

MEMORANDUM

To: Gavin Schoch
General Manager

Cc: B. Conway
J. Jun
File

From: Network Siting Policy Board, HEX Program Office

Date: June 30, 2022

Subject: Interfacing work between HEXC # C15A2 and C19D3

Dear Mr. Schoch,

The Network Siting Policy Board (“NSPB”), an outside Advisory Board acting on behalf of the HEX Program Office and formed under resolution of the Board of Directors of TOWARDEX Technologies International, Inc., has received and reviewed your request for clarifications, regarding the work at the interfacing area where HEX Contract Sections C15A2 (Third Avenue Interconnection) and C19D3 (MBTX Transmission) will demarcate. The location of your inquiry was identified to be between stations 4+74 and 5+25 on the C15A2 Transmission Line Placement Plan. A screenshot of Google Earth view showing the locus and points of interests in your request has been attached hereto under Appendix A.

The NSPB offers the following comments and findings in response to each point of the inquiry raised in your request:

1. Location of the property line between City of Somerville owned and MBTA owned sections of Third Avenue:

The NSPB reviewed Plan 1450 of 1983, Plan 167 of 1995 and Plan 270 of 2014 and determined that City of Somerville owns Third Avenue from the intersection with Inner Belt Road and all the way to station 5+19 on the running line in the C15A2 Transmission Line Placement Plan. For field reference, the City-owned street ends at the location where concrete sidewalk stops between 21 Third Avenue and 43 Third Avenue. There is a monument marker at this location recently marked by Chappell Engineering, a surveyor working for the Hub Express System. A field marking of “5+19” was also made recently at the angle point matching with the C15A2 Transmission Line Plan to confirm the same.

2. Precise location of where the contractor shall stub out the mainline duct bank of C15A2 (Third Avenue Interconnection) for the Point of Pickup by C19D3 (MBTX Transmission):

In your request, you mentioned that TWDX Infrastructure will be repaving the City owned section of Third Avenue in October, and you asked whether it could stub out the duct bank at a point further down the road, so that the new street pavement can be protected when C19D3 picks up the conduits. You also asked if the MBTA File # 16787 (attached hereto as ‘Appendix B’ for reference) applies at the interfacing work area in Third Avenue.

The MBTA File # 16787 refers to the Hub Express System license development at the Green Line Extension yard between Cambridge, MA and 90 Inner Belt Road in Somerville, MA. This does not apply for the C19D3 (MBTX Transmission) project and the ongoing interfacing work in Third Avenue. C19D3 requires a new MBTA License.

The NSPB informs TWDX Infrastructure that 5+19 is the Project Interface Demarcation Line where the C15A2 running line must terminate, and C19D3 will then pick up. The duct bank for C15A2 must be stubbed out at 5+19 and continue no further. The NSPB offers no guidance on measures to protect the newly paved street in the interfacing area, except to remind that TWDX Infrastructure is responsible for the Guaranteed Road when it excavates again for C19D3 to pick up the stubbed-out duct bank. Should the new pavement be broken by C19D3 at the Project Interface Demarcation Line, TWDX Infrastructure is advised to curb-to-curb mill and repave the street again, but only along the length of the trench where new pavement has been damaged. TWDX Infrastructure is further instructed to refer to City of Somerville IAM's Permit Manual and defer to Somerville Engineering Division for guidance on restoration procedures for Guaranteed Roads.

3. Configuration of Shadow Conduits for duct bank at the interfacing area, on the East Receiving Wall in HEX Manhole C15A2-004 (STA 4+74):

In your request, you had asked for clarification on Shadow Conduits for the HEX Mainline duct bank which will be stubbed out at the Project Interface Demarcation Line for C19D3 to pick up. Specifically, you asked whether City of Somerville (2) – 1.25" Shadow Conduits should continue past HEX Manhole C15A2-004, and whether TWDX IP Shadow Conduits also need to be installed at the interfacing area.

The Shadow Conduits for City of Somerville are provided under the terms of the Fiber Optic Communications Easement Agreement between TOWARDEX and the City of Somerville to support Hub Express System activities in Inner Belt (Book 79114/Page 53, attached hereto as "Appendix C" for reference).

The NSPB has determined that the conduit system past HEX Manhole C15A2-004 leaves the City-Owned Private Way and more specifically, leaves the boundary of activities covered by the Easement Agreement and any subsequent modifications thereof, whether now existing or hereafter expected. Therefore, Shadow Conduits for City of Somerville are not installed starting from the East Receiving Wall of HEX Manhole C15A2-004, and to Project Interface Demarcation Line at 5+19.

However, the NSPB instructs TWDX Infrastructure to plan the duct bank so that (1) – 4" Duct and/or (2) – 1.25" Ducts are earmarked from HEX Manhole C15A2-004 and to Project Interface Demarcation Line 5+19 for a possible development of Shadow Conduits on behalf of the MBTA and MassDOT to support C19D3 project activities. The NSPB further notes that the specific quantity and configuration of Shadow Conduits that MBTA and/or MassDOT may require from the Hub Express System at this location are not yet known, and will be determined during advanced stages of the License development with the MBTA.

As for TWDX IP, the requirement for its Shadow Conduits are governed by the Joint Network Facilities Agreement between HEX Program Office and TWDX IP (attached hereto as 'Appendix D'). In conformance

to this agreement, TWDX Infrastructure is instructed to earmark (2) – 1.25” Ducts from HEX Manhole C15A2-004 and to Project Interface Demarcation Line 5+19 for TWDX IP Shadow Conduits. Further, the Project Estimator shall provide a pro-rata share accounting of materials and labor charges so that TWDX IP can be separately invoiced for the costs of having its Shadow Conduits installed, in compliance to the agreement.

4. Possible lateral for Verizon at HEX Manhole C15A2-004 for connection into the MBTA GLX Vehicle Maintenance Facility at 34 Third Avenue.

The NSPB has reviewed your inquiry regarding Verizon installing telecommunications services for MBTA GLX Vehicle Maintenance Facility. You noted that during a field visit, a Verizon employee had mentioned that they’re not allowed in the Zayo system at Third Avenue, and you also noted that even if they were, the Zayo system ends at the CoreSite data center in 70 Inner Belt Road and does not extend to MBTA’s facility at 34 Third Avenue, leaving aerial poles as the likely fallback option.

In response to your inquiry, the NSPB contacted James Jun from TOWARDEX Corporate and C15A2 Contractor Lead on whether a representative for Verizon had reached out to discuss an attachment onto the Hub Express System to service the GLX Vehicle Maintenance Facility at 34 Third Avenue. Neither of them was aware of anyone from Verizon reaching out regarding this development.

However, the NSPB has confirmed that Verizon has an easement from MBTA to manage telecom conduits at the GLX Vehicle Maintenance Facility (Book 77615/Page 75), and NSPB also noted that HEX Manhole C15A2-004 is sited in the street right in front of the Zero Manhole for the GLX Vehicle Maintenance Facility. As Hub Express System appears to be the only underground system available to Verizon for serving the MBTA facility, NSPB then reached out to the Project Estimator regarding the status of budget for the Lateral Siting Policy of C15A2 Third Avenue Interconnection project.

The Project Estimator confirmed that the budget still has funds available to install a lateral of (2) – 4” Ducts from a HEX manhole to an agreed point of pickup, and that Verizon could apply for no-cost installation of a lateral from the Hub Express System under C15A2 Lateral Siting Policy. TWDX Infrastructure will then need to submit a Lateral Siting Request to NSPB for application review, along with an engineering drawing of the proposed installation.

The NSPB reminds that the deadline for submitting Lateral Siting Requests under the C15A2 Lateral Siting Policy is August 31, 2022, therefore time is of the essence. As TWDX Infrastructure is repaving Third Avenue in October, it is important that this deadline be met. Once this deadline has passed, TOWARDEX will not provide funding for laterals under the C15A2 Lateral Siting Policy, and applicants will be responsible for Guaranteed Road liabilities, including extended costs to properly restore a recently repaved City street.

Please contact this office if there are any more questions or concerns.

cc: File

Y:\IC-VOL\HEX SITING BOARD\Correspondence\Joint Trench Administrator\C15A2_Memo_for_C19D3_Interfacing_Work.docx



57-107
95TSC

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION IS UNLIMITED.

[illegible]

Rev.	Date	Reason for Issue	Chg
------	------	------------------	-----

General Notes



TOWARDEX
Your network success story

THE PERFORMANCE NETWORK AND
ENGINEERS YOU CAN RELY ON.™

© 2022 TOWARDEX Technologies International, Inc. All rights reserved. TOWARDEX, the TOWARDEX logo, TWDX IP, PACKETSURGE and the PACKETSURGE logo are trademarks of TOWARDEX Technologies International, Inc. in the United States and other countries. All other trademarks, service marks, registered marks, or registered service marks are the property of their respective owners.

One Marina Park Drive, Suite 1410
Boston, MA 02210
Phone: (617) 849-7278
Fax: (432) 225-3784
www.towardex.com



Client	
--------	--


HUB EXPRESS PROGRAM
OFFICE

Project	
---------	--

C15A2 — C19D3
INTERFACING AREA

Title

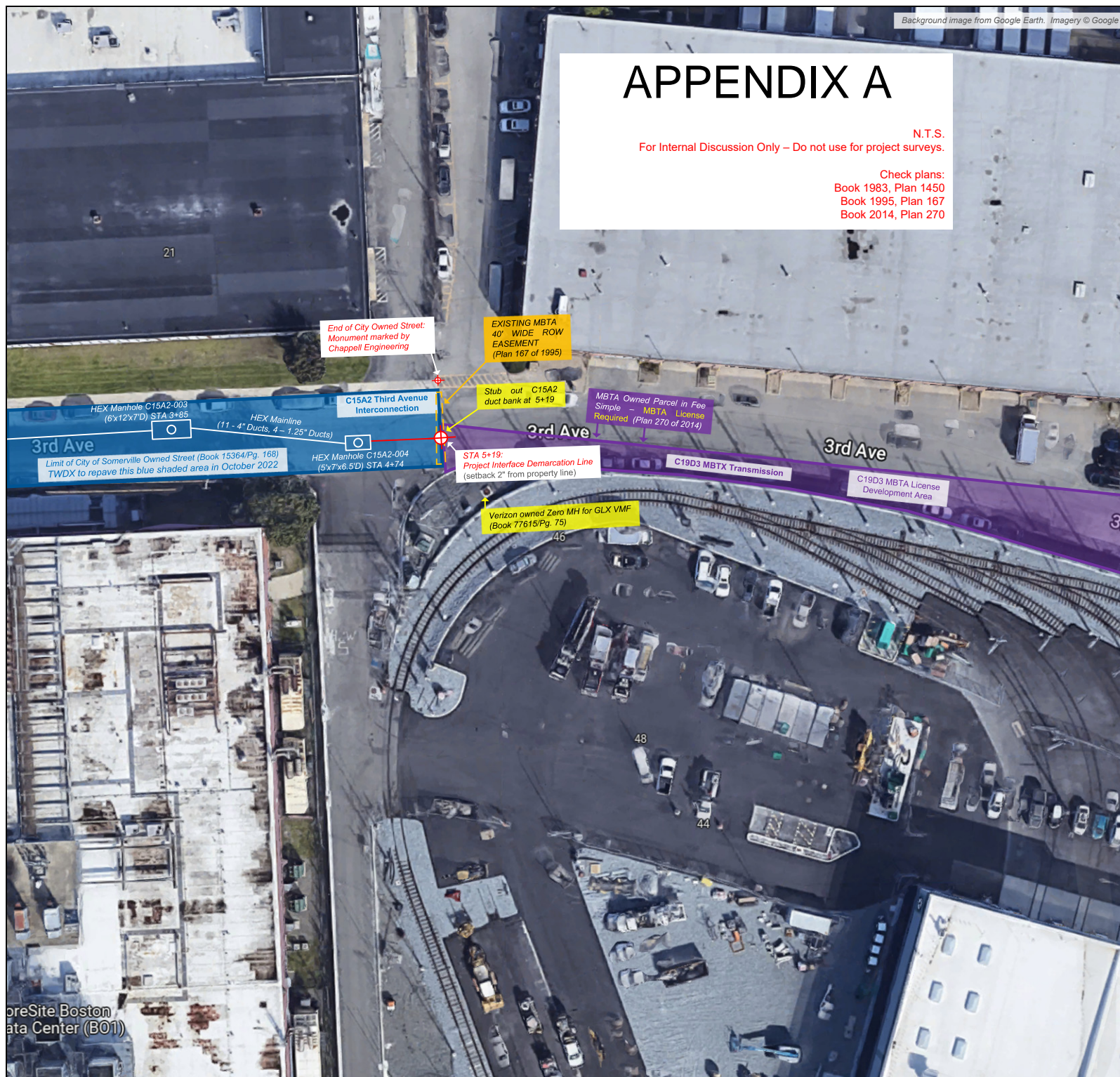
NSPB MEETING
DISCUSSION 6-29-22

Project No. 15A2	Date 6/27/22	FSO GP
Number P-01.00		Revision 01
 Project Account Number 09275		Form DT-2

N.T.S.
For Internal Discussion Only – Do not use for project surveys.

N.T.S.

Check plans:
Book 1983, Plan 1450
Book 1995, Plan 167
Book 2014, Plan 270





Charles D. Baker, Governor
Karyn E. Polito, Lieutenant Governor
Jamey Tesler, Acting MassDOT Secretary & CEO
Steve Poftak, General Manager

APPENDIX B



March 11, 2021

Mr. Brian Clarizia
Director of Licensing
Greystone Management Solutions
20 Park Plaza, Suite 1120
Boston, MA 02116

Subject: MRG File #16787 – Towardex Technologies International
GLX Maintenance Yard, Somerville, MA
MBTA Operations Review Comments

Dear Mr. Clarizia,

Per your request, the MBTA Operations Department has reviewed File #16787 dated 1/28/21, relative to the request by Towardex Technologies International to install approximately 330 feet of conduit that will impact the GLX Yard lead track in Cambridge, MA. As a result of our review, we would like to provide the following comments:

- The MBTA Power Department approves this canvass, with the attached conditions.
- The MBTA Maintenance of Way Department approves this canvass, with the attached conditions.
- The MBTA Signals Department has no objections or comments pertaining to this canvass.
- Railroad Operations approves this canvass, with the attached conditions.

Please see the attached documents. If you have any questions regarding this response, feel free to contact my office at (617) 222-6251.

Sincerely,

Erik Stoothoff, P.E.
Chief Engineer

APPENDIX C

FIBER OPTIC COMMUNICATIONS EASEMENT AGREEMENT

This Fiber Optic Communications Easement Agreement (this "Agreement") is made as of November 4th, 2021, by and between the City of Somerville, a body corporate and politic and a political subdivision of the Commonwealth of Massachusetts with a usual address of 93 Highland Avenue, Somerville, MA 02143 ("Grantor") and TOWARDEX Technologies International, Inc., a Delaware corporation with principal address at One Marina Park Drive, 14th Floor, Boston, Massachusetts 02210 ("Grantee").

WHEREAS, a portion of Inner Belt Road in Somerville, Middlesex County, Massachusetts is a private way under the control of Grantor (the "Private Way");

WHEREAS, Grantee desires to construct underground multi-conduit or multi-cable fiber optic communications system and associated facilities, including underground vaults and manholes (the "Fiber Optic Facilities") within portions of the Private Way (defined below as the "Easement Areas") identified on the plan of land entitled "Plan of Communications Easement Inner Belt Road, Somerville, MA 02143" prepared by Chappell Engineering Associates, LLC dated August 30, 2021, attached hereto as Exhibit A and incorporated herein, and Grantor desires to grant certain perpetual easement rights in and under the Easement Areas to Grantee for said purposes;

WHEREAS, the Fiber Optic Facilities are intended to serve development in the Inner Belt area in City of Somerville and directly connect the Inner Belt to the North Point area in City of Cambridge over the adjacent lot owned by the Massachusetts Bay Transportation Authority ("MBTA") under telecom licenses from MBTA's Office of Real Estate and Asset Development, and create a new direct, high speed route connecting key internet infrastructure facilities in the region, including a transatlantic cable landing station in Lynn, Massachusetts (collectively, the "Hub Express System"), and will promote economic development in the cities of Somerville, Cambridge and Boston serviced by the Fiber Optic Facilities; and

WHEREAS, the construction of the Hub Express System cannot proceed without the construction of Fiber Optic Facilities within the Private Way in the City of Somerville;

WHEREAS, the Grantee has agreed to accept the cost of construction, reconstruction, inspection, renewal, and maintenance of the Fiber Optic Facilities that will be located in the City of Somerville, and the City of Somerville will not have any financial responsibility for these Fiber Optic Facilities.

NOW, THEREFORE, for consideration of One Dollar (\$1.00) and other good and sufficient consideration, the receipt of which is hereby acknowledged, Grantor and Grantee hereby agree as follows:

1. Grant of Easements

Subject to the terms and conditions hereof, Grantor hereby grants to Grantee the following perpetual non-exclusive rights and easements:

- (a) Easements for Utilities. (a) A perpetual non-exclusive easement under the Private Way for the installation, maintenance, operation, use, upgrade, and inspection or abandonment in place of the Fiber Optic Facilities and having a width of twenty (20) feet centered on the duct bank as the same is installed within the Public Way ("Permanent Easement"); and (b) a temporary easement from time to time when necessary for the purpose of construction, reconstruction, repair, replacement, upgrade, and maintenance of the Fiber Optic Facilities, which easement shall have a width of thirty (30) feet centered on the duct bank as the same is installed within the Private Way ("Temporary Easement"). The Permanent Easement and Temporary Easement shall collectively be referred to herein as the "Easement Areas". A legal description of the permanent and temporary easement areas is attached hereto and incorporated herein as Exhibit B.
- (b) The Grantee's use of the Easement Areas is non-exclusive and is subject to all encumbrances, restrictions, reservations, other matters of record title and rights of possession in others, including, without limitation, future grants of use to others. The Grantor shall have the right, in its sole discretion, to do all things necessary and appropriate in the exercise of its municipal authority in the Easement Areas, including, but not limited to the right to install, maintain, operate, use, upgrade, separate, relocate, renew, repair, replace and abandon in place its public and private ways and any and all underground utilities located now or hereafter within the Easement Areas.
- (c) Grantor's Use of Fiber Optic Facilities. The Grantor shall be permitted to install, use, upgrade, inspect, replace or remove two (2) fiber optic cables, with each cable having size of not more than 1.05 inches in outer diameter in the Fiber Optic Facilities located in the Public Way, provided that all use and access shall be in accordance with reasonable rules and regulations established by Grantee with respect to management of the Hub Express System.
- (d) Access. The right to enter upon and pass over, on, under, across, and through the Permanent Easement and/or Temporary Easement, as appropriate, by foot, motor vehicle, and heavy equipment for all of the purposes set forth in paragraph 1(a) above in perpetuity.
- (e) Grantee Permittees. The perpetual right to have Grantee's officers, employees, contractors, subcontractors, representatives, agents and other telecommunications providers licensed by the Grantee to access and use the Fiber Optic Facilities enter upon the Easement Areas for the purposes provided in this Agreement.
2. Maintenance
- (a) Fiber Optic Facilities. The Fiber Optic Facilities shall be and remain the property of Grantee. Grantee shall be solely responsible for the maintenance, repair and replacement of the Fiber Optic Facilities, and for restoration of the Easement Areas to its condition immediately prior to Grantee's maintenance, repair, or replacement activities hereunder.

- (b) Prior Notice. Grantee shall give Grantor reasonable prior written notice of its intention to access the Easement Areas if it is undertaking maintenance and construction activities including details of construction activities to be undertaken and the expected amount of disturbance. Such prior written notice shall be in addition to Grantee's application for and acquisition of all required state and local permits for the work to be undertaken. Grantee agrees to work with Grantor to minimize disruption, and shall, if requested by Grantor, undertake public outreach, and reasonably address the concerns of affected Somerville residents. Notwithstanding the foregoing, prior notice shall not be required in the event of an emergency but in such event, Grantee shall give Grantor notice (which can be via oral communication) as soon as is reasonably practicable under the circumstances.
- (c) Grantor's Retained Rights. Grantor and Grantee acknowledge and agree that they shall cooperate with one another in connection with the installation of utilities and other improvements within the Permanent Easement. Grantor shall consult with Grantee and give Grantee reasonable prior written notice of its intention to construct or permit others to construct improvements in the Permanent Easement. Notwithstanding the foregoing, Grantor shall not be liable for delays, obstructions or like occurrences affecting the Grantee arising out of the work of Grantor, its other licensees, or parties in interest.

3. Insurance.

Grantee will carry, at its own cost and expense, the following insurance: (i) commercial general liability for personal injury, bodily injury, and property damage in an amount not less than \$1,000,000 per occurrence and \$3,000,000 in the aggregate; and (ii) Workers' Compensation Insurance as required by law. Grantee will name the Grantor as an additional insured under its commercial general liability policy as its interests may appear under this Agreement, but only for Grantee's legal liability arising from the performance of the Agreement.

4. Miscellaneous

- (a) Only Uses Specified. The perpetual rights and easements granted to Grantee herein shall be limited to and solely for the uses specified. Any other uses shall only occur with the prior written consent of Grantor.
- (b) Successors and Assigns. Whether or not specific reference is made to successors and assigns in each term or provision of this Agreement, the perpetual rights and easements granted in this Agreement shall be binding upon, and inure to the benefit of, the parties hereto and their respective successors and assigns in perpetuity.
- (c) No Waiver. In no event shall the rights granted herein be deemed to be waived or abandoned because of any delay in the exercise thereof.

- (d) Amendment. This Agreement may only be amended or modified by an agreement in writing signed by the parties hereto. Upon request of either party, such amendment shall be recorded with the Middlesex South District Registry of Deeds.
- (e) Notice. All notices required or permitted to be given hereunder shall be in writing and delivered by hand, mailed by a nationally recognized overnight carrier or mailed by registered or certified mail, return receipt requested, all charges prepaid, addressed to Grantor or to Grantee; in the case of Grantee, Attention: General Manager with copies to Joint Trench Administrator and Corporate Counsel; in the case of Grantor, Attention: Mayor with copies to City Engineer and City Solicitor. Notices shall be deemed given upon receipt or refusal thereof.
- (f) Captions. Captions and headings are supplied herein for convenience only and shall not be deemed a part of this Agreement for any purpose.
- (g) Severability. If any term or provision of this Agreement or the application thereof to any person or circumstance shall to any extent be invalid or unenforceable, the remainder of this Agreement or the application of such terms or provisions to persons or circumstances other than those as to which it is invalid or unenforceable shall not be affected thereby and each term and provision of this Agreement shall be valid and enforced to the fullest extent permitted by law.
- (h) No Personal Liability. No elected official, employee or agent of any party hereto shall have any personal liability under this Agreement.
- (i) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts.

[Signatures follow on next page]

GRANTOR:

CITY OF SOMERVILLE

Name:

Joseph A. Curtatone, Mayor

Attest:

Approved as to form:

By:

Francis X. Wright, Jr.,

Its: City Solicitor

COMMONWEALTH OF MASSACHUSETTS)

) ss:

COUNTY OF MIDDLESEX)

On this 4th day of November, 2021, before me, the undersigned notary public, personally appeared Joseph A. Curtatone the Mayor of the City of Somerville, and proved to me through satisfactory evidence of identification, which was personal knowledge, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily in such capacity for its stated purpose.

Karen Reynolds

Notary Public

My commission expires: 03-03-28

(Official Signature and Seal of Notary)



KAREN REYNOLDS
Notary Public, Commonwealth of Massachusetts
My Commission Expires March 03, 2028

GRANTEE:

TOWARDEX TECHNOLOGIES INTERNATIONAL, INC.

Name: James H. Jun

James H. Jun, Chief Operating Officer

Attest:

Approved as to form:

By: David L. Sterrett

David L. Sterrett,

Its: Corporate Counsel

COMMONWEALTH OF MASSACHUSETTS)

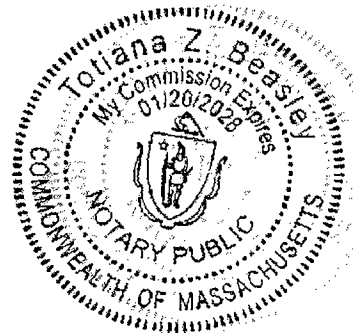
) ss:

COUNTY OF Suffolk)

On this 2nd day of November, 2021, before me, the undersigned notary public, personally appeared James Jun, and proved to me through satisfactory evidence of identification, which was driver's license, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he/she signed it voluntarily in such capacity for its stated purpose.


Notary Public Totiana Z. BeasleyMy commission expires: 01/20/2028

(Official Signature and Seal of Notary)



APPENDIX D

JOINT NETWORK FACILITIES AGREEMENT

This **Joint Network Facilities Agreement** (the “JNF Agreement”) is a formal internal agreement and a memorandum of understanding (the “Internal Agreement”) between the following two or more units (the “Internal Unit Parties”) of TOWARDEX Technologies International, Inc. (the “Corporation”):

<u>Internal Unit Party A:</u>	TWDX IP
<u>Internal Unit Party B:</u>	Hub Express Program Office
<u>Internal Unit Party C:</u>	Packetsurge Networks

Internal Agreement is a formal agreement between two or more units of the Corporation that are intended to remain in force for more than one year and involve capital assets or resources valued at \$1,000,000 or more. Agreements that terminate less than one year after the effective date or that involve corporation assets or resources less than \$1,000,000 need not, but may, comply with these procedures.

Internal Agreements establish a record of the understanding and practice of the internal unit parties. Internal Agreements are not legally binding and are not sufficient to establish a formal legal contract. Internal Agreements cannot be used to establish an agreement between the Corporation and a legally separate subsidiary of the corporation, including any wholly owned organization which is acting as a separate legal entity from that of its parent corporation

RECITALS

WHEREAS, under the powers granted by the Board of Directors of the Corporation, the **Hub Express Program Office** is in charge of developing and managing the Corporation’s capital delivery programs for the Hub Express System, an underground fiber optic utility system owned by the Corporation.

WHEREAS, under the powers granted by the Board of Directors of the Corporation, the Hub Express Program Office is authorized to lead and manage TWDX Infrastructure, LLC (the “Joint Trench Administrator”), a wholly owned subsidiary of the Corporation, in accordance to the terms of the Joint Trench Administrator’s Operating Agreement, all applicable laws, Corporation’s Bylaws and any applicable underlying agreements and practices authorized by the Board of Directors.

WHEREAS, **TWDX IP** is responsible for providing Internet Protocol based communications services to Corporation’s nonresidential customers, namely Dedicated Internet Access, IP Transit and enterprise managed connectivity solutions, and TWDX IP is managed by the President and CEO;

WHEREAS, **Packetsurge Networks** is responsible for providing private transport and layer-2 based communications services to Corporation’s nonresidential customers, and Packetsurge Networks is managed by the President and CEO;

WHEREAS, TWDX IP has invested significant amount of its own capital and operating budget to support the creation and development of the Hub Express System, with the mission to advance Corporation's strategic interests and to help diversify and improve the competitiveness of Boston's regional interconnection facilities and carrier hotels;

WHEREAS, TWDX IP has agreed to continue funding the development of the Hub Express System through a portion of its annual operating budget and Hub Express Program Office agrees to accept TWDX IP's continued financial support of the Hub Express System;

NOW THEREFORE, the Internal Unit Parties herein mutually agree and formalize the following practices as follows:

PURPOSE AND TERMS

1. The term of this JNF Agreement is a period of five (5) years (the "Initial Term") commencing upon the effective date. The Agreement shall automatically renew for successive 1-year periods (each a "Renewal Term") unless Internal Unit Parties agree in writing to not renew this JNF Agreement, which notice should be delivered no less than 30 days prior to the expiration of the Initial Term or then current Renewal Term.
2. For legal purposes, activities under this JNF Agreement are under the legal responsibility and ownership of the Corporation.
3. TWDX IP agrees to contribute annually 30% or more of its operating budget toward the continued construction and development of the Hub Express System to advance the Corporation's strategic interests and competitiveness in the telecommunications industry.
4. Hub Express Program Office agrees to lawfully make available specific conduit capacities within the Hub Express System to ensure that TWDX IP can utilize the facilities of the Hub Express System to advance its interests and the growth of its own IP backbone and lit services network infrastructure, as follows:
 - a. Pursuant to 47 USC § 224, MGL § 159A, MGL § 166 and 220 CMR 45.00 as Regulating Authorities, the Corporation, which itself is engaged in the provision of telecommunications services and is a Competitive Local Exchange Carrier ("CLEC") duly licensed to operate in the Commonwealth of Massachusetts, and is regulated by the Massachusetts Department of Telecommunications and Cable ("MDTC"), cannot make available any of its utility conduits and facilities to TWDX IP or to any of the Corporation's Internal Units without first imputing to its costs of such services at the equal amount to the attachment rate in which a Hub Express System's licensee or a tenant customer would be liable.
 - b. Therefore, for each construction of the Hub Express System Section, the Hub Express Program Office will direct its Network Siting Policy Board ("NSPB") to include installation of "shadow conduits" on behalf of TWDX IP on each mainline section construction, and TWDX IP will pay for the costs of installing its shadow conduits, so that such costs are not allocated from Hub Express

- System's construction costs, thereby preventing such costs from being passed onto the system's ratepayers.
- c. In the event that TWDX IP opts out of the installation of its shadow conduits, or installation of such shadow conduits is not viable, TWDX IP may then "lease" an innerduct or specific duct capacity at the same attachment rates that a Hub Express System licensee or a tenant customer would be liable for. This will be implemented by the Corporation imputing to its costs of providing such services to TWDX IP, pursuant to 47 USC § 224(g).
 - d. TWDX IP may opt to have its own dedicated manhole installed, separate from Hub Express System's mainline underground vaults or transmission line manholes. Such manholes dedicated to TWDX IP's sole use shall be called "JNF manholes" and Hub Express Program Office will direct the NSPB and the Joint Trench Administrator to obtain all necessary permits and authorizations from governmental bodies and authorities having jurisdiction at the siting area to accommodate installation of such JNF manholes. TWDX IP will pay for all labor, materials and tie up costs to have its own JNF manhole and connecting conduits installed, without impacting Hub Express System's mainline construction costs.
5. TWDX IP accepts that its own shadow conduits which it pays to have installed, may not always be installed in the same fashion as the Hub Express System's mainline conduits, depending on reasons of generally applicable engineering purposes and design constraints. TWDX IP agrees that its shadow conduits may be installed together in the same manner and location as with other shadow conduits as may be required in applicable jurisdictions where the Hub Express System Section is sited. For example, TWDX IP's shadow conduits may be installed together in the same bank or location of conduits as those of a government or state agency having their own conduit(s) installed in the Hub Express System.
 6. Furthermore, whenever a Hub Express System Section is being constructed under a "joint trench" configuration, TWDX IP has the option "join" into the Common Trench and pay to have its own facilities installed in the same manner, price and configuration as that of any other joint trench customer. This option may be exercised by TWDX IP in addition to paying to have its own separate shadow conduits installed.
 7. TWDX IP retains the option to "lease" any duct capacity in the Hub Express System's mainline conduits at any time, regardless of whether it chooses to use its own shadow conduits, and the Corporation shall impute to its costs of providing such services to TWDX IP at same attachment rates that a Hub Express System licensee or a tenant customer would be liable for.
 8. At no time shall a conduit or any facilities of the Hub Express System be provided to TWDX IP, or any Internal Units of the Corporation at the expense of other ratepayers. Every Internal Unit utilizing the Hub Express System must pay out of its own budget to make such uses of the utility system, and the Corporation shall impute to its costs of providing such services, so that costs of providing such attachments are not passed onto other tenants or licensees of the Hub Express System.
 9. TWDX IP accepts that its shadow conduits are the property of the Corporation and are equally subject to 47 USC § 224(a)(1) in the same manner as that of any other Hub Express System mainline conduits owned by the

- Corporation. Therefore, TWDX IP agrees that its shadow conduits shall not be unreasonably withheld or held in reserve, and it will maintain an engineering plan to make use of such shadow conduits. Should TWDX IP elect to abandon or no longer utilize a shadow conduit in its network development plans, it agrees to work with the Hub Express Program Office to surrender such unused shadow conduit back to the Hub Express System's mainline pool of available conduits to be leased out to other telecommunications providers.
10. Packetsurge Networks is not authorized to "own" any dark fiber asset or emplace any fiber optic cables in the Hub Express System, unless an express consent or authorization is granted by TWDX IP for each installation. Packetsurge Networks instead agrees to "lease" or obtain the permission to use individual fiber strands in the fiber optic cable which TWDX IP owns and places inside utility conduits.
11. Packetsurge Networks further accepts that any of its facilities located at the "outside plant" shall be subordinate to TWDX IP's internal procedures and management practices and shall defer to TWDX IP for any service issues or requirements. Packetsurge Networks accepts that any of its fibers or facilities installed at the "outside plant" are strictly at the invitation of, and in subordination to, TWDX IP. Furthermore, the Hub Express Program Office does not consider Packetsurge Networks a member or a tenant of the Hub Express System for the purposes of the agreement hereunder.

ENTIRE AGREEMENT

This JNF Agreement is intended only to set forth the general understanding of the Internal Unit Parties with respect to the subject matter herein, and does not, and is not intended to contractually bind the parties. This JNF Agreement sets forth the complete understanding of the parties. It supersedes all prior agreements and negotiations, oral or written, with respect to this subject matter. The President and CEO's decisions supersede all internal agreements, including this JNF Agreement, and the President has the right to terminate or arbitrate any internal agreement if the President believes it to be in the best interest of the Corporation under the powers duly granted by the Board of Directors.

SIGNATURES

EFFECTIVE DATE: September 23, 2021

UNIT HEAD SIGNATURES:

TWDX IP

Hub Express Program Office

Packetsurge Networks