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Best Practices for Security and Perfection in Digital Infrastructure Assets

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I. INTRODUCTION

The structured finance sector has seen an expansion of digital infrastructure asset classes and related financings.[1] Digital infrastructure asset classes have grown to include data centers, wireless towers, distributed antenna or network systems, and fiber optic networks and installations. As digital assets continue to evolve and the asset class further expands, there are multiple aspects that should be carefully analyzed in financing and securitizing these asset classes. One of the most important considerations for investors in any structured financing is the method of perfection of the security interest in the collateral being securitized. In more traditional types of securitizations, it is sometimes easy to take this for granted—it is clear, for example, that in a securitization of residential mortgage loans, the mortgages create the lien (the real property analogue to a security interest in personal property) on the underlying real property collateral.[2]

Given the nature of digital infrastructure assets, however, and the newness of many types of collateral in this developing asset class, the method of perfection is not always obvious and often requires careful consideration. In fact, real-versus-personal property determinations can vary by state, may be influenced by local tax considerations, and can—for many complex asset classes—be effectively "hybrid," with both personal and real property aspects involved.

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1. *See* Christopher Niesche, *Digital Infrastructure Growing as an Asset Class*, FIN. REVIEW (June 18, 2021, 5:00 AM), https://www.afr.com/companies/financial-services/digital-infrastructure-growing-as-an-asset-class-20210616-p581mm [https://perma.cc/DKH4-U3G6] ("The huge increase in demand for technology and data storage is underpinning the attractiveness of digital infrastructure as a growing asset class . . . .").

2. *See* U.C.C. § 9-109(d)(11) (AM. L. INST. & UNIF. L. COMM'N 2010) (providing that mortgages are not governed by Article 9 of the UCC); *see also* STEPHEN L. SEPINUCK, PROBLEMS AND MATERIALS ON SECURED TRANSACTIONS 50, 55 (West Academic Publishing, 4th ed. 2017) (explaining that mortgages are governed by real property law and suggesting that the perfection of personal property is often more complicated than the perfection of interests in real estate).

II. OVERVIEW OF THE ASSET CLASS

Digital infrastructure and wireless tower securitization backed by wireless towers and other digital infrastructure, such as distributed networks, fiber-optic runs, data centers and related wireless carrier and other customer contracts have increased in prevalence—particularly since the 2008 financial crisis. This trend is expected to continue given the increased prevalence and need for digital infrastructure and bandwidth—a fact that has been exacerbated by the COVID-19 pandemic and the need to work from home.[3] Similarly, the market for securitizations and other financings of such assets continues to be robust with significant investor demand.

Digital infrastructure assets can be attractive credit assets for securitizations and other financings due to the stable cash flow they generate given the business-critical nature of digital infrastructure and the projected increase in data bandwidth needs and usage in the coming years. Customer contracts in the asset class—i.e., the underlying cash flows being securitized—typically include long-term contracts with highly-rated wireless carriers, long-term contracts with highly-rated "big tech" companies, or other highly senior, mission critical contracts with high-grade tenants and customers.[4]

Given the novelty of certain types of digital infrastructure assets, investors and lenders should take care in taking and perfecting their security interests in such assets. As noted above, it is important to realize that the distinctions as between real and personal property and other threshold determinations in order to establish perfection of personal property or a lien on real property are often not immediately evident and must be addressed property-by-property across the asset class.

III. TYPES AND METHODS OF PERFECTION

3. *See* Niesche, *supra* note 1 ("The growing interest in digital infrastructure investment comes after the COVID-19 pandemic increased demand for working and shopping from home and for businesses to digitise more of their processes.").

4. *See, e.g.*, Drew Campbell, *A Data Center Company Pioneers Asset-Backed Financing*, INSTITUTIONAL INVESTING IN INFRASTRUCTURE (Feb. 21, 2019), https://irei.com/news/data-center-company-pioneers-asset-backed-financing/ [https://perma.cc/M36U-UFDP] ("Infrastructure investors like data center companies because of their potential to generate core-like cash yields."); *see also* Joshua Gatmaitan et al., *Looking Up and Ahead for Wireless Tower Securitizations*, MORNINGSTAR (Apr. 2019), https://ratingagency.morningstar.com [https://perma.cc/7FX7-BD7J] ("As a potential source of long-term, stable, and recurring cash flow, wireless tower portfolios can serve as ideal securitization collateral.").

In order to ensure that a secured party obtains a properly perfected security interest in its collateral, it is important to assess how the asset or assets which comprise the collateral are classified and perfected. Digital infrastructure assets typically will fall under one or more of the following categories: personal property, fixtures, or real property. Depending on the classification, different methods of perfection are required to perfect a security interest in the collateral. However, given the relative novelty of the state law treatment of many of these items of collateral in the world of digital infrastructure, the determination as to whether a particular item of digital infrastructure collateral falls into one or more of the above categories requires careful analysis.

As a rule of convenience, personal property generally encompasses all tangible, intangible, and moveable assets other than real property.[5] Perfection of security interests in personal property is governed by the rules and requirements of Article 9 of the Uniform Commercial Code ("UCC") as adopted by each state.[6] "Fixtures" are defined as goods that have become so related to a particular parcel of real property that an interest in them arises under the real property law.[7] Article 9 of the UCC also governs perfection of security interests in fixtures, but a lien on fixtures may also be created under state real property law. The UCC, however, contains the priority rules set forth below with respect to competing UCC filings on fixtures.[8] Real property refers to land and immovable property permanently attached to land. While the UCC governs security interests involving personal property and fixtures, it does not cover real property.[9] A lien or mortgage on real property and fixtures is created according to the relevant state's real property laws. In addition to the classification of the property used as collateral, characteristics of the debtor can also affect the appropriate form and location of collateral perfection.

A. Personal Property

To perfect a security interest in most types of personal property, the UCC provides that a UCC-1 financing statement may be filed at the

5. *See* SEPINUCK, *supra* note 2, at 62 (describing how personal property under the UCC is classified as either tangible, intangible, or quasi-intangible).

6. *See id.* at 52–53 (detailing how Article 9 governs the creation, perfection, and priority of security interests).

7. U.C.C. § 9-102(a)(41).

8. U.C.C. § 9-334.

9. U.C.C. § 9-109(d)(11).

state-level—typically in the state where the debtor is "located," which, in most cases for debtors who are registered organizations under state law, is the state under whose laws the debtor/grantor was organized.[10] A UCC-1 financing statement is a short form that indicates the legal name and address of the debtor/grantor of the security interest and the secured party, and it must sufficiently describe the collateral.[11] The form is typically filed with the secretary of state's office in the state of the debtor's location.[12] The UCC-1 financing statement is effective for five years, but a UCC-3 financing statement amendment may be filed in the six months before expiration to continue the effectiveness of the filing every five years.[13]

B. Fixtures

A security interest in fixtures may be perfected in two different ways under the UCC. In addition, a lien on a fixture may be created pursuant to state real property law. Under the UCC, fixtures include "goods that have become so related to particular real property that an interest in them arises under real property law."[14] In practice, fixtures typically mean goods which have been attached to real property, been adapted for the use the real property, or are intended to be permanently attached to the real property.[15] A UCC-1 filing similar to that used for personal property may be filed at the state level indicating that such filing relates to fixtures.[16] However, alternatively or additionally, a local-level "fixture filing" may be made in the local county records where mortgages and deeds of trust in respect of the related real property would be filed.[17]

Both types of filings must sufficiently describe the property to be perfected, though a fixture filing at the local level must also sufficiently describe the real property to which the collateral is related such that it would provide constructive notice of a mortgage if it was in a record of

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10. U.C.C. § 9-307.
11. U.C.C. §§ 9-502, 9-516.
12. U.C.C. § 9-301(1).
13. U.C.C. § 9-515. A continuation statement may only be filed within six months before expiration of the five-year period. *Id.*
14. U.C.C. § 9-102(a)(41).
15. *See* T-Mobile Ne., LLC v. DeBellis, 40 N.Y.S.3d 164, 167–69 (2016), *aff'd*, 118 N.E.3d 873 (2018) (finding goods "fastened to the host buildings by bolts, frames, pipes, and brackets" in a manner "inten[ded] to make the equipment permanent for the term of the leasehold" to be fixtures).
16. U.C.C. § 9-501(a)(2).
17. *See* U.C.C. § 9-102(a)(40) (defining "fixture filing"); *see also* § 9-501(a)(1) (explaining that a fixture filing is made in the office designated for recording a mortgage on the related real property).

the mortgage of the related real property.[18] In practice, collateral descriptions in fixture filings in the local real estate records are often necessarily more detailed in nature than UCC fixture filings at the state level.[19] Secured parties may opt to file both types of financing statements with respect to the same collateral for added protection.[20] The state-level filing provides a valuable notice function as well as technical perfection, while the local-level fixture filing provides perfection and protection against subsequent mortgage filings on the underlying real property.[21] A security interest perfected by a local-level fixture filing also can serve as an important notice function over and above the security interest perfected by state-level filing without a real estate description, because local filings should generally be searchable at the local property level as well.

At the most basic level, if there is not a local-level fixture filing on record, and a subsequent mortgage or deed of trust is filed, that mortgage filing—if it extends to fixtures—will prime the security interest in the fixture that is filed only at the state level.[22] In digital infrastructure transactions, however, the distributed nature of the collateral may lead to a more practical approach where the costs and complexity of local-level fixture filings arguably outweigh the incremental benefit of those filings in asset classes such as fiber, many wireless tower portfolios, and distributed antennae networks. If there are relatively few fixtures in the collateral package, or they are a significant portion of the collateral, then local-level fixture filings may be warranted. In some cases, such as data center transactions, where there is only one or just a few buildings that are comparatively straightforward to mortgage, or if the buildings represent a significant portion of the collateral for a transaction, real estate mortgages covering the real property and any fixtures may be appropriate.

C. Real Property and Title Insurance.

18. A fixture filing must "provide a description of the real property to which the collateral is related." U.C.C. § 9-502(b)(3). Optional language in the uniform version of the code, which may be adopted in some states, also provides that the description is "sufficient to give constructive notice of a mortgage under the law of [the] State if the description were contained in a record of the mortgage of the real property." *Id.*

19. *See* U.C.C. § 9-502(b).

20. U.C.C. § 9-334, COMMENT 3 (stating that a fixture filing may be made as a "precaution" because the question of whether goods have become fixtures is often a difficult question under state real estate law).

21. U.C.C. § 9-334(e).

22. *Id.*

As a general principle of state law, to take a security interest in real property, a security instrument pledging the real property as collateral to the mortgagee must be filed with the appropriate local authority where the real property is located. Typically, this means filing the security instrument—a mortgage or deed of trust—with the local county clerk's office or such other office that maintains land records in the county where the real estate is located. In addition to the filing of a mortgage or a deed of trust, many investors also expect that the borrowers have obtained title insurance.

While the security instrument establishes the lien, title insurance addresses ownership and lien priority. Insuring against potential ownership and lien priority issues further bolsters investor confidence that their interests in the collateral cannot be undermined. There are two types of title insurance which indemnify an insured against losses associated with real property title defects: owner's title insurance and lender's title insurance. An owner of real property may obtain an owner's title policy, which generally covers risks of title being vested in someone other than the insured, any defect in or lien/encumbrance on the title, lack of access, and unmarketable title.

A lender with an insurable interest in the related real property may obtain a lender's title policy to protect itself from the same risks as the owner's title insurance in addition to indemnifying a mortgagee from losses resulting from the invalidity or lack of priority of its mortgage lien. A lender's title policy insures the lender up to a set dollar amount, usually set at the lesser of the value of the mortgaged real estate and the original loan amount. While covering similar risks, the time of incurring losses/recovery differs between owner's and lender's title policies and should be weighed—i.e., a lender might have to wait until there was actually a loss on the debt instrument itself as opposed to merely a diminution in value of the underlying property.

D. Transmitting Utility Status

Some debtors may be considered a transmitting utility" under the UCC and subject to some different rules. A transmitting utility includes an entity primarily engaged in the business of "transmitting communications electrically, electromagnetically, or by light."[23] Given that certain providers of fiber optics transmit data in the form of light, this status can be applied to perfection of assets in securitizations of certain fiber optic networks, to the extent the applicable state(s) have adopted the transmitting utility provisions of the UCC. The UCC notes a to-be-

23. U.C.C. § 9-102(a)(81).

designated filing office for transmitting utilities, which in many states is the central filing office for the state or—in certain states—in any county office in the state in which the property is located.[24] A financing statement that is filed against a debtor that is a transmitting utility, and is identified as such, is effective until it is terminated.[25] Transmitting utility status has been successfully used in at least one "lit fiber" transaction—taking the position that the issuer was a "transmitting utility" under the UCC in the states in which it operated because the debtor was in the business of transmitting communications by light.[26]

IV. Application to Data Infrastructure Transactions

A. Pledges of Equity Interests

Often in securitizations, the equity interests of the special purpose entities that hold the underlying collateral are pledged as collateral in addition to the primary collateral.[27] Typically, limited liability company interests are classified as "general intangibles" or "investment property" under Article 9, with investment property including a "security"[28] under Article 8 of the UCC and may be perfected by filing a UCC-1 financing statement.[29] Regardless of the type of property that constitutes the primary collateral, an equity pledge is valuable because it is straightforward, and often easier and quicker for the securitization trustee

24. *See*, *e.g.*, Fla. Stat. §679.5011(b)(2) (2021); *see also*, Ga. Code Ann. §11-9-501(b) (2010).

25. U.C.C.§ 9-515(f).

26. *See Structured Finance ABS: New Issue Report, Hotwire Funding LLC, Series 2021-1, $1,580.0 Million Senior Secured Notes – Series 2021-1*, KBRA (Nov. 19, 2021) https://www.kbra.com/documents/report/58154/hotwire-funding-llc-series-2021-1-new-issue-report [https://perma.cc/6DTC-5J5C]; *see also Hotwire Funding LLC, Series 2021-1 (US Infrastructure and Project Finance*), Fitch Ratings (Nov. 2, 2021), https://www.fitchratings.com/research/infrastructure-project-finance/hotwire-funding-llc-series-2021-1-us-infrastructure-project-finance-02-11-2021 [https://perma.cc/P4SG-77HQ].

27. *See U.S. Wireless Tower and Network Site Transaction Rating Criteria*, Fitch Ratings (Dec. 17, 2020), https://www.fitchratings.com/research/structured-finance/us-wireless-tower-network-site-transaction-rating-criteria-17-12-2020 [https://perma.cc/2Y4E-BDS4] ("[W]ireless tower and networks transactions are also typically secured by a first-priority perfected security interest in the equity of the [special-purpose entities] that own the mortgage borrowers and the asset-level [special-purpose entities] . . . .").

28. To the extent the issuer has opted-in to Article 8 of the UCC. *See* U.C.C. § 8-102(a)(15)(iii)(B) (Am. L. Inst. & Unif. L. Comm'n 1994) (defining "security" to include a share or interest in an issuer that is one of a class or series of shares and is a "medium of investment and by its terms expressly provides that it is a security governed by this Article."); *see also* U.C.C. § 8-103(c).

29. U.C.C § 9-310(a) (noting that, unless otherwise provided, "a financing statement must be filed to perfect all security interests"). An alternative method for perfecting a security interest in a security as investment property is control. *See* U.C.C. § 8-106; § 9-106.

to foreclose on following an event of default.[30] Moreover, a foreclosure on the equity interest can also give the lender an "indirect" interest in any owner's title policy. An equity pledge is particularly advantageous in the real property context. For example, if an entity owns all the real estate for a given securitization and the trustee forecloses on the equity interest, the trustee will gain control of all property held by that entity without having to effectuate a foreclosure of the underlying real property. In a transaction with mortgages in different states, the trustee can take control of the equity interest in the real estate holder, and effectively assume control of the related collateral and institute a remedies strategy at a deal-wide level rather than having to go to different local courts to foreclose.

Equity pledges are particularly relevant in digital infrastructure transactions given the distributed nature of the collateral and potential for "network effects" across the collateral pool where the whole is often worth more than the sum of the parts. One important issue to note, however, is that in some cases, underlying ground leases or other agreements may have "change of control" provisions that make an equity pledge impractical or would trigger a default under the lease. This can be an important diligence point when considering the best way to think about pledging collateral in digital infrastructure transactions, but it is typically more relevant in collateral pools with relatively fewer properties and form leases.

B. *Wireless Towers*

Wireless towers have traditionally been treated as real property for security purposes, mostly without debate. As such, investors in rated securitizations have typically required that security interests in wireless towers (or at least a substantial percentage of wireless towers in a given securitization) be created by the filing of a mortgage or deed of trust. That said, wireless tower securitizations involve large numbers of towers, often thousands, distributed across multiple legal jurisdictions. As such, the logistical time and expense required to file mortgages on such large tower portfolios has sparked discussions and analysis regarding potential alternatives. The prevailing market practice in non-securitized financing of wireless tower assets is to rely on equity pledges of the entities holding

30. *See U.S. Wireless Tower and Network Site Transaction Rating Criteria*, FITCH RATINGS (Dec. 17, 2020), https://www.fitchratings.com/research/structured-finance/us-wireless-tower-network-site-transaction-rating-criteria-17-12-2020 [https://perma.cc/2Y4E-BDS4] ("While mortgages generally provide the clearest path to recovery, foreclosure can be time consuming and expensive given pool granularity. The equity pledge gives noteholders the economic benefit of owning the towers and the ability to sell the towers or sell the equity ownership without foreclosing on individual sites.").

the wireless tower collateral. In our view, in the future, investors and rating agencies in securitized transactions may become more comfortable with the replacement of mortgages with other structural mitigants such as filing of memoranda of lease and fixture filings to further bolster the notice function of the debtor's interest in the collateral, coupled with the existing option of equity foreclosure through equity pledges and the related "indirect" benefit of an owner's title policy, given the highly-distributed nature of the collateral and the relatively limited value of any individual site.

C. Data Centers

Data center securitizations have been growing rapidly in volume and complexity in recent years. Like wireless towers, data centers are nearly always classified as real property given that they are often fee simple or leasehold interests in a large building and the related ground interest. Due to the nature of data centers, there are typically far fewer data centers included as collateral in a securitization than there would be cellular towers. The collateral is less distributed and the value of any individual piece of collateral is much higher as a proportion of the entire transaction. Therefore, while rated wireless tower securitizations under the current methodologies may have a mortgage threshold requiring a majority of the collateral to be mortgaged (with significant exceptions), data center securitizations typically require mortgages over each data center included in the collateral, and we do not expect this practice to change given the high value of each item of collateral in a data center securitization.[31] Similar to wireless tower securitizations, data center securitizations typically include title insurance policies, which are closely reviewed at closing.

D. Distributed Antenna Systems and Fiber

While not settled by courts in all states, rating agencies and investors in securitizations that include distributed antenna systems ("DAS") as collateral have tended to treat the related DAS equipment as personal property rather than fixtures or real property, and the security interest has been perfected by the filing of UCC financing statements. The fact that DAS can be relatively easily uninstalled (as opposed to dismantling a large, affixed wireless tower) and do not typically remain

31. Given the importance of mortgages in perfecting collateral in data center securitizations, as a diligence matter, it is important to review the underlying leases to ensure there is no mortgage prohibition included.

once the underlying contract is terminated has lent itself to such treatment. Similarly, the treatment of optical fiber has not been settled by the courts, and we are aware of differing treatment amongst the states, but conventional wisdom is that the fiber itself should likely be treated as a fixture or personal property, and some states have treated it as personal property (including in certain tax rulings).[32] Because fiber networks typically span great distances and the network works as a whole unit, rather than blocks of individual operative units, such as cell towers, data centers or DAS networks, it could be difficult to file a fixture filing in each individual county office, especially for larger fiber networks.[33]

Because fiber networks cover so much distance, issuers have taken the position that such local level filings are not necessary. This is especially true given that any one piece of fiber is not material to the network. In the event a piece of fiber is lost due to foreclosure on a mortgage, where the underlying real property grants an easement or right-of-way to the fiber run, such piece of fiber could likely be moved. Investors and rating agencies have supported this analysis in rated securitization transactions, given the pledge of equity interests and UCC state-level filings that can be made in such transactions. Given the relative novelty of securitized fiber financings, such an analysis is expected to remain highly state- and jurisdiction-specific. Similarly, depending on the size and concentration of easements and related rights-of-way, it may make sense to record the borrower's interest(s) in certain of these easements and rights-of-way in the local filing offices for transactions where moving the fiber to an alternative parcel would be impracticable—but such an analysis should be made with a careful weighing of the costs and benefits of such recording. Issuers in fiber securitizations should also consider whether they qualify as a "transmitting utility" in their applicable jurisdiction, in which case the

32. *See* In re Litestream Techs., LLC, 337 B.R. 705 (Bankr. M.D. Fla. 2006) (holding fiber optic cable collateral to be taxable as personal property); *see also* LLC v. Chautauqua Cnty., 148 A.D.3d 1702, 50 N.Y.S.3d 202 (2017) (holding fiber optic cable installations not taxable as real property).

33. *See, e.g.*, Nick Pieczonka, *Mechanics' Lien Law and Work Performed on Optical Networks*, TAFT LAW (Apr. 4, 2019), https://www.taftlaw.com/news-events/law-bulletins/mechanics-lien-law-and-work-performed-on-optical-networks [https://perma.cc/97CP-TNHW] (discussing the process for filing a lien on an entire network and/or provider, despite a contractor's work only affecting a specific location of the fiber network); *see also* Kristin Alford, *Fiber Optic Networks: Can I File a Mechanic's Lien?*, NCS (June 7, 2019), https://www.ncscredit.com/education-center/blog/fiber-optic-mechanics-lien/ [https://perma.cc/3DPM-W6HG] (reviewing how the unclear status of wide-spanning fiber optic networks likely results in the need for filing multiple liens and expensive title work, alongside issues of competing priority interests).

appropriate place of filing may be different than it would be for an issuer that did not qualify as a "transmitting utility."[34]

V. CONCLUSION

Investors in digital infrastructure securitizations, issuers, trustees, rating agencies, and other industry participants will certainly continue to focus on perfection of collateral in this space. While the views in this article reflect observations and experience in the data infrastructure market to date, we note this remains an active and developing market, and it is possible that investors and rating agencies will continue to consider collateral protection as they evaluate these transactions and prevailing practices may change over time. In addition, the continuing evolution of the asset class and the prevailing technologies therein will continue to necessitate innovation in the perfection of such assets.

The variety of ways to take security interests in collateral and to provide notice of such interests in collateral (equity pledges, mortgages, fixture filings, recordation of easements, etc.) combined with—in the case of real property—the provision of title insurance, offer real protections to investors. It will remain important, however, to find a balance between providing ample protections to investors' collateral on the one hand while avoiding creating too much administrative or financial burden on issuers on the other, for the market to fully develop and mature. We expect rating agencies, insurance companies, and state legislatures, among others, to be instrumental in finding such a balance.

34. U.C.C. § 9-501(b), COMMENT 3 (AM. L. INST. & UNIF. L. COMM'N 2010).