Application: 7575

Paris-La Défense Subway station

Started at: 3/4/2026 07:32 PM - Finalized at: N/A

Page: Submitter Information

The submitter is the person entering the information on this project application. Please email estherbeery@concrete.org with your project name to ensure it has NOT already been nominated by another individual. Please do NOT use all capital letters in your submission. This form is not for research projects. View an award winning entry here. (https://www.concrete.org/portals/0/Files/PDF/EA_An_Award_Winning_Entry.pdf)

Submitter Last Name:

KON-SUN-TACK

Submitter First Name:

Olivier

Submitter Phone Number:

+33609741115

Submitter Email Address:

konsuntack.olivier@gmail.com

NOMINATOR: (ACI Chapters/ACI Allied Organizations may nominate one project per category)

Yes

Local ACI Chapter/Partner Nominator

ACI Paris Chapter

Official Chapter/Partner Nomination Seal

Download File (https://aciexcellence.secure-platform.com/file/28767/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODc2NywiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9unnamed.jpg)

ACI Chapter/Partner Representative Name

Olivier KON-SUN-TACK

Chapter/Partner Representative Email

konsuntack.olivier@gmail.com

Submitted on behalf of (are you filliing this out for a company on their behalf?):

Vinci Construction France

Did this project win an award at the local ACI chapter/ACI Allied Organization level?

No

How did you hear about the ACI Excellence in Concrete Construction Awards?

Local ACI Chapter or Partner

Page: Project Demographics

Information will be published as provided. Make sure the project name and all other details are accurate. Please do NOT use all capital letters.

Short Project Name (5 words or less):

Paris-La Défense Subway station

Category (If any portion of this was a restoration you may want to consider our "Repair & Restoration" catergory):

Infrastructure

Date of Project Completion:

6/30/2024

PROJECT ADDRESS:

10 Rue Michel Ange
Courbevoie Hauts-de-Seine 92400 FR

Project Address:

Project Size (Dimensions, Area, Span):

Station : 40m deep with a central platform 25 meters wide; 1.2 km long tunnel

Concrete Quantity - Volume Area Tonnage:

215 000 m3

Construction Work Duration (in months):

98

If applicable, how many stories is this structure

Page: Project Team

Entire winning project teams will be invited to the Awards Gala during the ACI Fall Convention. Please provide as much information as you can and **make sure company names are spelled correctly**. Information from this segment will be published as it is entered. Please do NOT use all capital letters. We will not publish all the information submitted.

(OWNER) Company Name:

SNCF Réseau Project Management

(Owner) Company Website:

https://www.sncf-reseau.com/en

(Owner or Representative) - First/Given Name:

Aurélie

(Owner or Representative) - Last/Family Name:

Carnel

(Owner or Representative) - Email Address

aurelie.carnel@reseau.sncf.fr

(Owner or Representative) - Assistant/Contact Person - Full Name:

(Owner or Representative) : Assistant/Contact Person Email Address:

(ARCHITECT FIRM) - Company Name:

Agence Duthilleul Civil Engineering

(Architect Firm) - Company Website:

https://www.agenceduthilleul.fr/

Architect Firm Representative [name and email] - Personal Email Address:

Jean-Marie Duthilleul ; contact@agenceduthilleul.fr

(ENGINEERING FIRM) - Company Name:

Joint Venture EGIS – SETEC

(Engineering Firm) - Company Website:

https://www.egis-group.com/ -- https://www.setec.fr/

Engineering Firm Representative [name and email] - Personal Email Address:

Laurent Berend; laurent.berend@setec.com

(GENERAL CONTRACTOR) - Company Name:

VINCI Construction Grands Projets

(General Contractor) - Company Website:

https://france.vinci-construction.com/fr/

General Contractor Representative [name and email] - Personal Email Address:

Jérôme Laclau / Thomas Lacour / François Fernier / Lionel Linger ; jerome.laclau@vinci-construction.com / thomas.lacour@vinci-construction.com / francois.fernier@vinci-construction.com / lionel.linger@vinci-construction.com

(CONCRETE CONTRACTOR) - Company Name:

(Concrete Contractor) - Company Website

Concrete ContractorRepresentative [name and email] - Personal Email Address:

(CONCRETE SUPPLIER) - Company Name:

(Concrete Supplier) - Company Website:

Concrete Supplier Representative [name and email] - Personal Email Address:

(Additional 1) Company Name:

Dodin Campenon Bernard

(Additional 1) Service Provided:

Civil engineering

Additional Company 1 Representative [name and email] - Personal Email Address:

Pascal Moitié; pascal.moitie@vinci-construction.com

(Additional Company 2) Name:

VINCI Construction France – Chantiers Modernes Construction

(Additional Company 2) Service Provided:

Civil engineering

Additional Company 2 Representative [name and email] - Personal Email Address:

Guillaume D'Ouince / François Cussigh / Damien Pierrot; guillaume.douince@vinci-construction.com / francois.cussigh@vinci-construction.fr / damien.pierrot@vinci-construction.fr

(Additional Company 3) Name:

Soletanche Bachy France

(Additional Company 3) Service Provided:

Civil engineering

Additional Company 3 Representative [name and email] - Personal Email Address:

Norbert Seiler; norbert.seiler@soletanche-bachy.com

(Additional Company 4) Name:

Sixense Soldata

(Additional Company 4) Service Provided:

Monitoring Subcontractor

Additional Company 4 Representative [name and email] - Personal Email Address:

Guillaume Gehu ; guillaume.gehu@sixense-group.com

(Additional Company 5) Name:

LD Contrôle

(Additional Company 5) Service Provided:

Concrete testing laboratory

Additional Company 5 Representative [name and email] - Personal Email Address:

Sébastien Dupont; ldparis@ldcontroles.fr

OTHER:

Name of the firm [ISC]
Contact name [François Ischia]
Email [francois.ischia@vinci-construction.com]

Page: Description of Project

Provide a detailed description of your project in 300 words or less. This information will be judged and used in print materials. Information will be published as entered.

PROJECT DESCRIPTION

In 2016, the railway infrastructure national company launched construction works for the extension of RER E line between Paris downtown and Nanterre. Part of this new section involved building a station at La Défense, interconnected with the rapid mass urban transport system and other transport systems, beneath the iconic exhibition hall (named CNIT).

The projected La Defense station footprint is directly below the shallow foundations of supporting columns of the building (including shopping center, commercial premises and five underground levels) constructed in the 1980s under the CNIT vault.

This operation was schematically carried out in four stages:
1- Transfer of 117 existing columns to a temporary support structure comprising a set of micro-piles, metallic frameworks, and a prestressed corset on the column shafts. This involved jacking to ensure an active and controlled load transfer of 65,000 tons. The system was designed to be as compact, as least invasive and as robust as possible due to the limited clearance.
2- Construction of the definitive support structure: thick slab supported by 56 new pillars, 15 to 22m deep, constructed in shafts made using traditional methods, and founded on anchored footings. Shafts excavation, pillars civil engineering, and transfer slab construction were carried out with all the logistical constraints that represent a construction site of this magnitude from the 4th basement level and in interface with the underpinning elements. Pile excavations were conducted within circular or elliptic shafts with fiber reinforced concrete retaining walls.
3- Second load transfer by transferring 100 000 tons from the temporary underpinning system of each column to the station pillars via the transfer slab. This involves resting the column bases on the cast-in-place slab, followed by using jack rings located at the top of the pillars.
4- Excavation and construction of the station by hand-dug small headings.

Page: Description of Concrete Usage within the Project

In 500 words or less, describe how the concrete was effectively utilized in the project, for example, to meet the end user requirements, to shorten the schedule, for sustainability (please indicate any certifications) Information will be judged and printed as entered.

CONCRETE USAGE

Amongst many challenges, these underpinning operations necessitated high-precision measurement instruments and close monitoring as well as the self-production of high-quality concrete designed by performance-based approach.

Concrete mix designs were developed using ternary and quaternary binders composed of Portland cement, slag, fly ash and silica fumes with low Water/Binder ratios considering:

- Thermal Control: Massive structural elements generate heat during hydration, increasing the risk of cracking and Delayed Ettringite Formation. Binder composition was optimized to limit temperature rise and maintain structural integrity.
- Durability in Aggressive Environments: Underground structures are exposed to sulfates and other aggressive agents. Slag and/or fly ash additions improve chemical resistance and reduce permeability.
- Environmental Impact: Lower clinker content reduces CO_2 emissions while supplementary cementitious materials lead to improved overall performances.

Several concrete types were designed to meet technical requirements and many operational needs:
- Shotcrete with extended 6-hour pot life for phased excavation and reinforcement.
- Long distance (up to 400 meters) pumpable 40 and 45 MPa grade concrete, ensuring delivery in confined spaces.
- Massive pours up to 1,000 m³ without traffic disruption, achieved through optimized logistics. Transfer slab requiring 15,000 m³ of concrete with a thickness of 2.2 meters.
- Specific mixes for slope formations, maintaining pumpability and workability.
- Self-Compacting High-Performance Concrete (90MPa) for complex geometries and dense reinforcement.
The latter was used around the existing columns and at the top of the new pillars where it was required to withstand the very high stresses applied to reduced cross-sections during load transfers, as the jacks installed at the top occupied part of the final section. Around the existing columns, 90MPa was used to reduce the thickness of the jacketing and limit the footprint on the existing parking spaces.

Amongst other concrete mixes, 90 MPa SCC (designed with 55 % Portland cement, 35 % GGBS and 10 % silica fume and W/C around 0.25) was subjected to multiple technical requirements such as being designed to be pumpable over 400 meters while maintaining its rheology for three hours.

One of the project most challenging aspects was the use of performance-based concrete solutions before the standard was published in France. The approach relied on comparative performance analysis, ensuring that the mix to be qualified have a better durability than a reference mix design complying with the prescriptive standard for the given exposure classes. This proactive strategy allowed us to validate long-term resistance to chemical aggression, optimize thermal behavior for massive pours, and guarantee structural reliability under the most demanding conditions while anticipating future regulatory frameworks.

To ensure long-term performance, durability tests were conducted throughout the project:
- Accelerated chloride ion migration to assess resistance to chloride penetration [target at 90-day < 3 10-12 m²/s].
- Gas permeability [target at 28-day < 100 10-18 m²] and Porosity [target at 28-day < 16.5 %] tests to assess overall resistance to carbonation.
- Water absorption tests (in addition to contract requirements), confirming resistance to moisture ingress.
These evaluations provided continuous control all through the project duration, guaranteeing compliance with durability criteria for the required structural elements.

Page: Photos and Video

Photographs and videos are used as part of the judging process and should depict current safety standards and proper use of personal protective equipment. Photographs should not contain descriptions and should be high resolution of at least 300 dpi. A minimum of four (4) photographs are required, with a **maximum** of eight (8) photographs.

In additon to the four (4) photographs, **ACI requests that you include a 1 - 2 minute video** showing the construction of the project. **No animations will be accepted**. **AI photos will NOT be accepted.** Concrete and construction of concrete should be featured in some of the photos.

Photographs and footage will be use in promotional material and shown as a digital presentation at the Awards Gala.

PLEASE make photo names short if possible. It allows downloads on our end much faster, thanks!

Photo 1

Download File (https://aciexcellence.secure-platform.com/file/28798/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODc5OCwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm91-Eole%20trainstation%20below%20the%20CNIT.jpg)

Photo 2

Download File (https://aciexcellence.secure-platform.com/file/28797/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODc5NywiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9rJJ-zouAoEGdew?2-Temporary%20support%20structure%20with%20monitoring.jpg)

Photo 3

Download File (https://aciexcellence.secure-platform.com/file/28799/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODc5OSwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9_EgtHPQVprR_63A9l9KvInmoc?3-Temporary%20support%20structure.jpg)

Photo 4

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4-Pillar%20head%20preparation.jpg)

Photo 5 (optional)

Download File (https://aciexcellence.secure-platform.com/file/28801/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODgwMSwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9
HwB-sxEQowmedbKilq6ZuBxvM1NNDlhdmcAp_qT8?5-%E2%80%9CCathedral%E2%80%9D%20pillars.JPG)

Photo 6 (optional)

Download File (https://aciexcellence.secure-platform.com/file/28802/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODgwMiwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9
rm2C_tg06wFGm0cADsPfUZSbimtlqns?6-Pillars%20after%20excavation.JPG)

Photo 7 (optional)

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DsPd4zpnmX5lppRqjJUa2dUagDK5jJMIhCRFHo?7-Station%20interior-platform%20level.jpg)

Photo 8 (optional)

Download File (https://aciexcellence.secure-platform.com/file/28804/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODgwNCwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9
G5fE?8-Interior%20of%20station%20access%20ramp.jpg)

Video/Timelapse (optional)

Download File (https://aciexcellence.secure-platform.com/file/28780/eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJtZWRpYUlkIjoyODc4MCwiYWxsb3dOb3RTaWduZWRVcmwiOiJGYWxzZSIsImlnbm9
y1fterCeqCNd9wFgvNUQW7yx1o?EOLE%20La%20D%C3%A9fense.mp4)

Video/Timelapse 1 (optional)

No File Uploaded

Video/Timelapse 2 (optional)

No File Uploaded

URL link to project (optional)

Page: Award Recipient Information

The Project Owner and team will be notified if the project is a first or second place winner and invited to attend the Awards Gala, held during the ACI Fall Convention.

Page: Separate Waiver

Submitter grants the American Concrete Institute (“ACI”) usage of all photographs, information, graphics, ideas, or other information submitted to ACI (the "Submission"). ACI will not be required to treat any Submission as confidential. ACI will be entitled to use the Submission for any commercial or other purpose whatsoever without compensation to you or any other person sending the Submission.You acknowledge that you are responsible for whatever material you submit, and you, not ACI have full responsibility for the message, including its legality, reliability, appropriateness, originality, and copyright. You further agree that the decision of ACI and the judges in the competition regarding any award, or the decision not to issue an award, is final and not subject to challenge.ACI will not be liable for any damages or injury caused by, including but not limited to, special or consequential damages that result from the Submission, even if there is negligence or ACI or an authorized ACI representative has been advised of the possibility of such damages, or both. The above limitation or exclusion may not apply to you to the extent that applicable law may not allow the limitation or exclusion of liability for incidental or consequential damages. This agreement and waiver shall be construed, interpreted and enforced according to Michigan law, without regarding to conflict of laws principles.Please note, you must agree to the separate waiver in order to submit your project.

Waiver Agreement

Yes, I agree to the terms and conditions

Signature of Applicant:

Olivier

Date Signed:

3/7/2026

Page: Thank you for participating!

Thank you for participating in this year's ACI Excellence in Concrete Construction Awards program! After you save and finalize your application, it will be officially submitted. Judges will review between May and July. Once all scores have been submitted, the submitter will be informed of the status of your project (be sure to check your spam folder). **IMPORTANT DETAILS:** If your project is selected as a winner, the project team and the Chapter/International Partner will be invited to attend the Awards Gala, **October 12, 2026 in Atlanta, GA, USA**. Please contact Esther Beery with any questions or would like to sponsor email at Esther.Beery@concrete.org