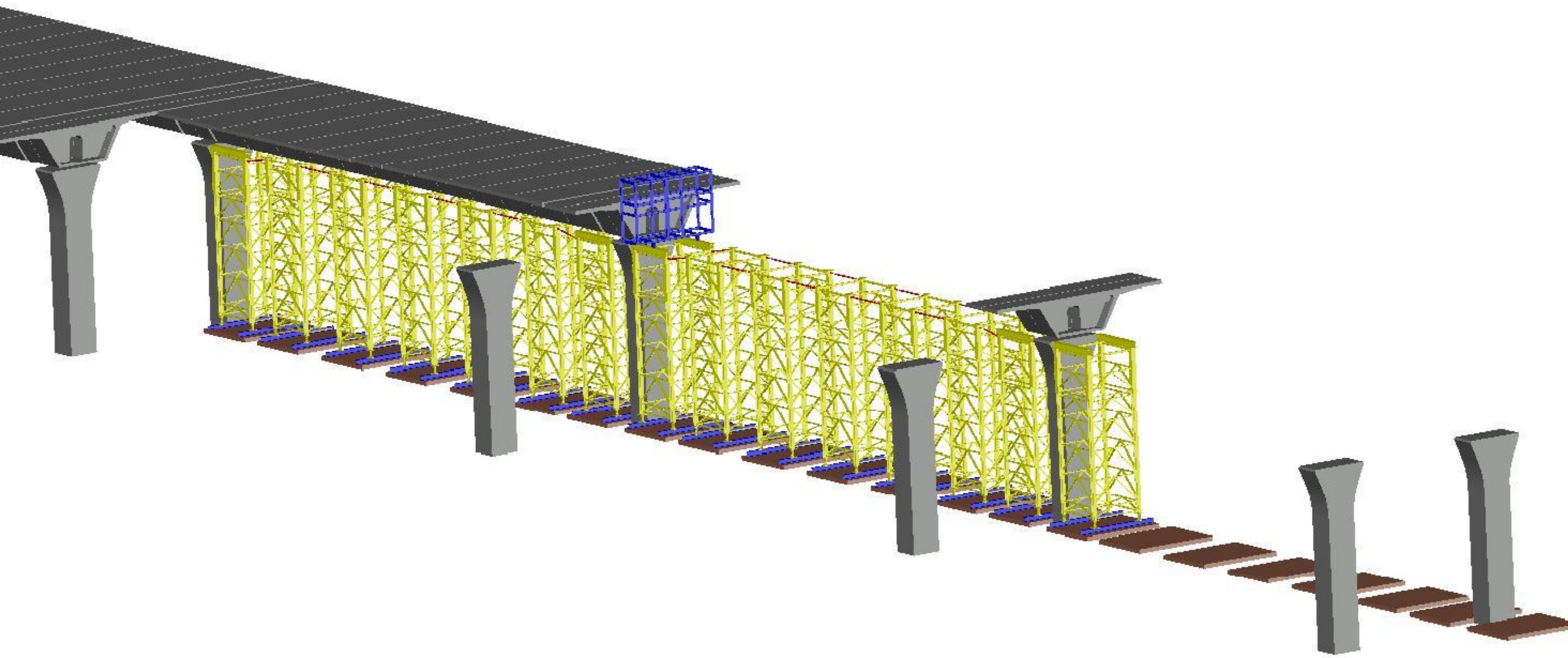


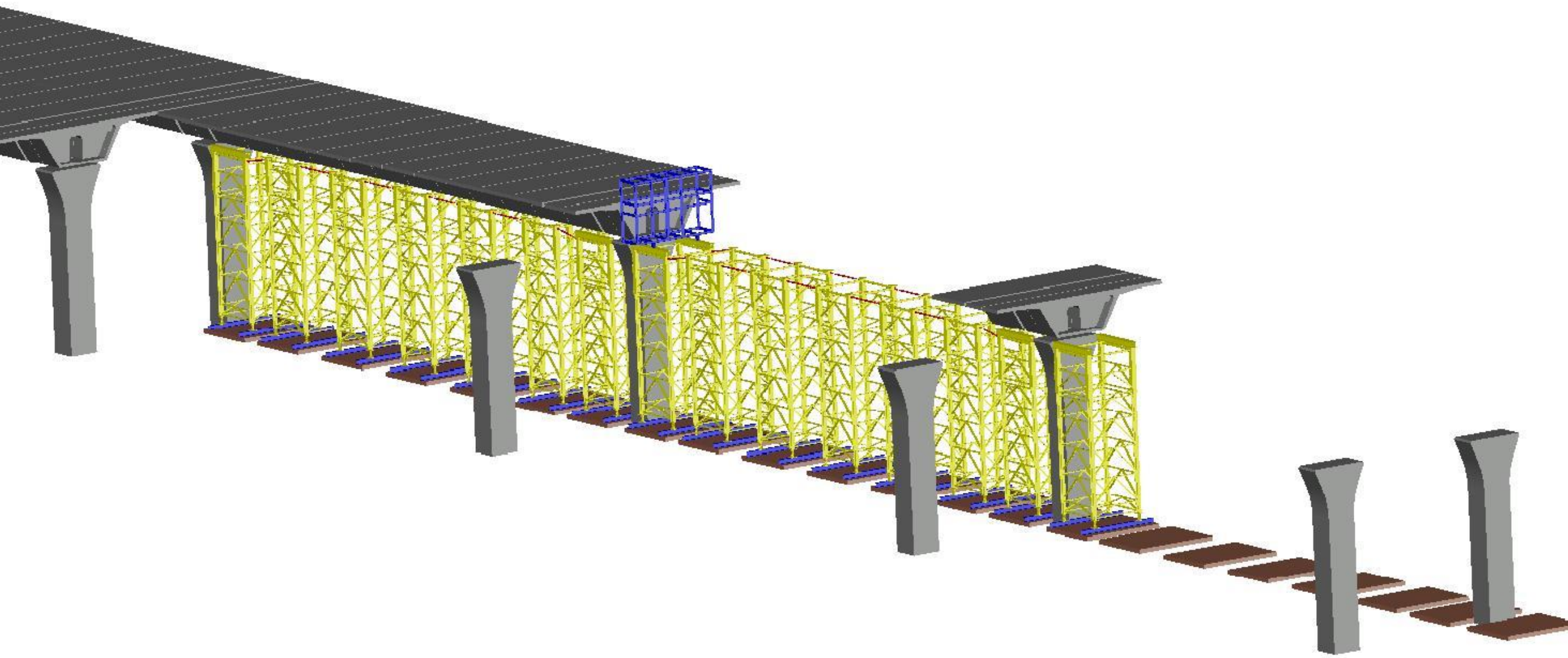




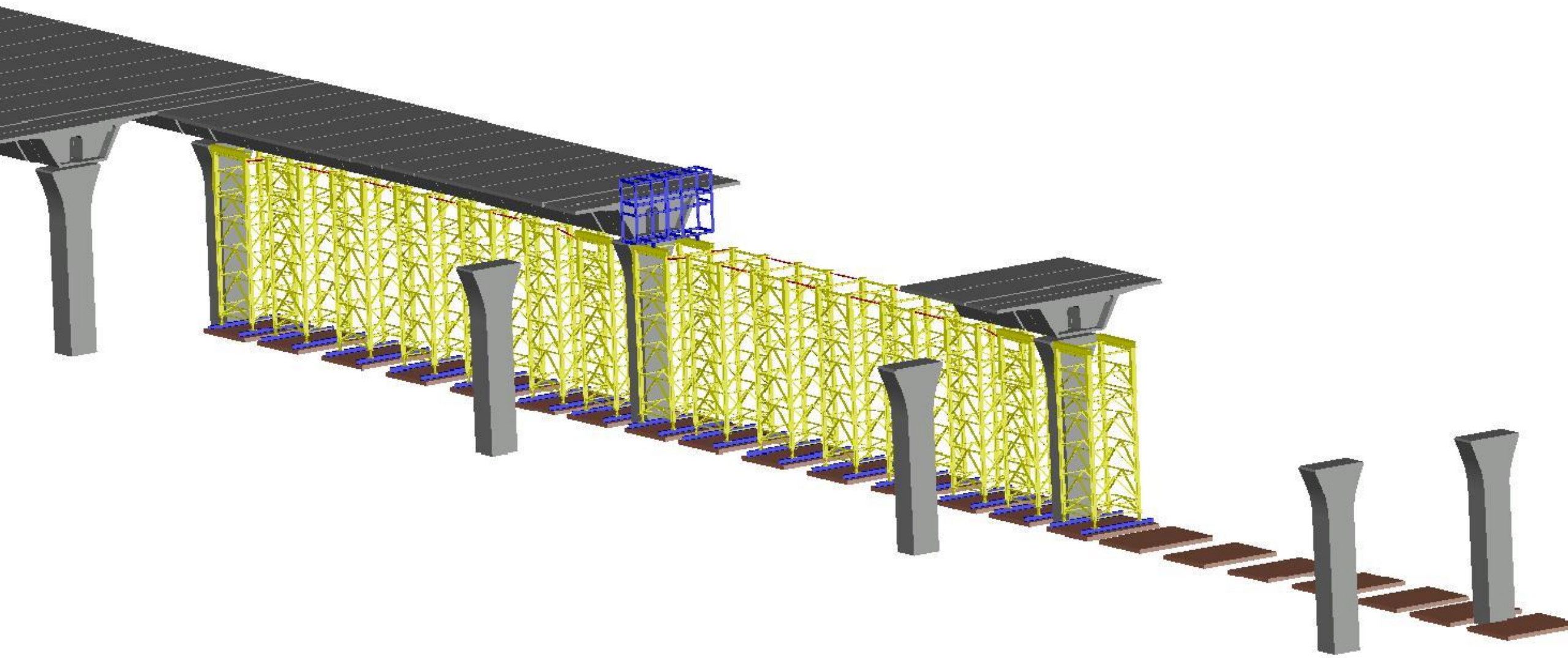


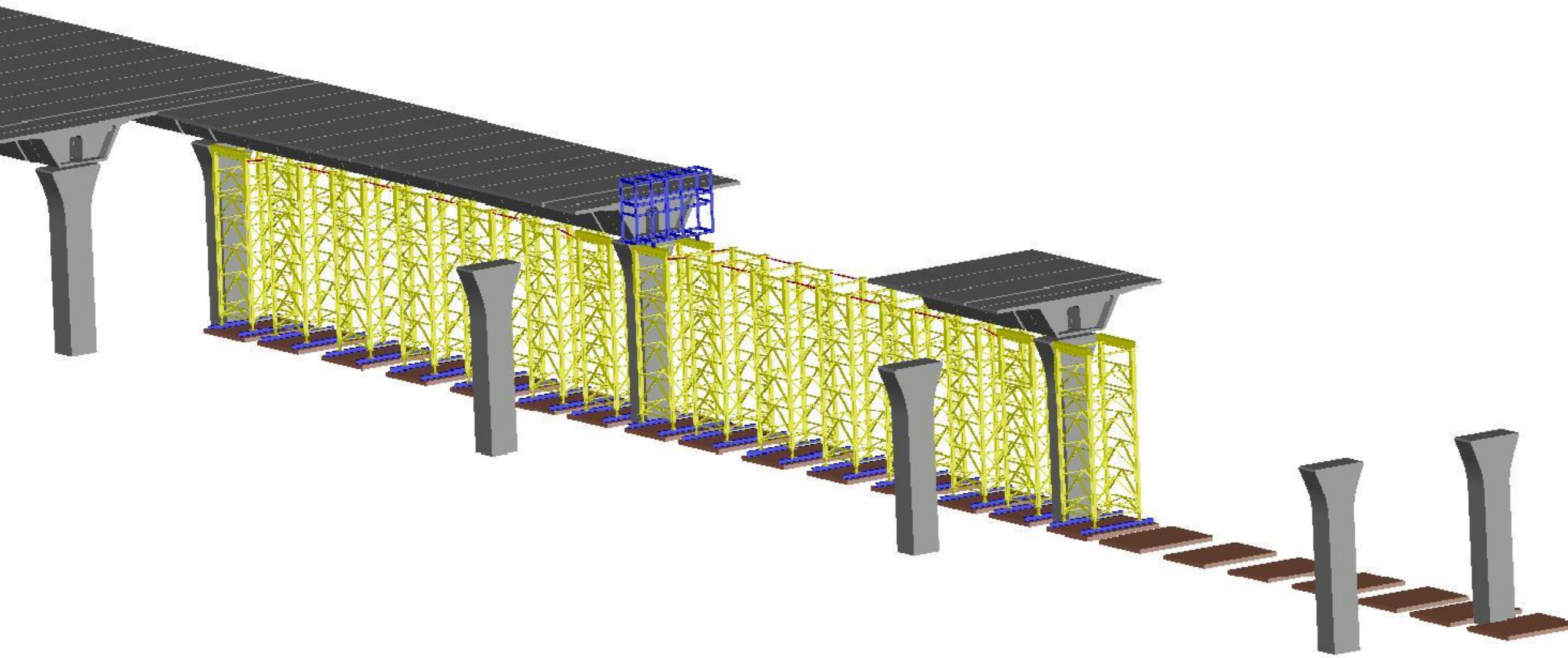




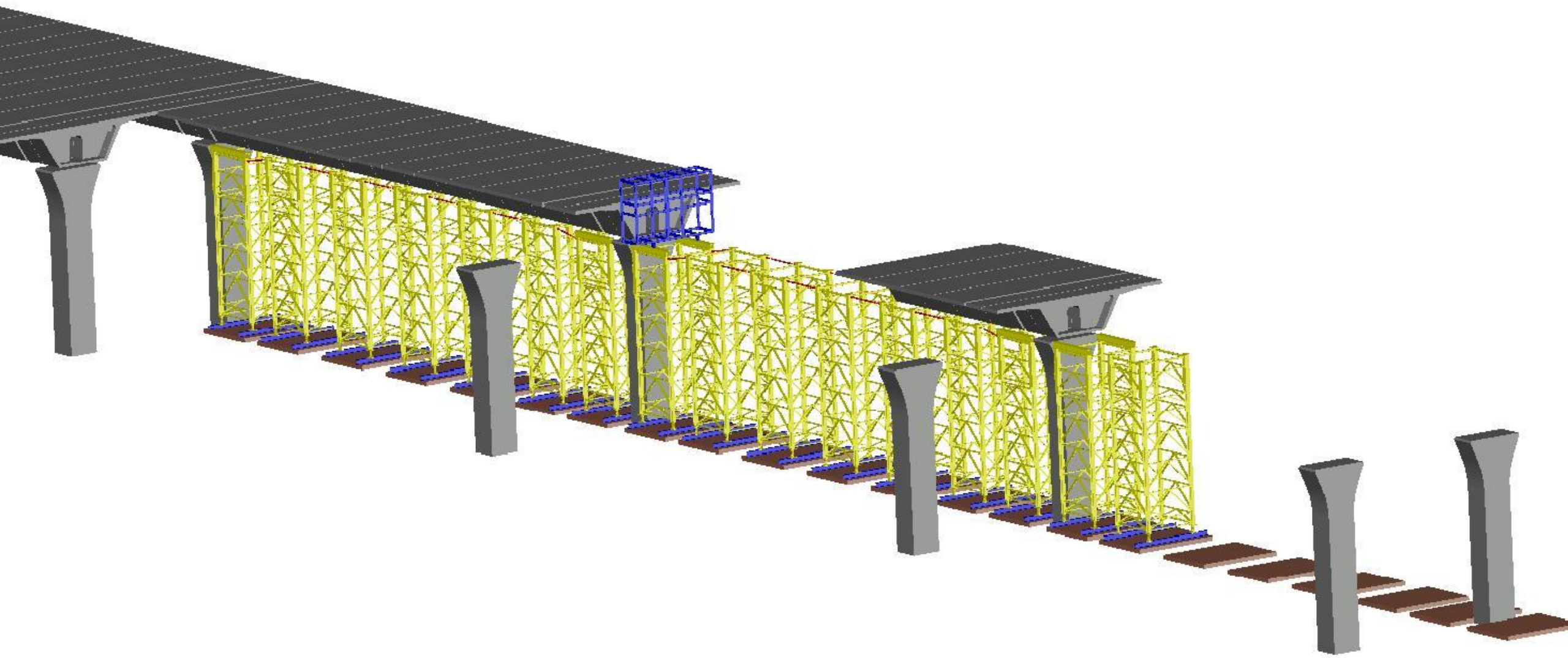


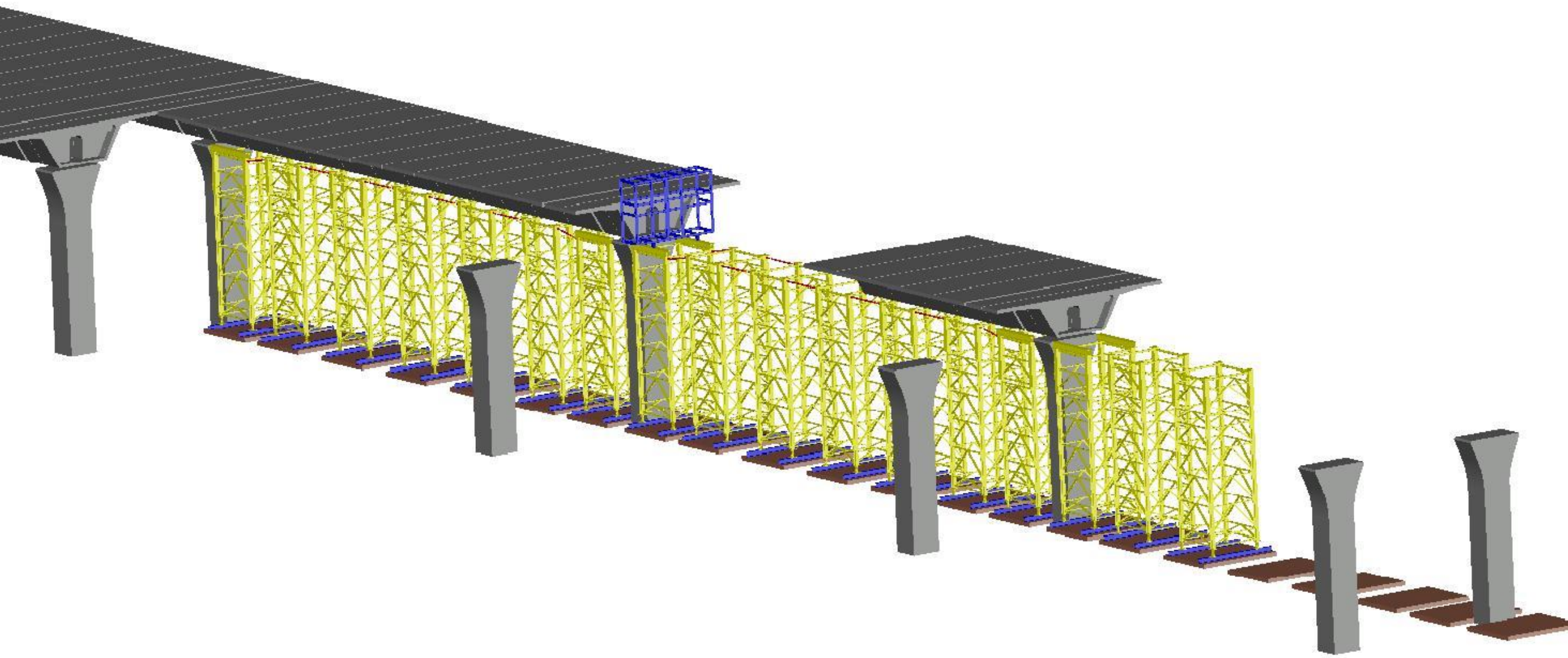




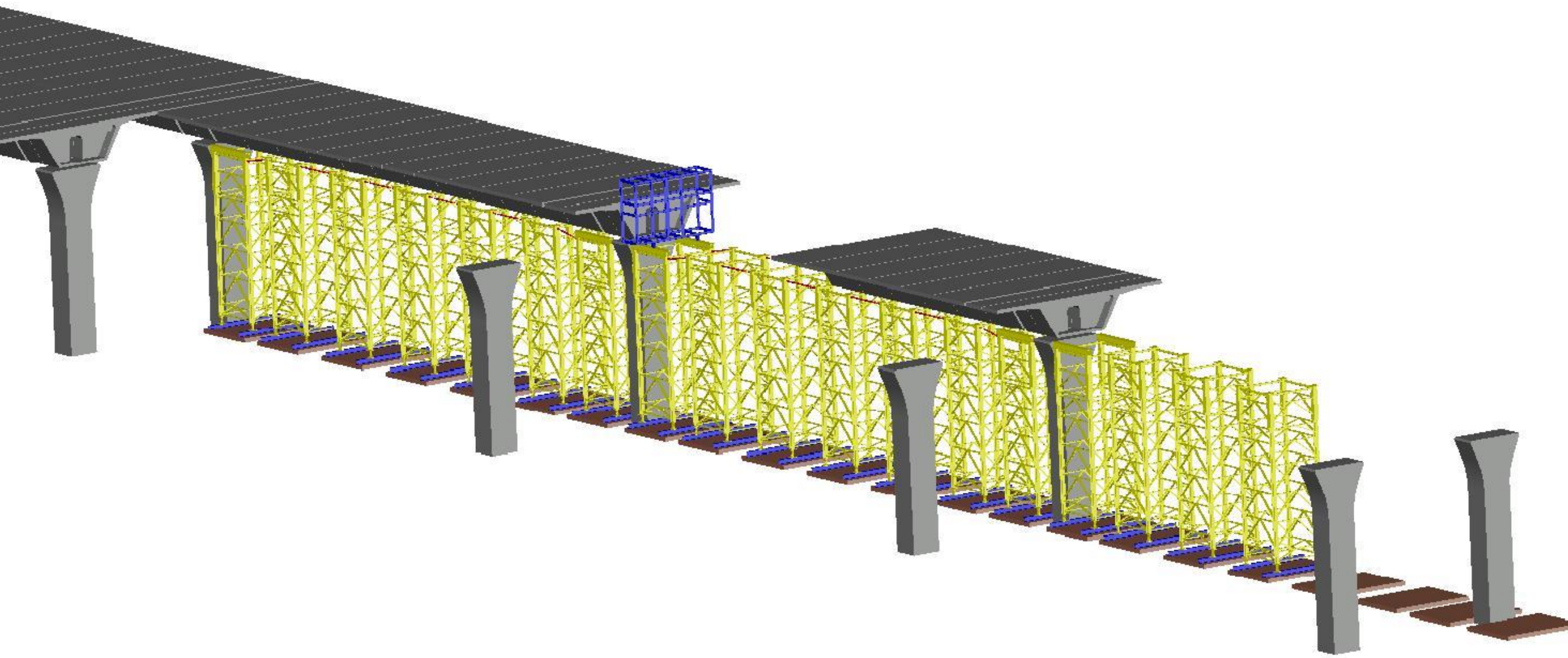


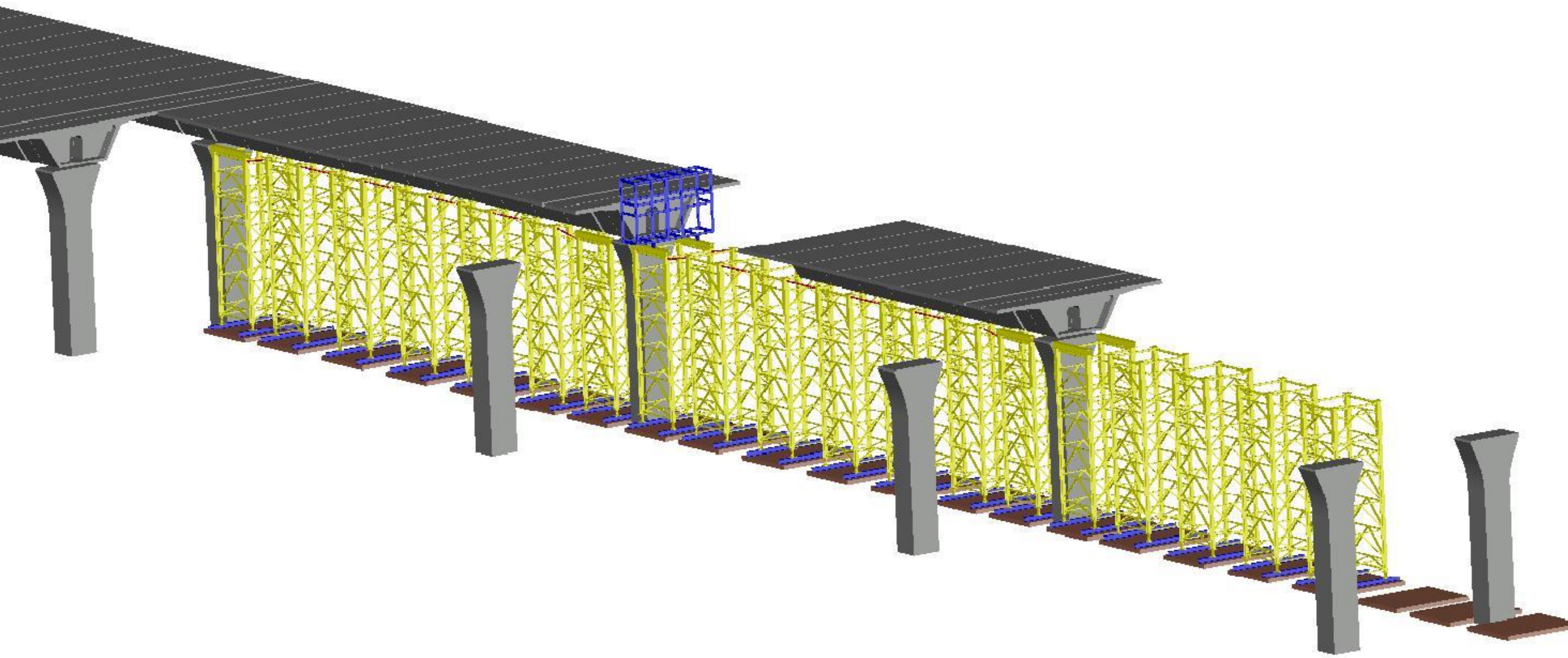




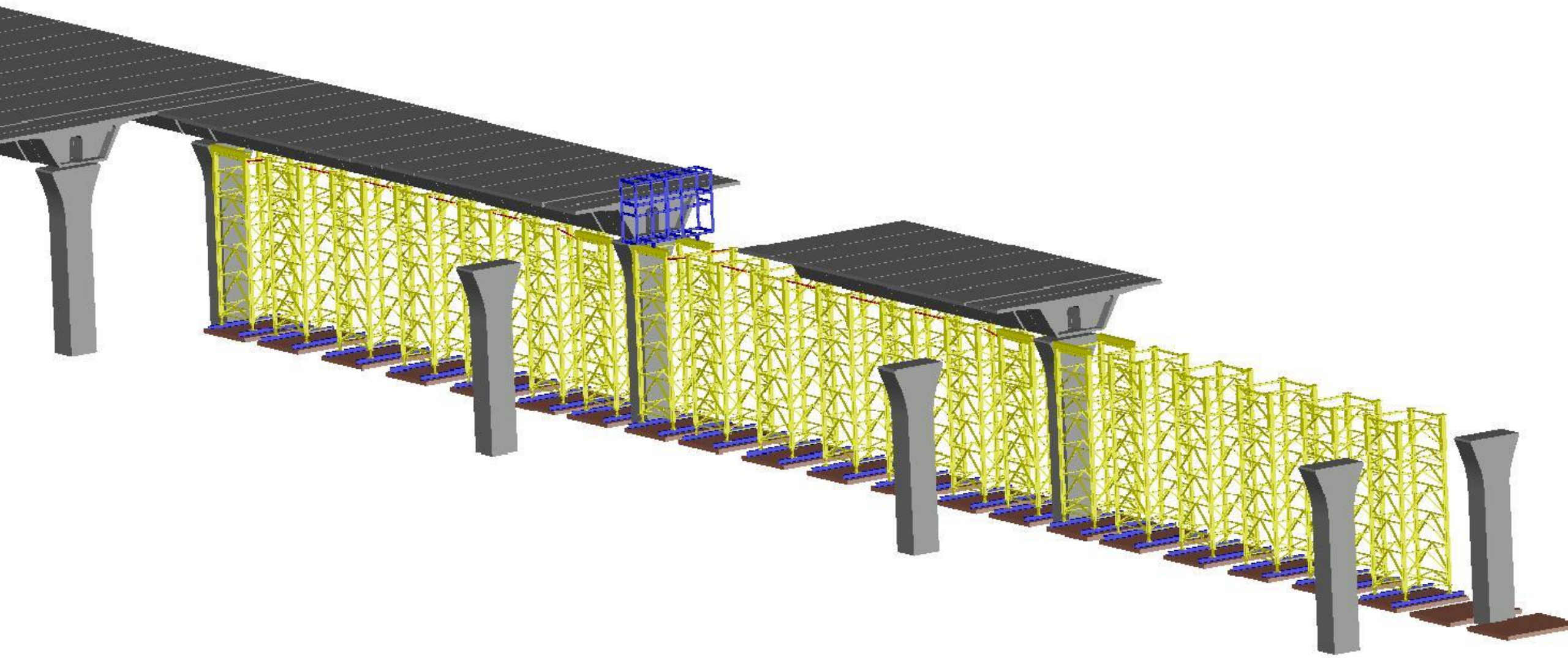


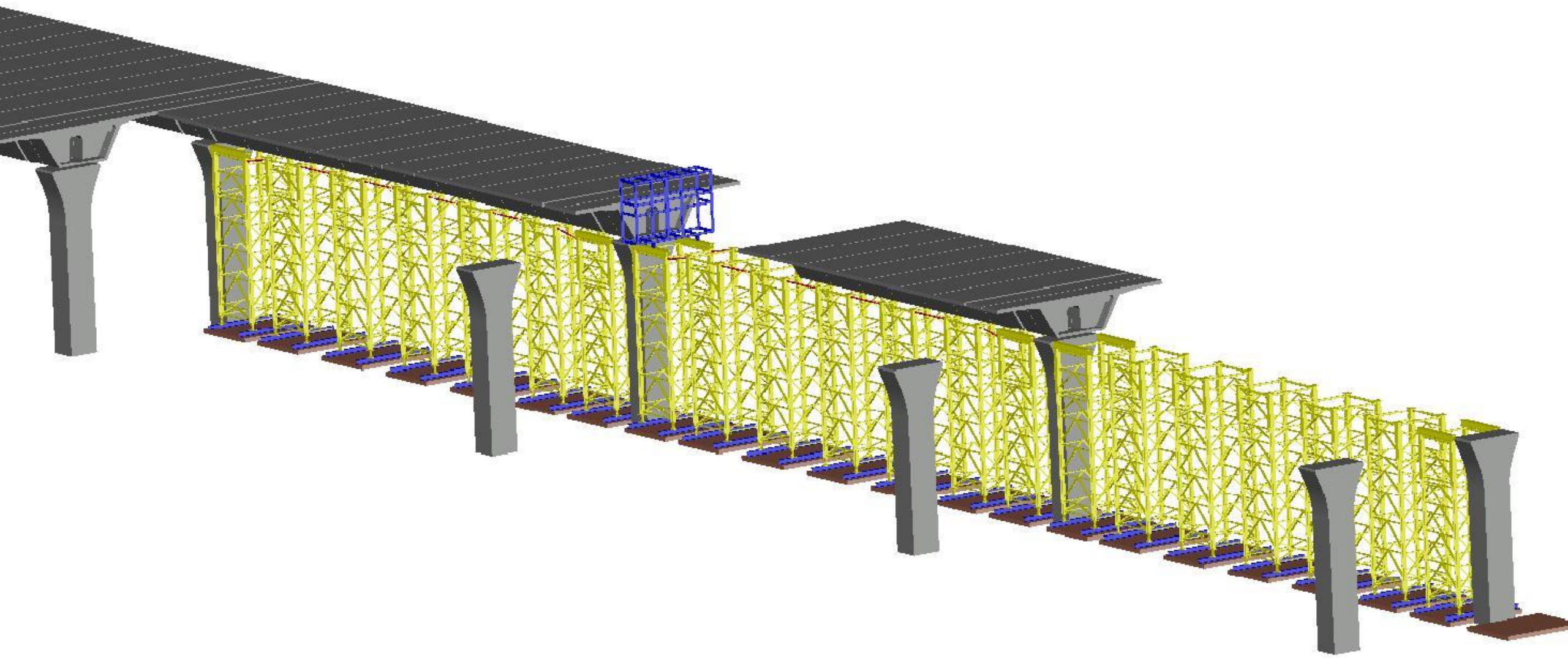




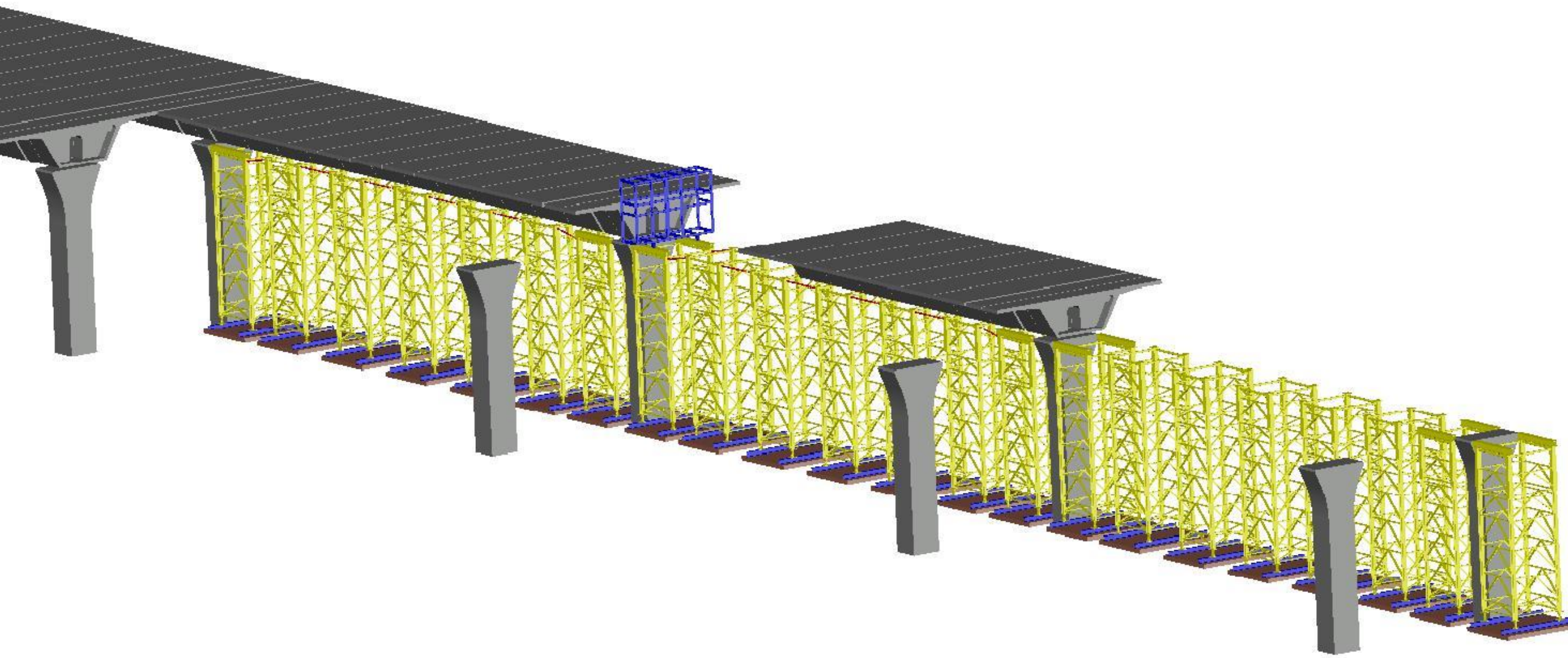


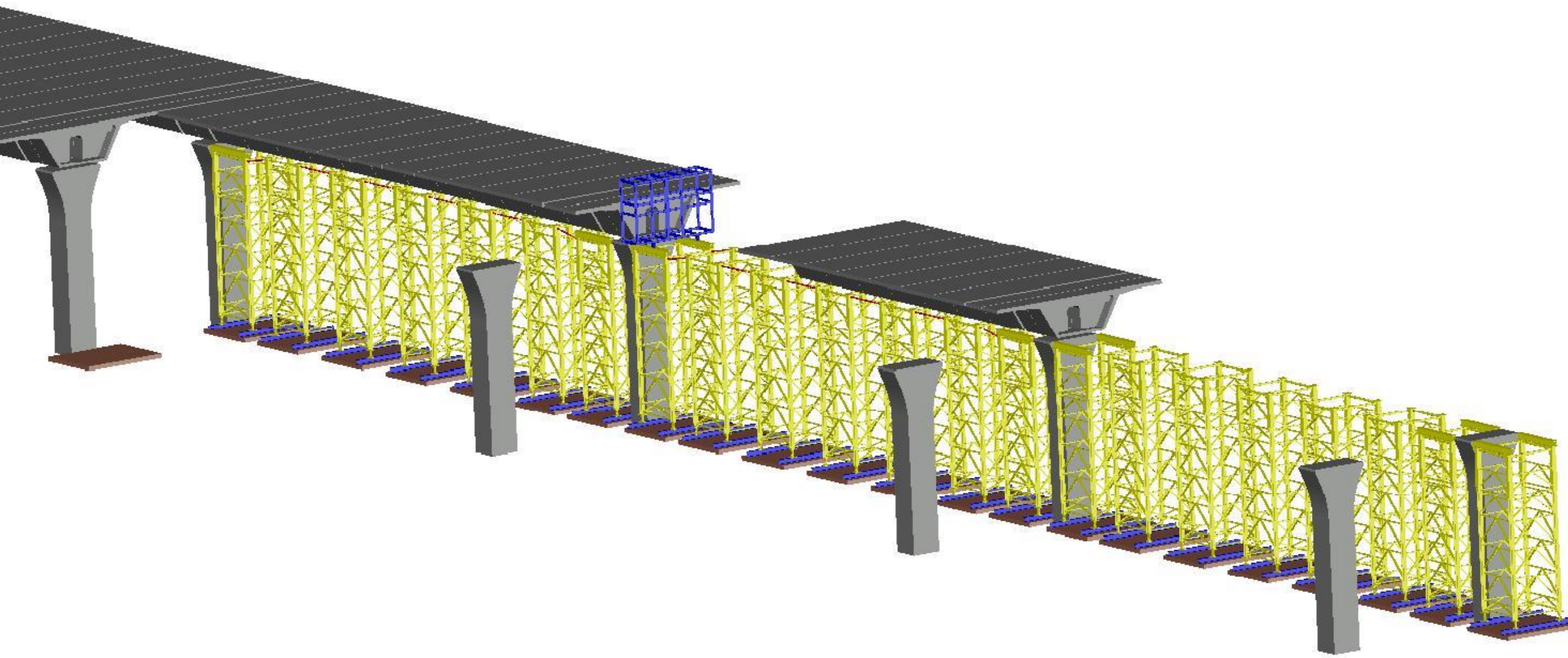




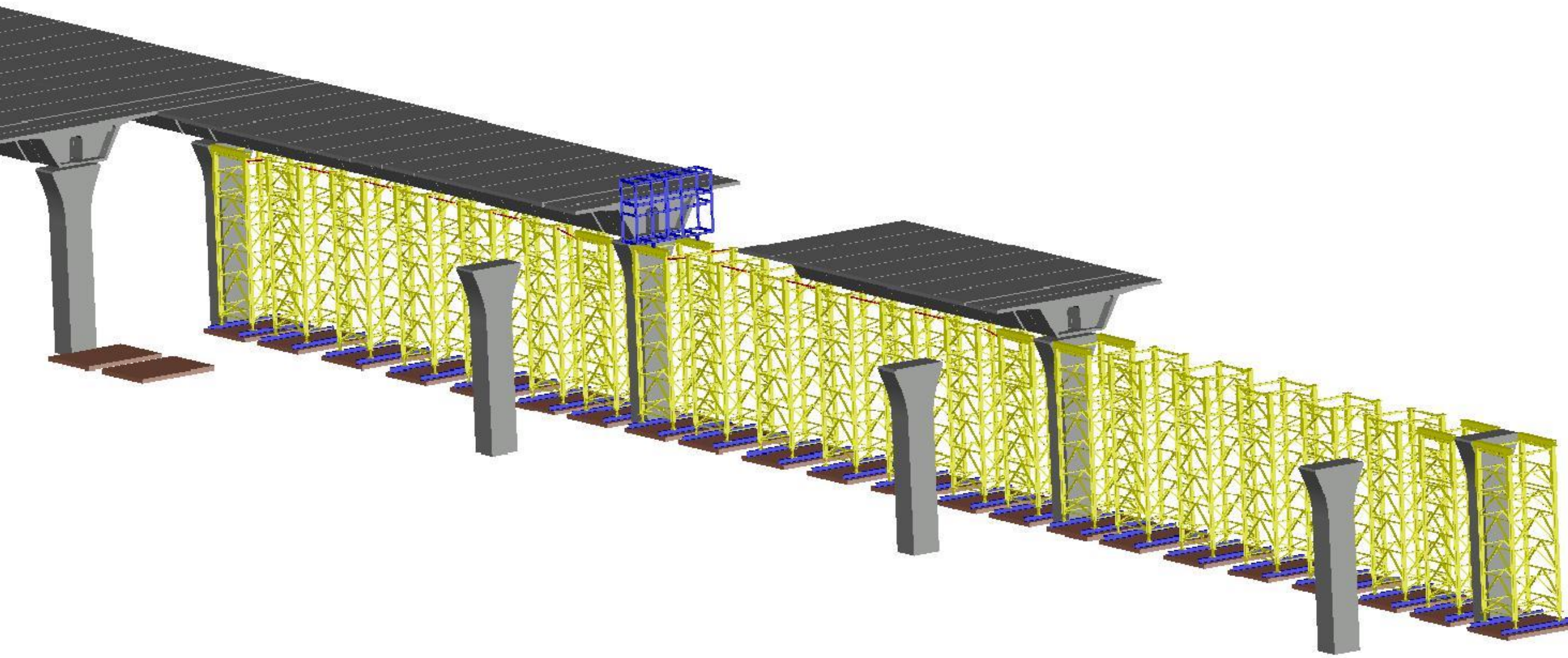


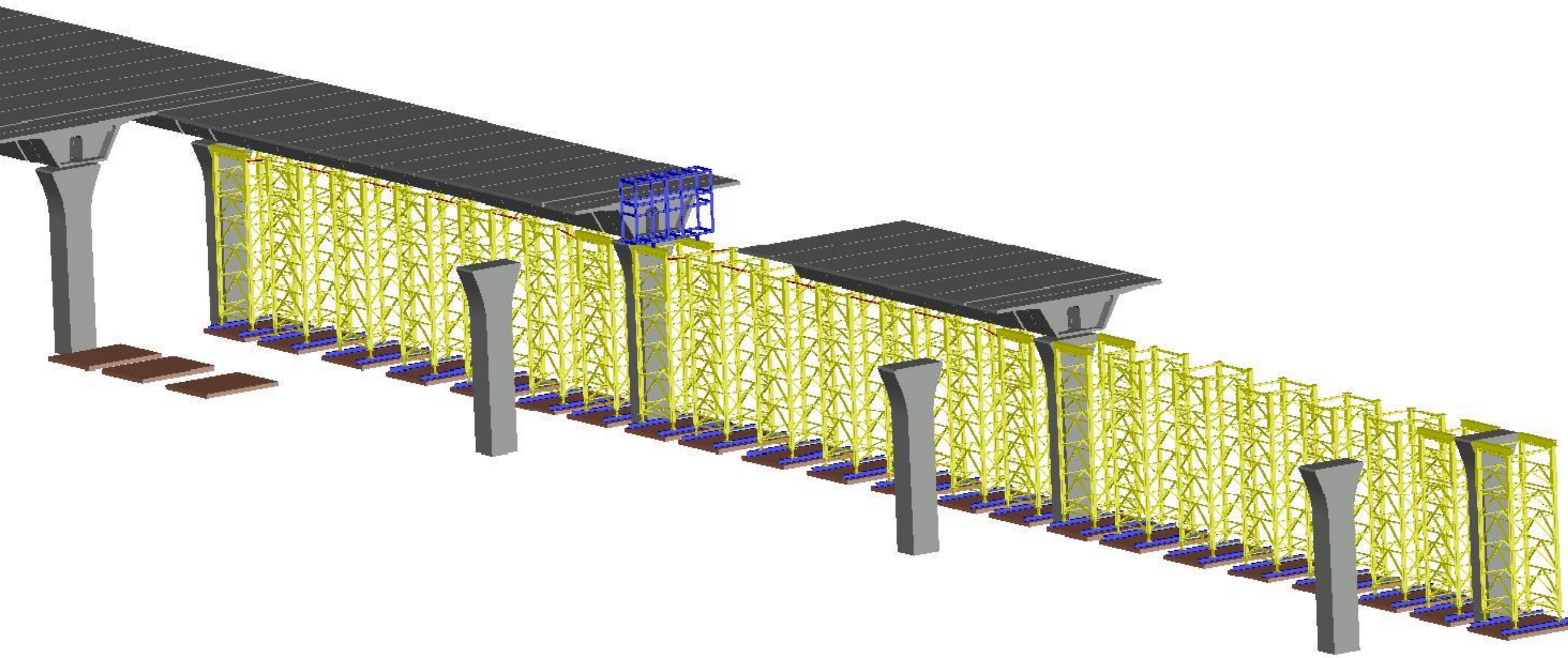




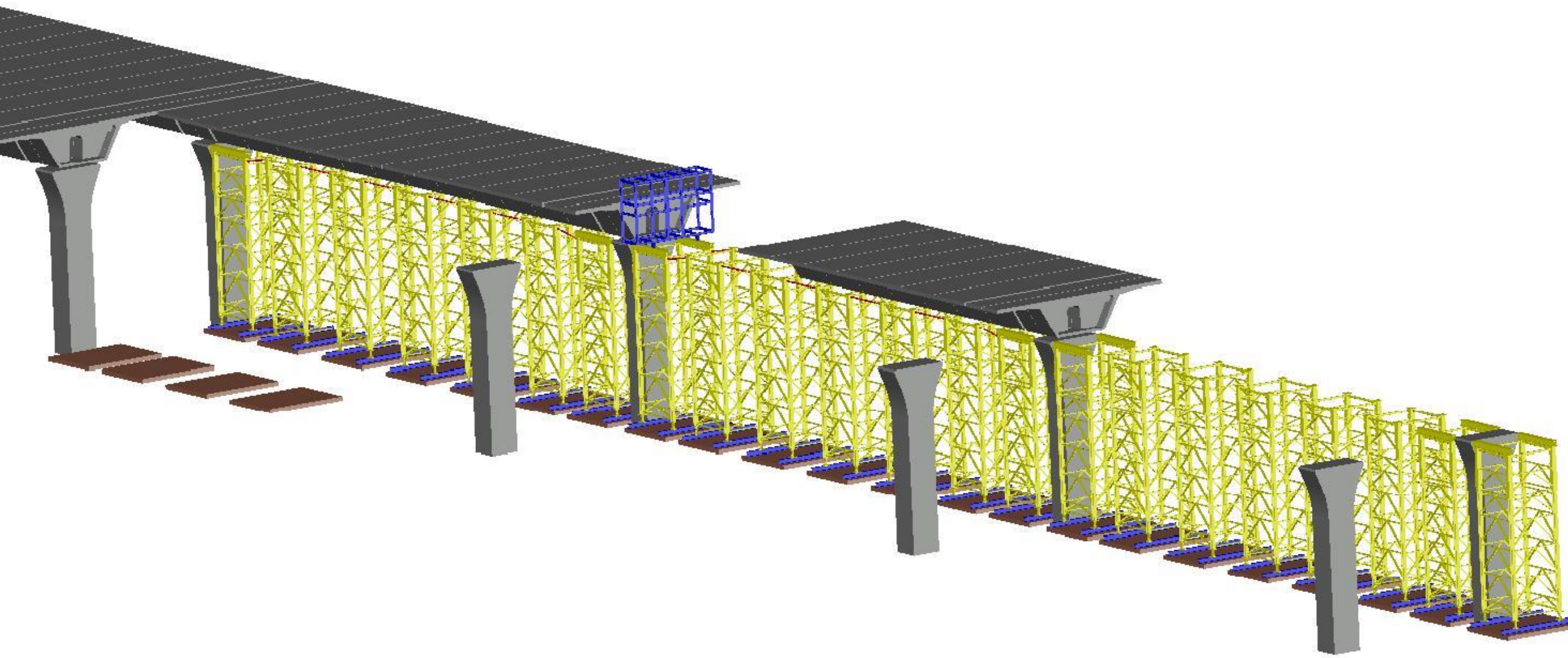


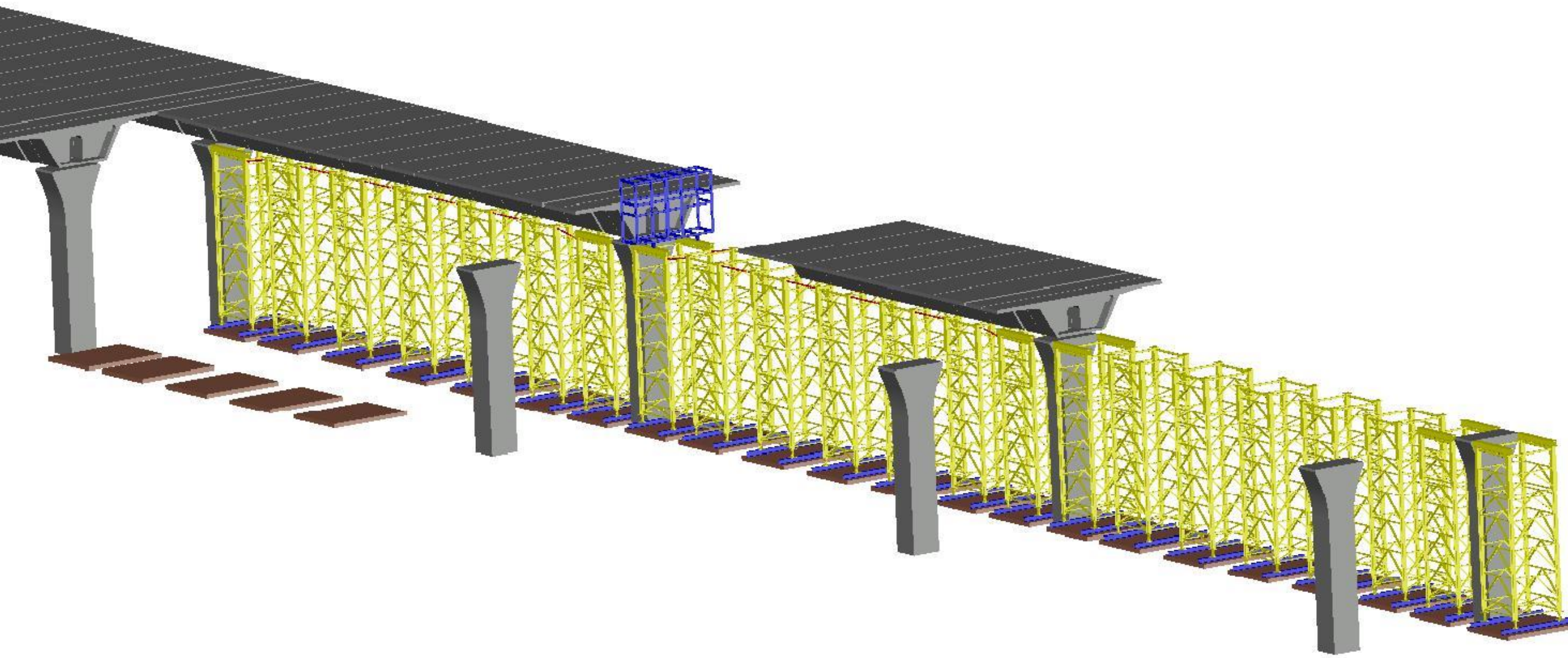




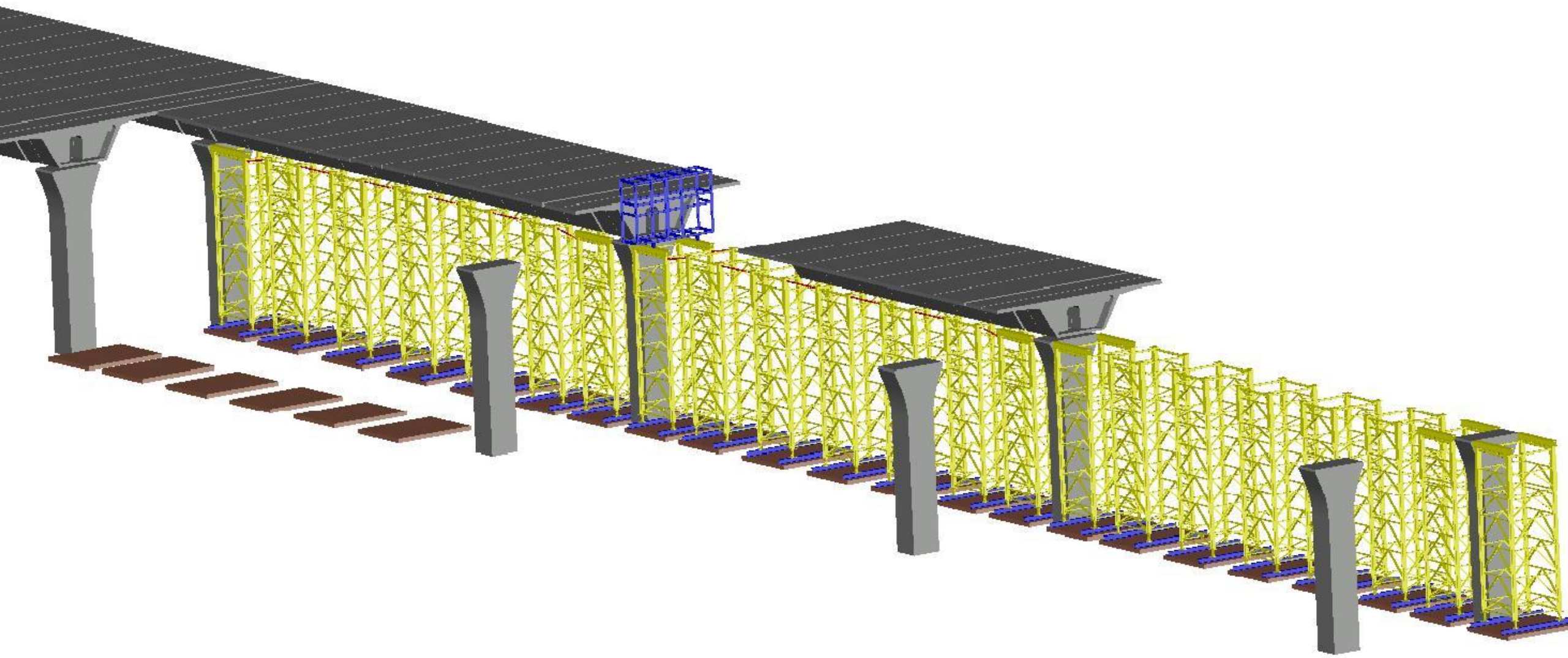


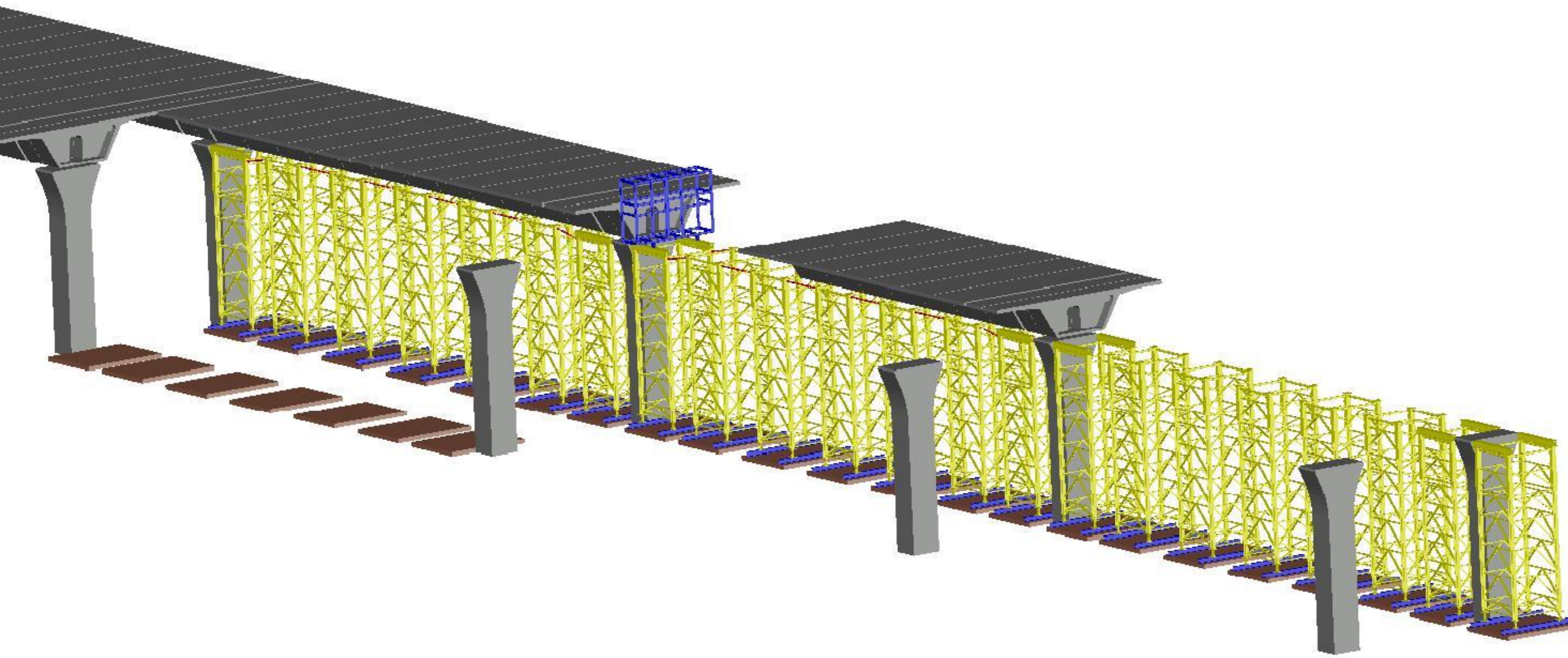




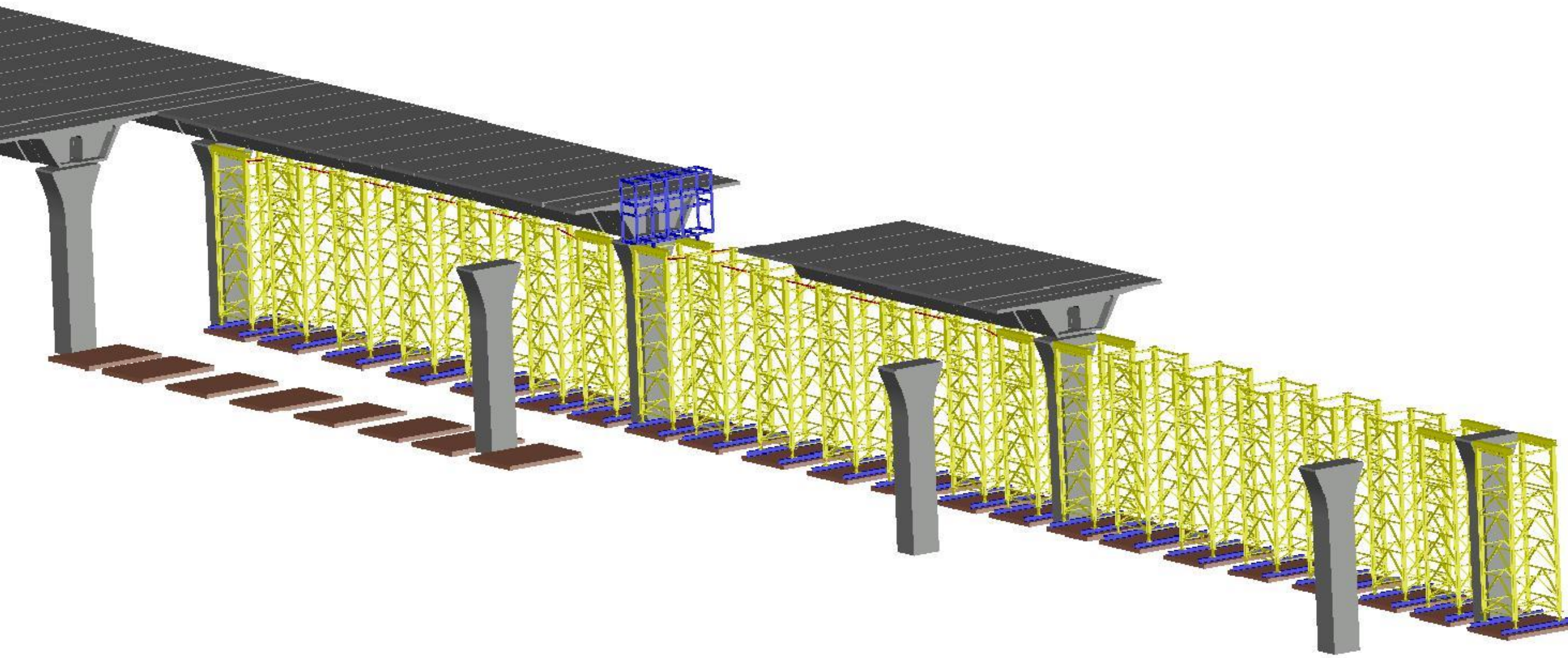


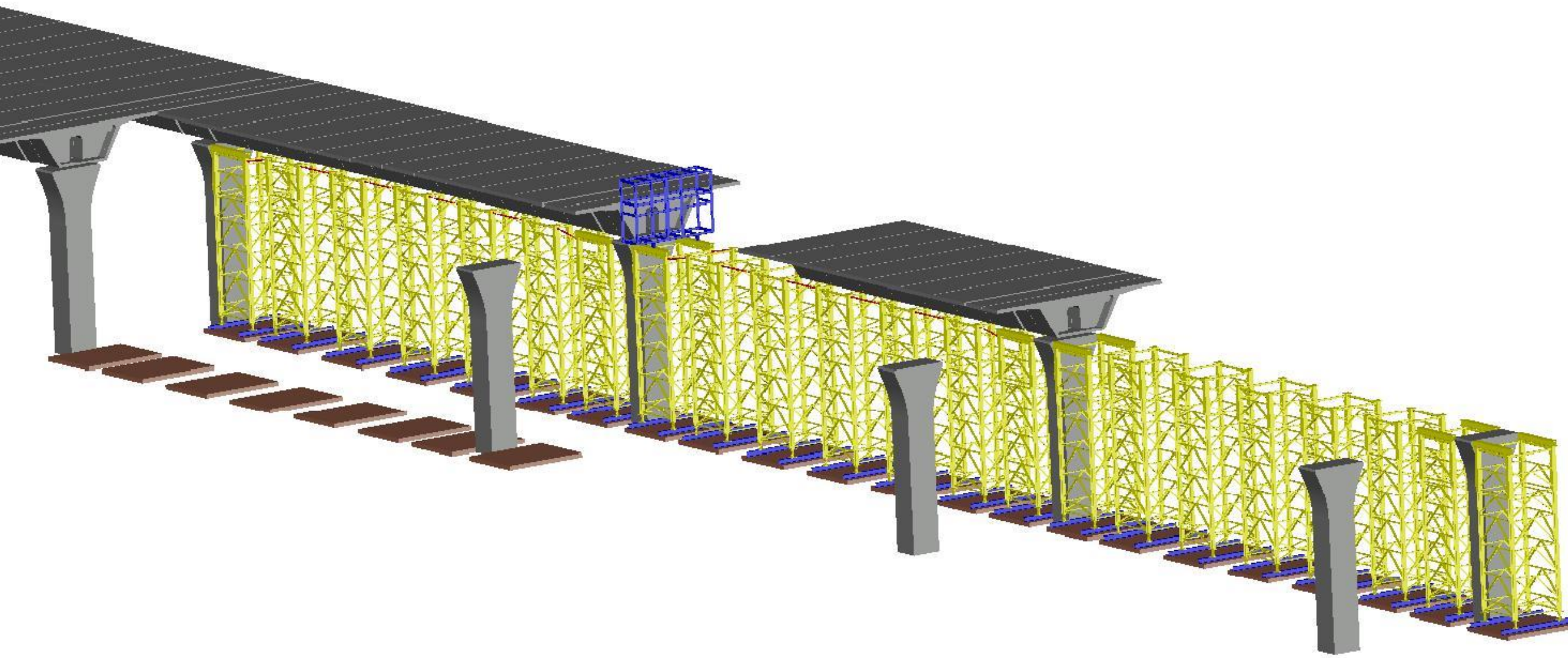




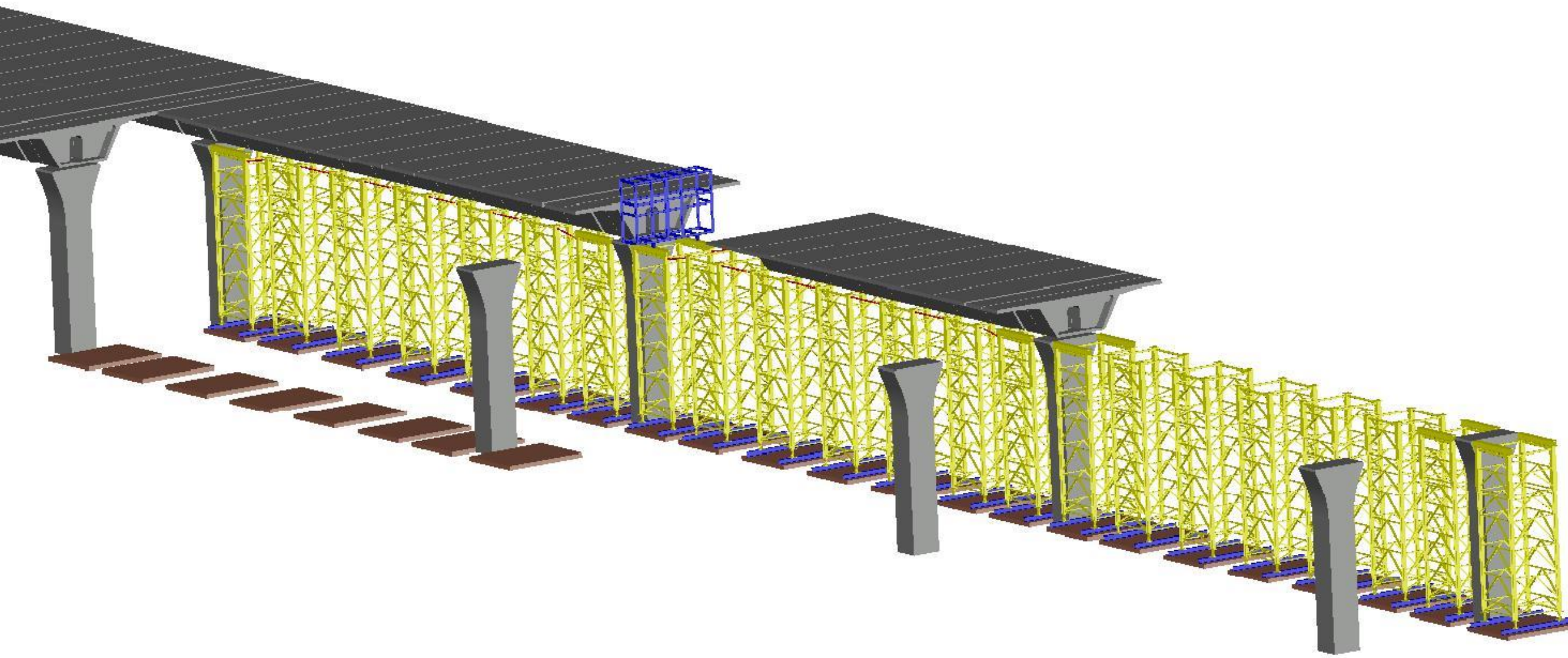


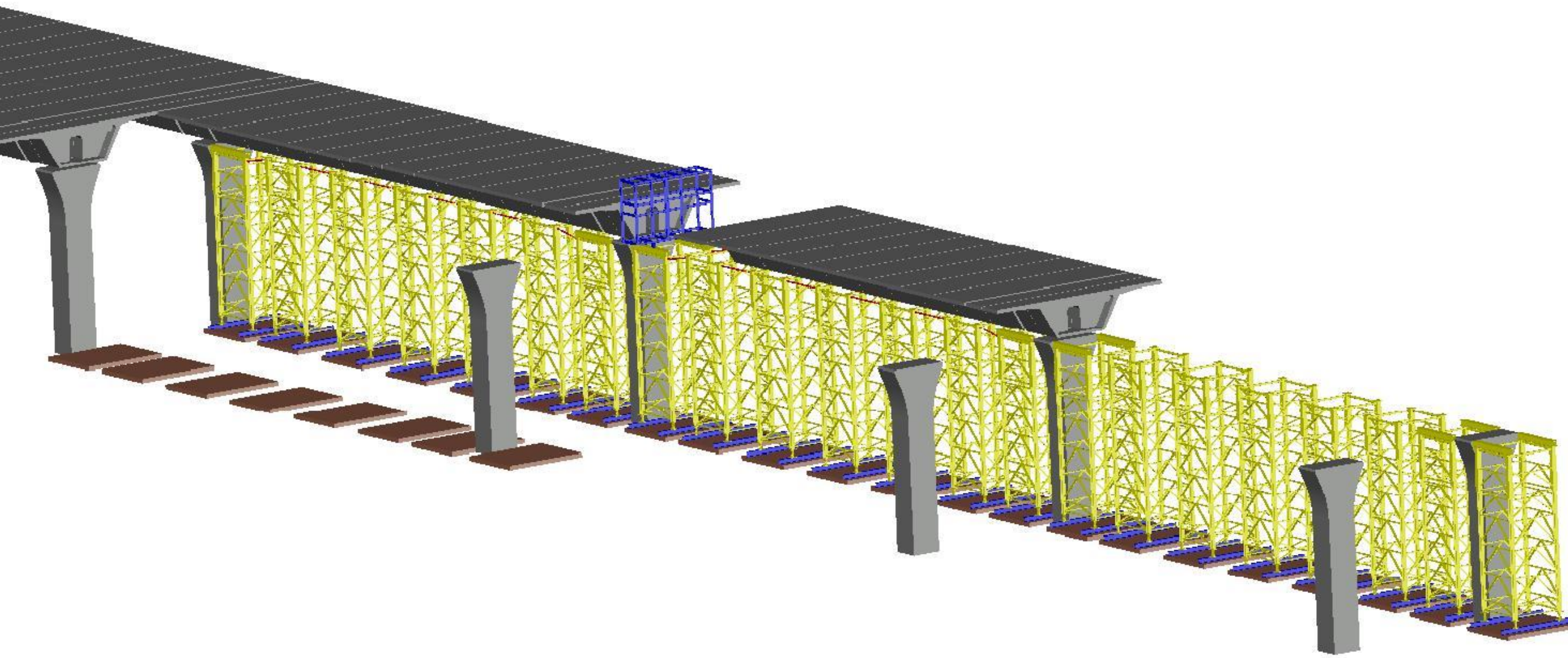




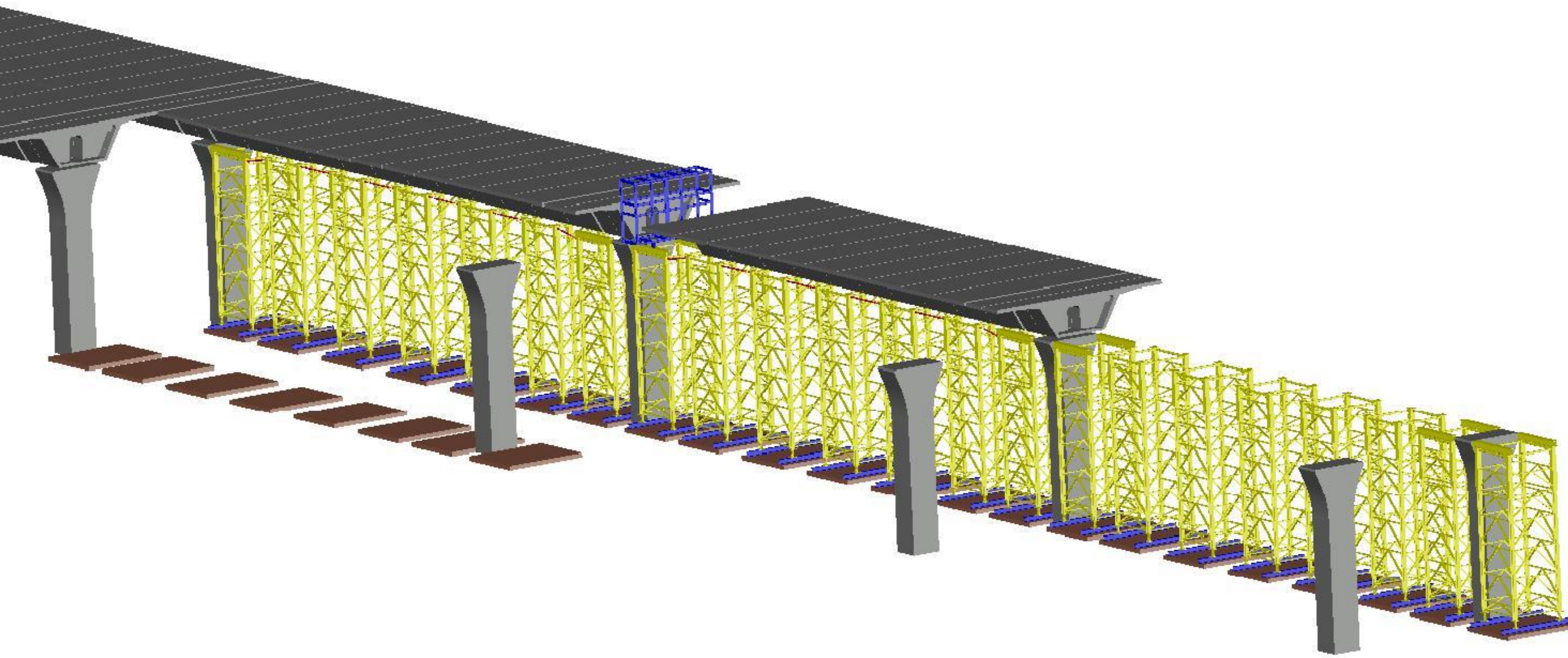


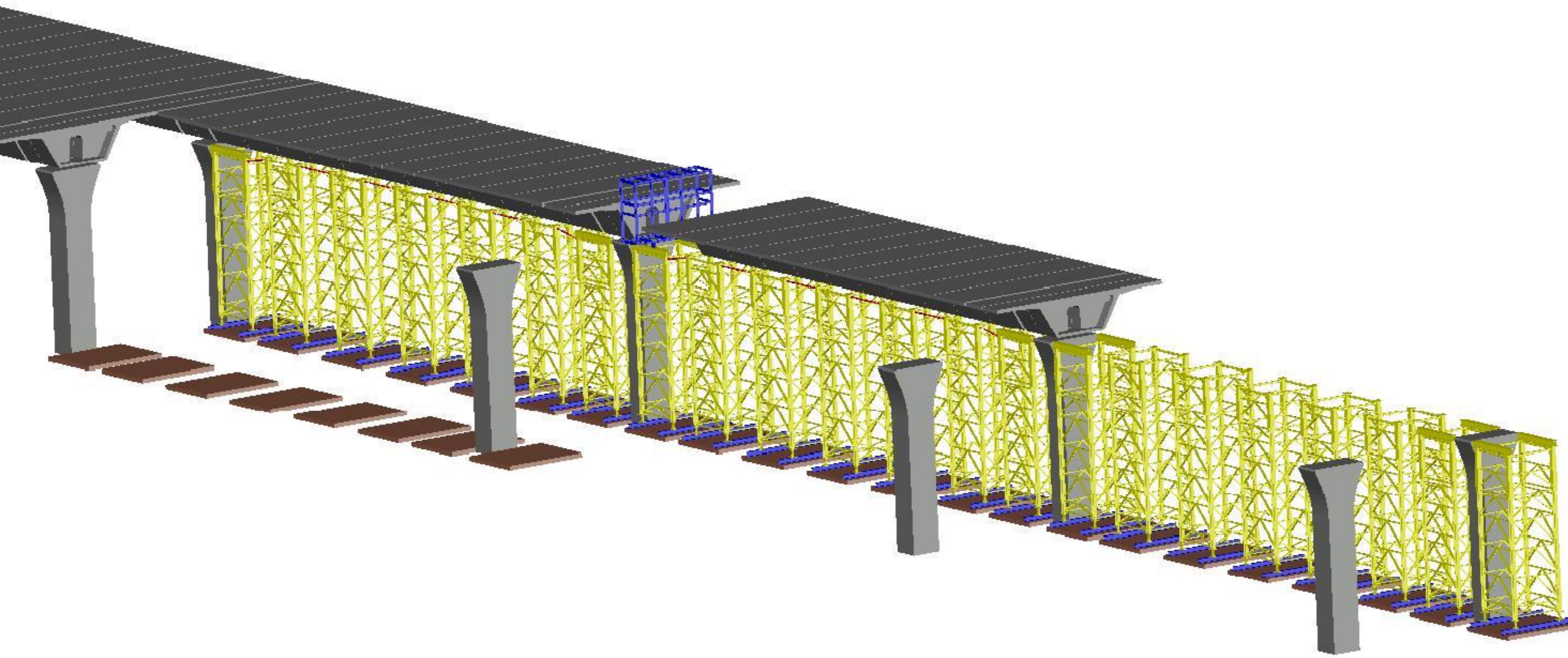




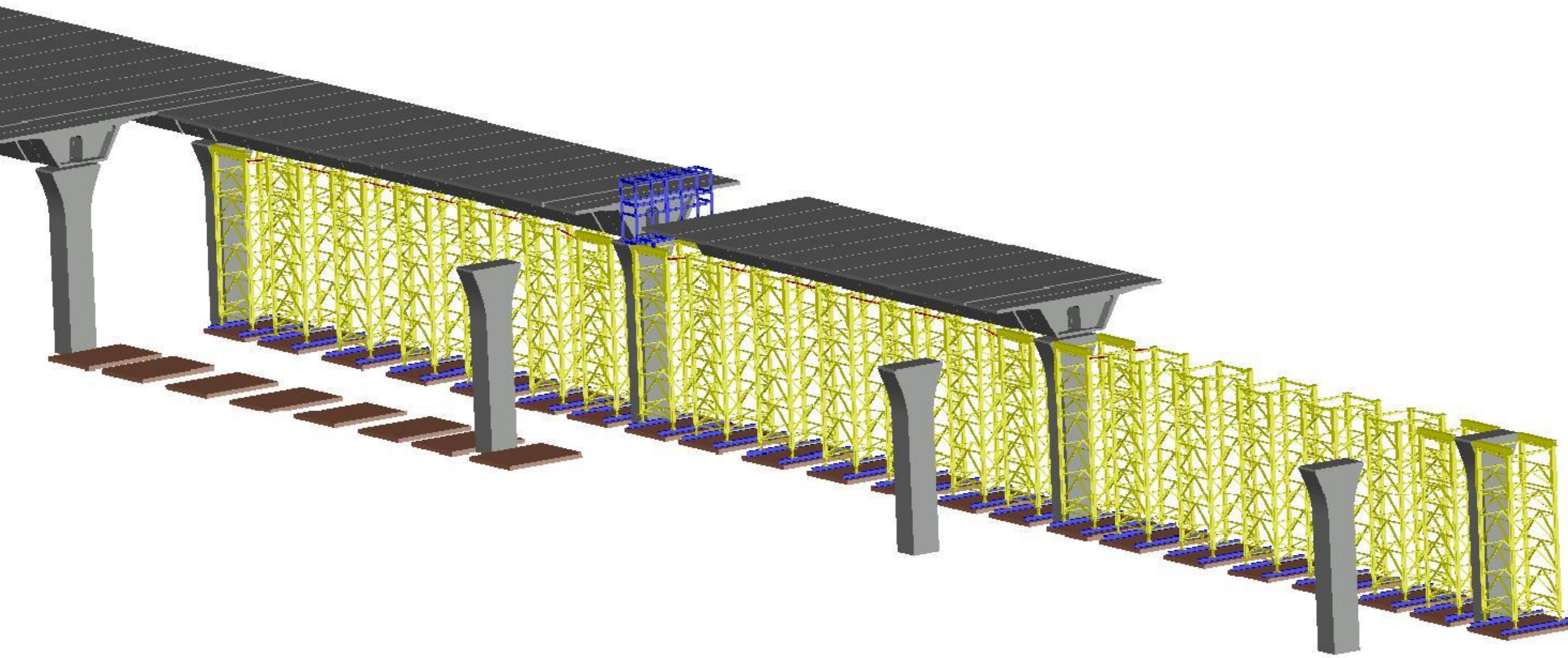


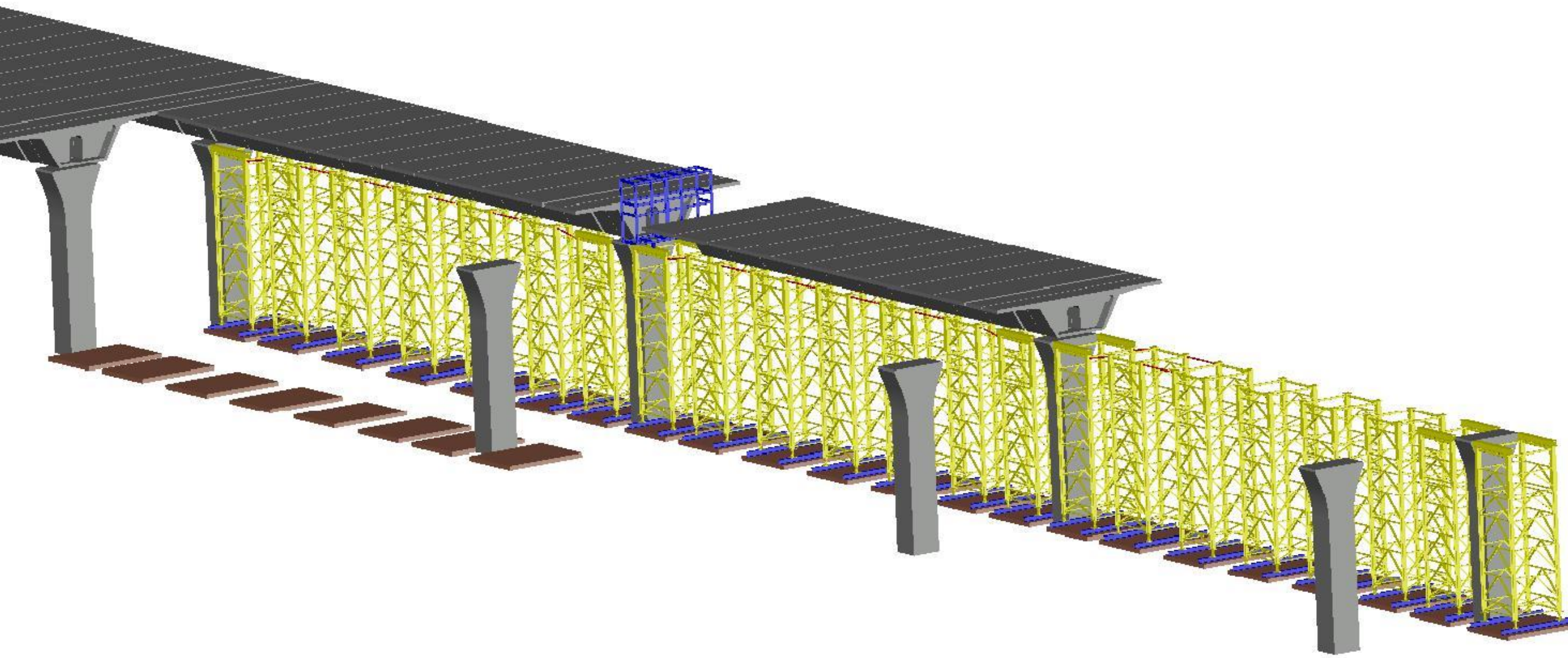




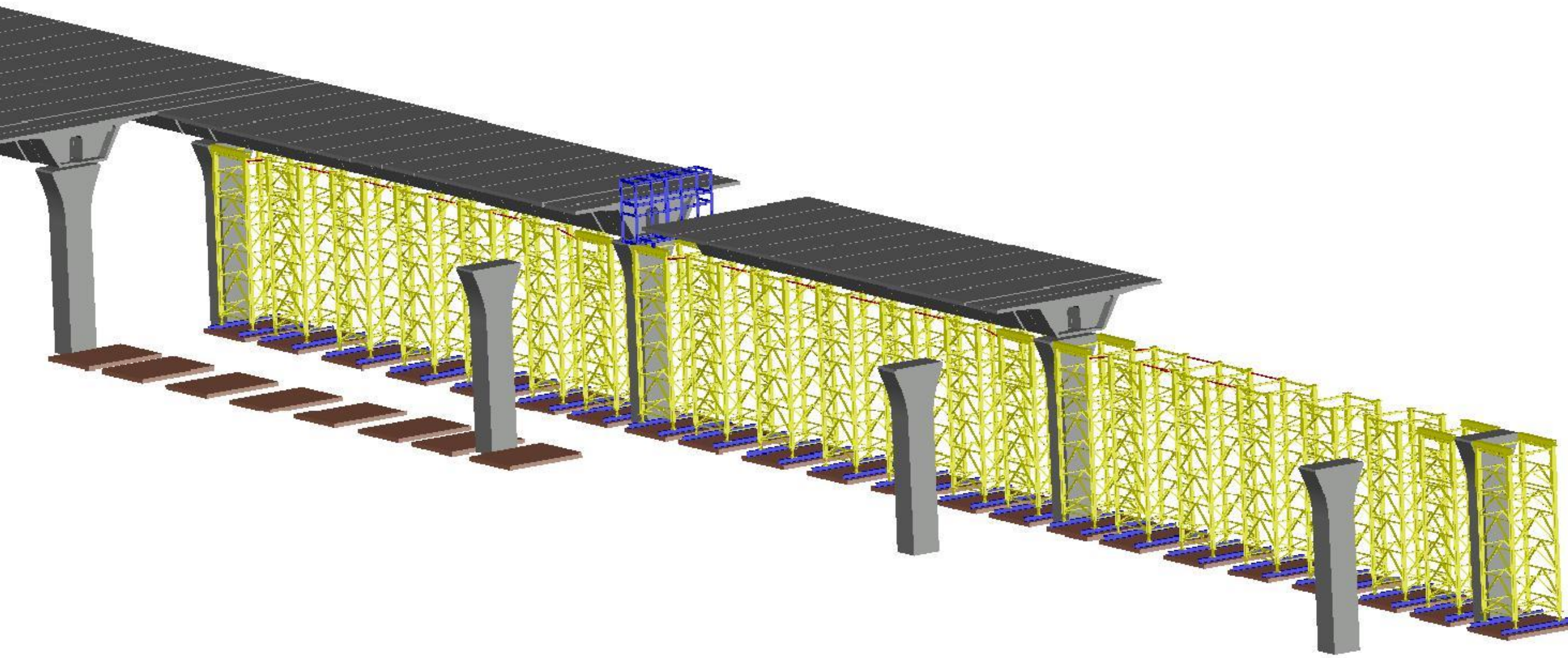


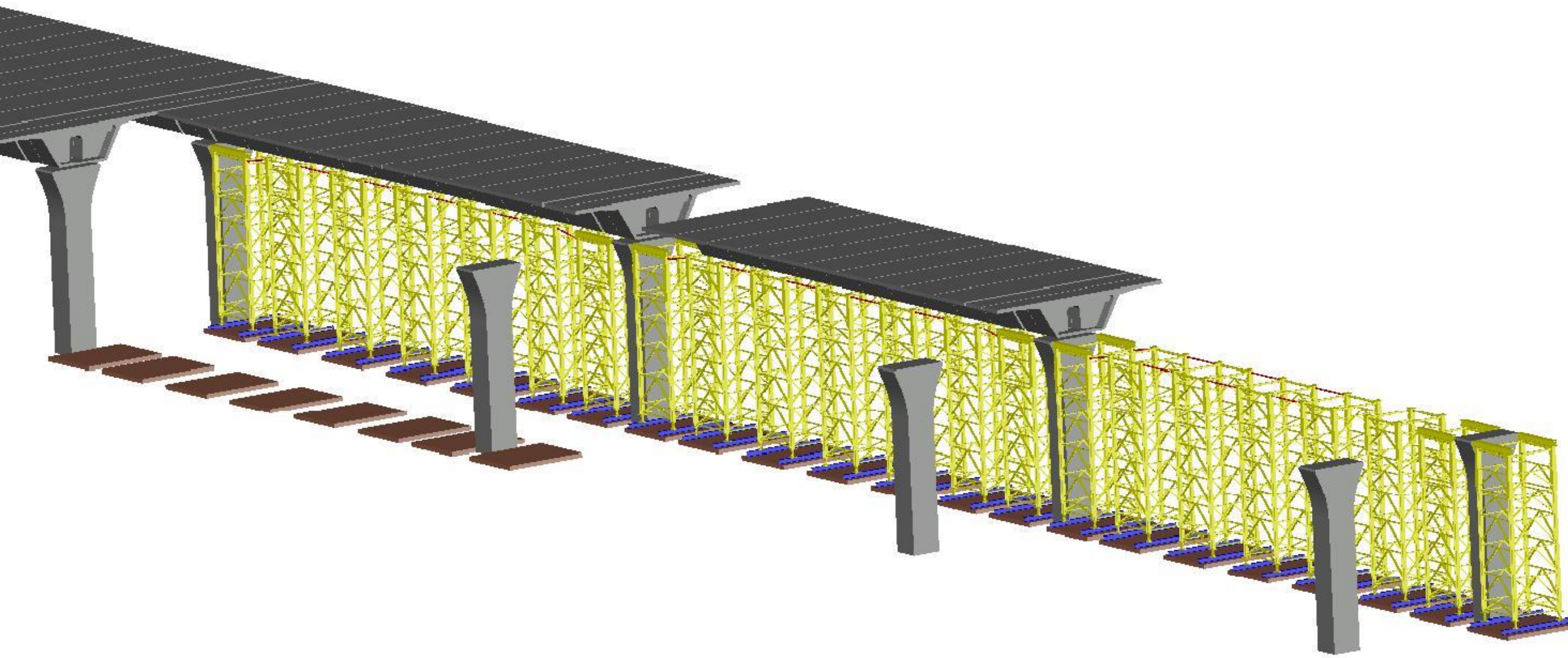




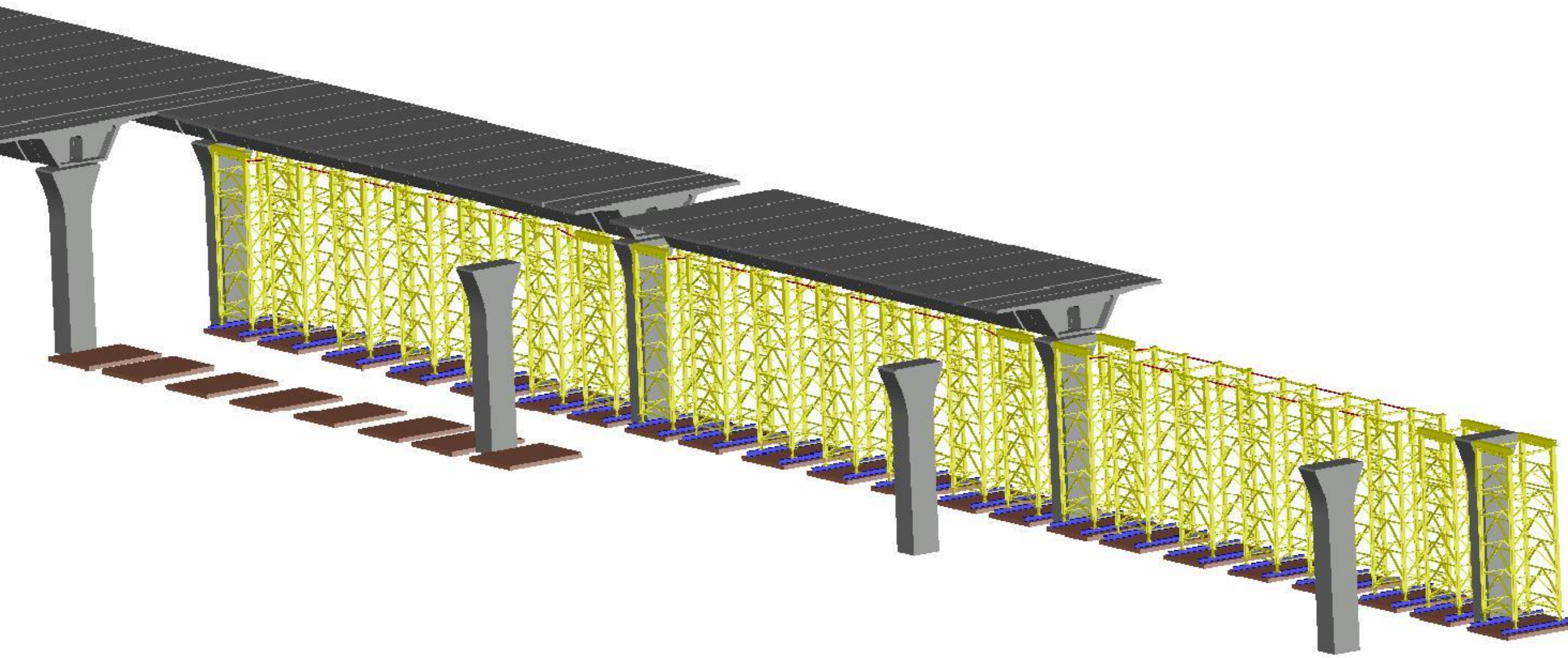


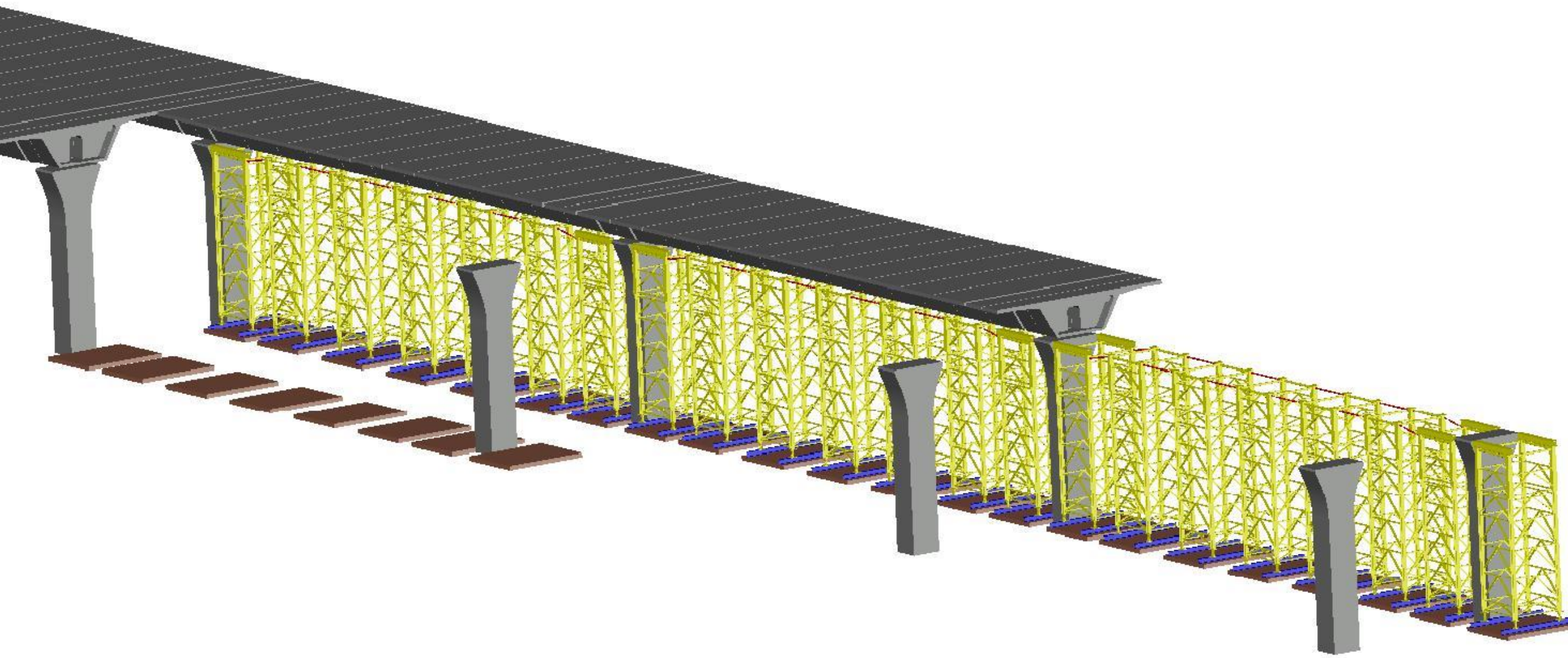




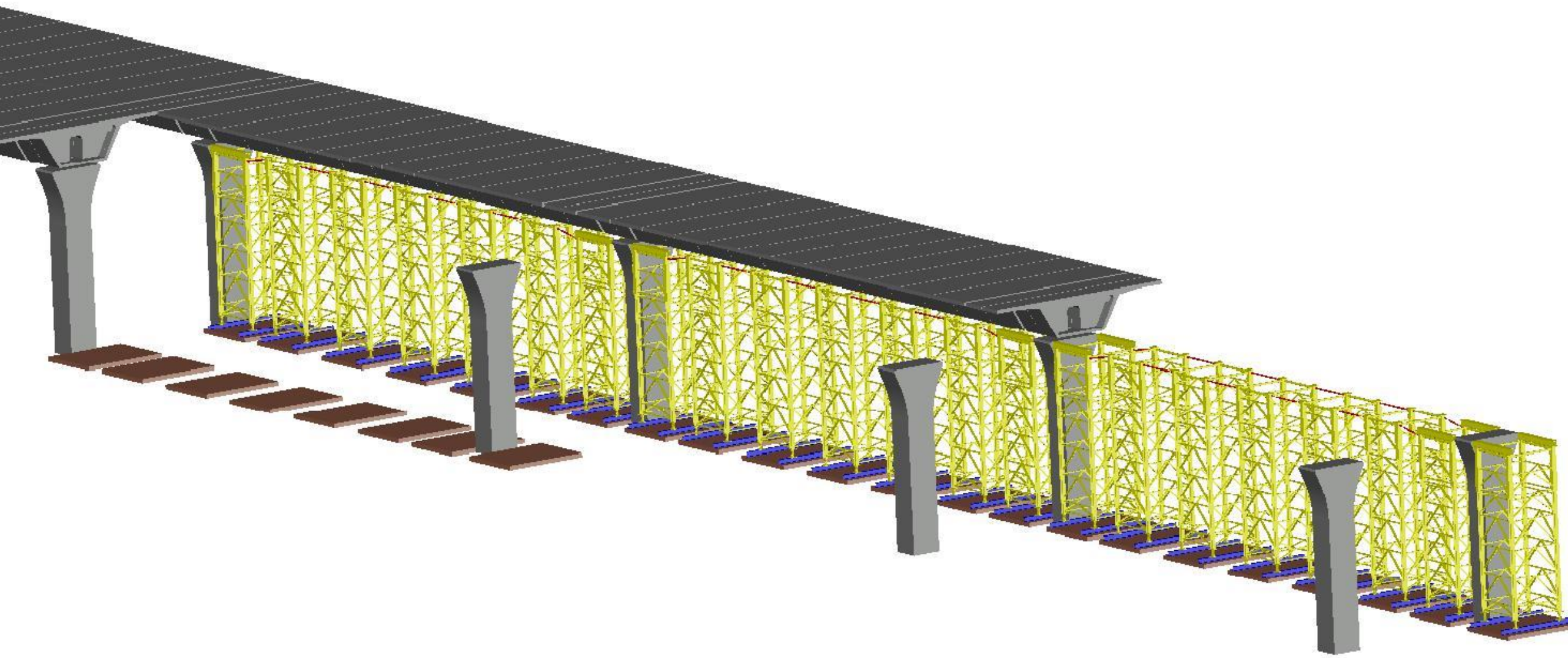


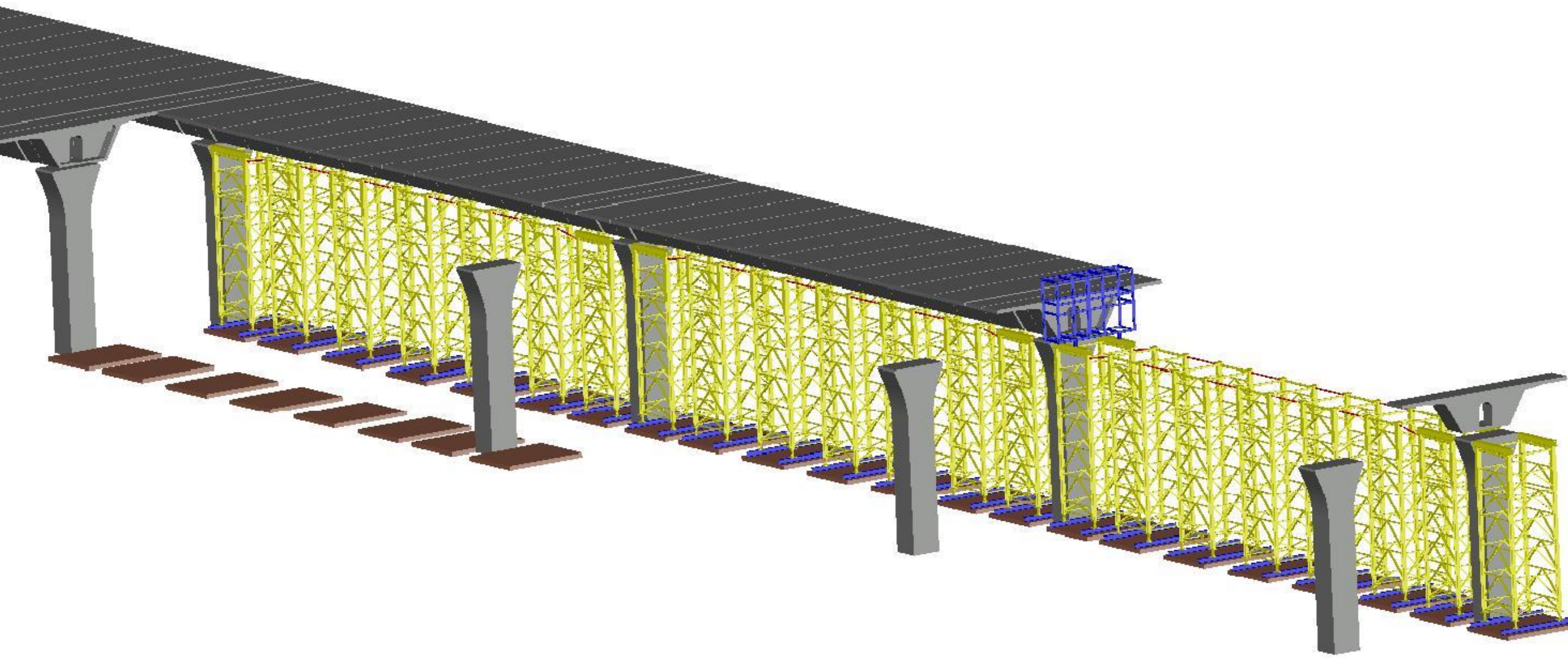




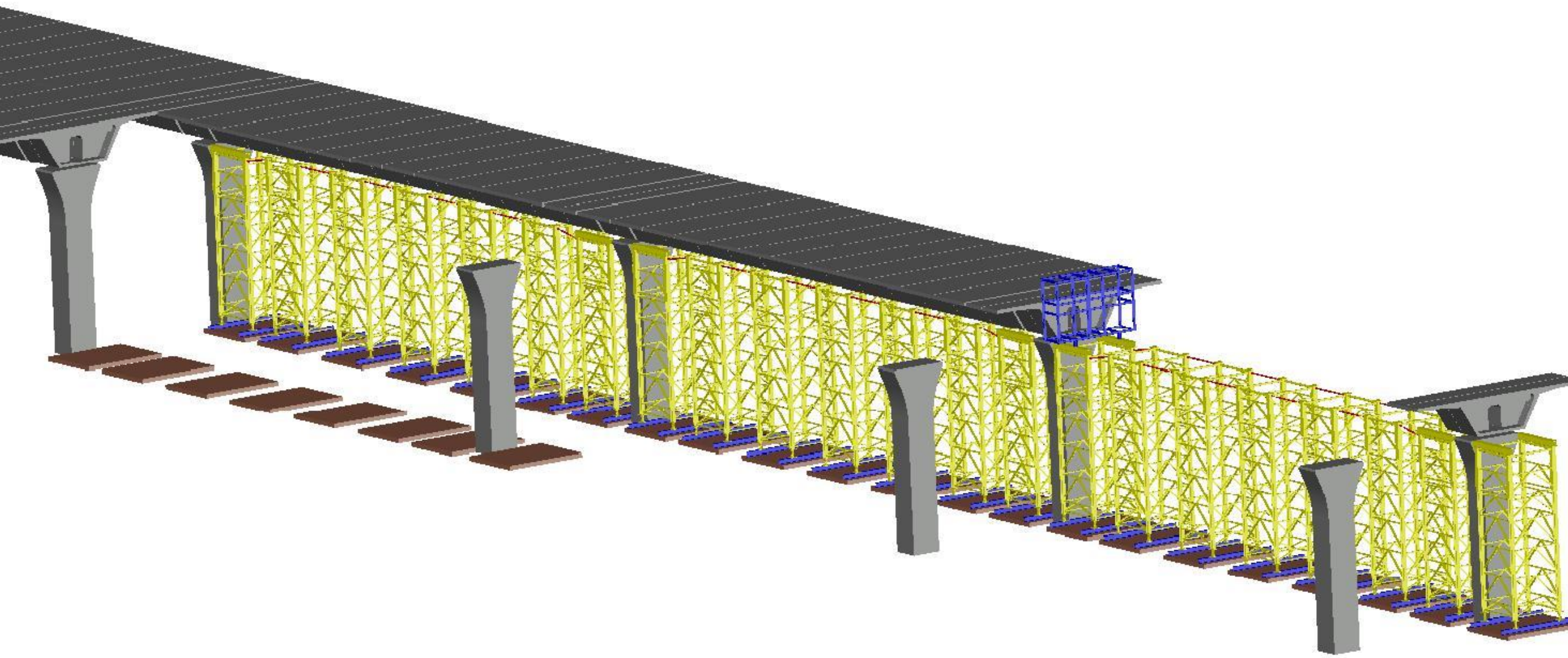


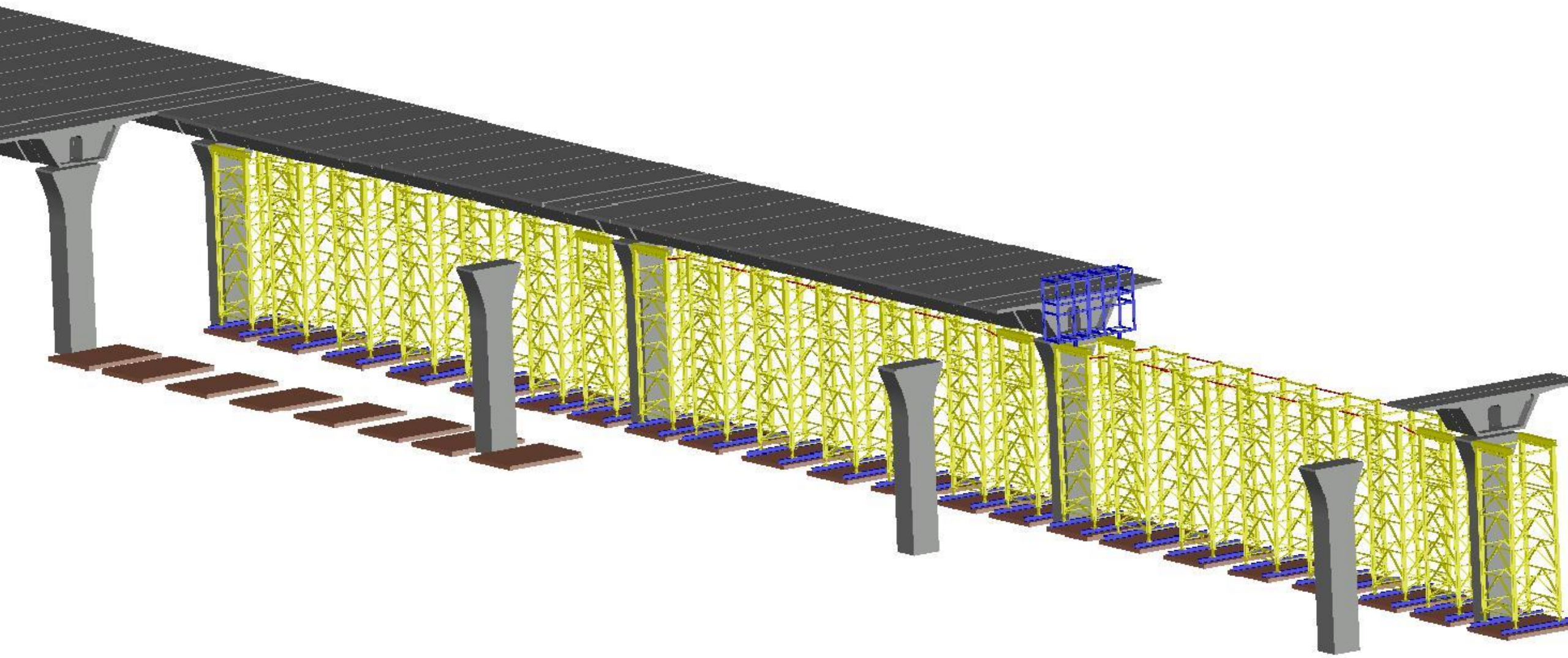




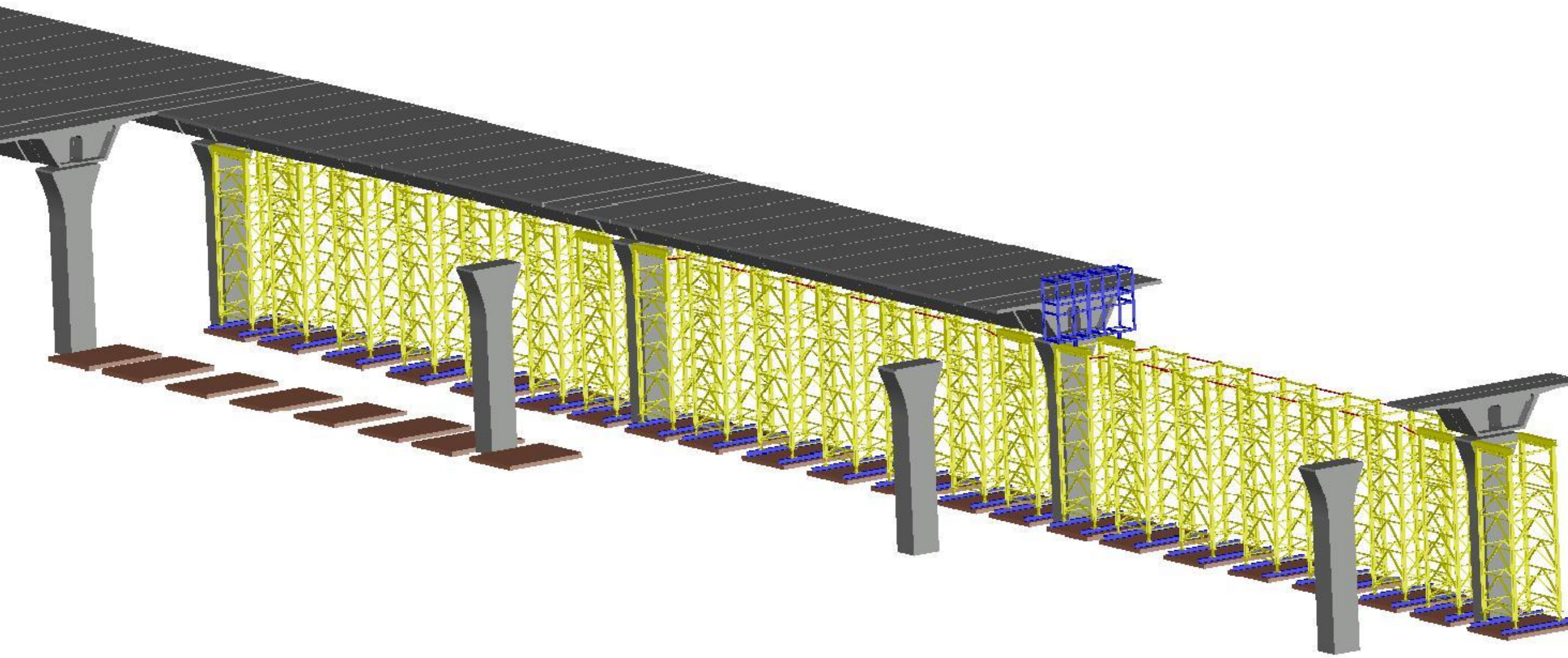


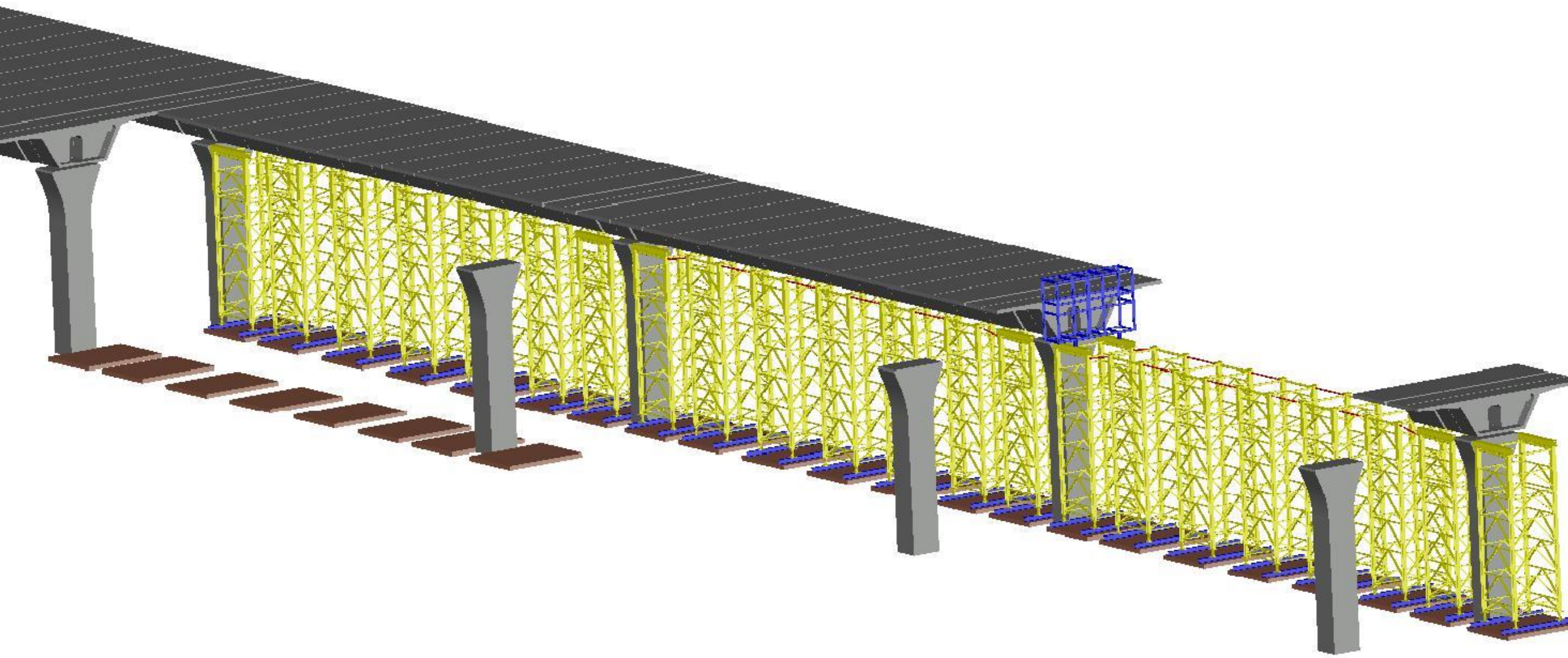




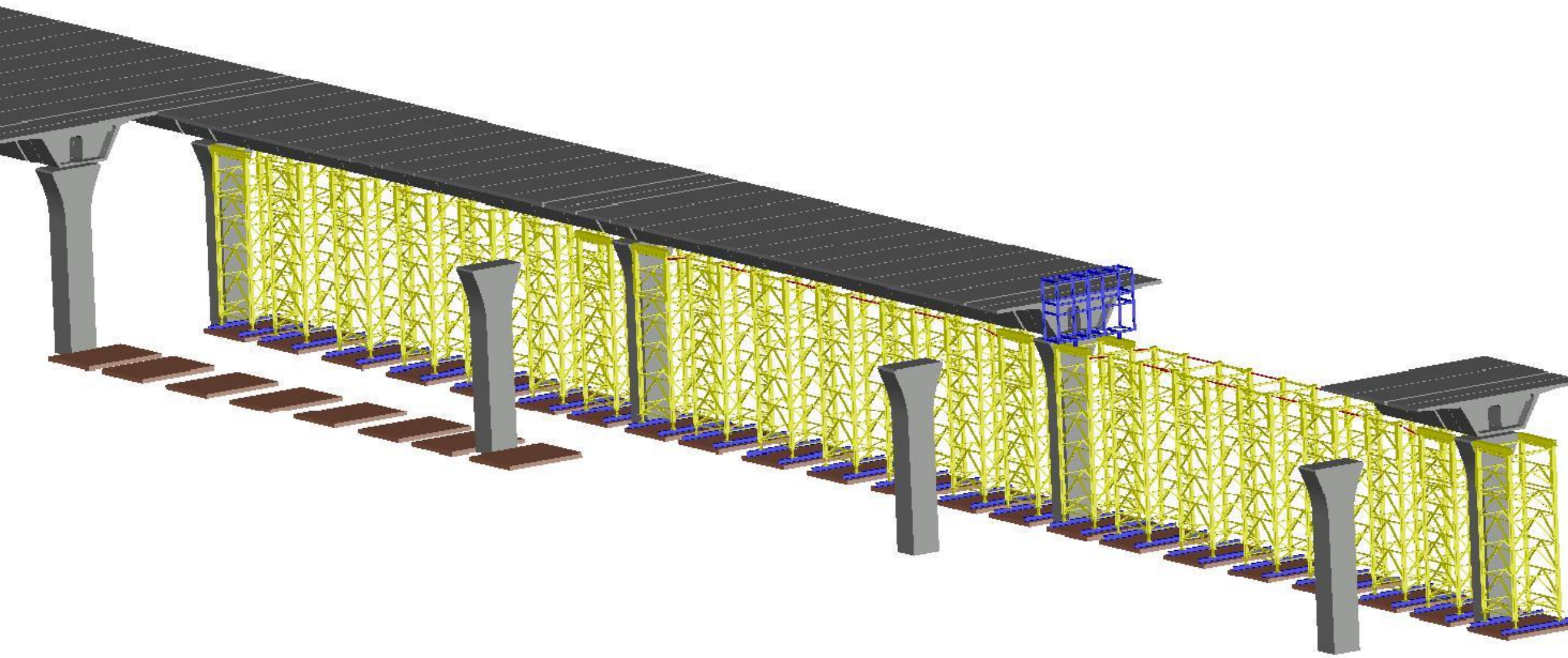


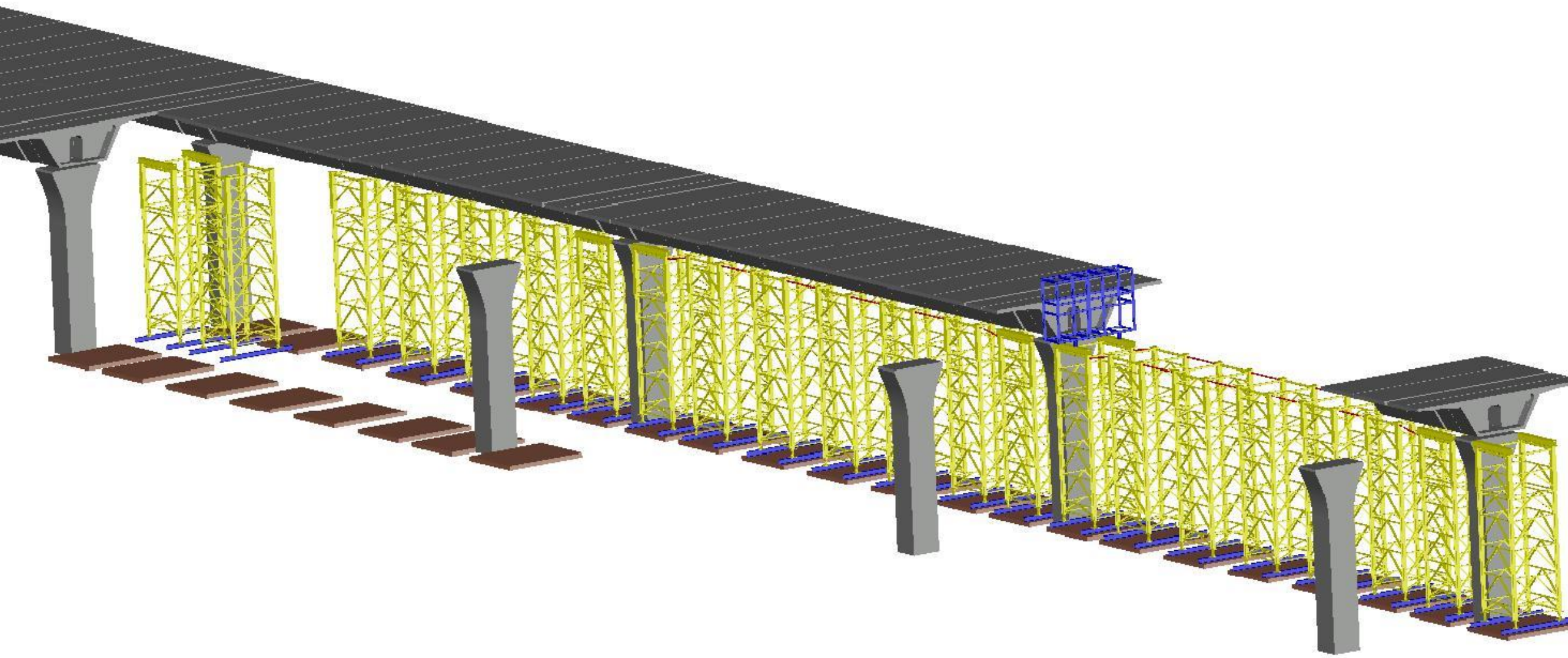




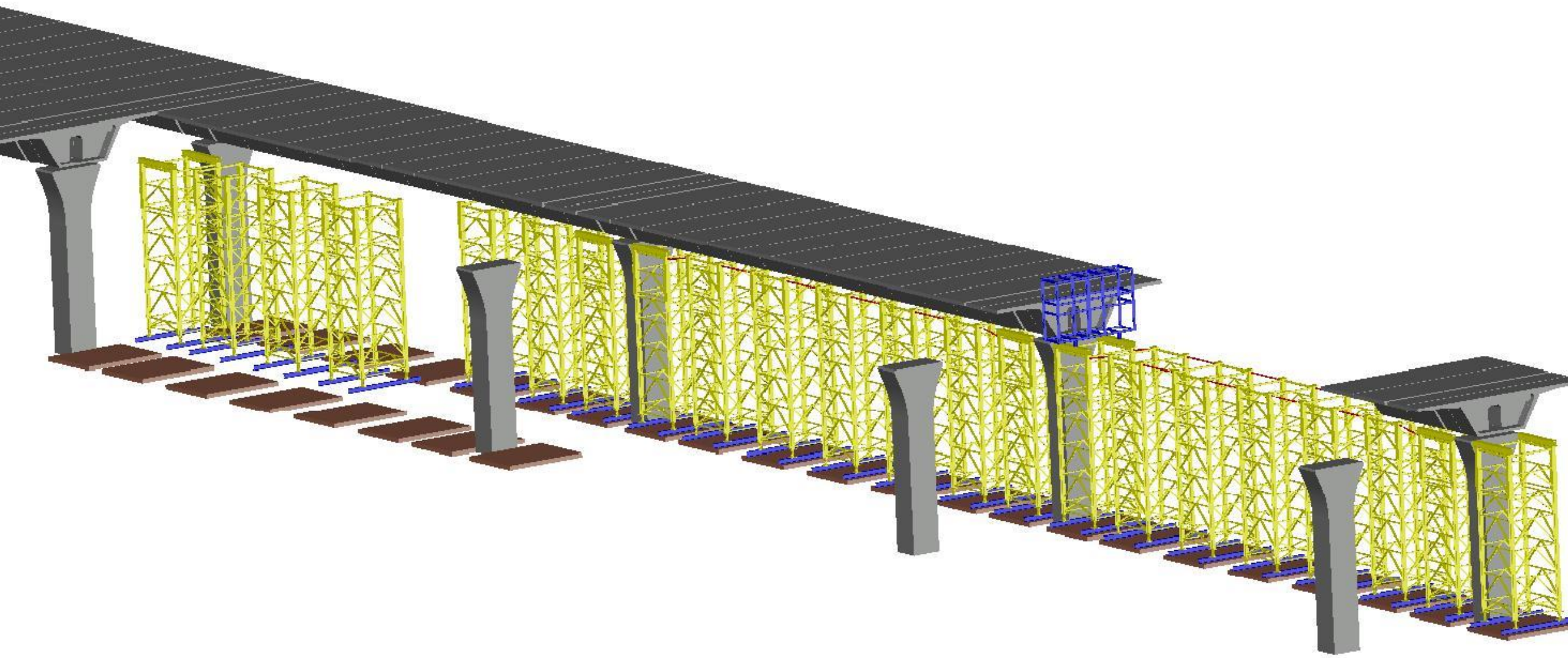


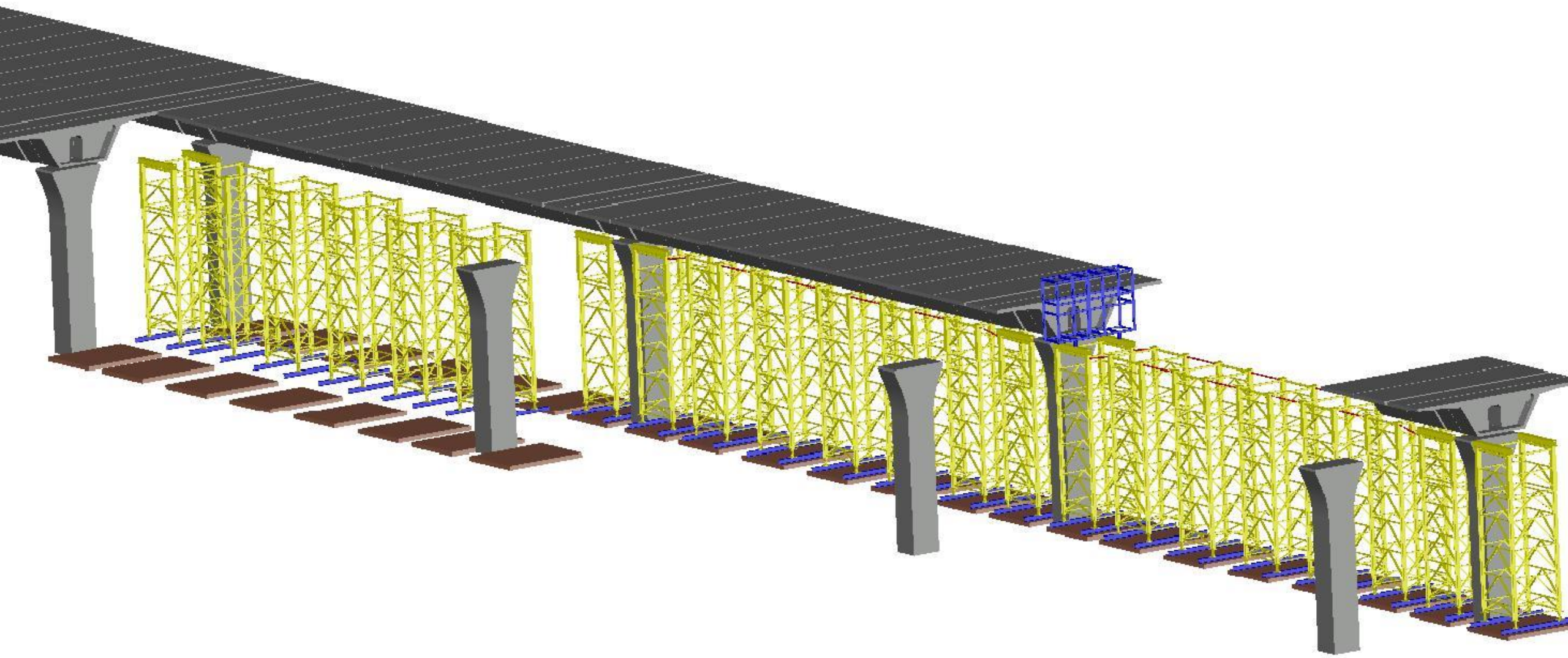




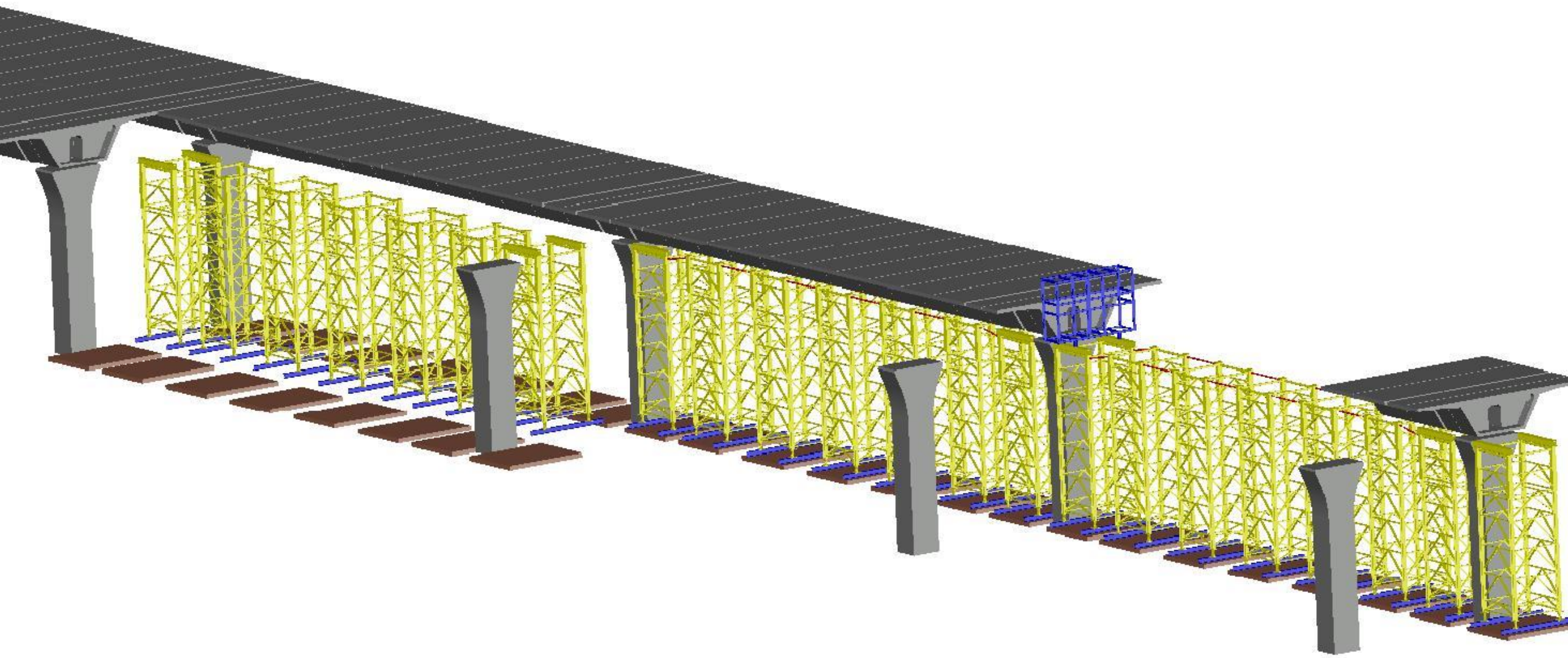


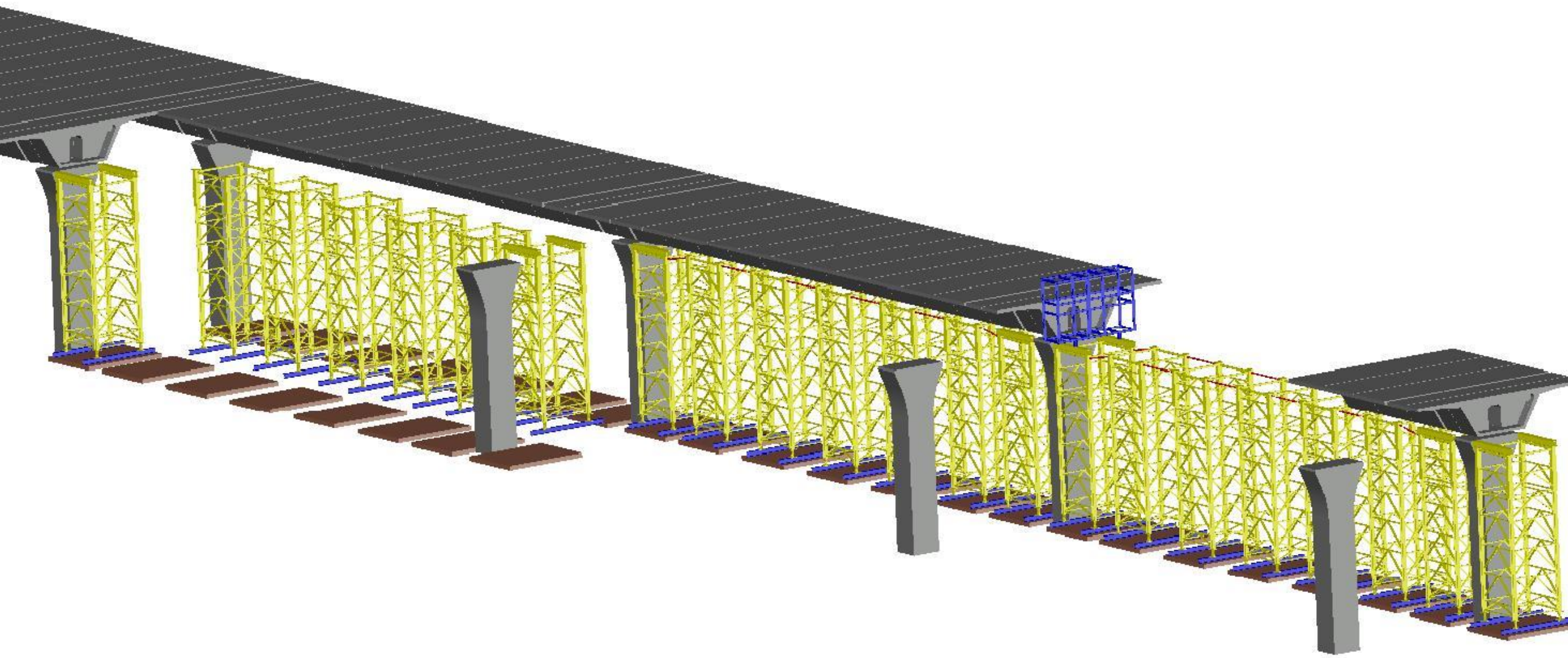




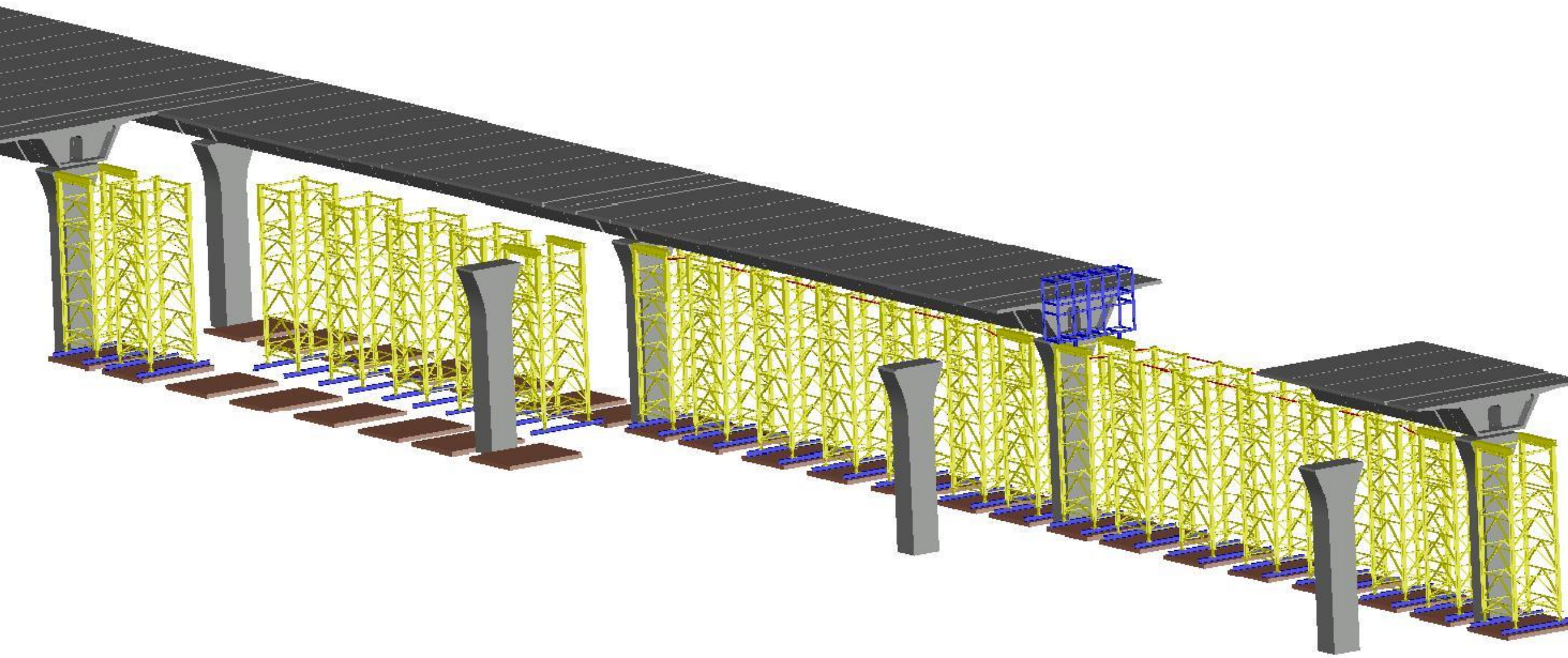


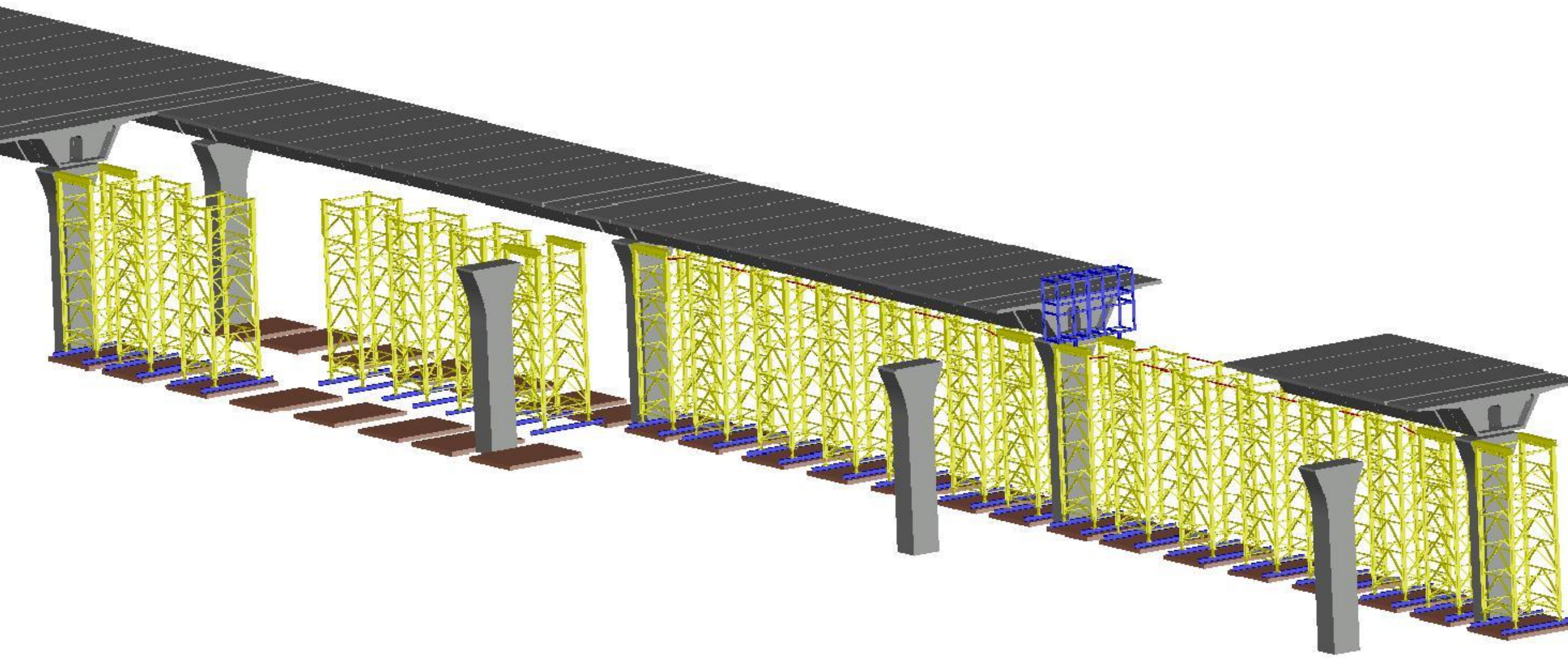




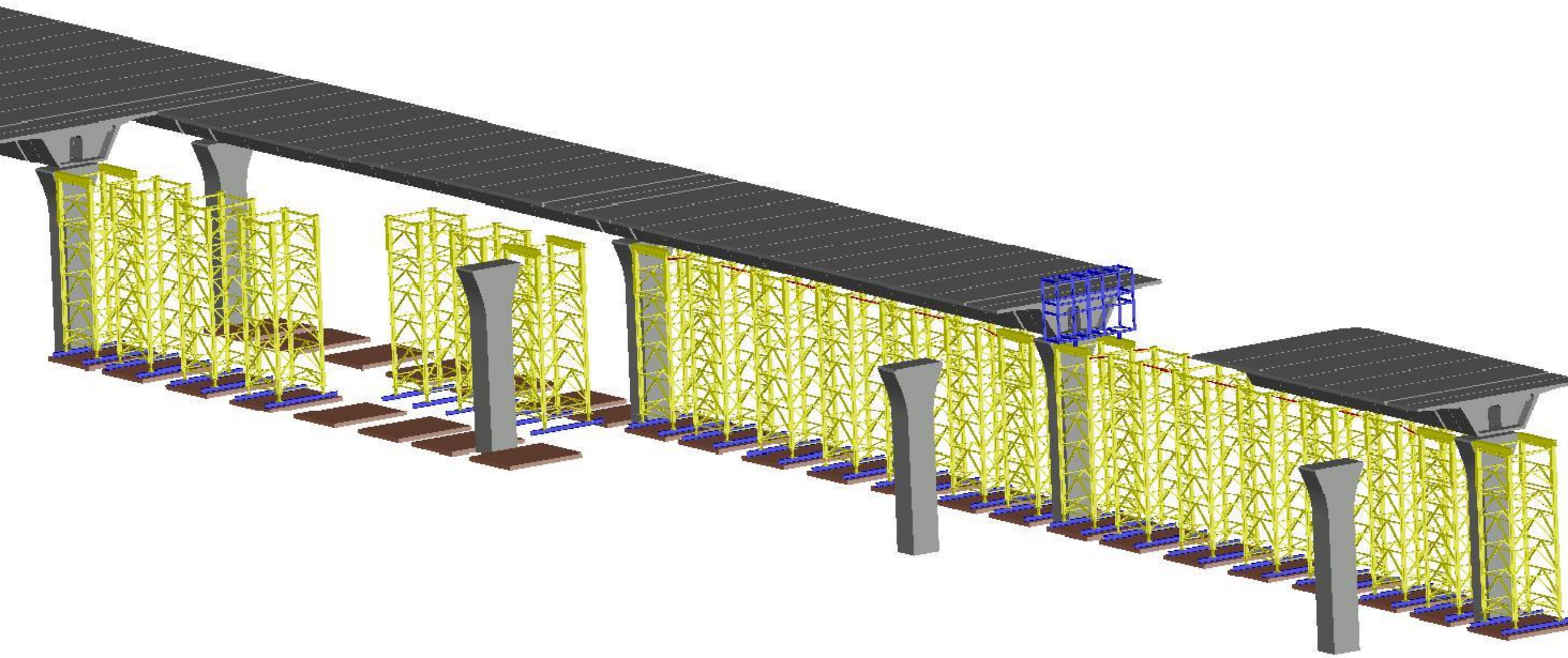


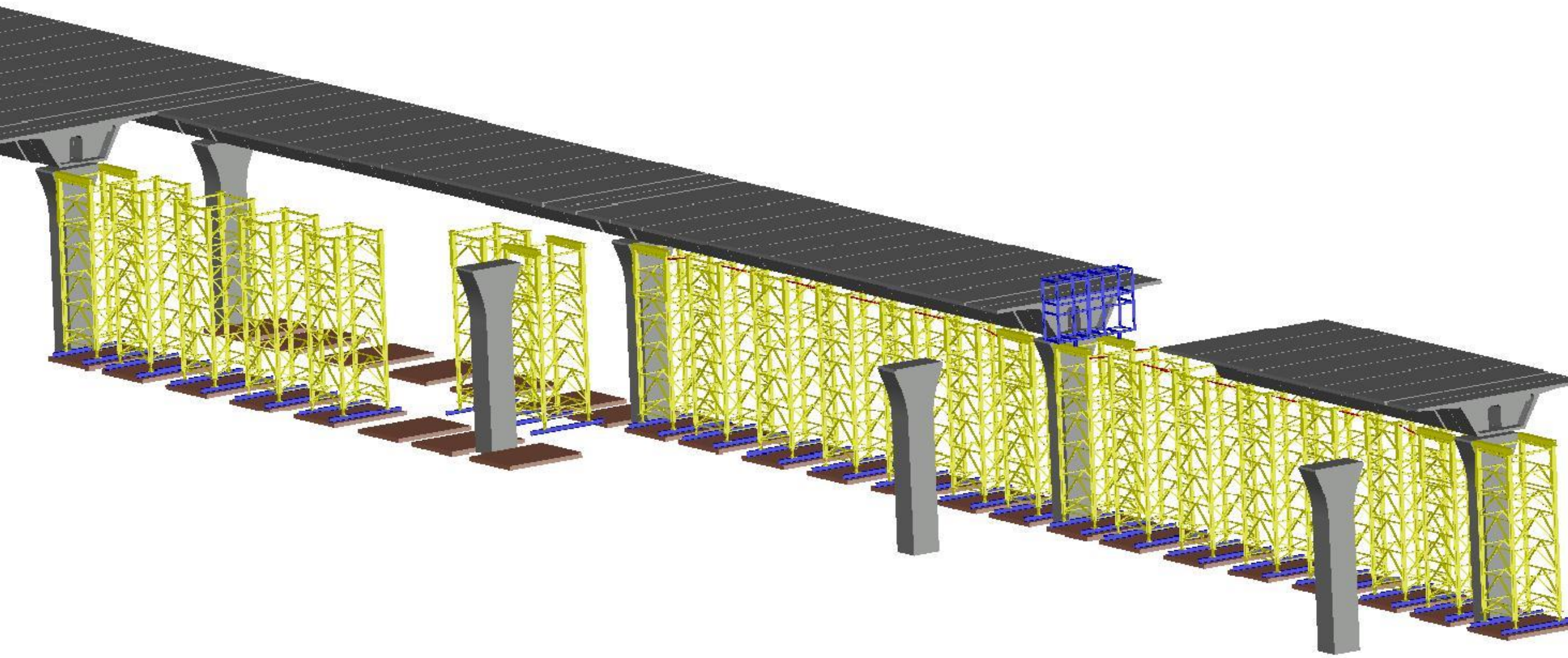




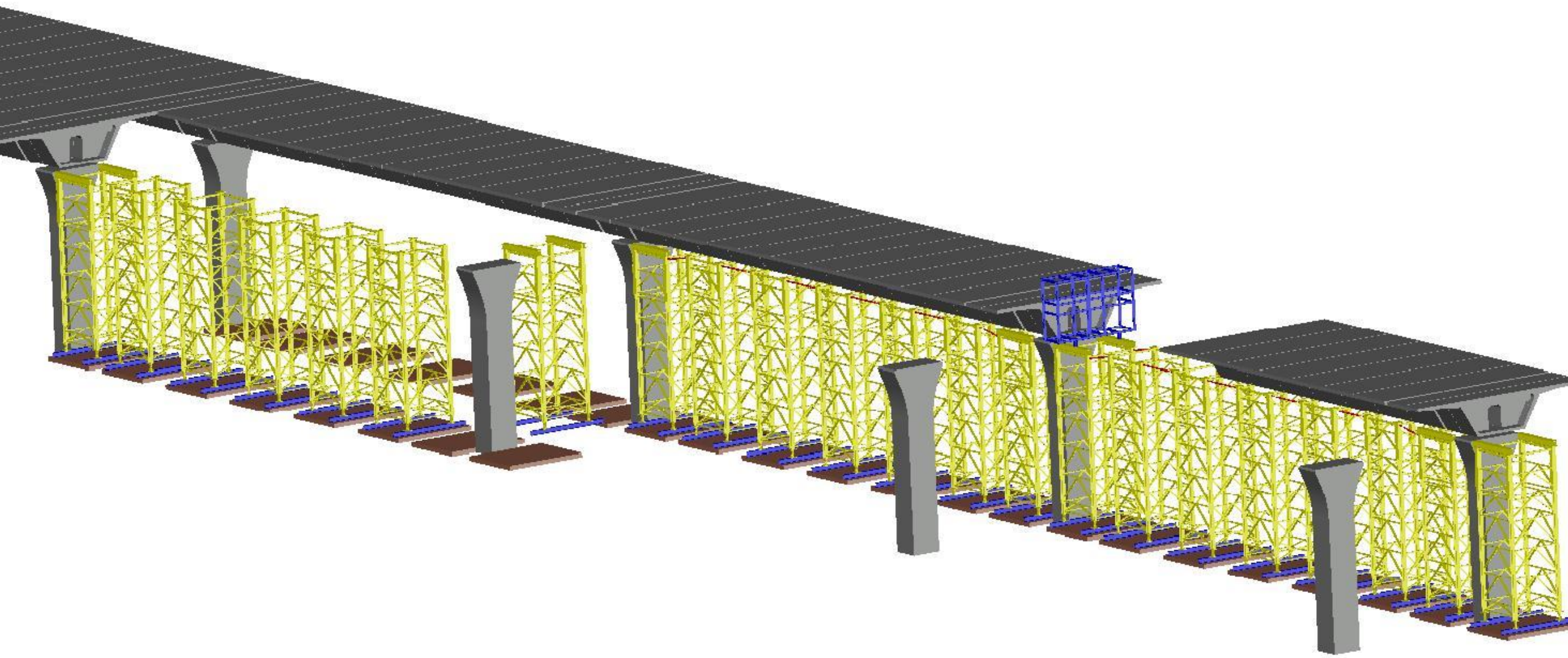


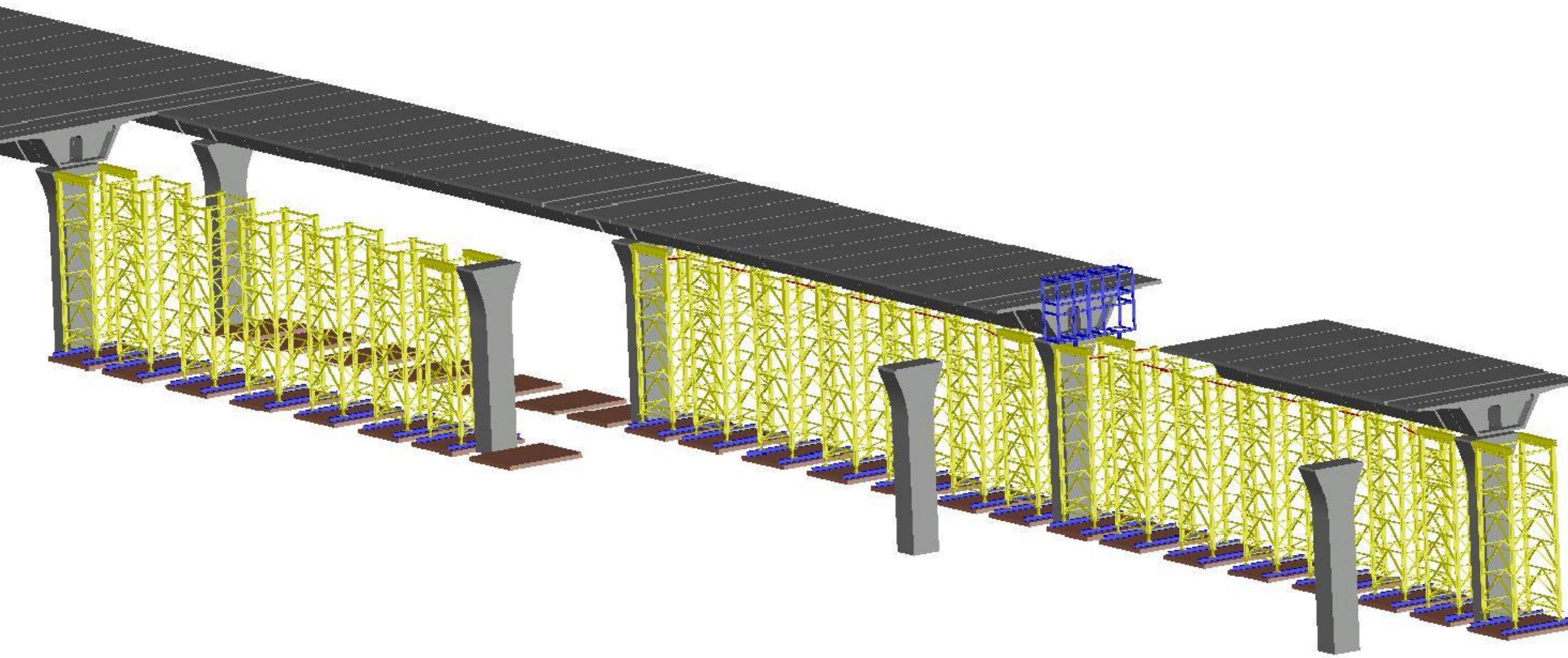




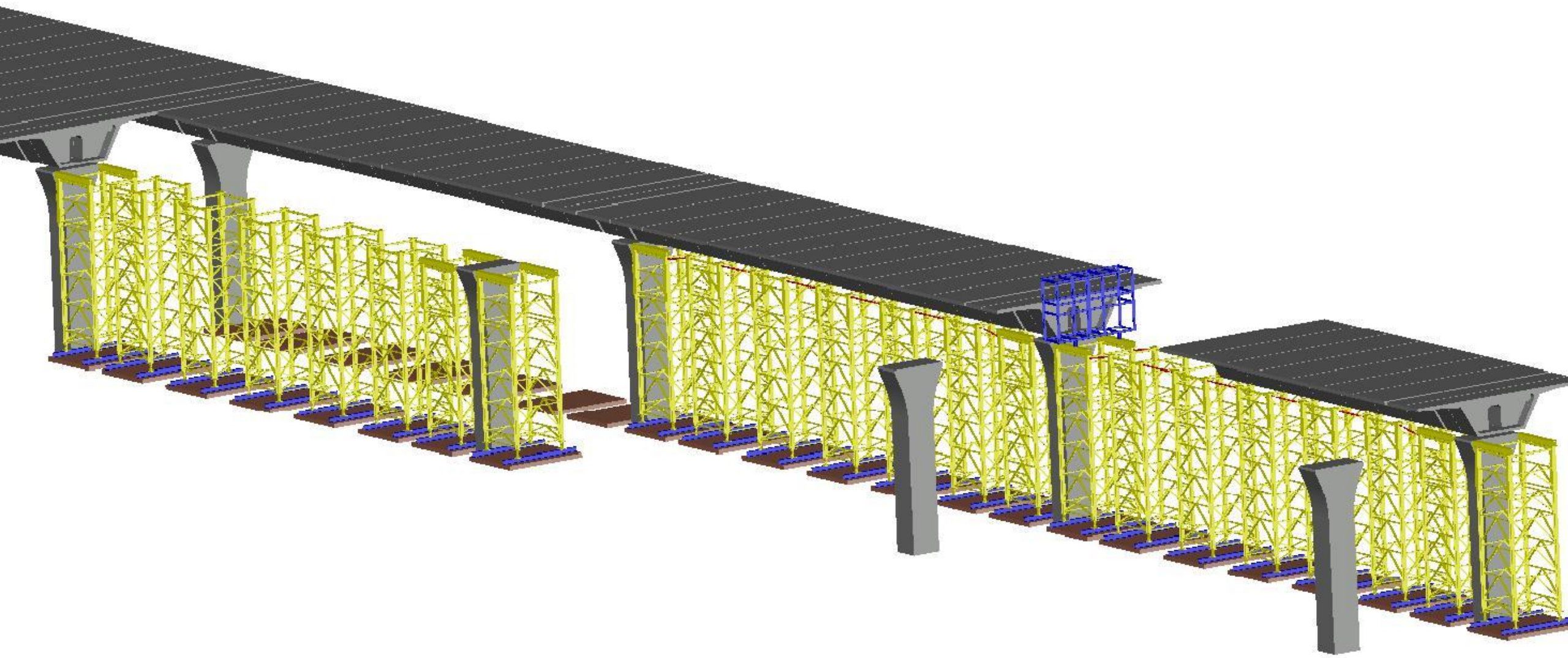


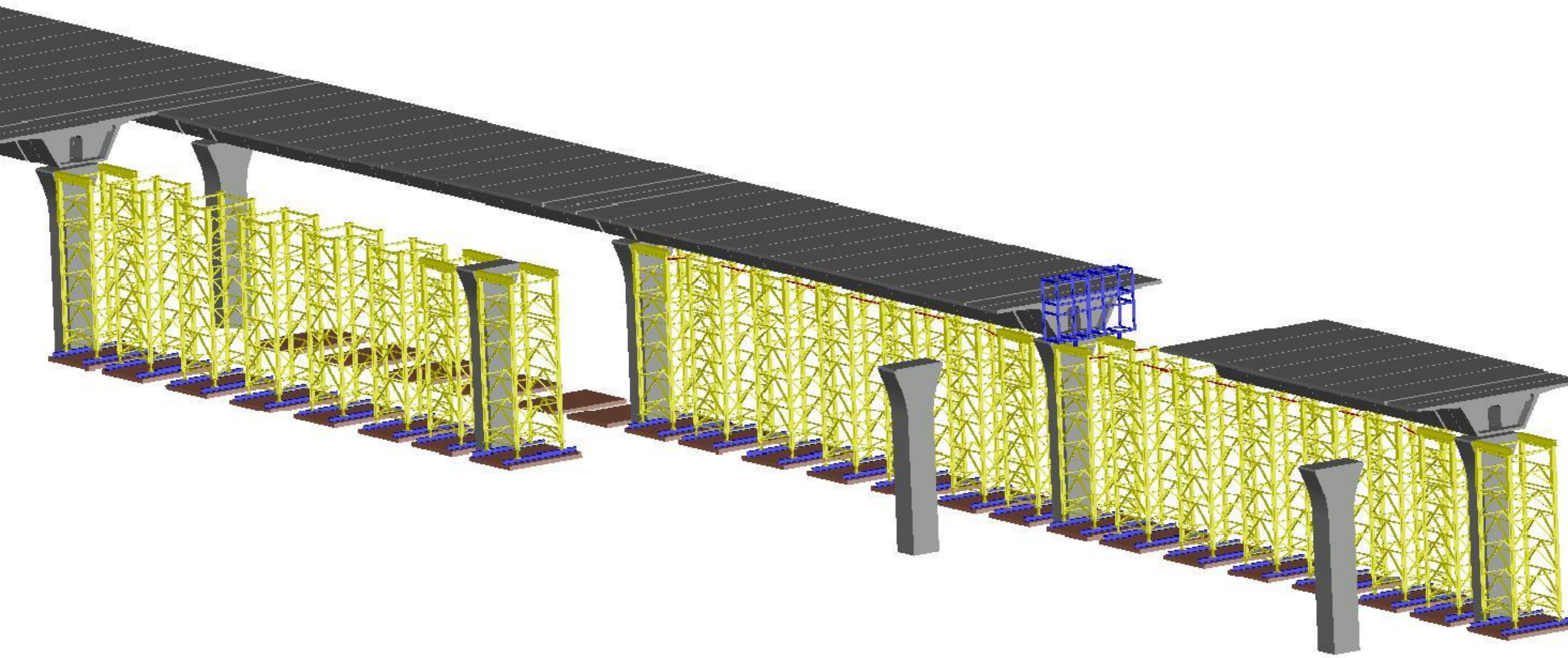




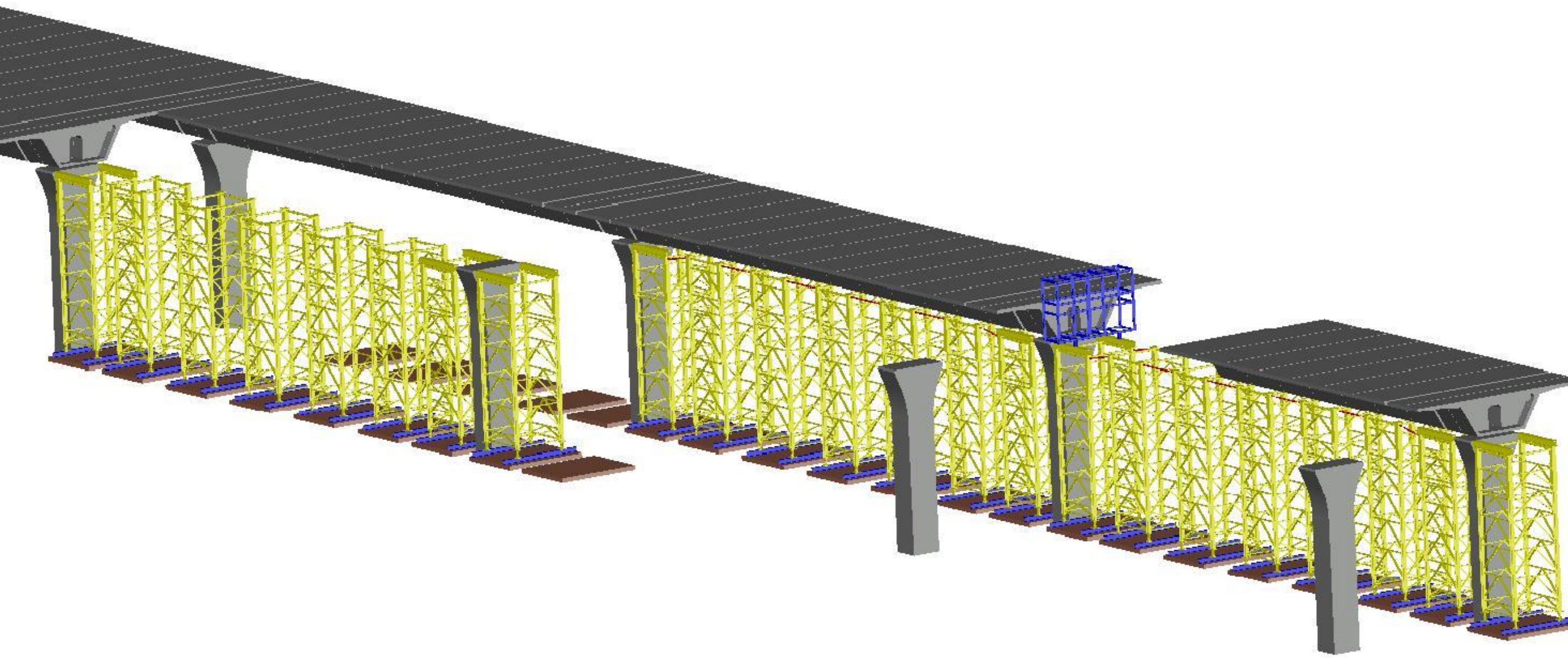


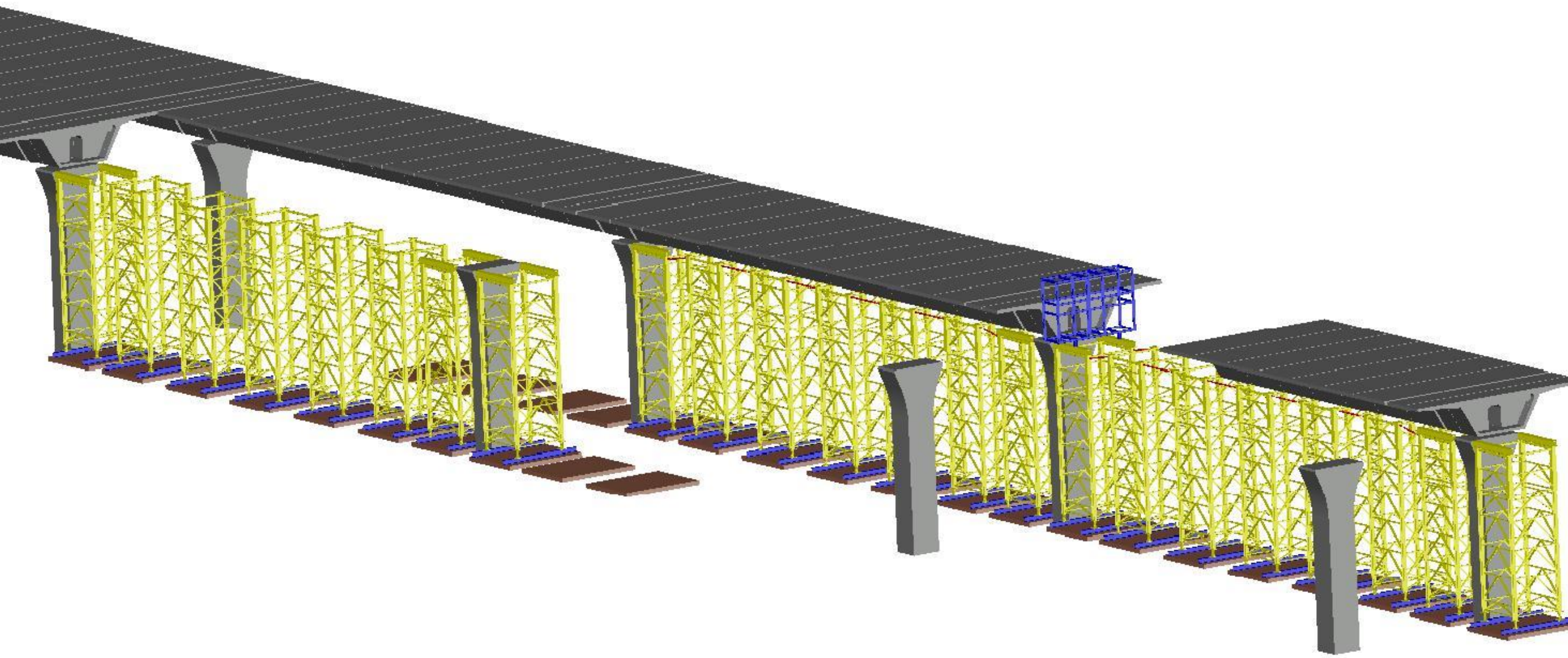




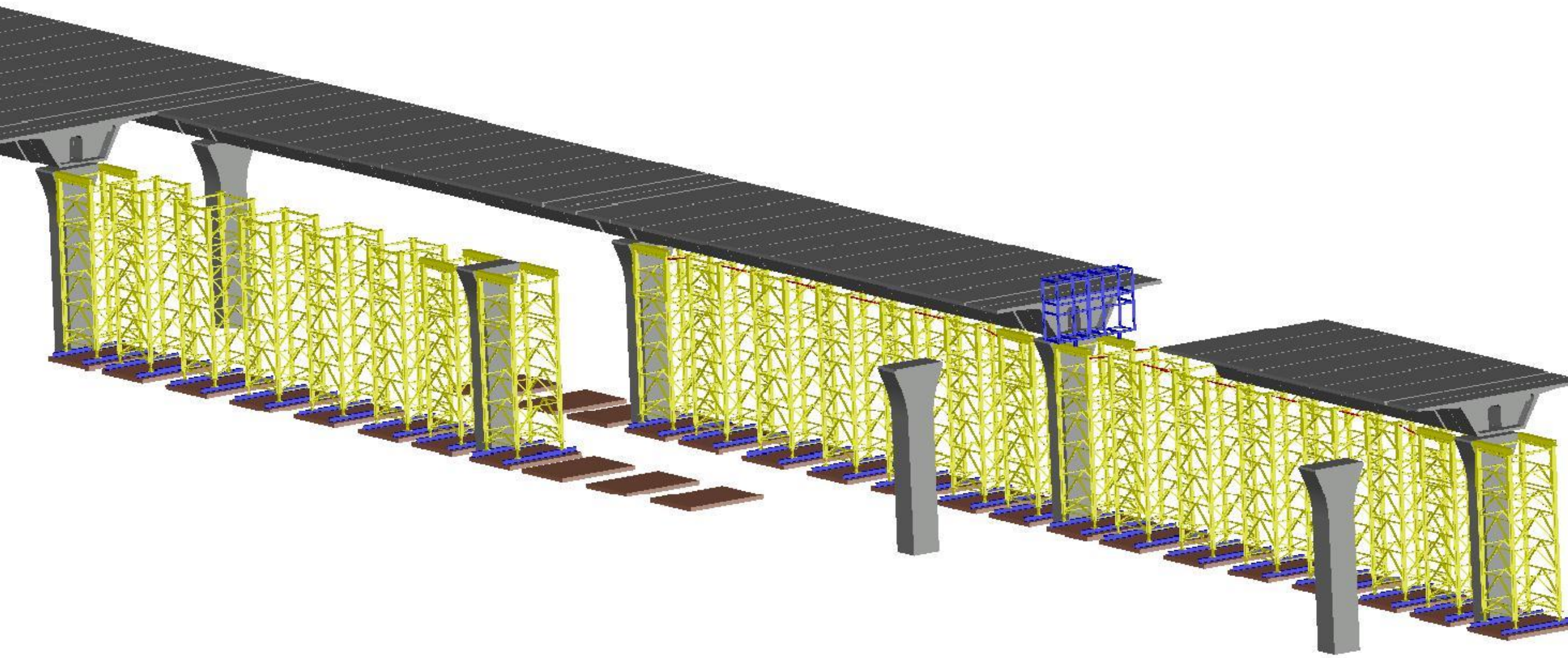




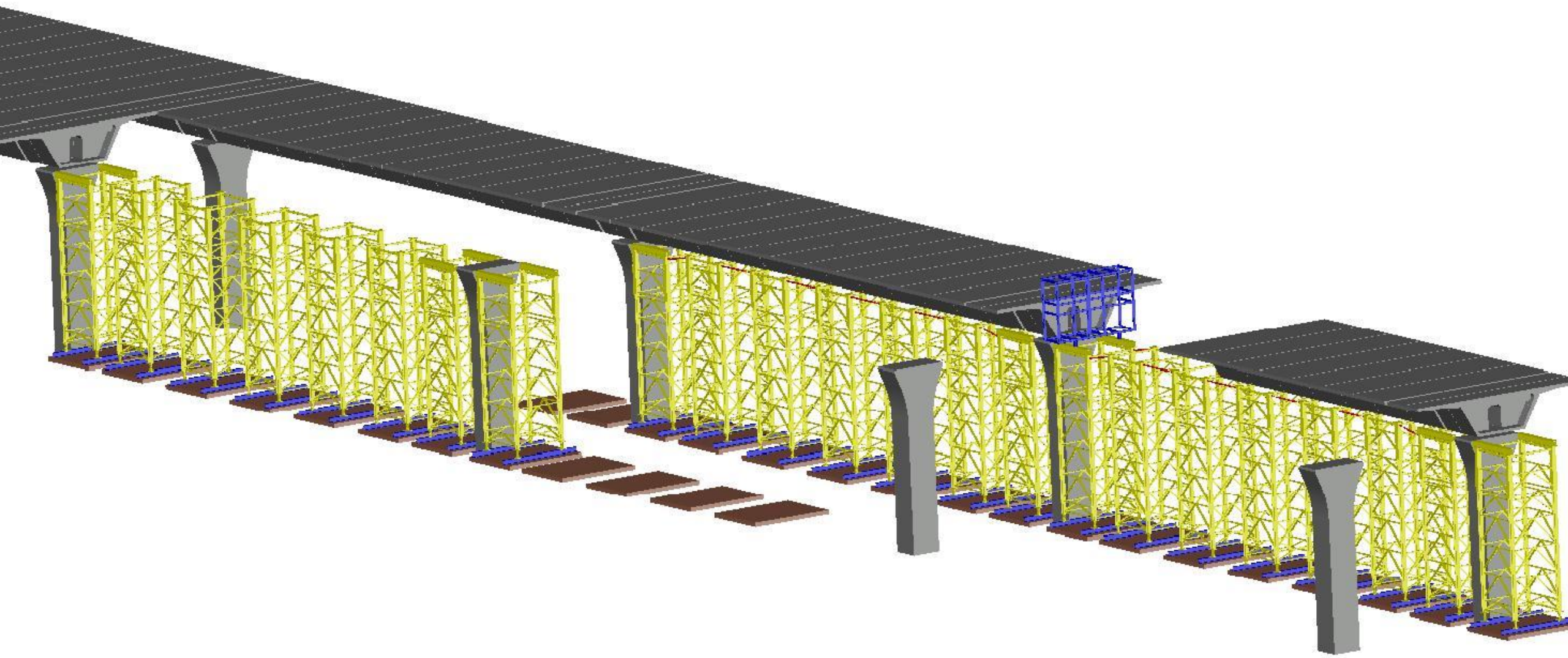




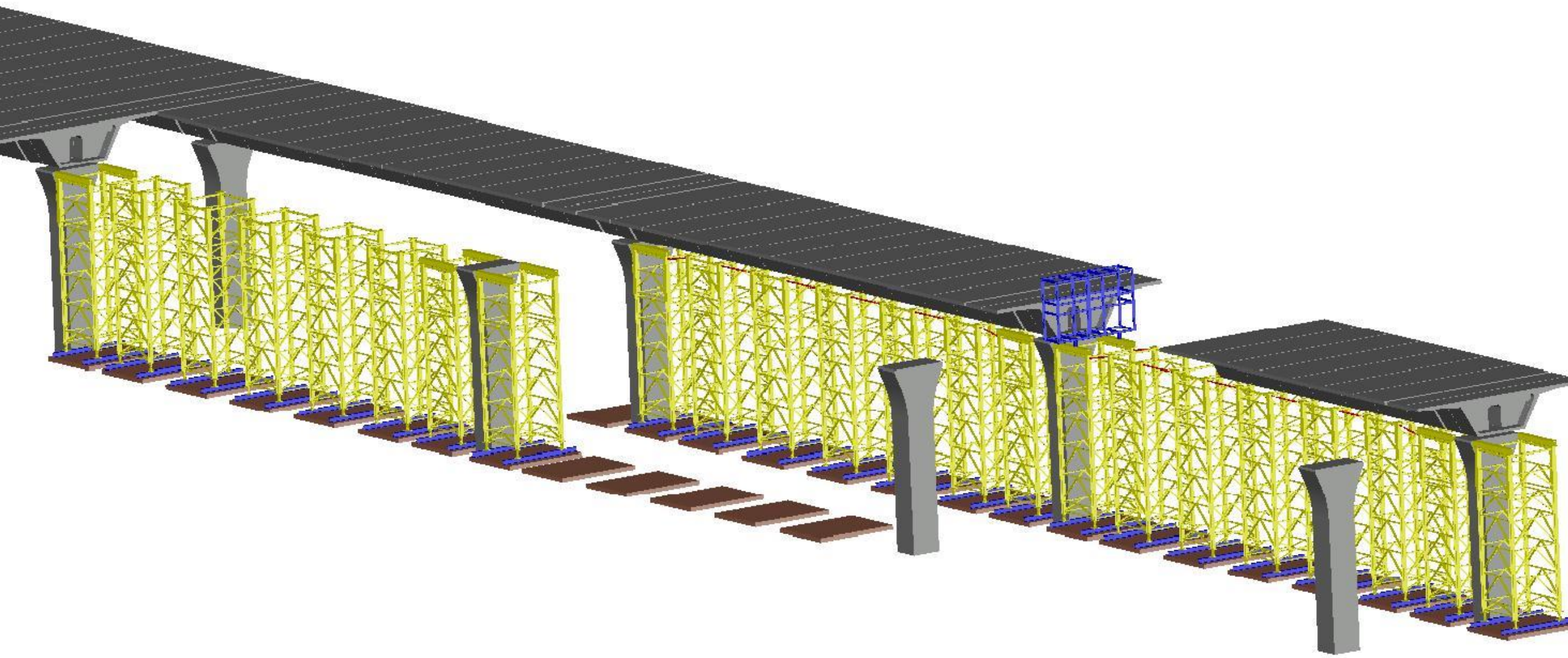




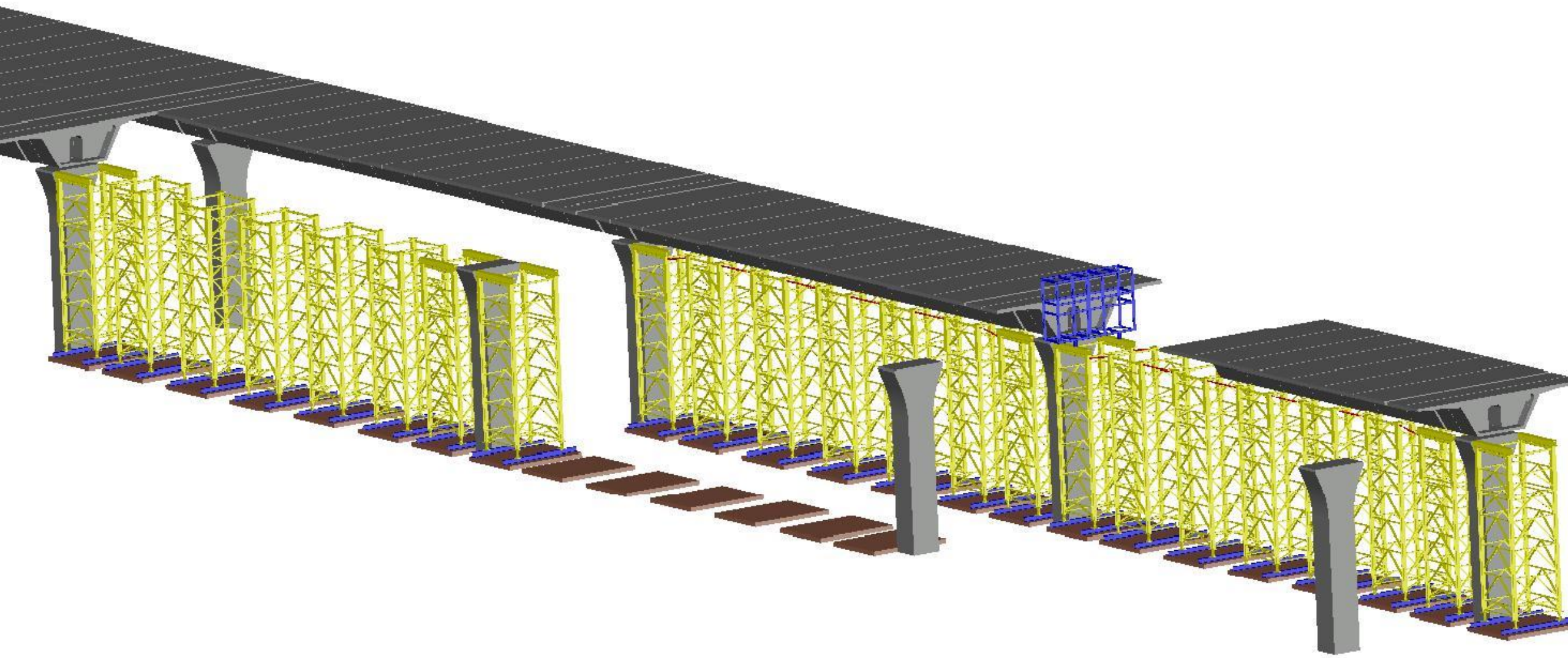




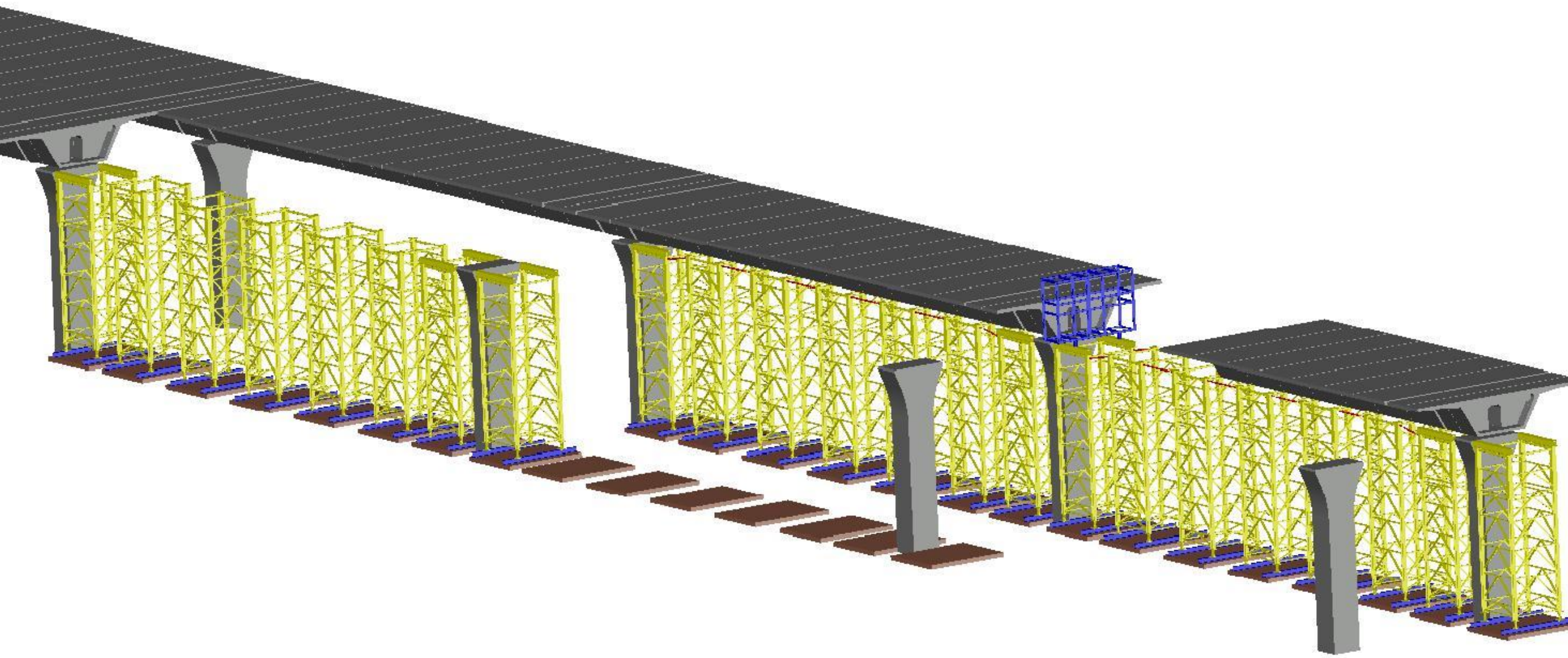




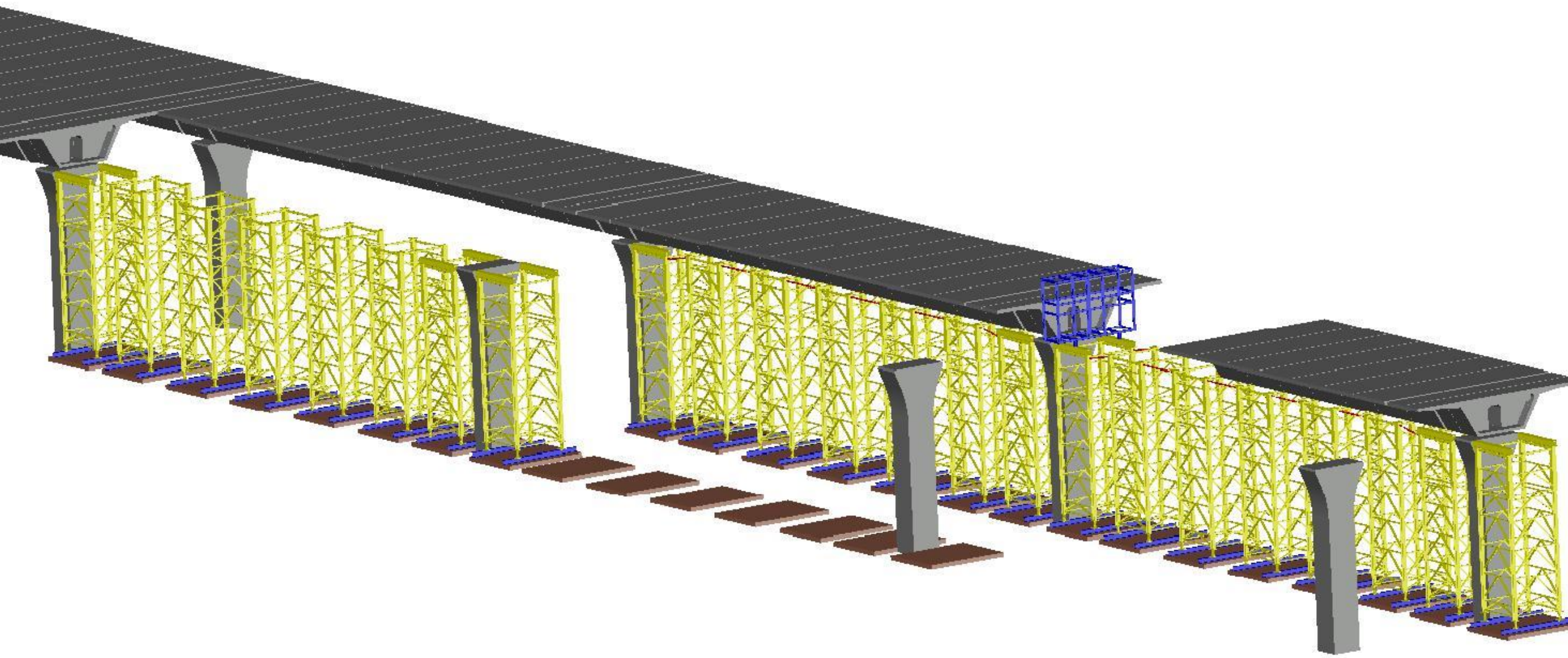




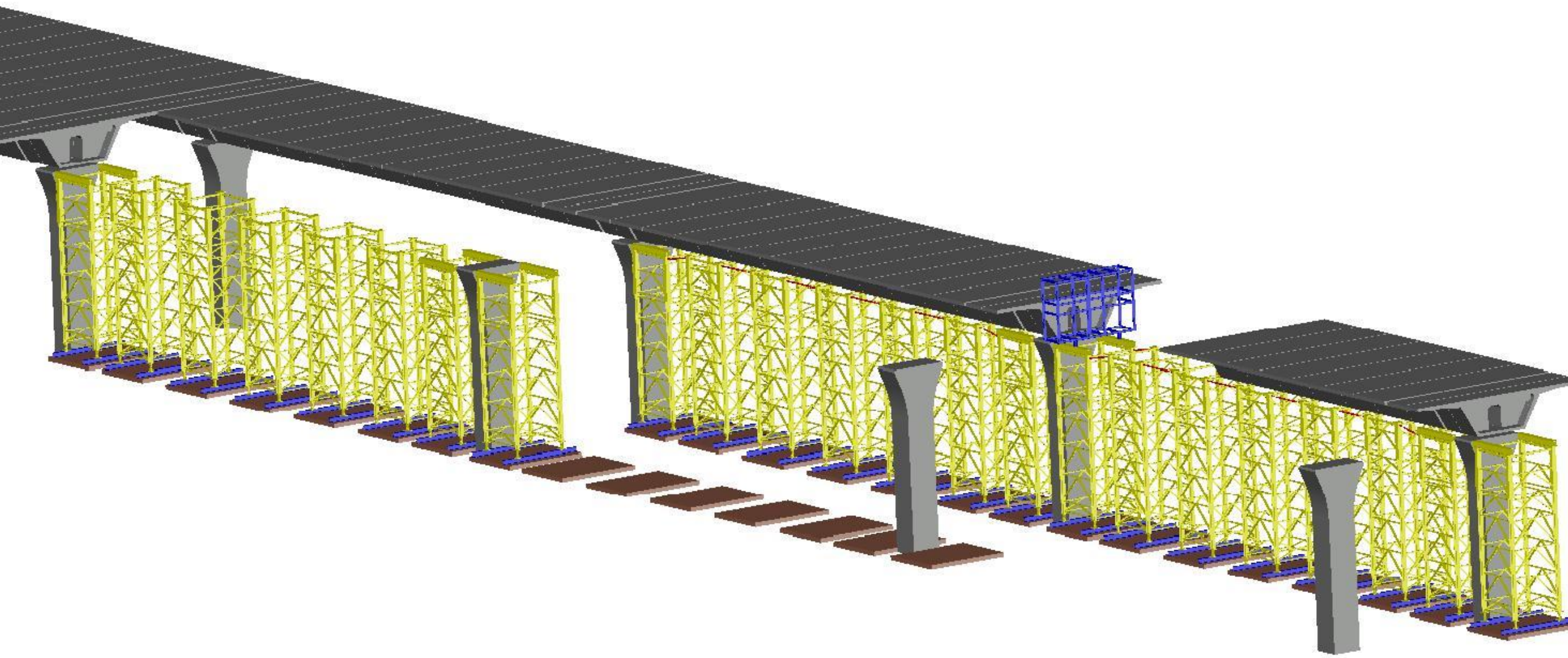




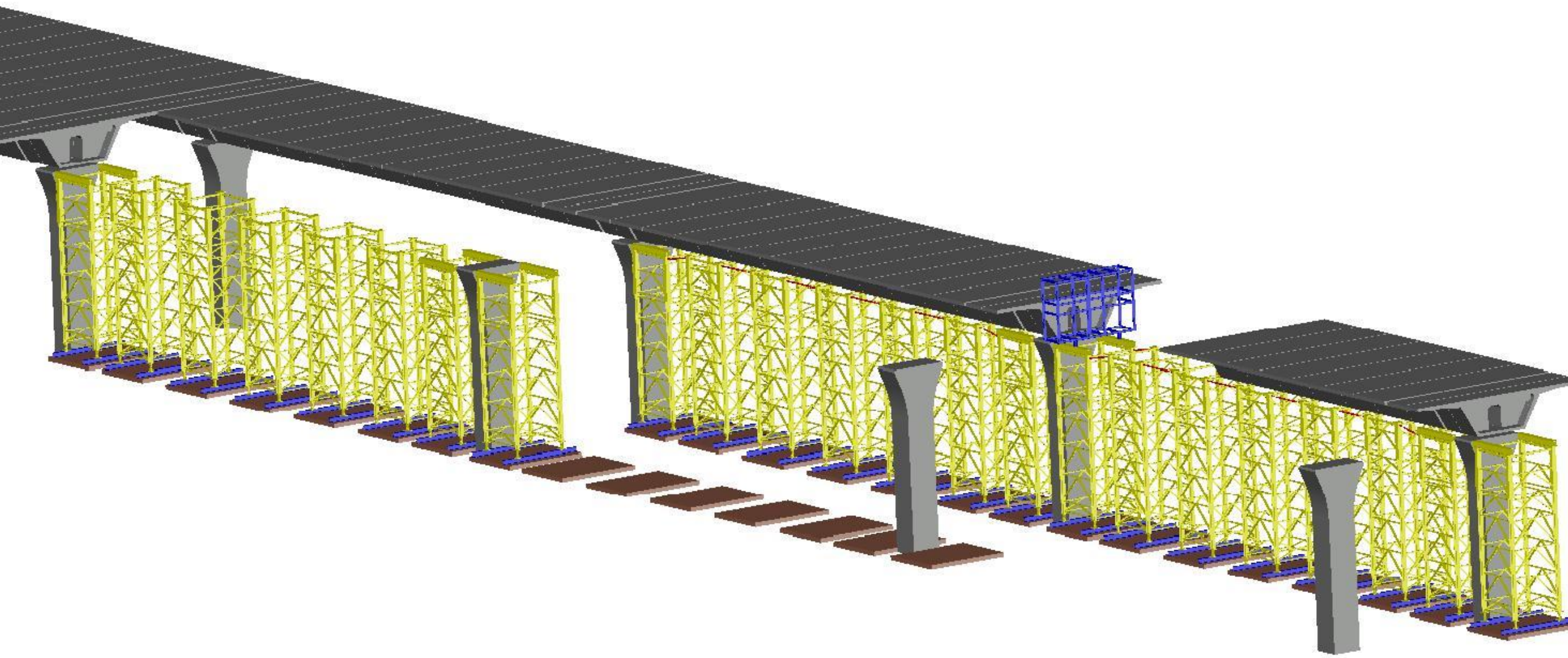




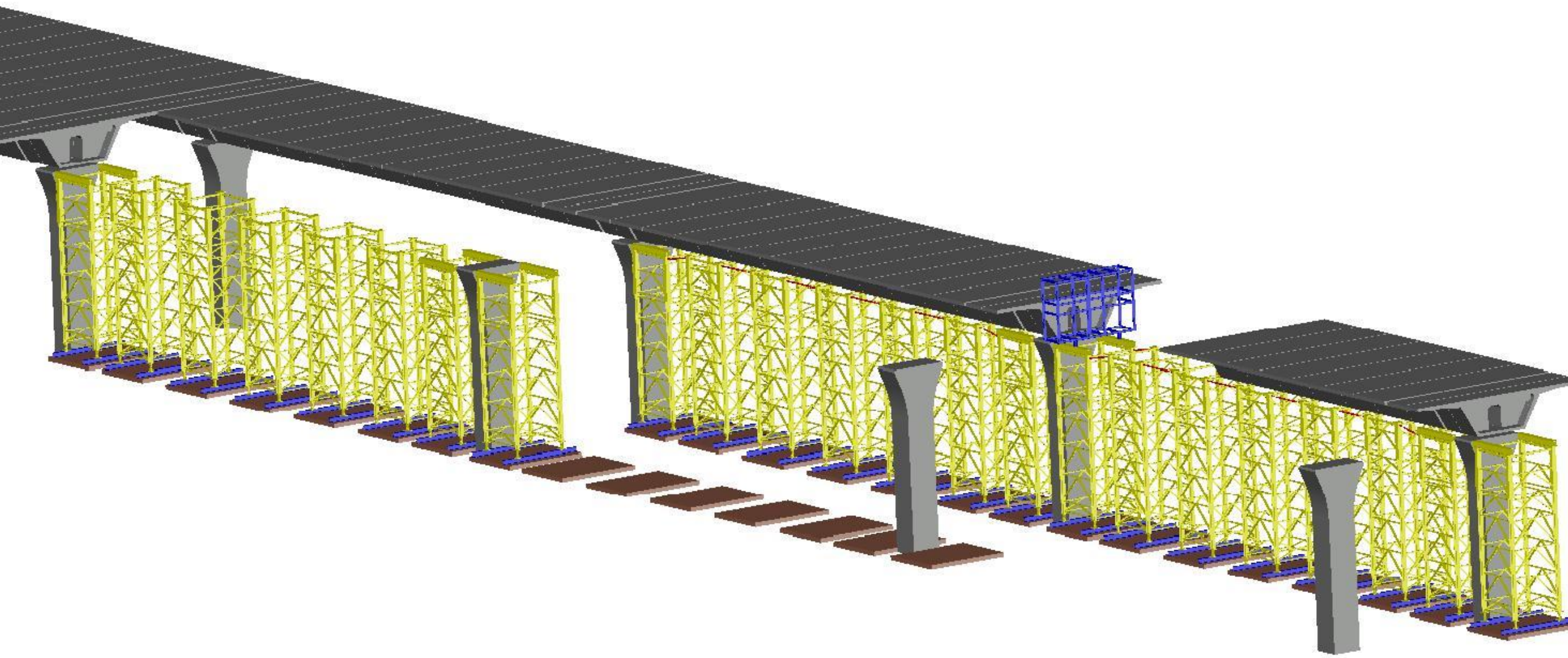




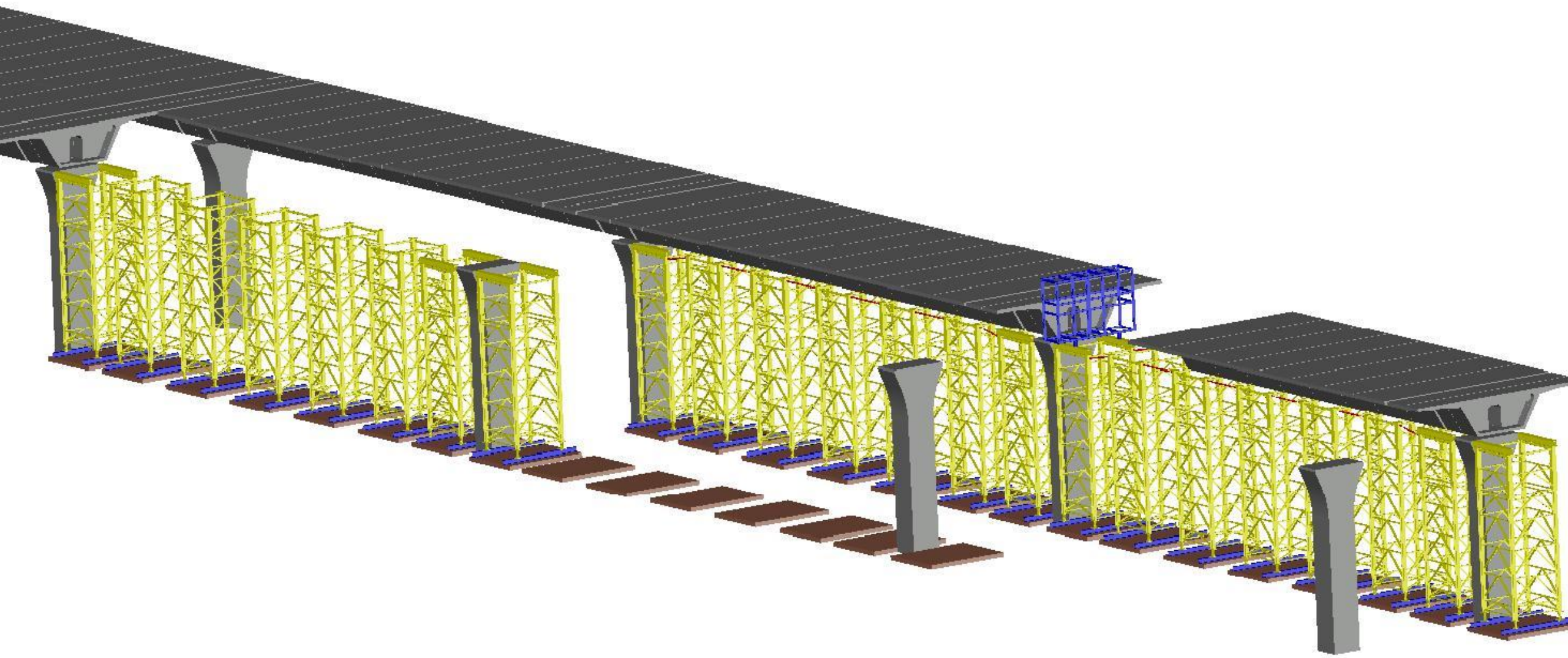




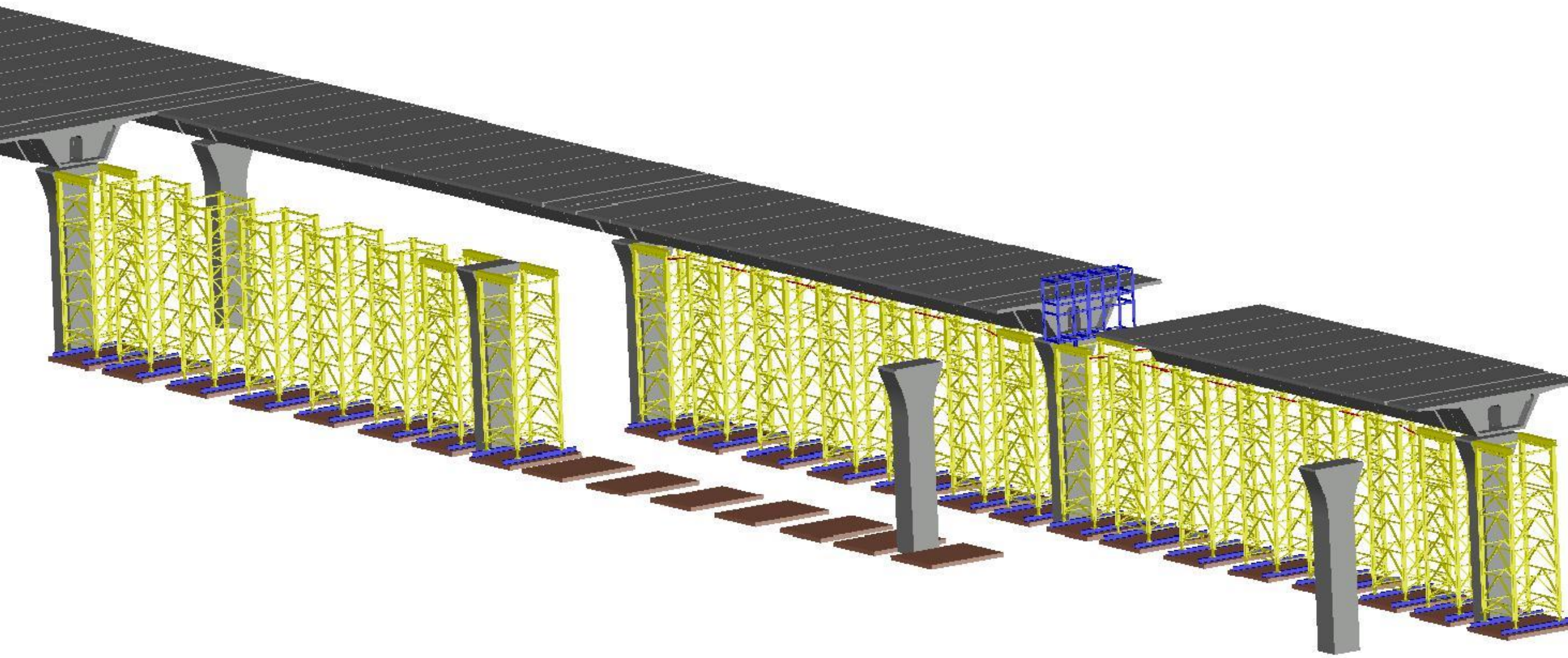




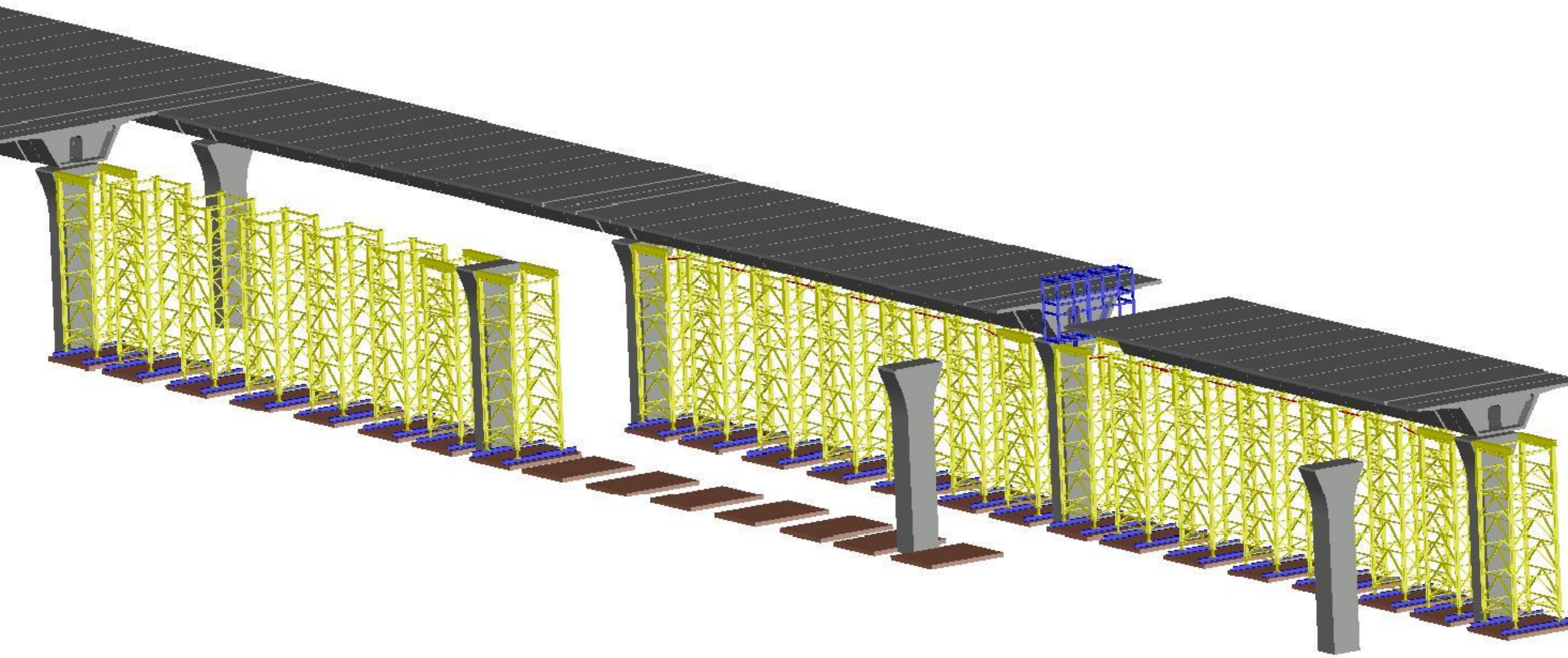




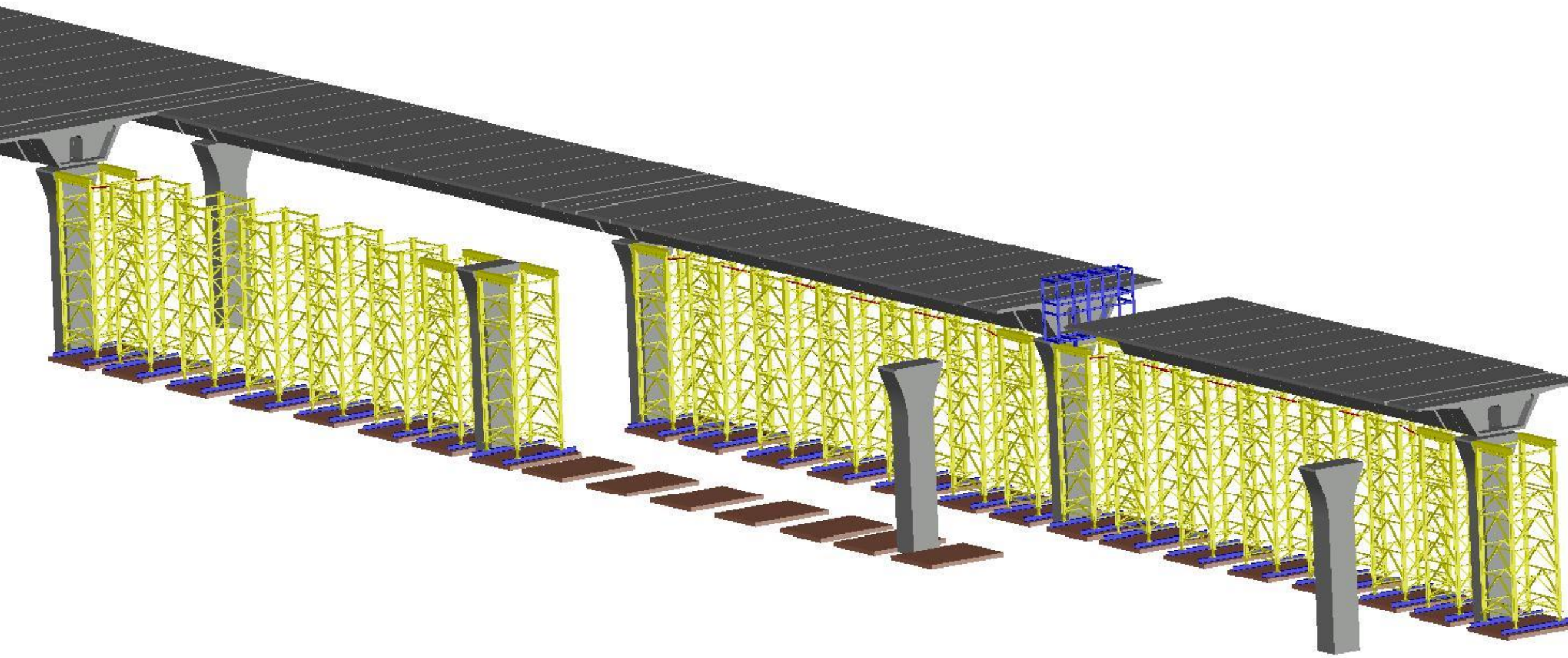




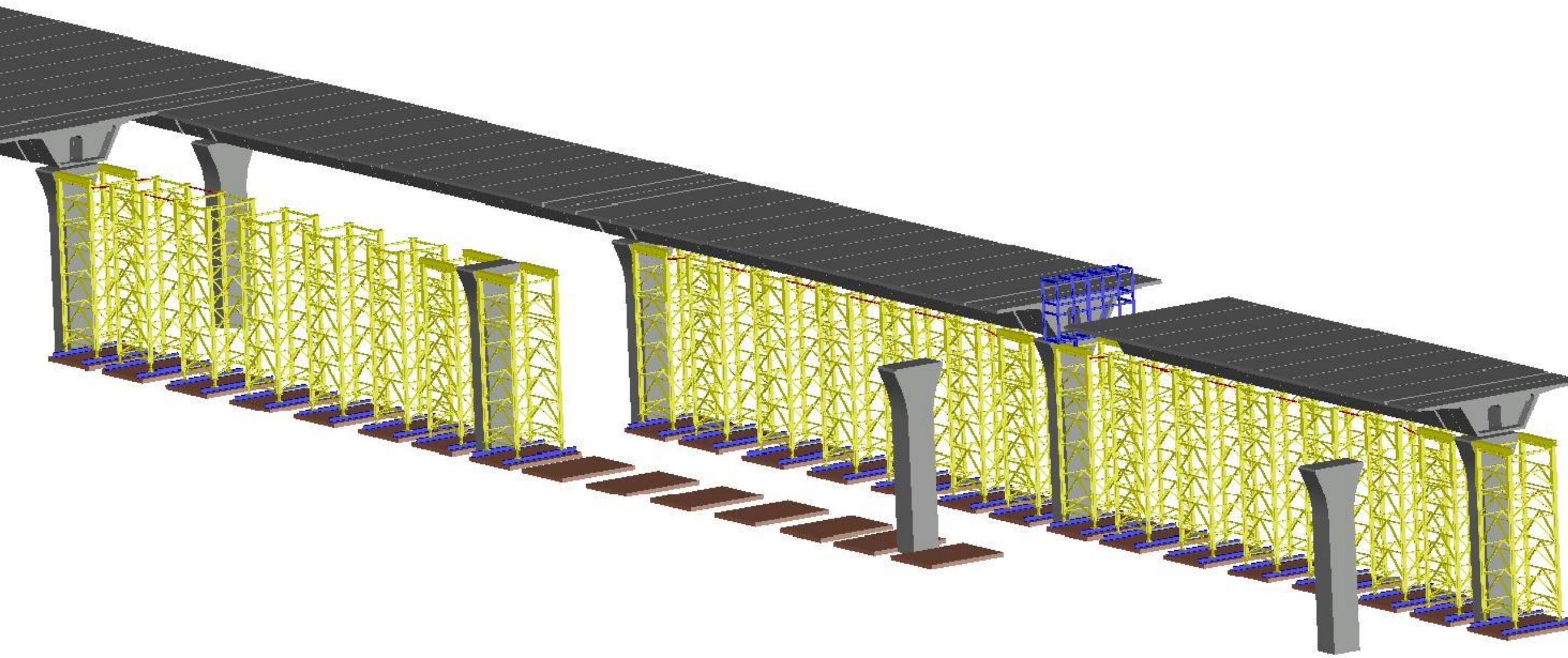




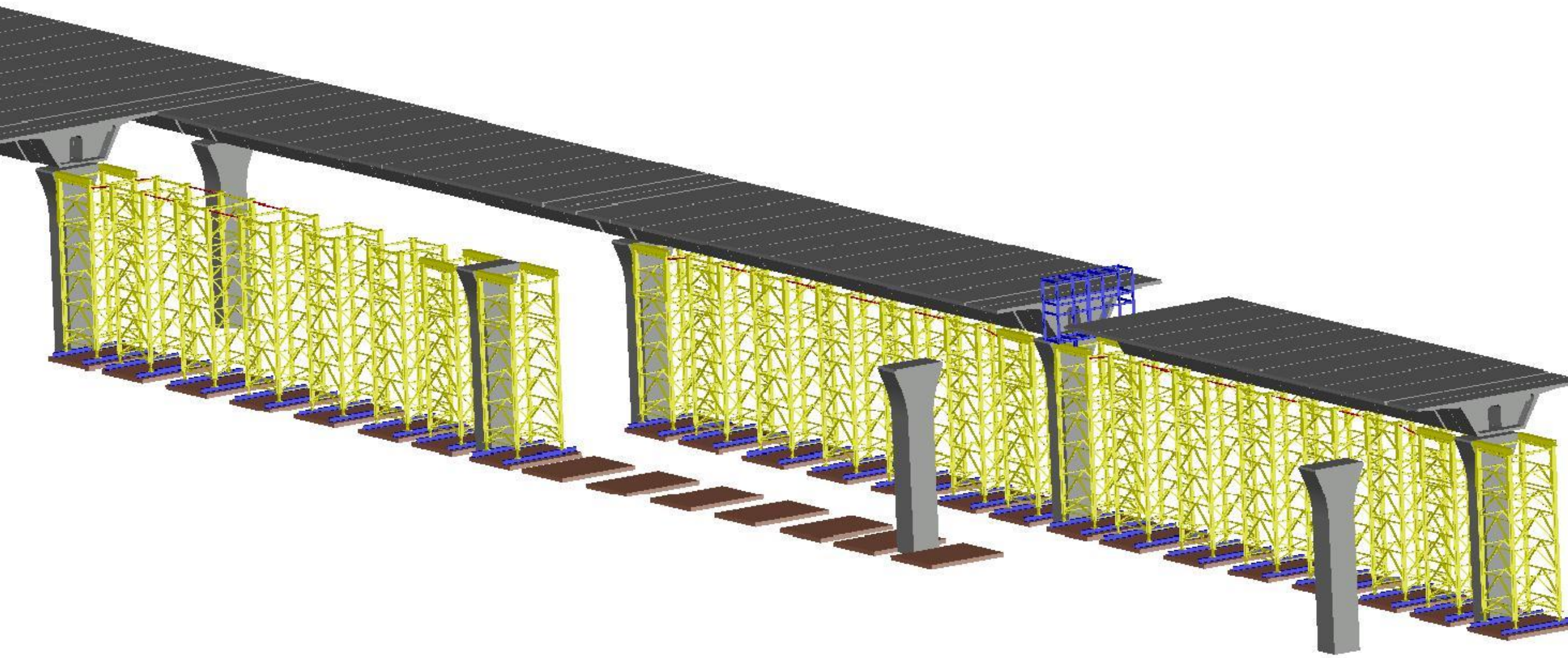




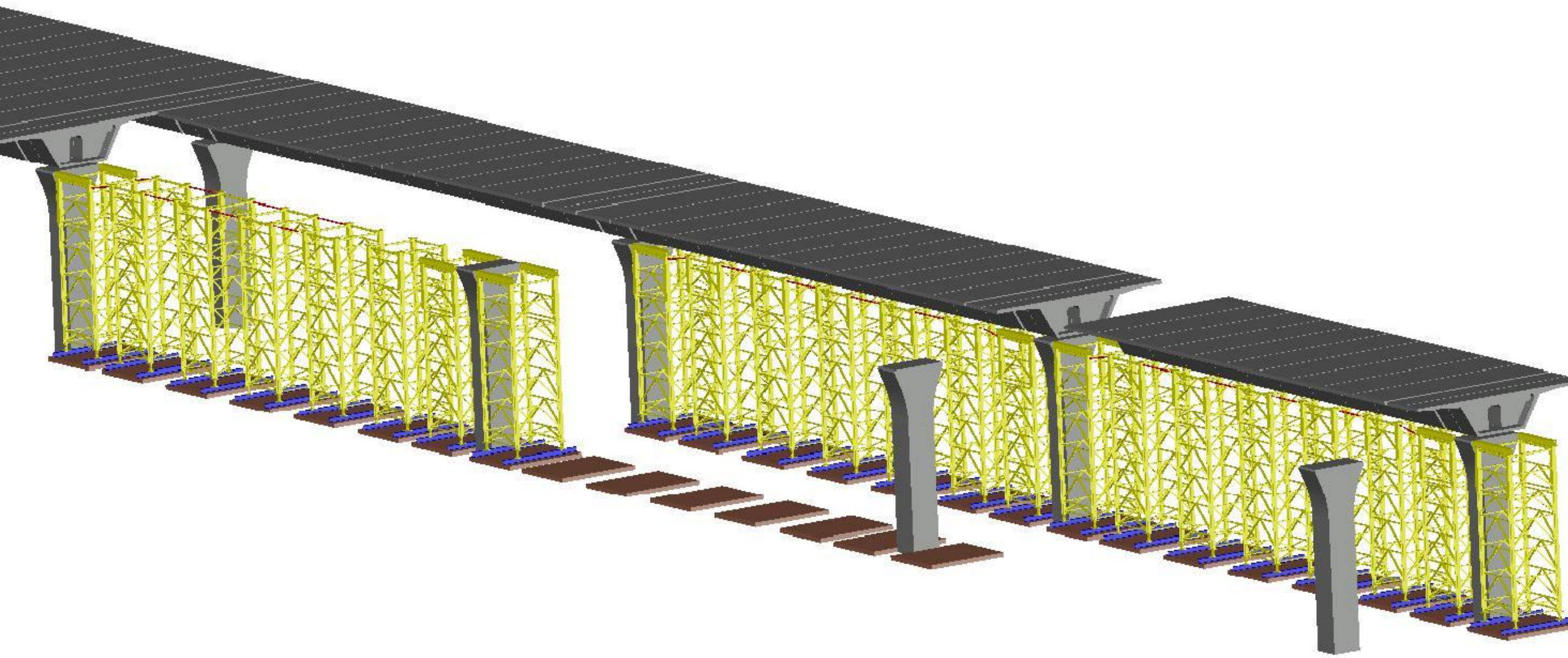




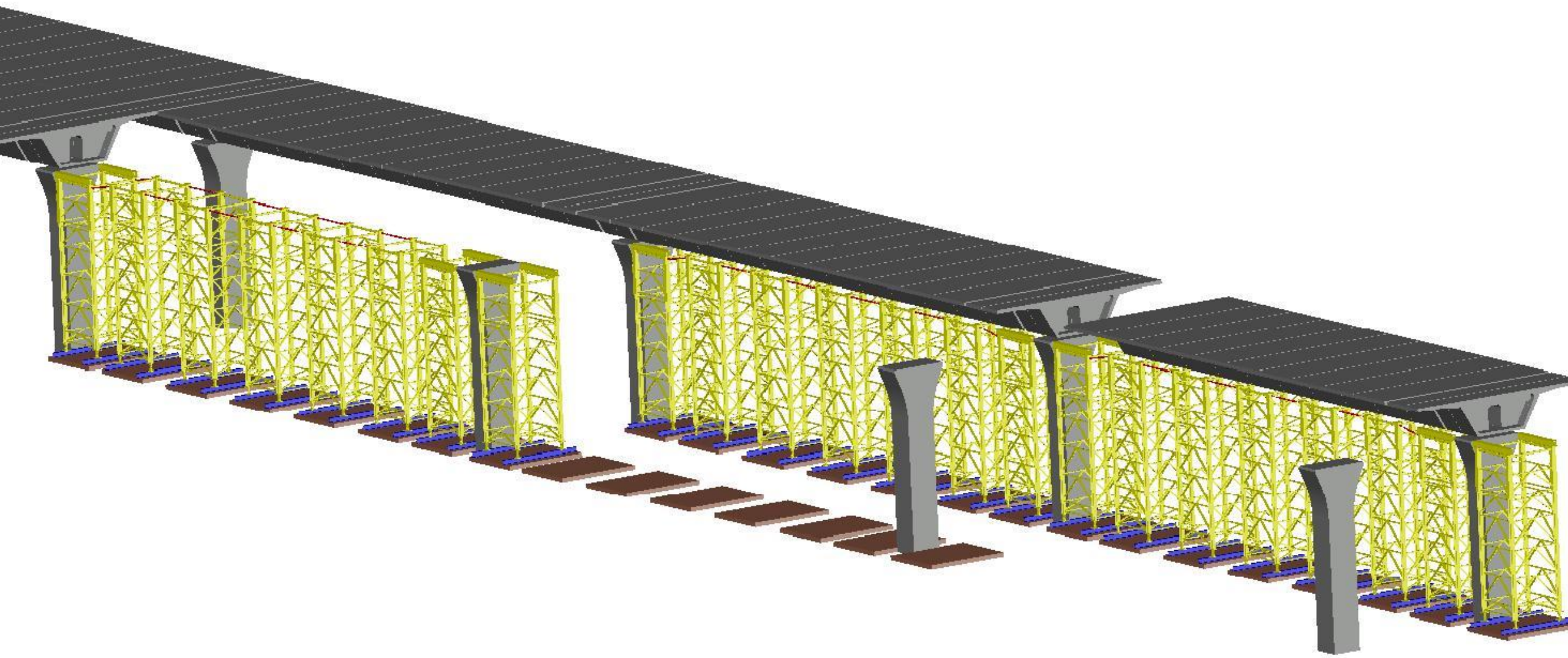




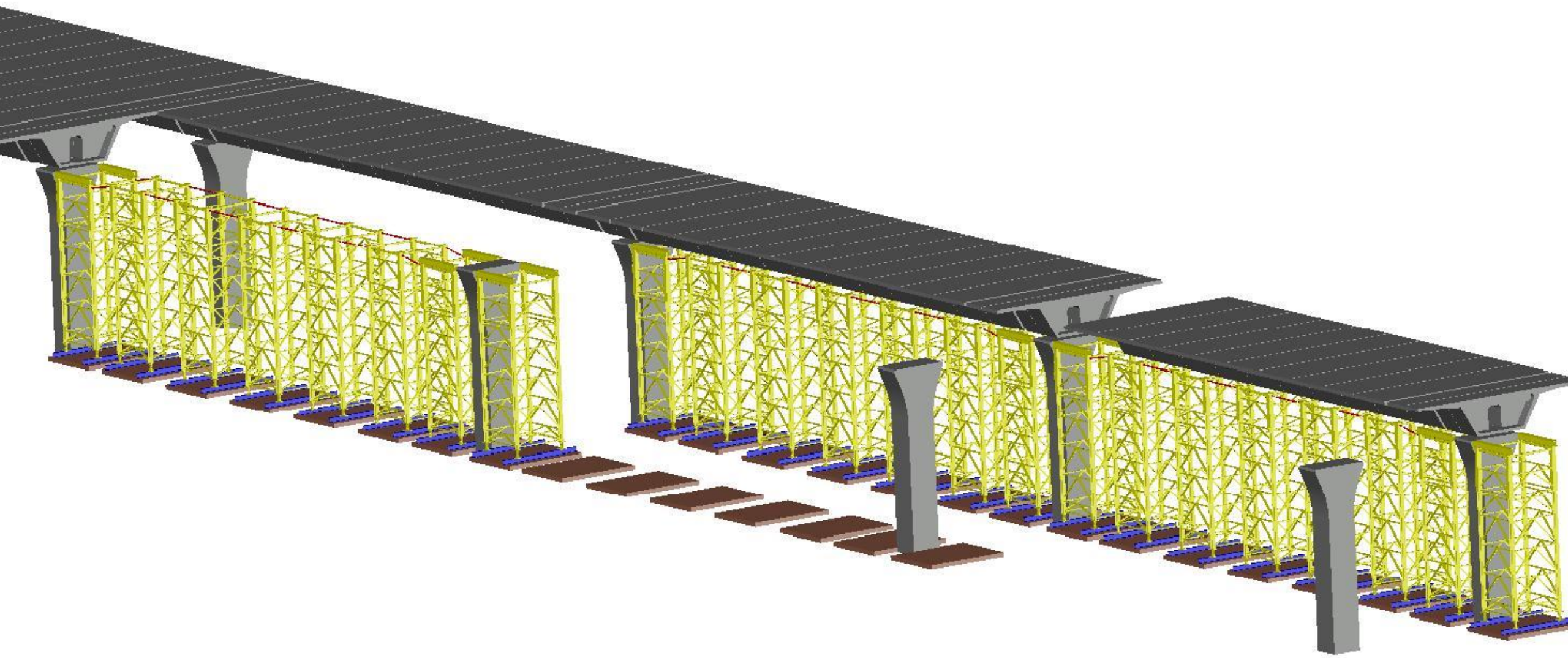




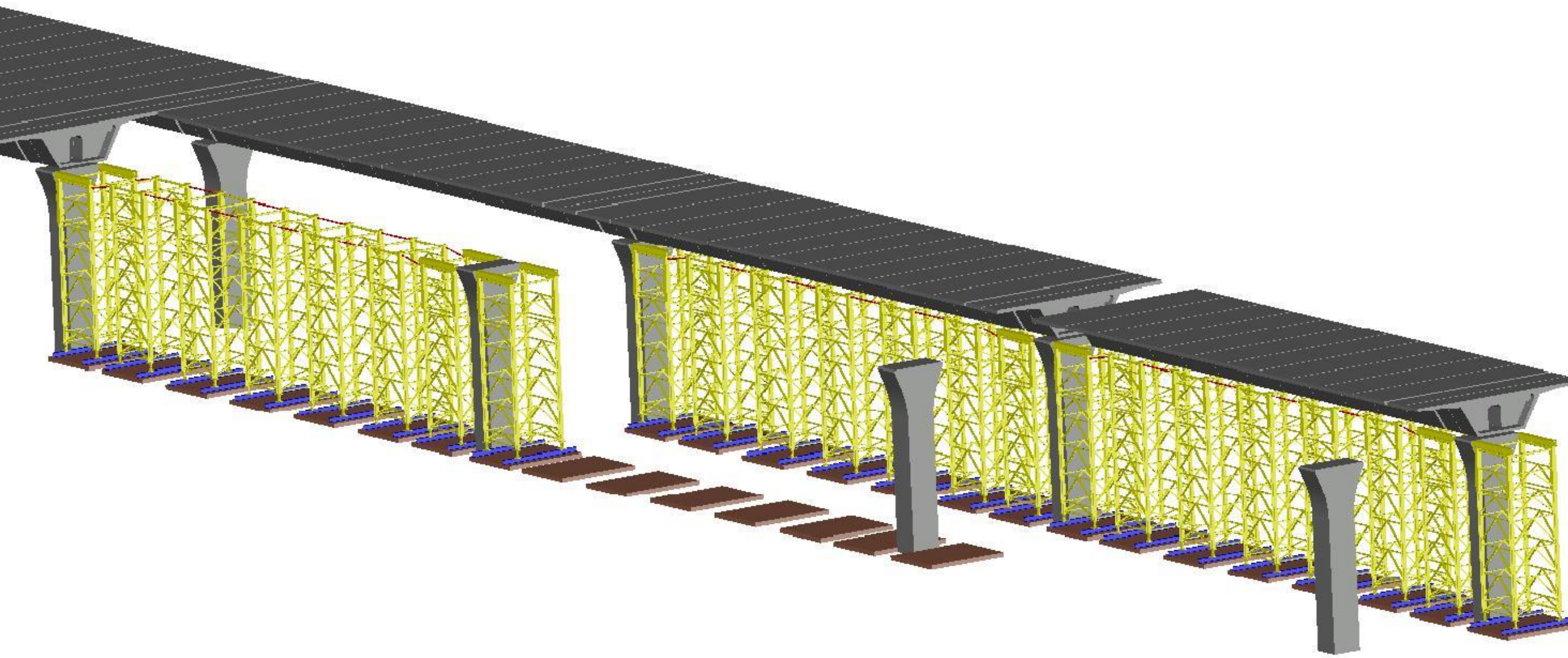




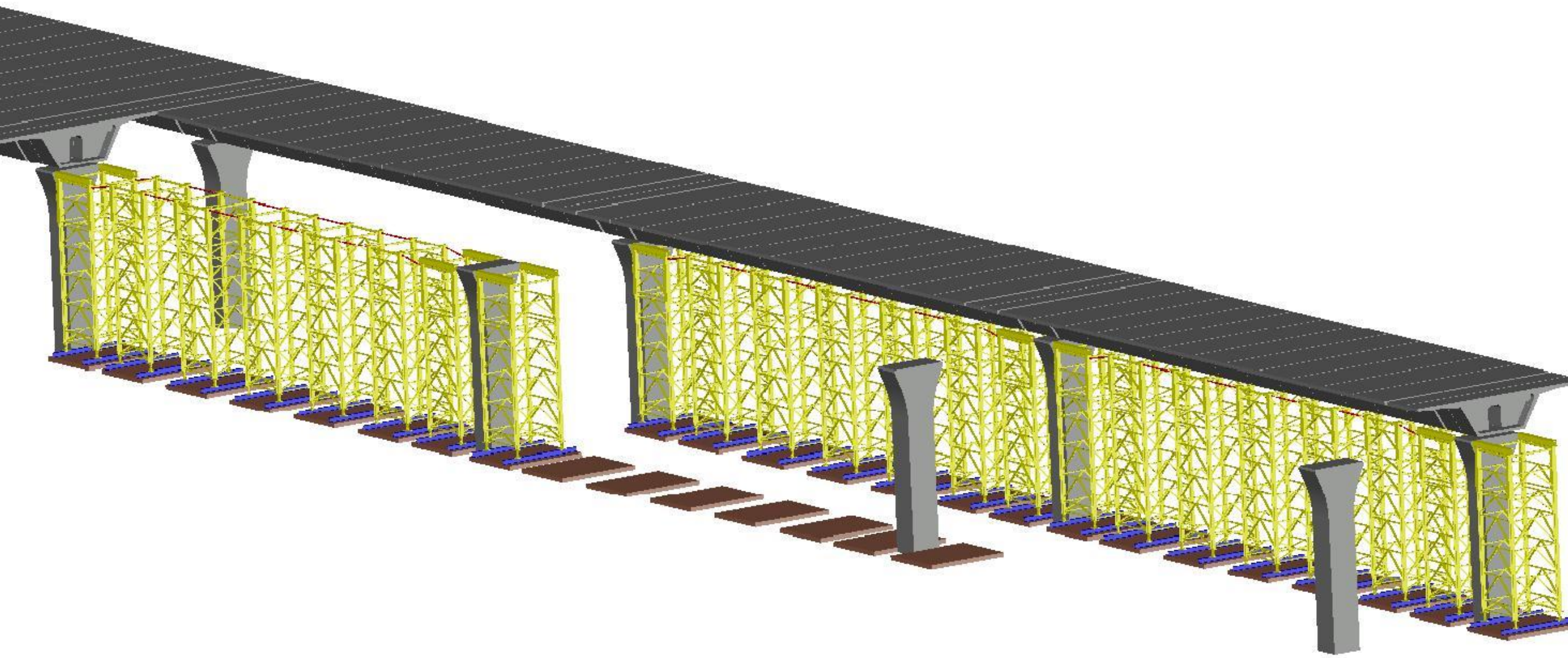




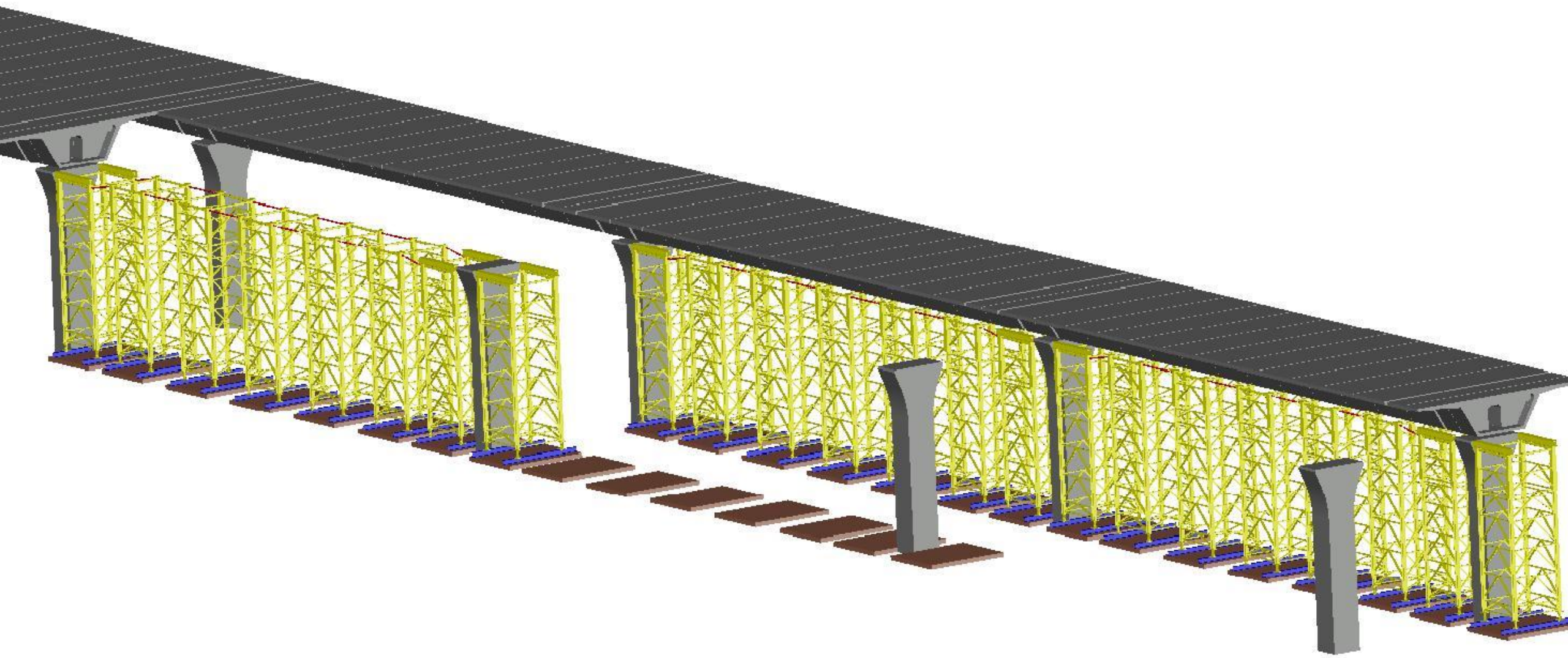




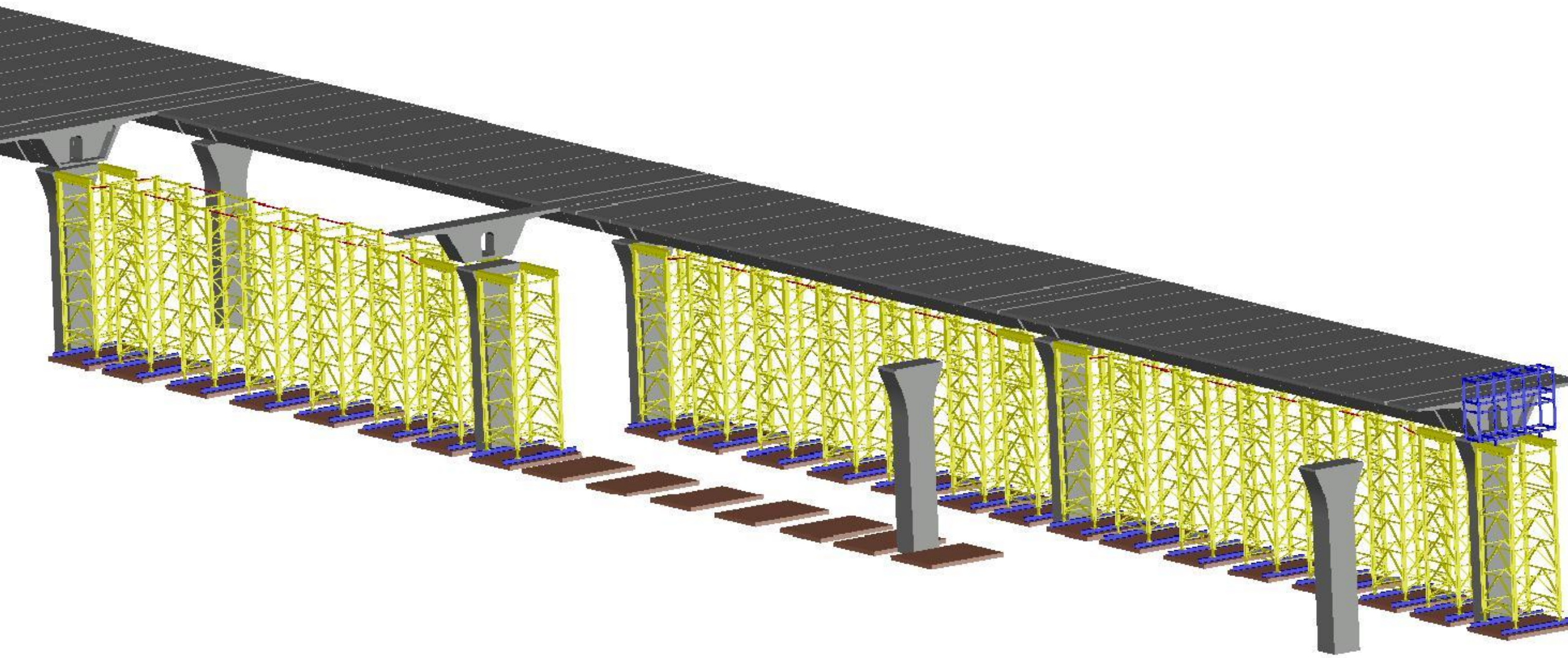




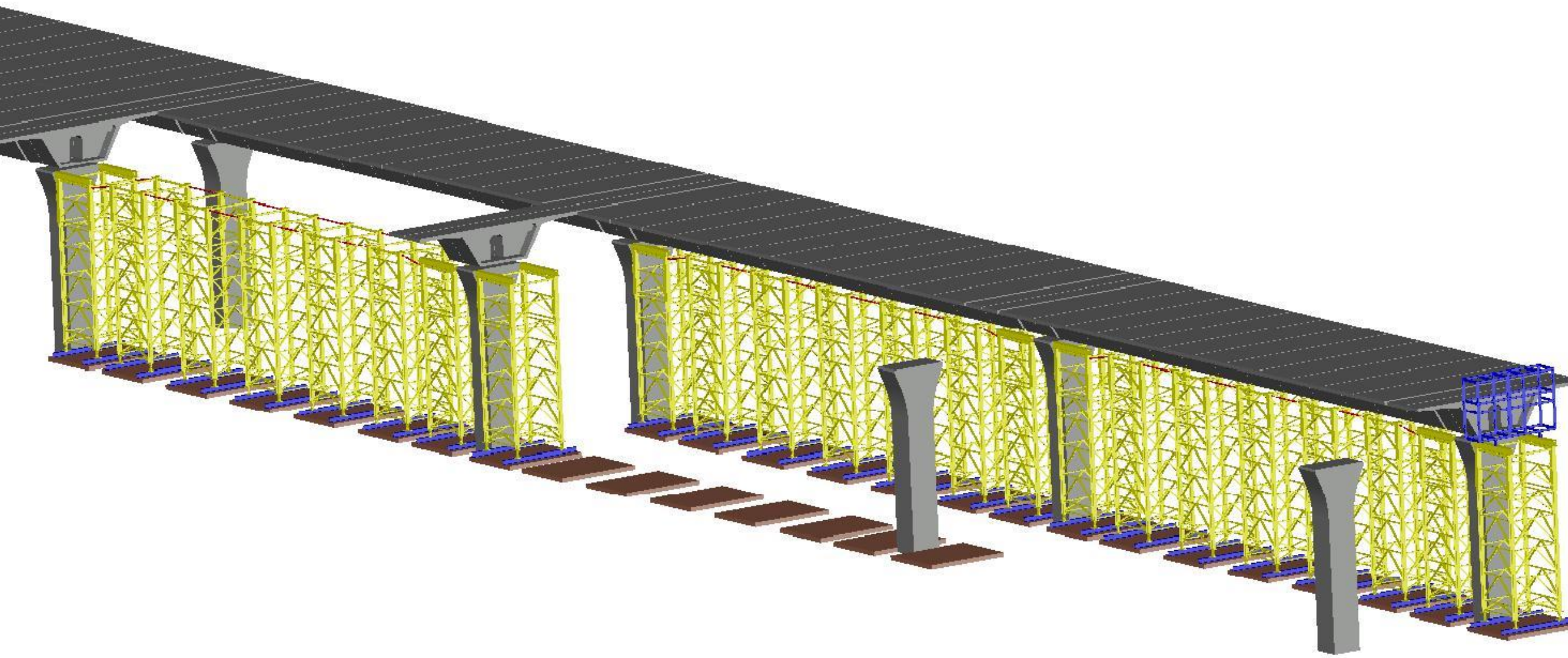




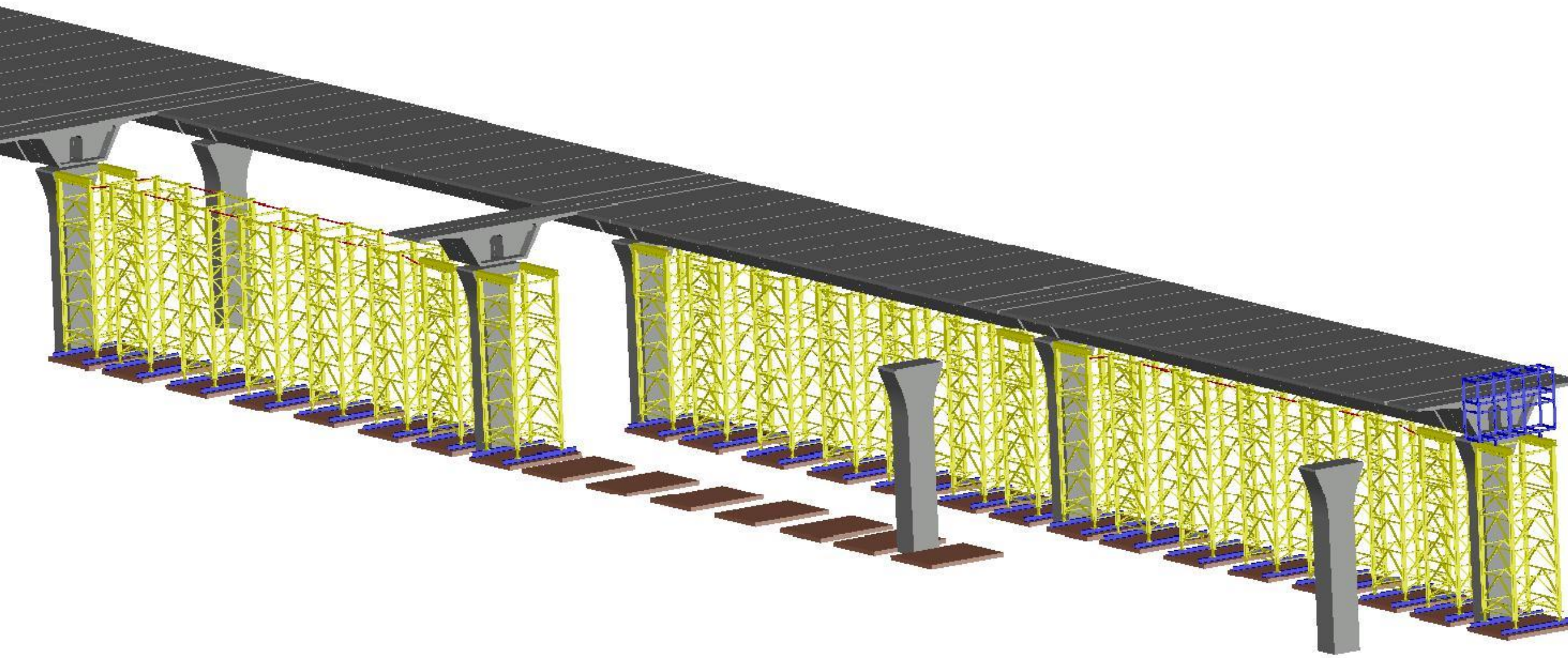




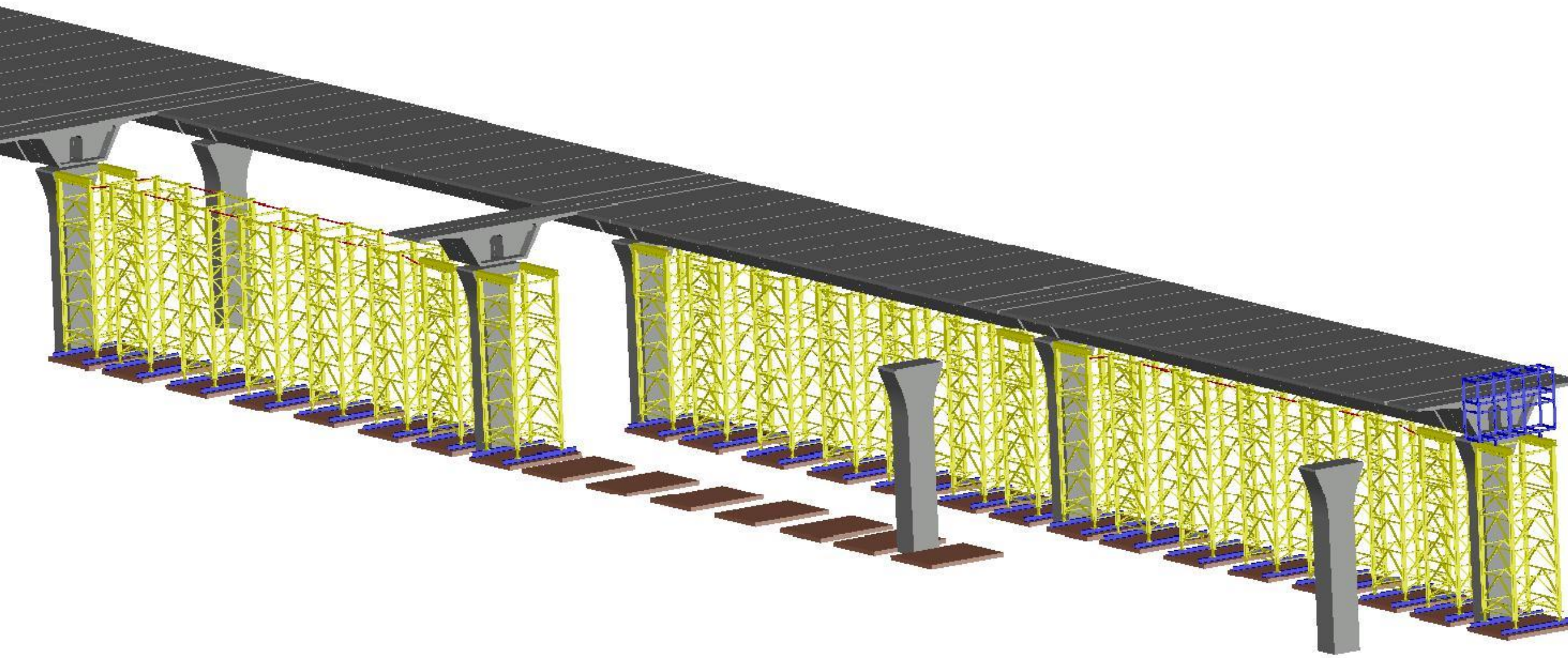




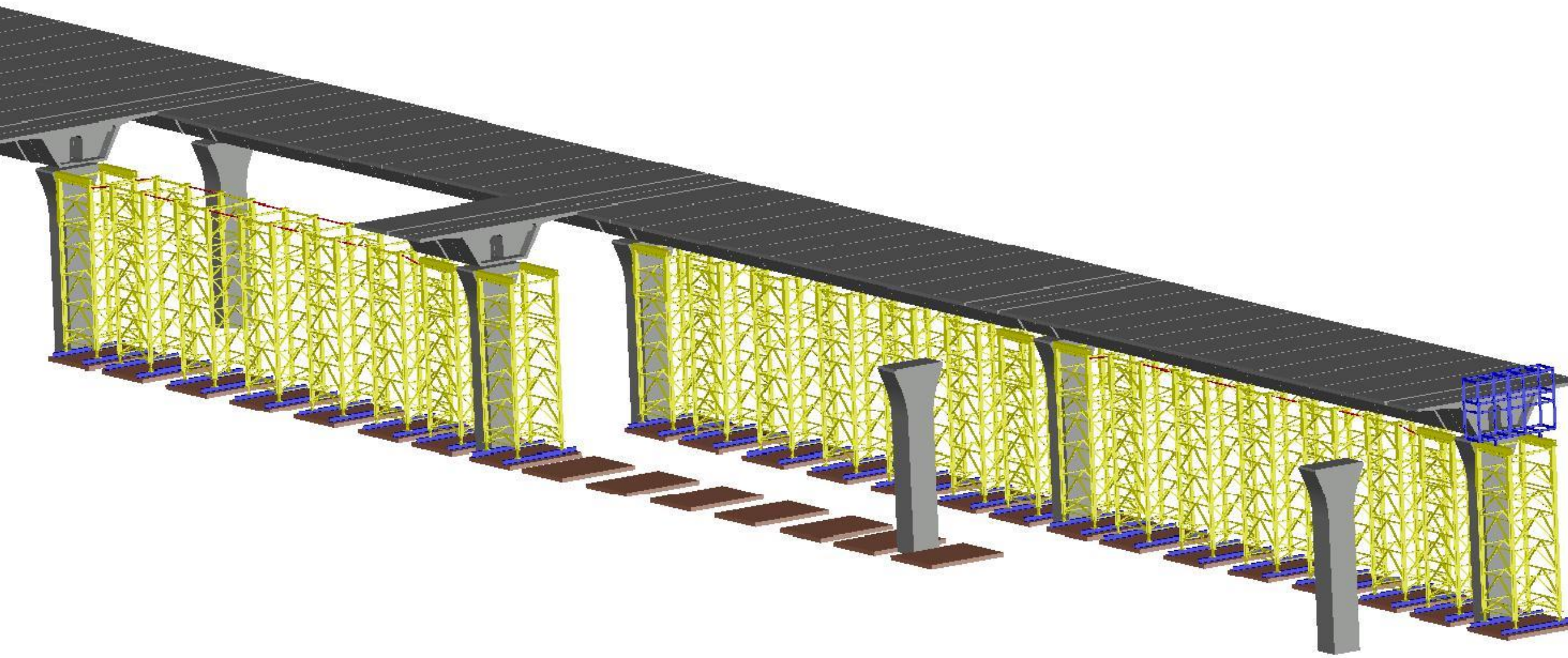




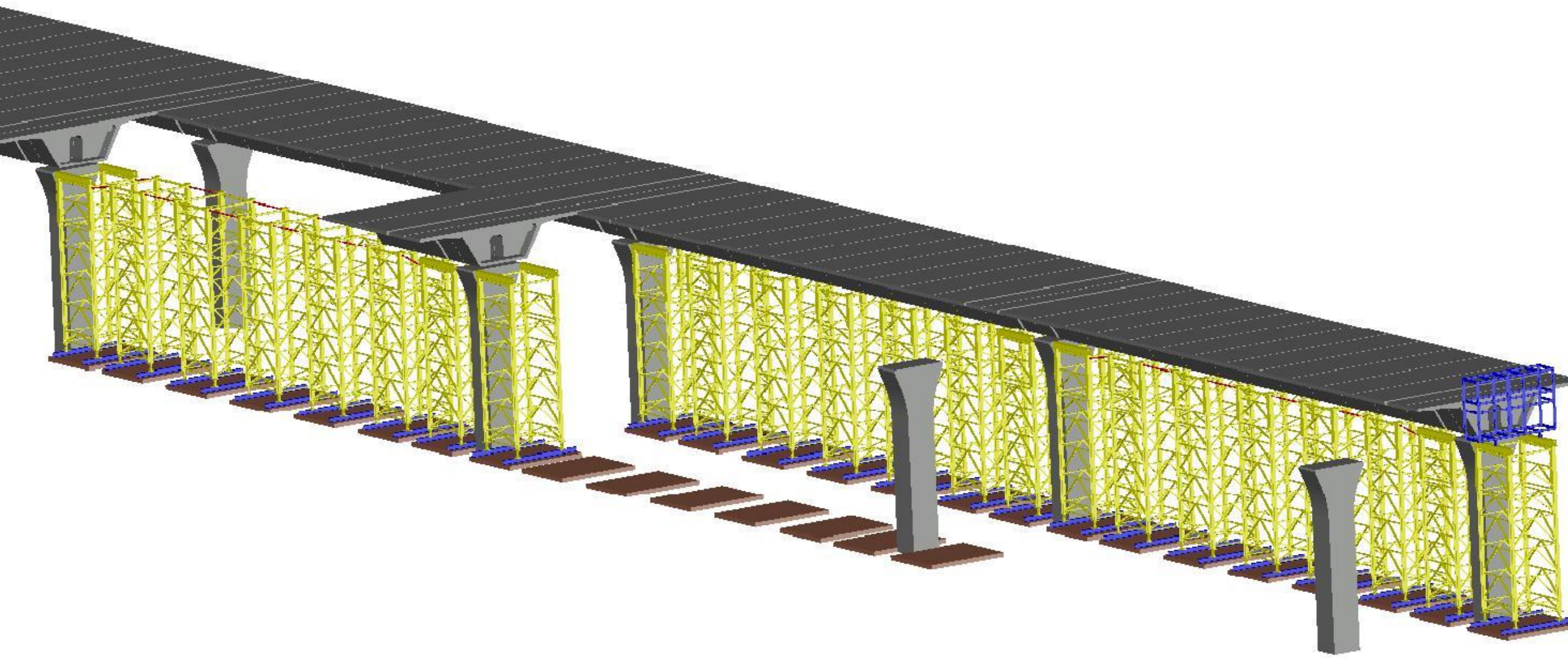




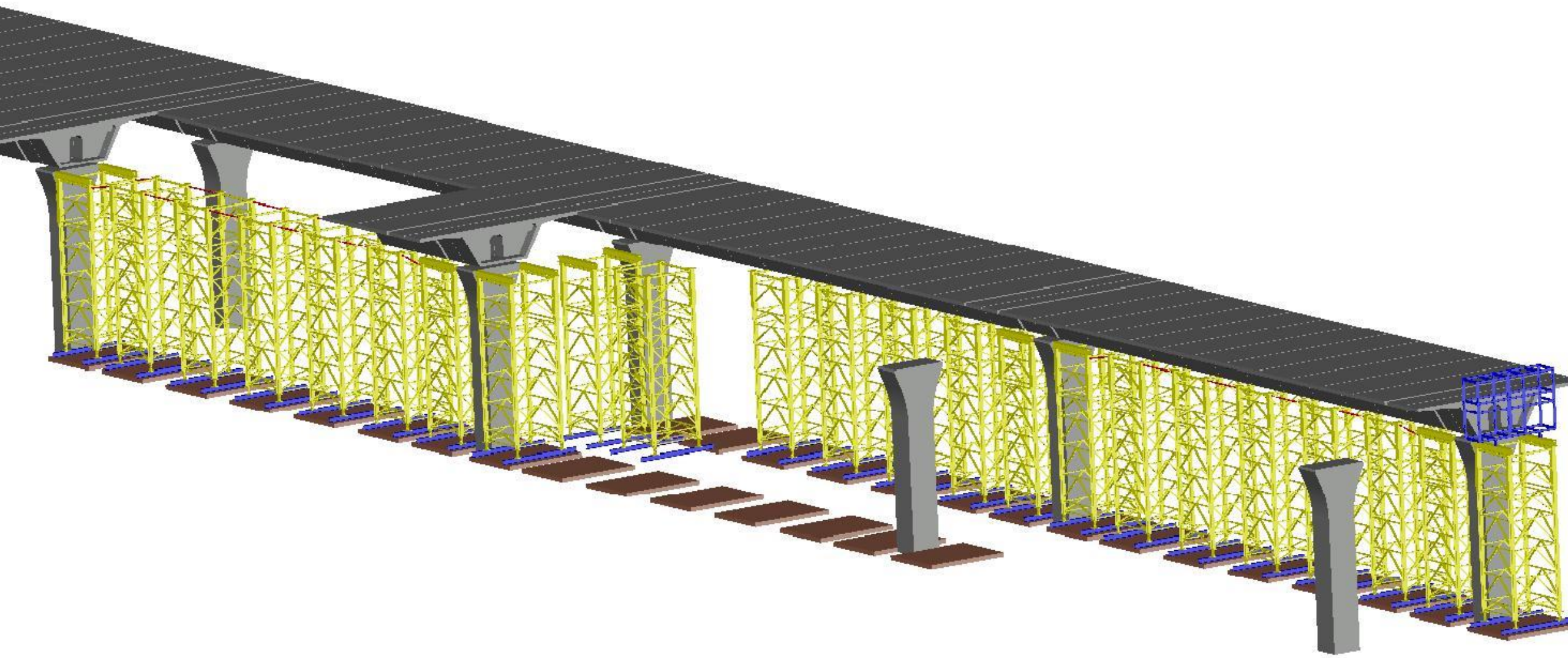




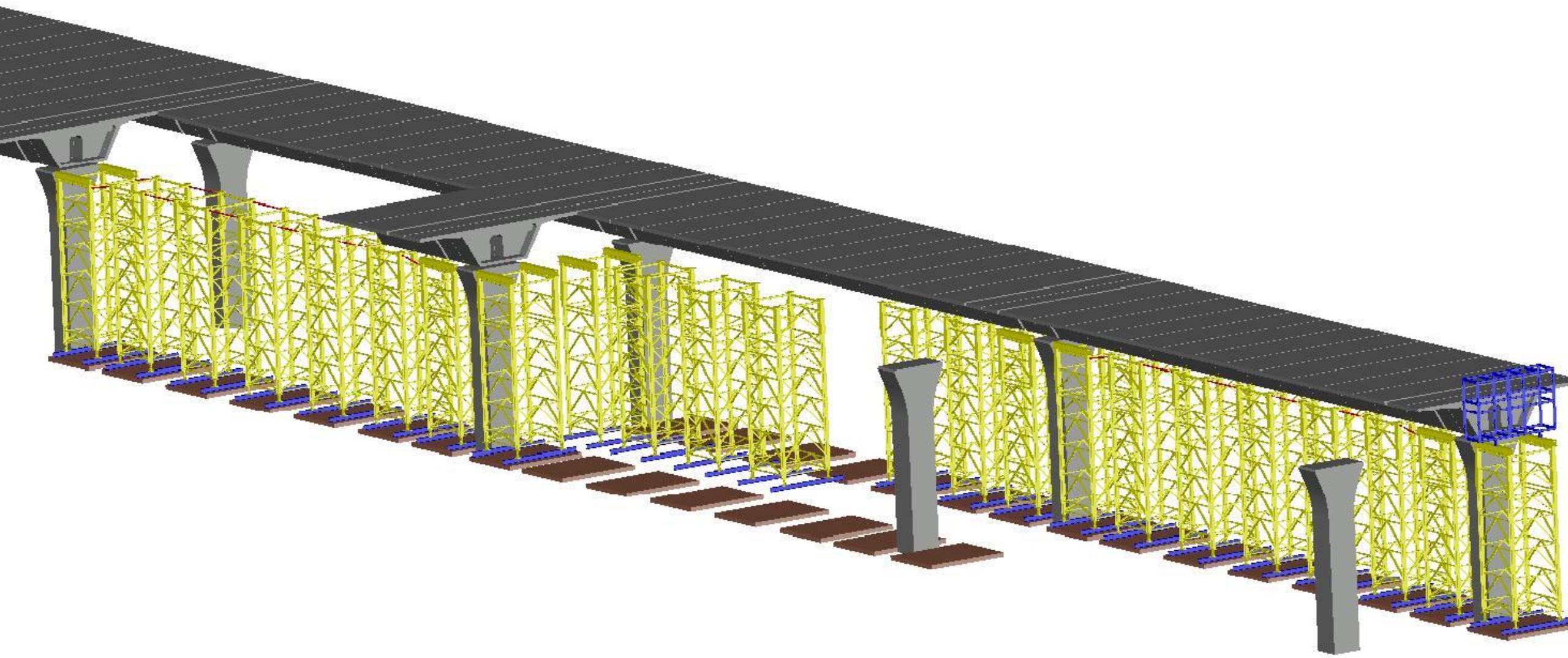




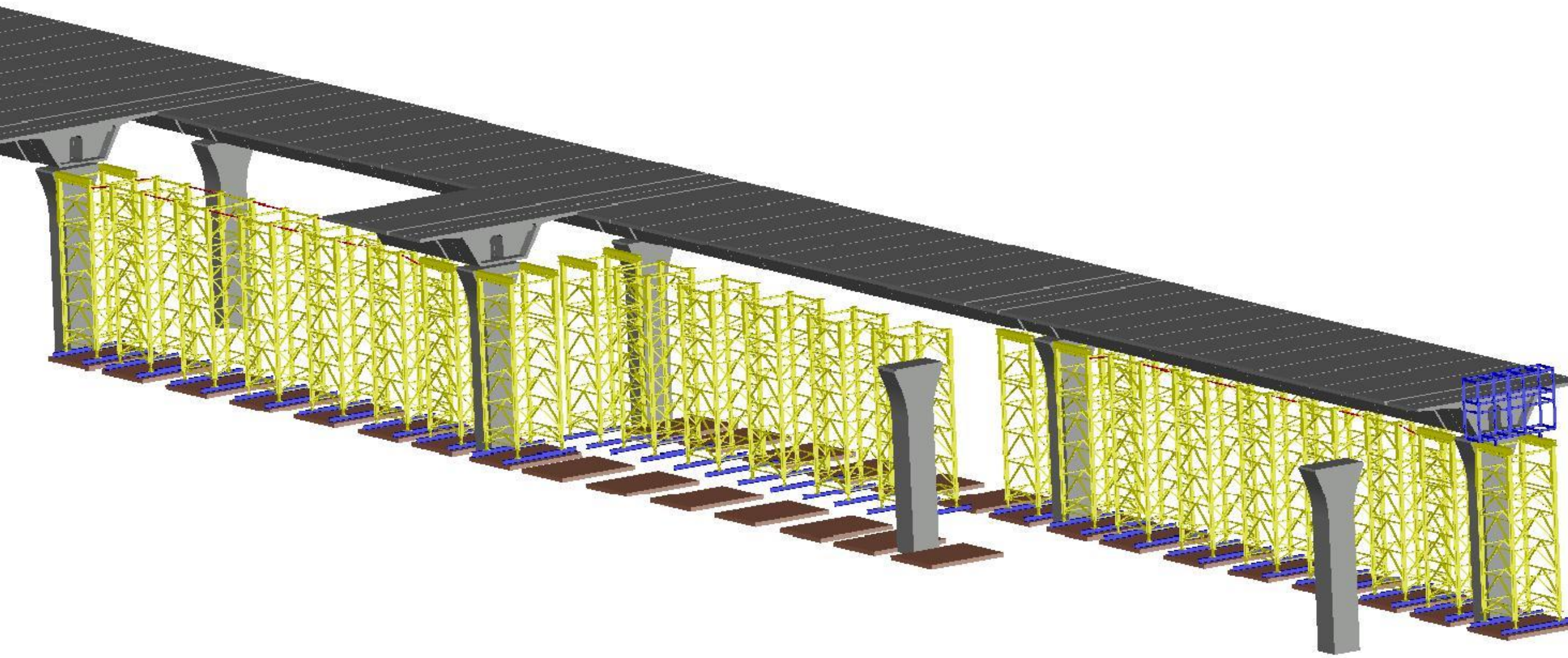




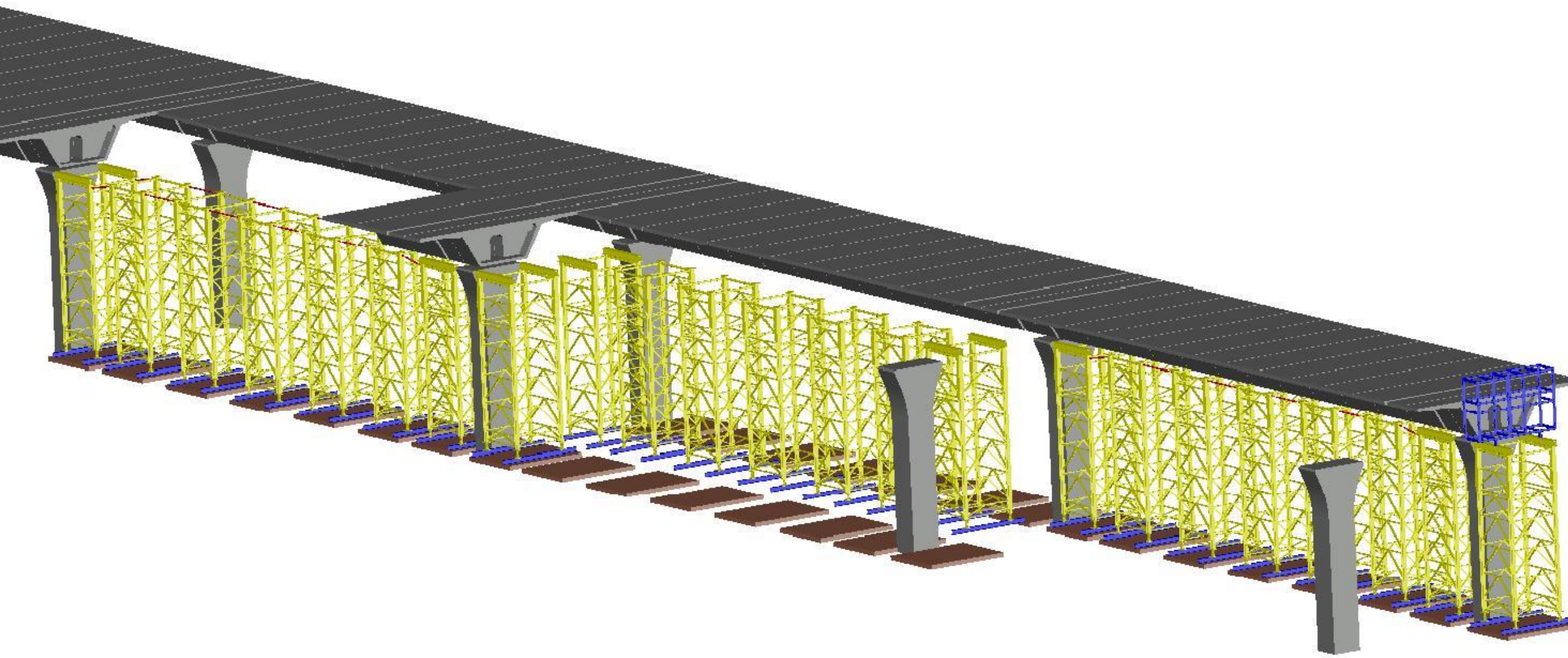




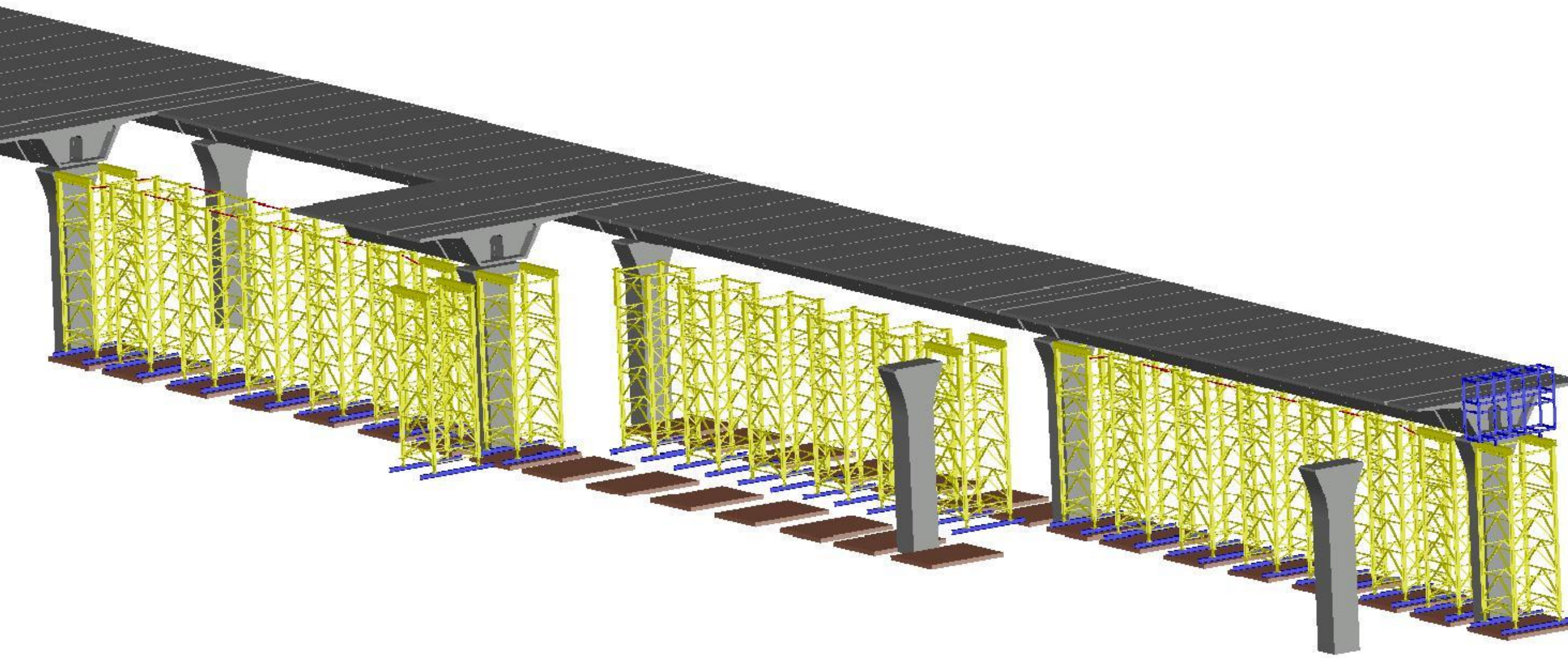




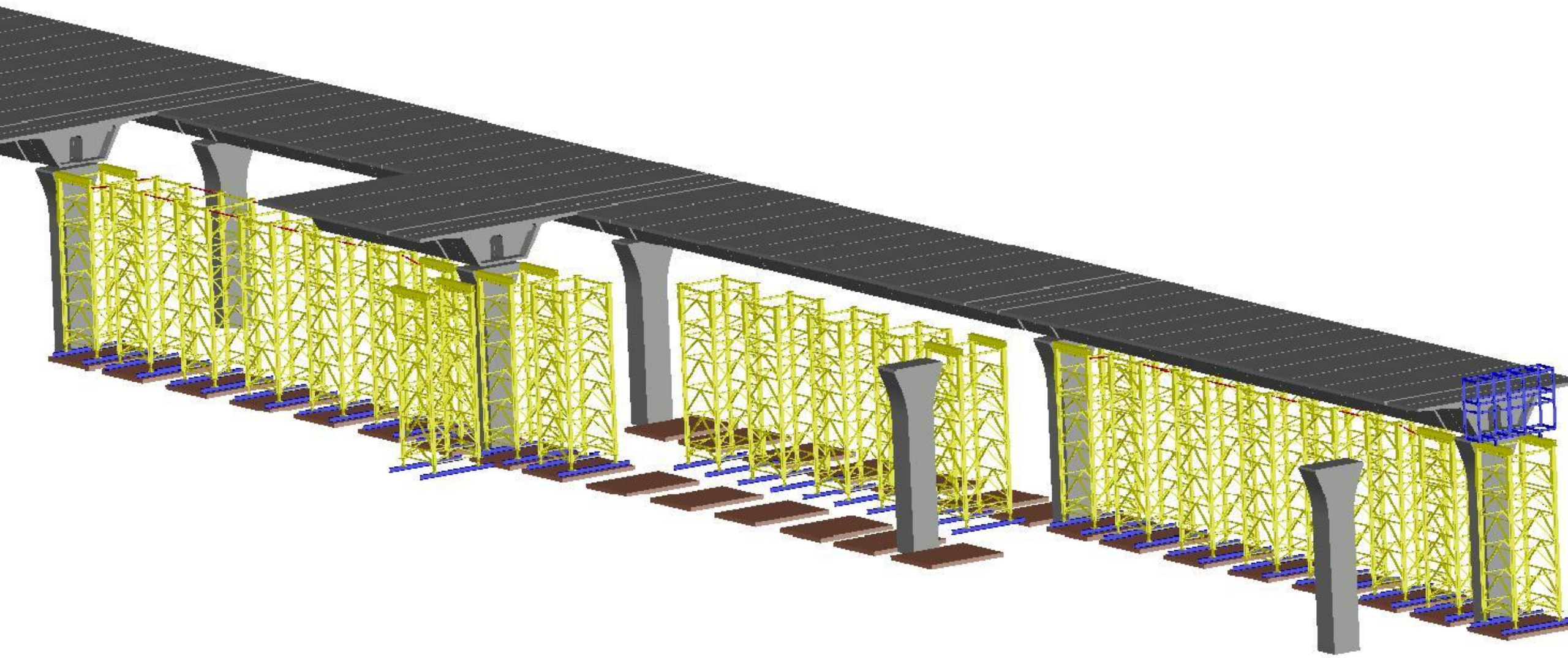














# SOUTHLAND

HOLDINGS

Southland Contracting, Inc. | Oscar Renda Contracting, Inc.  
Johnson Bros. Corporation | Mole Constructors | Heritage Asphalt

-

Johnson Bros.  
Corporation





**METRO  
TRAILER**  
205-985-8701

tex

DB 110

MGC5001









LIEBHERR LR 1300

JOHNSON BROS.

OVERSIZE LOAD

114187

828

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BOUTWELL MUNICIPAL AUDITORIUM

782.1500  
wheat.com





7  
2-07  
9-7

WBR22-00  
2/18/19

S2  
14

D9

G-7  
WBR22-00  
2/18/19

WBR

2/18/19

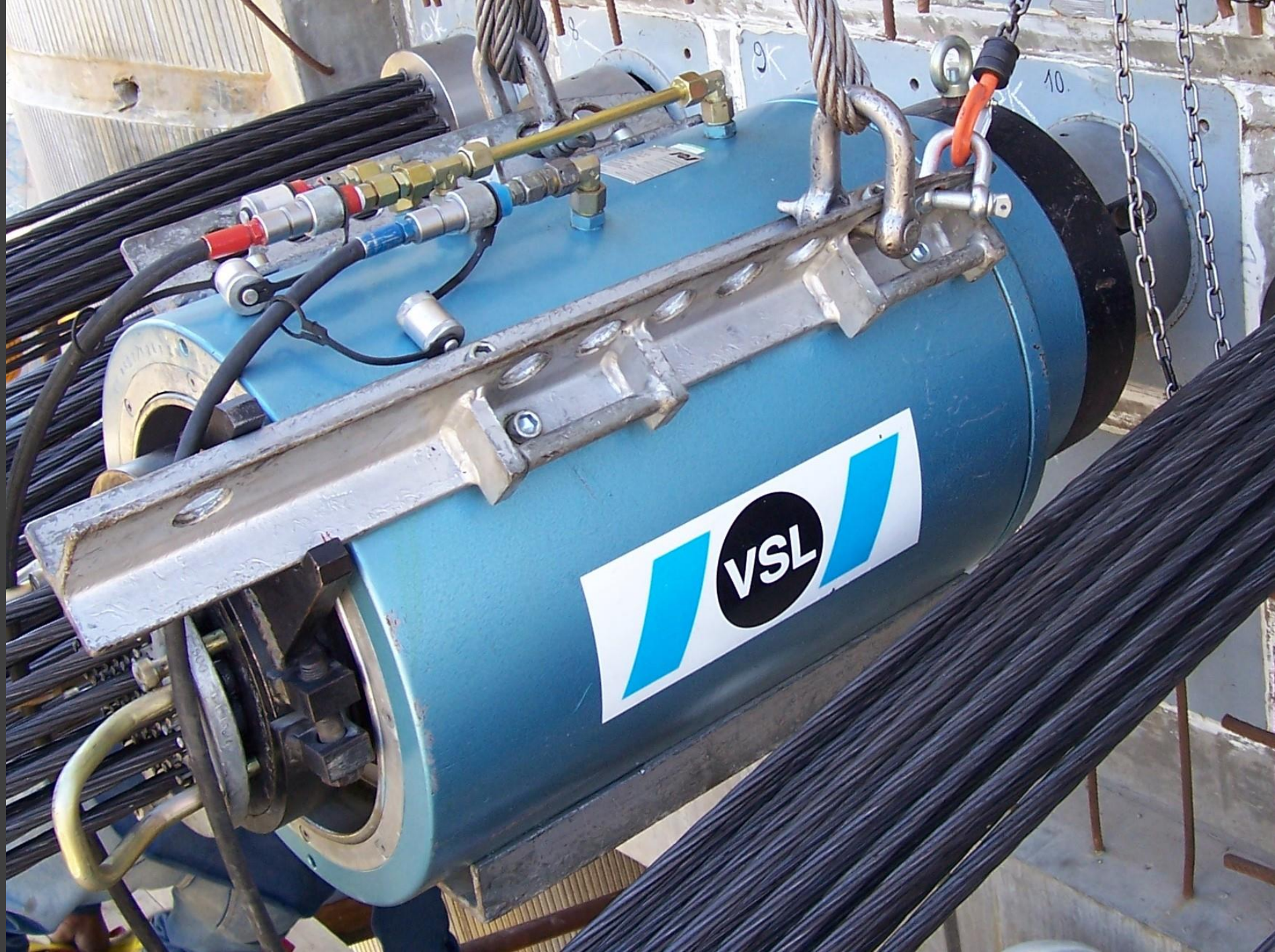




AFSrepair.com











T3  
1594  
7560.2



T2  
1594  
7560.2



T3  
1594  
7560.2











S28  
P1

VOLKERT

LET'S  
DO  
THIS







































RSON  
MPLEX

OTHERS  
NS TOUR  
M JORDAN  
WELSH  
ER 13  
AT THE BICC







United Rentals

JLG LIFT

United Rentals  
800 UR RENTALS

10833354

600S

WARNING

NO LEFT TURN









S2B  
P

















LEGACY ARENA

LEGACY ARENA

WILLCOTT









22nd St N

STOP

STOP

22nd St N

STOP

STOP

STOP

STOP

STOP

STOP

STOP

STOP

STOP

















**BHM**

CBD PROJECT

# Decorative Lighting









C-7  
WBR 22-T8  
2/16/19 →  
→

































# Thank You



Adam Patterson



256 226 4927



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[www.volkert.com](http://www.volkert.com)