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Cynthia T. Brown, Chief
Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, D.C. 20423-0001

Re: Docket No. FD 36186 (Sub-No. 1), Texas Railway Exchange LLC –
Construction and Operation Exemption – Galveston County, TX – Petition
for Issuance of a Crossing Order Pursuant to 49 U.S.C. § 10901(d)

Dear Ms. Brown:

Enclosed for filing in the above-referenced docket please find (i) an executed original and ten copies of the *Petition of the Texas Railway Exchange LLC for Issuance of a Crossing Order Pursuant to 49 U.S.C. § 10901(d)* (which contains marked color pages); (ii) a check for the filing fee of \$300; (iii) three CDs with a PDF copy of the filing and associated workpapers that are in folders designated as Highly Confidential, Public, or Confidential pursuant to the Protective Order issued in this proceeding; and (iv) an executed original and ten copies of the *Petition for Institution of Modified Procedural Schedule*.

Kindly date stamp the extra copy of this cover letter and the enclosed filing and return them to the bearer of this letter. Thank you for your attention to this matter.

FEE RECEIVED
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SURFACE
TRANSPORTATION BOARD

Respectfully submitted,

Peter A. Pfohl
An Attorney for Texas Railway Exchange LLC

FILED
February 22, 2019
SURFACE
TRANSPORTATION BOARD

EXPEDITED ACTION REQUESTED

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

TEXAS RAILWAY EXCHANGE LLC –	)	
Construction and Operation Exemption –	)	
Galveston County, TX – Petition for Issuance	)	FD 36186 (Sub-No. 1)
of a Crossing Order Pursuant to 49 U.S.C.	)	
§ 10901(d)	)	

**PETITION OF
TEXAS RAILWAY EXCHANGE LLC
FOR ISSUANCE OF A CROSSING ORDER PURSUANT
TO 49 U.S.C. § 10901(d)**



TEXAS RAILWAY EXCHANGE LLC

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Dated: February 22, 2019

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EXPEDITED ACTION REQUESTED

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

TEXAS RAILWAY EXCHANGE LLC –) Construction and Operation Exemption –) Galveston County, TX – Petition for Issuance) of a Crossing Order Pursuant to 49 U.S.C.) § 10901(d))	FD 36186 (Sub-No. 1)
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**PETITION OF
TEXAS RAILWAY EXCHANGE LLC
FOR ISSUANCE OF A CROSSING ORDER PURSUANT
TO 49 U.S.C. § 10901(d)**

Texas Railway Exchange LLC (“TREX”) files this Petition under 49 U.S.C. § 10901(d) for a crossing order, and in support hereof states as follows:

**I.
BACKGROUND**

TREX is a corporate affiliate of Texas International Terminals Ltd. (“TIT”), which owns and operates a major liquid and dry bulk terminal in Galveston, Texas. On November 21, 2018, TREX filed an exemption petition (“Construction Petition”) asking the Surface Transportation Board (“STB” or “Board”) to approve TREX’s construction of an approximately 2,800 foot common carrier railroad line (the “TREX Line”). The proposed line will provide TIT with a permanent, direct, and more efficient connection to the nearby lines of BNSF Railway Company (“BNSF”).

Currently, TIT’s customers must rely on reciprocal switching service from the Union Pacific Railroad Company (“UP”) in order for BNSF trains to access TIT. However, UP imposes significant restrictive operating conditions and rules for reciprocal

switching that result in additional and unnecessary train movements and delays.¹ UP further maintains that its reciprocal switching service is only voluntary, creating considerable business uncertainty and risk to a significant percentage of existing and projected rail shipments and future access to TIT. TREX's permanent, direct rail line access to BNSF would streamline operations and promote rail competition by:

- Providing permanent, guaranteed rail access to TIT via BNSF;
- Improving service and reducing train turnaround times to better serve the business needs of TIT, BNSF, third party shippers, and the public; and
- Eliminating substantial, unnecessary delays and switching fees for BNSF shippers, while reducing crew time and locomotive time for switching.

The STB is conducting its environmental review of TREX's proposed line construction. On October 10, 2018, the Board's Office of Environmental Analysis ("OEA") approved the preparation of an Environmental Assessment in this proceeding, rather than an Environmental Impact Statement, based on its initial findings that there will be no significant environmental impacts resulting from the proposed construction. On February 22, 2019 OEA issued a Draft Environmental Assessment ("Draft EA") and preliminary concluded that construction and operation of the proposed line *and the planned crossing of the UP's rail line* will have no significant environmental impacts with appropriate mitigation measures.

¹ As confirmed by TIT's President, Todd Sullivan, UP's reciprocal switching service difficulties are continuing to adversely affect BNSF service to TIT. Second Verified Statement of Todd Sullivan ("Sullivan Second V.S.") at 1-4.

As TREX explained in its Construction Petition, the limited size of the project area and the existing infrastructure dictate that each of the proposed alignments cross certain secondary UP rail lines and property at grade. On November 27, 2018, TREX wrote UP asking it to enter into discussions in the hopes of reaching agreement on terms for operations and crossing compensation. Counsel's Exhibit 1. On December 5, 2018 UP responded by stating that it is "carefully evaluating" TREX's request and promised to "substantively respond to [the] inquiry with all deliberate speed." Counsel's Exhibit 2. To date, UP has not entered into any discussions or provided any assurances that it will agree to the crossing. Sullivan Second V.S. at 10. In light of UP's failure or unwillingness to enter into discussions and the need of shippers and public for improved, competitive service, TREX is submitting the instant petition to obtain 49 U.S.C. § 10901(d) crossing rights for the new line.

II. ARGUMENT

A. The Board Has Authority to Order A Crossing and Set Compensation

The Staggers Rail Act of 1980 authorized the Board's statutory predecessor to allow one common carrier railroad to cross another and to set the compensation for the crossing, without having to resort to state eminent domain law. Specifically, 49 U.S.C. § 10901(d) provides that:

(d)(1) When a certificate has been issued by the Board under this section authorizing the construction or extension of a railroad line, no other rail carrier may block any construction or extension authorized by such certificate by refusing to permit the carrier to cross its property if—

- (A) the construction does not unreasonably interfere with the operation of the crossed line;
- (B) the operation does not materially interfere with the operation of the crossed line; and
- (C) the owner of the crossing line compensates the owner of the crossed line.

(2) If the parties are unable to agree on the terms of operation or the amount of payment for purposes of paragraph (1) of this subsection, either party may submit the matters in dispute to the Board for determination. . . .

Under this statute, the Board may authorize a “carrier” to cross the property and rail lines of another rail carrier when: (1) the Board has issued a “certificate” authorizing common carrier rail line construction; (2) the construction of the crossing “does not unreasonably interfere with the operation of the crossed line;” (3) railroad operations over the crossing will not “materially interfere with the operation of the crossed line;” and (4) the owner of the crossed line is compensated. Because TREX’s proposed crossing will meet all of these requirements, TREX is entitled to a crossing order under Section 10901(d).

B. TREX Will Be a Qualifying “Carrier” that May Obtain Authority to Cross Under Section 10901(d)

Under Section 10901(d), a rail carrier may not “block any construction” within the Board’s authority “by refusing to permit the carrier to cross its property” if the other Section 10901(d) criteria are met. TREX filed its Construction Petition on November 21, 2018 for authority to construct and operate a new common carrier rail line to provide competitive rail service. TREX will thus become a certificated common carrier upon the granting of its Construction Petition and construction of its rail line.

Ample precedent establishes that entities such as TREX that will become a common carrier upon completing agency-approved construction of a rail line qualify as a “carrier” for the purposes of Section 10901(d). *E.g., Public Serv. Co. of Colorado – Petition for Crossing Authority Under 49 U.S.C. 10901(d)*, FD 33862 (Sub-No. 1) (STB served Mar. 22, 2001) (non-carrier granted Section 10901(d) authority to construct a common carrier rail line over the BNSF to reach the UP) (“PSCo.”); *WFEC Railroad Co. – Construction & Operation Exemption – Choctaw & McCurtain Counties, OK – Petition for Issuance of an Order Pursuant to 49 U.S.C. 10901(d)*, FD 32607 (Sub-No. 1) (STB served Feb. 23, 1996) (non-carrier granted Section 10901(d) authority to construct a 14-mile common carrier rail line over incumbent common carrier to reach the UP) (“WFEC”); *Omaha Pub. Power Dist. – Petition Under 49 U.S.C. 10901(d)*; FD 32630 (ICC served Nov. 30, 1995) (non-carrier granted 10901(d) authority to construct a 5-mile common carrier rail line over BNSF to reach the UP) (“OPPD”); *Louisville & Jefferson Cnty. Riverport Auth. & CSX Transp., Inc – Construction & Operation Exemption – In Jefferson County, KY*, 4 I.C.C.2d 749 (1988) (non-carrier granted 10901(d) authority to construct a common carrier rail line over incumbent common carrier) (“Louisville”).

TREX’s proposed crossing falls well within the ambit of the Section 10901(d) precedent in *PSCo.*, *OPPD*, *WFEC*, and *Louisville*. Once constructed, TREX will have a common carrier obligation to provide service on the line. While TREX expects to enter into trackage rights arrangements with BNSF to operate over the line, as more fully described *infra*, TREX will retain independent authority to contract with other carriers or provide its own service directly to TIT or any other customers that might

locate on or connect with the line, and it will enter into operating arrangements to allow TIT to engage in private switching of BNSF trains solely for its own receipt of the traffic.

Because TREX will have the common carrier obligation to provide or arrange for rail service over the track once it is constructed, it is a “carrier” under Section 10901(d) and thus authorized to seek and obtain authority to cross the property and track of another rail carrier, in this case UP. *See PSCo., OPPD, WFEC, Louisville.*²

C. TREX’s Proposed Line Crossing Falls Within the Intended Purpose and Scope of Section 10901(d)

TREX’s proposed crossing is clearly encompassed under Section 10901(d). TIT’s private loop track can be connected directly to BNSF’s line only by crossing UP’s secondary tracks and property. There is no feasible alternative to avoid crossing UP’s right-of-way. TREX’s proposed crossing of UP’s track and property is thus consistent with those previously authorized under 10901(d).³

² As TREX discussed in its Petition, the Board will revoke an exemption in part and issue a formal certificate under 49 U.S.C. § 10901 where necessary “to remove any possible room for doubt that the statutory requirements for the implementation of 49 U.S.C. 10901(d) are met.” *Midwest Generation, LLC – Exemption from 49 U.S.C. 10901 – for Constr. in Will Cnty., IL*, No. 34060 (Sub-No. 1) (STB served Oct. 4, 2002) at 5 (“*Midwest Generation*”). To eliminate any uncertainty as for the possible need for a certificate, and to help facilitate construction, TREX has requested that the Board summarily issue a public convenience and necessity certificate as part of its exemption petition decision. *See Construction Petition* at 16-17.

³ TREX’s crossing is readily distinguishable from that denied in *Holrail LLC – Petition for Crossing Authority under 49 U.S.C. 10901(d)*, FD 34421 (Sub No. 1) (STB served Mar. 23, 2018), where Holrail proposed “crossing” an existing carrier’s property for “1.7 miles-or two-thirds of the route’s length-then exit[ing] the right-of-way on the same side from which it entered.” *HolRail, LLC v. Surface Transp. Bd.*, 515 F.3d 1313, 1317 (D.C. Cir. 2008) (affirming STB).

Notably, the Interstate Commerce Commission (“ICC”) approved remarkably similar crossings by Chicago and Northwestern Railway (“CNW/UP”), UP’s predecessor in interest, of Burlington Northern Railroad (“BN”) property and track in *Chicago and Northwestern Ry. Co. – Construction and Operation Exemption – City of Superior, Douglas County, WI – Petition for Issuance of an Order Pursuant to 49 U.S.C. 10901(d)*, FD 32433 (Sub-No. 1) (ICC served Aug. 11, 1995) at 1 (“*MERC*”). *MERC* involved construction of a 2,900-foot line to allow an otherwise BN-captive dock to connect with CNW to bring the benefits of competition. *Id.* Similarly, TREX proposes to construct a 2,823-foot track to enable BNSF to provide direct service to TIT to compete with UP. TREX’s hope is that UP, like BNSF in *MERC*, will not challenge the construction or crossing.⁴ Sullivan Second V.S. at 10.

Significantly, TREX proposes a more modest crossing than in *MERC* as it is seeking to cross less of UP’s property than CNW/UP sought to cross of BN. The CNW/UP required three common carrier railroad crossings and two at grade highway crossings, and impacted 1.7 acres (including land held by Lake Superior Terminal and Transfer Railway Company, of which BNSF was the majority owner).⁵ TREX’s crossing

⁴ BN did not oppose the CNW’s crossing. *Chi. & Nw. Ry. Co. – Constr. & Operation Exemption – City of Superior, Douglas County, WI – Pet. for Issuance of an Order Pursuant to 49 U.S.C. 10901(d)*, FD 32433 (Sub-No. 1) (ICC served Nov. 30, 1994), at 1. BN did contest the proposed compensation, but the ICC agreed with CNW’s/UP’s measure of “fair market value.” *MERC* at 3.

⁵ *Pet. of Chi. & Nw. Ry. Co. for Issuance of an Order Pursuant to 49 U.S.C. 10901(d) Authorizing Crossing the Property & Tracks of the Burlington N. R.R. & the Soo Line R.R. & Incidental Issuance of a Certificate of Pub. Convenience & Necessity Pursuant to 49 U.S.C. 10901(c)(2) & Further to Set Compensation for the Crossings*, FD 32433 (Sub-No. 1) (filed Aug. 31, 1994) at Ex. B (Plat) to V.S. of Michael D. Larson

entails crossing two parallel UP lines, and one at-grade highway crossing, and impacts less acreage⁶ than in *MERC*.

D. The Proposed Construction and Operation Will Not Unreasonably or Materially Interfere with the Operation of the Crossed Line

TREX's proposed rail line construction between BNSF's Valley Yard and TIT's loop tracks will replace UP's existing, inefficient reciprocal switching service with permanent, direct BNSF service. TREX's crossing and proposed operations will not unreasonably interfere with UP's operations.

1. Line Construction Will Not Unreasonably Interfere with the Operation of the Crossed Line

TREX's construction plan is presented in the Verified Statements of Lee Meadows, P.E., a professional engineer with almost a half-century of experience in railway design, engineering, and construction experience, including more than three decades with a Class I carrier. Mr. Meadows provided a Verified Statement for TREX's Construction Petition ("Meadows First V.S.") and is providing an additional Verified Statement to accompany this petition ("Meadows Second V.S."). Mr. Meadows's construction plan describes in detail the only four feasible alignments of the proposed

(added acreage of proposed line's right-of-way that was specified on plat (0.725 acres + 0.336 acres + 0.105 acres + 0.547 acres)).

⁶ Conservatively, assuming a 50 foot right-of-way across UP's property, when less will be required in areas bordering the City's property and/or when necessary to minimize impacts on aquatic features, TREX's right-of-way will require approximately 1.4 acres (50 ft x (233 ft + 370 ft + 600 ft) = 60,150 square feet = 1.38 acres) of UP's property. See Operations Report prepared by John W. McLaughlin ("Operations Report") at Ex. 3-17 (providing distances).

~2,823-foot⁷ rail line and each aspect of construction. The proposed line has been carefully planned and designed, with construction to be conducted to minimize interference with UP's local operations and infrastructure.

The first segment to be constructed is from the BNSF Valley Yard (Sta. 0.00) to the UP crossing, including grading, installation of pipe and ballast, and the construction of track up to the UP right-of-way (approximately Sta. 3+55). None of these construction activities will interfere with UP train operations. *Id.* at 7. Next, each of the proposed alignments requires installing three crossing diamonds, two over UP tracks, and one over adjacent TIT industry track. *Id.* Mr. Meadows describes the special precautions TREX will take to minimize impacts on UP train operations while installing the diamonds. The diamonds will be specially ordered, manufactured, and fabricated off-site by a Class I certified vendor. *Id.*; Sullivan Second V.S. at 13-14.

The lead time for the diamonds is approximately 46 to 54 weeks. Meadows Second V.S. at 7. In an effort to shorten this timeframe, TREX has entered into a contract with a manufacturer that has allowed TREX to reserve its place in line so that construction will not be delayed so long as TREX is able to receive prompt Board approval. Sullivan Second V.S. at 13-14.

Diamond installation entails a five-step process, with each diamond taking approximately eight hours to install. Meadows Second V.S. at 8. The track over the crossings will then be installed, in coordination with UP. *Id.* The remainder of the track

⁷ As measured along proposed alignment, Blue Route – Alternative “B.” Meadows Second V.S. at 1.

and turnout into the TIT loop tracks will then be installed, and will have no impact on UP train operations. *Id.* In total, line construction is expected to take approximately two weeks. *Id.* at 11-12.

Construction will have minimal impact on UP's operations over the two crossed lines. The diamonds will be pre-designed and manufactured and delivered to the site. *Id.* at 7-8. Each diamond will be installed as a unit, to allow for more efficient installation. *Id.* at 7-9. Under the construction plan, each of UP's two tracks to be crossed will not be taken out of service for more than 8 working hours at a time. *Id.* at 7. TREX plans to coordinate closely with UP and BNSF on line construction in each step of the construction in order to minimize impacts on UP operations during the construction period. Sullivan Second V.S. at 7-8; Meadows Second V.S. at 9. The timing of the installation of the crossing will be coordinated with UP and BNSF, with the specific time, date, and possible weekend dates, when UP does not operate locally, to be agreed upon by the parties so as to minimize any disruption to UP traffic using the crossed lines. Sullivan Second V.S. at 7-8; Meadows Second V.S. at 9; Operations Report at 94.

Construction of the crossing will also not disrupt deliveries to local customers using the crossed line. TIT is, by far, UP's largest local customer, receiving almost 80% of the total traffic moving over the crossed line.⁸ On average, TIT receives approximately 2-3 UP trains a week. Sullivan Second V.S. at 6. TIT obviously supports

⁸ TIT carloads recorded in June 2018 represented 79% of the total carloads (40% +39%), and when traffic is adjusted to include the average number of UP-TIT unit trains for the full year, the percentage increases to 88% (24%+64%). Operations Report at Appendix 3-6.

the rail line construction and confirms that the construction will not unreasonably interfere with its receipt of traffic and its terminal operations. *Id.* at 6-8. While unit train traffic is generally steady, TIT generally does not operate on a precisely scheduled “just in time” basis. *Id.* at 6. It transloads and stores large volume shipments of commodities, most of which arrives or departs in unit train service, depending on market conditions, customer requirements, and vessel arrival times. *Id.* During construction, TIT will coordinate with UP, BNSF, its customers, and vessel operators to reasonably schedule and limit operation windows as necessary, to ensure that UP’s operations over the crossed line face no unreasonable interference. *Id.* at 6-8.

TIT customers that use the crossed line support the construction and crossing because it will increase competition, allow TIT to conduct more efficient operations and lower costs, and process trains 24 hours a day, seven days a week, rather than receive limited weekday-only service. *Id.* at 11-12. Any temporary interference with UP operations to accommodate line construction over the two eight-hour work periods when the crossing diamonds will be installed is minimal, especially compared to the more dependable service and reduced train turnaround times that will result from new service over the proposed TREX Line, as further described below. *Id.* at 6. TIT has more than sufficient storage space for both dry bulk commodities and liquid commodities to accommodate the commodities being transloaded to vessel during the short construction period. *Id.* at 7. TIT will actively coordinate with its customers to ensure that the least possible disruption to service over the crossed line occurs during the short construction period. *Id.*

UP currently uses the crossed line to serve only three other local customers, the local customers served by the crossed line include M-I SWACO, Sullivan Land and Cattle Co. and Savage Sulfur Services Ltd., none of whom are significant shippers/receivers. *Id.* at 7. Thus, the amount of rail traffic that would be impacted by TREX's crossings should be minimal. Operations Report at 3; Appendix 3-6.

As part of the Operations Report prepared by John W. McLaughlin, a railroad operations expert with 28 years of experience in rail analysis, planning, and service design, Mr. McLaughlin prepared a track occupancy study analyzing open windows of time between train movements on the to be crossed lines. Operations Report at 70; Appendix 4-1. Given the limited volume and frequency of shipments to these local customers, that study showed that there are sufficient periods of inactivity to construct the crossing without unreasonably interfering with UP's operations over the track or service to the customers. *Id.* at 94.

Additionally, TREX, BNSF, UP, and TIT should be able to engage in reasonable coordination and develop a reasonable work plan to enable the crossings to be constructed with minimal disruption to daily railroad operations. *Id.* at 93-94; Sullivan Second V.S. at 8; Meadows Second V.S. at 6, 9-10. Industry-standard procedures, as described by Mr. Meadows, will also be employed to ensure that all other construction activities do not negatively impact UP's rail operations over the crossed line during construction. Meadows Second V.S. at 6, 9-10.

This construction plan is consistent with other crossings approved by the Board in similar circumstances as avoiding unreasonable interference with the operation

of the crossed line under 49 U.S.C. § 10901(d)(1)(A). For example, in *MERC*, three railroad crossings were sought to be installed in three, eight-hour time periods, with 7-8 trains per day operating over two of the crossed lines. Similarly, *Gateway W. Ry. Co. – Petition Under 49 U.S.C. § 10901(d)*, FD 32305 (ICC served Nov. 28, 1994) (“*Gateway*”), involved two crossings and the utilization of prefabricated crossing diamonds under similar construction plans. Each of the crossed lines handled approximately 2-3 trains per day, for a total of 4-6 trains per day. *Gateway* at 10. TREX’s proposed construction plan involves similar, 8-hour period outages of a crossed line serving only local traffic of far less volume and frequency⁹ as that in *MERC* and *Gateway*.¹⁰

TREX’s carefully conceived plans for this type of routine construction project will result in little or no impact on UP’s operations. TREX’s Petition thus satisfies the first criterion of 49 U.S.C. § 10901(d).

2. Line Operations Will Not Materially Interfere with the Operation of the Crossed Line

Post-construction operations over the TREX Line will not materially interfere with UP’s operations over the crossed line. As discussed in detail in the

⁹ On average, the UP local crew made 2.80 moves per day across the diamond crossing area when handling other local customers’ traffic during June 2018. Operations Report, Exhibit 4-5, “Track Occupancy by Traffic Type during June 2018.”

¹⁰ See also *WFEC R.R. – Constr. & Operation Exemption – Choctaw & McCurtain Cntys., OK*, FD 32607 (STB served Feb. 23, 1996) at 3-4 (no unreasonable interference found where construction of track build-out to reach UP blocked operation over BNSF’s crossed track over two twelve hour periods where two trains per day operated over the crossed line) (“*WFEC*”).

appended Operations Report prepared by Mr. McLaughlin, operations over the proposed new line will not “materially” interfere with the crossed line’s operations.¹¹

a. Significant Windows Are Available for Operations Over the Crossed Line

As referenced *supra*, UP’s crossed lines experience a modest volume of switching movements, and are operated as yard limits territory. Operations Report at 53-54. They serve only a few customers in addition to TIT, which represents the vast majority of the traffic. *Id.* at 3; Appendix 3-6; Sullivan Second V.S. at 3; 6-7. The UP crossed lines are secondary lines, with all rail traffic to Galveston, with the exception of TIT unit trains, shipped on a separate UP lines to the south. Sullivan Second V.S. at 8. These separate UP lines also connect to the Galveston Railroad, a short line that exclusively serves the Port of Galveston. *Id.*

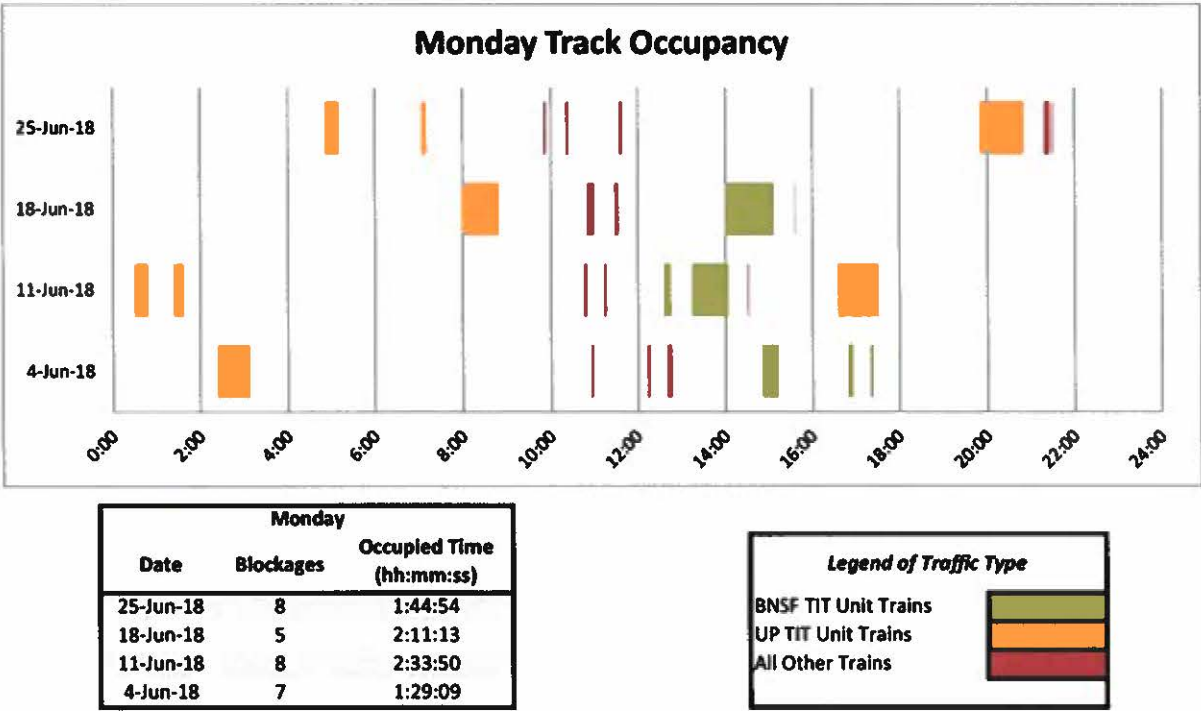
The northern UP line to be crossed is used for TIT traffic, and by UP local crews to move traffic from the UP/BNSF interchange yard or from UP’s yard to one of the three other customers located on the line. *Id.* The southern UP line to be crossed is used to switch cars between the UP and BNSF. *Id.*

As part of his track occupancy study, Mr. McLaughlin analyzed whether windows are available for trains to cross the track without adversely impacting the passage of existing traffic. Operations Report at 74, 90-94. Mr. McLaughlin classified

¹¹ While § 10901(d)(1)(A) provides that construction of a crossing cannot “unreasonably” interfere with the crossed carrier’s operations, 10901(d)(1)(B) imposes a higher standard for opposition in requiring that operations over the crossing cannot “materially” interfere with operations over the crossed line.

the 149 train movements observed during the study period in June 2018 into “traffic types” to develop occupancy graphs for each day of the week. *Id.* at 69-70. These track occupancy graphs clearly demonstrate that even when the current BNSF-TIT unit train movements are included, “the vast amount of time during which the area of the proposed diamond crossings is UN-occupied under current operations.” *Id.* at 71 (emphasis in original). A representative track occupancy chart for an average weekday is provided in the Operations Report at Exhibit 4-1, and is reproduced below:

**Track Occupancy Graph Depicting Train Activity at the Diamond Crossings Area
On Mondays in June 2018**



The graph shows Monday train movements in June 2018. *Id.* at 70-71. Each traffic type group is depicted by a horizontal colored bar, the length of which is the amount of time the train occupied the UP crossing area, and the white, blank areas between the colored bars show the time the crossing area is UN-occupied. Dates for the

Monday train movements are on the vertical axis of the graph, with the time of day, using the 24-hour clock, on the horizontal axis. The “Monday” table under the occupancy graph provides the total activity per day, the “Occupied Time,” and the total number of train movements per day, the “Blockages.” *Id.*

These detailed track occupancy charts demonstrate that the vast majority of each day is unoccupied and available to accommodate BNSF-TIT unit train traffic over the UP’s crossed line without impairing local service to UP’s other customers, or the continued switching of UP trains to/from TIT that TIT performs for UP. *Id.* at 72.

Significantly, the track in the vicinity of the proposed crossing was occupied only 5 percent of the time during the study period in June 2018. *Id.* at 73. Even during UP’s regular business hours, Monday-Friday, generally 7:00 a.m. to 4:00 p.m., the track in the vicinity of the proposed crossing is occupied only six percent of the time, meaning the TREX Line crossing is available 94 percent of the day even during this more limited Monday-Friday workday period. *Id.* at 73. A summary of TREX’s track occupancy time analysis is provided in the Operations Report at Exhibit 4-2, and is reproduced below:

**Track Occupancy Time and Percentage of Track Time Available
by Day of Week during June 2018**

Day of Week	Total Time Available (DD:HH:MM:SS)	Total Time Track Occupied (DD:HH:MM:SS)	Percentage of Time Track Occupied	Percentage of Time Track Available	Average Time Track Occupied per Day (DD:HH:MM:SS)
Monday	04:00:00:00	00:07:59:06	8%	92%	00:01:59:46
Tuesday	04:00:00:00	00:03:23:13	4%	96%	00:00:50:48
Wednesday	04:00:00:00	00:04:35:31	5%	95%	00:01:08:53
Thursday	04:00:00:00	00:07:20:39	8%	92%	00:01:50:10
Friday	05:00:00:00	00:09:02:12	8%	92%	00:01:48:26
Saturday	05:00:00:00	00:02:01:57	2%	98%	00:00:24:23
Sunday	04:00:00:00	00:00:54:15	1%	99%	00:00:13:34
Total	30:00:00:00	01:11:16:53	5%	95%	00:01:10:34
Total, Monday - Friday	21:00:00:00	01:08:20:41	6%	94%	00:01:32:25

As referenced, the Operations Report and occupancy analysis reflect train movement data collected in June 2018. UP and BNSF each had four trains delivered to TIT during the monthly sample period, which is fairly representative month for TIT's BNSF unit train operations in 2018, although not for UP unit train traffic in 2018 which was generally higher. Sullivan Second V.S. at 5. However, because of the relatively low amount of traffic switched by UP on its local line, even if UP traffic were increased to TIT, as currently projected based on contracted for volumes to TIT in 2019, there still would be plenty of time for the crossing of BNSF unit trains over the proposed TREX Line.

As part of the track occupancy study, a hypothetical "busiest day" was analyzed using June 2018 observed data and adding a total of seven additional loaded UP trains to TIT for the month (and their seven empty train counterparts), so that the total UP-TIT monthly traffic for June 2018 would be representative of the UP average monthly traffic during the other eleven months of 2018. Operations Report at 81-85.

After the UP-TIT train movements were added and the unnecessary BNSF-TIT train movements were deleted, the busiest day for June 2018 was identified. *Id.* at 85-87. Using this busiest day, additional train movements were added to account for the projected TIT rail traffic in 2019, and representing a hypothetical busiest day for TIT rail traffic given TIT's existing rail capacity.¹² Operations Report at 53-54 (average rate for unloading a UP train was observed to be 0.14 hours per car).

The "busiest day" analysis indicates that the proposed crossing would remain unoccupied 80 percent of the time. *Id.* at 89, Ex. 4-8 (percent practical capacity available is 80%). Based on this analysis, all parties will have ample time to operate over the proposed crossing, requiring only minimal coordination between the parties. Operations Report at 54 (it is expected that operations over the crossing would be authorized simply via radio or a "first come – first served").

b. TREX Line Operations Will Substantially Improve the Operations of the Crossed Line and Service to Customers

The crossing availability figures and the track occupancy charts fully demonstrate that the proposed TREX Line will not interfere with UP's operations over the crossed line. However, the 95+ percent crossing availability in June 2018¹³ is actually substantially understated because it reflects UP's *existing* operations over the crossed line, which incorporate the significant delay (dwell) time at yards and track

¹² *Id.* at 92-93. Projected TIT rail traffic for 2019 is based on contracted for volumes. The actual amount is dependent on customer demands and market conditions. Sullivan Second V.S. at 12.

¹³ Operations Report at 73, Ex. 4-2.

occupancy by numerous inefficient switching moves associated with UP's switching of BNSF's trains on UP's crossed line. This substantial delay and prolonged track occupancy obstructions will be eliminated by the construction and operation of the TREX Line, as UP's highly inefficient reciprocal switching is displaced by BNSF-direct service to TIT. The displacement will free up substantial crew, track, and yard time to allow for more efficient, enhanced operations over the UP's crossed line.

**(1) Substantial Operating Inefficiencies Burden
Existing Service Over the Crossed Line**

TIT crews currently efficiently deliver UP-TIT unit trains directly to TIT's loop tracks in two cuts.¹⁴ However, UP delivers BNSF-TIT unit trains using a cumbersome, 6-step, load-to-empty reciprocal switching process. Operations Report at 11-12; Sullivan Second V.S. at 3-4. Each 96-112-car train is split into multiple smaller train cuts that are switched into (a) the UP Interchange Yard, (b) then the TIT industry tracks in one-half train increments,¹⁵ and (c) then to TIT's loop tracks. After unloading, the BNSF-TIT train is then moved back first to TIT's industry track, and then back to either the UP Interchange Yard or to the BNSF Valley Yard. Operations Report at 11-12.

UP's reciprocal switching process entails numerous switches that produce turnaround delay and occupancy time on UP's tracks. Mr. McLaughlin's Operations Report shows how UP's existing operating protocols cause each reciprocally switched

¹⁴ Adding the crossover to its loop track will enable TIT to receive UP-TIT unit trains in a single cut. Sullivan Second V.S. at 9-10.

¹⁵ UP will only switch half a unit train in per day as a regular switch and will charge if the additional half train is delivered. Sullivan Second V.S. at 2-3.

BNSF-TIT unit train to engage in 19-27 combined train movements. *Id.* at 42-43. In comparison, UP-TIT unit train service requires only 3 train moves. *Id.* Mr. McLaughlin also observed that the average turnaround time (the Train Cycle Time), for the four BNSF-TIT unit trains in June 2018 “was more than five days longer than the average cycle time experienced by the four, loaded UP unit trains.” Operations Report at 33. Similarly, the Car Elapsed Time, reflecting the total average number of days a car takes to complete a load-to-empty cycle (including unloading time) for the BNSF-TIT unit trains averaged 4.80 days to complete the cycle, with UP responsible for the vast majority, 77 percent, of this time. In contrast, the UP-TIT unit trains had an average Car Elapsed Time of only 0.78 days. Operations Report at 41-42.

Exhibit 3-14 of the Operations Report, reproduced below, summarizes the Train Cycle Time and Car Elapsed Time analysis:

Total Car Elapsed Time and Train Cycle Time for BNSF and UP Unit Trains Between TIT's Facility and BNSF Valley Yard or UP/TIT Crew Change (June 2018)

Origin Railroad	Loaded Train Symbol (1)	Total Car Elapsed Time by Train (Average Days per Car) (2)	Train Cycle Time (Days per Loaded Train)
BNSF	U MNSGAT7 26A	4.79	5.42
BNSF	G MSIGAT4 31A	7.40	9.69
BNSF	MSIGAT4-07A	4.14	5.45
BNSF	MSIGAT4-17A	2.87	2.88
BNSF	Average	4.80	5.86
UP	UEAWTG30	0.81	0.81
UP	UEUMTG06	0.80	0.80
UP	UEAWTG12	0.83	0.83
UP	UEAWTG19	0.67	0.67
UP	Average	0.78	0.78
Difference, BNSF vs. UP: Average Train Elapsed Time		4.02	5.08
		518%	654%
Notes:			
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.			
(2) Car Elapsed Time includes the time during which a car is loaded and empty during its cycle between the TIT facility and BNSF Valley Yard or UP/TIT Crew Change.			

The UP-TIT unit trains that UP switches directly to TIT have identical Train Cycle Times and Car Elapsed Times, which reflects the inherent efficiency in not having to repeatedly cut the trains. By the same token, UP is primarily responsible for the delays experienced by BNSF-TIT unit trains since it controls these trains 77 percent of the time and contributes 3.69 days on average to the cycle time. Operations Report at 36 and 41.

UP's operating protocol for BNSF-TIT unit trains also consumes significant crew time for UP, TIT and BNSF. Mr. McLaughlin's Operations Report finds that current crew time, calculated as the sum of the running time incurred by a BNSF, TIT, and UP crew while engaging in switching averages 9 hours and 16 minutes for each reciprocally switched BNSF-TIT unit train. *Id.* at 71. The crew time and associated costs are significant, as BNSF-TIT unit trains take on average 287 percent more crew time than required for UP-TIT unit trains. *Id.* at 48.

(2) TREX's Proposed Operating Plan Will Eliminate Operating Inefficiencies of the Crossed Line

Mr. McLaughlin developed a detailed operating plan for new service over the proposed TREX Line. Operations Report at 49, Appendices 3-3 & 3-4. Under the Primary Plan, BNSF will deliver the BNSF-TIT unit trains directly to TIT's loop track in one cut, and TIT crews will return the BNSF-TIT unit train directly to the BNSF Valley Yard. *Id.* at 50-51. TIT will install a crossover within the TIT facility to allow both UP and BNSF unit trains to be received in a single cut and streamline operations. Sullivan Second V.S. at 9-10. Mr. McLaughlin also developed an alternate Secondary Plan for when BNSF may be unable to deliver a BNSF-TIT unit train directly to the TIT's loop tracks. Operations Report at 50. Under the Secondary Plan, BNSF crews will yard the train,¹⁶ and TIT crews will deliver the BNSF train in one or two cuts using BNSF power.

¹⁶ TIT and BNSF plan to work out an agreement with dedicated tracks for TIT service. Sullivan Second V.S. at 10.

TIT would then return the train in one cut to the BNSF Valley Yard. Operations Report at Appendix 3-4 & 3-5.

The Operations Report calculates the run times and associated track occupancy on UP property for both the Primary and the Secondary operating plans. Mr. McLaughlin's analysis shows that both plans creates efficiency gains without materially impacting UP's operations. *Id.* at 64-71; Appendices 3-3, 3-4, & 3-5.

Most significantly, the reduction in switching moves for BNSF-TIT unit trains will result in safer and more efficient rail operations in Galveston. Operations Report at 67. Routing the BNSF-TIT unit trains directly over TREX's line will reduce the number of train movements in the vicinity of the proposed crossing from the average 13.25 switch moves observed in June 2018, to 2. *Id.* Likewise, the frequency of at grade crossings at Port Industrial Road will decline by 83 percent. *Id.*

Also, BNSF-TIT unit train delivery cycle times will be reduced by 78 percent, from 5.86 days to 1.30 days, as summarized in the Operations Report at Exhibit 3-21, reproduced below:

**Train Cycle Time: BNSF / TREX Proposed Operation of BNSF Unit Trains
Compared with June 2018 Operations**

	June 2018 Operations	Proposed Operating Plan	
Loaded Train Symbol (1)	Train Cycle Time (Days per Loaded Train)	Train Cycle Time (Days per Loaded Train)	Percentage Change in Train Cycle Time from June 2018 Operations
U MNSGAT7 26A	5.42	1.30	-76%
G MSIGAT4 31A	9.69	1.30	-87%
MSIGAT4-07A	5.45	1.30	-76%
MSIGAT4-17A	2.88	1.30	-55%
Average	5.86	1.30	-78%
Notes:			
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.			

Similarly, total average car elapsed time (i.e., car cycle time) per car will decline by 73 per cent from 4.80 days per car to 1.30 days per car. Operations Report at 63, Exhibit 3-22.

Routing BNSF-TIT unit trains over the TREX line will also reduce track occupancy in the vicinity of the proposed crossing. Specifically, the average track occupancy time per loaded and empty BNSF-TIT unit train in the vicinity of the proposed crossing will decrease by 65 percent, from 3 hours and 46 minutes to 1 hour and 20 minutes. Operations Report at 80, Exhibit 4-6.

Lastly, the crew time incurred in moving a BNSF-TIT unit train would decline 72 percent, from 9 hours and 16 minutes to 2 hours and 37 minutes under the Primary operating plan, a vast improvement in train handling efficiencies. The reduction is shown in the Operations Report at Exhibit 3-24, reproduced below:

**Crew Time: BNSF / TREX Proposed Operation of BNSF Unit Trains
Compared with June 2018 Operations**

Loaded Train Symbol (1)	June 2018 Operations				Proposed Operating Plan							
	Crew Time by Handling Crew (HH:MM)				Crew Time by Handling Crew (HH:MM)				Percent Change in Crew Time from June 2018 Operations			
	BNSF	TIT	UP	Total	BNSF	TIT	UP	Total	BNSF	TIT	UP	Total
U MNSGAT7 26A	1:01	2:32	3:28	7:01	0:58	1:39	0:00	2:37	-5%	-34%	-100%	-63%
G MSIGAT4 31A	1:32	2:53	5:35	10:00	0:58	1:39	0:00	2:37	-37%	-42%	-100%	-74%
MSIGAT4-07A	1:32	2:53	6:02	10:27	0:58	1:39	0:00	2:37	-37%	-42%	-100%	-75%
MSIGAT4-17A	1:11	3:27	5:00	9:38	0:58	1:39	0:00	2:37	-18%	-52%	-100%	-73%
Average	1:19	2:56	5:01	9:16	0:58	1:39	0:00	2:37	-26%	-43%	-100%	-72%
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.												

Having BNSF crews switching all BNSF-TIT unit trains to TIT over the new TREX Line will eliminate the need for UP to conduct the time-consuming reciprocal switching, reducing UP crew time from approximately five hours per train to zero per train. Operations Report at 71, Exhibit 3-24. UP switching time, locomotive power time, and crew-time would be freed up for local switching of UP trains.

**(3) TREX Line Operations Will be Easy to Coordinate
Because of the Limited Traffic in the Vicinity of the
Proposed Crossing**

Under TREX's proposed operating plan, train crossings over the diamonds will be coordinated between the carriers utilizing standard industry arrangements and operating rules. Operations Report at 56. TREX expects that BNSF, UP, and TREX will agree upon procedures and otherwise cooperate and coordinate to ensure that operations over their respective lines and the crossing will not result in interference to operations in the infrequent instances when two trains arrive at roughly the same time. Sullivan Second V.S. at 10.

TREX anticipates that General Code of Operating Rules will govern, with priority provided on a “first come – first served basis” via radio communication among the crews active in the area. Operations Report at 53-54. This “first come – first served” approach already governs current train operations by BNSF, UP and TIT (even though TIT is not a common carrier railroad) in the area of the proposed diamonds. *Id.* at 54. Operations would occur under restricted speeds as required under the General Code of Operating Rules, again, consistent with current operations, with appropriate signal rules for protection of the crossings. *Id.* at 54-55.

Estimated train run times and occupancy times of the crossed line and UP property are presented in the Operations Report at Exhibit 3-17, and reproduced below:

**Run Times and Occupancy Times on UP Property
Under the TREX Proposed Operating Plan Assuming the “Blue – B” Alignment**

Train Movements in Proposed Operating Plan					Running Times and Distances				
BNSF Train Status	From	To	Move Type	Car Count	Train Operations		Time UP Property Occupied		
					Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.62	0.47	0.47	0.47	0.48
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.87	0.88
Total Time (Hours)					1.70	1.34	1.34	1.34	1.36
Total Time (Minutes)					102	80	80	80	82
Distance (feet)					2,823	295	233	370	600

In summary, operation of the TREX Line should enhance UP’s ability to serve its customers, rather than materially interfere with UP’s deliveries to those customers served over the crossed line. Additionally, the significant reductions in train movements under the proposed operating plan will significantly reduce locomotive

emissions and provide important public health and safety benefits. *Id.* at 64; Sullivan Second V.S. at 9-10.

A finding of a lack of material interference with operations of the crossed UP Line under TREX's operating plan fully comports with the findings in other crossing cases. On average, the UP local crew made 2.80 moves per day across the diamond crossing area when handling other local customers' traffic during June 2018. Operations Report, Exhibit 4-5, "Track Occupancy by Traffic Type during June 2018." In contrast, as referenced *supra*, BN operated 7-8 trains per day over the tracks that UP's predecessor, CNW, proposed to construct over three at-grade crossings in the *MERC Crossing* case. This is well over double the amount of traffic movements operating per day across the UP's tracks. Similarly, the crossed line operated approximately 4-6 trains per day in the *Gateway* case. With far more substantial levels of activity, the Commission found no unreasonable interference with the operation of the crossed lines in *MERC* and *Gateway*.

The proposed TREX line is also similar to *MERC* in that the vast majority of the traffic in the vicinity of the proposed crossing moves to a single location with control over the inbound and outbound traffic, further reducing the potential for interference. "No traffic moves to MERC's facility without its knowledge, approval, and coordination. This, in itself, provides a certain degree of control of the crossing activity." *MERC* at 10.

(4) Major Shippers Agree that Construction and Operation of the TREX Line Will Substantially Improve Service Over the Crossed Line

As referenced *supra*, the largest local customer on the UP's crossed line is TIT. Sullivan Second V.S. at 3, 6. TIT supports the rail line construction and confirms that the new operations over the TREX Line will not materially interfere with its receipt of traffic over the crossed line. *Id.* at 6-10. Instead, the TREX Line will "substantially improve" TIT's service because UP's highly inefficient and cumbersome reciprocal switching service for BNSF-TIT unit trains will be replaced by direct service to TIT. *Id.* at 9. The displacement will eliminate 17 to 25 individual switching movements for each BNSF-TIT unit train. *Compare* Operations Report at 42-43 *with* Operations Report at 66; Appendices 3-3 & 3-4.

Eliminating excess switch movements will lead to much shorter train delivery cycle times and dramatically faster train turnaround times for TIT deliveries. Sullivan Second V.S. at 9-10. Moreover, the significant amount of hand-offs for UP to provide reciprocal switching also causes erratic cycle times. *Id.* at 3-5, 13. Direct service will substantially eliminate that variability, particularly as the crossings will need to be cleared quickly. *Id.* at 9-10

TIT's unit train customers, some of the largest shippers in the world, and that use BNSF and those who use UP – support the project as improving rail service for *both* carriers. As stated by Valero Marketing and Supply Company ("Valero") in its November 5, 2018 letter to the Board (previously submitted as Exhibit 3 to the Sullivan V.S. in TREX's Nov. 21, 2018 Construction and Operation exemption petition),

“TREX’s proposed construction will provide a direct connection between BNSF and TXIT’s facility, reducing the turnaround time for BNSF unit trains from upwards of nine (9) days or more, to approximately two days. TREX’s proposed construction will therefore provide more efficient, predictable, and more competitive rail service to TXIT’s facility.”

Another major customer, International Raw Materials, Ltd. (“IRM”), supports the project as a means to provide “[m]ore timely and predictable service” because it will “eliminate labor and time intensive switching operations between the carriers at the terminal, simplify carrier coordination, and provide for a more expeditious means for IRM to ship fertilizer products to all destinations through reduced train turnaround times,” IRM Nov. 1, 2018 letter to the Board (previously attached as Exhibit 4 to the Sullivan V.S. in TREX’s Nov. 21, 2018 Construction and Operation exemption petition). Still another customer, Intrepid Potash, Inc. (“Intrepid”), also has expressed concerns about train service delays resulting from UP’s inefficient reciprocal switching service, limited service hours, and refusal to perform additional switches for the benefit of Intrepid. Letter from Intrepid to the STB dated Jan. 29, 2019 (attached as Exhibit 3 to the Sullivan Second V.S.). Intrepid supports the TREX Line because it “will simplify and streamline operations, and improve competitive rail service to the benefit of Intrepid, the railroads, other shippers, and the public.”

Other major TIT customers that exclusively ship on UP, such as Archer Daniels Midland Company (“ADM”), which ships over 30 unit trains a year to TIT, verify that “TREX’s proposed rail line construction will benefit ADM because it will

allow TIT to make efficiency gains that will translate to better and more dependable service for all of its customers. TIT will be in a position to better project and coordinate rail operations, which will result in more fluid operations and reduced transit times as well as the ability to predict shipments and transportation costs.” Letter from ADM to STB dated Jan. 15, 2019 and filed Feb. 7, 2019 (attached as Exhibit 4 to the Sullivan Second V.S.). Likewise, Solvay Chemicals, Inc. (“Solvay”), which ships approximately 24 unit trains per year to TIT on the UP agrees that the construction and operation of the TREX Line will improve its UP service “because it will make rail service to TIT’s facility more efficient” by eliminating “[s]witching and extra switching services currently performed by the UP for BNSF . . . unit trains to TIT’s facility [that] are time consuming and can cause undue delay.” Letter from Solvay to STB dated Dec. 6, 2018 (attached as Exhibit 5 to the Sullivan Second V.S.).

These statements from TIT customers that ship on the BNSF and UP verify that the proposed TREX Line will significantly improve service over the crossed line, and not materially interfere with the operation of UP’s crossed line. Also, because operations over the proposed TREX Line will free-up UP local crew and locomotive time currently spent switching BNSF – TIT unit trains, more time will be available for the UP local crew to serve other UP local customers. Operations Report at 65-66. Therefore, UP’s ability to serve those customers should improve. Accordingly, the no “material interference” requirement of 49 U.S.C. § 10901(d)(1)(B) is more than met.

E. TREX Will Pay Appropriate Compensation for Crossing Rights

Under the section 10901(d), the railroad whose line will be crossed may be compensated for the crossing. In *Louisville*, the ICC set forth the following construction of the Section 10901(d) compensation standards:

A final requirement of §10901(d) is that the owner of the crossed line be compensated. The statute envisions a two-step process: the Commission orders the crossing, and after an opportunity to negotiate, if the parties cannot agree, the Commission may set the amount of compensation.

Riverport asks the Commission to set the terms at this time, and submits a detailed appraisal that the fair market value for the encroachment is \$500. . . . However, we can find no reason to depart from the statutory scheme under which we are to determine the amount of compensation only after the parties have failed in their efforts to negotiate an agreement. Construction need not be delayed pending resolution of the compensation question. We urge the parties to negotiate in good faith. If they are unable to agree on compensation for the limited encroachment involved here, they may then request that we set the amount of compensation. The requested crossing may occur prior to resolution of the compensation issue. However, should Riverport begin construction, it does so at the obvious risk that we will set compensation at a level higher than the \$500 it has offered.

4 I.C.C.2d at 755. The Board and its predecessor have followed this “two-step” procedure in multiple other cases. *E.g.*, *Midwest Generation*, (STB served Oct. 4, 2002) at 6; *Illinois Cent. R.R. Co. – Petition for Crossing Authority – In East Baton Rouge Parish, LA*, STB Finance Docket No. 33877 (Sub-No. 1) (STB served May 13, 2002) at 8; *Public Serv. Co. of Colo. – Petition for Crossing Authority Under 49 U.S.C. 10901(d)*,

FD 33862 (Sub-No. 1) (STB served Mar. 22, 2001) at 3 (“*PSCO*”); *MERC* (ICC served Aug. 11, 1995) at 3; *WFEC* at 3; *Gateway* (ICC served Nov. 28, 1994) at 10.

TREX asks the Board to follow the same “two-step” procedure here: the Board should first issue the Section 10901(d) crossing order and, second, if the parties are unable to agree upon compensation, the Board, upon petition by a party, can set a fair compensation. This approach, as the Board held in *Midwest Generation*, permits construction over the crossing to begin as soon as the crossing order is entered. *Id.* at 6; *accord PSCo* (STB served Mar. 21, 2001), at 3. Similarly, the full terms of operation of the crossing need not be worked out in advance to avoid any interference with UP’s operation of the crossed line, because, as the Board held in *Midwest Generation*, the proposed operations over the line to be crossed are not currently being operated. *Midwest Generation* at 6; *accord PSCo* at 3.

TREX will negotiate in good faith with UP in an effort to reach an agreement on the proper level of compensation due UP in accordance with the Board’s established fair market value compensation standards as set forth in *MERC* and *OPPD* (STB served August 1, 1996) at 6. If an agreement with UP cannot be reached, TREX reserves the right to ask the Board resolve the dispute pursuant to Section 10901(d)(2).

F. Granting This Petition Is Consistent with the Purpose and Intent of Underlying Section 10901(d)

Grant of this Petition will also further Congressional intent encouraging such pro-competitive rail line construction projects. Congress added Section 10901(d) to Title 49 as part of the Staggers Rail Act of 1980. In *Louisville* and *Gateway*, the

Commission carefully and thoroughly reviewed Congress's intent in adding this provision into law. As explained in *Louisville*, "Section 10901(d) was designed to limit existing carriers' opportunities to block new construction by their competitors." 4 I.C.C.2d at 755.

Grant of this Petition will also further the National Rail Transportation Policy, including to facilitate railroad entry and promote intramodal competition. 49 U.S.C. 10101(1), (4), (7), (12) (policies to facilitate competition, promote effective competition among carriers, reduce regulatory barriers to entry into the industry, and prohibit predatory pricing and practices). As the Board has found:

[T]he legislative history of [Section 10901(d)] indicates that the Congressional purpose in giving us authority over crossings was to facilitate railroad entry and promote intramodal competition by limiting the ability of incumbents to block new competitors. *See* H.R. Rep. No. 1430, 96th Cong., 2d Sess. 115-16 (1980), reproduced at 1980 U.S. Code Cong. & Ad. News 4147 (Staggers Act Conference Report)."

OPPD, FD 32630 (Sub-No. 1) (STB served Aug. 1, 1996) at 3-4.

As noted, *supra*, TREX asked UP to enter into discussions in the hopes of reaching agreement on terms for operations and crossing compensation in November, 2018. UP has declined to date to commence negotiations. Sullivan Second V.S. at 10. TREX is seeking a Section 10901(d) order precisely because it anticipates UP may try to block or delay construction of the crossing. Thus, granting TREX's proposed construction and crossing furthers the intent of Congress and the Rail Transportation Policy by promoting competition and providing better service to shippers.

G. Expedited Action Is Requested

TREX also seeks expedited consideration of this petition. As explained in TREX's exemption petition, the proposed construction is of limited scope consisting of less than 3,000 feet in length in an industrial area, the proposed construction is not expected to have any significant environmental impact (beyond reducing locomotive emissions and fuel consumption), construction and operation will not unduly interfere with the crossed line, but will improve service to shippers as demonstrated herein over both the existing and new lines, and expedited action is necessary to mitigate ongoing service issues and to avoid undue construction delays. Sullivan Second V.S. at 12-13.

Expedition is also necessary because the "continued uncertainty of BNSF access and reliable rail service to TIT is a critical issue that impedes TIT's ability to market its services and reach continuing and new agreements with customers." *Id.* at 13. Additionally, expedition is necessary to support the deadlines for manufacture of the pre-fabricated diamond crossings and for TREX to be able to avoid financial penalties, risk of losing its place in line with the diamond manufacturer, and project delays. *Id.* TREX is filing along with this petition a second petition asking the Board to establish an appropriate expedited schedule, consistent with prior schedules in crossing cases.

**III.
CONCLUSION**

WHEREFORE, for the reasons set forth in this petition, TREX respectfully requests that the Board expeditiously enter an order under 49 U.S.C. § 10901(d) allowing TREX to construct the rail line providing direct and permanent railroad service between BNSF's Valley Yard and TIT's loop track.

Respectfully submitted,

TEXAS RAILWAY EXCHANGE LLC



Peter A. Pfohl

Robert D. Rosenberg

Katherine F. Waring

SLOVER & LOFTUS LLP

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Washington, D.C. 20036

(202) 347-7170

(202) 347-3619 (facsimile)

Dated: February 22, 2019

Its Attorneys

CERTIFICATE OF SERVICE

I hereby certify that I have this 22nd day of February, 2019, caused a copy of the foregoing filing to be served by U.S. Mail, postage prepaid or by more expedited means upon all parties of record.

/s/
Katherine F. Waring
An Attorney for Complainant

Counsel's Exhibits

COUNSEL'S EXHIBIT 1



SLOVER & LOFTUS LLP

ATTORNEYS AT LAW

November 27, 2018

VIA FEDEX

Rhonda S. Ferguson
Executive Vice President
Chief Legal Officer and Corporate Secretary
Union Pacific Railroad Company
1400 Douglas Street
Omaha, NE 68179

Re: *Texas Railway Exchange LLC – Construction and Operation
Exemption – Galveston County, TX, STB FD 36186*

Dear Ms. Ferguson:

On behalf of our client, Texas Railway Exchange, LLC (“TREX”), we sent to you a courtesy copy of the Petition of the Texas Railway Exchange LLC for an Exemption under 49 U.S.C. § 10502 from the Requirements of 49 U.S.C. § 10901, that TREX filed November 21, 2018. TREX seeks authority to construct and operate a new rail line in Galveston, Texas that will provide substantial benefits, including improved customer service, safer and more efficient rail operations, and local crew time savings.

As noted in the Petition, the new line would cross the Union Pacific Railroad Company (“UP”) track, as shown on the enclosed Exhibits 1-4. TREX would like to discuss the project with UP and hopes to reach agreement on terms for operations and crossing compensation.

We hope that UP is also willing to enter into such discussions, and we look forward to hearing from you soon. Also, please let us know if you have any questions.

Sincerely,

Peter A. Pfobl

An Attorney for Texas Railway Exchange LLC

Enclosures

COUNSEL'S EXHIBIT 2



BUILDING AMERICA®

December 5, 2018

VIA ELECTRONIC AND U.S. MAIL

Peter A. Pfohl
Slover & Loftus LLP
1224 Seventeenth St. N.W.
Washington, DC 20036

Re: *Texas Railway Exchange LLC – Construction and Operation Exemption – Galveston County, TX*
STB Docket No. FD 36186

Dear Peter,

Union Pacific is in receipt of your letter to our Executive Vice President, Chief Legal Officer and Corporate Secretary, Rhonda Ferguson, dated November 27, 2018 in the above referenced matter.

We are carefully evaluating the project generally described in your letter and more specifically set out in the petition for exemption filed by your client, Texas Railway Exchange LLC at the Surface Transportation Board on November 21, 2018. Following our evaluation, Union Pacific will substantively respond to your inquiry with all deliberate speed.

Very truly yours,

Craig V. Richardson
Vice President - Law
Union Pacific Railroad
402.544.7004

Sullivan Second V.S.

Second Verified Statement of Todd Sullivan

1. My name is Todd Sullivan. I am a Managing Member with William Sullivan and John Sullivan of Texas Railway Exchange LLC (TREX). I also serve as President of Texas International Terminals, Ltd. (TIT), a major railroad receiver and terminal facility located in Galveston, Texas.

2. I previously filed a Verified Statement in support of TREX's Petition for an Exemption under 49 U.S.C. § 10502 from the Requirements of 49 U.S.C. § 10901 (First Verified Statement). My First Verified Statement provided background information on TIT and its current rail operations and service, a review of the railroad service limitations facing TIT and the negative impacts of those limitations, the business justification for the proposed rail line construction, and related information. Much of this information is pertinent to TREX's Petition for Issuance of a Crossing Order Pursuant to 49 U.S.C. § 10901(d) (Crossing Petition) and therefore I incorporate my First Verified Statement into this Statement by reference.

3. The purpose of this Second Verified Statement is to supplement my First Verified Statement and provide additional factual information in support of TREX's Crossing Petition.

Continuing Service Issues

4. In my First Verified Statement, I described the train delivery service difficulties TIT is experiencing because of the significant constraints Union Pacific Railroad Company (UP) places on its reciprocal switching of BNSF Railway Company

(BNSF) trains, including, but not limited to, limited service hours, UP limiting reciprocal switching of BNSF trains to TIT to one-half of a unit train each day, weekdays (Monday-Friday) only; UP's cumbersome, multi-step load-to-empty reciprocal switching process that creates significant train turnaround delays; and UP's refusal to accept requests for special switches. While TIT has continued to engage in good faith communications with UP in an attempt to improve service, the service problems have continued, as discussed further.

5. On November 19, 2018, I sent a letter to UP describing the continuing service problems with UP's reciprocal switching service, and expressing concerns about the impacts of UP's recently announced rail labor cuts associated with its implementation of "precision scheduled railroading." In particular, this letter was precipitated as a result of the response UP provided during an October 18, 2018 conference call on service after TIT informed UP of expected increases in ethanol traffic and it inquired about UP's willingness to accommodate TIT special switch requests. UP responded on the call that it would be very difficult for UP to accommodate TIT special switch requests. In my letter, I asked UP to commit itself to performing special switches, and to taking additional actions to improve service and minimize the need for special switches. A copy of my letter is included in **Exhibit 1** to this Statement.

6. On December 20, 2018, UP sent back a response letter simply stating that UP "respectfully disagrees with the claims presented in the aforementioned letter," and denying that it had refused special switch requests. UP "encourage[d] TxIT to continue to follow UP's special switch process," but provided no assurances that service would

improve or that UP would accommodate future TIT special switch requests with the expected seasonal uptick in train traffic.

7. UP is inconsistent with respect to its requirements, charges, and performance of its “special switches.” As indicated by UP’s response letter, it fully accommodated TIT’s request for a special switch in October 2018 by delivering a full train in on October 19, 2018. A copy of UP’s response letter is included in **Exhibit 2** to this Statement. TIT is obviously pleased with UP delivering a full unit train delivery in one day (with UP also not charging for the second half train delivery made during regular business hours). However, on January 16 and 18, 2019, TIT was directed by UP to request a special switch online when it was necessary for the second half of the train to be switched by the regular local crew during normal operating hours. UP only charged for one of the switches to compensate for a prior misdelivery of railcars, but the one switch during normal operating hours cost our customer \$3,200. UP historically has also refused to perform switches, while other times switching over entire trains. From this, it is evident that it is reasonable for UP to reciprocally switch a full BNSF unit train into TIT in one day on a regular basis, during regular business hours, without the need for any special switches if it so chooses.

8. TIT is the largest local customer on the UP’s line. In 2018, TIT received and transloaded over 18,500 railcars. Approximately 5,000 of these are BNSF shipped railcars. BNSF unit train service to TIT is totally dependent on UP’s reciprocal switch service. However, these BNSF railcars are switched to TIT by UP through an inefficient,

6-step load-to-empty reciprocal switching process, with each BNSF unit train being split into multiple smaller train cuts in each step.

**TREX's Traffic Study Confirms the Negative Impacts
of UP's Reciprocal Service Limitations**

9. As part of my First Verified Statement (at pp. 4-7), I described UP's byzantine reciprocal switching process, resulting in UP cutting a BNSF unit train in multiple cuts for delivery to TIT's loop tracks under its limited, one-half train per day delivery service plan, during limited service hours. In my Statement, I noted that it can frequently take four (4) to six (6) days for UP to reciprocally switch a BNSF unit train, and in some cases, it can take up to ten (10) days.

10. As part of its Crossing Petition, TREX has performed a detailed track occupancy study, conducted by R.L. Banks and Associates (RLBA), utilizing actual local train movement data recorded in June 2018. That study shows that my estimates were fairly conservative, and that BNSF's reciprocally switched trains have an average turnaround time of 5.86 days, while UP trains have an average turnaround time of 0.78 days. As part of the study, RLBA performed additional studies, with each of the study metrics confirming the significant drag on train turnaround times resulting from UP's inefficient reciprocal switching operations.

11. As reflected in the RLBA studies, with the construction and operation of the new TREX line, the number of movements associated with BNSF-TIT trains will be reduced from 19 to 27 to just two movements. This is because BNSF will be able to bring in the BNSF-TIT unit trains directly to TIT's facility in one cut. When this is not

possible, BNSF has agreed it will enter into a locomotive use agreement with TIT such that TIT will be able to use BNSF power and bring the train into TIT's facility in either one or two cuts. Therefore, even when BNSF crews are unavailable or in the event TIT's facility is unable to immediately accept an entire unit train, the total train movements will still be reduced from 19 to 27 movements to a total of two to four movements.

12. During RLBA's month long traffic study, four BNSF and four UP trains were delivered to TIT's facility, unloaded, and dispatched/returned empty. While June 2018 had the average number of BNSF-TIT unit trains for 2018, it was below average with respect to UP-TIT unit trains. However, the handling of these unit trains during the month was typical, and as such the train turnaround times and operations are representative of what typically occurs unless a special switch occurs (which decreases train turnaround times), which is very rare. Further, the local non-TIT traffic handled by UP on its line in June 2018 was observed by TIT personnel to have the same frequency and was handled in the same manner as is typical, and for this reason, June 2018 is representative of local traffic conditions in the vicinity of the proposed crossing. However, the June 2018 data did not include the more recent deliveries to Savage Sulfur Services Ltd., which TIT personnel has observed to receive approximately 15-30 car cuts upwards of a few times a week, with the exact frequency and car count unknown.

New Line Construction Is Being Carefully Planned to Avoid Interference with UP Operations Over Its Line

13. In order for the new rail line to reach TIT, it will be necessary to cross the track and some limited land of UP. As part of TREX's proposed construction plan, precautions have been taken to avoid interference with UP train operations. Construction will be carefully staged, TREX will be using pre-fabricated diamond crossings, and, as referenced in TREX's construction plan, each of UP's two crossed tracks will not be required to be taken out of service for more than a total of eight hours at a time.

14. TIT is UP's largest local customer, by far. TIT receives on average slightly less than three UP unit trains per week over UP's local secondary line (using 2018 traffic figures). With only approximately 16 hours of outage time of the crossed UP lines, rail line construction will not unreasonably interfere with TIT's receipt of traffic and its ongoing terminal operations.

15. TIT prides itself in its ability to efficiently receive and transload large volumes of liquid and dry bulk commodities, and to meet customer demands, which can vary depending on market demands and conditions. TIT coordinates closely with its customers and the railroads to schedule and accommodate specific vessel arrival times in an orderly manner. However, just like the railroads, and because of the nature of the markets it serves and its operations, TIT does not operate as a precisely scheduled "just in time" business. TIT needs to be flexible to accommodate the varying schedules of its customers, the railroads, and vessels, and it operates 24 hours a day, 7 days a week to meet its customers' needs.

16. During the limited time of construction, TREX and TIT will closely coordinate with UP, BNSF, its customers, and vessel operators to reasonably schedule and limit operations, as necessary, to ensure that UP traffic to TIT continues to be received as orderly as possible. Again, TIT operates 24 hours a day, 7 days a week. The few UP trains that might be affected during the construction period can be easily accommodated outside of the two 8-hour construction windows. For inbound vessels that arrive during the construction period, TIT has ample storage space for both dry bulk and liquid commodities.

17. Other than service to TIT, UP's line is used to serve only three other local customers, Sullivan Land and Cattle Co.,¹ M-I SWACO, and Savage Sulfur Services Ltd. In general, this other local rail traffic is modest, as documented and confirmed in RLBA's traffic study. As stated within my First Verified Statement, there are approximately 50-60 cars per week delivered to MI-SWACO and Sullivan Land and Cattle Co. Specifically, it has been observed that MI-SWACO gets fairly regular switches of cars, sometimes daily, and Sullivan Land and Cattle Co. receives two switches per week (Tuesdays and Thursdays) of 3-4 cars as-needed. Also, as previously discussed, over the past few months TIT personnel has observed that Savage Sulfur Services Ltd. has been receiving approximately 15-30 car cuts and while it is unknown with what frequency, this facility does not appear to require a daily switch.

¹ Sullivan Land and Cattle Co. is not owned or controlled by Sullivan Brothers.

18. TREX's proposed line will be crossing UP's track, but these are secondary lines that have a limited amount of traffic and serve only the three other customers in addition to TIT. The rail traffic to Galveston coming from the mainland, with the exception of TIT unit trains, comes in on separate UP lines that are south of UP's 102 and 611 lines. These separate UP lines are also used to serve the Port of Galveston, which is exclusively served by the Galveston Railroad.

19. UP's 102 line, the first UP line to the north to be crossed, is used for TIT traffic, and for rail traffic being switched from UP's yard and the UP/BNSF interchange yard to the other three customers located off the line. UP's 611 line, the second UP line to be crossed, connects to the BNSF yard and is also used for switching between BNSF and UP. Significantly, given that UP's 611 and 102 are primarily used for TIT traffic, TIT and TREX will be able to work closely with UP and coordinate with UP's local customers to ensure UP's other local operations and service face no unreasonable interference during the limited construction period.

UP's Use of Property Crossed by the Line Routings

20. In addition to the two crossed UP lines, each of TREX's routings require the crossing of a modest amount of adjacent UP property, approximately 1,200 or less linear feet. The property is undeveloped and not known to be regularly used by UP. Also, a separate crew access area has been established by TIT (in cooperation with UP) to provide UP full access to its lines in proximity to the proposed crossing.

21. UP has never maintained exclusive use of its property located east of the Pelican Island Causeway and across from TIT's facility. On occasion, this area has been

informally used by local contractors and neighboring facilities for parking; TIT's private track crosses this property; and TIT is partly responsible for maintaining this property, and would continue to do so once TREX's line is constructed.

22. UP's right-of-way that would need to be crossed west of the Pelican Island Causeway parallels the existing TIT track. Presently, this right-of-way in part is leased by TIT (9 feet on each side of TIT's track), and is used as necessary by TIT to maintain or access its private track.

New Line Operations Will Improve TIT's Receipt of UP Trains on UP's Line

23. Construction and operation of the proposed TREX line will substantially improve TIT's receipt of both UP and BNSF unit trains. All BNSF trains, constituting over one-fourth of the total trains received by TIT in 2018, will be moved off of the UP line, replaced by BNSF-direct service to TIT over the TREX line. TIT's service will substantially improve through the elimination of the inefficient, cumbersome, and time-intensive UP reciprocal switching service on the UP line.

24. In addition, BNSF has requested that we make modifications to TIT's existing track to allow it to bring in the unit trains in one cut. TIT had reviewed this option in October 2018, and has a bid on file for the installation of a crossover on TIT's loop tracks. TIT will be installing this crossover, to comply with BNSF's request. Additionally, this improvement will enable TIT to bring in UP-TIT unit trains in one cut, thus extending the same benefit to UP unit train operations as will be enjoyed by BNSF unit trains. TIT's ability to receive unit trains of both railroads in one cut of course is dependent upon the day-to-day status of our operations and assuming no other train is

being unloaded. While the installation of the crossover will not increase TIT's rail capacity, it will promote safer and more efficient rail operations by reducing the frequency and total time spent blocking the at-grade crossing at Port Industrial Road and the proposed TREX/UP crossing.

25. TIT and BNSF also plan to enter into an agreement for dedicated landing tracks to facilitate efficient handling of BNSF-TIT unit trains.

26. These service changes will improve service for both UP and BNSF trains as UP will no longer need to engage in numerous reciprocal switching movements over multiple days over UP's line to deliver and return a BNSF train. RLBA's study found an average of 5.01 hours of UP crew time² were required to perform the numerous switching moves associated with each inbound BNSF loaded unit train and the companion outbound empty train. That time represents 55 percent of the average total crew time (9.16 hours³) required to accomplish the inbound load – outbound empty cycle on one BNSF unit train. I would expect that UP would apply this time saved to conducting its other local operations.

27. While UP has declined to enter into discussions to date, we remain receptive and hope to reach mutually acceptable arrangements with UP regarding the construction and operation of the crossing to ensure that both BNSF and UP trains are handled and processed as efficiently as possible.

² TREX – RLBA Operations Report, Exhibit 3 – 16 “Crew Time by Handling Crew for BNSF Unit Trains (June 2018).”

³ TREX – RLBA Operations Report, Exhibit 3 – 16 “Crew Time by Handling Crew for BNSF Unit Trains (June 2018).”

**Customer Confirmation of the Improved Service that Will Result
from the Construction and Operation of the TREX Line**

28. The fact that the construction and operation of the TREX Line will not interfere with UP's operations is confirmed by major TIT customers, who ship on both UP and BNSF. In my First Verified Statement, I included support letters from Valero Marketing and Supply Company (at Exhibit 3) and International Raw Materials, Ltd. (IRM) (at Exhibit 4). Both customers support the project as a means of providing more efficient and predictable service for deliveries by both carriers. Another customer, Intrepid Potash, Inc. (Intrepid) has expressed concerns over UP's limited service hours and inefficient reciprocal switching service of BNSF trains, and its refusal to perform additional special switches when needed. Intrepid supports the project "because it will help make rail service to TIT more efficient and improve train turnaround times." A copy of the Intrepid letter is included as **Exhibit 3** to this statement.

29. Several other major TIT customers that exclusively use UP for their shipments to TIT, Archer Daniels Midland Company (ADM) and Solvay Chemicals, Inc. (Solvay), confirm that service on the UP's crossed line will significantly improve with the construction and operation of the TREX line. In particular, ADM agrees that construction and operation of the new line "will translate to better and more dependable service" and that the new line "will result in more fluid operations and reduced transit times as well as the ability to predict shipments and transportation costs." Solvay also agrees that construction and operation of TREX's line will eliminate "time consuming" UP reciprocal switching that "can cause undue delay" and lead to improved, more

efficient rail service to TIT's facility, and this will benefit TIT's UP-served customers. Copies of the ADM letter and the Solvay letter, respectively, are included as **Exhibit 4** and **Exhibit 5** to this statement.

TREX Will Compensate UP for the Crossing

30. TREX recognizes that the governing crossing statute requires TREX to "compensate" UP for the crossing. TREX also recognizes that the Board prefers parties to reach agreement between themselves prior to seeking Board determination of the proper compensation. TREX will negotiate in good faith with UP in an attempt to reach an agreement to provide compensation at fair market value consistent with the STB's rules for the underlying property in an attempt to avoid the need for the Board to establish appropriate crossing compensation.

TREX Seeks Expedited Consideration By the Board

31. TREX is seeking expedited handling of its petitions filed with the Board. Granting the Construction and Crossing Petitions as the earliest possible date will enable TREX and its customers to be able to obtain the benefits of improved, direct competitive service as soon as possible. TIT is on track to have an extremely busy year. Based on January 2019 data, it is handling trains in and out of the facility expeditiously and TIT's operations personnel have done a superb job of handling competing customer demands and maximizing our transload and storage operations. It should be noted, the original projected volumes for 2018 were higher than the actual amounts, as rail traffic to TIT is subject to customer demands and market conditions.

32. However, while TIT is able to maximize its transload operations when everything is going well, it remains vulnerable to UP's reciprocal switching service for BNSF-TIT unit trains, which UP has maintained is "voluntary." Slow and erratic train turnaround times are continuing unabated for our BNSF customers. Expedited approval will help improve rail service reliability and certainty. Expedited consideration will also help assure major existing BNSF- and UP-served customers including Valero, IRM, Intrepid, ADM, and Solvay that existing, longstanding service issues are being addressed and will be permanently resolved as soon as possible.

33. Expedited consideration of TREX's two petitions is also important to both existing and potential new TIT customers because TIT's customers typically plan their terminal service arrangements and commitments with long lead times, and are extremely sensitive both to reliability and price. The continued uncertainty of BNSF access and reliable rail service to TIT is a critical issue that impedes TIT's ability to market its services and reach continuing and new agreements with customers.

34. In addition, while the use of pre-fabricated diamond crossings will enable the installation of crossings in a manner that will eliminate almost all interference with UP operations, as referenced in my First Verified Statement, the crossing diamond manufacturing process takes significant lead time, and is both capital and time intensive. For the diamonds, we plan on using a manufacturer that currently supplies Class I railroads. In fact, we recently entered into an agreement with a manufacturer that will allow us to begin the engineering work separately, so that we will can shorten the time required for the delivery of the diamonds. However, this agreement requires TREX to

cover the engineering costs if the diamond order is not cancelled by July 2019, or when the manufacturer begins the engineering work. We also cannot share the manufacturer's engineering plans with other vendors. As a result, a decision by the Board is required by the end of June 2019, for TREX to be able to avoid substantial financial penalties, risk of losing our place in line with the diamond manufacturer, and project delays.

35. For all of these reasons, and those stated in my First Verified Statement, I urge the Board to promptly review and grant TREX's Construction and Crossing Petitions.

VERIFICATION

I, Todd Sullivan, verify that I have read the foregoing Statement, know the contents thereof, and that the same are true as stated to the best of my knowledge, information and belief. Further, I certify that I am qualified and authorized to file this statement.

A handwritten signature in black ink, appearing to read 'Todd Sullivan', is written over a horizontal line.

Todd Sullivan
Managing Member
Texas Railway Exchange LLC

Executed on February 15, 2019

EXHIBIT 1



Via Fedex Overnight

November 19, 2018

Ms. Kari Kirchhoefer
Vice President Customer Care & Support
1400 Douglas Street
Omaha, NE 68179
KaKirchh@UP.com

Re: Texas International Terminals. UP Reciprocal Switching Service

Dear Ms. Kirchhoefer:

Texas International Terminals Ltd. (TIT) and Union Pacific Railroad Company (UP) staff recently had a conference call on October 18, 2018 to discuss operations and the current and expected continuing seasonal increase in ethanol traffic at TIT. The purpose of this letter is to express TIT's continuing concerns over deficiencies in UP's reciprocal switching service for the receipt of BNSF Railway Company (BNSF) trains by TIT, and to seek ways to improve that service for the benefit of TIT, UP, and our customers.

As an initial matter, UP's limited weekday service continues to hamper its reciprocal switching service. Also, while UP previously indicated that it would honor TIT's after hours special switching requests that are timely made, unfortunately, that has not occurred in practice. While UP representatives at our recent meeting did not directly state that it will continue to refuse to perform special switches, they responded that that it would be very difficult for UP to accommodate the requests on weekends, and even more difficult on weekdays.

Most recently, in response to a request made 72 hours in advance by TIT on October 18, 2018 for additional switching services, UP cited a "lack of resources," the same excuse that UP has continued to use in denying almost all special switches made by TIT. UP has made no attempt to improve the situation even though UP is aware of TIT's ongoing need for the switching, and even though TIT's special switching requests are timely made, and in full compliance with all UP policies and rules. This denial of service is especially concerning given UP's recent announcement that it will be cutting 475 jobs in the fourth quarter as it continues to implement precision scheduled railroading. The reciprocal switching service UP provides for TIT is already inadequate, and if the labor cuts and operational changes adversely affect TIT's service further, it would have significant, additional negative impacts on TIT and its customers' businesses.



To be clear, TIT is pleased that UP has agreed to discuss with TIT possible service options, and would like to engage in further discussion to maximize the number of switches for our customers. However, because UP continues to decline to commit to performing full unit train reciprocal switches, or to operating its railroad 24 hours a day and/or seven days a week, it is especially important that UP reasonably accommodate TIT's requests for special switches (at TIT's expense).

To address the situation, TIT respectfully requests that UP commit itself to accepting and performing special switches on request, with reasonable notice, including at night and on weekends. Additionally, TIT seeks to work with UP on establishing a mutually beneficial schedule of operations and procedures to ensure that TIT's demands for UP reciprocal switching of commodities such as ethanol are adequately met, and to maximize system throughput and minimize the need for special switches. We appreciate your attention to this matter, and look forward to your prompt response.

Sincerely,

A handwritten signature in dark ink, appearing to read "Todd P. Sullivan", is written over a horizontal line.

Todd P. Sullivan
President

EXHIBIT 2



BUILDING AMERICA®

December 20, 2018

Mr. Todd Sullivan
Texas International Terminals
4800 Port Industrial Road
Galveston, TX 77554

Todd:

The below is in response to your November 19 letter addressed to Kari Kirchhoefer, in relation to local interline service and special switch performance, and as a follow up to our December 10th phone call.

We have reviewed our data and Union Pacific (UP) respectfully disagrees with the claims presented in the aforementioned letter.

We understand that Texas International Terminals (TxIT) has concerns surrounding UP's reciprocal switching service. However, in reviewing the special switches requested via the UP service issue process, we found only one special switch request in the last 6 months, dated 10/18/2018.

The request on 10/18/2018 stated "TIT would like to request the balance of the U MNSGAT7 12 remaining at UP/BNSF interchange in Galveston, TX to be Placed at TIT 10/21/18 at 1200hrs. The first 54 cars will be placed at TIT tomorrow morning and as such i will not be able to provide car numbers until such time. Should you have any questions please contact me Krista Hall at 409-682-8475."

Instead of providing the special switch on 10/21/2018, as requested, Union Pacific provided two switches on 10/19/2018. In this situation, we do not view our performance as a failure, but rather a success as you received all of the cars requested in the special switch on 10/19/2018.

Moving forward, we encourage TxIT to continue to follow UP's special switch process which includes allowing (when feasible), proper notification of your needs 36 hours in advance of the desired service day. Following our outlined process allows us to understand better TxIT needs and accommodate additional service when resources are available.

Sincerely,

Brad Moore
Vice President Customer Care & Support

EXHIBIT 3



Intrepid Potash, Inc.
1001 17th Street, Suite 1050
Denver, CO 80202
303.996.3006

January 29, 2019

The Honorable Ann D. Begeman
Chairman
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

The Honorable Patrick J. Fuchs
Board Member
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

The Honorable Martin J. Oberman
Board Member
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: *Docket No. FD 36186, Texas Railway Exchange LLC –
Construction and Operation Exemption – Galveston County, TX*

Dear Chairman Begeman and Board Members Fuchs and Oberman,
Intrepid Potash, Inc., through its subsidiary Intrepid Potash – New Mexico, LLC (together herein, "Intrepid") urges the Surface Transportation Board (Board) to approve the Texas Railway Exchange LLC's ("TREX's") proposed new rail line in Galveston, Texas.

Intrepid is dedicated to delivering high quality minerals for use in agriculture, animal feed, and the oil and gas industry. We are the *only* U.S. producer of muriate of potash, which has both agricultural and industry applications. Our promise to customers is that we will deliver "high quality products on time, in full and at a fair value, regardless of market conditions." This promise requires Intrepid to be selective and to have transportation partners, such as the Texas International Terminals ("TIT"), which are equally committed to providing customers with efficient and reliable transportation service. In 2019, Intrepid expects to ship approximately 50,000 of Sulfate of Potash Magnesia on the BNSF Railway ("BNSF") and its railroad connections to TIT.

Intrepid supports TREX's proposed construction because it will help make rail service to TIT more efficient and improve train turnaround times. Presently, all shipments from BNSF to TIT must be reciprocally switched by the Union Pacific Railroad Company ("UP"), resulting in unnecessary inefficiencies and delays due to UP's complicated train switching activities and limited service hours. Intrepid is also aware of at least a couple instances where the UP has refused to perform additional switches for the benefit of Intrepid and other TIT customers, and this has resulted in longer train turnaround times. By providing a direct connection between BNSF's Valley Yard and TIT's loop track, TREX's proposed construction will simplify and streamline operations, and improve competitive rail service to the benefit of Intrepid, the railroads, other shippers, and the public.

Intrepid appreciates the Board's consideration, and respectfully requests that the Board approve TREX's proposed track construction.

Sincerely,

Mark McDonald
VP Sales and Marketing
Intrepid Potash, Inc.

EXHIBIT 4



Christopher L. Boerm
President ADM Transportation

Archer Daniels Midland Company
North American Headquarters
PO Box 1470
Decatur, Illinois 62525
t (217) 424 5200

ADM.COM

247078

January 15, 2019

ENTERED
Office of Proceedings
February 7, 2019
Part of
Public Record

The Honorable Ann D. Begeman
Chairman
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

The Honorable Patrick Fuchs
Board Member
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

The Honorable Martin J. Oberman
Board Member
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: *Docket No. FD 36186, Texas Railway Exchange LLC -
Construction and Operation Exemption - Galveston County, TX*

Dear Chairman Begeman and Board Members Fuchs and Oberman,

Archer Daniels Midland Company (ADM) respectfully requests that the Surface Transportation Board approve the Texas Railway Exchange LLC's (TREX's) petition for an exemption to construct and operate a rail line in Galveston, Texas in Docket No. FD 36186.

ADM is one of the world's largest agricultural processors and food ingredient providers, with over 32,000 employees, operating in six continents and more than 170 countries. ADM delivers food ingredient products such as oils and meal from soybeans, cottonseed, canola, peanut, and corn germ, as well as animal feed and biofuels. Presently, ADM ships over thirty (30) ethanol unit trains per year to the Texas International Terminals (TIT) on the Union Pacific Railroad Company and its railroad connections from its processing plants.

TREX's proposed rail line construction will benefit ADM because it will allow TIT to make efficiency gains that will translate to better and more dependable service for all of its customers. TIT will be in a position to better project and coordinate rail operations, which will result in more fluid operations and reduced transit times as well as the ability to predict shipments and transportation costs.

In summary, ADM urges the Board to approve TREX's proposed rail construction in order to enhance the market and abilities for rail transportation through this facility.

Sincerely,

A handwritten signature in black ink that reads 'Christopher L. Boerm'.

Christopher Boerm
President - ADM Transportation

EXHIBIT 5



December 6th, 2018

The Honorable Ann D. Begeman
Chairman

The Honorable Deb Miller
Vice Chairman

Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Dear Chairman Begeman and Vice Chairman Miller,

Solvay Chemicals, Inc. (Solvay) is writing to request that the Surface Transportation Board approve the Texas Railway Exchange LLC's (TREX's) petition for an exemption to construct and operate a rail line that will provide a direct connection between BNSF railway (BNSF) and the Texas International Terminals (TIT) in Galveston, Texas in Docket No. FD 36186.

Solvay is a materials and chemicals company that develops and distributes chemical products to customers across the United States and throughout the world. Its supply chain is key to its success. TIT is one of Solvay's distribution points, and we ship upwards of twenty-four (24) unit trains per year of soda ash to TIT on the Union Pacific (UP) and its railroad connections from Green River, WY.

We believe that TREX's proposed construction project will result in efficiencies to terminal operations and resources. Switching and extra switching services currently performed by the UP for BNSF Railway (BNSF) unit trains to TIT's facility are time consuming and can cause undue delay. As a large distributor of chemical products to customers around the world, Solvay benefits from its vendors, such as TIT, being able to provide efficient, predictable, and reliable service. TIT's efficiency gains will result in lower facility costs, better operations, and better service for all of its customers, including Solvay.

In summary, although Solvay will continue to ship on the UP, it expects to benefit from TREX's proposed track construction because it will make rail service to TIT's facility more efficient, which will benefit TIT's customers. As such, we respectfully request that the Board approve TREX's proposed track construction.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Michael Lacey', is written over a light blue horizontal line.

Michael Lacey
President
Solvay Chemicals, Inc.

Meadows Second V.S.

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

FINANCE DOCKET NO. 36186 (Sub No. 1)

**TEXAS RAILWAY EXCHANGE LLC–
PETITION FOR CROSSING AUTHORITY UNDER 49 U.S.C. § 10901(d)**

SECOND VERIFIED STATEMENT OF

R. LEE MEADOWS, Jr.

ON BEHALF OF

TEXAS RAILWAY EXCHANGE LLC

DATED: February 20, 2019

I. Introduction

My name is R. Lee Meadows, Jr. I am an independent contractor, and Director, Transportation Engineering for R.L. Banks & Associates, Inc. My business address is P.O Box 84, Williamsville, Virginia 24487; my home office address is 16169 Indian Draft Road, Millboro, Virginia 24460. A statement of my qualifications appears in my first Verified Statement filed with the Surface Transportation Board in Docket No. FD 36186 on November 21, 2018.

This purpose of this Second Verified Statement is to describe the extent to which the TREX proposed track would be constructed on UP property, the manner in which it would be constructed and the approximate amount of time that would be required to complete the construction.

II. TREX Project Site Description

TREX proposes to construct a new common carrier rail line that is approximately 2,823 feet¹ in length from the BNSF's Valley Yard to the TIT's industry loop track (as measured along proposed alignment, Blue Route – Alternative "B") at Galveston, Texas.

III. Description of Proposed Track Alignment with Regard to UP Property

There are four proposed routings for this project: the Green Routes (A and B) and the Blue Routes (A and B). Maps depicting the four proposed alignments are attached hereto as Exhibits 1-4², and site vicinity maps are included as Exhibit 5.

¹ The length provided for in the Construction Petition was slightly shorter. The correct length is approximately 2,823 feet.

² Exhibits 1-4 are the same as those included with my first Verified Statement.

All four routings would traverse UP property at the diamond crossings of UP and TIT track (Table 1 – 1, Segment Number 1) and between the Pelican Island Causeway and the proposed Port Industrial Road grade crossing (Table 1 – 1, Segment Number 3). The segments and distances over which TREX would traverse UP property are presented below in Table 1 – 1:

Table 1 – 1

Distances of Proposed TREX Right-of-Way Segments on UP Property³

Segment Number	TREX Right of Way Segment on UP Property	Distances (Feet)			
		Green A	Green B	Blue A	Blue B
1	TREX diamond crossing of UP and TIT tracks (underlying land is owned by UP)	233	233	233	233
2	Clearance point northeast of TREX diamond crossing to the Pelican Island Causeway	---	---	370	370
3	Pelican Island Causeway to Port Industrial Road	315	590	344	600
	Total distance on UP property	548	823	947	1,203

The only significant difference in the UP property crossing distances between the Green and Blue routings from the BNSF Valley Yard to the Pelican Island Causeway is the portion of track west of the Pelican Island Causeway to where it crosses the existing TIT and UP tracks. As reflected in Segment 2 in Table 1 – 1 above, and illustrated in the maps in Exhibits 1 and 2, the TREX Green routings would not traverse UP property because they would lay north of UP’s right-of-way.

³ RLBA e-workpaper “# TREX Conceptual Operating Plan Matrix BNSF.xlsx,” tab “Distances along TREX,” cells A15:F20.

Segment 1: TREX Diamond Crossing of UP and TIT Tracks

After exiting BNSF's Valley Yard northward, TREX would enter UP property and would cross the first two tracks owned by UP at an angle of 20 degrees and 09 minutes and 30 seconds and continue across the last (northern-most) track, owned by TIT, with a crossing diamond of the same angle.⁴ At this point, the UP right-of-way is approximately 80 feet wide.

As stated in my first Verified Statement, construction of the diamond crossings would have minimal impact upon UP operations because the diamonds could be installed within one, 24-hour work window, or three eight-hour work windows. The arrangement of such work windows among railroads which would share use of a joint facility is common practice in the railroad industry. I expect during construction, that construction forces and material would occupy UP's track and right-of-way at a distance of 15 feet either side of the centerline of the TREX alignment where the diamonds would be installed, except for final surfacing of the diamonds along the UP tracks where track surfacing machinery to include tampers and ballast regulator will occupy each track for several hundred feet either side of each diamond for approximated one to two hours. Proceeding northeastward from the crossing, the track alignment (all four routes) leaves the UP right-of-way and the Green Routes and Blue Routes diverge. Additionally, when track construction commences, the UP access road will be maintained at all times to protect and facilitate UP train crew access.

⁴ Meadows V.S., pp. 5 – 6.

Segment 2: Clearance Point Northeast of TREX Diamond Crossing to the Pelican Island Causeway: Green Routes Different from Blue Routes, with Green Routes Encroaching More onto City Property and Wetlands

Green Routes (A and B)

The Green Routes, having exited from UP's property, do not traverse UP property in Segment 2. Proceeding eastward from the diamond crossings, the Green Routes re-enter UP property at Segment 3 (see Table 1 – 1).

Blue Routes (A and B)

The Blue Routes from the crossing leave UP property, curve to the right and head eastward. They are located south of the Green Routes and are closer to the existing TIT track (Track # 756). They re-enter UP property slightly west of the Harborside Drive/Route 275 overpass. See Exhibits 3 and 4. The Blue Routes would traverse approximately 370 feet of UP property in Segment 2.

Segment 3: Pelican Island Causeway to Port Industrial Road

Both the Blue and Green Routes converge as they cross under the Pelican Island Causeway, the same bridge where the existing TIT Track 756 and UP tracks cross under the Causeway. East of the Causeway, the A and B Alternates of the Blue and Green Routes then diverge and enter UP property Segment 3 (see Table 1 – 1) at different points, with the "A" Alternates trending more north-northeast in an effort to minimize the amount of track on UP's property; whereas the "B" Alternates parallel the existing track (TIT Track 756) in an effort to minimize the overall impact to UP's property, by keeping all track crossing the property at one location.

In-Total, “A” Alternate Routes vs. “B” Alternate Routes

Green and Blue “A” Routes

The A Routes are the alternatives located as far as possible from the existing track and were designed to cross as little of UP’s property as possible. It was not possible to avoid UP’s property altogether or to locate TREX’s track further away from the existing track without running into issues of vertical clearance because of the existing bridges. The A Routes reduce the amount of UP property crossed by approximately 250-275 feet. Specifically, Green Route “A” Alternate crosses UP’s property from stations 3+55 to 5+88, & 17+80 to 20+95, for a total of 548 feet; and Blue Route “A” Alternate crosses the UP’s property from stations 3+55 to 5+88, 11+50 to 15+20, & 17+80 to 21+24, for a total of 947 feet.

Green and Blue “B” Routes

The B Routes from the Pelican Island Causeway heads northeast and parallel the existing industry track to TIT’s loop track. This routing is being proposed because it is likely to minimize the impact to UP’s property. However, this routing is also longer and requires more track to be installed on UP’s property. See Exhibits 2 and 4. Specifically, Green Route B crosses the UP’s property from stations 3+55 to 5+88, & 17+80 to 23+70 for a total of 823 feet; and Blue Route B crosses the UP’s property from stations 3+55 to 5+88, 11+50 to 15+20, & 17+80 to 23+80, for a total of 1,203 feet.

IV. Description of Track Construction

Prior to construction, a registered land surveyor will survey, mark, and generate a certified survey and provide a legal description of TREX's right-of-way for the proposed construction and crossing. Copies of the survey and final track plan will be provided to TIT, BNSF, and UP for review.

The estimated construction times are conservative and assume that all segments, as described below, will be constructed separately. However, track construction may occur simultaneously along different points of the proposed route, which would reduce the overall construction time required and impact on UP's operations. A construction schedule will be provided two weeks prior to the commencement of construction activities to TIT, BNSF, and UP for review.

Based on the survey of the existing rail section of affected UP tracks, the rail section for construction will be 115RE, except for the turnout for the east connection to TIT's loop track, which will be 136RE.

All grading, drainage, and casing pipes will be installed using best construction methods and as appropriate for the projected volume and traffic. All grading, drainage, and casing pipe will be installed to meet UP construction standards, provided that UP makes these available to the contractor. After grading and drainage has been completed, TREX or its private contractors will make the site available for inspection by BNSF, TIT, and UP. After grading and any drainage has been approved by BNSF, TIT, and UP, or alternatively, after the site has been made available for inspection for a period of 48 hours with 48 hours prior notice, track construction will commence.

BNSF Valley Yard to Crossing

The first segment of track to be constructed will be the section from the BNSF Valley Yard to the crossing. Prior to track construction, the grading contractor will prepare the track roadbed grade by installing pipe at the track crossing (Sta. 2+00) to (Sta. 3+00) between BNSF Valley Yard and UP right-of-way and place sub-ballast. TREX or BNSF will install No.9 LH Turnout at Sta. 0+00 as first track work step for construction on the project. TREX or BNSF personnel and/or contractors would then construct track by laying track panels or laying out ties and rail and spiking track up to the UP right-of-way at approximately Sta. 3+55. Ballast can be dumped from a railcar and the track surfaced short of Sta. 3+50. None of this track construction would interfere with train operations on the TIT or UP tracks. The construction of this track first will facilitate surfacing of the diamonds in the north-south direction.

Installation of Diamonds

Installation of the diamonds will occur after the first segment of track as described above is constructed. The diamonds themselves are on the critical path and will likely drive the construction timeline as the manufacturing lead time for diamonds (steel components only) is 46 to 54 weeks. The diamonds will be ordered and provided by a manufacturer of diamonds that is presently a certified vendor for a Class I Railroad. The remaining diamond material would be wooden crossties with a very short delivery time. Once the diamonds arrive onsite, an off-track crane (consisting of a crane of sufficient capacity to lift each constructed diamond with crossties attached to the southernmost UP track) will be used to unload the components of the diamonds in the area south of

Harborside Drive from the truck or railcar. Each diamond will be assembled and the respective crossties installed.

It is expected that installation of the diamonds will have minimal impact on UP train operations. Diamond installation will only require an estimated window of twenty-four (24) hours in total, with each diamond taking approximately eight (8) hours to install. The steps for diamond installation are as follows:

1. Once the diamonds are assembled, TREX's contractor, in cooperation with UP, will measure the length of each of the diamonds in the east-west direction, locate these same measurements on both rails based on the surveyor's centerline, make four saw cuts on the existing rail, drill rail ends, and then bolt on joint bars.
2. Starting with the southernmost track, joint bars, track panel and sufficient ballast will be removed from the slot to accommodate the diamond such that the diamond can be aligned with the existing track. This process will then be repeated on the center and northernmost tracks.
3. Once the diamond is inserted, joint bars and bolts will be used to connect the diamond with the existing track.
4. A backhoe or end-loader will place new ballast that has been stockpiled onsite into the diamond slot.
5. The east-to-west rails on the diamond will then be jacked with track jacks and the crossties tamped with air tampers, hydraulic tampers, or a backup tamper.

Between diamond installations or concurrently, TREX's contractor, in cooperation with UP, can construct track by laying out ties and rail between the BNSF track and the first diamond installed. As the diamonds are constructed it will also be necessary to construct the track between the diamonds.

Construction of Track between Diamonds and the Roadway At-Grade Crossing

TREX's contractor likely would stage material and equipment to support construction of Segments 2 and 3 primarily in the northwestern corner of UP's property that is east of Pelican Island Causeway and along the proposed alignment as needed during construction.

Construction would involve activities typical of installing track in the subject territory including excavation and grading of sub-grade, placement and installation of crossties, placement and grading of stone ballast and rail, and surfacing and tamping of the track. Additionally, construction of the Blue Routes in Segment 2 would involve installation of retaining structure for roadbed to protect the railroad right-of-way from water drainage areas which are adjacent to the right-of-way to the north.

Construction of the Blue Route in Segment 2 would occur proximate to TIT Track 756, which is used by TIT crews to serve its facility, and by UP crews to serve TIT as well as other customers MI Swaco and Sullivan Land and Cattle Co. In Segment 3, the Green B and Blue B Alternates would be similarly proximate to Track 756.

Consequently, TREX's contractor would employ all appropriate standard railroad safety procedures to ensure the safety of its personnel and that of TIT and UP crews and equipment should construction occur during times when TIT and UP crews operate.

TREX and its contractor would coordinate construction with TIT and UP to minimize interference with those operations during the approximately 13-day period required to complete construction of Segments 2 and 3.

Installation of At-Grade Crossing and Turnout

Concurrent with or prior to the work above, TREX's contractor will install the turnout in the TIT loop track. The A Routes will use a No. 15 left hand turnout, and the B Routes will use a No. 11 Left hand turnout. Following the installation of the turnout, TREX's contractor will install track from the turnout to the proposed grade crossing at Old Port Industrial Road. TREX's contractor will then construct a track panel (rail of sufficient length to clear the edges of the grade crossing spiked down to ties).

Prior to installation of the track panel for the at-grade road crossing, a traffic plan for a temporary traffic bypass or detour will be established in coordination with the City of Galveston. With the necessary traffic plan in place, TREX's contractor will begin installation by saw cutting the asphalt paving a sufficient width to fit the track panel. Next, the contractor will excavate from the top of the asphalt to the subgrade a minimum of 24 inches, assuming this will leave a subgrade of 6 inches. If necessary, the contractor will excavate an additional 6 inches and install 6 inches of compacted sub-ballast. Mainline ballast will be placed in the excavation to a depth of 8 inches.

The track panel will then be placed in the roadway and the track will be connected to the track north of the roadway. The track will be surfaced with an on-track tamper adding additional ballast to bring the surface of the track to the design elevation. The

roadway will then be infilled with 3 to 5 inches of stone and covered with a temporary layer of hot mix asphalt.

Once the track surface is prepared, precast concrete crossing panels will be installed while providing for one lane of vehicle traffic over the crossing until both sides are installed. A final layer of asphalt paving will be installed one lane at a time while maintaining vehicular traffic to provide a smooth transition over the track. Prior to placing the crossing in service, appropriate signage will be installed in coordination with the City. Of note, is that the track will require resurfacing after sufficient train traffic has crossed in order to maintain the relative elevation of the track. After the at-grade crossing has been constructed, TREX's contractor will construct the track west-to-southwest to the location of the diamond crossings.

In total, it is expected that the construction of TREX's track could be constructed over a period of 14 days as summarized for each Route and Alternate below in Table 1 – 2.

Table 2 – 1
Approximate Construction Time for which Impacts UP Property
By Route and Alternate⁵

Segment Number	TREX Right of Way Segment on UP Property	Approximate Time for Construction by Route and Alternate (Days)			
		Green A	Green B	Blue A	Blue B
1	TREX diamond crossing of UP and TIT tracks (underlying land is owned by UP)	1	1	1	1
2	Clearance point northeast of TREX diamond crossing to the Pelican Island Causeway	-	-	6	6
3	Pelican Island Causeway to Port Industrial Road	7	7	7	7
	Total Time for Construction	8	8	14	14
Notes:					
(1) Assumes all diamonds installed during one 24-hour window instead of three separate 8-hour windows.					

V. Inspection of TIT Track

As part of my evaluation of the TREX construction plan, I inspected TIT's tracks to ensure that the primary operating plan, which has BNSF unit trains delivered directly to TIT's loop tracks, is feasible. Based on my evaluation of TIT's loop tracks, it will be possible to either move or install a new crossover, and this will allow both BNSF and UP unit trains, with the longest projected train being 6,930 feet, to be delivered directly to TIT's loop tracks.

VI. Maintenance

TREX will be responsible for maintaining its track. It will need to either perform or contract for regular maintenance of the track from the clearance point at the BNSF Valley Yard to the clearance point at the TIT loop track. Monthly track inspections as

⁵ RLBA e-workpaper "Table of Construction Times by Segment for 2nd VS.xlsx," tab Base, cells B5:G14.

required by FRA regulations will be performed. The newly constructed track will also need to be surfaced on the second or third year after construction and every five to seven years thereafter. The surfacing will be conducted over one to two days, depending on whether additional ballast is required. When any track maintenance is being performed there will be a watchman lookout on each end of the track and flag protection. A flagger will also be used for all maintenance work that involves construction and is performed within 25 feet of a UP track or a track that is operated on by the UP.

It is expected that regular track maintenance will not conflict with local UP operations, but when non-emergency work is performed adjacent to UP property TREX will provide 24-hour advance notice and will, if possible, schedule all work to be performed outside of normal UP local operating hours and/or on weekends.

TREX as the junior railroad will be responsible for both the installation and maintenance of the crossing and, if necessary, any signals. As with installation, TREX expects that UP will prefer its crews to maintain the signals on its property and the crossing of its track in the east-west direction, and in such case, UP will be reimbursed by TREX for its costs. Likewise, if UP prefers, or TREX (or its contractor) somehow faces track access constraints, TREX would agree that UP or a UP certified vendor could perform this maintenance and be reimbursed by TREX. Due to the configuration of the crossing, any surfacing work on the two southern diamonds that are on UP's track and the diamond on TIT's track, will need to be coordinated with UP to minimize operating interference. TREX will coordinate with UP to minimize any such maintenance disruptions, including attempting to schedule surfacing of the diamonds by the carriers in

each direction to be performed around the same time. TREX expects that the scheduling for maintenance of the crossing and notice requirements to be provided for as part of a Joint Facilities Agreement with UP.

VI. Conclusion

In summary, TREX's track has been carefully designed to provide a reliable and efficient connection between BNSF's Valley Yard and TIT's Loop Track, and will be constructed to minimize interference with existing UP local switching operations and infrastructure. With adequate notice to UP and coordination with BNSF, TREX will also be able to minimize any negative effects on UP operations during the construction period.

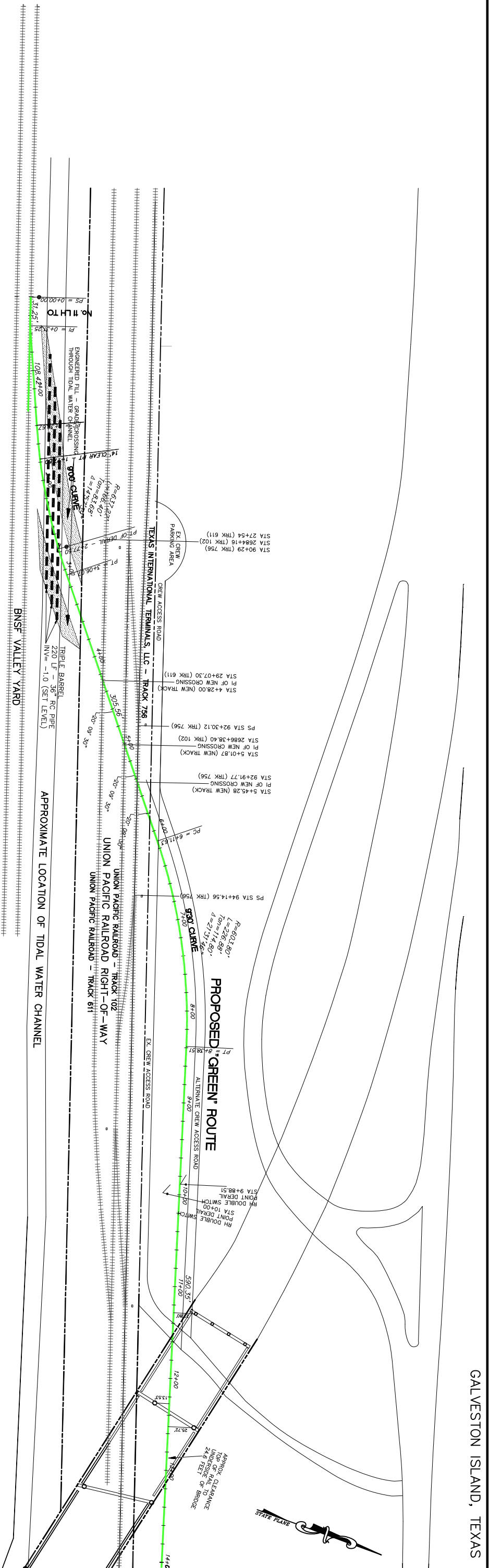
VERIFICATION

I, R. Lee Meadows, Jr., verify under penalty of perjury that I have read my Verified Statement, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.

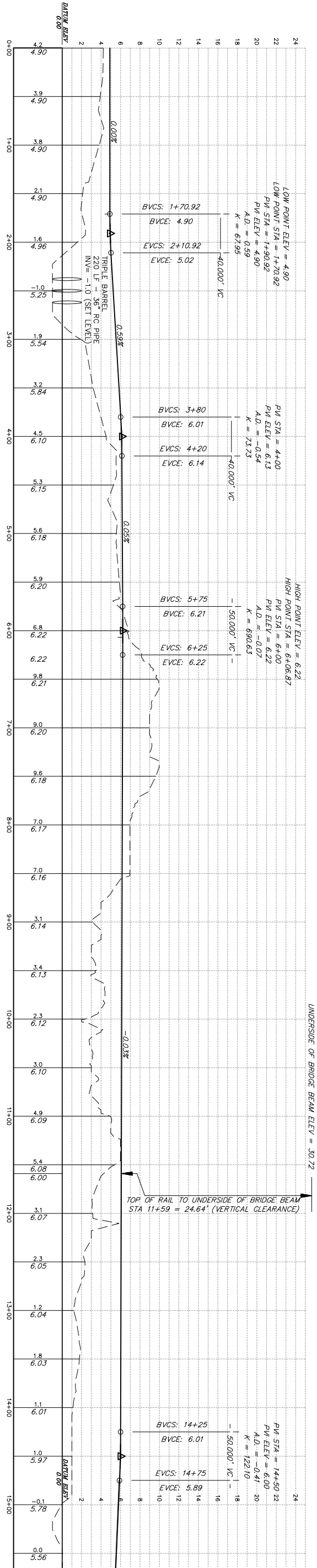

R. Lee Meadows, Jr.

Executed on February 20, 2019

EXHIBIT 1

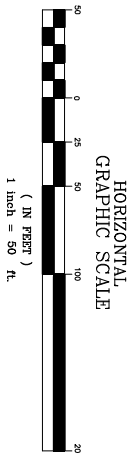
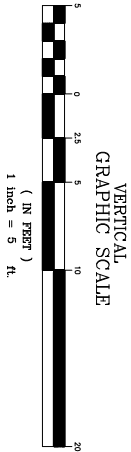


GREEN ROUTE - ALT "A"



1. RAILROAD RIGHT OF ENTRY IS REQUIRED FOR ACCESS TO UPRR OR BNSF PROPERTY. CONTACT RAILROAD REPRESENTATIVES FOR RIGHT -OF - ENTRY REQUIREMENTS AND DOCUMENTS.
2. RAILROAD FLAGGING IS REQUIRED FOR WORK WITH IN 25 FEET OF CENTERLINE OF TRACK. CONTACT RAILROAD REPRESENTATIVE FOR FLAGGING SERVICES.
3. SEE TYPICAL SECTIONS FOR DETAILS ON RAIL TIES, BALAST AND SUBBALLAST REQUIREMENTS FOR PROPOSED TRACK ALIGNMENT DATA.
4. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR PROPOSED TRACK ALIGNMENT DATA.
5. SEE CONSTRUCTION SEQUENCE PLAN FOR PHASING OF CONSTRUCTION ACTIVITIES.

INTERIM REVIEW ONLY - NOT FOR CONSTRUCTION
DOCUMENTS ARE INCOMPLETE AND NOT INTENDED FOR PERMIT, BIDDING OR CONSTRUCTION.
ENGINEER: R. L. MEADOWS, JR.
P.E. REGISTRATION No. 8299 (WEST VIRGINIA)
DATED: NOVEMBER 2, 2018



TREX Proposed Rail Construction
Green Route (ALT "A")
Galveston, Texas

MOUNTAIN RAILWAY CONSULTING
P.O. BOX 861000
(502) 253-2807
FAX: 502-253-2807

TREX
Texas Railway Exchange LLC

DATE: NOVEMBER 19, 2018
FILE: TRM-GALVSTW

TREX
Texas Railway Exchange LLC

TREX
Texas Railway Exchange LLC

EXHIBIT 2

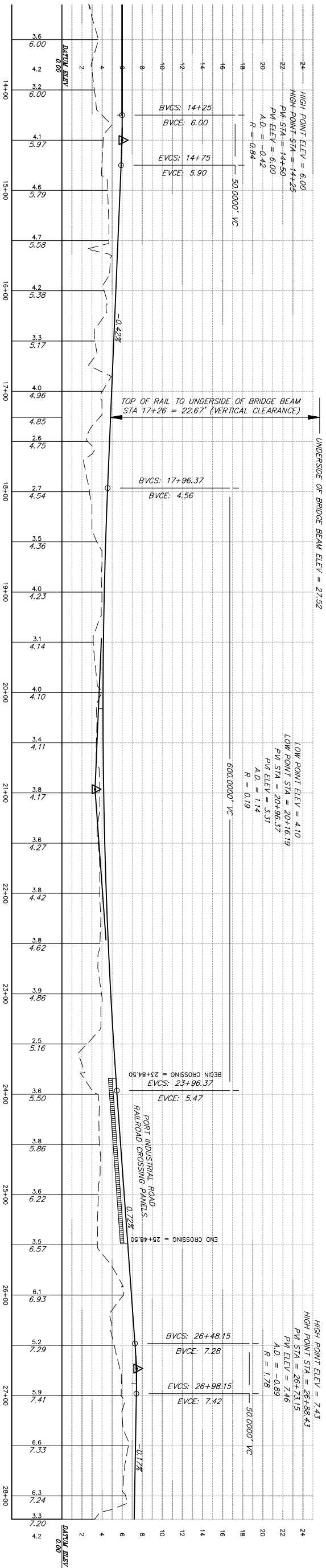
PORT INDUSTRIAL ROAD

PELICAN ISLAND CAUSEWAY

UNION PACIFIC RAILROAD PROPERTY
PROPOSED "GREEN" ROUTE

TEXAS INTERNATIONAL TERMINALS, LLC - TRACK 758

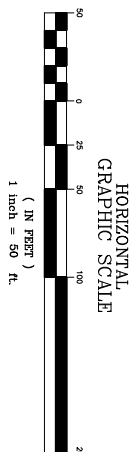
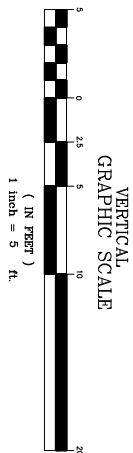
GREEN ROUTE - ALT "B"



1. RAILROAD RIGHT OF ENTRY IS REQUIRED FOR ACCESS TO UPRR OR BNST PROPERTY CONTACT RAILROAD REPRESENTATIVES FOR RIGHT -OF- ENTRY REQUIREMENTS AND DOCUMENTS.
2. RAILROAD FLAGGING IS REQUIRED FOR WORK WITH IN 25 FEET OF CENTERLINE OF TRACK. CONTACT RAILROAD REPRESENTATIVE FOR FLAGGING SERVICES.
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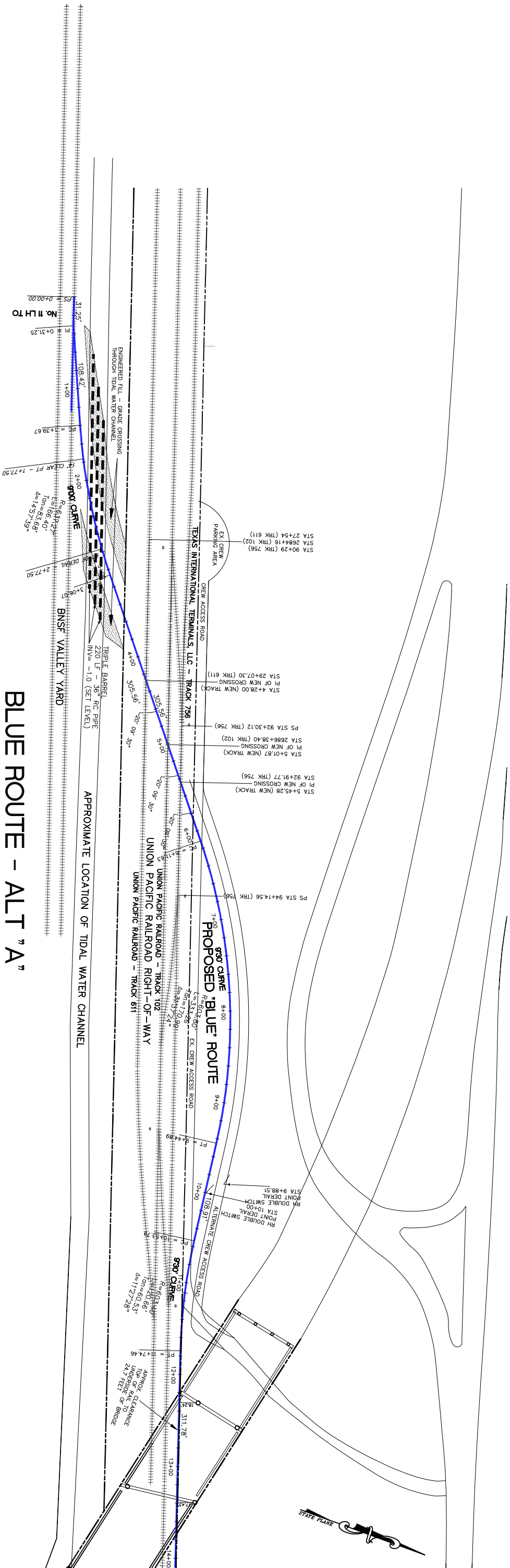
ENGINEER: R. L. MEADOWS, JR.
P.E. REGISTRATION No. 8299 (WEST VIRGINIA)
DATED: NOVEMBER 2, 2018



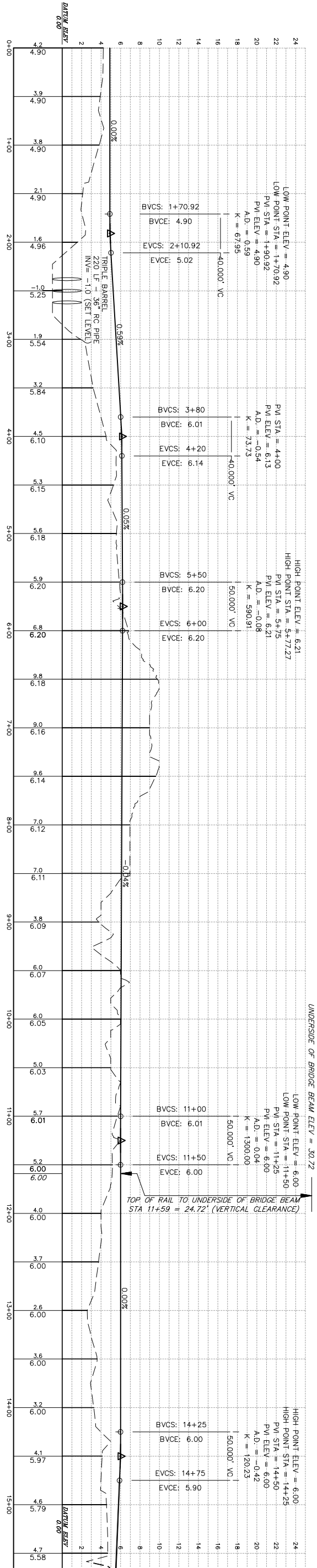
TREX Proposed Rail Construction Green Route (ALT "B") Galveston, Texas
MOUNTAIN RAILWAY CONSULTING P.O. BOX 840000 (502) 253-2807 VA 24487
HORIZONTAL SCALE: 1" = 60' VERTICAL SCALE: 1" = 6' SHEET 2 OF 2 DATE: NOVEMBER 19, 2018 FILE: TRM-GALVSTW

TREX
Texas Railway
Exchange LLC

EXHIBIT 3

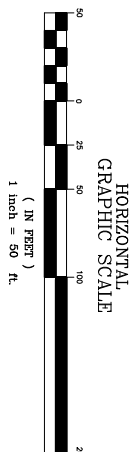
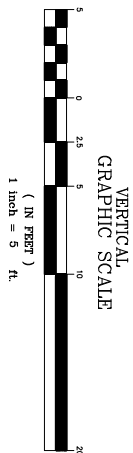


BLUE ROUTE - ALT "A"



1. RAILROAD RIGHT OF ENTRY IS REQUIRED FOR ACCESS TO UPRR OR BNSF PROPERTY. CONTACT RAILROAD REPRESENTATIVES FOR RIGHT-OF-ENTRY REQUIREMENTS AND DOCUMENTS.
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4. SEE VERTICAL ALIGNMENT DATA SHEETS FOR PROPOSED CONSTRUCTION SEQUENCE PLAN FOR PHASES OF CONSTRUCTION ACTIVITIES.

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ENGINEER: R. L. MEADOWS, JR.
P.E. REGISTRATION No. 8299 (WEST VIRGINIA)
DATED: NOVEMBER 2, 2018



TREX Proposed Rail Construction
Blue Route (ALT "A")
Galveston, Texas

MOUNTAIN RAILWAY CONSULTING

P.O. BOX 861000
(504) 253-2807

HORIZONTAL SCALE: 1"=60'

VERTICAL SCALE: 1"=6'

SHEET 1 OF 2

DATE: NOVEMBER 19, 2018

FILE: TRM-04100000

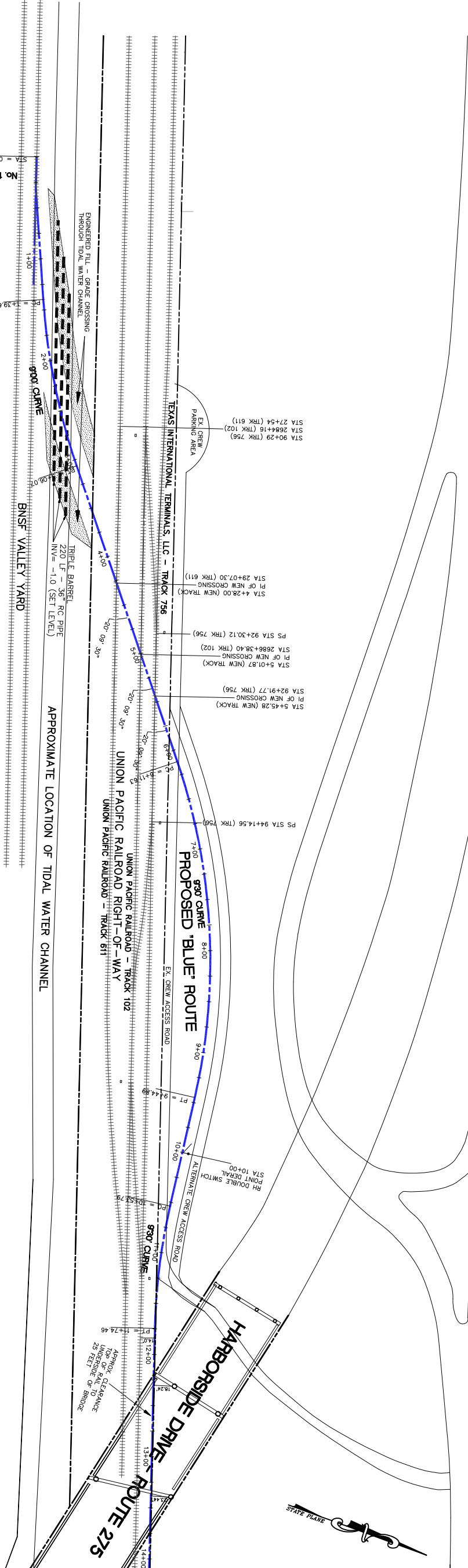
TREX

Texas Railway Exchange LLC

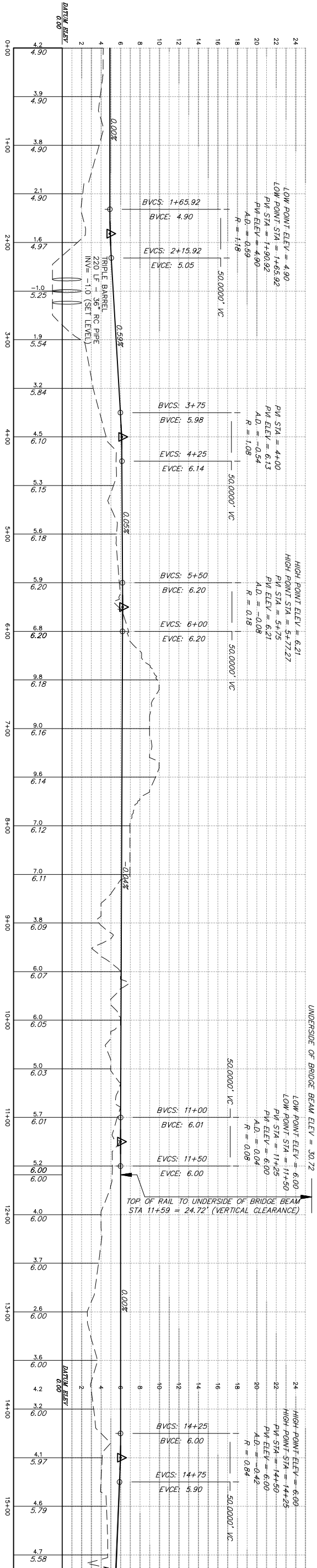
EXHIBIT 4

HARBORSIDE DRIVE - ROUTE 275

PORT INDUSTRIAL ROAD

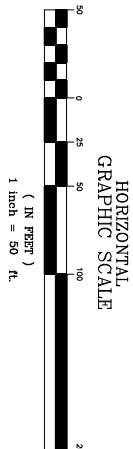
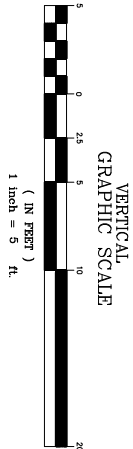


BLUE ROUTE - ALT "B"



1. RAILROAD RIGHT OF ENTRY IS REQUIRED FOR ACCESS TO UPPER OR BNSF PROPERTY CONTACT RAILROAD REPRESENTATIVES FOR RIGHT -OF - ENTRY REQUIREMENTS AND DOCUMENTS.
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TREX Proposed Rail Construction
Blue Route (ALT "B")
Galveston, Texas

MOUNTAIN RAILWAY CONSULTING
P.O. BOX 840000
(502) 253-2807

DATE: NOVEMBER 19, 2018
FILE: TRM-04-03-01-0000

SHEET 1 OF 2

TREX
Texas Railway
Exchange LLC

TEXAS INTERNATIONAL TERMINALS
EX. LOOP TRACK
No. 11 LH TO

PT = 26+22.76
PI = 27+91.90
PS = 28+23.5

CONCRETE
CROSSING
PANELS
164 FEET

PT = 26+22.76
PI = 26+43.74

END CROSSING = 26+48.50

BEGIN CROSSING = 25+84.50

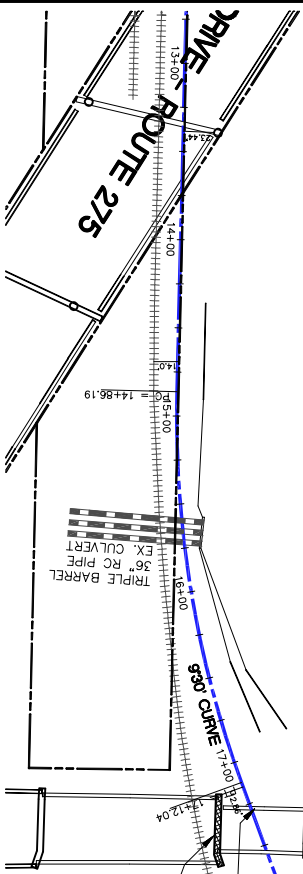
END CROSSING = 25+48.50

PROPOSED "BLUE" ROUTE
TEXAS INTERNATIONAL TERMINALS, LLC - TRACK 758

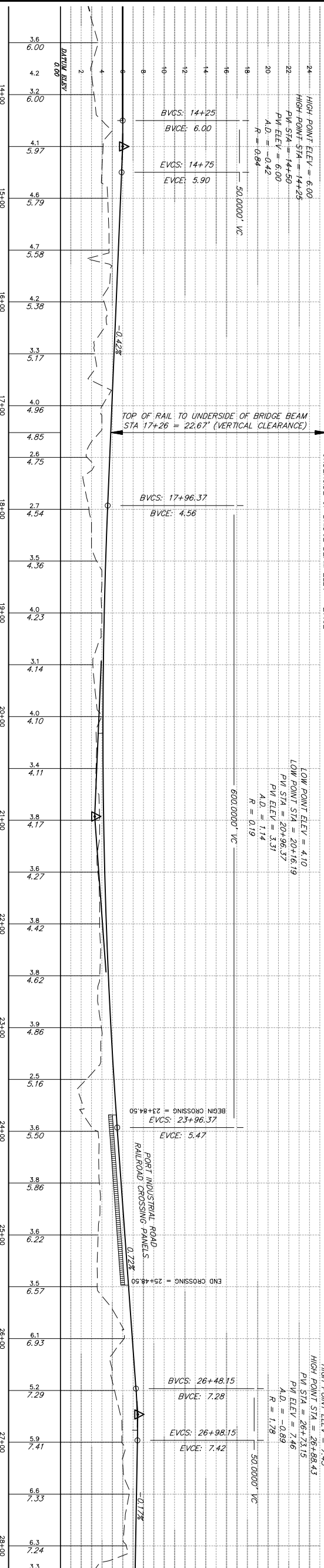
UNION PACIFIC RAILROAD PROPERTY

PORT INDUSTRIAL ROAD

PELICAN ISLAND CAUSEWAY



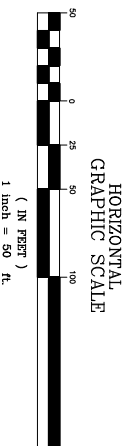
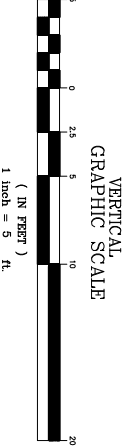
BLUE ROUTE - ALT "B"



24	HIGH POINT ELEV = 6.00	LOW POINT ELEV = 4.10
22	PI STA = 14+25	PI STA = 20+16.19
20	PI ELEV = 6.00	PI ELEV = 3.31
18	A.D. = -0.42	A.D. = 1.14
16	R = 0.84	R = 0.19
14	BVCS: 14+25	BVCS: 26+48.15
12	BVCE: 6.00	BVCE: 7.28
10	EVCS: 14+75	EVCS: 26+98.15
8	EVCE: 5.90	EVCE: 7.42
6	50,000' VC	50,000' VC
4		
2		

1. RAILROAD RIGHT OF ENTRY IS REQUIRED FOR ACCESS TO UPRR OR BNST PROPERTY CONTACT RAILROAD REPRESENTATIVES FOR RIGHT -OF - ENTRY REQUIREMENTS AND DOCUMENTS.
2. RAILROAD FLAGGING IS REQUIRED FOR WORK WITH IN 25 FEET OF CENTERLINE OF TRACK. CONTACT RAILROAD REPRESENTATIVE FOR FLAGGING SERVICES.
3. SEE TYPICAL SECTIONS FOR DETAILS ON RAIL TIES, BALLAST AND SINGBALLST REQUIREMENTS FOR PROPOSED TRACK ALIGNMENT DATA.
4. SEE HORIZONTAL ALIGNMENT DATA SHEETS FOR PROPOSED TRACK ALIGNMENT DATA.
5. SEE CONSTRUCTION SEQUENCE PLAN FOR PHASING OF CONSTRUCTION ACTIVITIES.

INTERIM REVIEW ONLY - NOT FOR CONSTRUCTION
DOCUMENTS ARE INCOMPLETE AND NOT INTENDED
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ENGINEER: R. L. MEADOWS, JR.
P.E. REGISTRATION No. 8299 (WEST VIRGINIA)
DATED: NOVEMBER 5, 2018



TREX Proposed Rail Construction
Blue Route (ALT "B")
Galveston, Texas

**MOUNTAIN RAILWAY
CONSULTING**
P.O. BOX 840000
(502) 253-2807

HORIZONTAL SCALE: 1" = 60'
VERTICAL SCALE: 1" = 6'

SHEET 2 OF 2

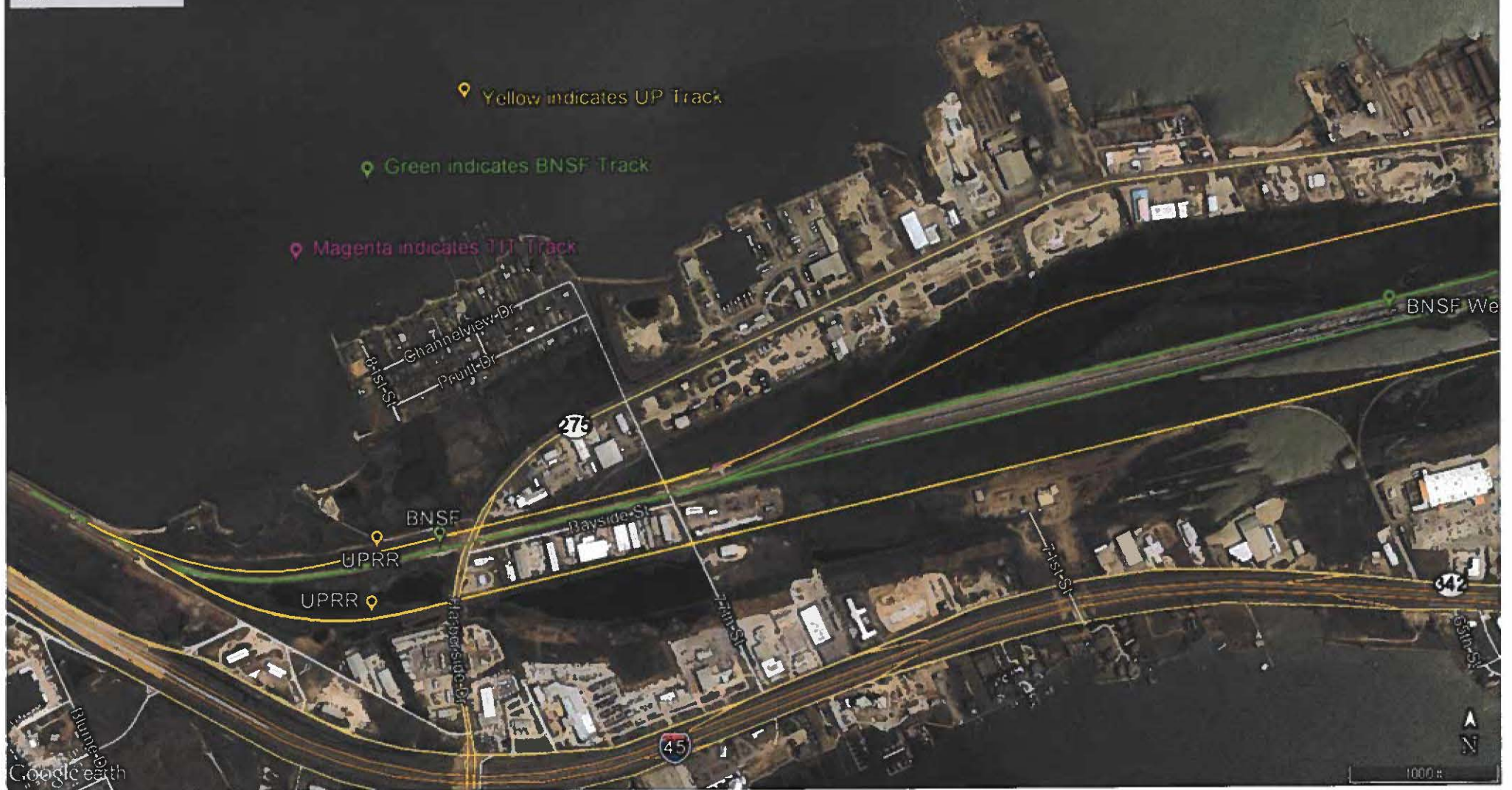
DATE: NOVEMBER 19, 2018
FILE: TRM-04-01-01-01-01-01



EXHIBIT 5

Galveston, Texas

Texas International Terminals
Union Pacific RR
BNSF
TREN Blue Route - Alt. B
GVSR



Texas International Terminals
Union Pacific RR
BNSF
TREX Blue Route - Alt. B
GVSR



Galveston, Texas

Texas International Terminals
Union Pacific RR
BNSF
TRES Blue Route - Alt. B
GVSR



RLBA Operations Report

**BEFORE THE
SURFACE TRANSPORTATION BOARD**

FINANCE DOCKET NO. 36186

**TEXAS RAILWAY EXCHANGE LLC—
PETITION FOR CROSSING AUTHORITY UNDER 49 U.S.C. § 10901(d)**

OPERATIONS REPORT

**ON BEHALF OF
TEXAS RAILWAY EXCHANGE LLC**

PREPARED BY:

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FEBRUARY 22, 2019

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I. INTRODUCTION

R.L. Banks & Associates, Inc. (RLBA) was retained by the Texas Railway Exchange, LLC (TREX) to develop construction and operating plans for TREX's proposed rail line in Galveston County, Texas.¹ TREX's proposed rail line, as presented in its petition for exemption filed with the Surface Transportation Board (STB) on November 21, 2018 in FD 36186, will provide a direct connection from the BNSF Valley Yard (BNSF Yard) and the Texas International Terminals (TIT), and will cross Union Pacific Railroad (UP) track. This Operations Report to be filed with TREX's Petition under 49 U.S.C. § 10901(d) for a crossing order was prepared to: (i) provide an overview of existing operations at the proposed crossing; (ii) evaluate potential interference with UP traffic; and (iii) supply a draft operating plan. The scope of work and summary of conclusions is set out below, followed by the railroad operations analysis.

A. Scope of Work

RLBA's evaluation of rail operations for TREX's proposed rail line in Galveston County, Texas, included a field visit, detailed review and evaluation of train data, communication with BNSF Railway (BNSF) operating personnel, coordination regarding the draft construction plan, and review of the draft engineering drawings. Specifically, RLBA's evaluation of the existing and future rail operations included:

1. Analyzing the operations by which BNSF and UP currently serve TIT's facility in Galveston, TX;

¹ John W. McLaughlin, RLBA's Director of Network Solutions, is the principal investigator and analyst of railroad operations in this engagement for TREX and is the author of this report. Mr. McLaughlin's resume is provided in Appendix 1-1.

2. Developing an operating plan by which BNSF would operate over the TREX proposed track to serve the TIT facility and comparing that operation with the operation currently experienced by TIT;
3. Analyzing current train operations in the area at which the TREX proposed track would cross three existing tracks at grade (two of them UP's tracks, and one of them TIT's track) and determining the likely impact upon UP operations; and,
4. Considering the manner by which the three diamond crossings would be constructed and installed, and determining the likely impact of that work upon UP operations.

B. Summary of Conclusions

Based upon the above-described analysis, RLBA finds:

1. Construction of the TREX track will result in significant operational efficiency gains for BNSF and TIT. By operating directly to and from TIT over the TREX proposed track, the inefficient, delay-inducing reciprocal switch service by UP will be eliminated, and dwell time and switching incurred by TIT will be significantly reduced.
2. Construction of the TREX track will result in a significant decrease in train movements associated with each BNSF – TIT unit train, which will result in more efficient rail operations in the form of reduced crew time and possibly reductions in locomotive operating times. Under the proposed operating plan, the average number of train movements (switching and lite power) associated with a BNSF unit train would decline 91 percent from 23 moves per train to 2.²

² RLBA Operations Report, Section III Train Operations Serving TIT, Exhibit 3 – 23, Train Movement Counts: BNSF / TREX Proposed Operations of BNSF Unit Trains Compared with June 2018 Operations, see Footnote 4.

3. Operations over the TREX track at the proposed crossing will only have a minimal impact on UP operations. A review of current train operations indicates that there is more than enough time when no trains are operating at the proposed crossing location to easily accommodate, and without material interference to UP, the operation of BNSF – TIT unit trains across the proposed crossing. The tracks in this area were *unoccupied 94 percent of the time during the busiest time of the week*, Monday – Friday.³ On average, only 6.67 trains per day operated at the proposed crossing location and occupied it for an average of 13 minutes and 52 seconds.⁴ Even during a hypothetical busiest day in 2019, assuming a 22 percent increase in track occupancy caused by incremental TIT business activity AND a 22 percent increase in track occupancy caused by incremental business activity by other UP customers on the line, the diamond crossing area would still be unoccupied over three quarters (76 percent) of the day.⁵
4. Construction and maintenance of the TREX track will have minimal impact on UP operations. UP's local switch crew only operates from 7 AM – 4 PM, generally weekdays only, such that the majority, if not all, of the construction and maintenance could be scheduled to avoid conflicting with UP operations. Installing each of the three diamond crossings will require a work window of only eight hours. Each eight-

³ RLBA Operations Report, Section IV Track Occupancy Time Consumed under Current and Proposed Operations, Exhibit 4 – 2, Track Occupancy Time and Percentage of Track Time Available, p. 75.

⁴ RLBA Operations Report, Section IV Track Occupancy Time Consumed under Current and Proposed Operations, Exhibit 4 – 3, Track Occupancy Movements and Time by Day of Week during June 2018, p. 77.

⁵ RLBA Operations Report, Exhibit 4 – 8 Busiest Day Scenario: Track Occupancy and Capacity at the Diamond Crossings Area (June 2018), row 27 under sub-heading “Total”, p. 90.

hour window can be coordinated with UP, including possibly during the overnight hours to avoid conflicting with UP's 7 AM – 4 PM switch crew time and to work around any expected UP unit trains operating to or from TIT. Alternatively, given the extraordinary light train activity on weekends,⁶ it is reasonable to expect that all work could be performed then during one 24-hour work window.

C. Organization of Railroad Operations Analysis

This Operations Report divides and presents the railroad operations analysis in five sections, as follows:

- I. Introduction
- II. Train Operations Data Collection Methodology
- III. Train Operations Serving TIT
- IV. Track Occupancy Time Consumed Under Current and Proposed Operations
- V. Impact of Proposed Crossing Construction on UP Train Operations

The introduction section was set forth above. This report continues next with Section II: Train Operations Data Collection Methodology.

⁶ The five Saturdays in June 2018 experienced a total of only five train movements at the diamond crossings area, and the four Sundays experienced a total of only four train movements.

II. TRAIN OPERATIONS DATA COLLECTION METHODOLOGY

RLBA's analyses of rail operations serving TIT and track occupancy at the proposed crossing location utilized train movement data derived from video recordings. TIT collected the video recordings using three cameras positioned to capture views of local train activity at the railroad yards and operations west, south, and east of its facility. The cameras were equipped with night vision capability, and all videos images were date and time stamped.

The video cameras were named to correspond to the areas being monitored (east to west): Savage/Port, BN, and 77th St. They are positioned such that they captured all activity on the railroad tracks in the vicinity of TIT's facility that enable BNSF, TIT, and UP to serve the facility and those tracks that would be crossed by the TREX-proposed track. Those tracks and yards are (east to west):

1. Grade crossing across Old Port Industrial Road of the lead track to the TIT Facility (east camera orientation);
2. TIT Industry Track yard (Tracks 810 – 813) (east – southeast);
3. UP Interchange Yard (south – southeast);
4. Lead track to UP's 37th Street Yard (south);
5. BNSF Valley Yard (southwest); and
6. UP-owned Track 102 and Track 611 (the connection between UP and BNSF's Valley Yard) (southwest – west) and TIT-owned Track 756 (west), including the area east of the Harborside Drive overpass at which the TREX-proposed track would cross these three tracks at grade on diamond crossings.

Samples of views from the three cameras are provided in Appendix 2-1.

TIT staff collected train movement data from the videos and entered these into spreadsheets. TIT then provided sample video files and the associated spreadsheets to Mr. McLaughlin for his review. Mr. McLaughlin reviewed the videos and data, in conjunction with maps and other resources, to understand the coverage areas of the cameras and how TIT identified and logged train movement data from the videos. Mr. McLaughlin revised the format of the train data spreadsheet to gather additional data based upon his experience performing time and motion studies of switching local and road train crews during his career with a Class I railroad.

The purpose of a switching study is to document the start and end times of specific train movements. This is achieved by carefully documenting and describing the train movements so they can be segmented into meaningful groups for analysis. The characteristics collected included information from TIT systems such as the symbols of unit trains, originating railroad, count of cars, loaded or empty status, and commodity if loaded.

To collect times from the videos, TIT and RLBA established landmarks in the video images to represent locations at which start and end times were captured. These landmarks were given names and the most frequently used ones were: BNSF Valley Yard, TIT Loop, TIT Industry Track, UP Interchange Yard, UP 37th St Yard, UP/TIT Crew Change – Track 756 and 77th Street. Standard train activities were established to be entered into the data collection spreadsheet as follows:

1. Arrive, abbreviated “AR” in the Activity field, is the arrival of the loaded inbound unit train at Galveston;
2. Depart, is the departure of the empty outbound unit train, or sections of it, from Galveston;

3. Switch, is the movement of cars from one track to another by a BNSF, TIT, or UP crew; and
4. Run Lite, also sometimes known as “lite power move,” is a movement of only a locomotive(s), without cars, from one location to another. As applied in this analysis, Run Lite includes the movement of a locomotive (or locomotives) between Switch moves.

The railroad name (“handling crew”) and number of the lead locomotive operating a train movement were captured from the video, as were the number of cars coupled to the locomotive. When unit trains were broken into smaller cuts⁷ of cars, a cut number (1, 2, or 3) was assigned by TIT.

TIT began employing this revised spreadsheet in its collection of June 2018 train movement data.

During the course of TIT’s data collection, Mr. McLaughlin met with TIT staff at the TIT facility in Galveston, TX and studied videos and the corresponding data entries with TIT staff. He spot-checked data entries by reviewing with TIT staff the start and stop times of individual train moves, the activity type that TIT staff assigned to individual moves (Arrive, Switch, Run Lite, etc.), and how TIT identified the locations at which the activities took place. Changes were made to the data, where appropriate, to ensure that the types of moves and the activity locations were defined and applied consistently to all data. As Mr. McLaughlin analyzed the data after collection was complete, he asked TIT staff numerous questions about specific moves, which TIT researched and then made corrections, if appropriate, which ensured that the activities described in the data were clearly understood by Mr. McLaughlin and TIT staff. Consequently,

⁷ “Cut” is a common railroad slang term which means “a group of cars.”

Mr. McLaughlin and TIT are confident that the train movement data accurately reflect BNSF, TIT, and UP train operations in the vicinity of TIT's facility during June 2018.

III. TRAIN OPERATIONS SERVING TIT

The primary purpose of RLBA's analysis was to evaluate the impact the TREX track would have on train operations serving TIT. RLBA analyzed present rail operations using metrics to quantify and determine a baseline and then evaluated how these metrics would change if BNSF unit trains were re-routed over TREX's proposed track from the BNSF Valley Yard to TIT. Specifically, rail service was measured in terms of the amount of time taken by BNSF, UP, and/or TIT to complete the three-step cycle of delivering loaded cars to TIT after they arrived at Galveston, unloading the cars, and returning the cars to the railroad (BNSF or UP) that brought them to Galveston. Elapsed time was quantified using two metrics: train cycle time and car elapsed time, which will be explained in the following discussion of current operations.

As part of RLBA's evaluation of train operations serving TIT, it also performed a detailed study of present operations in order to determine how and why there are discrepancies in the level of service between UP unit trains and BNSF unit trains destined to TIT. To this end, RLBA tallied the number of train movements (switching moves + lite power moves⁸) and the amount of crew time expended by BNSF, UP, and/or TIT in the delivery of each loaded train's cars and in the return of the resulting empty cars. These two metrics also will be explained and analyzed in the following discussion of current operations.

This section of RLBA's report analyzes, in three parts, train operations serving TIT:

⁸ As referenced above, "Lite power move(s)," also sometimes known as "run lite," is a movement of only a locomotive(s), without cars, from one location to another. As applied in this analysis, a Lite Power move includes the movement of a locomotive (or locomotives) between Switch moves.

TREX: Operations Report

- A. Current Operations – evaluates present rail service to TIT and includes BNSF, UP, and TIT train movements;
- B. Proposed Operations – presents an operating plan for routing BNSF unit trains over TREX’s proposed track, which would not require UP crews to involve themselves in the handling of loaded or empty BNSF unit trains to TIT; and
- C. Impacts of the proposed operating plan on rail service and operations to TIT.

A. Current Operations

In 2018, TIT received the following commodities in BNSF and UP unit trains: potash, soda ash and ethanol. The current railroad operations by which BNSF and UP unit trains serve TIT are described in the following sections using two sources: the TREX Presentation and train sheets. The TREX Presentation reflects TREX’s understanding of how BNSF unit trains are generally handled between BNSF’s Valley Yard and TIT’s facility based on the knowledge and experience of TIT personnel in receiving unit trains. The train sheets are compiled from the TIT – RLBA database and reflect the actual train movements that occurred during the traffic study period, and they illustrate the variability in the number of switching moves employed and sizes of the cuts of cars handled in the course of moving BNSF unit trains between Valley Yard and TIT’s facility.

- TREX Presentation is an illustrated overview of the current railroad operations by which BNSF and UP unit trains are delivered to and pulled from TIT, entitled “Providing Connecting Rail Service to Texas International Terminals,”⁹ (“TREX

⁹ TREX e-workpaper, “Providing Connecting Rail Service to Texas International Terminals.pdf,” by Texas Railway Exchange LLC. This overview reflects TREX’s understanding of how BNSF unit trains are generally supposed to be handled between BNSF Valley Yard and TIT’s facility. Actual train operations depicted in the RLBA train sheets differ in the timing, the number of switching moves and number of cars handled in each move.

Presentation”) is attached hereto as Appendix 3 – 1. Slides from the TREX Presentation are referenced in the following discussion; and

- Train sheets in which RLBA has sequentially compiled the individual switching movements employed by BNSF, TIT, and UP are presented for each train. Each train sheet includes several columns of data, which are explained in a key at the bottom of each train sheet.

An overarching take-away from RLBA’s review of June 2018 BNSF and UP operations in serving TIT, is the difference in the magnitude of complexity involved with BNSF unit train deliveries as compared to UP unit train deliveries. The train sheets which appear in the following descriptions of BNSF and UP operations show between 11 and 17 switching movements were required to accomplish six basic steps by which each BNSF unit train moved through its load – empty cycle after it arrived in Galveston. By contrast, only three switching movements were required to accomplish two basic steps by which each UP unit train moved through its load – empty cycle.

Further, the train sheets understate the complexity gap between the current handling of BNSF and UP unit trains. In the interest of clarity, lite power movements associated with the unit trains do not appear in the train sheets. Were they included, we would see the full picture – that the combined number of train movements (switching and lite power movements) required to handle each BNSF unit train would range between 19 and 27, and averaging 23 movements per train,¹⁰ and the comparable number for UP unit trains would remain at three.¹¹

¹⁰ TREX Operations Report by RLBA, Exhibit 3 – 23, “Train Movement Counts: BNSF / TREX Proposed Operation of BNSF Unit Trains Compared with June 2018 Operations,” heading, “June 2018 Operations,” column “Total,” p. 64.

¹¹ TREX Operations Report by RLBA, Exhibit 3 – 15, “Number of Train Moves by Handling Crew,” column “Grand Total,” p. 43.

A.1. Current BNSF Operations: Description

The purpose of this section is to familiarize the reader with the local Galveston, TX railroad operations by which BNSF unit trains are delivered to TIT and returned from TIT to BNSF.

BNSF unit trains serving TIT are delivered to and pulled from TIT under reciprocal switch by UP. Reciprocal switching is “an arrangement between carriers where the carrier physically serving the industry agrees to perform switching service for loading or unloading on behalf of another carrier on shipments having an immediately preceding or following line-haul movement via the other carrier.”¹² In this case, UP is “...the carrier physically serving the industry...on behalf of another carrier....” TIT is the “industry” and BNSF is “providing the line-haul movement via another carrier.” The resulting institutional arrangement at this location involves significant delay (dwell) time at yards, numerous switching moves of TIT traffic among BNSF, UP, and TIT, and is materially less efficient than the process enjoyed by UP trains, which serve TIT directly.

The cars of a given BNSF unit train proceed through six basic train movement steps beginning with their arrival as a loaded unit train at BNSF’s Valley Yard in Galveston, TX and ending with their return as the empty cars to BNSF:

Step 1: Loaded BNSF unit train arrives at BNSF Valley Yard, Galveston, TX;

Step 2: BNSF delivers the loaded cars to UP’s Interchange Yard;

Step 3: UP delivers the loaded cars to TIT on TIT’s Industry Track yard;

Step 4: TIT pulls the loaded cars from the TIT Industry Track yard and places them on the TIT Loop tracks (A and B) for unloading;

¹² UP Reciprocal Switching Circular, Issued Aug. 6, 2018, Effective Aug. 26, 2018, at 2.

Step 5: After unloading, TIT pulls the now empty cars from the TIT Loop tracks and delivers them to UP in the TIT Industry Track yard; and

Step 6: UP pulls the empty cars from TIT Industry Track yard and either: 1) delivers them to the BNSF Valley Yard or 2) switches them to the UP Interchange Yard from where UP subsequently delivers them to BNSF Valley Yard.

RLBA observed that the amount of time required to complete the entire six-step load-to-empty cycle of a given BNSF unit train at Galveston likely was influenced by the variability in three areas:

1. The number of cuts (groups of cars) into which a train was divided;
2. The number of cars in each cut; and
3. The span of time between when a cut was delivered to one of the railroads and the time when the railroad switched the cut to the next railroad (or location) in the process.

Such variability generally induces inefficiency and unreliability in railroad and customer (such as TIT) operations.

Four BNSF unit trains were delivered to TIT and were dispatched empty during the June 2018 study period. The variability in the handling of these BNSF unit trains as observed by RLBA is illustrated in the following four train sheets (Exhibits 3 – 1 through 3 – 4) and is described in detail for each of the six steps, following the train sheets. The train sheets include the appropriate step number, as described above, on the line of each train movement. When reading the following train sheets, it is important to keep in mind that multiple train movements are associated with each step due to the sub-dividing of the trains into cuts as they move between BNSF Valley Yard and TIT.

Exhibit 3 – 1
Train Sheet Describing the Load – Empty Cycle for: BNSF Loaded Unit Train “U MNSGAT7 26A”¹³

Reference Column ⇒	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time	End Date and Time
1	1	BNSF	Arrive	ALL		L	94	Marion, SD	BNSF Valley Yard		6/2/2018 5:50
2	2	BNSF	Switch	ALL		L	94	BNSF Valley Yard	UP Interchange Yard	6/2/2018 7:17	6/2/2018 8:12
3	3	UP	Switch	1	1.00	L	54	UP Interchange Yard	TIT Industry Track	6/4/2018 14:47	6/4/2018 15:23
4	4	TIT	Switch	1	1.11	L	27	TIT Industry Track	TIT Loop	6/4/2018 16:43	6/4/2018 16:59
5	4	TIT	Switch	1	1.21	L	27	TIT Industry Track	TIT Loop	6/4/2018 17:16	6/4/2018 17:27
6	5	TIT	Switch	1	1.12	E	28	TIT Loop	TIT Industry Track	6/5/2018 16:25	6/5/2018 16:39
7	5	TIT	Switch	1	1.22	E	26	TIT Loop	TIT Industry Track	6/5/2018 16:58	6/5/2018 17:08
8	3	UP	Switch	2	2.00	L	39	UP Interchange Yard	TIT Industry Track	6/6/2018 11:27	6/6/2018 12:14
9	6	UP	Switch	1	1.13 & 1.23	E	54	TIT Industry Track	BNSF Valley Yard	6/6/2018 14:41	6/6/2018 15:35
10	4	TIT	Switch	2	2.10	L	39	TIT Industry Track	TIT Loop	6/6/2018 15:04	6/6/2018 15:36
11	5	TIT	Switch	2	2.11	E	39	TIT Loop	TIT Industry Track	6/7/2018 7:07	6/7/2018 7:30
12	6	UP	Switch	2	2.12	E	39	TIT Industry Track	BNSF Valley Yard	6/7/2018 15:03	6/7/2018 15:51
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the six basic steps through which the cars of a BNSF train flow as described in the report.											
Column B, "Handling Railroad": The railroad which brings a unit train into Galveston or performs a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											

¹³ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx," tab "Format & Publish," cells A3:W29.

Exhibit 3 – 2

Train Sheet Describing the Load – Empty Cycle for: BNSF Loaded Unit Train “G MSIGAT4 31A”¹⁴

Reference Column ==>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time	End Date and Time
1	1	BNSF	Arrive	ALL	ALL	L	112	Carlsbad, NM	BNSF Valley Yd		6/4/2018 19:31
		BNSF			A1 & A2					1/0/1900 0:00	6/4/2018 19:31
		BNSF			B1					1/0/1900 0:00	6/4/2018 19:31
		BNSF			C1					1/0/1900 0:00	6/4/2018 19:31
2	2	BNSF	Switch	A	A1 & A2	L	67	BNSF Valley Yard	UP Interchange Yard	6/5/2018 1:43	6/5/2018 2:28
3	2	BNSF	Switch	B	B1	L	16	BNSF Valley Yard	UP Interchange Yard	6/5/2018 2:56	6/5/2018 3:29
4	3	UP	Switch	1	A1.1	L	13	UP Interchange Yard	TIT Industry Track	6/6/2018 11:27	6/6/2018 12:14
5	4	TIT	Switch	1	A1.2	L	13	TIT Industry Track	TIT Loop	6/6/2018 18:50	6/6/2018 19:07
6	2	BNSF	Switch	C	C1	L	28	BNSF Valley Yard	UP Interchange Yard	6/7/2018 0:00	6/7/2018 0:06
7	5	TIT	Switch	1	A1.3	E	13	TIT Loop	TIT Industry Track	6/7/2018 2:14	6/7/2018 2:23
8	3	UP	Switch	2	A2.1	L	54	UP Interchange Yard	TIT Industry Track	6/7/2018 11:05	6/7/2018 11:51
9	4	TIT	Switch	2	A2.2	L	54	TIT Industry Track	TIT Loop	6/7/2018 12:46	6/7/2018 13:09
10	6	UP	Switch	1	A1.4	E	13	TIT Industry Track	BNSF Valley Yard	6/7/2018 15:03	6/7/2018 15:51
11	5	TIT	Switch	2	A2.3	E	54	TIT Loop	TIT Industry Track	6/7/2018 22:24	6/7/2018 23:10
12	6	UP	Switch	2	A2.4	E	54	TIT Industry Track	UP Interchange Yard	6/8/2018 10:55	6/8/2018 11:42
13	3	UP	Switch	3	B1 & C1	L	44	UP Interchange Yard	TIT Industry Track	6/8/2018 9:45	6/8/2018 10:20
14	4	TIT	Switch	3	B1 & C1	L	44	TIT Industry Track	TIT Loop	6/8/2018 12:24	6/8/2018 12:53
15	5	TIT	Switch	3	B1 & C1	E	44	TIT Loop	TIT Industry Track	6/8/2018 19:13	6/8/2018 19:29
16	6	UP	Switch	3	B1 & C1	E	44	TIT Industry Track	UP Interchange Yard	6/11/2018 12:27	6/11/2018 12:47
17	6	UP	Switch	2	A2.5	E	54	UP Interchange Yard	BNSF Valley Yard	6/11/2018 13:00	6/11/2018 14:03
18	6	UP	Switch	3	B1 & C1	E	44	UP Interchange Yard	BNSF Valley Yard	6/14/2018 11:42	6/14/2018 12:04

Key to Reference Columns and Column Headings:

Column A, "Step": The number corresponds to the six basic steps through which the cars of a BNSF train flow as described in the report.

Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.

Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.

Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.

Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.

Column G, "Count of Cars": The number of cars being handled in a given train movement.

Column H, "From": The location at which the train movement began.

Column I, "To": The location at which the train movement ended.

Column J, "Start Date and Time": The date and time at which the individual train movement began.

Column K, "End Date and Time": The date and time at which each individual train movement was completed.

¹⁴ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx," tab "Format & Publish," cells A34:W69.

Exhibit 3 – 3
Train Sheet Describing the Load – Empty Cycle for: BNSF Loaded Unit Train “MSIGAT4-07A”¹⁵

<i>Reference Column ⇒</i>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time	End Date and Time
1	1	BNSF	Arrive	ALL		L	112	Carlsbad, NM	BNSF Valley Yard		6/13/2018 4:25
2	2	BNSF	Switch	A	A	L	80	BNSF Valley Yard	UP Interchange Yard	6/13/2018 4:42	6/13/2018 5:43
3	3	UP	Switch	1	A1.1	L	27	UP Interchange Yard	TIT Industry Track	6/14/2018 9:51	6/14/2018 10:53
4	3	UP	Switch	2	A2.1	L	27	UP Interchange Yard	TIT Industry Track	6/14/2018 11:00	6/14/2018 11:33
5	4	TIT	Switch	1 & 2	A1.2 & A2.2	L	54	TIT Industry Track	TIT Loop	6/14/2018 13:29	6/14/2018 14:12
6	5	TIT	Switch	1 & 2	A1.3 & A2.3	E	50	TIT Loop	TIT Industry Track	6/14/2018 22:44	6/14/2018 23:00
7	2	BNSF	Switch	B	B1.0	L	32	BNSF Valley Yard	UP Interchange Yard	6/15/2018 11:32	6/15/2018 11:55
8	6	UP	Switch	1 & 2	A1.4 & A2.4	E	50	TIT Industry Track	BNSF Valley Yard	6/15/2018 14:31	6/15/2018 15:44
9	3	UP	Switch	3	A3.1 & B1.1	L	59	UP Interchange Yard	TIT Industry Track	6/15/2018 16:21	6/15/2018 17:36
10	4	TIT	Switch	3	A3.2 & B1.2	L	59	TIT Industry Track	TIT Loop	6/15/2018 18:47	6/15/2018 19:53
11	5	TIT	Switch	3	A3.3 & B1.3	E	63	TIT Loop	TIT Industry Track	6/16/2018 7:40	6/16/2018 8:07
12	6	UP	Switch	3	A3.4 & B1.4	E	63	TIT Industry Track	BNSF Valley Yard	6/18/2018 13:53	6/18/2018 15:08
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the six basic steps through which the cars of a BNSF train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											

¹⁵ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A73:W99.

Exhibit 3 – 4
Train Sheet Describing the Load – Empty Cycle for: BNSF Loaded Unit Train “MSIGAT4-17A”¹⁶

Reference Column ⇒	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time	End Date and Time
1	1	BNSF	Arrive	ALL		L	112	Carlsbad, NM	BNSF Valley Yard		6/19/2018 20:05
2	2	BNSF	Switch	ALL		L	112	BNSF Valley Yard	UP Interchange Yard	6/19/2018 20:38	6/19/2018 21:44
3	3	UP	Switch	1	1.00	L	57	UP Interchange Yard	TIT Industry Track	6/20/2018 14:13	6/20/2018 15:32
4	4	TIT	Switch	1	1.10	L	29	TIT Industry Track	TIT Loop	6/20/2018 17:15	6/20/2018 17:30
5	5	TIT	Switch	1	1.11	E	29	TIT Loop	TIT Industry Track	6/21/2018 8:31	6/21/2018 8:52
6	4	TIT	Switch	1	1.20	L	28	TIT Industry Track	TIT Loop	6/21/2018 8:52	6/21/2018 9:15
7	3	UP	Switch	2	2.00	L	55	UP Interchange Yard	TIT Industry Track	6/21/2018 12:57	6/21/2018 14:16
8	4	TIT	Switch	2	2.09	L	3	TIT Industry Track	TIT Loop	6/21/2018 15:15	6/21/2018 15:27
9	5	TIT	Switch	1	1.21	E	28	TIT Loop	TIT Industry Track	6/21/2018 15:33	6/21/2018 15:59
10	4	TIT	Switch	2	2.10	L	28	TIT Industry Track	TIT Loop	6/21/2018 15:59	6/21/2018 16:19
11	4	TIT	Switch	2	2.20	L	27	TIT Industry Track	TIT Loop	6/21/2018 19:22	6/21/2018 19:39
12	5	TIT	Switch	2	2.11 & 2.09	E	31	TIT Loop	TIT Industry Track	6/22/2018 6:57	6/22/2018 7:15
13	5	TIT	Switch	2	2.21	E	24	TIT Loop	TIT Industry Track	6/22/2018 11:27	6/22/2018 11:42
14	6	UP	Switch	1	1.12 & 2.12	E	60	TIT Industry Track	BNSF Valley Yard	6/22/2018 14:41	6/22/2018 16:37
15	6	UP	Switch	2	1.22 & 2.22	E	52	TIT Industry Track	BNSF Valley Yard	6/22/2018 17:01	6/22/2018 17:10
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the six basic steps through which the cars of a BNSF train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											

¹⁶ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A103:W132.

Step 1, Loaded BNSF unit train arrives at BNSF's Valley Yard, Galveston, TX: See TREX Presentation Slides 1 – 2.¹⁷ This is the point from which RLBA began its analysis of the movement of BNSF unit trains between BNSF and TIT's facility.

Step 2, BNSF delivers the loaded cars to UP's Interchange Yard: See TREX Presentation Slides 3 – 4.¹⁸ As referenced, BNSF delivered four trains to UP during the study period. Two of the trains were delivered in one unit and on the same day as they arrived at BNSF's Valley Yard (Exhibit 3 – 1, Train Movement 2, Column J minus Train Movement 1, Column K and Exhibit 3 – 4, Train Movement 2, Column J minus Train Movement 1, Column K).

The other two trains were delivered in a total of five cuts: two cuts for one train (Exhibit 3 – 3, Train Movements 2 and 7, Column D) and three cuts for the other train (Exhibit 3 – 2, Train Movements 2, 3, and 6, Column D). Where the two trains were delivered in cuts, there were between 16 and 80 cars in each cut (Exhibit 3 – 3, Train Movements 2 and 7, Column G and Exhibit 3 – 2, Train Movements 2, 3 and 6, Column G).

Step 3, UP delivers the loaded cars to TIT in TIT's Industry Track yard: See TREX Presentation Slides 5, 6, 11 and 12.¹⁹ For the four BNSF trains, UP delivered a total of ten cuts to TIT over a time span between the same day and four calendar days from the day on which UP received them from BNSF. Most were delivered to TIT one to two calendar days after receipt

¹⁷ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 1 – 3 of 24, pdf pages 6 – 7 of 29, by Texas Railway Exchange LLC.

¹⁸ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 3 – 4 of 24, pdf pages 8 – 9 of 29, by Texas Railway Exchange LLC.

¹⁹ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 5, 6, 11 and 12 of 24, pdf pages 10, 11, 16 and 17 of 29, by Texas Railway Exchange LLC.

from BNSF. For examples, see a one-day delivery at Exhibit 3 – 1, Train Movement 3, Column J minus Train Movement 2, Column K and a two-day delivery at Exhibit 3 – 4, Train Movement 3, Column J minus Train Movement 2, Column K.

The ten cuts (and ten switch moves) in which UP delivered the cars to TIT were three more than BNSF required to deliver the same cars to UP. UP delivered cars from two of the four loaded BNSF trains to TIT in two cuts of 39 to 57 cars per cut (Exhibit 3 – 1, Train Movements 3 and 8, Column G and Exhibit 3 – 4, Train Movements 3 and 7, Column G). The cars from the other two loaded BNSF trains were delivered to TIT in three cuts of 13 to 59 cars each (Exhibit 3 – 2, Train Movements 4, 8 and 13, Column G and Exhibit 3 – 3, Train Movements 3, 4 and 9, Column G).

Step 4, TIT pulls the loaded cars from the TIT Industry Track yard and places them on the TIT Loop tracks²⁰ (A and B) for unloading: See TREN Presentation Slides 7, 8, 16 and 17.²¹ TIT switched the loaded cars from all four BNSF unit trains into its loop tracks in a consistently timely manner. Of the thirteen cuts in which TIT switched the four trains' worth of cars, twelve were placed on the same day as the cars were received from UP. The remaining cut was switched by TIT into the loop track one day (the next day) after its cars were received from UP. Examples are at: Exhibit 3 – 1, Train Movement 4, Column J minus Train Movement 3, Column K; Exhibit 3 – 2, Train Movement 9, Column J minus Train Movement 8, Column K; and Exhibit 3 – 3 Train Movement 5, Column J minus Train Movements 3 and 4, Column K.

²⁰ In this step, RLBA and TIT designated the time at which a cut of cars cleared the Port Industrial Road grade crossing in front of the TIT facility as a proxy for the time at which they arrived on a TIT Loop track, reasoning that the rear end of the cut is nearly through TIT's gate and onto the a loop track.

²¹ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 7, 8, 16 and 17 of 24, pdf pages 12, 13, 22 and 23 of 29, by Texas Railway Exchange LLC.

The thirteen cuts of cars switched by TIT were three more than required by UP to switch the same number of cars, but that higher level of activity produced consistently fast service at least over the short leg of the journey that TIT controls.

TIT placed the cars from one of the loaded BNSF unit trains to the TIT Loop tracks in two cuts of 54 – 59 cars (Exhibit 3 – 3, Train Movements 5 and 10). Cars from two trains were delivered in three cuts of 27 – 39 cars and 13 – 54 cars (Exhibit 3 – 1, Train Movements 4, 5 and 10 and Exhibit 3 – 2, Train Movements 5, 9 and 14) and cars from the fourth train were delivered in five cuts of 3 – 29 cars (Exhibit 3 – 4, Train Movements 4, 6, 8, 10 and 11).

In this step, TIT switched the cars with TIT's own locomotives, which are lower powered. By contrast, TIT crews switched the UP unit trains by operating the UP's higher powered locomotives which brought in the trains.

Step 5. After unloading, TIT pulls the now empty cars from the TIT Loop tracks and delivers them to UP in the TIT Industry Track yard: See TREN Presentation Slides 9, 10, 11, 18 and 19.²² TIT pulled the 11 cuts in which it handled the four trains' worth of empty cars from the TIT Loop tracks on the same day or on the day following the day on which it placed them for unloading. See examples at: Exhibit 3 – 1, Train Movement 6, Column J minus Train Movement 4, Column K (1 calendar day) and Exhibit 3 – 2, Train Movement 11, Column J, minus Train Movement 9, Column K (same day).

TIT's consistent timeliness in pulling the empty cars should be viewed predominantly as a function of the consistent timeliness with which TIT unloads the cars given that it is the primary determinant of when TIT can pull the empties and return them to UP. The simple

²² Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 9, 10, 11, 18 and 19 of 24, pdf pages 14, 15, 16, 23 and 24 of 29, by Texas Railway Exchange LLC.

calendar day, “same day,” or “next day” metric employed in this discussion somewhat understates the velocity with which TIT turns the cars at its facility, which is discussed further below.

TIT pulled the empty cars for each of the four BNSF unit trains in two to five cuts per train. Two trains were pulled in three cuts, each, with 13 to 54 cars per cut (Exhibit 3 – 1, Train Movements 4, 5 and 10, Column J and Exhibit 3 – 2, Train Movements 5, 9 and 14, Column J). One train was pulled in two cuts of 54 and 59 cars (Exhibit 3 – 3, Train Movements 5 and 10, Column J). The final train was pulled in five cuts of 3 to 29 cars (Exhibit 3 – 4, Train Movements 4, 6, 8, 10 and 11, Column J).

Step 6, UP pulls the empty cars from TIT Industry Track yard and either: 1) delivers them to the BNSF Valley Yard or 2) switches them to the UP Interchange Yard from where UP subsequently delivers them to BNSF Valley Yard: See TREX Presentation Slides 13, 14, 15, 19, 20, 21, 23 and 24.²³ UP pulled the empty cars of the four BNSF unit trains from TIT Industry Track in a total of nine cuts, seven of which it delivered directly to BNSF Valley Yard. Of the seven cuts delivered directly to BNSF, all but one were delivered on either the same day they were received from TIT or the next day. See examples: Exhibit 3 – 1, Train Movement 9, Column J minus, Train Movement 6, Column K (a next day delivery) and Exhibit 3 – 2, Train Movement 10, Column J minus Train Movement 7, Column K (a same day delivery). The remaining cut was delivered two days after it was received from TIT (Exhibit 3 – 3, Train Movement 12, Column J minus Train Movement 11, Column K).

²³ Appendix 3 - 1, “Providing Connecting Rail Service to Texas International Terminals.pdf”, Section: Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure, Slides 13, 14, 15, 19, 20, 21, 22, 23 and 24 of 24, pdf pages 18, 19, 20, 24, 25, 26, 27, 28 and 29 of 29, by Texas Railway Exchange LLC.

The other two cuts, containing 98 cars of a 112-car train, were switched by UP to the UP Interchange Yard, from where UP then delivered them to BNSF Valley Yard four and six days after UP received them from TIT (Exhibit 3 – 2, Train Movements 17 and 18, Column J, minus Train Movements 11 and 15, Column K). In contrast, the other cut of this train, containing the remaining 14 cars (13 in the TIT – RLBA database), was delivered directly from TIT Industry Track to BNSF Valley Yard on the same day UP received it from TIT (Exhibit 3 – 2, Train Movement 10, Column J minus Train Movement 7, Column K).

It also is important to consider the amount of time TIT expended unloading the cars, even though it is not a “train movement” activity. From a railroad operations perspective, the cars of a unit train are dwelling at a customer when they are on the TIT Loop tracks. Dwell occurs at the locations between the train movements depicted in all steps in this six-step process. In the case of the dwell at TIT Loop tracks, it is an important factor here because improved train turnaround times for TIT is a primary focus of the subject case. Consequently, RLBA’s analysis measured the dwell time of the cars within the TIT facility: the amount of time between the time a cut of cars was placed on the TIT Loop tracks, in Step 4, and the time that cut of cars was pulled from the TIT Loop tracks, in Step 5. This dwell time within the TIT facility, which averaged 13 hours and 6 minutes, is RLBA’s proxy for the amount of time that TIT expended unloading each cut of cars and is reported below in Exhibit 3 – 5:

Exhibit 3 – 5
Dwell Times (Proxy Unloading Times) at TIT Loop Track for BNSF Unit Trains²⁴
(June 2018)

BNSF Loaded Unit Train Symbol (1)	Cut Number - Primary	Cut Number - Secondary	Dwell Time by Cut (DD:HH:MM:SS)	Total Dwell Time by Train (DD:HH:MM:SS)
U MNSGAT7 26A	1	1.12	00:23:26:00	
U MNSGAT7 26A	1	1.22	00:23:31:00	
U MNSGAT7 26A	2	2.11	00:15:31:00	02:14:28:00
G MSIGAT4 31A	1	A1.3	00:07:07:00	
G MSIGAT4 31A	2	A2.3	00:09:15:00	
G MSIGAT4 31A	3	B1 & C1	00:06:20:00	00:22:42:00
MSIGAT4-07A	1 & 2	A1.3 & A2.3	00:08:32:00	
MSIGAT4-07A	3	A3.3 & B1.3	00:11:47:00	00:20:19:00
MSIGAT4-17A	1	1.11	00:15:01:00	
MSIGAT4-17A	1	1.21	00:06:18:00	
MSIGAT4-17A	2	2.11 & 2.09	00:14:38:00	
MSIGAT4-17A	2	2.21	00:15:48:00	02:03:45:00
Average			00:13:06:10	01:15:18:30
Notes:				
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.				

A.2. Current UP Operations: Description

The purpose of this section is to familiarize the reader with the local Galveston, TX railroad operations by which UP unit trains are delivered to TIT and returned from TIT to UP.

Four UP unit trains were delivered to TIT and dispatched empty during the June 2018 study period. UP interchanges its unit trains directly with TIT resulting in a simple, three-step process. It puts TIT in control of all switching moves of a given train, thus avoiding the dwell

²⁴ TREX e-workpaper, “Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx,” tab “Unloading Times,” cells D5:H22.

time and numerous switching moves which result from interchanging multiple cuts of cars among three carriers. The three steps are:

Step 1: Loaded UP unit train arrives at a UP/TIT Crew Change location on UP Track 102 or TIT Track 756 in Galveston, TX and is interchanged to TIT;

Step 2: TIT pulls the loaded unit train into its facility. In so doing, TIT breaks the train into two cuts and places each one separately onto its Loop Tracks. This is made necessary by the configuration of the Loop Tracks; and

Step 3: TIT re-assembles the train and delivers the resulting empty train to its interchange with UP at 77th Street on UP Track 102 or TIT Track 756, approximately 1.25 miles west of the inbound interchange point.

The movement of the four UP unit trains that were studied by RLBA displayed little to none of the variability which was observed in the BNSF unit trains.

Consequently, the following trains sheets (Exhibits 3 – 6 through 3 – 9), which describe each of the UP unit trains, are shorter and less complex. The train sheets include the appropriate step number, as described above, on the line of each train movement. When reading the following train sheets, it is important to keep in mind that multiple train movements may be associated with a given step due to the sub-dividing of the trains into cuts as they move between the UP/TIT interchange locations and TIT. The train sheets are followed by a discussion of the train activity under each of the three steps that UP unit trains experience.

Exhibit 3 – 6
Train Sheet Describing the Load – Empty Cycle for: UP Loaded Unit Train “UEAWTG30”²⁵

Reference Column =>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time (2)	End Date and Time (3)
1	1	UP	Arrive	ALL		L	106		UP/TIT Crew Change: East of 77th. St.		6/3/2018 7:28
2	2	TIT	Switch	1		L	64	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/3/2018 10:24	6/3/2019 UNKN
3 (1)	2	TIT	Switch	2		L	42	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/3/2019 UNKN	6/3/2018 11:40
4	3	TIT	Switch	ALL		E	106	TIT Loop	77th Street	6/4/2018 2:19	6/4/2018 3:00
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the three basic steps through which the cars of a UP train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											
Notes:											
(1) In order to correctly reflect TIT's practice of splitting the inbound loaded UP unit trains into two cuts, RLBA inserted an additional train movement record, Row 3, into the train sheet to reflect the second cut for each train. The train's total car count was then split between the two cuts (Rows 2 and 3) based upon TIT's description of the manner in which it typically switches UP unit trains. Consequently, the "Start Date and Time" of the first cut, Row 2, reflects the time at which TIT began to switch the inbound train and the "End Date and Time" of the second cut, Row 3, reflects the time at which TIT completed placing the train on the TIT Loop tracks. This adjustment to the data from the TIT - RLBA database was made because the practice of splitting UP trains was not correctly captured in the database.											
(2) "UNKN" appears in place of the "start time" value (Column J) in Row 3, because the time value is unknown for the reason explained in Footnote (1).											
(3) "UNKN" appears in place of the "end time" value (Column K) in Row 2, because the time value is unknown for the reason explained in Footnote (1).											

²⁵ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A140:W167.

Exhibit 3 – 7
Train Sheet Describing the Load – Empty Cycle for: UP Loaded Unit Train “UEUMTG06”²⁶

Reference Column ==>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time (2)	End Date and Time (3)
1	1	UP	Arrive	ALL		L	106		UP/TIT Crew Change: East of 77th. St.		6/10/2018 22:20
2	2	TIT	Switch	1		L	64	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/11/2018 0:30	6/11/2019 UNKN
3 (1)	2	TIT	Switch	2		L	42	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/11/2019 UNKN	6/11/2018 1:40
4	3	TIT	Switch	ALL		E	106	TIT Loop	77th Street	6/11/2018 16:30	6/11/2018 17:30
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the three basic steps through which the cars of a UP train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											
Notes:											
(1) In order to correctly reflect TIT's practice of splitting the inbound loaded UP unit trains into two cuts, RLBA inserted an additional train movement record, Row 3, into the train sheet to reflect the second cut for each train. The train's total car count was then split between the two cuts (Rows 2 and 3) based upon TIT's description of the manner in which it typically switches UP unit trains. Consequently, the "Start Date and Time" of the first cut, Row 2, reflects the time at which TIT began to switch the inbound train and the "End Date and Time" of the second cut, Row 3, reflects the time at which TIT completed placing the train on the TIT Loop tracks. This adjustment to the data from the TIT - RLBA database was made because the practice of splitting UP trains was not correctly captured in the database.											
(2) "UNKN" appears in place of the "start time" value (Column J) in Row 3, because the time value is unknown for the reason explained in Footnote (1).											
(3) "UNKN" appears in place of the "end time" value (Column K) in Row 2, because the time value is unknown for the reason explained in Footnote (1).											

²⁶ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A171:W198.

Exhibit 3 – 8
Train Sheet Describing the Load – Empty Cycle for: UP Loaded Unit Train “UEAWTG12”²⁷

Reference Column ==>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time (2)	End Date and Time (3)
1	1	UP	Arrive	ALL		L	107		UP/TIT Crew Change: East of 77th. St.		6/17/2018 13:00
2	2	TIT	Switch	1		L	65	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/17/2018 15:09	6/17/2019 UNKN
3 (1)	2	TIT	Switch	2		L	42	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/17/2019 UNKN	6/17/2018 16:19
4	3	TIT	Switch	ALL		E	107	TIT Loop	77th Street	6/18/2018 7:56	6/18/2018 8:48
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the three basic steps through which the cars of a UP train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											
Notes:											
(1) In order to correctly reflect TIT's practice of splitting the inbound loaded UP unit trains into two cuts, RLBA inserted an additional train movement record, Row 3, into the train sheet to reflect the second cut for each train. The train's total car count was then split between the two cuts (Rows 2 and 3) based upon TIT's description of the manner in which it typically switches UP unit trains. Consequently, the "Start Date and Time" of the first cut, Row 2, reflects the time at which TIT began to switch the inbound train and the "End Date and Time" of the second cut, Row 3, reflects the time at which TIT completed placing the train on the TIT Loop tracks. This adjustment to the data from the TIT - RLBA database was made because the practice of splitting UP trains was not correctly captured in the database.											
(2) "UNKN" appears in place of the "start time" value (Column J) in Row 3, because the time value is unknown for the reason explained in Footnote (1).											
(3) "UNKN" appears in place of the "end time" value (Column K) in Row 2, because the time value is unknown for the reason explained in Footnote (1).											

²⁷ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A203:W230.

Exhibit 3 – 9
Train Sheet Describing the Load – Empty Cycle for: UP Loaded Unit Train “UEAWTG19”²⁸

Reference Column ==>	A	B	C	D	E	F	G	H	I	J	K
Train Movement	Step	Handling Crew	Activity	Cut Number - Primary	Cut Number - Secondary	Loads or Empties	Count of Cars	From	To	Start Date and Time (2)	End Date and Time (3)
1	1	UP	Arrive	ALL		L	107		UP/TIT Crew Change: East of 77th. St.		6/25/2018 4:45
2	2	TIT	Switch	1		L	65	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/25/2018 4:51	6/25/2019 UNKN
3 (1)	2	TIT	Switch	2		L	42	UP/TIT Crew Change: East of 77th. St.	TIT Loop	6/25/2019 UNKN	6/25/2018 7:13
4	3	UP	Switch	ALL		E	107	TIT Loop	77th Street	6/25/2018 19:46	6/25/2018 20:50
Key to Reference Columns and Column Headings:											
Column A, "Step": The number corresponds to the three basic steps through which the cars of a UP train flow as described in the report.											
Column B, "Handling Railroad": The railroad bringing a unit train into Galveston or performing a switch move.											
Column C, "Activity": The type of train movement performed by the handling railroad. "Arrive" means arrival of the unit train at the BNSF or UP location, and "Switch" means a movement of cars from one track to another by a BNSF, TIT or UP crew.											
Columns D and E, "Cut Number - Primary" and "Cut Number - Secondary": Cut numbers are designations employed by RLBA to identify and group together all of the switching moves associated with each cut of cars.											
Column F, "Loads or Empties": Indicates whether the cars are loaded or empty.											
Column G, "Count of Cars": The number of cars being handled in a given train movement.											
Column H, "From": The location at which the train movement began.											
Column I, "To": The location at which the train movement ended.											
Column J, "Start Date and Time": The date and time at which the individual train movement began.											
Column K, "End Date and Time": The date and time at which each individual train movement was completed.											
Notes:											
(1) In order to correctly reflect TIT's practice of splitting the inbound loaded UP unit trains into two cuts, RLBA inserted an additional train movement record, Row 3, into the train sheet to reflect the second cut for each train. The train's total car count was then split between the two cuts (Rows 2 and 3) based upon TIT's description of the manner in which it typically switches UP unit trains. Consequently, the "Start Date and Time" of the first cut, Row 2, reflects the time at which TIT began to switch the inbound train and the "End Date and Time" of the second cut, Row 3, reflects the time at which TIT completed placing the train on the TIT Loop tracks. This adjustment to the data from the TIT - RLBA database was made because the practice of splitting UP trains was not correctly captured in the database.											
(2) "UNKN" appears in place of the "start time" value (Column J) in Row 3, because the time value is unknown for the reason explained in Footnote (1).											
(3) "UNKN" appears in place of the "end time" value (Column K) in Row 2, because the time value is unknown for the reason explained in Footnote (1).											

²⁸ TREX e-workpaper, "Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx, tab "Format & Publish," cells A236:W263.

Step 1: Loaded UP unit train arrives at a UP/TIT Crew Change location on UP Track 102 or TIT Track 756 in Galveston, TX and is interchanged to TIT: See TREX Presentation Slide 1 of 4.²⁹ This is the point from which RLBA began its analysis of the movement of UP unit trains between BNSF and TIT's facility.

Step 2: TIT pulls the loaded unit train and places it on the TIT Loop tracks: See TREX Presentation Slide 2 of 4.³⁰ TIT pulled and placed three of the four UP unit trains on the same calendar day they were received from UP and the fourth on the following calendar day. More specifically, all four trains were placed on the TIT Loop tracks between 2 hours and 28 minutes to 4 hours and 12 minutes of their delivery by UP. See: Exhibit 3 – 9, Train Movement 3, Column K minus Train Movement 1, Column K (2 hours, 28 minutes) and Exhibit 3 – 6, Train Movement 3, Column K minus Train Movement 1, Column K (4 hours, 12 minutes).

This swift handling results from UP's direct delivery of the trains to TIT which enables TIT to closely coordinate with UP regarding a given train's arrival. TIT is thus able to place its crew on the train promptly after its arrival and begin switching. For example, TIT began switching train "UEAWTG30" 2 hours, 56 minutes after its arrival (Exhibit 3 – 6, Train Movement 2, Column J minus Train Movement 1, Column K) and began switching train "UEAWTG19" 2 hours, 28 minutes after its arrival (Exhibit 3 – 7, Train Movement 2, Column J minus Train Movement 1, Column K).

²⁹ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Unit Train Arrival and Departure, Slide 1 of 24, pdf page 2 of 29, by Texas Railway Exchange LLC.

³⁰ Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Unit Train Arrival and Departure, Slide 2 of 24, pdf page 3 of 29, by Texas Railway Exchange LLC.

TIT broke each train into two cuts and placed each one separately onto its Loop Tracks.³¹ This is made necessary by the configuration of the Loop Tracks in TIT's facility, but is the only time that a UP unit train is broken into cuts, unlike the switching of BNSF unit trains.

In this step, a TIT crew switched each train by boarding the UP locomotives and operating the train. By contrast, a TIT crew switched the cars of each BNSF unit train with TIT's own locomotives.

Step 3: After unloading, TIT pulls the entire, now-empty train from the TIT Loop tracks and delivers it to UP at 77th Street on UP Track 102 or TIT Track 756, approximately 1.25 miles west of the inbound interchange point; See TREX Presentation Slides 3 and 4 of 4.³² TIT delivered all four empty unit trains to UP at 77th Street on the same day it pulled them from the TIT Loop tracks. More specifically, this step was generally accomplished in approximately one hour. See examples: Exhibit 3 – 7, Train Movement 4, Column K minus Column J, and Exhibit 3 – 8, Train Movement 4, Column K minus Column J.

By contrast, the nine cuts in which UP returned the BNSF trains to BNSF were returned inconsistently, over a wide span of time:

- Two were returned on the same day as TIT pulled them from the TIT Loop tracks:

³¹ In order to correctly reflect TIT's practice of splitting the inbound loaded UP unit trains into two cuts, RLBA inserted an additional train movement record into the train sheet of each train to reflect the second cut for each train, and split each train's total car count between the two cuts based upon TIT's description of the manner in which it typically switches UP unit trains. Consequently, the "Start Date and Time" of the first cut reflects time at which TIT began to switch the inbound train and the "End Date and Time" of the second cut reflects the time at which TIT completed placing the train on the TIT Loop tracks. This adjustment to the data from the TIT – RLBA data was made because the practice of splitting these trains was not correctly captured in the database.

³² Appendix 3 - 1, "Providing Connecting Rail Service to Texas International Terminals.pdf", Section: Overview of UP Unit Train Arrival and Departure, Slides 3 and 4 of 24, pdf pages 4 and 5 of 29, by Texas Railway Exchange LLC.

- Exhibit 3 – 1, Train Movement 12, Column K minus Train Movement 11, Column J and
- Exhibit 3 – 2, Train Movement 10, Column K minus Train Movement 7, Column J.
- Two were returned the next day:
 - Exhibit 3 – 1, Train Movement 9, Column K minus Train Movement 6, Column J and
 - Exhibit 3 – 3, Train Movement 8, Column K minus Train Movement 6, Column J.
- Two cuts contained a mix of cars that were returned over a combination of the same day and next day:
 - Exhibit 3 – 4, Train Movement 14, Column K minus Train Movement 12, Column J (same day) and
 - Exhibit 3 – 4, Train Movement 14, Column K minus Train Movement 5, Column J (next day);
 - Exhibit 3 – 4, Train Movement 15, Column K minus Train Movement 13, Column J (same day) and
 - Exhibit 3 – 4, Train Movement 15, Column K minus Train Movement 9, Column J (next day).
- One was returned two days after TIT pulled it from the TIT Loop tracks:
 - Exhibit 3 – 3, Train Movement 12, Column K minus Train Movement 11, Column J.
- One was returned four days after TIT pulled it:

- Exhibit 3 – 2, Train Movement 17, Column K minus Train Movement 11, Column J.
- One was returned six days after TIT pulled it:
 - Exhibit 3 – 2, Train Movement 18, Column K minus Train Movement 15, Column J.

As with the BNSF trains, it is also important to consider the amount of time TIT expended unloading the cars of the UP trains, or the dwell time, even though it is not a “train movement” activity. Dwell occurs at the locations between the train movements depicted in all steps in this three-step process. In RLBA’s analysis measured the dwell time of the cars within the TIT facility: the amount of time between the time a cut of cars was placed on the TIT Loop tracks in Step 2, and the time that cut of cars was pulled from the TIT Loop tracks in Step 3. This dwell time within the TIT facility is RLBA’s proxy for the amount of time that TIT expended unloading each cut of cars, and is reported below in Exhibit 3 – 10:

Exhibit 3 – 10
Dwell Times (Proxy Unloading Times) at TIT Loop Track for
UP Unit Trains (June 2019)³³

UP Loaded Unit Train Symbol (1)	Total Dwell Time by Train (DD:HH:MM:SS)
UEAWTG30	00:14:39:00
UEUMTG06	00:14:50:00
UEAWTG12	00:15:37:00
UEAWTG19	00:12:33:00
Average	00:14:24:45
Notes:	
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.	

A.3. Critique of Current Operations: Poor Service and Inefficient Operations Demonstrated in Four Metrics

The poor service experienced by TIT and the underlying inefficient railroad operations were documented consistently by RLBA in the form of four metrics. The first two metrics, Train Cycle Time and Car Elapsed Time, demonstrate the long and inconsistent cycle times experienced by BNSF unit trains as compared with UP unit trains serving TIT. The inefficiency of current rail operations involving BNSF unit trains is also evident when comparing the number of train movements and crew hours required for handling a BNSF versus a UP unit train. Each metric is explained below with the analysis and findings associated with each.

A.3.1. Train Cycle Time

Train Cycle Time (“cycle time” or “TCT”) in this study, represents all of the time between the arrival of a given inbound loaded train in Galveston and the return of its

³³ TREX e-workpaper, “Elapsed Time by Segments & Carrier – Train Sheet Publish.xlsx”, tab “Unloading Times”, cells D34:E43.

corresponding outbound empty train, or the last cut of empty cars³⁴, to the railroad (BNSF or UP) that brought the loaded train to Galveston. TCT of a BNSF unit train is calculated from the date and time at which the loaded train arrived at BNSF's Valley Yard to the date and time at which the last cut of corresponding empty cars were returned to Valley Yard by UP. TCT of a UP train is calculated from the date and time at which the loaded train arrived at the UP/TIT Crew Change on Track 756 (about one train length east of the 77th Street grade crossing) and the date and time at which the corresponding empty train was returned to UP at 77th Street by TIT. This time includes time during which the cars were unloaded by TIT.

RLBA's analysis, as illustrated in Exhibit 3-11 below, found that the average cycle time experienced by the four, loaded BNSF unit trains analyzed in the June 2018 study period was more than five days longer than the average cycle time experienced by the four, loaded UP unit trains during that same month: 5.86 days versus 0.78 days. This finding demonstrates that the current railroad operations by which BNSF unit trains are moved between BNSF Valley Yard and TIT's facility are significantly less efficient than the current operations by which UP unit trains move between the UP – TIT interchange, on Tracks 756 or 102, and TIT's facility. The train cycle times of the four BNSF unit trains varied greatly, between 2.88 and 9.69 days, while those of the four UP unit trains varied within a much narrower range, between 0.67 and 0.83 days, which also strongly suggests that the current handling of the BNSF unit trains is inefficient.

³⁴ Under current operations, BNSF unit trains are broken into smaller cuts of cars, at times, by BNSF, TIT and UP, which causes the empty cars of a given train to be returned to BNSF generally on different days.

Exhibit 3-11
Train Cycle Times of BNSF and UP Unit Trains between
Galveston Arrival and Departure Locations, via TIT's Facility (June 2018)³⁵

Origin Railroad	Loaded Train Symbol (1)	Loaded Unit Train Arrived Galveston (Date and Time)	Empty Train or Last Empty Cut Returned to Originating Carrier (Date and Time)	Train Cycle Time (Days per Loaded Train)
BNSF	U MNSGAT7 26A	6/2/18 5:50 AM	6/7/18 3:51 PM	5.42
BNSF	G MSIGAT4 31A	6/4/18 7:31 PM	6/14/18 12:04 PM	9.69
BNSF	MSIGAT4-07A	6/13/18 4:25 AM	6/18/18 3:08 PM	5.45
BNSF	MSIGAT4-17A	6/19/18 8:05 PM	6/22/18 5:10 PM	2.88
BNSF	Average			5.86
UP	UEAWTG30	6/3/18 7:28 AM	6/4/18 3:00 AM	0.81
UP	UEUMTG06	6/10/18 10:20 PM	6/11/18 5:30 PM	0.80
UP	UEAWTG12	6/17/18 1:00 PM	6/18/18 8:48 AM	0.83
UP	UEAWTG19	6/25/18 4:45 AM	6/25/18 8:50 PM	0.67
UP	Average			0.78
Difference, BNSF vs. UP: Average Train Cycle Time			Amount	5.08
			Percent	654%
Notes:				
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.				

Here, train cycle times are illustrative of the overall service issues involving reciprocal switching operations, but do not identify the extent to which UP, BNSF, or TIT might be the source of inefficiencies or delays. Therefore, RLBA calculated the Car Elapsed Time to quantify the amount of time each car was in the possession and control of either UP, BNSF, or TIT.

³⁵ TREX e-workpaper, "Elapsed Time by Segments & Carrier.xlsx," tab "Current Cyc Elapse ULoad," cells B5:F23.

A.3.2. Car Elapsed Time

Car Elapsed Time in the railroad industry is the amount of time that a railcar is in the possession (on the track) of a railroad. This measurement is frequently used when it is necessary to manage the flow of cars through an operational location, such as a yard, or among several locations within a terminal area, such as the Galveston area in which the TIT facility is located. Car Elapsed Time also can be employed by a railroad to measure the amount of time a railcar is in the possession of a customer, such as TIT. Car Elapsed Time is important in RLBA's analysis of BNSF unit train service to TIT because it enabled RLBA to measure the amount of time the cars of a given BNSF unit train were under the responsibility of UP, BNSF, or TIT, as they moved in both the loaded and empty directions between BNSF's Valley Yard and TIT's facility.

Elapsed time is measured in an average number of days per car, and includes: 1) train switching or running time, and 2) dwell time. Train switching or running time is simply the time a car spends being moved between locations, such as between a yard and an industry. Dwell time is incurred by a railcar when it is not moving, most commonly while it is in a yard or on industry track. Dwell time tends to be the larger of the two components of elapsed time when car movement is evaluated within a terminal because the travel distances – hence running time – between locations tends to be much shorter than the time a car spends holding in a yard.

In RLBA's experience, differences among the service patterns of each railroad, such as the one-shift, Monday - Friday service pattern provided by UP vs. the 24/7 service pattern provided by BNSF and TIT, is a primary cause of significant dwell time because the cars flow unevenly from one railroad to another. Limits on track capacity and surges in traffic are some

other factors which can cause congestion in the flow of cars from one railroad to another and cause significant dwell time.

Car Elapsed Time is reported as the total average number of days that a car takes to complete a load - empty cycle, and the portion of that total that the car was in the possession and control of UP, BNSF, or TIT.³⁶ RLBA's analysis (Exhibit 3 - 12) shows that, on average, a car which arrived on a BNSF unit train required 4.80 days to complete a load – empty cycle (“cycle”) between BNSF Valley Yard and TIT's facility. UP was responsible for most of that time, 3.69 days (77 percent). BNSF was responsible for 0.41 days (9 percent), and TIT was responsible for 0.71 days (15 percent). TIT's Car Elapsed Time includes time switching cars between the TIT Industry Track yard and the TIT Loop tracks as well as time unloading cars between their arrival on and departure from the TIT Loop tracks.

³⁶ The starting and ending points in Galveston for measuring both TCT and Car Elapsed Time: BNSF trains - BNSF Valley Yard; and UP trains - UP/TIT Crew Change, and 1.25 miles east of 77th Street is the starting point and 77th Street is the ending point.

Exhibit 3 – 12
Car Elapsed Time for BNSF Unit Trains between
BNSF Valley Yard and TIT's Facility (June 2018)³⁷

			Car Elapsed Time by Handling Crew (2) (Average Days per Car)			
Origin Railroad	Loaded Train Symbol (1)	Number of Cars on	BNSF	TIT (3)	UP	Total
			Average Number of Days a Car was Controlled			
BNSF	U MNSGAT7 26A	94	0.10	0.95	3.74	4.79
BNSF	G MSIGAT4 31A	112	0.77	0.45	6.19	7.40
BNSF	MSIGAT4-07A	112	0.70	0.60	2.84	4.14
BNSF	MSIGAT4-17A	112	0.07	0.83	1.97	2.87
BNSF	Average		0.41	0.71	3.69	4.80
			Percentage of Total Days a Car was Controlled			
BNSF	U MNSGAT7 26A	94	2%	20%	78%	100%
BNSF	G MSIGAT4 31A	112	10%	6%	84%	100%
BNSF	MSIGAT4-07A	112	17%	14%	69%	100%
BNSF	MSIGAT4-17A	112	2%	29%	69%	100%
BNSF	Total		9%	15%	77%	100%
Notes:						
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.						
(2) Car Elapsed Time includes the time during which a car is loaded and empty during its cycle between BNSF Valley Yard and the TIT facility.						
(3) Car Elapsed Time for TIT includes time switching cars between the TIT Industry Track yard and the TIT Loop tracks, and time unloading cars between their arrival on and departure from the TIT Loop tracks.						

When the total average car elapsed time for BNSF unit trains (4.80 days per car) is contrasted with the value for UP unit trains (0.78 days per car) (Exhibit 3 – 13 below), it strongly suggests there are significant inefficiencies in the movement of the BNSF cars, to which UP is the primary contributor. This reinforces the same conclusion suggested by the preceding comparison of Train Cycle Times for BNSF and UP unit trains.

³⁷ TRES e-workpaper, "Elapsed Time by Segments & Carrier.xlsx," tab "Current Cyc Elapse ULoad", Cells B27:H50.

Exhibit 3 – 13
Car Elapsed Time for BNSF and UP Unit Trains between
TIT's Facility and BNSF Valley Yard or UP/TIT Crew Change (June 2018)³⁸

Origin Railroad	Loaded Train Symbol (1)	Number of Cars on Loaded Train	Car Elapsed Time by Handling Crew (2) (Average Days per Car)			
			BNSF	TIT (3)	UP	Total
BNSF	U MNSGAT7 26A	94	0.10	0.95	3.74	4.79
BNSF	G MSIGAT4 31A	112	0.77	0.45	6.19	7.40
BNSF	MSIGAT4-07A	112	0.70	0.60	2.84	4.14
BNSF	MSIGAT4-17A	112	0.07	0.83	1.97	2.87
BNSF	Average		0.41	0.71	3.69	4.80
UP	UEAWTG30	106	0.00	0.81	0.00	0.81
UP	UEUMTG06	106	0.00	0.80	0.00	0.80
UP	UEAWTG12	107	0.00	0.83	0.00	0.83
UP	UEAWTG19	107	0.00	0.67	0.00	0.67
UP	Average		0.00	0.78	0.00	0.78
Difference, BNSF vs. UP: Average Train Elapsed Time					Amount	4.02
					Percent	518%
Notes:						
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.						
(2) Car Elapsed Time includes the time during which a car is loaded and empty during its cycle between the TIT facility and BNSF Valley Yard or UP/TIT Crew Change.						
(3) Car Elapsed Time for TIT includes time switching cars between the TIT Industry Track yard and the TIT Loop tracks, and time unloading cars between their arrival on and departure from the TIT Loop tracks.						

The differences in the Car Elapsed Time between BNSF and UP unit trains while on each carrier, as shown in Exhibit 3 – 13 above, illustrates the significantly different roles of the

³⁸ TRES e-workpaper, "Elapsed Time by Segments & Carrier.xlsx," tab "Current Cyc Elapse ULoad", Cells O54:79.

carriers in handling BNSF minus UP unit trains. While all three carriers are involved in switching BNSF unit trains, only TIT is involved in switching the UP trains. UP incurs no measurable time because its inbound road crews deliver the trains directly to TIT on one of two tracks at which time the trains becomes the responsibility of TIT until TIT returns the empty trains to UP - a much more efficient process than BNSF unit trains must navigate. Therefore, TIT is responsible for all of the Car Elapsed Time, 0.78 days per car in connection with UP unit trains.

Car Elapsed Time is a useful metric in this study because total Car Elapsed Time for each train provides a more conservative and reasonable view of the load - empty cycle time than Train Cycle Time for each train. Car Elapsed Time is more conservative and reasonable, relative to Train Cycle Time, when applied to the BNSF unit trains because it accounts for the different dates and times when individual cuts of a BNSF unit train are interchanged to UP by BNSF and when they are returned empty to BNSF by UP - some earlier or later than others for a given train³⁹ – while Train Cycle Time is calculated on the date and time on which the last (worst case) empty cut is returned to BNSF by UP. Consequently, Total Car Elapsed Time for a train presents a faster (lower) cycle time than Train Cycle Time.

Total Car Elapsed Times and Train Cycle Times for BNSF and UP unit trains are presented side-by-side below in Exhibit 3 – 14. What is notable is that the Car Elapsed Time and the Train Cycle Time for UP trains is identical, which is consistent and indicative of a more efficient process and operation.

³⁹ See preceding Footnote 3.

Exhibit 3 – 14**Total Car Elapsed Time and Train Cycle Time for BNSF and UP Unit Trains Between TIT's Facility and BNSF Valley Yard or UP/TIT Crew Change (June 2018)⁴⁰**

Origin Railroad	Loaded Train Symbol (1)	Total Car Elapsed Time by Train (Average Days per Car) (2)	Train Cycle Time (Days per Loaded Train)
BNSF	U MNSGAT7 26A	4.79	5.42
BNSF	G MSIGAT4 31A	7.40	9.69
BNSF	MSIGAT4-07A	4.14	5.45
BNSF	MSIGAT4-17A	2.87	2.88
BNSF	Average	4.80	5.86
UP	UEAWTG30	0.81	0.81
UP	UEUMTG06	0.80	0.80
UP	UEAWTG12	0.83	0.83
UP	UEAWTG19	0.67	0.67
UP	Average	0.78	0.78
Difference, BNSF vs. UP: Average Train Elapsed Time		4.02	5.08
		518%	654%
Notes:			
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.			
(2) Car Elapsed Time includes the time during which a car is loaded and empty during its cycle between the TIT facility and BNSF Valley Yard or UP/TIT Crew Change.			

RLBA concludes based on its analysis and comparison of total Car Elapsed Time for BNSF and UP cars arriving at Galveston on loaded unit trains destined to TIT, that the rail operations for handling BNSF cars are significantly less efficient than those for handling UP cars, as evidenced by higher cycle times. On average, a car destined to TIT and arriving at Galveston on a loaded, BNSF unit train incurred 4.80 days to complete the load - empty cycle,

⁴⁰ TRES e-workpaper, "Elapsed Time by Segments & Carrier.xlsx," tab "Current Cyc Elapse ULoad", Cells X55:AA76.

518 percent longer than a car destined to TIT and arriving on a loaded, UP unit train, which incurred 0.78 days to complete a cycle. Additionally, UP is primarily responsible for the inefficient handling of BNSF unit trains. A car which arrived on loaded, BNSF unit trains was under the control of UP during an average of 77 percent (3.69 days on average) of the cycle time incurred.

A.3.3. Train Movements by Handling Crew

Activity measures, such as “train movements” and “crew time,” are important to a railroad’s ability to measure and manage the work effort expended in transporting customers’ freight. Activity measures, when multiplied by unit costs, enable railroads to estimate operating costs. There are many other activity measures in addition to the two mentioned above, such as man-hours, tonnage, and number of cars. Train movements and crew time are employed by RLBA in this analysis because they are most readily calculated from the database developed by TIT and RLBA.

The term “train movements” as used in this portion of RLBA’s analysis includes two of the four train movement activities in the train movement database compiled by TIT and RLBA: “Switch” and “Run Lite.” The other two activities are “Arrive” and “Depart.” All four are defined in a preceding section of this report,⁴¹ and the definitions of Switch and Run Lite are repeated here:

Switch - movement of cars from one track to another by a BNSF, TIT, or UP crew; and

⁴¹ RLBA Operations Report, Section II, Train Operations Data Collection Methodology.

Run Lite - also known as “lite power move,” is a movement of only a locomotive(s), without cars, from one location to another. As applied in this analysis, Run Lite includes the movement of a locomotive(s) between Switch moves.

The train movement counts, summarized below in Exhibit 3-15, represent the total switch moves and lite power moves made by BNSF, UP, and TIT crews in the course of advancing the cars of BNSF unit trains between BNSF’s Valley Yard and TIT’s facility. While no less than 19 moves were required to move any particular BNSF unit train, it was observed that on average, 23 train moves were performed in the course of handling the cars of one BNSF unit train.

Exhibit 3 – 15
Number of Train Moves by Handling Crew⁴²
For BNSF and UP Unit Trains (June 2018)

Origin Railroad	Loaded Train Symbol (1)	Loaded Unit Train Arrived Galveston (Date and Time)	Number of Cars on Loaded Train	Number of Train Moves by Handling Crew			
				BNSF	TIT	UP	Grand Total
BNSF	U MNSGAT7 26A	6/2/18 5:50 AM	94	2	12	5	19
BNSF	G MSIGAT4 31A	6/4/18 7:31 PM	112	6	12	9	27
BNSF	MSIGAT4-07A	6/13/18 4:25 AM	112	4	8	10	22
BNSF	MSIGAT4-17A	6/19/18 8:05 PM	112	2	14	8	24
BNSF	Average			3.5	11.5	8.0	23.0
Average Train Movments: Percent Distribution				15%	50%	35%	100%
UP	UEAWTG30	6/3/18 7:28 AM	106	0	3	0	3
UP	UEUMTG06	6/10/18 10:20 PM	106	0	3	0	3
UP	UEAWTG12	6/17/18 1:00 PM	107	0	3	0	3
UP	UEAWTG19	6/25/18 4:45 AM	107	0	3	0	3
UP	Average			0.0	3.0	0.0	3.0
Average Train Movments: Percent Distribution				0%	100%	0%	100%
Diference, BNSF vs. UP: Average Total Number of Train Moves						Amount	20.0
						Percent	700%
Notes:							
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.							
(2) The number of train movements associated with UP unit trains reflect counts that have been manually increased, by RLBA, by one train movement above those calculated from the TIT - RLBA database.							
This was done to correctly reflect the fact that TIT splits each inbound loaded UP unit train into two cuts and switches each cut into its facility separately due to the track configuration within the facility.							

A.3.4. Crew Time by Handling Crew

Crew time, as measured by RLBA in this study, is the sum of the running time incurred by a BNSF, TIT, or UP crew while accomplishing switching and lite power moves related to handling cars from a BNSF or UP unit train. Therefore, crew time does not include time which

⁴² TREX e-workpaper, "1 JWM KH 08-27-18 V(2) KH 8-10-18 with BNSF Data Data collection sheet.xlsx," tab "Master Summary CURRENT", cells B12:I37.

a crew incurred switching only cars associated with other customers and a few cars destined TIT which did not arrive via a BNSF or UP unit train. The UP crew which serves TIT also regularly serves MI Swaco and Sullivan Land & Cattle Co.

As with the Car Elapsed Time analysis of the UP unit trains, TIT has the sole responsibility/activity for UP cars as soon as a train is handed off from UP to TIT and is responsible for these trains until they are returned to UP. TIT's handling of the UP unit trains demonstrates a much more efficient operation than that which occurs regarding the transport of BNSF unit trains, which consume, on average 287 percent more crew time to be advanced through the load - empty cycle than do UP unit trains, as shown in Exhibit 3 – 16 below.

Exhibit 3 – 16
Crew Time by Handling Crew for
BNSF Unit Trains (June 2018)⁴³

Origin Railroad	Loaded Train Symbol (1)	Loaded Unit Train Arrived Galveston (Date and Time)	Number of Cars on Loaded Train	Crew Time by Handling Crew (HH:MM)			
				BNSF	TIT	UP	Grand Total
BNSF	U MNSGAT7 26A	6/2/18 5:50 AM	94	1:01	2:32	3:28	7:01
BNSF	G MSIGAT4 31A	6/4/18 7:31 PM	112	1:32	2:53	5:35	10:00
BNSF	MSIGAT4-07A	6/13/18 4:25 AM	112	1:32	2:53	6:02	10:27
BNSF	MSIGAT4-17A	6/19/18 8:05 PM	112	1:11	3:27	5:00	9:38
BNSF	Average			1:19	2:56	5:01	9:16
UP	UEAWTG30	6/3/18 7:28 AM	106	0:00	1:57	0:00	1:57
UP	UEUMTG06	6/10/18 10:20 PM	106	0:00	2:10	0:00	2:10
UP	UEAWTG12	6/17/18 1:00 PM	107	0:00	2:02	0:00	2:02
UP	UEAWTG19	6/25/18 4:45 AM	107	0:00	3:26	0:00	3:26
UP	Average			0:00	2:23	0:00	2:23
Difference, BNSF vs. UP: Average Crew Time						Amount	6:52
						Percent	287%
Notes:							
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.							

B. Proposed BNSF Operations Over the TREX Proposed Track

Based upon analysis of the existing operations, an understanding of the proposed alignment(s) of the TREX proposed track and discussion with BNSF, RLBA composed primary and secondary proposed operating plans by which BNSF trains would serve TIT directly via the TREX-proposed track. The primary plan is the focus of the following analysis and discussion because it reflects how the BNSF unit trains are expected to be handled most of the time. The

⁴³ TREX e-workpaper, "1 JWM KH 08-27-18 V(2) KH 8-10-18 with BNSF Data Data collection sheet.xlsx," tab "Master Summary CURRENT", cells B45:I64.

purpose of the secondary plan is to establish an alternate approach to handling the BNSF unit trains when any number of random events (weather, derailment, change in commodity market, changed ship schedule, etc.) might occur and cause BNSF and/or TIT to change their day-to-day operating plans. Detailed descriptions of both plans are provided in Appendices 3 – 3 (primary plan) and 3 – 4 (secondary plan).

B.1. Primary Proposed Operating Plan

RLBA has developed a Proposed Operating Plan in which BNSF crews operate into and out of the loop tracks in TIT's facility, and has reviewed this plan with BNSF. In the following discussion, running times and times during which UP property would be occupied assume trains operate over TREX's preferred alignment, Blue Option, "B" Alternate ("Blue – B").⁴⁴ The length of the TREX-proposed track in this alignment is 2,823 feet.⁴⁵ The Proposed Operating Plan is summarized as follows and envisions that:

1. BNSF crews would operate into the loop tracks in TIT's facility;
2. TIT would release the empty train back to BNSF within approximately 24 hours of BNSF completing delivery of the loaded train, so BNSF would leave the locomotives on the train after delivering it;
3. BNSF would deliver the inbound loaded train to TIT in one cut, as a solid unit train (0.62 hours running time);
4. BNSF would transport its crew from TIT to Valley Yard;

⁴⁴ Calculations for the Blue – A, Green – A and Green – B alignments are presented in Appendix 3 – 2.

⁴⁵ Second Verified Statement of R. Lee Meadows, Jr., P.E., on behalf of Texas Railway Exchange LLC, February 20, 2019, p. 1.

5. TIT would cut and place the train on its two tracks, “A” Loop and “B” Loop, within its facility;
6. BNSF would fuel the locomotives and repair bad-ordered cars that have been set out by TIT, as-needed, at TIT’s facility;
7. After TIT unloads the train, it would re-assemble the empty cars into an outbound unit train, perform the air brake test and switch-out bad-order cars as-needed. It was originally anticipated that reassembly would occur east of the proposed diamond crossing; however, in the final assembly (doubling the train together) of the outbound train, and based on how UP-TIT unit trains are presently reassembled, the front portion of the unit train would be pulled westward, out of TIT’s facility onto the TREX proposed track and occupy the diamond crossings; and
8. A TIT crew would then operate the train and deliver it to BNSF at its Valley Yard.

Since all of the above movements would occur on BNSF track, the TREX proposed track and track wholly within TIT’s facility, at no time would locomotives or cars of BNSF unit trains occupy the train landing or railcar storage tracks located on UP property.

This proposed operating plan would entail a total of two train movements (one inbound movement by BNSF and one outbound movement by TIT) across the TREX proposed diamond crossings, for each inbound loaded train – outbound empty train cycle. The train movements, with: 1) estimated running times between BNSF Valley Yard and TIT, 2) amounts of time each movement would occupy UP’s two diamond crossings, and 3) amounts of time each movement would occupy UP property, are summarized in Exhibit 3 – 17 below. This analysis shows that a loaded, 112-car train operating on the TREX-proposed track would occupy the diamond

crossings of the two UP tracks and one TIT track for 0.47 hours⁴⁶ (28 minutes), and that its companion empty train on return would occupy them for 0.87 hours⁴⁷ (52 minutes).

⁴⁶ In Table 3 – 7, the sum of the first three values (0.28 + 0.02 + 0.20 hours) under the heading, “Occupy Diamonds Between Clearance Points,” produces 0.50 hours because they represent the three train movements required to deliver the inbound loaded train.

⁴⁷ In Table 3 – 7, the fourth value under the heading, “Occupy Diamonds Between Clearance Points,” is 0.47 hours, which is the running time of the outbound empty train.

Exhibit 3 - 17
Run Times and Occupancy Times on UP Property
Under the TREX Proposed Operating Plan Assuming the “Blue – B” Alignment⁴⁸

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.62	0.47	0.47	0.47	0.48
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.87	0.88
Total Time (Hours)					1.70	1.34	1.34	1.34	1.36
Total Time (Minutes)					102	80	80	80	82
Distance (feet)					2,823	295	233	370	600

⁴⁸ TREX e-workpaper, “# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx,” tab, “Run & Occupy Times Sumry,” Cells B5:J10. Calculations for the Blue – A, Green – A and Green – B alignments are presented in Appendix 3 – 2.

This plan is based on the assumption that the longest BNSF unit train consist would not exceed the length of the longest such train observed in June 2018, 112 cars of fertilizer. It also reflects the assumption that such trains would be powered by two locomotives on the head-end and one on the rear, operating in distributed power (“DP” or “DPU”) mode, based upon BNSF’s indication that this is the typical locomotive configuration on these trains. TIT indicated that it also commonly unloads 98-car trains of ethanol, composed of 96 loaded cars and two buffer cars.

The estimated amount of time which BNSF and TIT would require completing the three-step cycle of delivering a loaded train, unloading it and returning the empty train (Train Cycle Time) is 31.15 hours (1.30 days). RLBA calls this the “Practical Train Cycle Time” because it includes an allowance of 4.07 hours (15 percent) for random delays and variability in operations which are regular factors in day-to-day railroad operations. The components of the 31.15-hour practical cycle time are summarized below in Exhibit 3 - 18

Exhibit 3 - 18
Summary Components of the Practical Train Cycle Time per
Loaded Train which would be Generated by the Proposed Operating Plan Assuming the
“Blue – B” Alignment⁴⁹

Components	Hours per Cycle
Inbound dwell at BNSF Valley Yard	0.06
Running time: inbound loads	0.62
Unloading	23.23
Air brake test, bad orders & fuel	5.87
Running time: outbound empties	1.08
Crew communication time	0.29
Total practical cycle time	31.15

⁴⁹ TREX e-workpaper, “# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx,” tab, “Summary Cycle Components,” Cells D5:E11.

The precursor to Practical Train Cycle Time is Theoretical Train Cycle Time, which assumes perfect world train operations and includes no allowance for random delays and variability in train operations.

The amounts of time associated with the individual train and crew movements is presented in the proposed operating plan matrix (Appendix 3 – 3), and is summarized below:

- Inbound dwell time at BNSF Valley Yard is expected to amount to only an incidental amount of time (0.06 hours, 3 – 4 minutes) during which the BNSF crews obtain permission or clearance to proceed across the diamond crossings;
- Running time on inbound loads reflects the time during which the BNSF crew would operate the entire train directly from Valley Yard to TIT's facility in one trip;
- Unloading time is the largest component of estimated train cycle time under the proposed operating plan. It is calculated on the assumed unloading of 112 cars at an average unloading rate of 0.18 hours per car. The average rate is based upon TIT's experience and seems reasonably proximate to the rate required to unload UP unit trains (0.14 hours per car);
- Air brake test, switch out bad orders and fuel locomotives includes factors which reflect TIT's experience performing air brake tests, switching out bad order cars and fueling locomotives on UP Unit Trains;
- Running time on outbound empties includes the running time of just one trip across the TREX-proposed track by BNSF from TIT's facility to BNSF's Valley Yard, with the entire, assumed 112-car, empty train;

- Crew communication time includes time during which the TIT crew contacts the BNSF Valley Yard yardmaster to obtain permission into the yard and other instructions. The TIT crew also would contact UP and or other crews in the area to obtain permission/clearance to operate across the diamond crossings; and
- Allowance for random delays, 15 percent, was determined by RLBA to be appropriate based upon its railroad operating experience and consulting work in rail network capacity analysis.

B.2. Control of Train Movements across the Diamond Crossings

While railroads commonly cross one another through the use of overpasses, underpasses, and bridges, one of the most common methods used by railroads is a crossing at grade, more commonly referred to as a diamond crossing. Diamond crossings are track configurations that allow two or more railroad tracks to cross one another, at any angle from 15° to 90°. The point where the tracks intersect forms the appearance of a diamond within the track structure hence, the name, diamond crossing.

B.2.1. Control and Permission

The TRENX-proposed track would cross three tracks. From south to north, TRENX would cross two tracks owned by UP (#611 and #102) and one track owned by TIT (#756). The TRENX-proposed track will be built as a common carrier rail line and TRENX will grant trackage rights to BNSF which will authorize BNSF to operate over it. TIT is a private industry and its tracks are designated as “industry track.” TIT would continue to operate over its track to switch UP unit trains into and out of its facility, so the execution of control and awarding of permission to occupy the diamond crossings will require coordination among BNSF, UP and TIT.

In this proceeding, with BNSF operating over TREX, and both crossing UP at-grade, one railroad was established first at the location of the diamond crossing (UP), followed by a second (TIT when it acquired the parallel #756 track from UP) and the third railroad (TREX, with BNSF as an operator) coming along later. The original railroad is normally the one in control of the crossing and grants access to the other railroad(s) either willingly or by law. These types of railroad crossings at grade are commonly covered in "joint facilities" agreements between the railroads involved. Usually the second railroad, and others to follow if more than one, will carry the burden and the cost of maintaining the diamond crossing.

Depending upon the signal rules in effect governing train movements on each railroad at the diamond crossing location, these joint facilities agreements can be complex. Diamond crossings are technically considered interlockings,⁵⁰ where the operations of both railroads are "interlocked" at the crossing location, thereby insuring only one train movement at a time can be authorized over the crossing. The signal rules in effect at the diamond crossing also will determine the employee or method by which train movements are authorized over the crossing. Fortunately, at the location of the proposed diamond location, both UP currently and BNSF and TREX in the future would operate train movements under the authority of "Yard Limits" as specified within the General Code of Operating Rules (GCOR)⁵¹, which is explained below. TIT

⁵⁰ GCOR gcor-effective-2015-04-01 most current as of 2018 09-04.pdf, "Interlocking" defined at General Code of Operating Rules, Seventh Edition, Effective April 1, 2015, "Signal appliances that are interconnected so that each of their movements follows the other in a proper sequence. Interlockings may be operated manually or automatically;" p. GL-3

⁵¹ The General Code of Operating Rules (GCOR) is authored by a committee comprised of railroad company representatives, and these rules have been adopted by the Class I Railroads west of the Mississippi River and by the Class II Railroads.

operates over Track 756 and its other industry track in the same manner as UP applies to its crews when operating on industry track.⁵²

RLBA assumes that UP will want to control the two, proposed, diamond crossings on its tracks and will authorize BNSF movements through permission from its local yardmaster, other designated employee, or simply apply a “first come – first served” movement authorization in its Operating Timetable Instructions using the “Yard Limits” rule. All such authorization and coordination would occur via radio. RLBA also assumes that TIT would control the one proposed diamond crossing on its track and, likewise, would authorize BNSF movements via radio.

B.2.2. Yard Limits

UP General Code Operating (UP – GCOR) Rule 6.13⁵³ states: “Within yard limits, trains or engines are authorized to use the main track not protecting against other trains or engines. Engines must give way as soon as possible to trains as they approach. Engines must keep posted as to the arrival of passenger trains and must not delay them. All movements entering or moving within yard limits must be made at restricted speed unless operating under a block signal indication that is more favorable than Approach. Yard limits remain in effect continuously unless otherwise specified by special instructions or track bulletin.”

Further, the UP General Code of Operating Rules (UP - GCOR) Rule 6.28,⁵⁴ Movement on Other than Main Track, which applies to yard limits states: “Except when moving on a main

⁵² Krista Hall (TIT) conversations with John McLaughlin (RLBA).

⁵³ UP Gen Code of Operating Rules 2018.pdf, “UPRR - General Code of Operating Rules, Seventh Edition, Effective April 1, 2015, Includes Updates as of July 12, 2018, PB-20280,” Rule 6.13: Yard Limits.

⁵⁴ UP Gen Code of Operating Rules 2018.pdf, “UPRR - General Code of Operating Rules, Seventh Edition, Effective April 1, 2015, Includes Updates as of July 12, 2018, PB-20280,” Rule 6.28: Movement on Other than Main Track.

track or on a track where a block system is in effect, trains or engines must move at a speed that allows them to stop within half the range of vision short of:

- Train
- Engine
- Railroad car
- Men or equipment fouling the track
- Stop signal or,
- Derail or switch lined improperly.”

B.2.3. Signal Rules and Protection

Signal Rules in effect determine the appropriate type of signage and protection at a diamond crossing. These can be anything from a stop sign on a wooden gate, to an illuminated signal light, to an automated multi-aspect block, or train movement signal.

Given that yard limits are in effect in and around this location, and the low number of trains (4.97 per day, on average) passing through the area of the diamond crossings, RLBA suggests that a simple stop sign or other fixed signal would be appropriate protection of the UP diamonds.

Once authorized by UP via one of the methods outlined in the Control & Permission section above, a BNSF crew would advance its trains across the diamond crossings. Once the movement is complete and, depending upon the method of authorization required by UP, the BNSF crew may be required to report “clear” or, that they have finished their movement and that the UP track is no longer blocked.

B.3. Average Train Speed

RLBA calculated two average speeds to estimate running times in the proposed operating plan: average speed of switching moves and an average speed of lite power moves. Since a lite power move has no cars coupled to the locomotive, it generally runs at a faster speed than a switching move, which is slowed by the weight of cars coupled to the locomotive. The average speed of TIT switching moves was calculated at 3.40 MPH and the average speed of TIT lite power moves was calculated at 4.09 MPH.⁵⁵

RLBA calculated these average speeds by employing the run time from each switch move and each lite power move in the data collected by TIT and the distances travelled by TIT crews between the TIT Industry Track yard and the TIT Loop Tracks, as measured in Google Earth. To be conservative in measuring the travel distances, RLBA assumed that the end-point in the TIT Industry Track yard always would be the west-end clearance point of Track 811, which is the third-farthest track, of the four tracks in that yard, from the TIT Loop. The Loop Track end point is the mid-point at which the TIT lead track crosses Port Industrial Road. The route and distance that a TIT lite power move would travel between these two points (1,870 feet⁵⁶) is illustrated in the following Google Earth image, Exhibit 3 - 19, and the track diagram, Exhibit 3 - 20. This is the first step in the six-step process applied by RLBA to measure the travel distance so it would vary with the length of the cut of cars handled in each move.

⁵⁵ The average speeds were developed from TIT switching moves, instead of BNSF moves, because the TIT – RLBA contains far more switching moves by TIT crews and locomotives than by BNSF crews and locomotives, which, in RLBA’s judgement, would provide more reliable estimates of average speeds of switching and lite power moves. Given that operations in the subject territory are conducted within yard limits at restricted speed over generally short distances, RLBA would not expect material differences in average speeds between TIT and BNSF crews and power.

⁵⁶ TREX e-workpaper, “Speed and Run Time WORK.xlsx,” tab “Speeds Work”, cells J23:43.

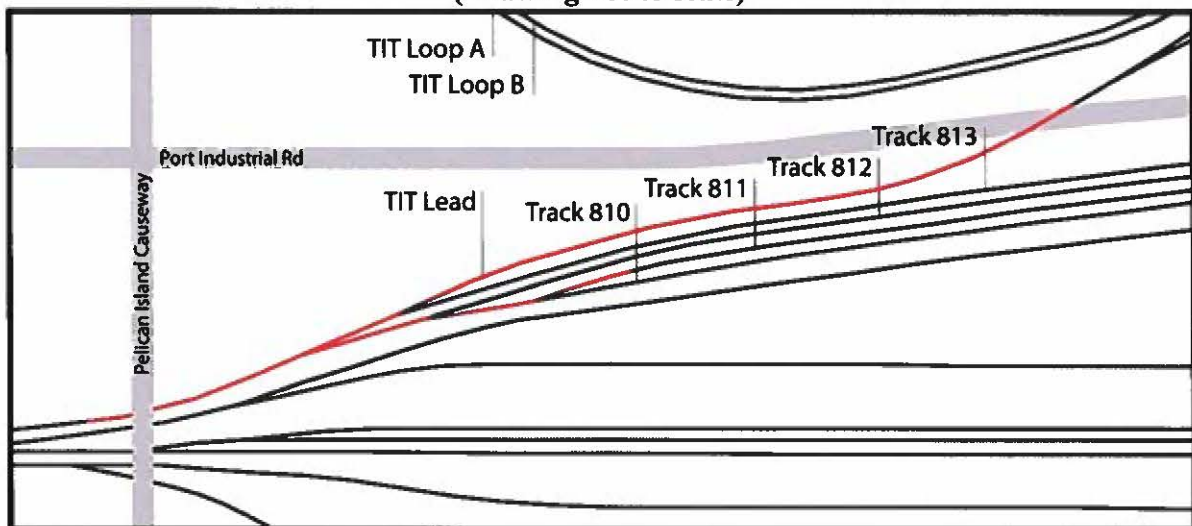
Exhibit 3 - 19

Route Applied to Measure Travel Distance of a TIT Lite Power Move⁵⁷
(The route is the yellow lines with red dots.)



Exhibit 3 - 20

Route Applied to Measure Travel Distance of a TIT Lite Power Move⁵⁸
(Drawing not to scale)



⁵⁷ TREX e-workpaper, "TIT Industry – Loops Lite Pwr run.jpg."

⁵⁸ TREX e-workpaper, "LCLORC13 Ex 3-3.jpg."

Second, RLBA calculated the average speed of the lite power moves by identifying 21 lite power moves in which the TIT locomotive traveled between its facility and the TIT Industry yard during the June 2018 study period.⁵⁹ The 1,870-foot distance between TIT Industry Track and the TIT facility was divided by the running times of all 21 lite power moves. The range of the resulting average train speeds is 1.25 to 21.24 MPH⁶⁰.

Third, the slowest speed and the fastest speed were excluded, leaving 19 moves and a range of 1.33 to 5.31 MPH,⁶¹ over which the overall average speed of TIT lite power moves (4.09 MPH) was then calculated. The overall average and individual average speeds are conservative because each of the 19 lite power moves included in this calculation includes one instance in which the train had to stop and reverse directions, meaning the train would decelerate (brake), stop, and accelerate in the opposite direction, which situation would not occur in the course of a continuous, non-stop move.

Fourth, RLBA then identified 25 switch moves in which TIT moved loaded or empty cars between its facility and the TIT Industry Track yard⁶² and calculated the distanced travelled by each move. The distance travelled by the TIT crew to complete each move has two components: 1) the 1,870 feet that the crew would travel were it simply a lite power move plus 2) the additional distance that the crew would travel when pulling and shoving the cut of cars handled in each move, the length of which varies. The length of that cut was calculated as follows:

⁵⁹ TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work", cells E23:T43.

⁶⁰ TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work", cells Q23:Q43.

⁶¹ TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work", cells Q24:Q42.

⁶² TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work", cells E44:T68.

Distance travelled by a TIT crew when transporting a cut of cars between the TIT Industry Yard and the TIT Loop tracks =

Number of Cars Handled in a Cut of Cars x Typical Length of 1 Car (60 feet⁶³) x 2
(because the length of each cut is travelled twice when switching from one track to another: once pulling and once shoving)
+ Distance Travelled by a Lite Power Move (1,870 feet).

Fifth, the average train speed at which each cut was handled is the distance travelled by each cut of cars divided by the amount of switching time the TIT crew took to complete the move. The range of the resulting average train speeds is 1.54 to 5.67 MPH.⁶⁴ As noted in the calculation of the speeds for light power moves, the speeds are conservative because each of the 25 switching moves included in this calculation includes one instance in which the train had to stop and reverse directions, meaning the train would decelerate (brake), stop, and accelerate in the opposite direction, which situation would not occur in the course of a continuous, non-stop move.

Sixth, the slowest speed and the fastest speed were excluded, leaving a range of 1.96 to 5.28 MPH⁶⁵ over which the overall average train speed (3.40 MPH) was then calculated.

The 3.40 MPH overall average train speed was applied to all of the trips BNSF would make between its Valley Yard and the TIT facility in the course of delivering one loaded and pulling its corresponding empty train. It is appropriate to apply the average speed of a TIT crew to the proposed operation of a train by a BNSF crew because all of these operations occur/will

⁶³ 60 feet is the typical length of a covered hopper car in which BNSF transports fertilizer to TIT and fertilizer was the commodity hauled in the four trains delivered to and pulled from TIT during June 2018. Tank cars employed to transport ethanol or crude oil, the other two predominant commodities transported by BNSF to TIT in recent history, are typically 60' 3.5" long. The 3.5" difference in car length between a covered hopper car and a tank car is not material in this analysis because the fertilizer trains typically are significantly longer (112 cars vs. 98 cars) than the ethanol and crude oil trains which TIT has handled.

⁶⁴ TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work," cells Q44:Q68.

⁶⁵ TREX e-workpaper, Speed and Run Time WORK.xlsx, tab "Speeds Work," cells Q45:R67.

occur over track on which speed is governed or will be governed by the same operating rules regarding yard limits⁶⁶ and movement on other than main track. Both topics were explained in preceding sub-sections⁶⁷ and the especially relevant section is repeated here for convenience. The maximum allowable speed on BNSF and UP in vicinity of the TREX proposed track is generally very slow as governed by the General Code of Operating Rules (GCOR)::

“Except when moving on main track or on a track where a block system is in effect, trains or engines must move at a speed that allows them to stop within half the range of vision short of: train, engine, railroad car, men or equipment fouling track, stop signal or derail or switch improperly lined.”⁶⁸

B.4. Manifest Traffic

RLBA understands that TIT currently expects it will continue to ship outbound loaded carloads in less-than-unit train (manifest train service) quantities, as it had in the past, and it will continue to route some of those shipments via BNSF which would require UP’s reciprocal switch service. This is because it will allow operational flexibility for TIT and permit it to stage inbound empty railcars, needed to support the outbound loads, in its TIT Industry Track. Should a future arrangement with BNSF enable TIT to stage empty equipment on BNSF track that is proximate to the TREX proposed track, TIT would consider moving the BNSF manifest service traffic directly with BNSF via TREX.

⁶⁶ UP Houston Area Timetable #4 Eff 2007 07-30.pdf, “Union Pacific Houston Area Timetable #4, Effective 0900 Monday, July 30, 2007,” Galveston Subdivision, “SI-01 Main Track Authority, Yard Limits between ...MP43.3 and 46.4,” page 26.

⁶⁷ Sub-sections B.2.1 Control and Permission and B.2.2 Yard Limits, pp. 53 – 56.

⁶⁸ GCOR gcor-effective-201504-01 most current as of 2018 09-04.pdf, “General Code of Operating Rules (GCOR) Seventh Edition, Effective April 1, 2015,” Rule 6.28 Movement on Other than Main Track, p. 6-13.

TIT has forecasted that it expects to continue shipping carloads in manifest train service via UP's reciprocal switch to BNSF in 2019.⁶⁹

B.5. Outbound Loaded Unit Trains at TIT

RLBA also understands that TIT may load outbound unit trains at its facility. TIT has indicated that it presently expects these trains would be composed of 65 to 85 cars. TIT has not discussed the specific handling requirements of these trains with BNSF and UP. Consequently, the number of switching and lite power moves that a typical outbound loaded train, and its associated inbound empty train, might make across the diamond crossings can only be considered in "ball-park" terms at this time. RLBA would expect, based upon its experience, that such a load – empty cycle would require approximately two to eight moves depending upon TIT's and the railroads' requirements.

C. Impacts of the Proposed Operating Plan

The proposed operating plan will result in significant operational efficiencies, including reduced and improved train cycle times, car elapsed times, train movements, and crew time.

C.1. Reduced and Improved Train Cycle Time

As a result of eliminating inefficient and environmentally damaging dwell time and switching moves, BNSF operation over the TREX-proposed track would result in an estimated average train cycle time of 1.30 days per train, 78 percent faster than the 5.86 days per train average experienced by BNSF unit trains in June 2018, as illustrated in Exhibit 3 – 21 below.

⁶⁹ TREX e-workpaper, "1-27-19 Rail Cargo Totals 2015 – 2019.xlsx," tab "SUMMARY," cell L33.

Exhibit 3 – 21
Train Cycle Time: BNSF / TREX Proposed Operation of BNSF Unit Trains
Compared with June 2018 Operations⁷⁰

	June 2018 Operations	Proposed Operating Plan	
Loaded Train Symbol (1)	Train Cycle Time (Days per Loaded Train)	Train Cycle Time (Days per Loaded Train)	Percentage Change in Train Cycle Time from June 2018 Operations
U MNSGAT7 26A	5.42	1.30	-76%
G MSIGAT4 31A	9.69	1.30	-87%
MSIGAT4-07A	5.45	1.30	-76%
MSIGAT4-17A	2.88	1.30	-55%
Average	5.86	1.30	-78%
Notes:			
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.			

C.2. Reduced Car Elapsed Time and Improved Cycle Time

Service to TIT and cycle time on the railroad-owned and privately-owned railcars employed in this service would improve significantly because the operation of BNSF unit trains directly to and from TIT's facility would reduce wasteful dwell time and switching moves incurred under the current operation. Total average car elapsed time (a.k.a. car cycle time) per car would decline by 73 per cent from 4.80 days per car to 1.30 days per car as illustrated below in Exhibit 3- 22.

⁷⁰ TREX e-workpaper, "Elapsed Time by Segments & Carrier.xlsx", tab "Proposed Cyc Elapse Summary", cells C16:F26.

Exhibit 3 – 22
Car Elapsed Time: BNSF / TREX Proposed Operation of BNSF Unit Trains
Compared with June 2018 Operations⁷¹

Loaded Train Symbol (1)	June 2018 Operations				Proposed Operating Plan							
	Car Elapsed Time by Handling Crew (2) (Average Days per Car)				Car Elapsed Time by Handling Crew (2) (Average Days per Car)				Percent Change in Car Elapsed Time from June 2018 Operations			
	BNSF	TIT (3)	UP	Total	BNSF	TIT (3)	UP	Total	BNSF	TIT (3)	UP	Total
U MNSGAT7 26A	0.10	0.95	3.74	4.79	0.03	1.27	0.00	1.30	-70%	34%	-100%	-73%
G MSIGAT4 31A	0.77	0.45	6.19	7.40	0.03	1.27	0.00	1.30	-96%	182%	-100%	-82%
MSIGAT4-07A	0.70	0.60	2.84	4.14	0.03	1.27	0.00	1.30	-96%	112%	-100%	-69%
MSIGAT4-17A	0.07	0.83	1.97	2.87	0.03	1.27	0.00	1.30	-57%	53%	-100%	-55%
Average	0.41	0.71	3.69	4.80	0.03	1.27	0.00	1.30	-93%	80%	-100%	-73%
Notes:												
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.												
(2) Car Elapsed Time includes the time during which a car is loaded and empty during its cycle between BNSF Valley Yard and the TIT facility.												
(3) Car Elapsed Time for TIT includes time switching cars between the TIT Industry Track yard and the TIT Loop tracks, and time unloading cars between their arrival on and departure from the TIT Loop tracks.												

⁷¹ TREX e-workpaper, "Elapsed Time by Segments & Carrier.xlsx", tab "Proposed Cyc Elapse Summary", cells H15:T32.

The primary cause of this improvement would be the elimination of 3.69 days per car in BNSF unit trains no longer being under the control of UP during the latter's reciprocal switching of cars between BNSF and TIT. BNSF also would eliminate nearly all (93 percent) of the car-days for which it currently is responsible, from 0.41 days per car to 0.03, by delivering the entire unit train directly to TIT.

Under the TREX operating plan, the elimination of TIT dwell time at its TIT Industry Track yard and the associated switching between that track and TIT's Loop tracks will save TIT some car elapsed time. However, RLBA's conservative operating plan includes an increase in Car Elapsed Time, from 0.71 to 1.27 days, attributable in part to being very conservative in estimating the amount of time which would be required to unload and reassemble a 112-car fertilizer train, roughly 29 hours.

C.3. Reduced Train Movements and Improved Efficiency

Construction of the TREX-proposed track would enable BNSF to deliver unit trains directly to TIT and would result in significant reductions in train movements in Galveston which likely would directly and/or indirectly impact public safety and welfare in Galveston, including reduced locomotive emissions in this non-attainment region. The reductions in train movements and associated efficiencies resulting from the new direct rail service would also improve the efficiency and capacity of the local Galveston train operations and, by extension, that of the national rail network.

As illustrated in Exhibit 3 – 23, below, the average number of switch movements (train movements which handle railcars) would decline 85 percent, from 13.25 switch moves per train in June 2018, to 2.00. The average number of train moves across the Port Industrial Road grade crossing would decline 83 percent, from 11.50 per train to 2.00 per train and the average total

number of train movements to handle one BNSF unit train would decline 91 percent, from 23.00 train movements per day to 2.00 per train. (The locations of these values in the exhibit are highlighted in footnotes 3, 4 and 5 of the Exhibit.)

Exhibit 3 – 23 also illustrates the Proposed Operating Plan’s anticipated elimination of UP’s switching of BNSF unit train traffic and elimination of switching BNSF unit trains by TIT outside TIT’s facility. Train movements by BNSF to handle unit trains over the TREX-proposed track to and from TIT’s facility will result in a 71 percent reduction in the average total number of moves (from 3.50 to 1.0) required to handle one unit train.

Exhibit 3 – 23

Train Movement Counts: BNSF / TREX Proposed Operation of BNSF Unit Trains Compared with June 2018 Operations⁷²

Loaded Train Symbol (1)	Activity	June 2018 Operations				Proposed Operating Plan							
		Number of Train Moves by Handling Crew				Number of Train Moves by Handling Crew				Percent Change in Number of Moves from June 2018 Operations			
		BNSF	TIT (2)	UP	Total	BNSF (2)	TIT	UP	Total	BNSF	TIT	UP	Total
G MSIGAT4 31A	Run Lite	3	6	1	10	0	0	0	0	-100%	-100%	-100%	-100%
	Switch	3	6	8	17	1	1	0	2	-67%	-83%	-100%	-88%
G MSIGAT4 31A Total		6	12	9	27	1	1	0	2	-83%	-92%	-100%	-93%
MSIGAT4-07A	Run Lite	2	4	5	11	0	0	0	0	-100%	-100%	-100%	-100%
	Switch	2	4	5	11	1	1	0	2	-50%	-75%	-100%	-82%
MSIGAT4-07A Total		4	8	10	22	1	1	0	2	-75%	-88%	-100%	-91%
MSIGAT4-17A	Run Lite	1	5	4	10	0	0	0	0	-100%	-100%	-100%	-100%
	Switch	1	9	4	14	1	1	0	2	0%	-89%	-100%	-86%
MSIGAT4-17A Total		2	14	8	24	1	1	0	2	-50%	-93%	-100%	-92%
U MNSGAT7 26A	Run Lite	1	6	1	8	0	0	0	0	-100%	-100%	-100%	-100%
	Switch	1	6	4	11	1	1	0	2	0%	-83%	-100%	-82%
U MNSGAT7 26A Total		2	12	5	19	1	1	0	2	-50%	-92%	-100%	-89%
Average: Run Lite		1.75	5.25	2.75	9.75	0.00	0.00	0.00	0.00	-100%	-100%	-100%	-100%
Average: Switch (3)		1.75	6.25	5.25	13.25	1.00	1.00	0.00	2.00	-43%	-84%	-100%	-85%
Average: Total (4)		3.50	11.50	8.00	23.00	1.00	1.00	0.00	2.00	-71%	-91%	-100%	-91%
-83% Change in Grade Crossing Train Movements (5)													
Notes: (1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads. (2) All train movements cross the Port Industrial Rd. grade crossing. (3) Percentage change in the Average Total Number of Switch Moves (-85%) appears in the "Total" column under "Percentage Change in Number of Moves...". Switch Moves are train movements which handle railcars. (4) Percentage change in the Average Total Number of Train Movements (-91%) appears in the "Total" column under "Percentage Change in Number of Moves...". (5) Percentage change in the Number of Movements across Port Industrial Road Grade Crossing per Train (-83%).													

⁷² TREX e-workpaper, "1 JWM KH 08-27-18 V(2) KH 8-10-18 with BNSF Data Data collection sheet.xlsx," tab, "Acty Sumry % Chng Handlg Ca 2," cells B7:O37.

C.4. Reduced Crew Time and Improved Efficiency

On average, the amount of crew time incurred moving a BNSF unit train between Valley Yard and TIT would decline 72 percent, from 9 hours and 16 minutes to 2 hours and 37 minutes, under the proposed operating plan, indicating a vast improvement in the efficiency of handling the TIT traffic moving via BNSF. Please see Exhibit 3 – 24 below. BNSF's crew time would decrease 26 percent, from an average 1 hour and 19 minutes per train to 58 minutes. TIT's average crew time per train would decline 43 percent, from 2 hours and 56 minutes to 1 hour and 39 minutes, the latter associated with assembling the outbound empty time and delivering the train to BNSF. In contrast, time dedicated to the handling of BNSF unit trains by UP crews would decline to zero because UP would no longer handle BNSF unit train traffic between BNSF Valley Yard and TIT under the proposed operating plan.

Exhibit 3 – 24
Crew Time: BNSF / TREX Proposed Operation of BNSF Unit Trains
Compared with June 2018 Operations⁷³

Loaded Train Symbol (1)	June 2018 Operations				Proposed Operating Plan							
	Crew Time by Handling Crew (HH:MM)				Crew Time by Handling Crew (HH:MM)				Percent Change in Crew Time from June 2018 Operations			
	BNSF	TIT	UP	Total	BNSF	TIT	UP	Total	BNSF	TIT	UP	Total
U MNSGAT7 26A	1:01	2:32	3:28	7:01	0:58	1:39	0:00	2:37	-5%	-34%	-100%	-63%
G MSIGAT4 31A	1:32	2:53	5:35	10:00	0:58	1:39	0:00	2:37	-37%	-42%	-100%	-74%
MSIGAT4-07A	1:32	2:53	6:02	10:27	0:58	1:39	0:00	2:37	-37%	-42%	-100%	-75%
MSIGAT4-17A	1:11	3:27	5:00	9:38	0:58	1:39	0:00	2:37	-18%	-52%	-100%	-73%
Average	1:19	2:56	5:01	9:16	0:58	1:39	0:00	2:37	-26%	-43%	-100%	-72%
(1) Train symbols are shown as reported by TIT and may not exactly match the symbol employed by the respective railroads.												

⁷³ TREX e-workpaper, “1 JWM KH 08-27-18 V(2) KH 08-10-18 with BNSF Data Data collection sheet.xlsx,” tab, “Master Summary PROPOSED,” Cells B44:N54.

IV. TRACK OCCUPANCY TIME CONSUMED UNDER CURRENT AND PROPOSED OPERATIONS

The following analysis of track occupancy in the area of the proposed diamond crossings is the second of three analyses undertaken by RLBA regarding the proposed operation by BNSF of BNSF unit trains over the TREX proposed track between BNSF's Valley Yard and TIT's facility, both of which are in Galveston, TX. Construction of the TREX-proposed track would include the construction of three diamond crossings where it would cross two UP-owned tracks and one TIT-owned track at grade.

"Track occupancy" occurs in railroading when a train operates over a track at a given point or between two points on a rail line. RLBA determined track occupancy in this analysis by studying train activity in the area of where the three, existing tracks would be crossed. The train activity was measured in terms of the number of train movements which traversed (occupied) the subject area and the amount of time each train movement occupied any of the three tracks (a.k.a. "track time" or "track occupancy time") in the vicinity of the proposed, diamond crossings.

The purpose of this analysis is to: 1) determine the extent to which BNSF, TIT, and UP train movements currently occupy tracks in the area where the proposed diamond crossings would be built and 2) determine if enough time would be available in which BNSF trains could operate across the diamond crossings on the TREX proposed track without adversely impacting the passage of other trains. To this end, RLBA analyzed train movement data collected by TIT, which documented movements of BNSF, TIT, and UP trains across the area of the proposed diamond crossings during June 2018, as described in the previous section.

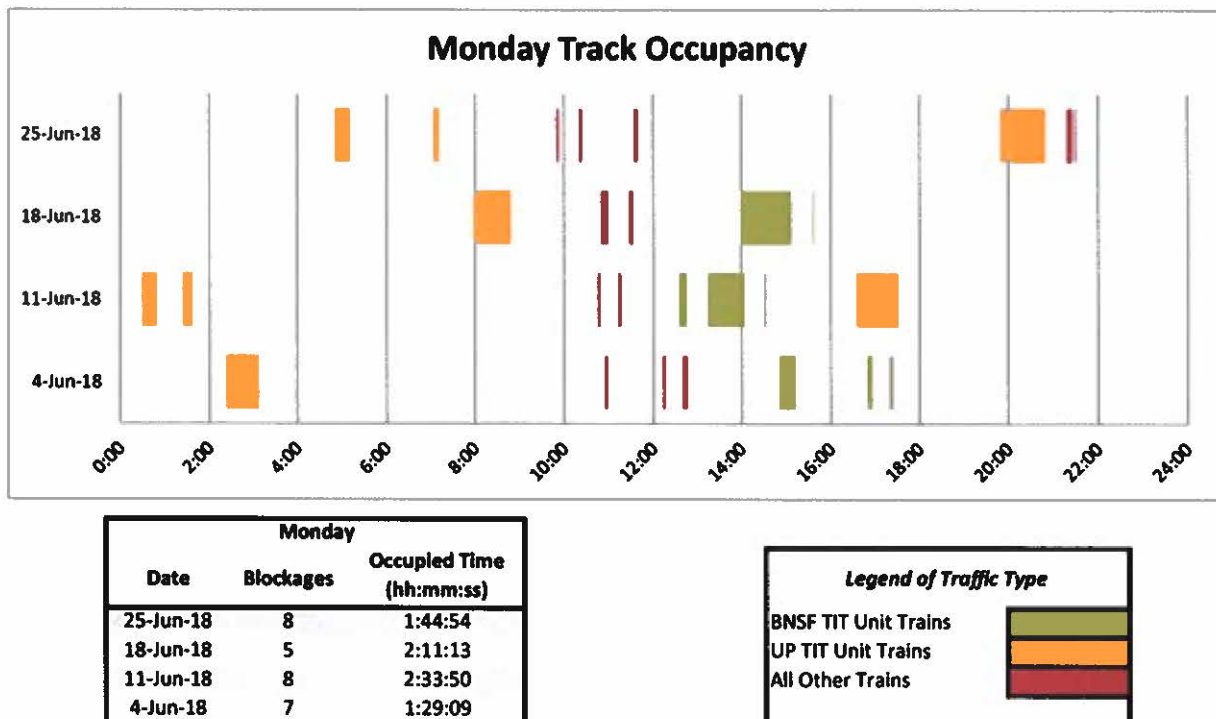
RLBA's analysis began with segmenting the train movements into three groups called "traffic types." Traffic types are employed here by RLBA to assemble the multiple moves of cuts of cars across the diamond crossings area into three manageable groups for analysis. The

first two traffic types, BNSF TIT Unit Trains and UP TIT Unit Trains, differentiated between train movements associated with BNSF unit trains and UP unit trains. The third traffic type, All Other Trains, represents all other train moves - those which are not associated with either BNSF or UP unit trains.

A. Track Occupancy Graphs: Plenty of Time Available

RLBA analyzed the current train activity in the form of track occupancy graphs and data tables. There are seven track occupancy graphs, one for each day of the week (Monday, Tuesday, Wednesday, etc.), which illustrate a total of 149 train movements identified by TIT and RLBA during the June 2018 study period. The graph which illustrates Monday train movements appears below in Exhibit 4 – 1.

Exhibit 4 – 1
Track Occupancy Graph Depicting Train Activity at the Diamond Crossings Area
On Mondays in June 2018⁷⁴



These graphs are important because they illustrate, at a glance, the vast amount of time during which the area of the proposed diamond crossings is UN-occupied under current operations. There clearly is plenty of time to accommodate BNSF unit trains crossing on the TREX proposed track without impairing the remaining UP switch crew service to its other customers or TIT's switching of the UP unit trains which serve it.

Each graph illustrates all of the subject train movements (switch moves and lite power moves) which occurred on that day of the week. Dates on which the train movements occurred appear on the vertical axis of the graph and the time of day, using the 24-hour clock, appears

⁷⁴ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I29:R52.

across the horizontal axis, so all of the activity on a given date is depicted to the right of that date.

Each train movement is represented by a horizontal colored bar, the length of which indicates the amount of time it occupied the diamond crossing area. The blank (white) spaces between the colored bars indicate the abundance of time during which the diamond crossings area was not occupied.

Some of these bars are very short, horizontally, and appear as very thin vertical lines because they represent moves which occupied the area during very brief periods of time, generally between 30 seconds and 3 minutes.

The brief table below the lower left corner of each graph summarizes the total number and total duration of those movements on each date. The number of movements are referred to as “Blockages” in this table.

A complete set of seven track occupancy graphs is presented in Appendix 4 - 1. They illustrate that there are plenty of time slots under current operations which could accommodate additional train moves. This is especially significant considering that the number of movements required to handle each BNSF unit train across the proposed diamond crossings, in loaded and empty directions, would decline significantly, from an average of 13 moves across the diamond crossing per BNSF unit train to 2 moves⁷⁵ (2 green bars) per train. Thus, if the number of BNSF unit trains were to remain the same and the total number of other moves were to remain the same, the total number of moves across the diamond crossings would decline significantly.

⁷⁵ TREX Operations Report by RLBA, Exhibit 4 – 6, “Impact Upon Track Occupancy which would Arise from Implementing the Proposed Operation of BNSF Unit Trains via the TREX Proposed Track,” column B, p. 80.

B. Tabular Data Analysis: Plenty of Time Available

B.1. Overall Use of Available Track Time

RLBA also conducted a tabular analysis of the data used to create the track occupancy graphs. This analysis shows that the diamond crossing area was occupied on average only five percent of the available time during the 30 days of June 2018, meaning the remaining 95 percent of the time was available for other train movements, as illustrated below in Exhibit 4 – 2.

Exhibit 4-2
Track Occupancy Time and Percentage of Track Time Available⁷⁶
by Day of Week during June 2018

Day of Week	Total Time Available (DD:HH:MM:SS)	Total Time Track Occupied (DD:HH:MM:SS)	Percentage of Time Track Occupied	Percentage of Time Track Available	Average Time Track Occupied per Day (DD:HH:MM:SS)
Monday	04:00:00:00	00:07:59:06	8%	92%	00:01:59:46
Tuesday	04:00:00:00	00:03:23:13	4%	96%	00:00:50:48
Wednesday	04:00:00:00	00:04:35:31	5%	95%	00:01:08:53
Thursday	04:00:00:00	00:07:20:39	8%	92%	00:01:50:10
Friday	05:00:00:00	00:09:02:12	8%	92%	00:01:48:26
Saturday	05:00:00:00	00:02:01:57	2%	98%	00:00:24:23
Sunday	04:00:00:00	00:00:54:15	1%	99%	00:00:13:34
Total	30:00:00:00	01:11:16:53	5%	95%	00:01:10:34
Total, Monday - Friday	21:00:00:00	01:08:20:41	6%	94%	00:01:32:25

The 21 days of Mondays – Fridays during the month represent the peak activity time at the diamond crossings area because the only local UP switch crew that serves TIT and neighboring industries normally works Monday – Friday, approximately 7 AM – 4 PM. Exhibit 4 – 2 shows that even during this peak activity period, the diamond crossing areas is occupied only six percent of the available time, meaning that it was available for use by other train movements 94 percent of the time. Further, train activity during the five Saturdays and four Sundays was virtually non-existent, amounting to only two percent and one percent, respectively,

⁷⁶ TREX e-workpaper “Track Occupancy Moves by Carrier.xlsx,” tab “Summry Trk Time Occ & Avail DOW,” cells A15:F24.

of the available time. There were no train movements (“blockages”) on two of the five Saturdays and on two of the four Sundays.⁷⁷

Further, in reviewing the peak days in June 2018, there were only two days where the diamond crossing area was occupied for longer than three (3) hours. On Thursday, June 7, 2018, the track was occupied for three hours, twenty-five minutes and twenty-seven seconds (3:25:27), and on Friday, June 15, 2018, the track was occupied for three hours, five minutes and forty-four seconds (3:05:44). From this, the recorded data in June indicates that even on the busiest days, the track is available and unoccupied 86% of the time.

The tabular analysis thus supports the same conclusions as the track occupancy graphs:

(i) there is plenty of time available during which BNSF unit trains could operate across the proposed diamond crossings and not interfere with UP’s local switching service to other customers; and (ii) operation of BNSF unit trains across the proposed diamond crossing will not interfere with TIT’s switching of UP unit trains to and from TIT’s facility.

B.2. Track Occupancy by Day of Week and Average Track Occupancy Rates

RLBA identified 149 train movements across the diamond crossings area during the June 2018 study period, which occurred at a very low frequency, an average of 4.97 movements per day and occupied the diamond crossing area an average of only slightly more than 1 hour and 10 minutes per day. On average, a train movement occupied the diamond crossing area 14 minutes and 12 seconds per move, as presented below in Exhibit 4 – 3.

⁷⁷ RLBA Operations Report, Appendix 2 – 1, Track Occupancy Charts, “Saturday Track Occupancy” graph and “Sunday Track Occupancy” graph.

Exhibit 4 – 3**Track Occupancy Movements and Time by Day of Week during June 2018⁷⁸**

Day of Week	Distribution of Train Moves		Distribution of Track Occupancy Time		Average Track Occupancy Time per Train Move (DD:HH:MM:SS)
	Moves	Percent Distribution	Time (DD:HH:MM:SS)	Percent Distribution	
Monday	28	19%	00:07:59:06	23%	00:00:17:07
Tuesday	27	18%	00:03:23:13	10%	00:00:07:32
Wednesday	20	13%	00:04:35:31	13%	00:00:13:47
Thursday	33	22%	00:07:20:39	21%	00:00:13:21
Friday	32	21%	00:09:02:12	26%	00:00:16:57
Saturday	5	3%	00:02:01:57	6%	00:00:24:23
Sunday	4	3%	00:00:54:15	3%	00:00:13:34
Total	149	100%	01:11:16:53	100%	00:00:14:12
Total, Monday - Friday	140	94%	01:08:20:41	92%	00:00:13:52
Average Total per Day	4.97		00:01:10:34		
Average Total M - F per Day	6.67		00:01:32:25		

As suggested earlier, the train movements are heavily concentrated during Monday – Friday, with 94 percent (140) of the train movements and 92 percent of the track occupancy time. When only Monday – Friday are examined, the train movements also occurred at a slightly higher, but still low average rate of 6.67 movements per day, occupying the diamond crossing area for slightly more than 1 hour and 32 minutes, with an average of 13 minutes and 52 seconds per train move.

The results of the above analysis indicate a low utilization of the diamond crossing area.

⁷⁸ TREX e-workpaper “Track Occupancy Moves by Carrier.xlsx,” tab “Summry Moves & Trk Time by DOW”, cells A2:F17.

B.3. Track Occupancy by Handling Crew (Railroad)

In this further analysis, RLBA segregated the track occupancy moves and time by “handling crew” (BNSF, TIT and UP) in the same way that switching moves and lite power moves were segmented in Section III. This is important because it established a foundation from which RLBA could understand how the volume of a carrier’s activity at the diamond crossing would be impacted were the BNSF unit trains to be diverted onto the TREX proposed track as proposed. Exhibit 4 – 4 below illustrates the number of track occupancy moves made and time accrued during June 2018. UP had the largest share (58 percent) of the 149 total train movements and track occupancy time (55 percent) across the diamond crossing area. TIT’s switch crew accounted for 25 percent of the train movements and 30 percent of the track occupancy time, while BNSF accounted for 17 percent of the train movements and 15 percent of the track occupancy time.

The table also illustrates that all of UP’s track occupancy occurred during Monday – Friday, which, again, is consistent with RLBA’s understanding of the work schedule of the UP local crew which switches BNSF unit trains and manifest traffic to TIT’s Industry Track.

Exhibit 4 – 4
Track Occupancy Movements and Time by Handling Crew during June 2018⁷⁹

Item	Handling Crew							
	BNSF		TIT		UP		Total	
	Train Moves	Track Occupancy Time (DD:HH:MM:SS)	Train Moves	Track Occupancy Time (DD:HH:MM:SS)	Train Moves	Track Occupancy Time (DD:HH:MM:SS)	Train Moves	Track Occupancy Time (DD:HH:MM:SS)
Seven Days of Week	26	00:05:11:51	37	00:10:32:17	86	00:19:32:45	149	01:11:16:53
Each Carrier's Seven Days Track Occupancy as a Percentage of Total Track Occupancy	17%	15%	25%	30%	58%	55%	100%	100%
Monday - Friday	22	00:03:26:25	32	00:09:21:31	86	00:19:32:45	140	01:08:20:41
Each Carrier's Monday - Friday Track Occupancy as a Percentage of its Seven-Day Track Occupancy	85%	66%	86%	89%	100%	100%	94%	92%

⁷⁹ TREX e-workpaper "Track Occupancy Moves by Carrier.xlsx," tab "Summry Trk Occ by Handling Carr," cells A7:I14.

B.4. Track Occupancy by Traffic Type and Impacts of Proposed Operations

As with the track occupancy graphs, the data reflecting three traffic types (BNSF TIT Unit Trains, UP TIT Unit Trains and All Other Trains) was further analyzed by RLBA to determine the extent to which cuts of cars from BNSF unit trains and related lite power moves occupy the diamond crossing area under current operations. RLBA utilized this data to determine changes in track occupancy at the diamond crossings resulting from diverting BNSF unit train traffic over the TREX proposed track and the proposed diamond crossing.

As summarized below in Exhibit 4 – 5, fifty-two (35 percent) of the 149 total train movements observed by RLBA during the study period fell into the BNSF TIT Unit Trains traffic type. On average, 1.73 such moves occupied the diamond crossing per day for an average of 17 minutes and 24 seconds per train move. These 52 movements were associated with four loaded BNSF unit trains, which indicates that, on average, each BNSF unit train generated 13 moves (52 divided by 4) across the diamond crossing area.

Exhibit 4 – 5
Track Occupancy by Traffic Type during June 2018⁸⁰

Traffic Type	Number of Moves Across Diamonds Area - June 2018	Percent Distribution	Average Moves per Day	Average Track Occupancy Time per Move (DD:HH:MM:SS)
All Other Trains	84	56%	2.80	00:00:10:16
BNSF TIT Unit Trains	52	35%	1.73	00:00:17:24
UP TIT Unit Trains	13	9%	0.43	00:00:26:58
Grand Total	149	100%	4.97	00:00:14:12

In contrast, the proposed operation of BNSF unit trains over the TREX proposed track would generate approximately only two train movements per loaded train across the diamond

⁸⁰ TREX e-workpaper, "Track Occupancy Moves by Carrier," tab "Traffic Type Brief Summary," cells B6:F10.

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crossing area, an 85 percent reduction in train movements per loaded BNSF unit train. Similarly, average track occupancy time per loaded BNSF unit train would decline 65 percent, from 3 hours and slightly more than 46 minutes to approximately 1 hour and 20 minutes, as presented below in Exhibit 4 – 6.

Exhibit 4 – 6
Impact Upon Track Occupancy from Implementing the Proposed Operation of BNSF Unit Trains via the TREX Proposed Track⁸¹

Reference Column Letter			
A	B	C	D
Item	Current Operations (June 2018)	Proposed BNSF Operations via TREX Proposed Track (assuming June 18 train count)	Percent Variance: Proposed Operations vs. Current Operations
BNSF Unit Train Traffic			
Number of Loaded Unit Trains Handled and Empties Returned (1)	4	4	0%
Train Moves Across Diamond Crossings Area (2)	52	8	-85%
Average Number of Train Moves Across Diamond Crossings Area per Loaded Unit Train (3)	13.00	2.00	-85%
Average Track Occupancy Time per Loaded Unit Train and Empties Returned (DD:HH:MM:SS) (4)	00:03:46:07	00:01:20:00	-65%
Total Track Occupancy Time (DD:HH:MM:SS) (5)	00:15:04:28	00:05:20:00	-65%
Notes:			
(1) Current Operations value, 4, equals the numbe of BNSF unit trains which completed their load - empty cycles between BNSF Valley Yard and TIT's facility during June 2018, and are a focus of this Operations Report.			
(2) Current Operations value is from file: Track Occupancy moves by Carrier.xlsx, tab "Handing Carrier WORK", cell J54.			
Proposed Operations value is calculated in the table.			
(3) Current Operations value is calculated in the table.			
Proposed Operations value a count of moves from file: TREX Conceptuyal Operating Plan Matrix BNSF 1 cut.xlsx, tab "TREX Op Plan with BN Handle WRK", cells A1:G17.			
(4) Current Operations value is calculated in the table.			
Proposed Operations value a count of moves from file: TREX Conceptuyal Operating Plan Matrix BNSF 1 cut.xlsx, tab "Track Occupancy Across Diamonds", cell J22.			
(5) Current Operations value is from file: Track Occupancy moves by Carrier.xlsx, tab "Handing Carrier WORK", cell K54.			
Proposed Operations value is calculated in the table.			

Assuming that the number of TIT-bound BNSF unit trains remains relatively stable and that the same can be said about the UP unit trains and All Other Trains, the area of the proposed

⁸¹ TREX e-workpaper, "Track Occupancy Moves by Carrier," tab "Track Occ Time Reduced (2)," cells A3:E27.

diamond crossing would experience a significant decline in track occupancy were the BNSF unit trains to begin operating via the TREX proposed track.

Regarding the other two traffic types, only 13 (9 percent) (Exhibit 4 – 5, above) of the total train movements were associated with the UP TIT Unit Trains. The largest number of moves, 84 (56 percent of the total) were associated with the All Other Trains traffic group.

B.5. Track Occupancy and Capacity at the Diamond Crossings Area: Busiest Day

RLBA performed an additional track occupancy time analysis to test the likely impact of the proposed changes in train operations on a potential “busiest day” scenario. To arrive at the “busiest day,” RLBA used the recorded June 2018 data, adjusted to account for the reduction in movements associated with routing the BNSF unit trains over the TREX proposed track, and added UP unit train movements so that UP traffic would be equivalent to the average monthly traffic in 2018. From the adjusted June 2018 data, RLBA identified the busiest day of the month, in terms of track occupancy time at the diamond crossings, as June 6. After identifying the “busiest day,” RLBA then superimposed additional train movements, reflecting the potential impact of TIT’s 2019 business levels, on the June 6, 2018 movements to produce the track occupancy time for what could be characterized as a representative “busiest day” in 2019.

B.5.1. Approach

The initial four-step process started with the same historical train movement and track occupancy time data that was employed in the preceding track occupancy graph analysis and the tabular data analysis. The historical data were adjusted to account for changes to the track occupancy of BNSF unit trains as a result of their operation over the TREX proposed track instead of via the UP reciprocal switching. The data was also adjusted to compensate for the relatively below-average number of UP unit trains operating to and from TIT during June 2018.

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A total of seven extra UP loaded trains, and the associated empty trains, were added to the historical data to make the UP train activity over the diamond crossings more representative of the UP monthly train activity during the other eleven months of 2018. Key points and assumptions of the four-step process are explained below.

Step A: Base Time equals the historical track occupancy time of each train movement observed during June 2018 and compiled in a spreadsheet database by TIT and RLBA.⁸²

At the outset, RLBA segmented the time during which track occupancy time occurred into two time periods (“time frames”): 1) “UP Local” time frame is the period of time during which the UP local crew typically operated in the diamond crossing area and 2) “Non-UP Local” time frame is the period during which the UP local crew does not typically operate. In June 2018, the UP local crew was observed operating within the diamond crossings area generally between 8 AM and 5 PM, a nine-hour time frame. The remaining 15 hours of a day, when the UP local crew does not typically operate, is characterized as the Non-UP Local time frame.

Step B: Net Base Time equals Base Time minus all track occupancy time associated with movements of BNSF unit train cars. This was accomplished by setting track occupancy time of all such movements to zero (0:00:00) in the database.⁸³ RLBA made one exception: the track occupancy time of UP switching movements which handled BNSF unit train cars and cars of other customers at the same time was retained in the analysis – not zeroed-out. This is because while the majority of cars being switched by UP in such moves were from a BNSF unit train, this

⁸² TREX e-workpaper, “# 10-23-18 Track Occupancy final data sheet Capy Work.xlsx,” tab, “Galveston 77th ST Camera 2,” cells Z4:176.

⁸³ TREX e-workpaper, “# 10-23-18 Track Occupancy final data sheet Capy Work.xlsx,” tab, “Galveston 77th ST Camera 2,” cells AA:176.

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time was preserved because UP will still need to handle the cars of other customers if the BNSF unit train cars are routed over the TREX proposed track.

Step C: TREX Base Time equals Net Base Time plus the time during which BNSF unit trains occupy the diamond crossings when operating over the TREX proposed track. Since no BNSF unit trains currently operate directly, in one unit, between BNSF's Valley Yard and TIT's facility, there were no such records in the database. RLBA therefore added four inbound loaded unit trains into the database and distributed them based upon the dates and times on which they arrived at BNSF's Valley Yard. Under the TREX proposed operating plan, these loaded unit trains would have operated directly into TIT's facility and not stopped at Valley Yard, so RLBA assumed that they would have crossed the diamond crossings area on the same dates as when they arrived at BNSF's Valley Yard. Four empty BNSF unit trains, counterparts of the loaded trains, were added on the days after the loaded trains arrived while accounting for the days on which nine loaded and empty UP unit trains already appeared in the historical data.

As with the extra UP trains discussed in Step D, below, RLBA also considered its general understanding of TIT's capacity to unload unit trains, which varies between approximately 14 hours and 30 hours per train, depending upon the commodity, type of railcar, and whether portions of two different trains must be worked at the same time. Consequently, RLBA concluded it would be appropriate to assume that, conservatively, an empty train would depart TIT and operate across the diamond crossings on the day after the loaded train operated over the crossing. The only exception to this assumption appears in the historical data of June 25 on which a UP empty train operated over the diamond crossings on the same day as its companion loaded train.

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The amount of track occupancy time added for each BNSF unit train was based upon RLBA's estimation of the average speed at which the trains would operate over the TREX proposed track and input from TIT regarding the amount of time outbound empty UP unit trains occupied the diamond crossings area in June 2018. RLBA applied a track occupancy time of 28 minutes⁸⁴ to each inbound loaded BNSF unit train and 52 minutes⁸⁵ to each empty train. The difference between the times for loaded and empty trains is based upon TIT's explanation of how the empty UP unit trains are handled and the observed track occupancy times of those trains, which is summarized in the discussion about UP unit trains in Step D below.

Step D: TREX Base Time Adjusted - UP equals TREX Base Time plus the track occupancy time from fourteen extra UP unit trains which were added to the train list to compensate for underrepresentation of UP unit trains in June 2018 as compared to the other months of 2018.

Seven extra loaded UP unit trains were added at intervals of every two or three days throughout June 2018⁸⁶ while accounting for the days on which nine loaded and empty UP unit trains already appeared in the historical data, and the days on which the eight BNSF unit trains operated as described in Step C, TREX Base Time, above. The seven extra empty UP unit trains associated with the extra loaded UP unit trains were added on the same day, or the day following the loaded trains, based upon the pattern that RLBA observed in the data of the four pairs of loaded and empty unit trains.⁸⁷ As with the empty BNSF unit trains, the distribution of the extra

⁸⁴ TREX e-workpaper, "# 10-23-18 Track Occupancy final data sheet Copy Work.xlsx," tab, "Galveston 77th ST Camera 2," cell AB2.

⁸⁵ TREX e-workpaper, "# 10-23-18 Track Occupancy final data sheet Copy Work.xlsx," tab, "Galveston 77th ST Camera 2," cell AB3.

⁸⁶ TREX e-workpaper, "# 10-23-18 track Occupancy final data sheet Copy Work.xlsx," tab, "Add 2018 UP trains & BN Empties," cells A5:H53.

⁸⁷ See the train sheets for the four UP trains at Exhibits 3 – 6, 3 – 7, 3 – 8 and 3 – 9.

UP trains also considered RLBA's general understanding of the TIT's capacity to unload unit trains.

The amount of track occupancy time added for each UP unit train was the average track occupancy time of the four loaded and five empty UP unit trains observed during June 2018. The four loaded trains occupied the diamond crossings for an average of 27 minutes, 29 seconds and the five empty trains occupied the diamonds for an average of 48 minutes, 8 seconds.⁸⁸ The average track occupancy time of the loaded trains reflects UP trains being placed in TIT's facility in one cut, resulting from the expected installation by TIT of a crossover between its two loop tracks to enable such a move.

The average occupancy time for the empty trains is higher than for the loaded trains. First, this is because the diamond crossing area is occupied when unit trains are reassembled coming out of TIT's facility, which requires first pulling the head end of the train (the first group of empty cars) westward out of the TIT facility, and then shoving back into TIT to couple to the rear end of the train (the second group of empty cars). Second, TIT crews may occupy the diamond crossing area while arming the end-of-train (EOT) device. Lastly, this difference in occupancy time is in part because the train's departure from TIT is initially at a very slow speed while the rear of the train is within TIT's facility.

B.5.2. Findings

As referenced, the busiest day in June 2018 was determined to be June 6. All 30 days of June were ranked by the total track occupancy time of each day as calculated at the end of the

⁸⁸ TREX e-workpaper, "10-23-18 Track Occupancy final data sheet only.xlsx," tab, "Analysis," cells I19 and H20.

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above four-step approach (Step D: TREX Base Time Adjusted – UP) and as illustrated in Exhibit 4 – 7 below.

Exhibit 4 – 7
Total Track Occupancy Time Across the Four-Step Process by Date (June 2018)⁸⁹

Arr Date	Day of Week	Step A	Step B	Step C	Step D	
		Base Time on Crossing (H:MM:SS)	Base Time NET of BNSF Unit Trains (H:MM:SS)	TREX 2018 Base Time (H:MM:SS)	TREX 2018 Base Time Adjusted - UP	
					Time (H:MM:SS)	Rank
6-Jun-18	4-W	2:36:14	2:24:27	2:24:27	3:12:35	1
15-Jun-18	6-F	3:05:44	2:12:20	2:12:20	2:39:49	2
11-Jun-18	2-M	2:33:50	2:24:12	2:24:12	2:24:12	3
7-Jun-18	5-TH	3:25:27	2:20:16	2:20:16	2:20:16	4
25-Jun-18	2-M	1:44:54	1:44:54	1:44:54	1:44:54	5
20-Jun-18	4-W	1:17:11	0:13:28	1:05:28	1:32:57	6
8-Jun-18	6-F	1:31:12	1:05:25	1:05:25	1:32:54	7
5-Jun-18	3-T	1:18:30	0:09:18	1:01:18	1:28:47	8
4-Jun-18	2-M	1:29:09	0:57:02	1:25:02	1:25:02	9
3-Jun-18	1-SU	0:32:46	0:32:46	1:24:46	1:24:46	10
21-Jun-18	5-TH	1:52:38	0:31:34	0:31:34	1:19:42	11
14-Jun-18	5-TH	1:56:24	0:23:36	1:15:36	1:15:36	12
22-Jun-18	6-F	2:39:15	0:40:56	0:40:56	1:08:25	13
30-Jun-18	7-SA	1:03:52	1:03:52	1:03:52	1:03:52	14
18-Jun-18	2-M	2:11:13	1:03:14	1:03:14	1:03:14	15
29-Jun-18	6-F	1:03:01	1:03:01	1:03:01	1:03:01	16
12-Jun-18	3-T	0:33:06	0:33:06	0:33:06	1:00:35	17
28-Jun-18	5-TH	0:09:31	0:09:31	0:09:31	0:57:39	18
13-Jun-18	4-W	0:32:57	0:02:44	0:30:44	0:50:52	19
9-Jun-18	7-SA	0:00:00	0:00:00	0:00:00	0:48:08	20
16-Jun-18	7-SA	0:16:31	0:00:00	0:00:00	0:48:08	21
23-Jun-18	7-SA	0:00:00	0:00:00	0:00:00	0:48:08	22
1-Jun-18	6-F	0:43:00	0:43:00	0:43:00	0:43:00	23
19-Jun-18	3-T	1:13:11	0:11:53	0:39:53	0:39:53	24
27-Jun-18	4-W	0:05:47	0:05:47	0:05:47	0:33:16	25
2-Jun-18	7-SA	0:41:34	0:00:00	0:29:06	0:29:06	26
17-Jun-18	1-SU	0:21:29	0:21:29	0:21:29	0:21:29	27
26-Jun-18	3-T	0:18:26	0:18:26	0:18:26	0:18:26	28
10-Jun-18	1-SU	0:00:00	0:00:00	0:00:00	0:00:00	29
24-Jun-18	1-SU	0:00:00	0:00:00	0:00:00	0:00:00	30
Total (DD:HH:MM:SS)		01:11:16:52	00:21:16:17	01:02:37:23	01:10:58:42	
Total (Hours)		35.28	21.27	26.62	34.98	

⁸⁹ TREX e-workpaper “# 10-23-18 track Occupancy final data sheet Copy Work.xlsx,” tab, “Summary & Rank by Date,” cells B4:H38.

After determining the busiest day to be June 6, RLBA compared the track occupancy time with the total amount of track occupancy available – 24 hours. Said another way, RLBA tested the amount of capacity consumed (track occupancy time estimated for June 6) by the adjusted train activity, against the capacity of the prospective diamond crossing area. This analysis employed the UP Local and Non-UP Local time frames that were described under Step A, above, so RLBA could analyze the extent to which UP's local crew might be impacted by the proposed change in operations.

The Theoretical Capacity (in hours of track occupancy) of the diamond crossings for one day is 24 hours, as there are 24 hours in a day. As referenced above, Theoretical Capacity assumes perfect world conditions, but railroad operations professionals understand that it is appropriate to reduce Theoretical Capacity to account for random events which commonly occur in everyday railroading. Equipment failures, a broken rail, minor derailments, weather events, a stuck customer gate, etc. cause delays which consume time (capacity), so RLBA has applied a common rule-of-thumb factor (80 percent) to the Theoretical Capacity to determine the Practical Capacity. In the case of June 6, the 24 hours of total Theoretical Capacity is discounted to 19.2 hours of total Practical Capacity (24 hours x .80). This portion of the analysis is illustrated below in Exhibit 4 – 8, at lines 1 – 7 under the "Total" column heading.

Exhibit 4 – 8
“Busiest Day” Scenario: Track Occupancy and Capacity at the Diamond Crossings Area (June 6, 2018)⁹⁰

Line #	Item	Day of Week	Track Occupancy Hours by Typical Hours of UP Local Operation		
			UP Local	Non-UP Local	Total
1	Theoretical Capacity per Day:				
2	Capacity in track occupancy hours per DAY	M - F	9.00	15.00	24.00
3		SA - SU	0.00	24.00	24.00
4	Practical Capacity per Day				
5	Assumed Practical Capacity Factor		80%	80%	80%
6	Capacity in track occupancy hours per DAY	M - F	7.20	12.00	19.20
7		SA - SU	0.00	19.20	19.20
8	Capacity Consumed (Track Occupancy Time) on the Busiest Day in June: June 6, 2018 (Adjusted)	W			
9	TREX 2018 Base Time Adjusted (hours)	W	2.41	0.80	3.21
10	Percent Practical Capacity Consumed	W	33%	7%	17%
11	Percent Practical Capacity Available	W	67%	93%	83%
12	Capacity Consumed (Track Occupancy Time) on a Representative Busiest Day in 2019				
13	Representative “Busiest Day” TREX 2019 Time (hours)				
14	1. 2019 Potential Incremental TIT Activity:	Incremental TIT Business Activity per Day	Moves Across Diamonds	Handling Crew	
15		Count Unit			
16	Additional BNSF or UP unit trains (hours)	1 Inbound loaded unit train	1 BNSF		0.46
17	Additional BNSF or UP manifest cuts (hours)	1 Empty inbound cut	2 UP		0.16
18			2 TIT		0.08
19	Total Representative “Busiest Day” TREX 2019 Time (hours)		3.03	0.88	3.91
20	Percent Practical Capacity Consumed		42%	7%	20%
21	Percent Practical Capacity Available		58%	93%	80%
22	2. 2019 Potential Incremental UP Activity:				
23	Percentage increase in track occupancy caused by potential incremental TIT business		26%	10%	22%
24	Percentage increase in track occupancy caused by potential incremental UP business		26%	10%	22%
25	Total Representative “Busiest Day” TREX Time + UP Growth (hours)		3.65	0.96	4.61
26	Percent Practical Capacity Consumed		51%	8%	24%
27	Percent Practical Capacity Available		49%	92%	76%

⁹⁰ TREX e-workpaper “# 10-23-18 track Occupancy final data sheet Copy Work.xlsx,” tab, “Per Day,” cells A4:I32.

The total adjusted 2018 track occupancy for June 6, 2018 is 3.21 hours,⁹¹ which is 17 percent of the Practical Capacity and leaves 83 percent of the 19.2 hours of Practical track occupancy capacity available for additional train activity. See rows 8 through 11 in Exhibit 4 – 8.

RLBA also examined the consumption of track occupancy capacity during the typical hours of operation of the UP local crew that serves TIT and other customers. As mentioned previously during the explanation of Step A: Base Time on Crossing, RLBA observed that the UP local crew typically operated across the diamond crossings area roughly between 8 AM and 5 PM, a nine-hour time frame. This nine-hours of Theoretical track occupancy capacity was discounted to 7.2 hours of Practical track occupancy capacity, employing the 80 percent discount factor as illustrated in rows 1 – 6 under the sub-heading “UP Local.” The track occupancy time during the UP Local time frame, 2.41 hours⁹² (row 9), represents only 33 percent (row 10) of the Practical track occupancy capacity, leaving 67 percent (row 11) of the time available for additional train activity. This indicates that it is highly unlikely that the proposed operation of BNSF unit trains across the diamond crossings on the TREX proposed track would not impair the operation of UP’s local or the UP – TIT unit trains.

The ability of the diamond crossings to accommodate additional train activity was then tested. Additional train movements, reflecting the potential impact of TIT’s 2019 business levels, were superimposed on the June 6, 2018 movements to produce track occupancy times on what could be characterized as a hypothetical busiest day in a month in 2019. This portion of the analysis appears in rows 12 through 21 of Exhibit 4 – 8. RLBA reviewed preliminary forecasts

⁹¹ Converted from the 3 hours, 12 minutes and 35 seconds as expressed in Exhibit 4 – X1.

⁹² TREX e-workpaper “# 10-23-18 track Occupancy final data sheet Capy Work.xlsx,” tab, “Summary & Rank by Date,” cell G73, converted format to hours.

of 2019 rail activity from TIT and considered the historical and adjusted track occupancy activity on June 6,⁹³ and estimated that TIT's forecast may warrant an additional inbound loaded unit train (row 16) and a cut of inbound empty cars for outbound loading in manifest train service (rows 17 and 18) on a similar day in 2019.

The additional inbound loaded unit train would create one additional move across the diamond crossings and occupy the crossings for 0.46 hours⁹⁴ (row 16 under sub-heading UP Local).

The inbound cut of empty cars would generate two switching moves by UP (one eastward and one westward) and two switching moves by TIT (one eastward and one westward). UP would move the cars from its 37th Street Yard or its UP Interchange Yard to the TIT Industry Track and would occupy the diamond crossing roughly 0.16 hours⁹⁵ (row 17 under sub-heading UP Local). TIT would pull the cut of empty cars from its TIT Industry Track and shove them into its facility to be placed for loading, which would occupy the diamond crossing roughly 0.08 hours⁹⁶ (row 18 under sub-heading Non-UP Local).

RLBA assumed that the additional inbound loaded train and the UP switching of the inbound cut of empty cars would occur during the UP Local timeframe based upon its review of the track occupancy activity on June 6 and on the days before and after. RLBA then assumed that TIT would pull the cut of inbound empty cars on the same day they would be interchanged

⁹³ TREX e-workpaper "# 10-23-18 track Occupancy final data sheet Capy Work.xlsx," tab, "Galveston 77th ST Camera 2," cells A37:AC46.

⁹⁴ TREX e-workpaper "# 10-23-18 track Occupancy final data sheet Capy Work.xlsx," tab, "Galveston 77th ST Camera 2," cell AC2.

⁹⁵ TREX e-workpaper, "# 10-23-18 track Occupancy final data sheet Capy Work.xlsx," tab, "Manifest Switching," cell L82.

⁹⁶ TREX e-workpaper "# 10-23-18 track Occupancy final data sheet Capy Work.xlsx," tab, "Manifest Switching," cell L20.

by UP, but would do so later in the day, during the Non-UP Local time frame, and then would place them in TIT's facility for loading.

RLBA finds that the additional track occupancy time generated by the incremental business activity on this hypothetical busiest day of a month in 2019 would raise total track occupancy time to 3.91 hours (row 19 under sub-heading Total) which would consume only twenty percent (row 20 under sub-heading Total) of the Practical track occupancy capacity at the diamond crossings. During the UP Local time frame, track occupancy time would rise to 3.03 hours (row 19 under sub-heading UP Local) and consume only 42 percent (row 20 under sub-heading UP Local) of the Practical track occupancy capacity. The total amount of Practical track occupancy capacity and the amount of Practical capacity which remain when the UP local typically operate, again indicate it is highly unlikely that the proposed operation of BNSF unit trains across the diamond crossings on the TREX proposed track would impair the operation of UP's local or the UP – TIT unit trains.

RLBA further tested the ability of the diamond crossings to accommodate additional train activity by examining the impact if UP business growth were to cause track occupancy to increase at the same rate as the rate which resulted from the potential incremental TIT business activity. The results of this analysis are at lines 23 – 27 of Exhibit 4 – 8, above. RLBA first calculated that total track occupancy increased 22 percent (row 23 under sub-heading Total) from 3.21 hours (row 9) to 3.91 hours (row 19) as a result of TIT's potential incremental change in business activity in 2019. RLBA then assumed that potential incremental change in business activity by other UP customers also would cause track occupancy to increase at the same 22 percent rate. The same component growth rates during the UP Local (26 percent at row 23) and

Non-UP Local (10 percent at row 23) time also were then applied to the same “TREX 2018 Base Time Adjusted” track occupancy times (row 9).

Under this approach, which doubled the increase in total track occupancy when combined with the impact of the potential TIT incremental business activity, RLBA found that total track occupancy would increase to 4.61 hours (row 25 under sub-heading Total) and would consume only 24 percent (row 26) of Practical Track Occupancy Capacity (19.20 hours at row 6 under sub-heading Total). The diamond crossing area would still be unoccupied over three quarters (76 percent, at row 27) of the day. Even under the most stringent test – track occupancy during the UP Local time frame, only 51 percent (row 26 under sub-heading UP Local) of the Practical Track Occupancy Capacity would be consumed, leaving the diamond crossing area unoccupied nearly half of the day. Consequently, RLBA again finds it is highly unlikely that the proposed operation of BNSF unit trains across the diamond crossings on the TREX proposed track would impair the operation of UP’s local or the UP – TIT unit trains, because plenty of track occupancy time (Practical Capacity) exists at the proposed area of the diamond crossings.

V. IMPACT OF PROPOSED CROSSING CONSTRUCTION ON UP TRAIN OPERATIONS

Collectively, the conclusions of TREX’s railroad engineering expert, R. Lee Meadows, Jr., P.E., of RLBA and RLBA’s track occupancy analysis, indicate that construction of TREX’s proposed crossing could be scheduled to avoid impairing UP’s local switch service to TIT and its other customers; TIT’s switching of the UP – TIT unit trains; and the BNSF – UP rail interchange traffic.

RLBA railroad engineering expert, R. Lee Meadows, Jr., P.E., in his Verified Statement determined, “[I]t is expected that installation of the diamonds will have minimal impact on UP

train operations. TREX/UP will only require an estimated window of twenty-four (24) hours total to construct, with each diamond taking approximately eight (8) hours to install.”⁹⁷

The track occupancy graphs developed by RLBA depicting train movements recorded in June 2018 clearly identify large time segments during which the proposed crossing location was unoccupied.⁹⁸ Notably, the proposed diamond crossings area was un-occupied by train operations during 95 percent⁹⁹ of the available time in June 2018. When the busiest time periods during the month, Monday - Friday, were considered, the diamond crossings area was un-occupied 94 percent¹⁰⁰ of the available time. Average daily track occupancy during the Monday - Friday periods amounted to 6.67 train movements per day and slightly more than 1 hour and 32 minutes of track occupancy time per day.¹⁰¹ On average, a train movement occupied the diamond crossings area for 13 minutes and 52 seconds.¹⁰²

Given these conditions, reasonable coordination among TREX on the one hand and BNSF, TIT, and UP on the other, should produce a work plan which would enable the diamond crossings to be built with minimal disruptions to daily railroad operations and within a reasonable amount of time.

⁹⁷ Verified Statement of R. Lee Meadows, Jr. on behalf of Texas Railway Exchange LLC, p. 9.

⁹⁸ RLBA Operations Report, Section IV, Part A, Track Occupancy Graphs: Plenty of Time Available, and Appendix 4 – 1, Track Occupancy Graphs (June 2018).

⁹⁹ RLBA Operations Report, Section IV Track Occupancy at the Proposed Diamond Crossings, Exhibit 4 – 2 Track Occupancy Time and Percentage of Track Time Available by Day of Week during June 2018, page 72.

¹⁰⁰ RLBA Operations Report, Section IV Track Occupancy at the Proposed Diamond Crossings, Exhibit 4 – 2 Track Occupancy Time and Percentage of Track Time Available by Day of Week during June 2018, page 72.

¹⁰¹ TREX Operations Report by RLBA, Exhibit 4 – 3 Track Occupancy Movements and Time by Day of Week during June 2018, page 74.

¹⁰² TREX Operations Report by RLBA, Exhibit 4 – 3 Track Occupancy Movements and Time by Day of Week during June 2018, page 74.

Appendix 1-1

Resume of John W. McLaughlin

John W. McLaughlin

Director, Market and Network Solutions

Education

BS, Transportation Management, Indiana University, Kelley School of Business, 1979

Years of Transportation Experience

38

Qualifications

Freight shippers, freight railroads, passenger rail systems, law firms, public bodies and investors have engaged Mr. McLaughlin for his railroad operations and freight market research expertise, since he joined RLBA in 2007. Mr. McLaughlin's career prior to RLBA includes eighteen years at a Class 1 railroad which included ten years in intermodal customer service and marketing. His railroad career featured analytical, supervisory and service design responsibilities in operations, being the primary 24/7 contact on service issues of major intermodal customers, and development and implementation of price, service and communications plans for market expansions. Mr. McLaughlin's clients have benefitted from his freight volume projections, rate analyses and revenue projections, rail network simulations and capacity determinations, interviews of current and prospective rail customers, freight service designs and calculations of operating and maintenance costs. They have employed Mr. McLaughlin's expertise in: feasibility analyses of prospective new or expanded freight rail lines and intermodal terminals, due diligence reviews and valuations of prospective rail line acquisitions, funding applications, proceedings before the U. S. Surface Transportation Board, other litigation and arbitration cases and strategic planning.

Relevant Railroad Work Experience

Conrail (Consolidated Rail Corporation)

- **Regional Supervisor – Train Movement, Transportation Department, Detroit, MI** Coordinated region-wide train operations, covering five operating divisions, with system headquarters and division supervisors.
- **Operations Improvement Analyst, Transportation Department, Headquarters** Conducted on-site efficiency studies of five terminals as member of a Terminal Improvement Process (TIP) team.
- **Senior Business Development Analyst, Intermodal Service Group, Headquarters** Mr. McLaughlin held a key marketing role in a primary, growth line of business. He managed intermodal penetration of the truckload motor carrier market from zero to a \$50 million line of business in five years. Developed and implemented price, service and communications plans for market expansions that generated \$11 million of new revenue in 1996.
- **Service Manager, Customer Service Department/Intermodal Service Group, Headquarters** He served as Conrail's primary contact on transportation service issues in connection with the U.S. Mail and LTL motor carrier contracts. Led and provided 24 / 7 service management that established Conrail as a leading provider of intermodal service to the LTL motor carrier industry. He drove performance of U.S. Mail account from \$50,000 in weekly fines to \$10,000 in bonuses over two years, as leader of 24 / 7 service management and led an Intermodal Product Design Team that restructured train network to accommodate double stack technology.
- **Senior Operations Improvement Analyst, Transportation Department, Headquarters** Led analytical team on a wide variety of service design, cost analysis and field support projects dealing with terminal dwell, on-time performance, train speeds, and velocity reporting. Collaborated with Automotive and Steel service groups in design and implementation of mini-trains to support just-in-time demands of those industries.

Trained and supported operating staff at 15 major classification yards in connection with a monitoring system, which drove connection performance from mid-80% to mid-90%.

Relevant Project Experience

- **Confidential Railroad Client** Provided expert testimony and capacity analysis in an arbitration case regarding the client's 200+kilometer bulk commodity railroad in support of the client's take-or-pay agreement with its customers. Determined the Theoretical Capacity and performance of the client's railroad under multiple mainline track and signal configurations by dispatching over 30 cases in the RTC network simulation model. Rebutted the other side's capacity analysis.
- **Twin Cities & Western Railroad** Provided a verified statement as part of client's filing with the Surface Transportation Board regarding his evaluation of the threat of potential traffic diversion that would result from a Class I railroad acquiring a competing regional railroad. Interviewed customers of the client railroad and reported on the likelihood that they would divert traffic from client. Calculated the potential operating margin advantage of the competitor as a metric for the magnitude of the diversion threat, on a lane and commodity-specific basis. Tested the competitor's train counts and capacity calculations on a key main line.
- **Confidential Railroad Client** Provided an expert report about railroad intermodal operating and commercial issues in an arbitration regarding a question of diversion of intermodal traffic from the plaintiff (client) railroad by the respondent railroad.
- **Village of Barrington** Tested current and forecasted train volumes submitted by Canadian National Railway in a control application, and created an independent forecast of train volumes, in support of client's filing with the Surface Transportation Board. Created the forecasts using the Freight Analysis Framework (FAF2.2) Database of the USDOT's Federal Highway Administration. Lead firm's review of the Class 1 railroad's work papers, development of discovery questions and assessment of the resulting discovery documents in connection with this northern suburb of Chicago.
- **Gulf Coast Rail District** Project Manager and railroad expert of a multi-disciplinary consulting team which ranked three prospective freight rail bypass options in Fort Bend County between Rosenberg, TX and southwest Houston, TX. The ranking was based upon a benefit-cost analysis (B-CA) to which Mr. McLaughlin contributed, for each option, an analysis of railroad operational impacts and their associated costs to the railroads and assisted in the development of railroad infrastructure construction costs. The B-CA also incorporated Mr. McLaughlin's updated operating and maintenance costs of the related prospective commuter rail operation between Rosenberg and Houston. He also developed 26-year projections of freight train volumes on the affected BNSF, KCS and UP lines which identified the amount of track network capacity which would be required to accommodate those volumes.
- **Harris County, TX** Supported Harris County's defense against lawsuits brought by Union Pacific Railroad (UP) related to Harris County's plans to construct two new grade crossings and add a lane at an existing grade crossing across a single track UP line. UP opposed the construction and claimed that it would impact train operations since UP uses the line to stage trains. Mr. McLaughlin reviewed track layouts and train operations and determined that there would be no adverse safety impacts at any of the crossings with those proposed improvements. He also determined that UP's practice of staging trains on the single track segment instead of on a nearby siding actually hampered train operations in the area. The lawsuits were dismissed in favor of Harris County.

Appendix 2 – 1

Sample Views from TIT Cameras

Sample views¹⁰³ from TIT's cameras are presented below:

View Toward 77th Street

- Looking generally west - southwest, under the Pelican Island Causeway, at the Harborside Drive overpass and toward 77th Street in the far distance;
- Three tracks in view, from right to left:
 - TIT-owned Track 756;
 - UP-owned Track 102 and
 - UP-owned Track 611 which connects with Track 102 immediately beyond (west of) the Harborside Drive overpass. It provides the connection between UP and BNSF's Valley Yard and
- The TREX-proposed track would cross these three tracks at grade on diamond crossings approximately _____ feet beyond the Harborside Drive overpass.



¹⁰³ Images provided by TIT.

View of UP-BNSF Interchange Track

From Left to Right:

- TIT Industry Track yard (Tracks 810 – 813) (east – southeast);
- UP Interchange Yard (south – southeast);
- Lead track to UP's 37th Street Yard (south); and
- UP-owned Track 102 and Track 611 (the connection between UP and BNSF's Valley Yard) (southwest – west) and TIT-owned Track 756 (west), including the area east of the Harborside Drive overpass at which the TREX-proposed track would cross these three tracks at grade on diamond crossings.



View along Port Industrial Road

From Left to Right:

- Old Port Industrial Road and the lead track to the TIT Facility;
- TIT Industry Track yard (Tracks 810 – 813) (east – southeast); and
- UP Interchange Yard (south – southeast).



Appendix 3 - 1

TREX Presentation

**“Providing Connecting Rail Service
to Texas International Terminals”**

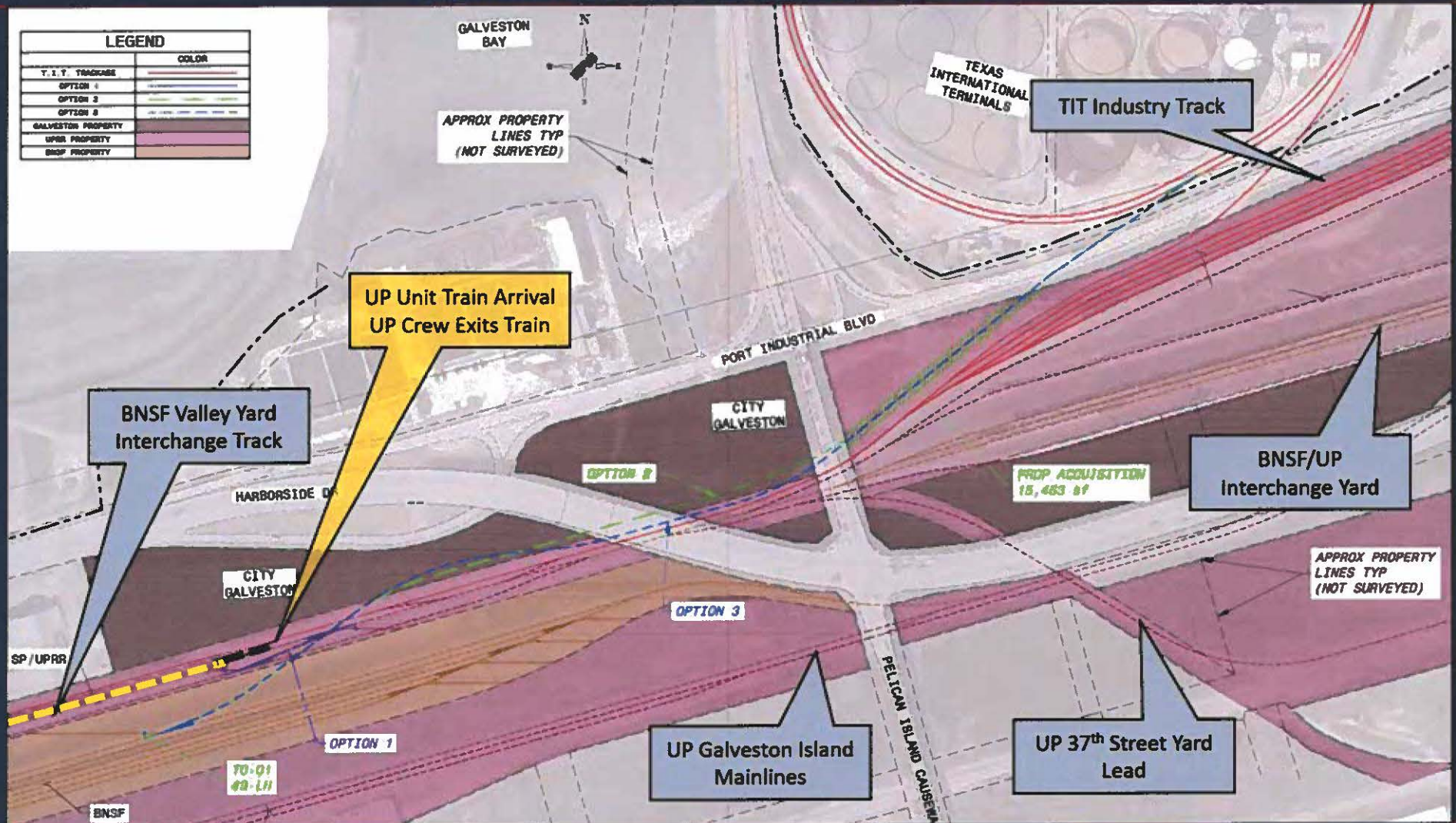


TREX

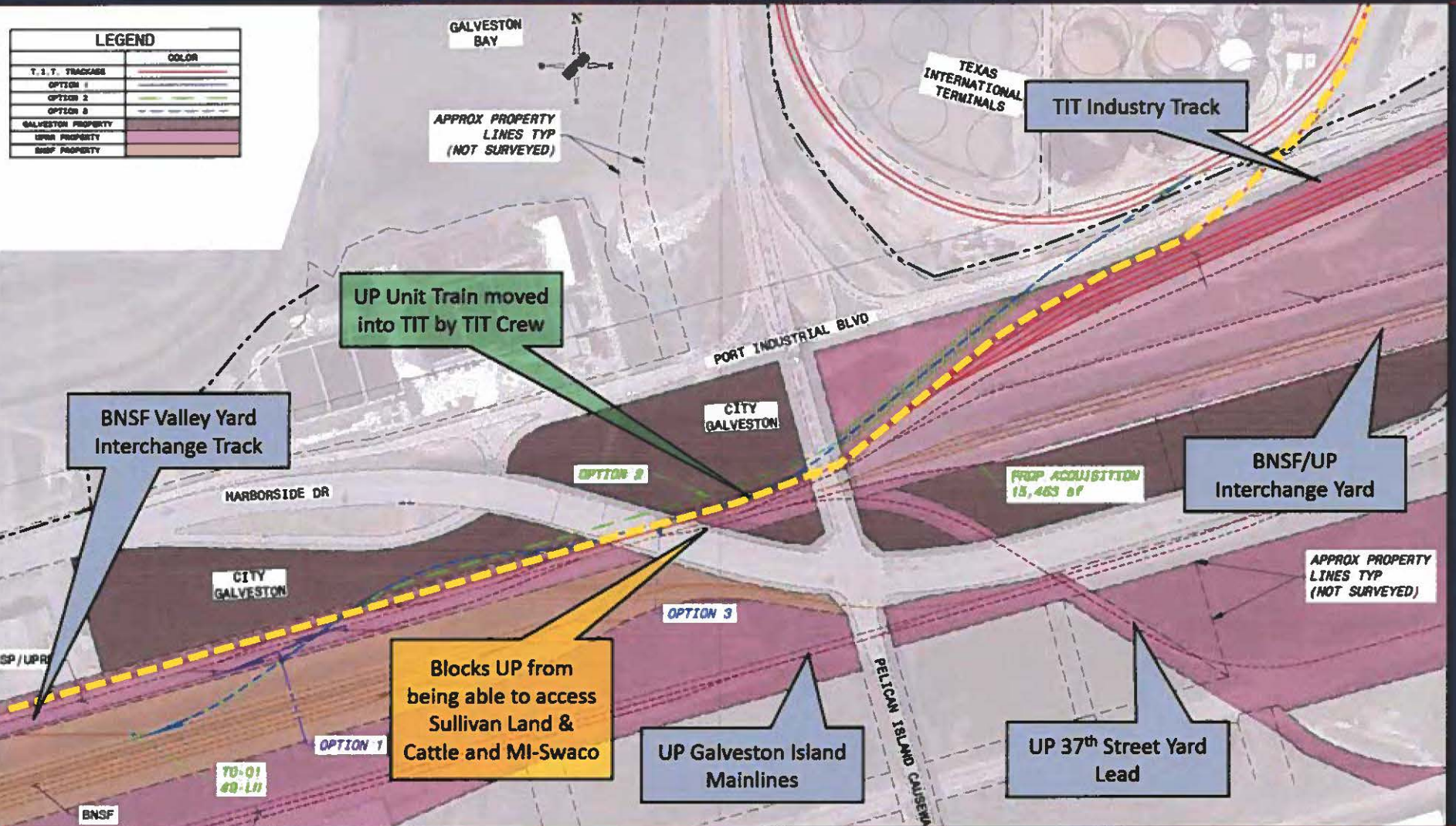
Texas Railway
Exchange LLC

Providing Connecting Rail Service to
Texas International Terminals

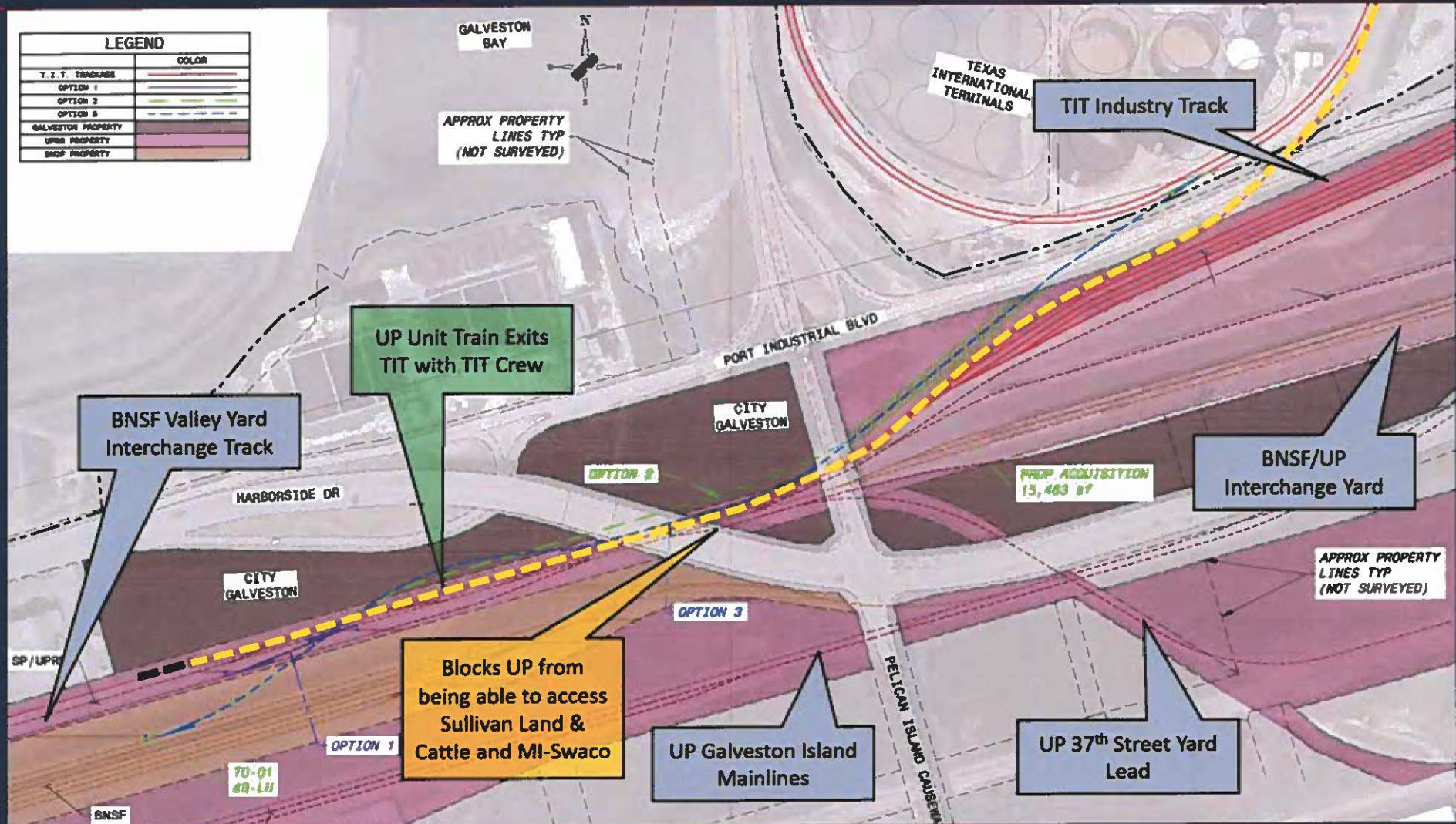
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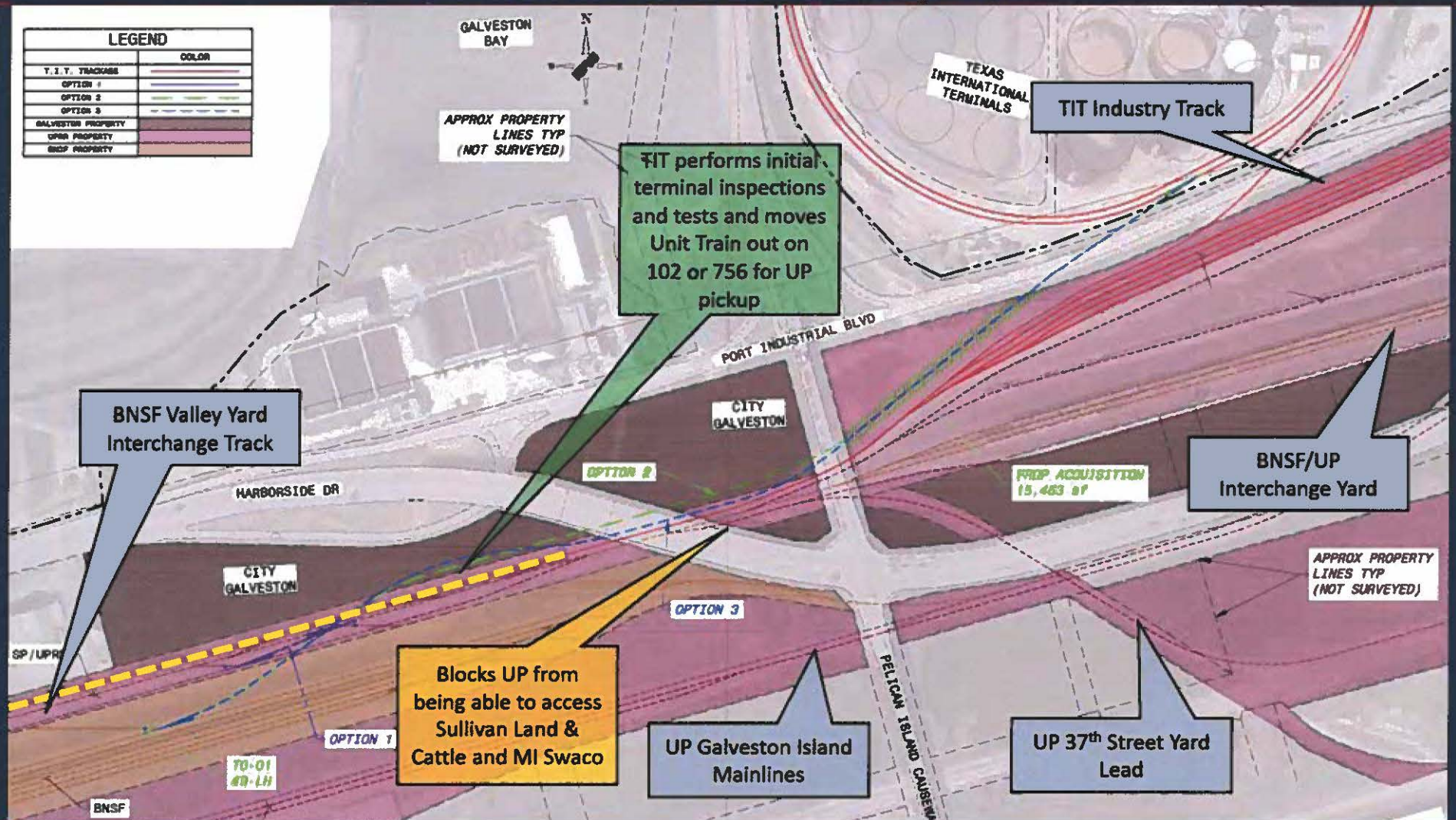
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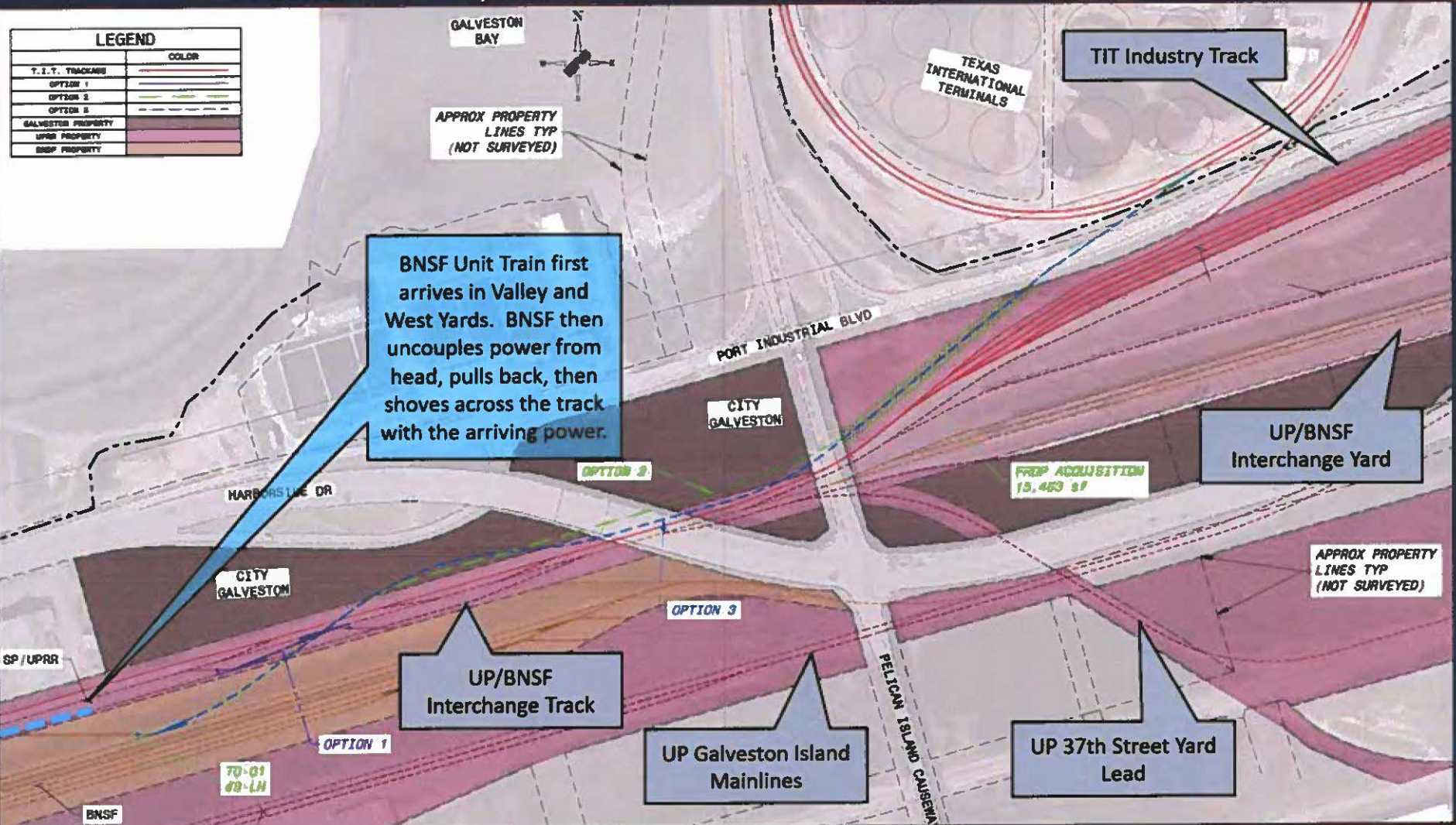
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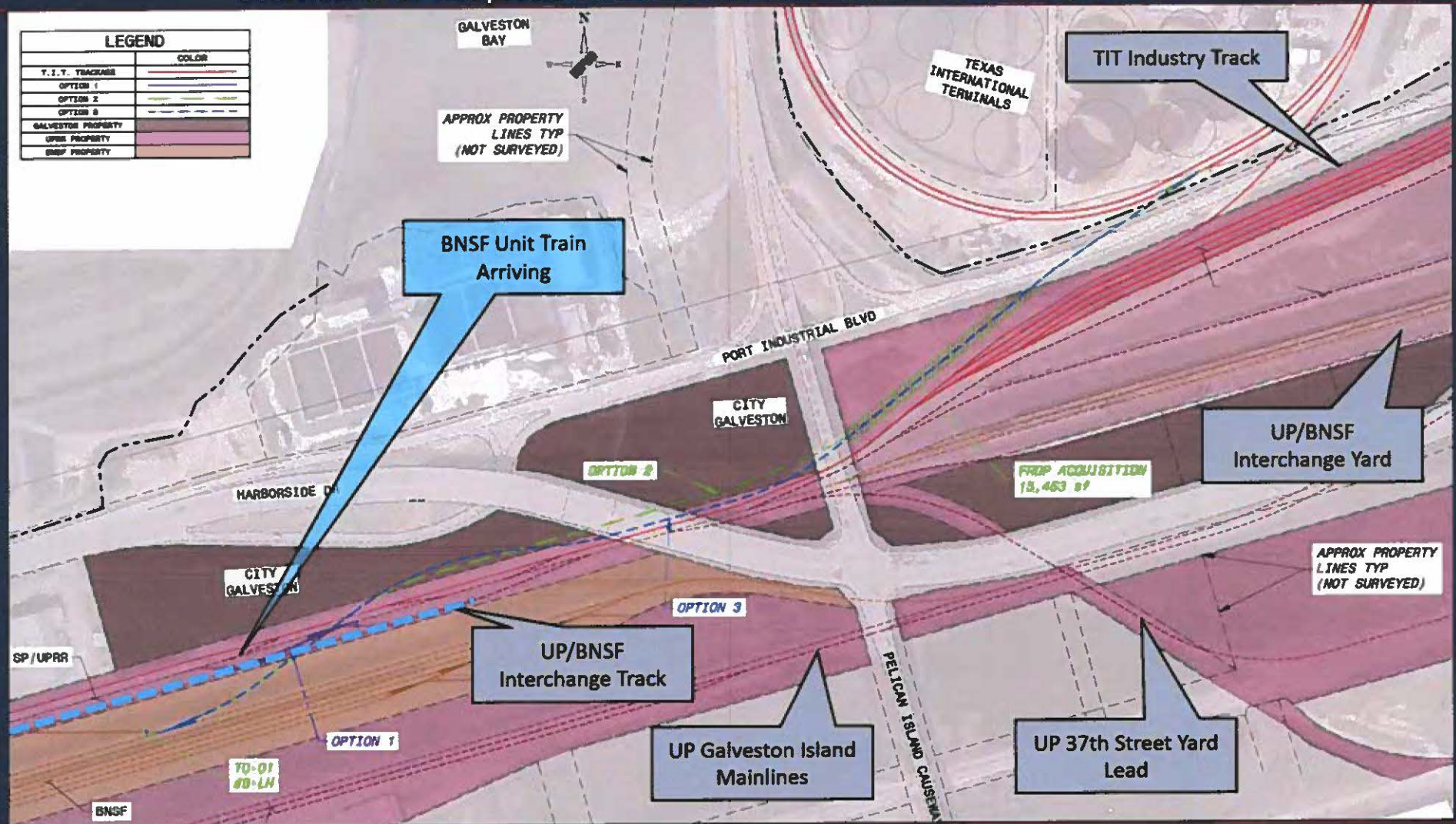
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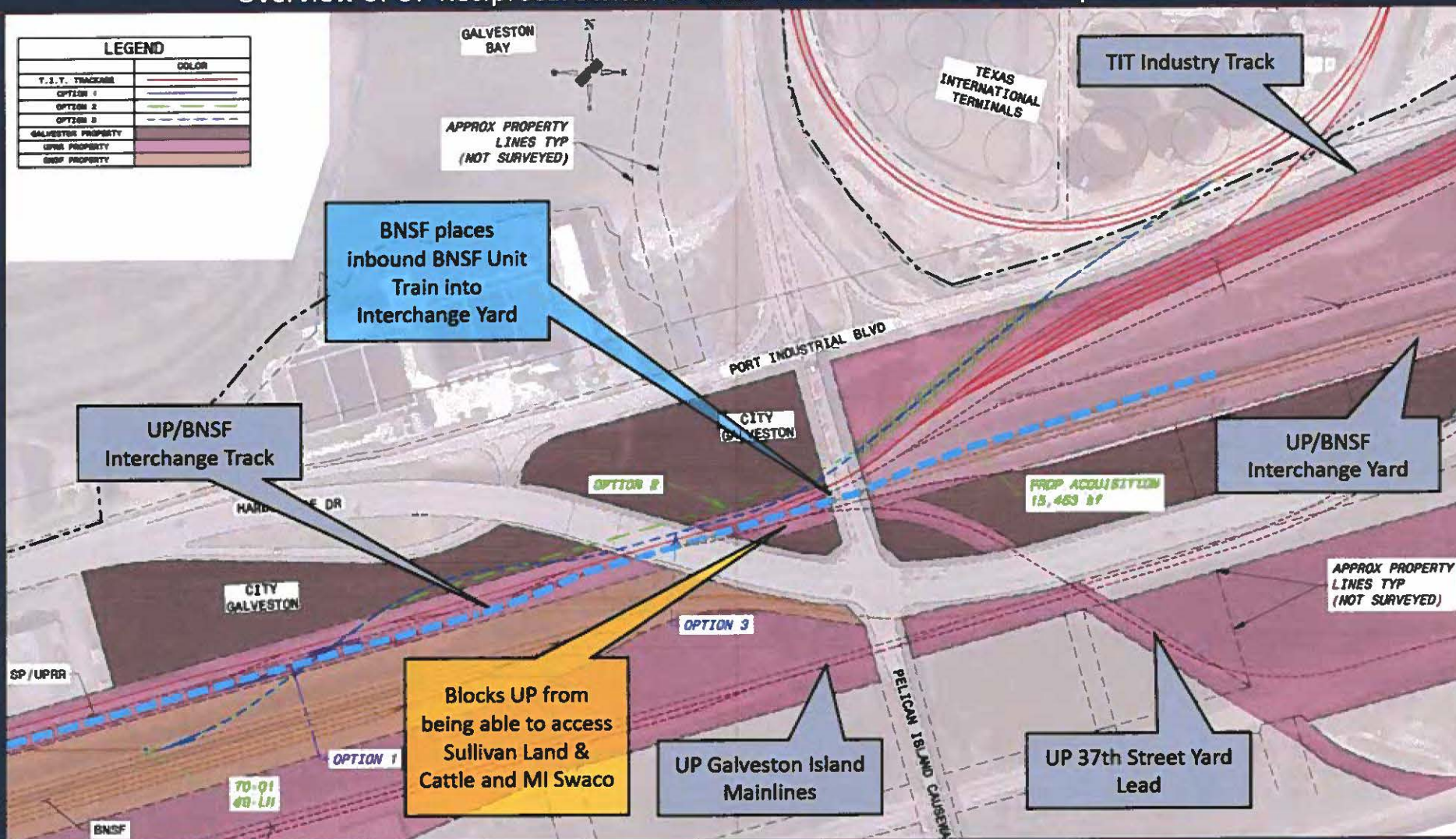
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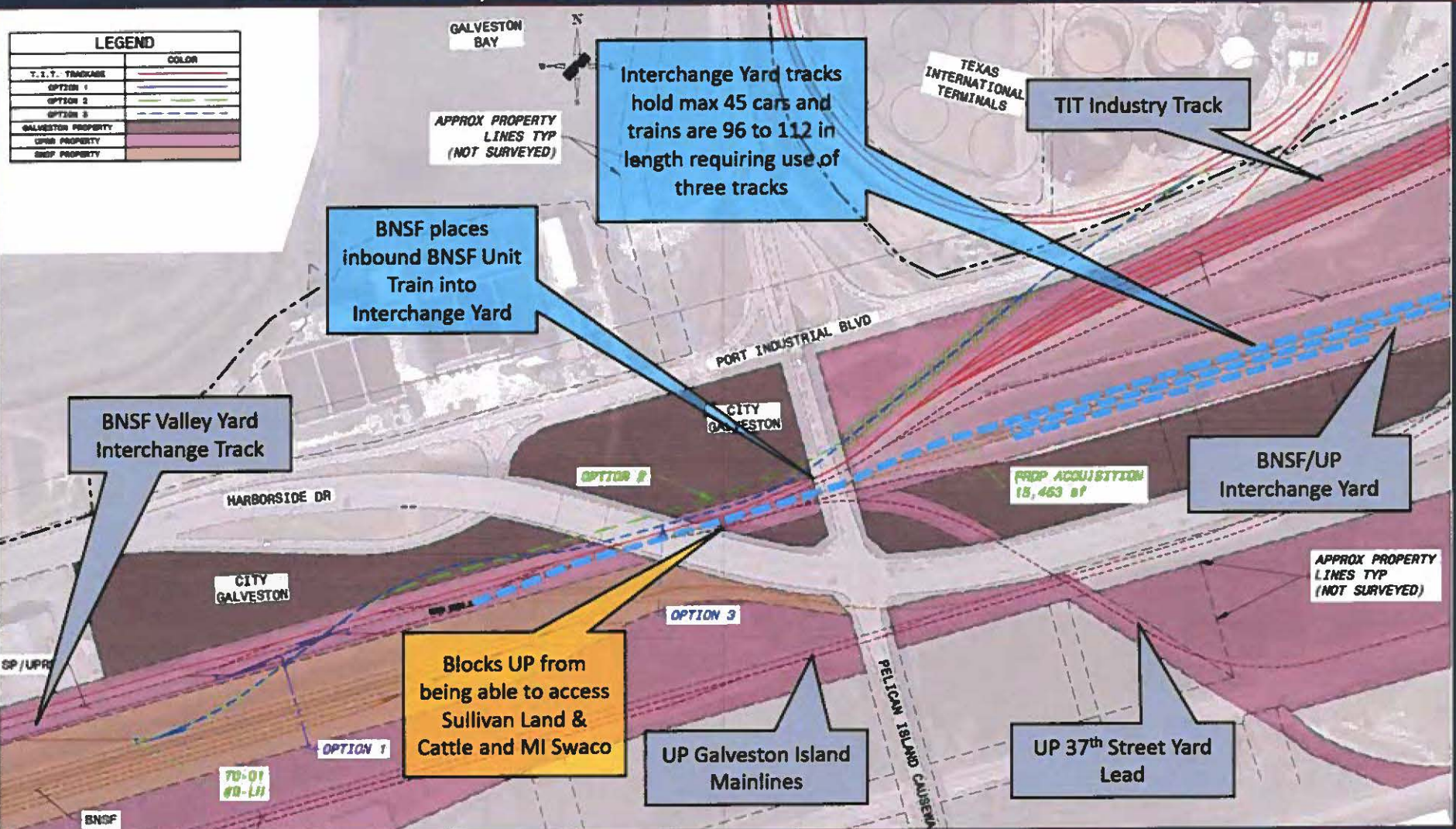
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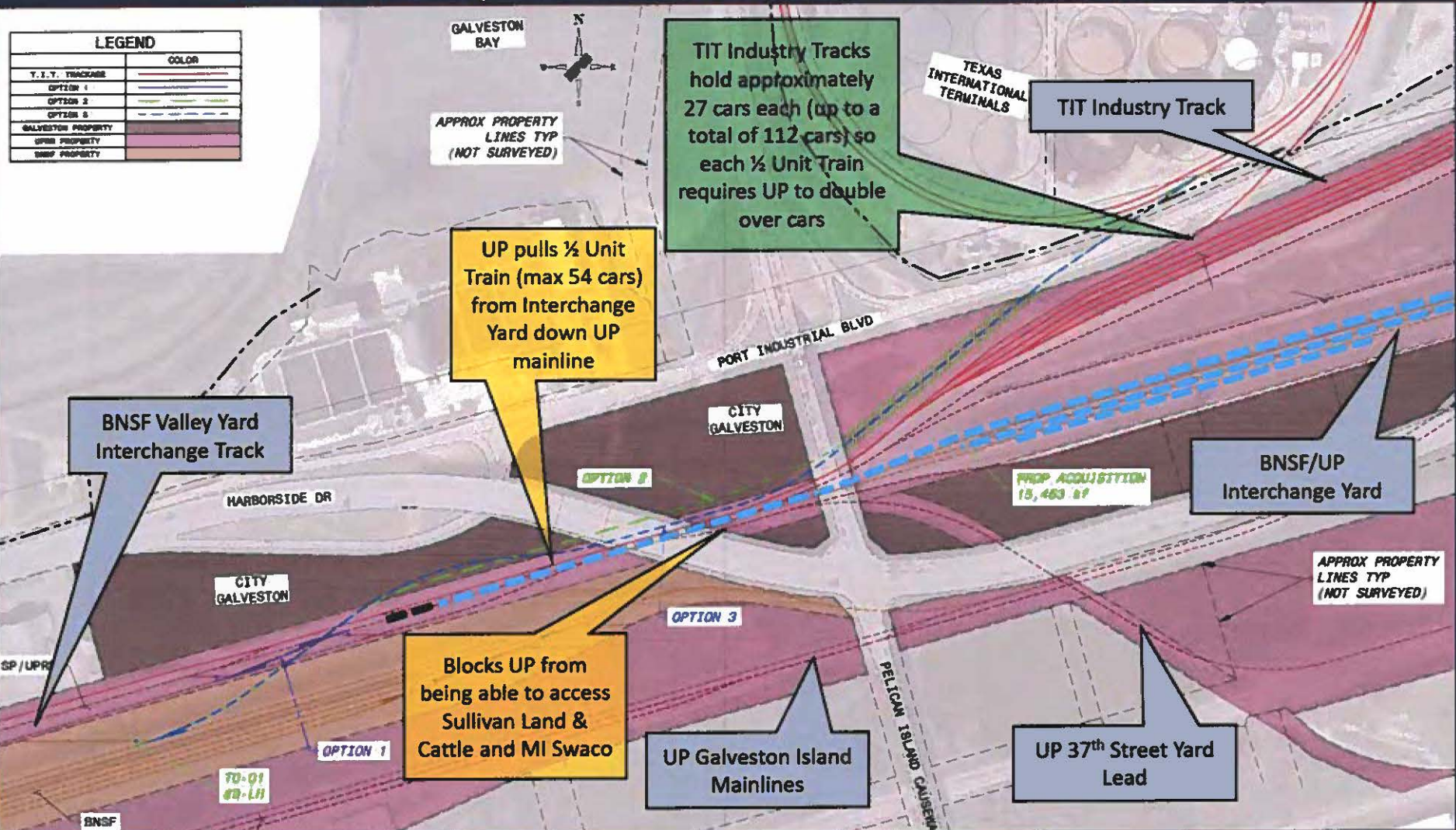
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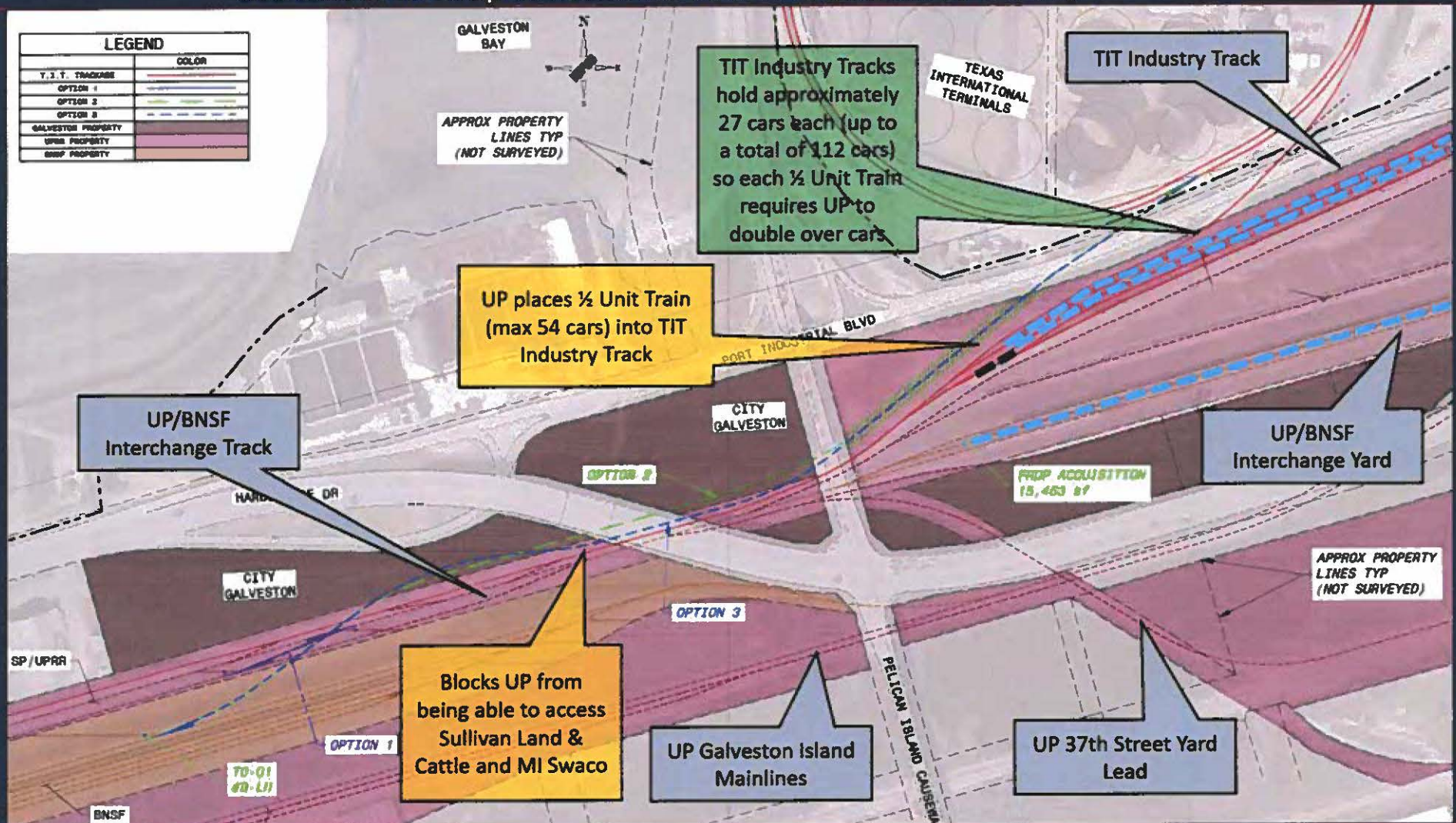
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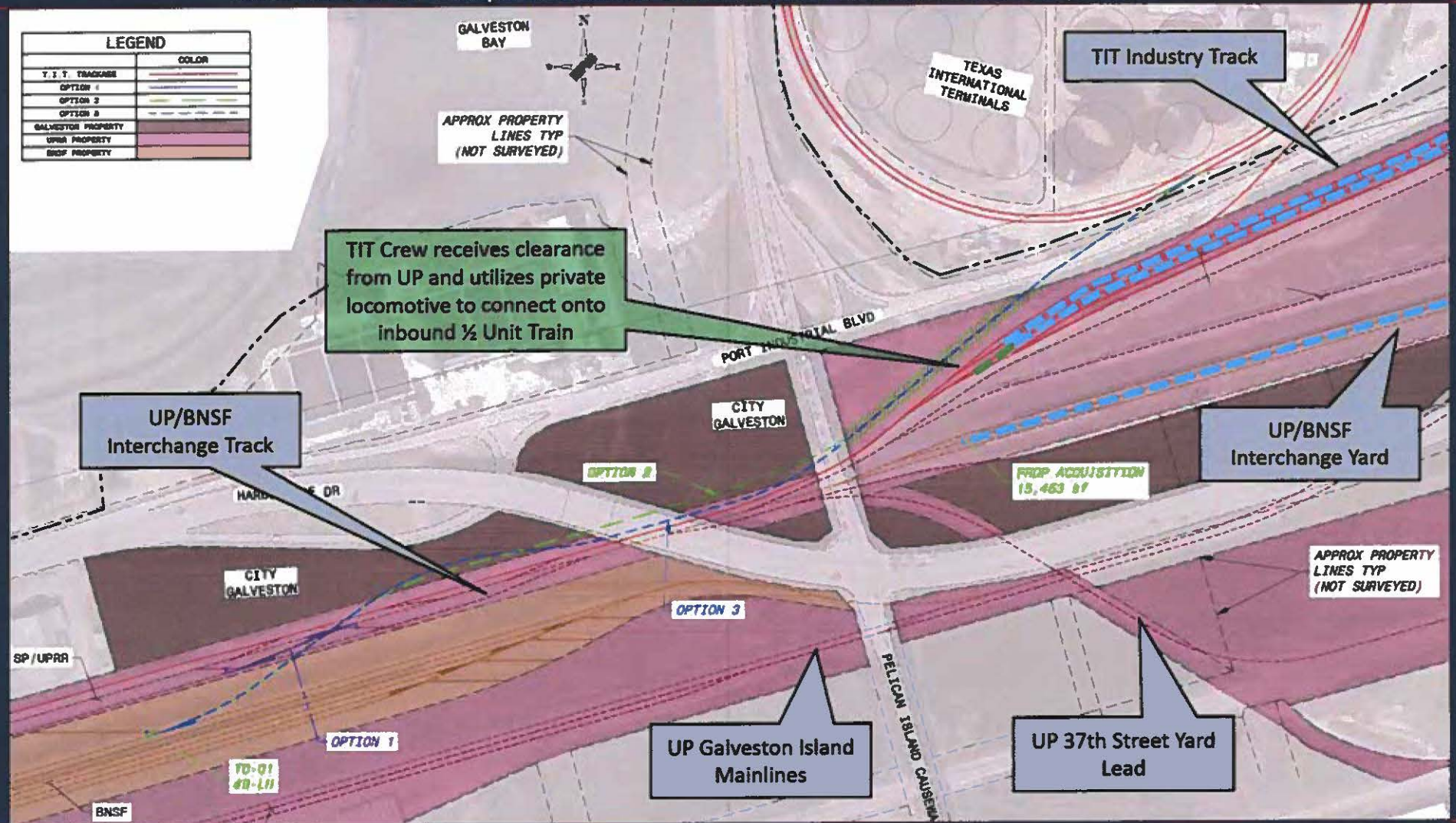
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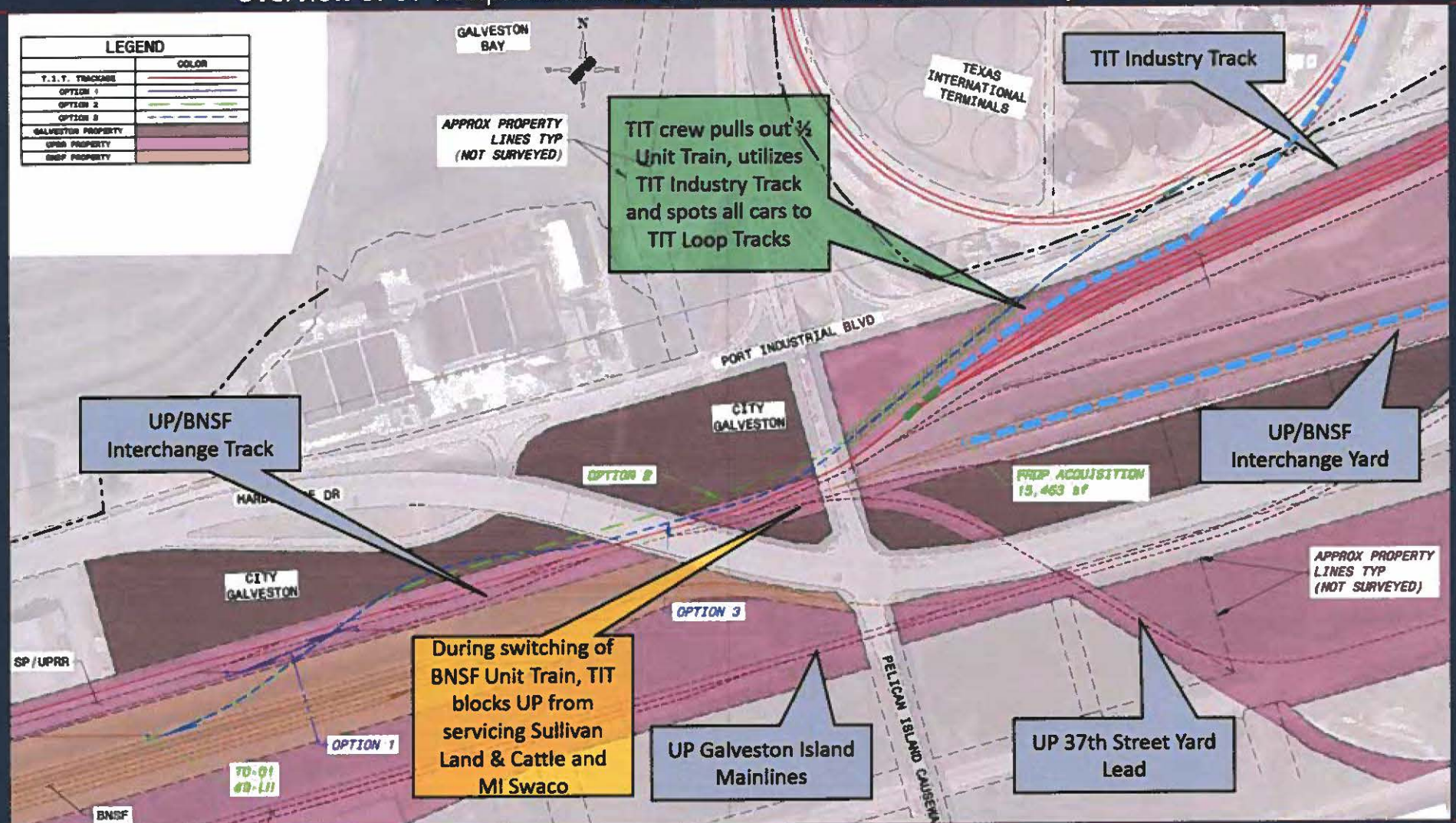
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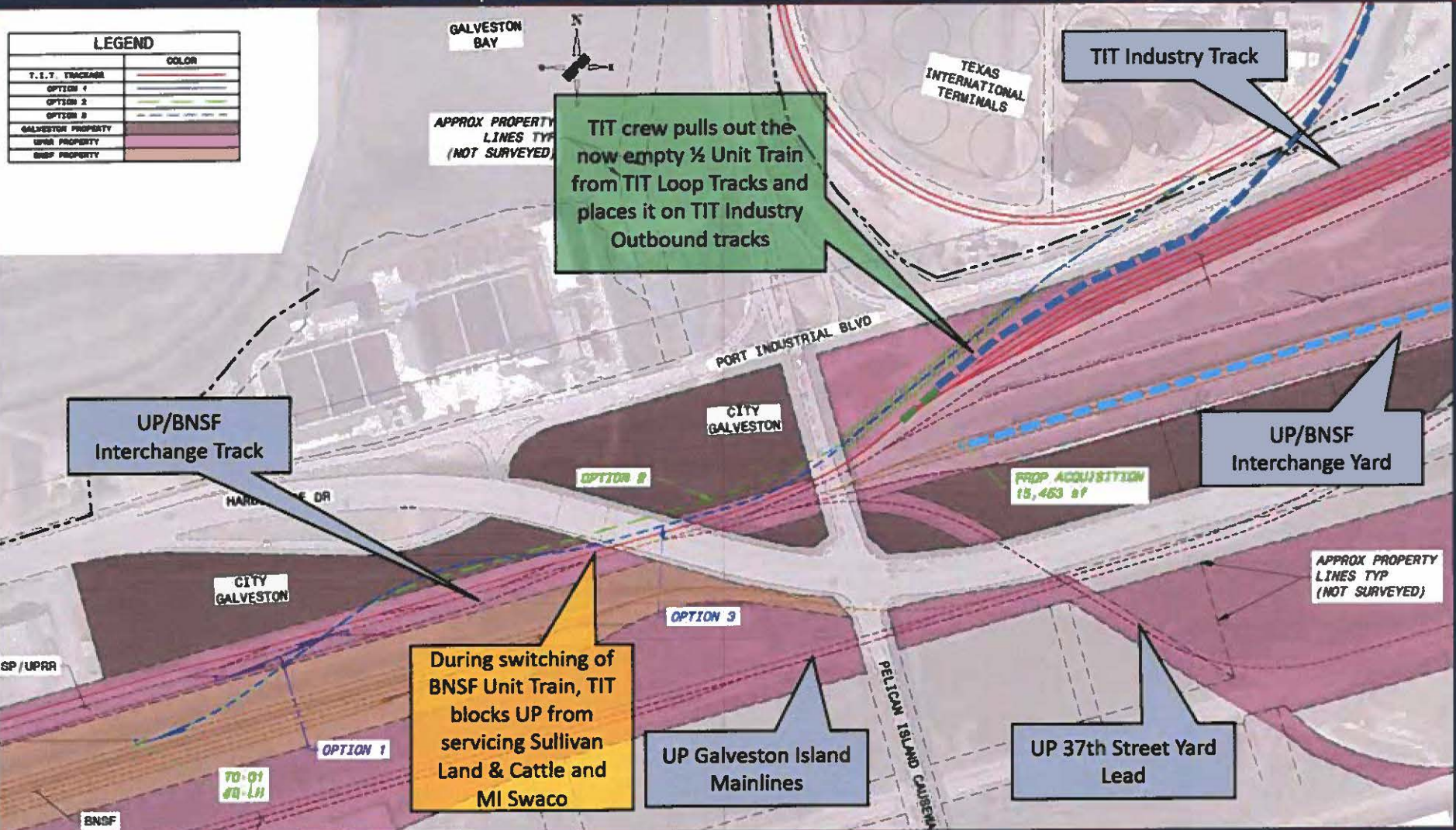
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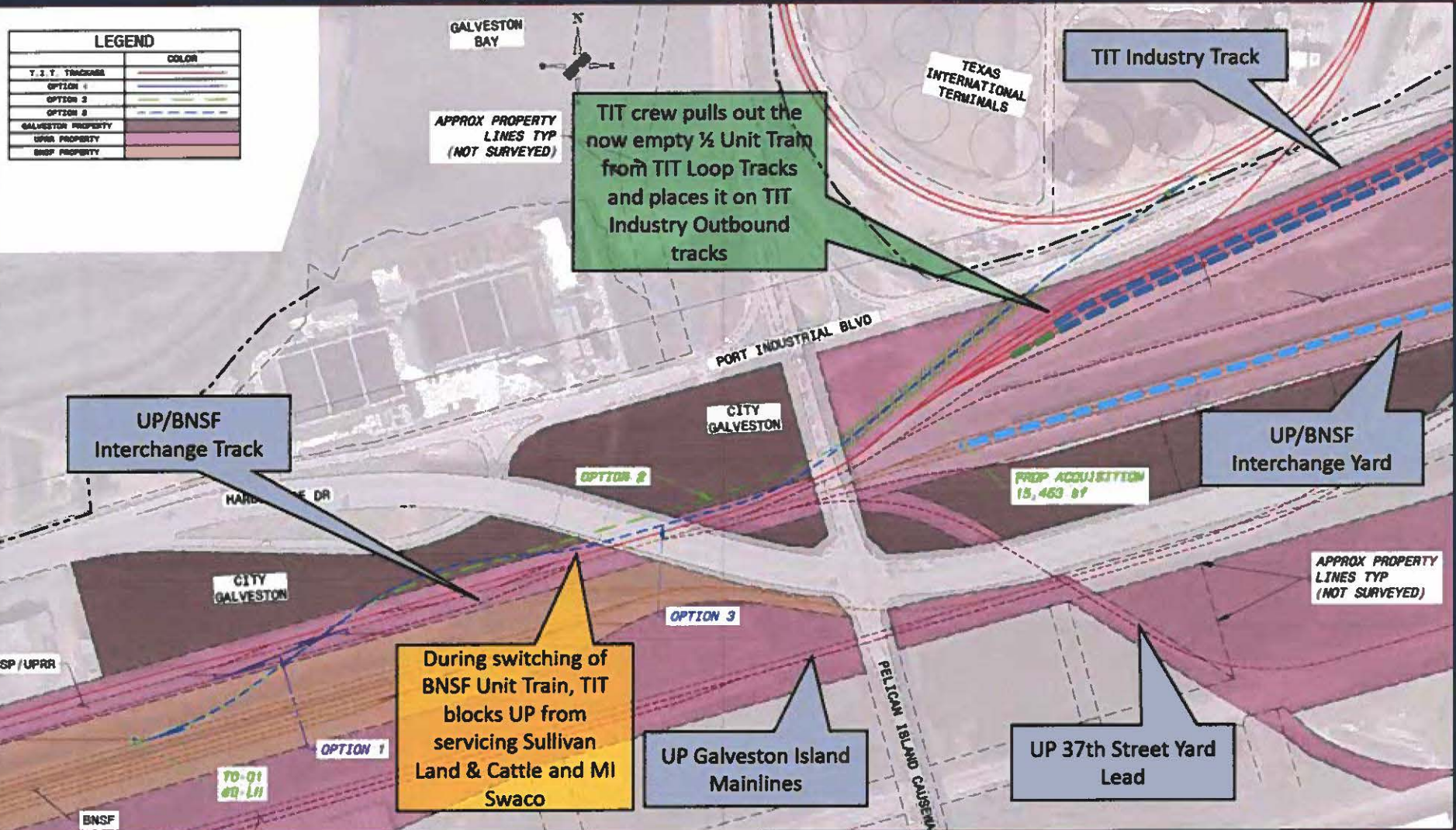
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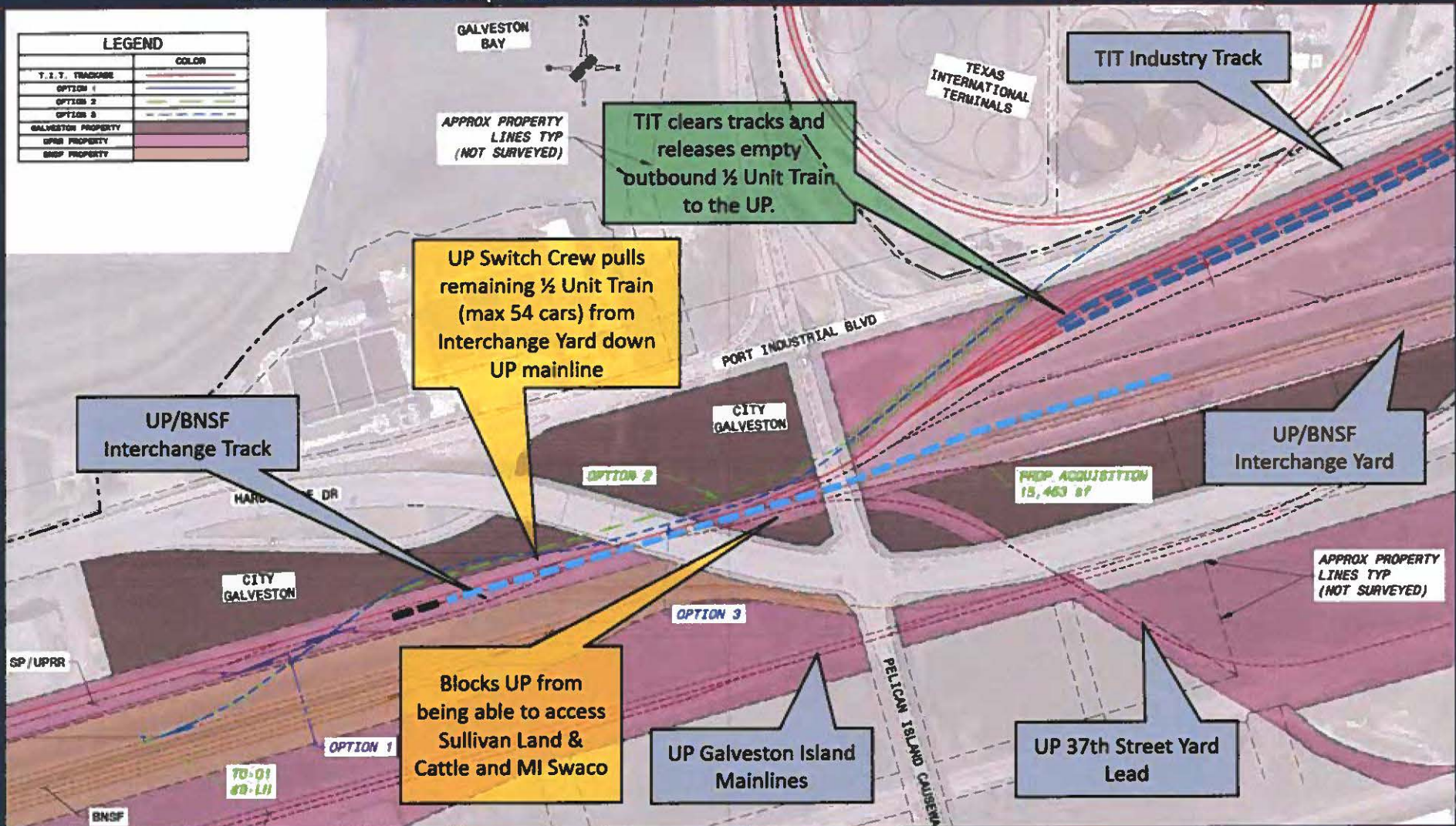
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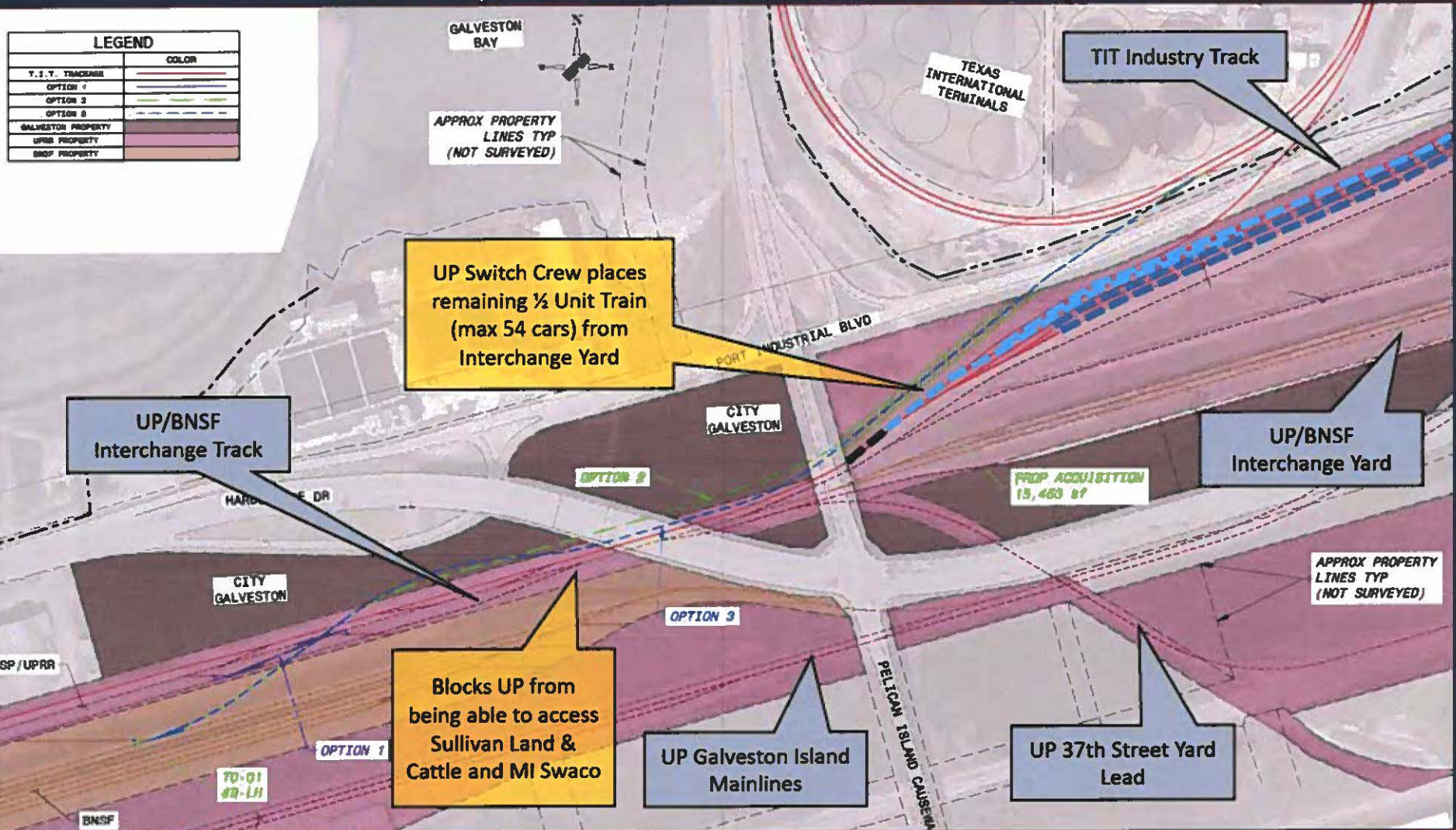
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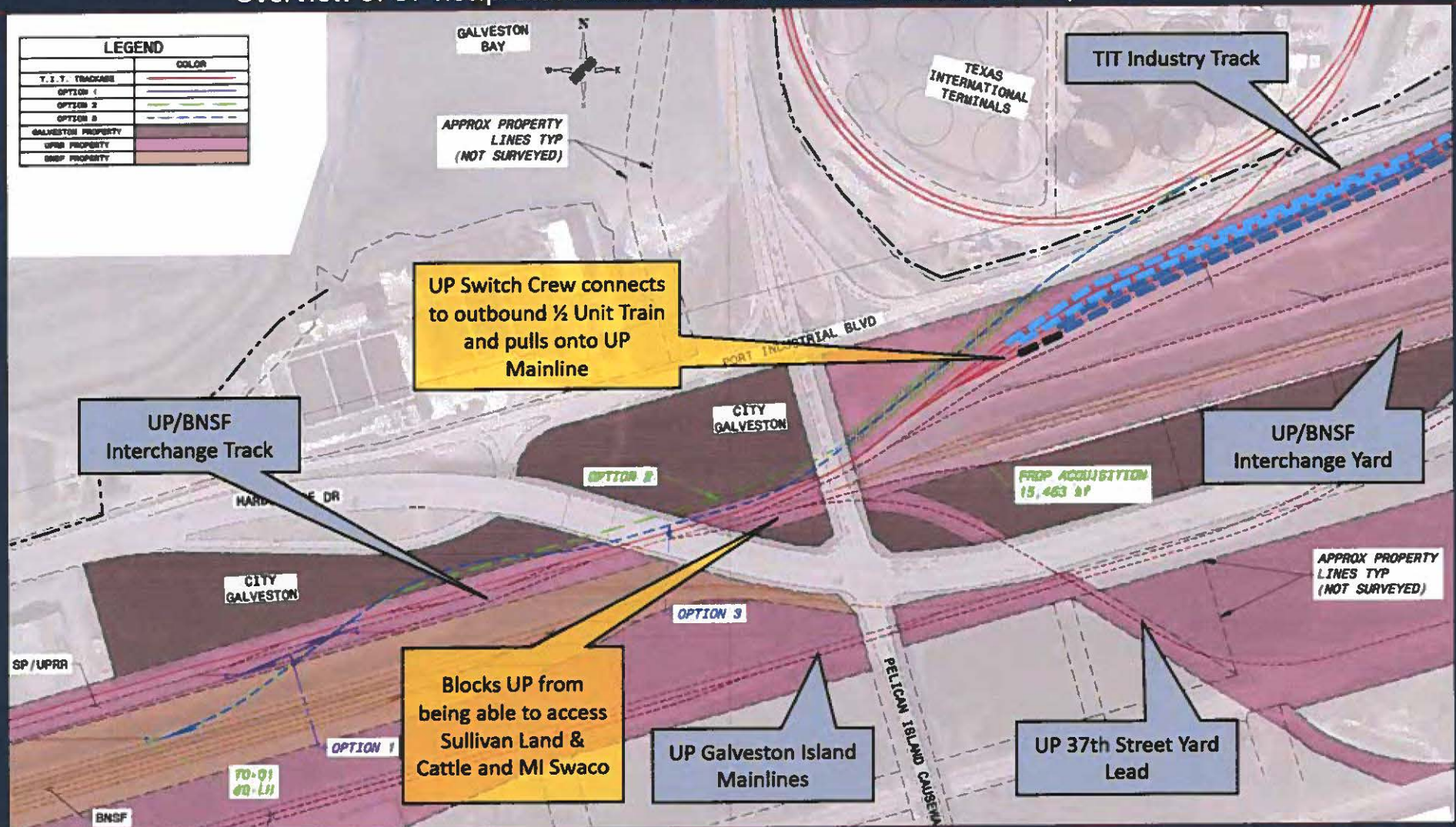
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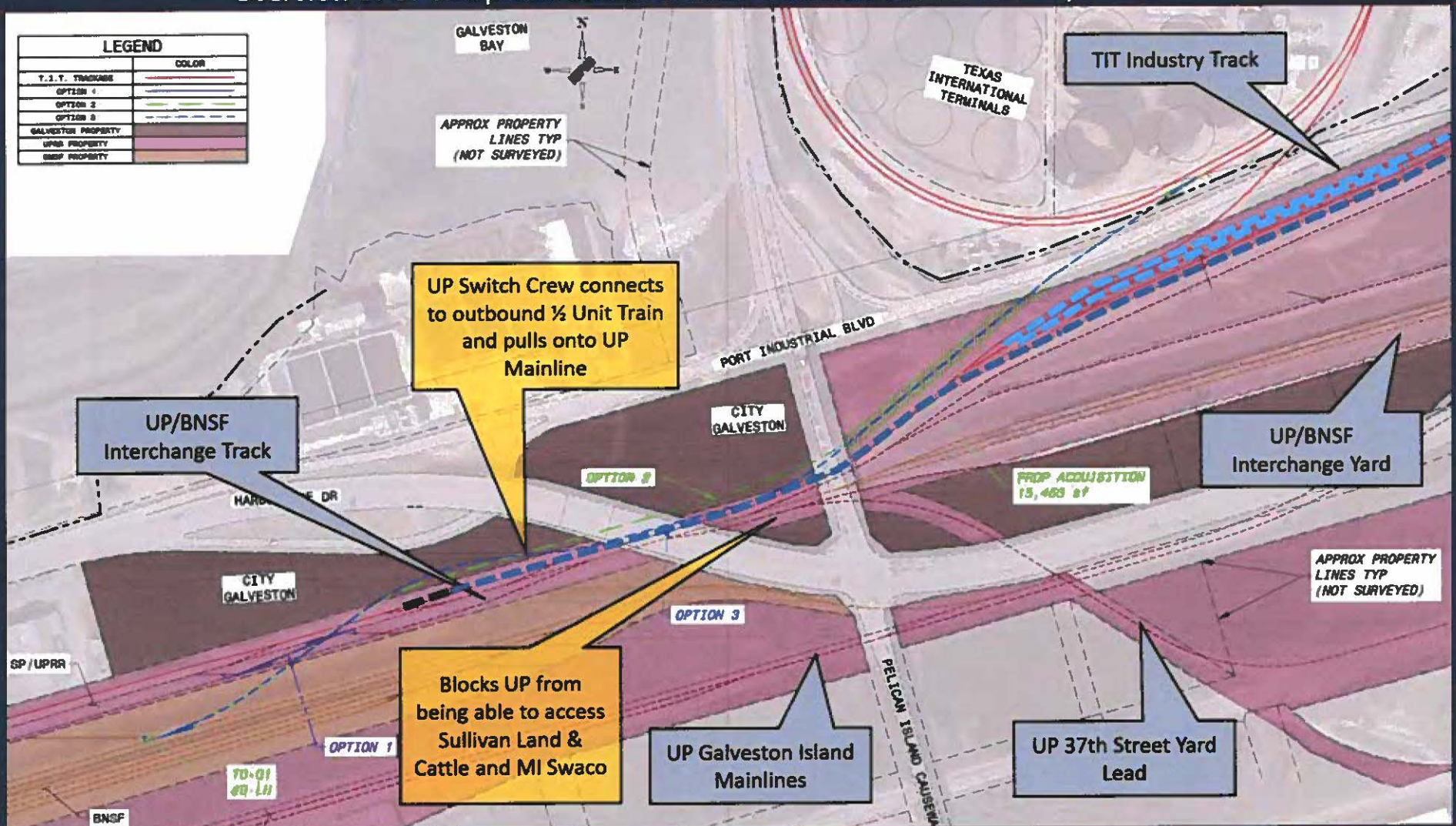
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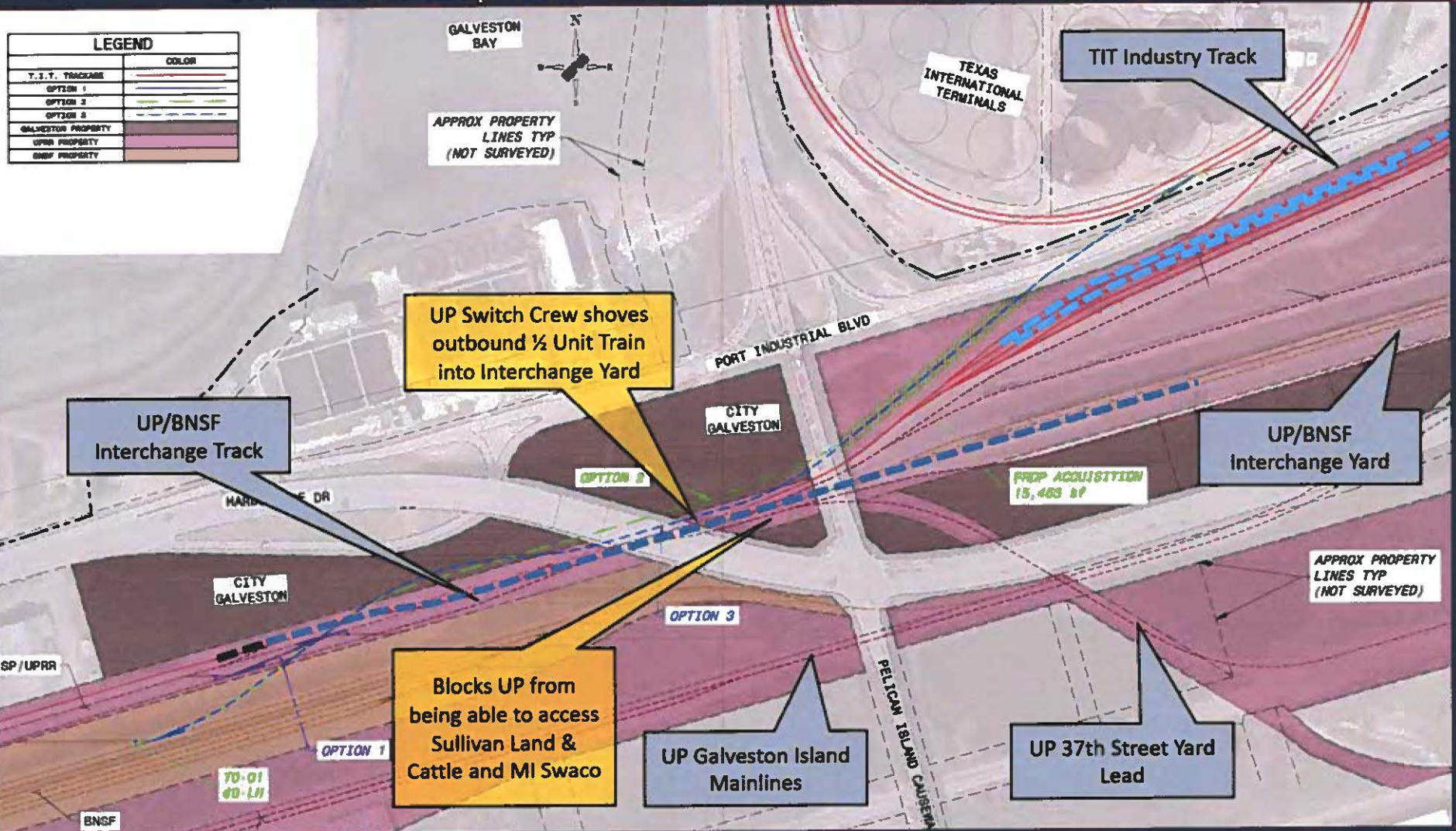
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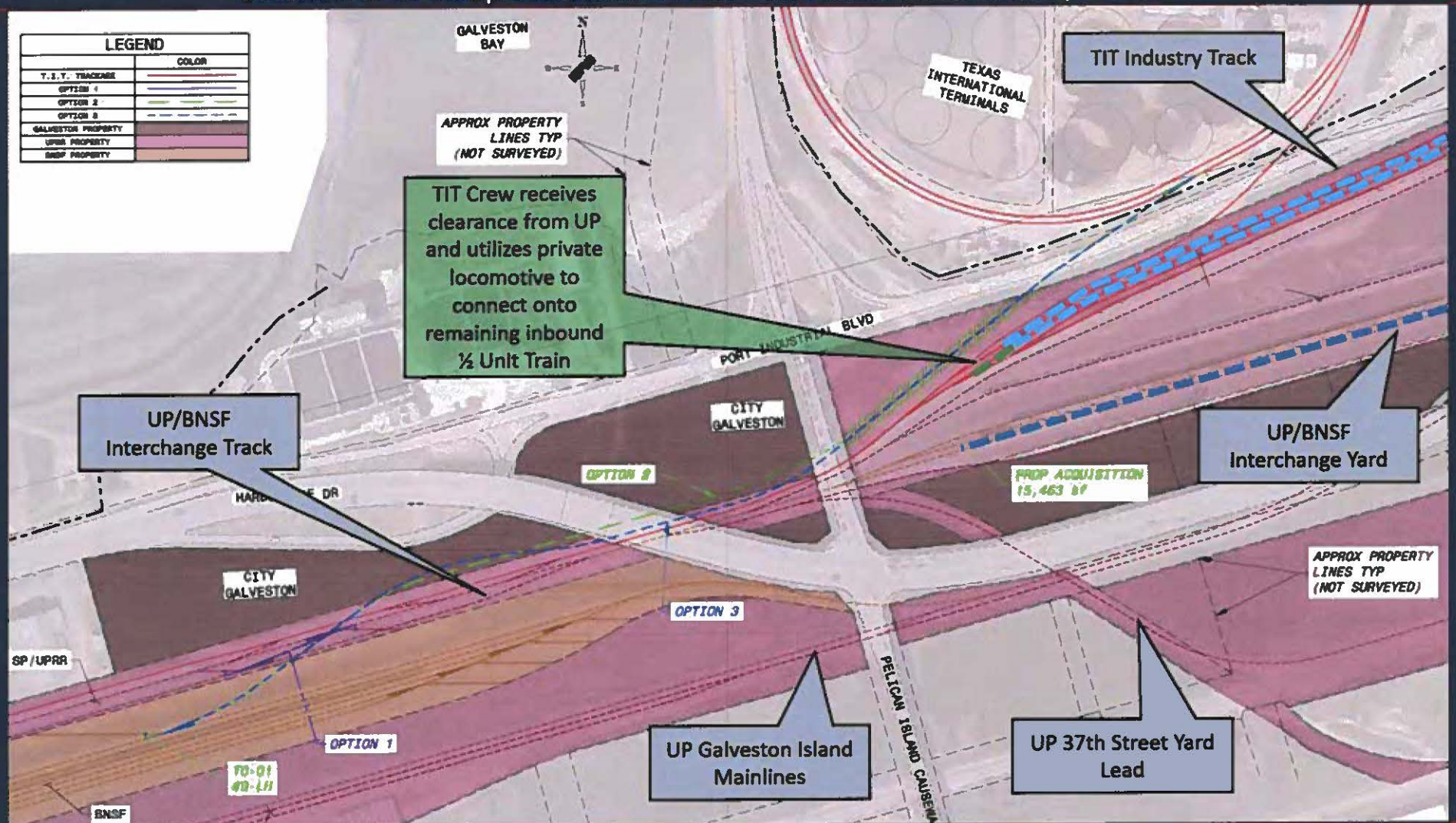
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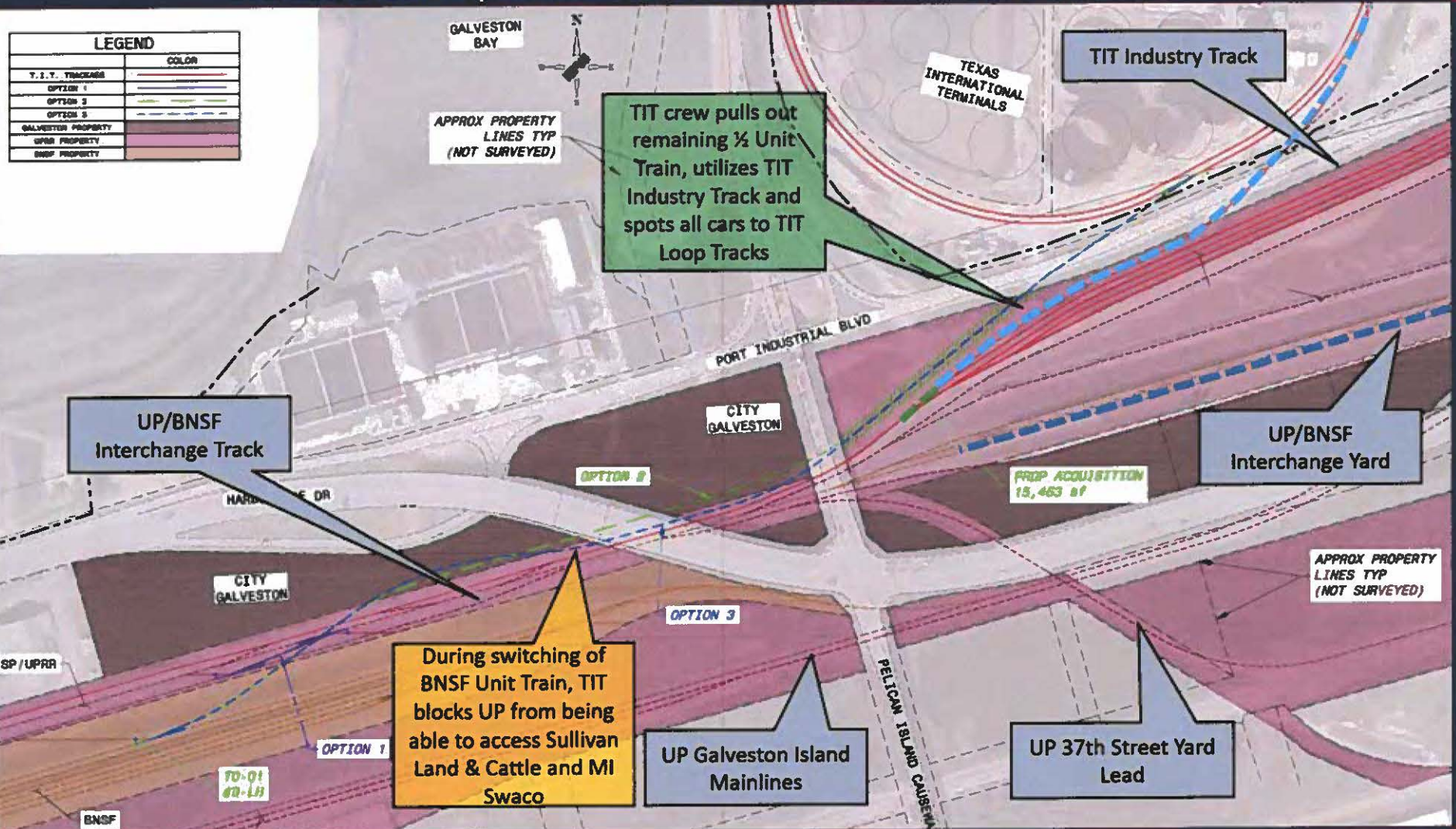
Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure



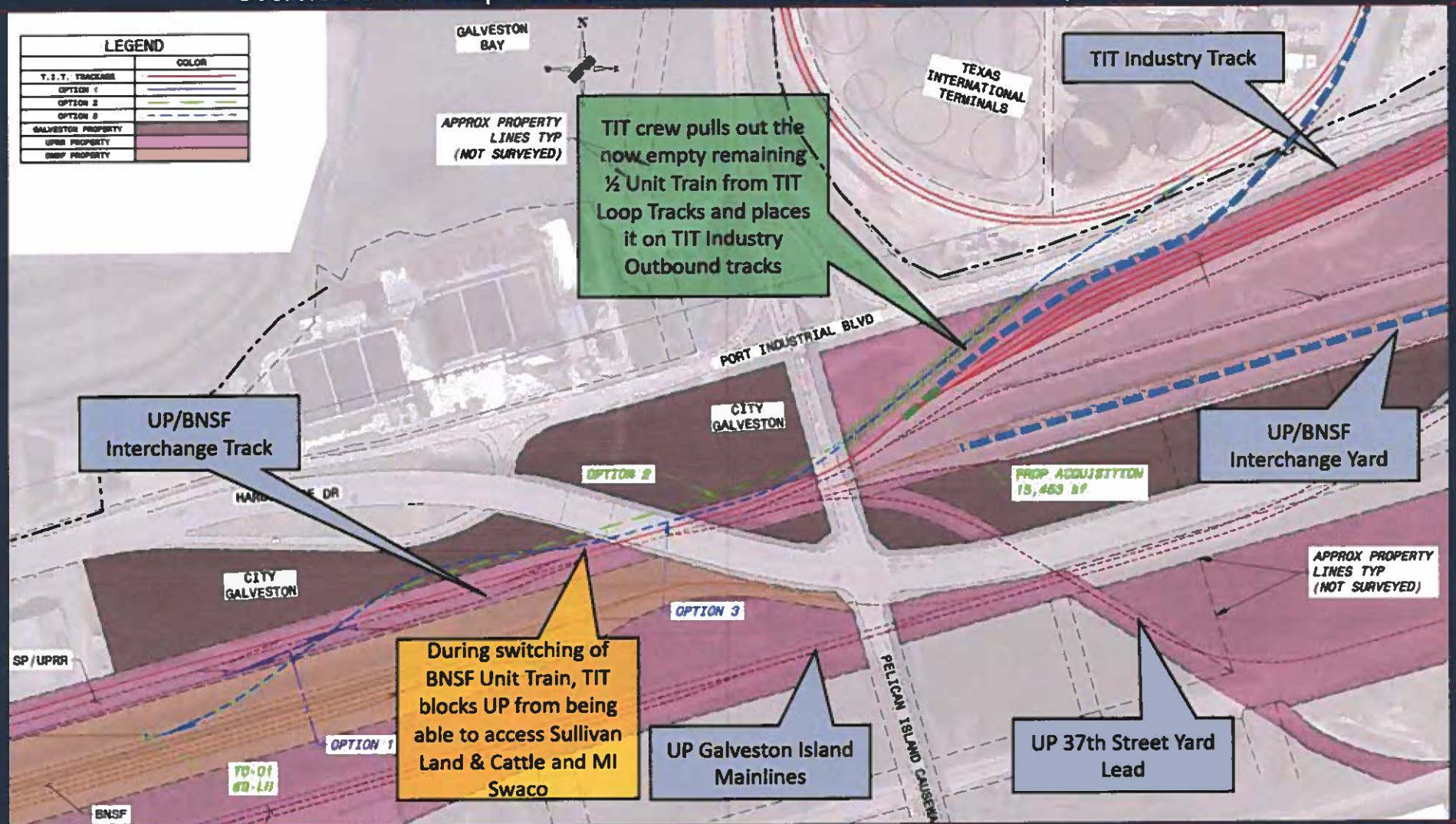
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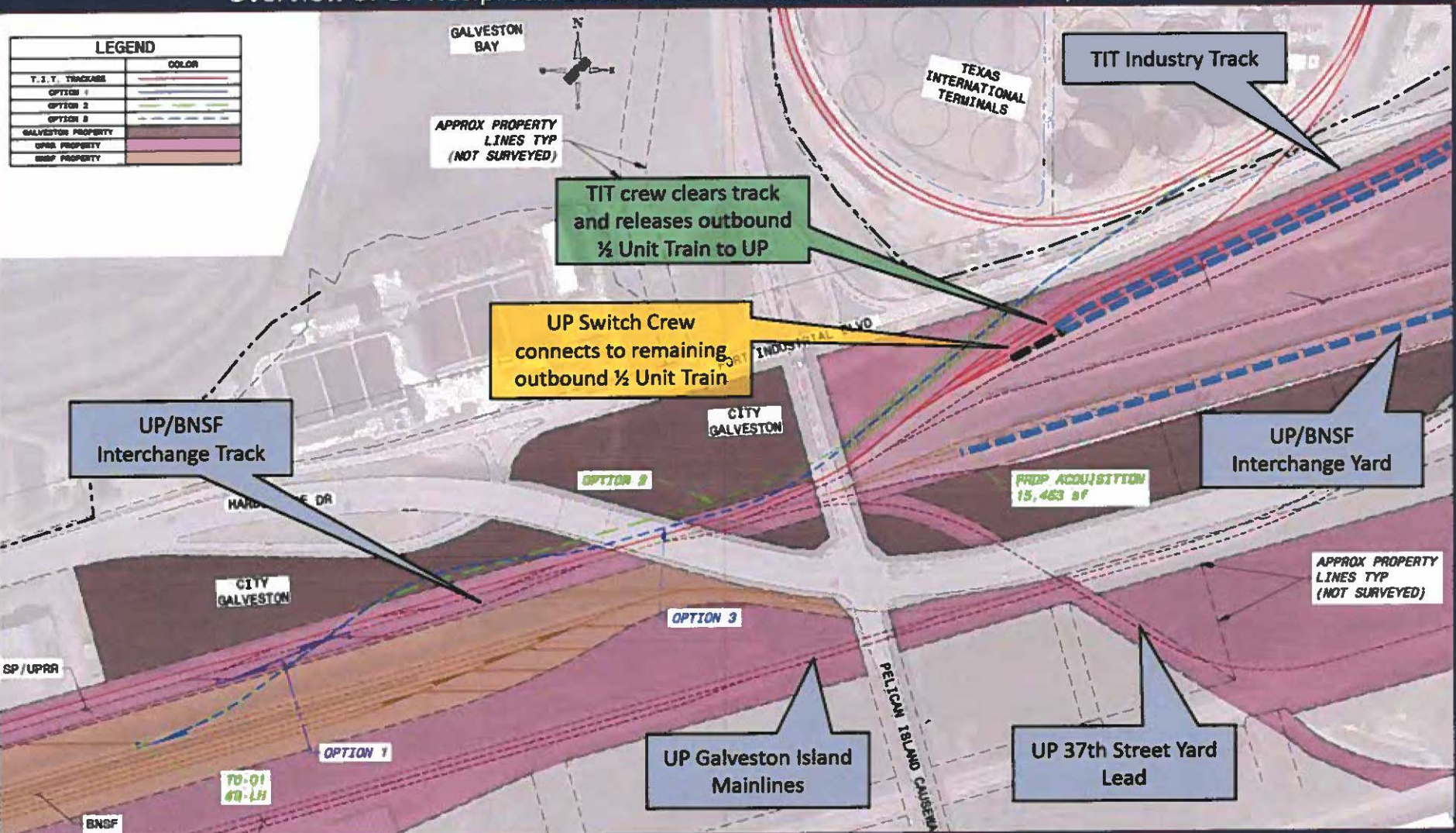
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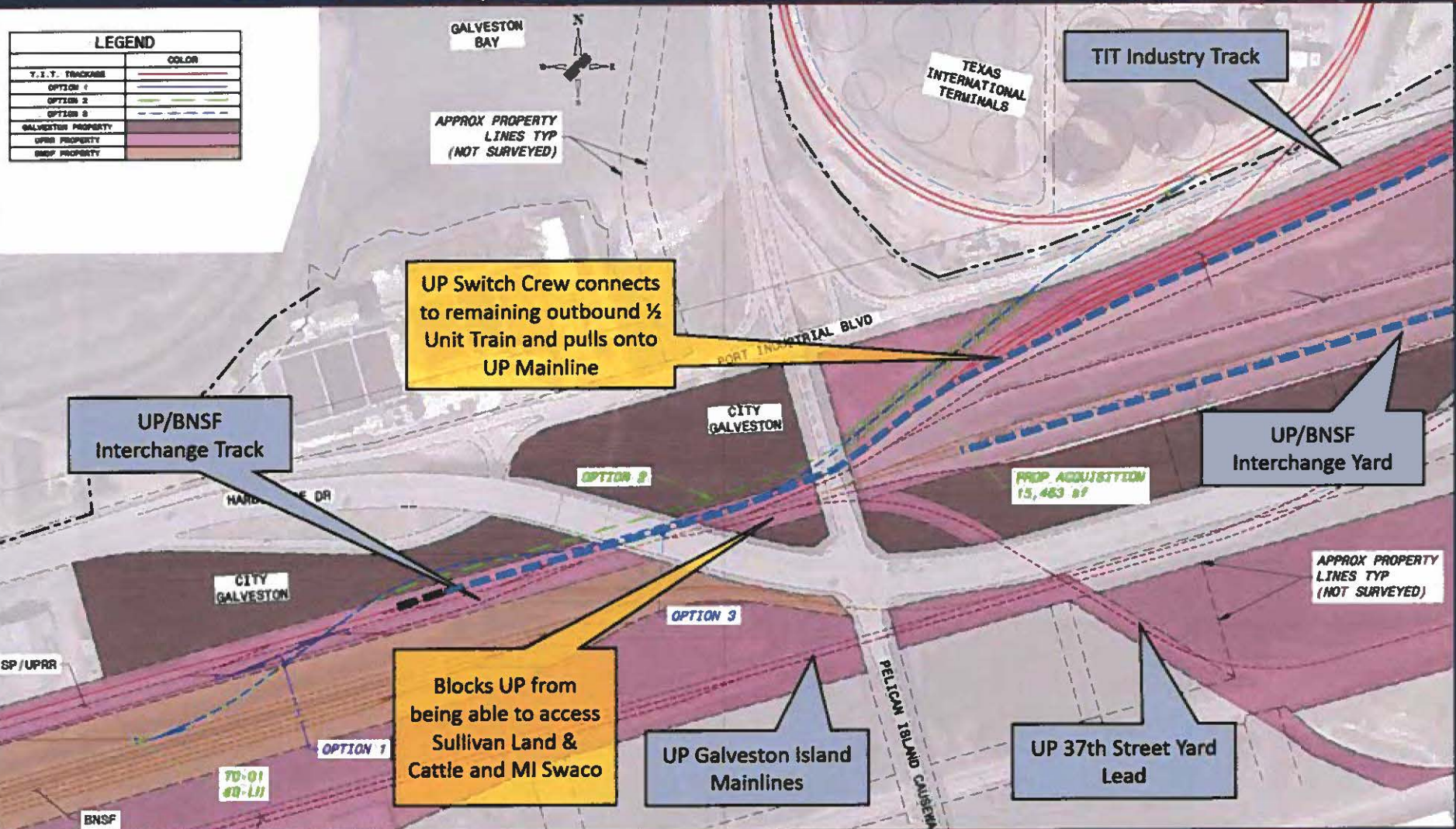
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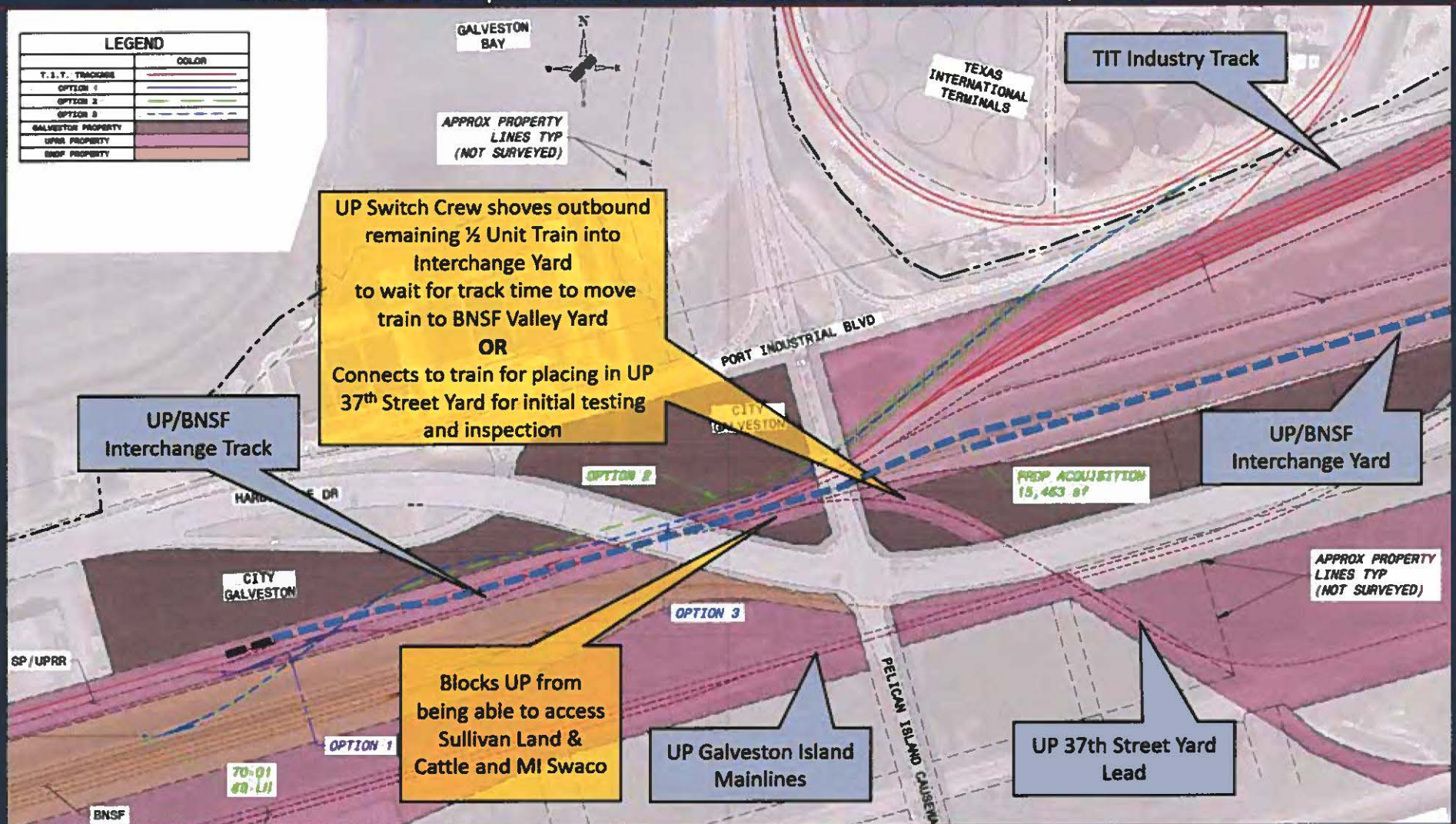
Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure



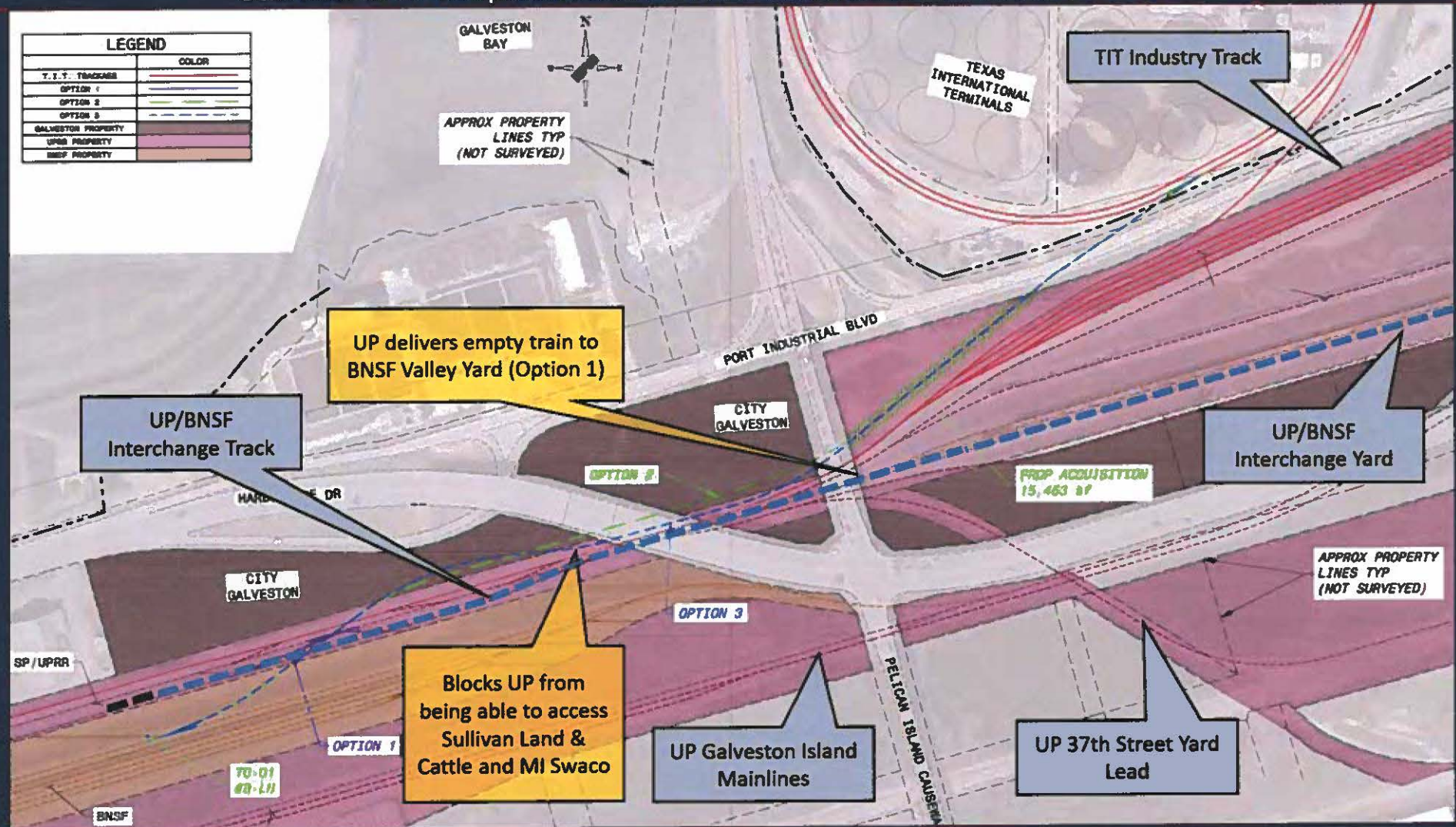
Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure



Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure

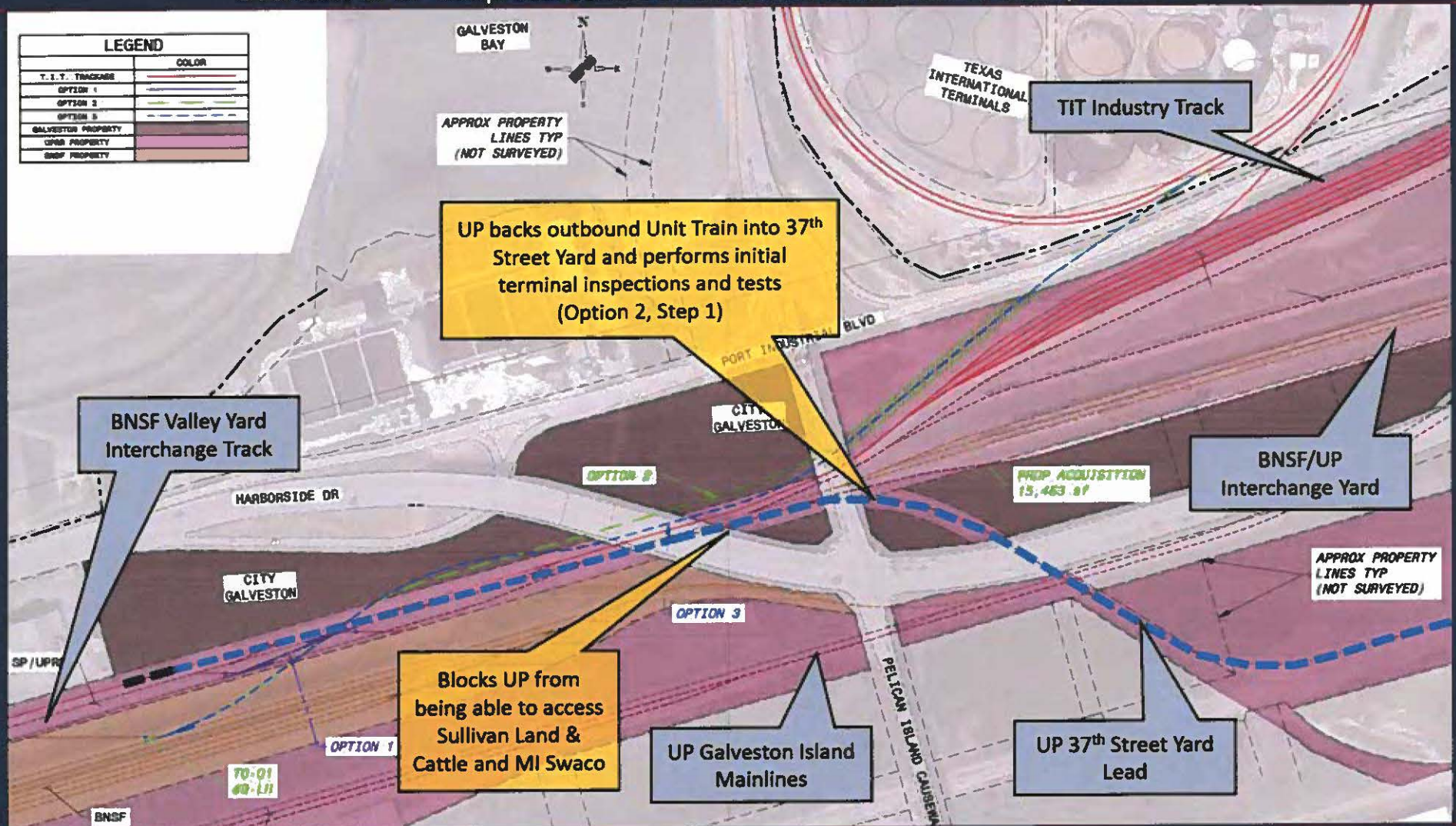


Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure

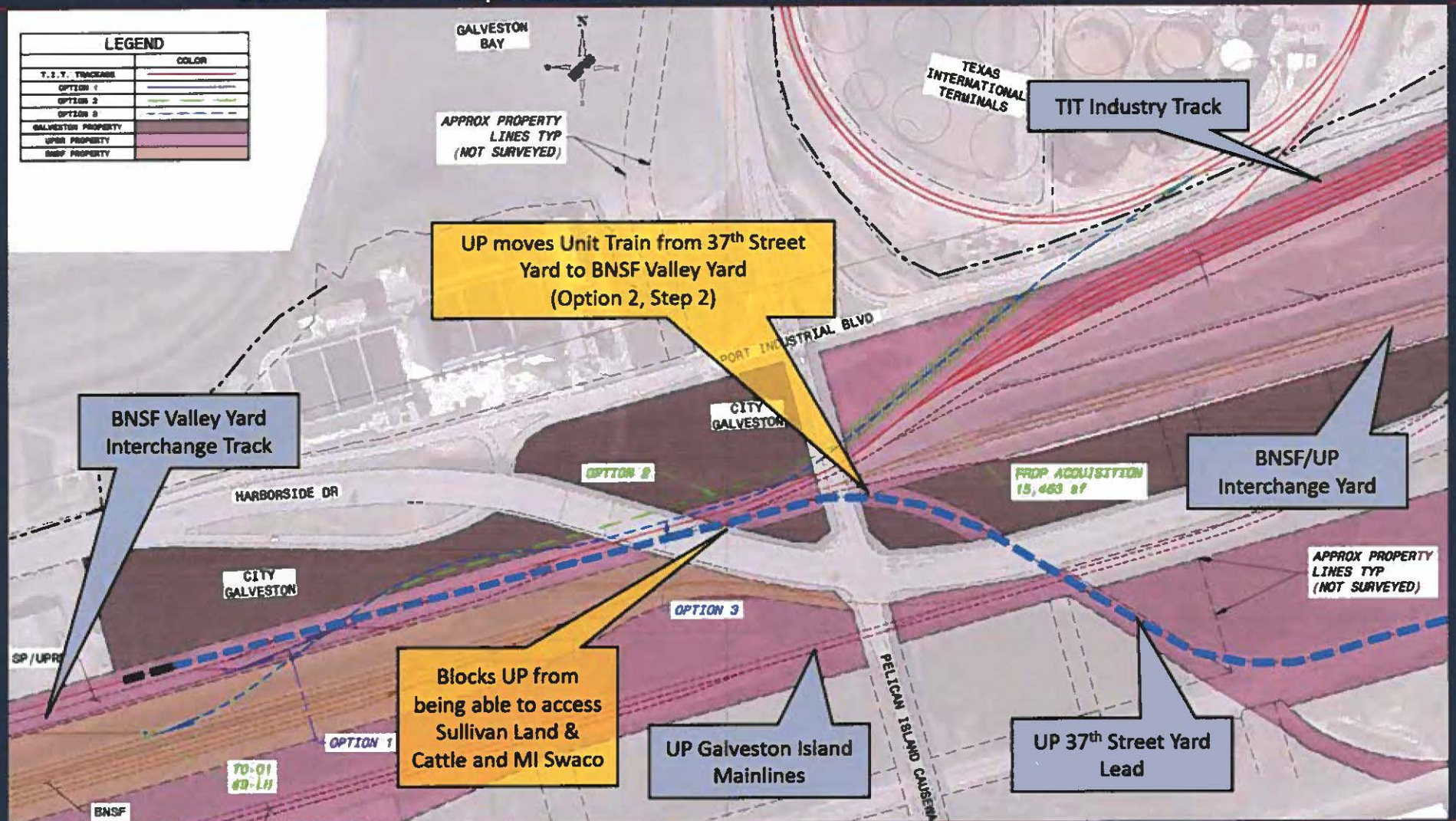


Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure

LEGEND	
T.I.T. TRACKAGE	COLOR
OPTION 1	Red
OPTION 2	Green
OPTION 3	Blue
GALVESTON PROPERTY	Light Brown
CPRM PROPERTY	Dark Brown
BNSF PROPERTY	Dark Brown



Overview of UP Reciprocal Switch of BNSF Unit Train Arrival and Departure



Appendix 3 - 2

Run Times and Occupancy Times on UP Property Under the TREX Proposed Primary Operating Plan Assuming Operations Over Proposed TREX Alignments:

- **“Blue – A”**
- **“Blue – B”**
- **“Green – A”**
- **“Green – B”**

Proposed TREX Alignment: "Blue – A"¹⁰⁴

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.63	0.47	0.47	0.47	0.47
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.09	0.87	0.87	0.87	0.87
Total Time (Hours)					1.72	1.34	1.34	1.34	1.34
Total Time (Minutes)					103	80	80	80	80
Distance (feet)					2,884	295	233	370	344

¹⁰⁴ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B19:K28.

Proposed TREX Alignment: “Blue – B” (Preferred Alignment)¹⁰⁵

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.62	0.47	0.47	0.47	0.48
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.87	0.88
Total Time (Hours)					1.70	1.34	1.34	1.34	1.36
Total Time (Minutes)					102	80	80	80	82
Distance (feet)					2,823	295	233	370	600

¹⁰⁵ TREX e-workpaper, “# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx,” tab, “Run & Occupy Times Sumry,” cells B6:K15.

Proposed TREX Alignment: "Green – A"¹⁰⁶

Train Movements in Proposed Operating Plan					Running Times and Distances				
BNSF Train Status	From	To	Move Type	Car Count	Train Operations		Time UP Property Occupied		
					Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.63	0.47	0.47	0.00	0.47
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.09	0.87	0.87	0	0.87
Total Time (Hours)					1.72	1.34	1.34	0.00	1.34
Total Time (Minutes)					103	80	80	0	80
Distance (feet)					2,856	295	233	-	315

¹⁰⁶ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B32:K41.

Proposed TREX Alignment: "Green – B"¹⁰⁷

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in entire train	112	0.62	0.47	0.47	0.00	0.48
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.00	0.88
Total Time (Hours)					1.70	1.34	1.34	0.00	1.36
Total Time (Minutes)					102	80	80	0	82
Distance (feet)					2,814	295	233	-	590

¹⁰⁷ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF 1 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B45:K54.

Appendix 3 - 3

Proposed Primary Operating Plan Matrix

PROPOSED OPERATING PLAN									
BNSF Unit Train Operating Between BNSF Valley Yard and TIT's Facility ⁽¹⁾ via TREX Proposed Track - One Cut Approach									
R.L. Banks & Associates, Inc. February 7, 2019									
Version Characteristics:									
Crew by: BNSF and TIT		Valley Yard Track: Existing							
Power by: BNSF		TIT Facility Track: Crossover added							
		Train Handled In: 1 Cut							
Step No.	Handling Crew	Traffic	Load or Empty	Activity	Location	Details	Distance Travelled (Miles)	THEORETICAL Train Cycle Time (Hours)	PRACTICAL Train Cycle Time (Hours)
1	BNSF	BNSF Unit Train - Entire Train	L	ARRIVE	BNSF Valley Yard	Train arrives, with BNSF power and crew, at the TREX Connecting Switch on Track VY-1 in Valley Yard. Train ⁽²⁾	----	0	0.00
2	BNSF	BNSF Unit Train - Entire Train	L	LEAVE	BNSF Valley Yard	BNSF crew pauses to secure permission to occupy the diamond crossings from UP and then crew pulls entire train eastward onto the TREX proposed track.		0.05	0.06
3	BNSF	BNSF Unit Train - Entire Train	L	ARRIVE	TIT Loop Tracks	BNSF crew pulls entire train eastward over the TREX proposed track, into TIT's facility and places the cars on either A-Loop or B-Loop track as instructed by TIT.	1.85	0.54	0.62
4	BNSF	Crew Shuttle 1	--	LEAVE	TIT Facility	BNSF crew departs from TIT's facility via company vehicle (crew shuttle) to BNSF Valley Yard/West Yard.	---	---	
5	BNSF	Crew Shuttle 1	--	ARRIVE	BNSF Valley Yard	BNSF crew shuttle arrives BNSF Valley Yard.	---	0	0.00
6	TIT	BNSF Unit Train - Entire Train	L	BEGIN UNLOADING	TIT Loop Tracks		---	---	
7	TIT	BNSF Unit Train - Entire Train	E	END UNLOADING	TIT Loop Tracks		---	20.20	23.23
8	TIT	BNSF Unit Train - Entire Train	E	AIR BRAKE TEST, SWITCH OUT BAD ORDERS & FUEL LOCOS	TIT Loop Tracks	TIT reassembles the now-empty cars into one train, performs inspection of train and air brake test, switches out bad order cars, fuels locomotives as necessary.	---	5.10	5.87
9	TIT	BNSF Unit Train - Entire Train	E	LEAVE	TIT Loop Tracks	TIT crew boards the BNSF power and, before departing, must: 1) secure permission from BNSF Yardmaster at Valley Yard to enter the yard and 2) secure permission from UP to occupy the diamond crossings. All of this must be accomplished before departing TIT's facility so the train can operate from TIT's facility into Valley Yard and avoid blocking the Old Port Industrial Road grade crossing and the diamond crossings longer than absolutely necessary. TIT crew then departs TIT's facility and operates westward over the TREX proposed track and into BNSF Valley Yard.		0.25	0.29
10	TIT	BNSF Unit Train - Entire Train	E	ARRIVE	BNSF Valley Yard	TIT crew and train arrive on Track VY-1 at the TREX Connection Switch and pulls westward to 77th Street and departs as instructed by the BNSF Yardmaster.	1.85	0.94	1.08
11	TIT	Crew Shuttle 2	--	LEAVE	BNSF Valley Yard	TIT crew departs from BNSF Valley Yard Lead via company vehicle to TIT's facility.	---	---	
12	TIT	Crew Shuttle 2	--	ARRIVE	TIT Loop Tracks	TIT crew shuttle arrives at TIT's facility.	---	0	0.00
13	BNSF	BNSF Unit Train - Entire Train	E	NOTIFY TIT THAT TRAIN HAS DEPARTED	BNSF Valley Yard				
TOTAL TIMES, Load to Empty								27.08	31.15
Allowance for Random Delays and Variability in Operations								0%	15%

PROPOSED OPERATING PLAN									
BNSF Unit Train Operating Between BNSF Valley Yard and TIT's Facility ⁽¹⁾ via TREX Proposed Track - One Cut Approach									
R.L. Banks & Associates, Inc. February 7, 2019									
Version Characteristics:									
Crew by: BNSF and TIT			Valley Yard Track: Existing						
Power by: BNSF			TIT Facility Track: Crossover added						
			Train Handled in: 1 Cut						
Step No.	Handling Crew	Traffic	Load or Empty	Activity	Location	Details	Distance Travelled (Miles)	THEORETICAL Train Cycle Time (Hours)	PRACTICAL Train Cycle Time (Hours)
Notes:									
(1) Assumptions:							Summary of Proposed Cycle Time	Hours per Cycle	Hours per Cycle
a) Existing track configuration at BNSF Valley Yard is assumed.							Inbound dwell at BNSF Valley Yard	0.05	0.06
b) Ethanol train length: 98 cars (96 loads + 2 buffer cars), are approximately 5,909 feet long, plus locomotives. Each car is 60' 3.5" long over the pulling faces.							Running time: Inbound loads	0.54	0.62
c) Fertilizer train length: 112 cars, are approximately 6,720 feet long, plus locomotives. Each car is 60' long over the pulling faces.							Unloading	20.20	23.23
d) Train control: Yard Limits rules apply. Permission to occupy the diamonds crossing conveyed by UP employee in charge of movements on track and/or by special instructions.							Air brake test, bad orders & fuel	5.10	5.87
(2) BNSF Valley Yard track designations: RLBA does not know the track designations in BNSF Valley Yard, so RLBA has established the following track numbers for the purpose of this conceptual operating plan. They are organized from north to south and lengths in the clear were measured from Google Earth.							Running time: outbound empties	0.94	1.08
							Crew communication time	0.25	0.29
							Total cycle time	27.08	31.15
Track #	Length in the Clear (feet)	Note							
VY-1	----	This is the track into which the TREX proposed track would connect with Valley Yard.							
VY-1	3325	Measured between the track's east end and a point east of the connection to UP Track 611.							
VY-1	4320	Measured between the track's east and west ends.							
VY-2	3932	"							
VY-3	3646	"							
VY-4	3414	"							
VY-5	3180	"							
VY-6	3121	"							
Valley Yard Lead + VY-1	7826	Length measured between the point at which the TREX proposed track would connect with Track VY-1 and a point near the west end of the "Valley Yard Lead" track, in the clear, east of the 77th. Street grade crossing.							
							Crew Time	2.28	2.62
							Crew Time - BNSF	0.84	0.97
							Crew Time - TIT	1.44	1.66

Appendix 3 - 4

Proposed Secondary Operating Plan Matrix

PROPOSED OPERATING PLAN									
BNSF Unit Train Operating Between BNSF Valley Yard and TIT's Facility ⁽¹⁾ via TREX Proposed Track - Two Cut Approach									
R.L. Banks & Associates, Inc. - February 7, 2019									
Version Characteristics:									
Crew by: TIT		Valley Yard Track: Existing							
Power by: BNSF		TIT Facility Track: Crossover added							
		Train Handled In: 2 Cuts							
Step No.	Handling Crew	Traffic	Load or Empty	Activity	Location	Details	Distance Travelled (Miles)	THEORETICAL Train Cycle Time (Hours)	PRACTICAL Train Cycle Time (Hours)
1	BNSF	BNSF Unit Train - Entire Train	L	ARRIVE	BNSF Valley Yard	Train arrives on West Yard/Valley Yard Lead. BNSF road crew departs from train. ⁽²⁾		2.00	2.30
2	TIT	Crew Shuttle 1	---	LEAVE	TIT Facility	TIT crew departs from TIT's facility via company vehicle (crew shuttle) to BNSF Valley Yard/West Yard.			---
3	TIT	Crew Shuttle 1	---	ARRIVE	BNSF Valley Yard	TIT crew arrives BNSF Valley Yard.		0.25	0.29
4	TIT	BNSF Unit Train - Cut 1	L	LEAVE	BNSF Valley Yard	TIT crew boards the BNSF head-end power, disables the distributed power unit on the rear and makes a cut on the head 60 - 70 cars (Cut 1). The TIT crew secures permission to occupy the diamond crossings from UP.		0.25	0.29
5	TIT	BNSF Unit Train - Cut 1	L	ARRIVE	TIT Loop Tracks	TIT crew on the BNSF power pulls Cut 2 eastward over the TREX proposed track, into TIT's facility and places the cars on either A-Loop or B-Loop track as instructed by TIT.	1.36	0.40	0.46
6	TIT	Crew Shuttle 2	---	LEAVE	TIT Facility	TIT crew departs from TIT's facility via company vehicle (crew shuttle) to BNSF Valley Yard/West Yard.			0.00
7	TIT	Crew Shuttle 2	---	ARRIVE	BNSF Valley Yard	TIT crew arrives BNSF Valley Yard.		0.25	0.29
8	TIT	BNSF Unit Train - Cut 2	L	LEAVE	BNSF Valley Yard	TIT crew boards the BNSF REAR-end power which is coupled to the 42 - 52 cars remaining (Cut 2). The TIT crew secures permission to occupy the diamond crossings from UP.		0.25	0.29
9	TIT	BNSF Unit Train - Cut 2	L	ARRIVE	TIT Loop Tracks	TIT crew on the BNSF power pulls Cut 1 eastward over the TREX proposed track, into TIT's facility and places the cars on either A-Loop or B-Loop track as instructed by TIT.	1.03	0.30	0.35
10	TIT	BNSF Unit Train - Entire Train	L	BEGIN UNLOADING	TIT Loop Tracks		---	---	
11	TIT	BNSF Unit Train - Entire Train	E	END UNLOADING	TIT Loop Tracks		---	20.20	23.23
12	TIT	BNSF Unit Train - Entire Train	E	AIR BRAKE TEST, SWITCH OUT BAD ORDERS & FUEL LOCOS	TIT Loop Tracks	TIT assembles the cuts of cars into one train, performs inspection of train and air brake test. Switches out bad order cars and fuels locomotives as necessary.	---	5.10	5.87
13	TIT	BNSF Unit Train - Entire Train	E	LEAVE	TIT Loop Tracks	TIT crew boards BNSF power and, before departing, must: 1) secure permission from BNSF Yardmaster at Valley Yard to enter the yard and 2) secure permission from UP to occupy the diamond crossings. All of this must be accomplished before departing TIT's facility so the train can operate from TIT's facility into Valley Yard and avoid blocking the Old Port Industrial Road grade crossing and the diamond crossings longer than absolutely necessary. TIT crew then departs TIT's facility and operates westward over the TREX proposed track and into BNSF Valley Yard.		0.25	0.29
14	TIT	BNSF Unit Train - Entire Train	E	ARRIVE	BNSF Valley Yard	TIT crew arrives on Track VY-1 and pulls westward to 77th. Street or as instructed by the BNSF Yardmaster.	1.85	0.94	1.08
15	TIT	Crew Shuttle 3	---	LEAVE	BNSF Valley Yard	TIT crew leaves the BNSF train and departs BNSF Valley Yard via company vehicle (crew shuttle) to TIT Facility.		0.00	0.00
16	TIT	Crew Shuttle 3	---	ARRIVE	TIT Facility	TIT crew arrives BNSF Valley Yard.		0.00	0.00

PROPOSED OPERATING PLAN									
BNSF Unit Train Operating Between BNSF Valley Yard and TIT's Facility ⁽¹⁾ via TREX Proposed Track - Two Cut Approach									
R.L. Banks & Associates, Inc. - February 7, 2019									
Version Characteristics:									
Crew by: TIT			Valley Yard Track: Existing						
Power by: BNSF			TIT Facility Track: Crossover added						
			Train Handled in: 2 Cuts						
Step No.	Handling Crew	Traffic	Load or Empty	Activity	Location	Details	Distance Travelled (Miles)	THEORETICAL Train Cycle Time (Hours)	PRACTICAL Train Cycle Time (Hours)
17	BNSF	BNSF Unit Train - Entire Train	E	NOTIFY TIT THAT TRAIN HAS DEPARTED	BNSF Valley Yard				
TOTAL TIMES, Load to Empty								30.19	34.74
Allowance for Random Delays and Variability in Operations								0%	15%

PROPOSED OPERATING PLAN
BNSF Unit Train Operating Between BNSF Valley Yard and TIT's Facility⁽¹⁾ via TREX Proposed Track - Two Cut Approach
R.I. Banks & Associates, Inc. - February 7, 2019

Version Characteristics:	
Crew by: TIT	Valley Yard Track: Existing
Power by: BNSF	TIT Facility Track: Crossover added
	Train Handled in: 2 Cuts

Valley Yard Track: Existing
TTT Facility Track: Crossover added
Train Handled in: 2 Cuts

Step No.	Handling Crew	Traffic	Load or Empty	Activity	Location	Details	Distance Travelled (Miles)	THEORETICAL Train Cycle Time (Hours)	PRACTICAL Train Cycle Time (Hours)
Notes:									
(1) Assumptions:							Summary of Proposed Cycle Time	Hours per Cycle	Hours per Cycle
a) Existing track configuration at BNSF Valley Yard is assumed.							Inbound dwell at BNSF Valley Yard	2.00	2.30
b) Ethanol train length: 98 cars (96 loads + 2 buffer cars), are approximately 5,909 feet long, plus locomotives. Each car is 60' 3.5" long over the pulling faces.							Running time: inbound loads	0.70	0.81
c) Fertilizer train length: 112 cars, are approximately 6,720 feet long, plus locomotives. Each car is 60' long over the pulling faces.							Unloading	20.20	23.23
d) Train control: Yard Limits rules apply. Permission to occupy the diamonds crossing conveyed by UP employee in charge of movements on track and/or by special instructions.							Air brake test, bad orders & fuel	5.10	5.87
(2) BNSF Valley Yard track designations: RLBA does not know the track designations in BNSF Valley Yard, so RLBA has established the following track numbers for the purpose of this conceptual operating plan. They are organized from north to south and lengths in the clear were measured from Google Earth.							Running time: outbound empties	0.94	1.08
							Crew shuttle and communication time	1.25	1.45
							Total cycle time	30.19	34.74
	Track #	Length in the Clear (feet)	Note						
	VY-1	---	This is the track into which the TREX proposed track would connect with Valley Yard.						
	VY-1	3325	Measured between the track's east end and a point east of the connection to UP Track 611.				Total Crew Time	3.34	3.61
	VY-1	4320	Measured between the track's east and west ends.						
	VY-2	3932	"						
	VY-3	3646	"						
	VY-4	3414	"						
	VY-5	3180	"						
	VY-6	3121	"						
	Valley Yard Lead + VY-1	7826	Length measured between the point at which the TREX proposed track would connect with Track VY-1 and a point near the west end of the "Valley Yard Lead" track, in the clear, east of the 77th Street grade crossing.						

Appendix 3 - 5

Run Times and Occupancy Times on UP Property Under the TREX Proposed Secondary Operating Plan Assuming Operations Over Proposed TREX Alignments:

- **“Blue – A”**
- **“Blue – B”**
- **“Green – A”**
- **“Green – B”**

Proposed TREX Alignment: "Blue – A"¹⁰⁸

Train Movements in Proposed Operating Plan					Running Times and Distances				
BNSF Train Status	From	To	Move Type	Car Count	Train Operations		Time UP Property Occupied		
					Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in First Cut	70	0.46	0.28	0.28	0.30	0.30
Inbound loaded	TIT Facility	BNSF Valley Yard	Crew Shuttle 2 (via highway)	0	0.00	0.00	0.00	0.00	0.00
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in Second Cut	42	0.36	0.20	0.17	0.20	0.20
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.09	0.87	0.87	0.87	0.87
Total Time (Hours)					1.91	1.35	1.32	1.37	1.37
Total Time (Minutes)					115	81	79	82	82
Distance (feet)					2,884	295	233	370	344

¹⁰⁸ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF TIT 2 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B19:K28

Proposed TREX Alignment: “Blue – B” (Preferred Alignment)¹⁰⁹

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in First Cut	70	0.46	0.28	0.28	0.30	0.33
Inbound loaded	TIT Facility	BNSF Valley Yard	Crew Shuttle 2 (via highway)	0	0.00	0.00	0.00	0.00	0.00
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in Second Cut	42	0.35	0.20	0.17	0.20	0.22
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.87	0.88
Total Time (Hours)					1.89	1.35	1.32	1.37	1.43
Total Time (Minutes)					113	81	79	82	86
Distance (feet)					2,823	295	233	370	600

¹⁰⁹ TREX e-workpaper, “# TREX Conceptual Operating Plan Matrix BNSF TIT 2 cut.xlsx,” tab, “Run & Occupy Times Sumry,” cells B6:K15

Proposed TREX Alignment: "Green - A"¹¹⁰

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in First Cut	70	0.46	0.28	0.28	0.00	0.3
Inbound loaded	TIT Facility	BNSF Valley Yard	Crew Shuttle 2 (via highway)	0	0.00	0.00	0.00	0.00	0.00
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in Second Cut	42	0.35	0.20	0.17	0.17	0.2
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.09	0.87	0.87	0	0.87
Total Time (Hours)					1.90	1.35	1.32	0.17	1.37
Total Time (Minutes)					114	81	79	10	82
Distance (feet)					2,856	295	233	-	315

¹¹⁰ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF TIT 2 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B32:K41

Proposed TREX Alignment: "Green – B"¹¹¹

Train Movements in Proposed Operating Plan					Running Times and Distances				
					Train Operations		Time UP Property Occupied		
BNSF Train Status	From	To	Move Type	Car Count	Over Entire Length of TREX (Hours)	Occupy Diamonds Between Clearance Points (Hours)	Segment 1 - Diamonds Area (Hours)	Segment 2 - Diamonds Area to Pelican Island Causeway (Hours)	Segment 3 - Pelican Island Causeway to Port Industrial Rd. (Hours)
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in First Cut	70	0.46	0.28	0.28	0.00	0.30
Inbound loaded	TIT Facility	BNSF Valley Yard	Crew Shuttle 2 (via highway)	0	0.00	0.00	0.00	0.00	0.00
Inbound loaded	BNSF Valley Yard	TIT Facility	Pull in Second Cut	42	0.35	0.20	0.17	0.17	0.22
Outbound empty	TIT Facility	BNSF Valley Yard	Pull entire train to depart	112	1.08	0.87	0.87	0.00	0.88
Total Time (Hours)					1.89	1.35	1.32	0.17	1.40
Total Time (Minutes)					113	81	79	10	84
Distance (feet)					2,814	295	233	-	590

¹¹¹ TREX e-workpaper, "# TREX Conceptual Operating Plan Matrix BNSF TIT 2 cut.xlsx," tab, "Run & Occupy Times Sumry," cells B45:K54

Appendix 3 - 6

Estimated Revenue Carloads

Table 1

Estimated Revenue Carloads by Customer (June 2018)¹¹²

Customer	Carloads	% of Total
TIT via BNSF unit train	430	40%
TIT via UP unit train	426	39%
MI-Swaco	200	19%
Sullivan Land and Cattle (Lime Yard)	23	2%
Total Revenue Carloads	1,079	100%

Table 2

Estimated Revenue Carloads by Customer with TIT – UP Volume Adjusted (June 2018)¹¹³

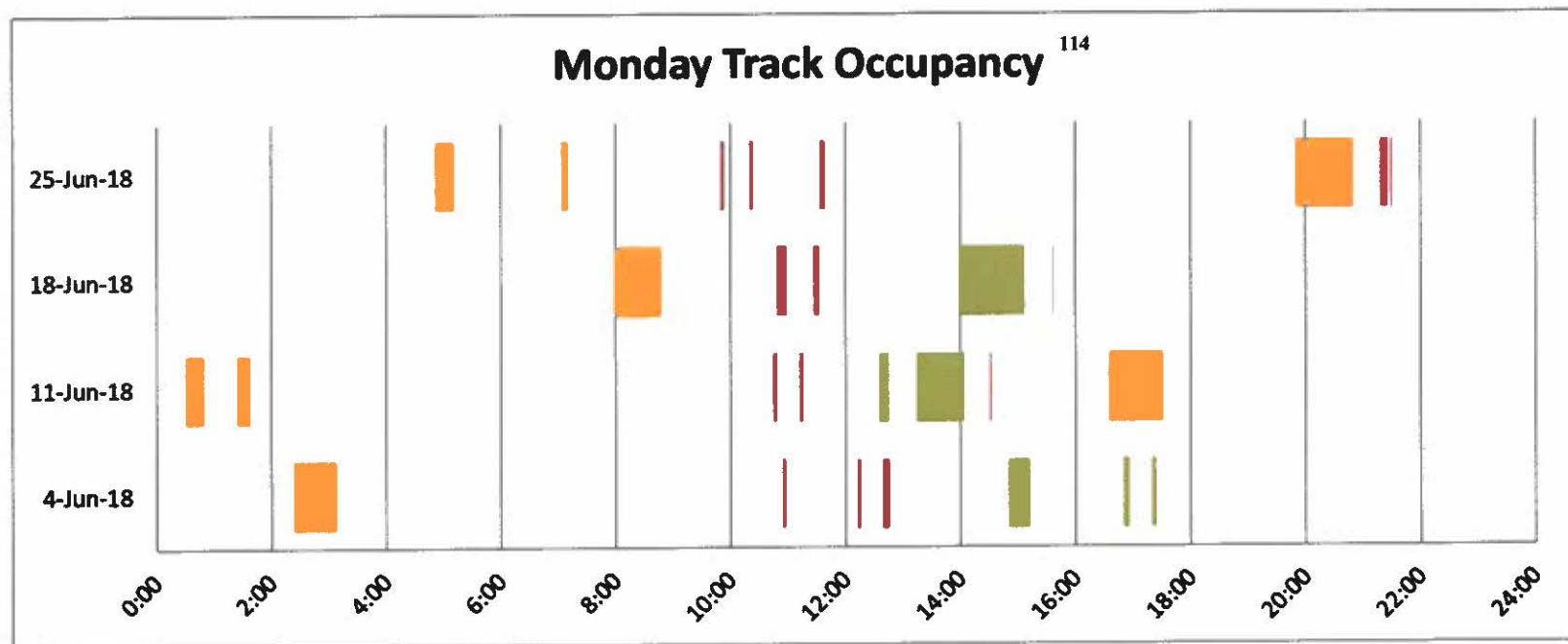
Customer	Carloads	% of Total
TIT via BNSF unit train	430	24%
TIT via UP unit train (1)	1168	64%
MI-Swaco	200	11%
Sullivan Land and Cattle (Lime Yard)	23	1%
Total Revenue Carloads	1,821	100%
Notes:		
(1) The "TIT via UP unit train" carloads in this table reflect the addition of 742 carloads to the carloads listed in Table 1. These additional carloads reflect the addition of seven UP unit trains because it was concluded the four historical UP unit trains which appear in the TIT - RLBA database were not representative of typical UP unit train activity during the rest of 2018. This adjustment - in terms of the number of UP unit trains - is employed in RLBA's "busiest day" analysis of track occupancy and capacity on the proposed diamond crossings area, in Section IV of the Operations Report.		

¹¹² TREX e-workpaper, "1 JWM KH 08-27-18 V(2) KH 8-10-18 with BNSF Data Data collection sheet.xlsx," tab, "Manifest by Customer," cells F39:K44.

¹¹³ TREX e-workpaper, "1 JWM KH 08-27-18 V(2) KH 8-10-18 with BNSF Data Data collection sheet.xlsx," tab, "Manifest by Customer," cells F48:K63.

Appendix 4 - 1

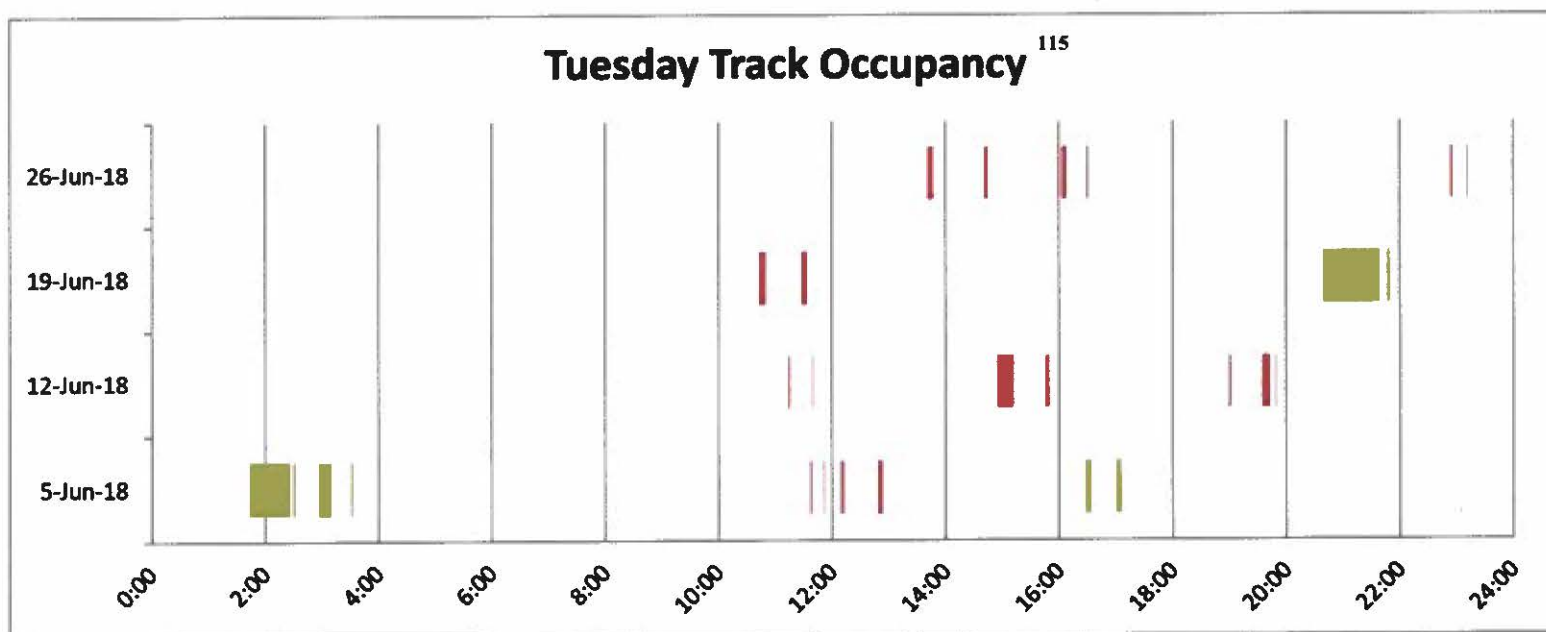
Track Occupancy Graphs



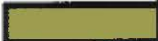
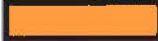
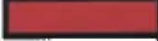
Monday		
Date	Blockages	Occupied Time (hh:mm:ss)
25-Jun-18	8	1:44:54
18-Jun-18	5	2:11:13
11-Jun-18	8	2:33:50
4-Jun-18	7	1:29:09

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

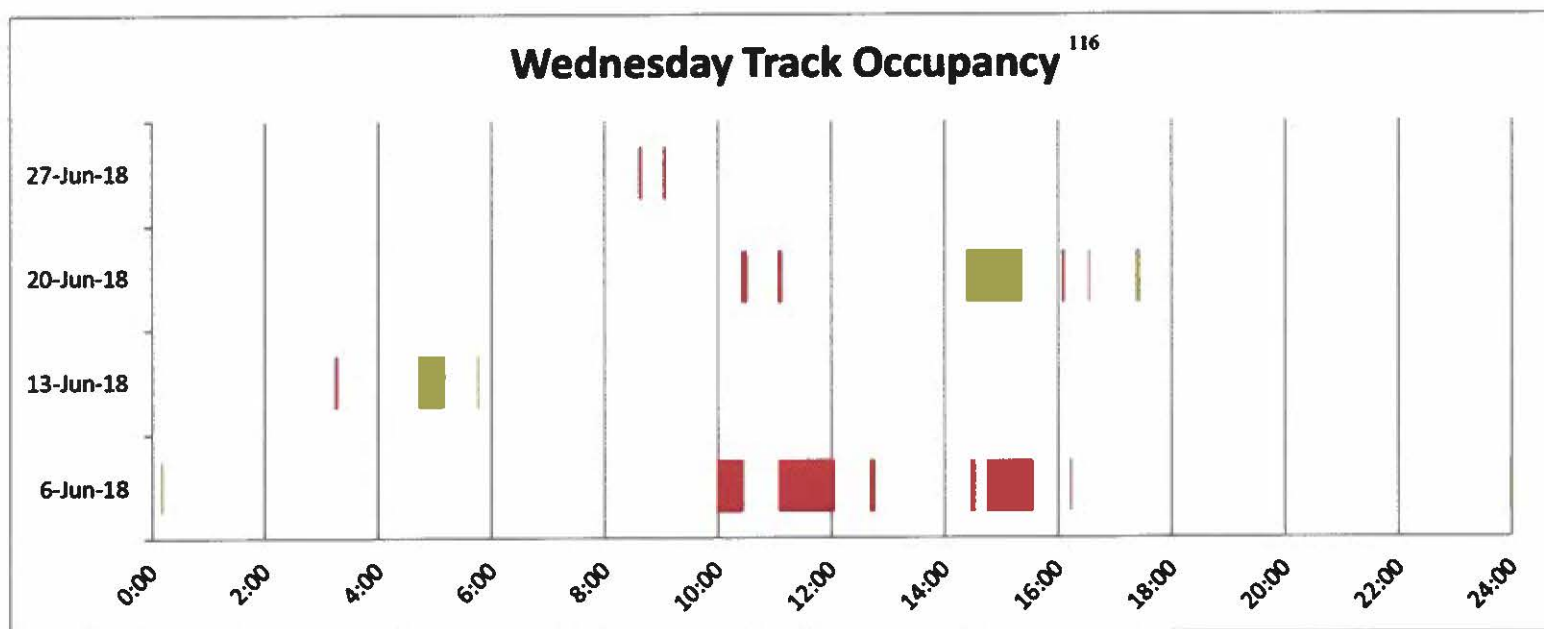
¹¹⁴ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I29:R52.



Tuesday		
Date	Blockages	Occupied Time (hh:mm:ss)
26-Jun-18	6	0:18:26
19-Jun-18	4	1:13:11
12-Jun-18	7	0:33:06
5-Jun-18	10	1:18:30

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

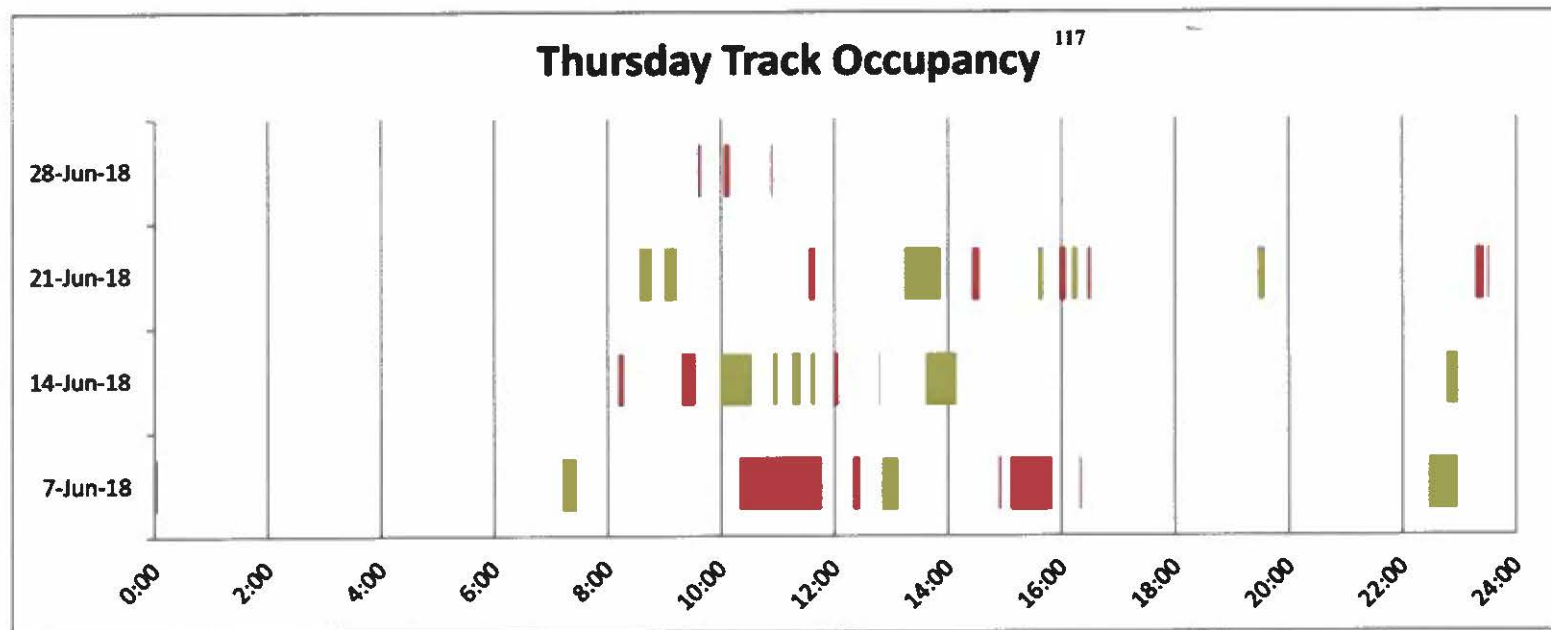
¹¹⁵ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I141:R158.



Wednesday		
Date	Blockages	Occupied Time (hh:mm:ss)
27-Jun-18	2	0:05:47
20-Jun-18	6	1:17:11
13-Jun-18	3	0:32:57
6-Jun-18	8	2:28:42

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

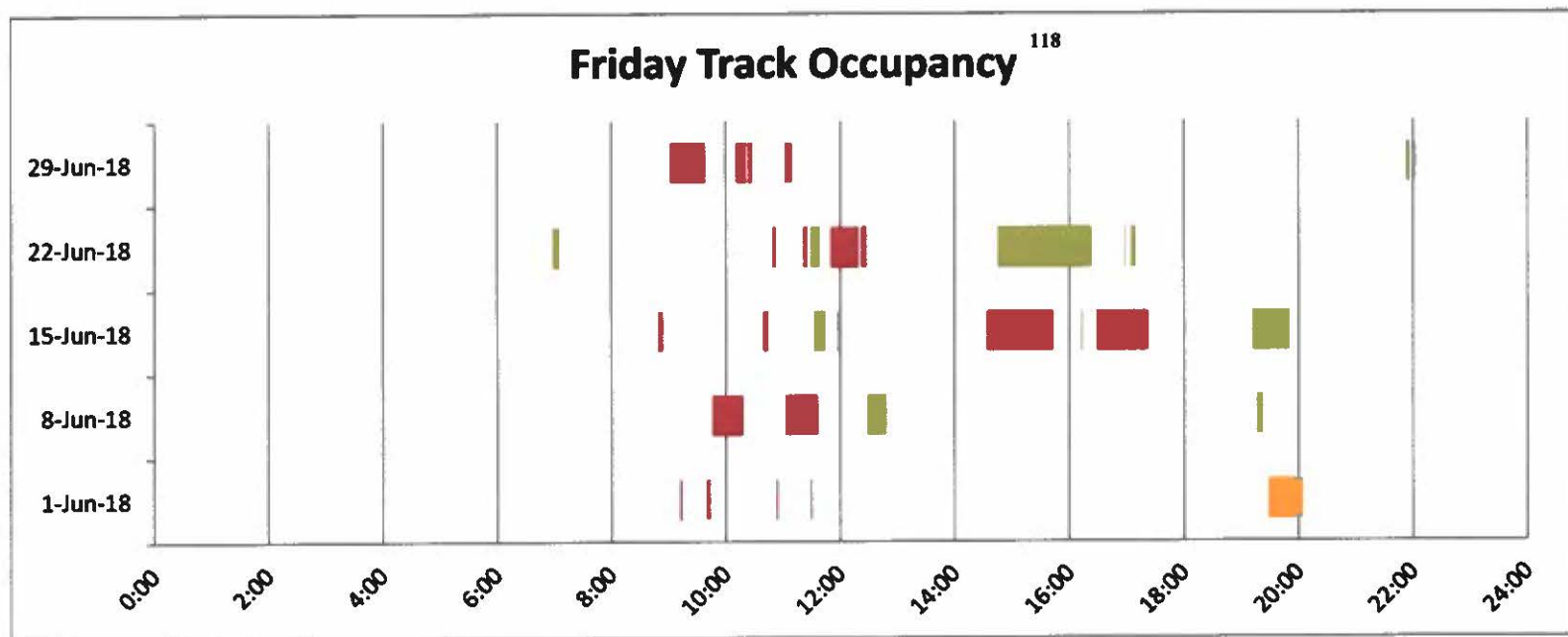
¹¹⁶ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I166:R189.



Thursday		
Date	Blockages	Occupied Time (hh:mm:ss)
28-Jun-18	3	0:09:31
21-Jun-18	12	1:52:38
14-Jun-18	10	1:56:24
7-Jun-18	9	3:25:27

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

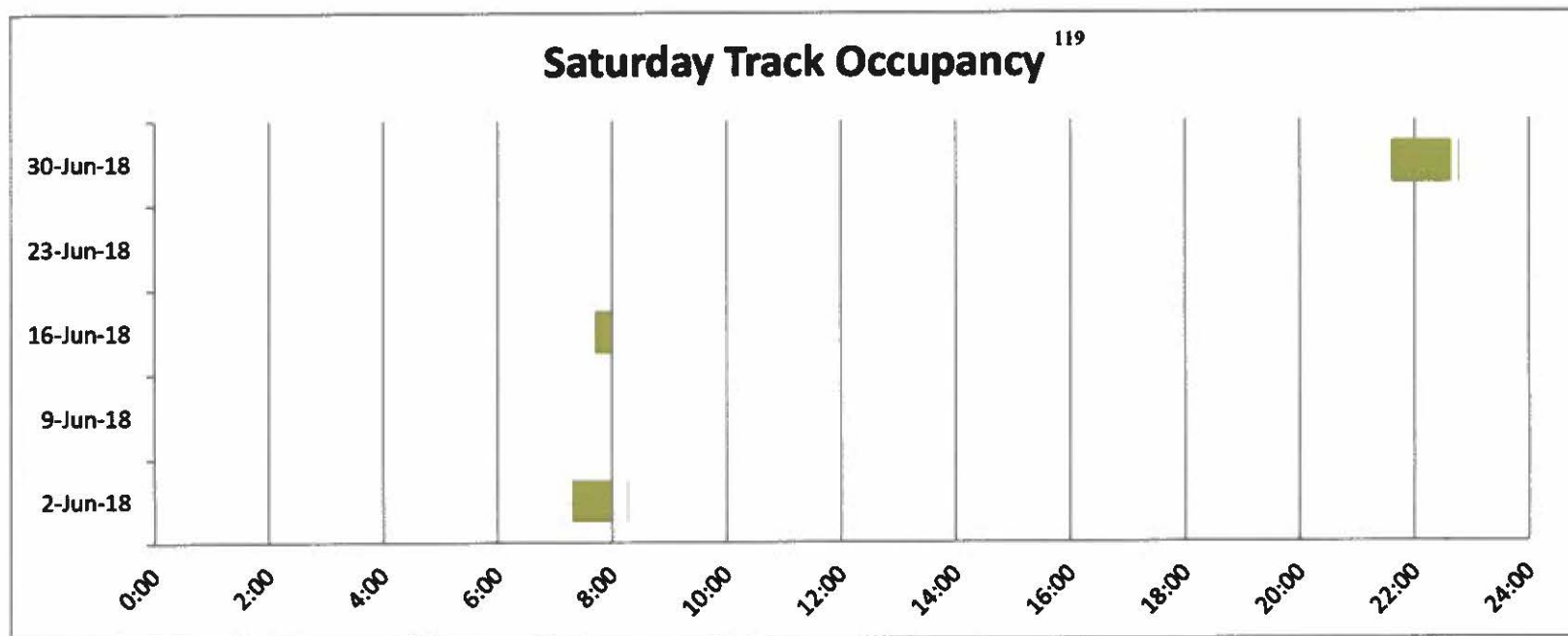
¹¹⁷ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I116:R139.



Friday		
Date	Blockages	Occupied Time (hh:mm:ss)
29-Jun-18	6	1:03:01
22-Jun-18	9	2:39:15
15-Jun-18	8	3:05:44
8-Jun-18	4	1:31:12
1-Jun-18	5	0:43:00

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

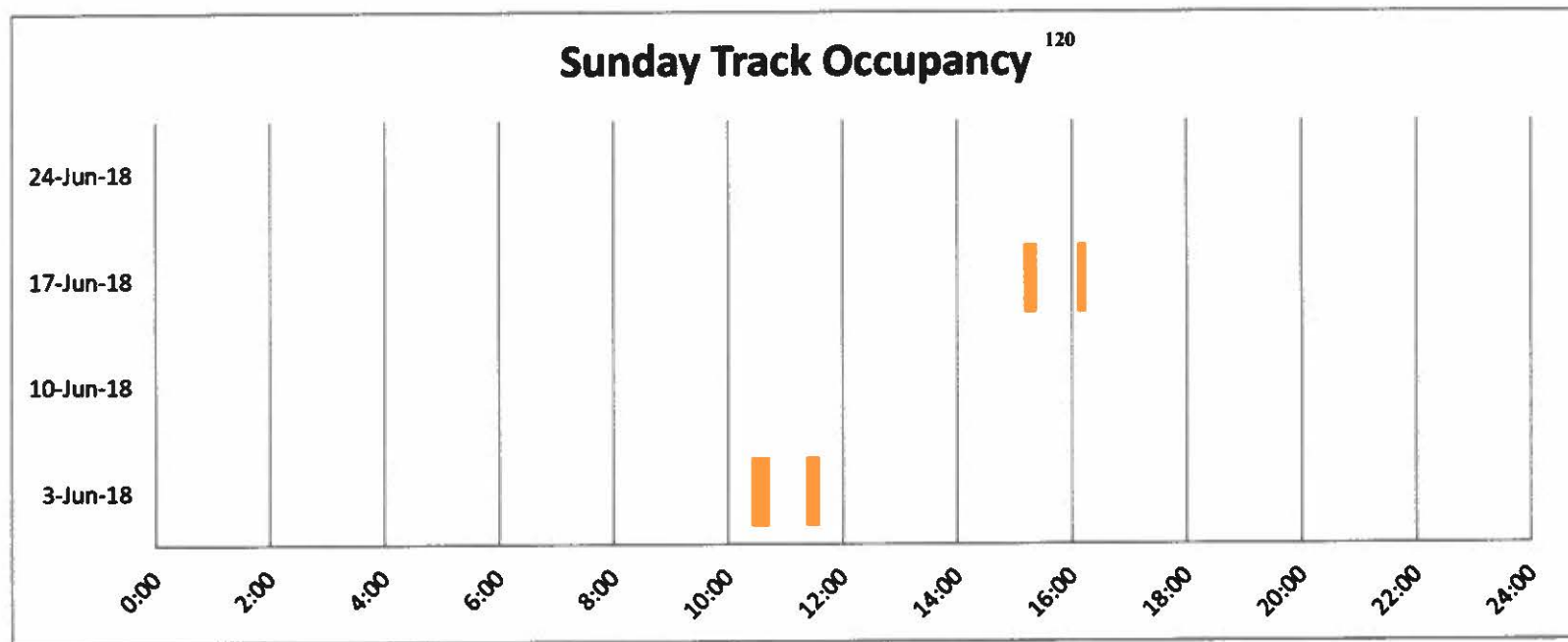
¹¹⁸ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I3:R27.



Saturday		
Date	Blockages	Occupied Time (hh:mm:ss)
30-Jun-18	2	1:03:52
23-Jun-18	0	0:00:00
16-Jun-18	1	0:16:31
9-Jun-18	0	0:00:00
2-Jun-18	2	0:41:34

Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

¹¹⁹ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I54:R78.



Sunday		
Date	Blockages	Occupied Time (hh:mm:ss)
24-Jun-18	0	0:00:00
17-Jun-18	2	0:21:29
10-Jun-18	0	0:00:00
3-Jun-18	2	0:32:46

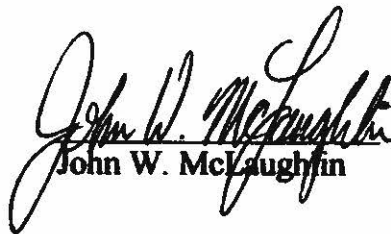
Legend of Traffic Type	
BNSF TIT Unit Trains	
UP TIT Unit Trains	
All Other Trains	

¹²⁰ TREX e-workpaper, "10-23-18 Track Occupancy final data from V(2) KH – 10-18 Data collection sheet...WORK Z Annotated 8.7.2018 JWM.xlsx," tab, "Track Occupancy Graphs," cells I80:R114.

Verification

VERIFICATION

I John W. McLaughlin, verify under penalty of perjury that I have read the Operations Report dated February 22, 2018, that I know the contents thereof, and that the same are true and correct. I have also reviewed the Petition of Texas Railway Exchange LLC for Issuance of a Crossing Order Pursuant to 49 U.S.C. § 10901(d) at Section II(D) dated February 22, 2018, that I know the contents thereof, and that the same are true and correct. Further, I certify that I am qualified and authorized to file this Verified Statement.


John W. McLaughlin

Executed on February 22, 2019