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# Encroachment Permit Application

for Pipeline, Right-of-Entry and other Crossings on, over or under any New Orleans Public Belt Railroad Property



*New Orleans Public Belt Railroad*

Revised 07.25.2022

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## Encroachment Permits

Applications for encroachment or entry on property, including but not limited to right-of-way, easements or tracks either owned or maintained by the New Orleans Public Belt Railroad (NOPB) are reviewed and permitted on a case-by- case basis. Typical encroachments might include:

- Wirelines (cable, electric, fiber, etc.)
- Pipelines (water, sewer, gas, culverts, drainage, etc.)
- Towers (cellular or others)
- Right of Entry (Temporary including surveying, soil borings, inspections, oversized equipment, etc.)

Encroachments that may possibly impact rail operations, such as manholes, catch basins, headwalls, valves, air release valves, etc., should not be designed or constructed on or near NOPB property.

## Design and Construction

All construction must comply with applicable federal, state, and local laws rules and regulations and industry guideline, standards, specifications and manuals, including but not limited to the American Railway of Engineering and Maintenance of Way Association (AREMA) current specifications and those set forth herein (collectively, the “Requirements”).

Specific design guidelines are attached hereto as Appendix C. These guidelines are provided for Applicant’s reference only and hereto as Appendix C for applicant’s reference. Applicant will be responsible to comply with all applicable Requirements.

## Submittal Requirements

Applicants shall execute the application, a copy of which is attached hereto as Appendix A, and submit the completed application, along with the application fee and, if applicable, drawings in accordance with the requirements set forth in Appendix B, to the NOPB, Attn: V.P., Engineering, 4822 Tchoupitoulas Street, New Orleans, LA 70115.

Application Fee Schedule	
<b>Aerial Proposals</b>	
Crossings	\$1,500
Parallel	
0 to less than 1,000 feet	\$1,500
Greater than 1,000 feet	Contact NOPB
<b>Sub-Grade Proposals</b>	
Less than 24”	\$3,000
24” to 42”	\$4,000
Greater than 42”	Contact NOPB
Parallel	
0 to less than 1,000 feet	\$1,500
Greater than 1,000 feet	Contact NOPB

<b>Application Fee Schedule - Continued</b>	
<b>Towers</b>	
	Contact NOPB
<b>Rights-of-Entry (ROE)</b>	
General Access	\$1000
Environmental Assessment	\$3,500
Soil Borings	\$3,500
Surveying	\$1000

Current as of 7/01/2020

Note: these fees are for the review and approval of the application only, additional fees may be required for railroad flagmen, safety inspections, and/or use of NOPB property.

## Special Provisions

The applicant shall review and comply with these provisions:

### RELATIVE TO FLAGGING AND OTHER PROTECTION OF NOPB TRAFFIC AND FACILITIES DURING CONSTRUCTION ADJACENT, ABOVE, ON, UNDER OR ACROSS NOPB PROPERTY

Prior to entering NOPB property, applicant must execute a limited right of entry and release agreement. The applicant shall confer with the NOPB's Vice President, Engineering relative to requirements for railroad clearances, operation and general safety regulations.

All employees and/or contractor(s) of applicant that will work or otherwise be present on NOPB property are required to:

- submit to criminal background checks;
- complete NOPB-provided safety and security awareness training and testing; and,
- complete NOPB-provided Roadway Worker Protection training and testing,

The required training and testing shall be completed using NOPB's contractor portal at [www.nopbcontractors.com](http://www.nopbcontractors.com). This site is password protected and should not be shared with unauthorized users. The password for the site will be provided on request to and approval by the NOPB Vice President, Engineering.

Criminal background investigations must be obtained through the Alliance Safety Council's Security Passport process, which may be initiated in one of three ways:

1. Contact the Alliance Safety Council's customer service department at **(877) 345-1253**;
2. Visit any of the Alliance Safety Council's four training centers located in Addis, Baton Rouge, Gonzales, or Walker, Louisiana; or
3. Create an online account for your company at: <https://alliancesafetycouncil.org/services/onboarding-services/>. Click on "Log In," then "To Take Web-Based Training," then "Create Account," and select "Background Screening."

A copy of either the Security Passport photo ID badge, or other proof of completion of the process, shall be emailed to Carl Kocur, Vice President, Engineering at [Carl.Kocur@railnola.com](mailto:Carl.Kocur@railnola.com) before the individual will be permitted to enter NOPB property.

For more information about the Security Passport process, please visit <https://alliancesafetycouncil.org/services/onboarding-services/> or call (877) 345-1253.

Employees and contractors of applicant shall, at all times conduct their work in a manner satisfactory to the NOPB's Vice President, Engineering and shall exercise proper care so as to not damage the property of NOPB, its customer or other third parties, or to interfere with railroad operations.

The NOPB's Vice President, Engineering shall, at all times, have jurisdiction and control over NOPB's property. The decision of the NOPB's Vice President, Engineering as to procedures which may affect the NOPB's property and/or the safety of railroad operations shall be final, and applicant, its employees and contractors shall, at all times, comply with said decision. All work shall be conducted in such a manner as will assure the safety of NOPB and its employees. The NOPB shall have the right, but not the duty, to require certain procedures to be used and/or to supervise the work on its property.

Should any damage occur to NOPB property as a result of the authorized or unauthorized operations of applicant and/or its contractor and the NOPB deems it necessary to repair such damage or perform any work for the protection of its property or operations, the applicant and/or its contractor, as the case may be, shall promptly reimburse the NOPB for the actual cost of such repairs or work, which shall include the direct cost of any labor, materials, equipment, or contract expense plus NOPB's current standard additives in each instance.

Applicants and/or their contractors shall at no time cross NOPB's property or tracks with vehicles or equipment of any kind of character, except at such temporary grade crossing as may be constructed as outlined herein, or at any existing and open public grade crossing. Operation over such crossing shall be at the direction and method of NOPB's Vice President, Engineering.

NOPB may, in its sole discretion and at applicant's and/or its contractor's sole cost, risk and expense, require protective services including, but not limited to, flagger(s), inspector(s), and stand-by personnel. Any required flagging protection, inspection services and standby personnel must be performed by NOPB personnel and applicant shall pay for said fees in advance. Any additional costs and/or fees associated with these services will be billed at NOPB's current rates. Applicant shall promptly pay the invoice upon receipt. If protective services are required, neither applicant nor its contractor shall perform any work on NOPB's property unless and until the services can be made available.

The NOPB shall not be liable for any delay or increased costs incurred by applicant or its contractor due to any scheduling issues or delays as a result thereof.

The applicant and/or its contractor shall request flagging protection by submitting the "Request for Flagging Services" form to the NOPB via email at [Carl.Kocur@railnola.com](mailto:Carl.Kocur@railnola.com) at least ten (10) working days prior to proposed start of the work.

Flagging protection will be required for any work involving direct and/or potential interference with the NOPB's tracks or traffic. This may include but is not limited to fouling of railroad operating clearances, reasonable proximity of accidental hazard to railroad traffic, work within twenty-five (25)

feet horizontally of the nearest centerline of any railroad track, any work over any railroad track, or in any other condition that NOPB deems protective services necessary, which may include work on or off Railroad Company's property more than twenty-five (25) feet from the nearest centerline of any railroad track, such as any equipment extension (including but not limited to a crane boom) that will reach or has the potential to reach within twenty-five (25) feet of any track.

The applicant and/or its contractor shall request, prepay, and secure NOPB signal facility locates. The request shall be done in writing and shall be submitted along with the "Request for Flagging Services.". Notice to the NOPB does not fulfill or satisfy any other notification requirements for utility locates for non-railroad facilities.

If the project involves digging, trenching, or boring activities on, beneath or near NOPB property, the applicant shall provide a copy of the design plans and receive written approval from the NOPB's Vice President, Engineering at least thirty (30) days prior to the proposed start date. NOPB may, at its sole discretion, require an on-site meeting be conducted with the NOPB's representative before the work commences. No digging, trenching or boring activities shall be conducted in the proximity of any known buried NOPB signal cables without NOPB's representative being present.

### **Required Clearances**

Vertical: 25'-0" (7.00 m) above top of highest rail within 12'-0" (3.81 m) of the centerline of any track.

Horizontal: 12'-0" (3.81 m) from centerline of the nearest track, measured at right angles thereto.

If lesser clearances than the above are required for any part of the work, applicant and/or its contractor must request and obtain written approval from the NOPB's Vice President, Engineering no less than thirty (30) days prior to the proposed start date.

No materials, supplies, or equipment shall be stored within twenty-five (25) feet from the centerline of any railroad track, measured at right angles thereto.

Upon completion of the work, applicant and/or its contractor will be required to remove all machinery, equipment, surplus materials, false work, rubbish or temporary buildings from within the limits of the NOPB's property, and to leave said property in a condition satisfactory to the NOPB's Vice President, Engineering or his authorized representative.

Nothing in these Special Provisions shall be construed to place any responsibility on the NOPB for the quality or conduct of the work performed by applicant and/or its contractor hereunder. Any approval given or supervision exercised by NOPB hereunder, or failure of NOPB to object to any work done, material used, or method of operation shall not be construed to relieve applicant and/or its contractor of any obligations pursuant hereto or under the Encroachment Permit these Special Provisions are appended to.

**ANY VIOLATION OF ANY NOPB SAFETY RULES OR POLICY MAY RESULT IN REMOVAL OF CONTRACTOR OR PERSONNEL FROM THE NOPB's PROPERTY.**

**ENTERING ANY NOPB RIGHT OF WAY OR OTHER NOPB PROPERTY WITHOUT PERMISSION OF THE NOPB IS TRESPASSING AND ILLEGAL AND VIOLATORS MAY BE PROSECUTED. TRESPASSERS RISK THE POSSIBILITY OF SERIOUS, EVEN FATAL INJURY.**

## Insurance

Before commencing work and/or entering NOPB property, and until the agreement with NOPB is terminated, Applicants shall provide and maintain the following insurance in form and amount satisfactory to and as approved by Risk Management, which includes at a minimum the following:

### **Commercial General Liability:**

Coverage per Occurrence:	\$ 5,000,000
Aggregate:	\$ 10,000,000
Insured:	Facility Owner
Additional Insured/waiver of subrogation	New Orleans Public Belt Railroad Comm. Board of Commissioners of the Port of New Orleans
Duration:	Encroachment Lifetime

If the Work will occur within 50 feet of a railroad, the exclusion for work within 50 feet of railroad shall be eliminated.

### **Automobile Liability:**

Additional Insured/waiver of subrogation	\$ 1,000,000 combined single limit. New Orleans Public Belt Railroad Comm. Board of Commissioners of the Port of New Orleans
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### **Workers' Compensation:**

Employers' Liability (Part 2)	\$ 1,000,000 single limit
Waiver of subrogation	\$ 1,000,000 single limit New Orleans Public Belt Railroad Comm. Board of Commissioners of the Port of New Orleans

### **Railroad Protective Liability:**

Coverage per Occurrence:	\$ 5,000,000
Aggregate:	\$ 10,000,000
Insured:	Facility Owner
Duration:	Encroachment Construction Activity

The named insured on the Railroad Protective Liability Policy shall read:

“Board of Commissioners of the Port of New Orleans, New Orleans Public Belt Railroad Commission for the Port of New Orleans, the respective affiliates and subsidiaries existing currently or in the future of and successors to each Indemnified Parties listed herein”

In the event that applicant's and/or its contractor's presence and/or work on NOPB's property requires or otherwise involves the presence of any Hazardous Material or petroleum product on the NOPB's presence, , applicant shall notify the NOPB's Vice President, Engineering in writing at least thirty (30) days prior to the proposed start date and shall obtain and maintain Contractor's Pollution Liability policy in an amount not less than two million dollars (\$2,000,000) combined single limit (and with a deductible not to exceed \$50,000) insuring NOPB against any and all

damages, costs, liabilities and expenses resulting from on or off-site bodily injury (including death to any person), on or off-site loss, damage or destruction of property (including that belonging to the parties hereto), and on or off-site cleanup costs (including expenses incurred in the investigation, removal, remediation, neutralization, or immobilization of contaminated soils, surface water, groundwater or any other contamination) growing out of or incidental to any discharge, spillage, disposal, release, or escape of any Hazardous Material or petroleum product arising therefrom. For purposes of this application, the term "Hazardous Material" shall include, without limit, any flammable explosives, radioactive materials, hazardous materials, hazardous wastes, hazardous or toxic substances, or related materials defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended (42 U.S.C. §§ 9601, et seq.), the Hazardous Material Transportation Act, as amended (49 U.S.C. §§ 1801, et seq.), the Resource Conservation and Recovery Act, as amended (42 U.S.C. §§ 6901 et .§fill.), the Toxic Substances Control Act, as amended (15 U.S.C. §§ 2601, et seq.), or other applicable federal, state and local laws, rules and regulations

Before commencing work or otherwise entering NOPB property, applicant provide NOPB's Risk Manager with a certificate of insurance evidencing the foregoing coverage, and upon request, Applicant shall deliver a certified, true and complete copy of the policy or policies at its sole cost and expense. The policies shall provide for not less than thirty (30) days prior written notice to NOPB of cancellation of or any material change in, the policies, and shall contain the waiver of right of subrogation.

It is understood and agreed that the foregoing insurance coverage is not intended to, and shall not, relieve applicant from or serve to limit applicant's liability under the indemnity provisions of the permit or any other applicable agreement.

NOPB reserves the right to revise the amounts and/or types of insurance required at any time, regardless of whether a permit has issued.

If a contractor is to be employed by applicant, then, before any work is commenced hereunder, applicant shall establish, to the reasonable satisfaction of NOPB, that either the contractor has the required insurance coverage or is fully covered under applicant's insurance.

By signing below, \_\_\_\_\_(Name of Applicant) hereby acknowledges and agrees to comply with NOPB's permit rates, special provisions and insurance requirements.

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(Date)

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(Signature)

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(Print Name and Title)

## Appendix A – Encroachment Permit Application

Submit to:

New Orleans Public Belt Railroad  
Attn: Carl Kocur, V.P.-Eng.  
4822 Tchoupitoulas St.  
New Orleans, LA 70115  
Phone (504) 896-7423  
Email: carl.kocur@railnola.com

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### Application for Encroachment

1. Legal Name of Applicant: \_\_\_\_\_
2. Address: \_\_\_\_\_
3. Name of Applicant's Representative: \_\_\_\_\_
4. Applicant is a:
  - ( ) Corporation – give state of formation \_\_\_\_\_
  - ( ) Limited Partnership – give state of formation \_\_\_\_\_
  - ( ) General Partnership – give state of formation \_\_\_\_\_
  - ( ) Sole Proprietorship – give name of owner \_\_\_\_\_
  - ( ) Individual \_\_\_\_\_
  - ( ) Government Entity \_\_\_\_\_
  - ( ) Limited Liability Comp.: \_\_\_\_\_
  - ( ) Other: \_\_\_\_\_
5. Type of Encroachment:
  - ( ) Pipeline – Crossing Type: \_\_\_\_\_
  - ( ) Pipeline – Parallel Type: \_\_\_\_\_
  - ( ) Above Grade Wire – Crossing Type: \_\_\_\_\_
  - ( ) Above Grade Wire – Parallel Type: \_\_\_\_\_
  - ( ) Right-of-Entry Type: \_\_\_\_\_



6. Location:

- a. Nearest Street: \_\_\_\_\_
- b. Parish: \_\_\_\_\_
- c. Nearest Town: \_\_\_\_\_
- d. Railroad Mile Post Reference: \_\_\_\_\_ Mile Post: \_\_\_\_\_
- e. Latitude: \_\_\_\_\_ Longitude: \_\_\_\_\_
- f. Is the encroachment located within another public right-of-way like a street? \_\_\_\_\_
- g. Street width: \_\_\_\_\_ Street R/W: \_\_\_\_\_
- h. Street Owner: \_\_\_\_\_ Evidence of prior rights? ( ) Yes ( ) No
- i. Encroachment is proposed, temporary or existing: \_\_\_\_\_
- j. Are there any existing agreements covering this encroachment? \_\_\_\_\_
- k. How many tracks will the encroachment impact or cross: \_\_\_\_\_
- l. How many communication lines will the encroachment impact or cross: \_\_\_\_\_
- m. Parallel Tracks – Minimum horizontal distance to centerline of adjacent track: \_\_\_\_\_ ( ft.)
- n. Underground – depth below base of rail \_\_\_\_\_ (ft) Minimum depth on R/W \_\_\_\_\_ (ft.)
- o. Aerial - \_\_\_\_\_ (ft) above top of rail at lowest point
- p. Identify facilities on Railroad property or Right-of-way (manholes, bridges, etc.) \_\_\_\_\_  
\_\_\_\_\_

- 7. Will there be any required relocation of any existing facilities and/or trees? \_\_\_\_\_
- 8. Will temporary track support be required? \_\_\_\_\_
- 9. Product to be conveyed? \_\_\_\_\_ Flammable? \_\_\_\_\_
- 10. Temperature of Product? \_\_\_\_\_
- 11. Maximum working pressure \_\_\_\_\_ (psi) Field test Pressure \_\_\_\_\_ (psi)
- 12. Location of shut off valves \_\_\_\_\_

13. Pipe specifications	Carrier Pipe	Casing Pipe
Material	_____	_____
Material specifications and grade	_____	_____
Minimum Yield strength (psi)	_____	_____
Mill test pressure (psi)	_____	_____
Inside diameter	_____	_____
Outside diameter	_____	_____
Wall Thickness	_____	_____
Type of Seam Laying lengths	_____	_____
Type of Joints	_____	_____
Total Length in R/W	_____	_____
Bury under track	_____	_____
Bury under ditch	_____	_____
Cathodic or Protective Coating	_____	_____

14. Specify any supports \_\_\_\_\_

15. Define any special specifications of the pipeline or encroachment? \_\_\_\_\_

16. Method of Installation \_\_\_\_\_

17. Duration of Construction of Encroachment \_\_\_\_\_

18. Anticipated start date: \_\_\_\_\_

19. Signature of Financially Responsible Party

If application is approved, applicant agrees to reimburse NOPB for any cost incurred by the Railroad incident to installation, maintenance, and/or supervision necessitated by this encroachment, and further agrees to assume all liability for accidents or injuries which might arise as a result of this encroachment

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature and Title of Officer signing application)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature Vice President, Engineering, NOPB)

\_\_\_\_\_  
(Date)

\_\_\_\_\_  
(Signature of GM, NOPB)

Permit License Number: \_\_\_\_\_

Issued by VP-E on, Date: \_\_\_\_\_

## Appendix B – Drawing Requirements

### Drawing Requirements

NOPB requires that sketches or drawings be submitted along with the application to identify the encroachment. For pipelines or other physical encroachments, the drawing must be prepared by an engineer or land surveyor licensed in the State of Louisiana. For temporary encroachments such as surveying, environmental assessments, soils borings, the drawing should depict the general location. Portable Document Formats (pdf's) may be submitted to fulfill this requirement.

Each drawing must be no larger than 11x17 for the proposed project. Multiple drawings may be submitted. The following must be included on the drawing:

#### Plan View:

- North arrow
- Scale
- Title block indicating applicant's name making the encroachment
- Existing contours
- Centerline of tracks
- Roads and edge of pavements
- Culverts
- Mileposts
- Right of ways and/or property lines
- Other utilities
- Crossing signals
- Railroad signals
- Derails
- Bumping posts
- Poles and or wires and cables
- Carrier pipe include dimensions and length
- Casing pipe include dimensions and length
- Horizontal location of soil borings, monitoring wells, etc. including depth of applicable
- Location of survey or site assessment boundary if applicable
- Location of oversize equipment envelope if applicable
- Location of trees and/or tree line
- Crossing angle
- Distance from edge of pipeline to centerline of track at each end
- Distance from pole to centerline of track for each pole
- Height of lowest wire
- Distance to nearest railroad communication facility
- Number of crossings
- Depth below base of rail
- Adjacent Property Ownership

Profile View (required for pipeline or wire crossing only)

- Scale
- Height above top of rail (if aerial crossing)
- Depth below ditch
- Top of rail elevation
- Top of casing pipe
- Top of carrier pipe
- All ditches or culverts shown

## Appendix C – Design Guidelines

### Design Guidelines

All pipeline either under railway tracks, or on railway right-of-way running parallel with railway tracks, must comply with current American Railway Engineering and Maintenance-of-Way Association (AREMA) specifications for conveying flammable and non-flammable substances, Chapter 1, Part 5, Article 5.1 through Article 5.2.7.

Reinforced concrete pipe will not be allowed except as a carrier pipe when the pipeline is operated under gravity flow and a casing pipe is provided. The jack and bore method of installation is preferred for pipelines crossing under tracks.

#### **General Requirements**

##### **A. Use of Casing Pipe**

- a. Casing pipe will be used for all crossing carrying liquid or gaseous substances
- b. For non-pressure sewer or drainage crossings, the installation can be made by open cut (i.e. not under tracks) or reinforced concrete pipe maybe jacked under the tracks. In this case, casing pipe is not required.
- c. Pressure pipelines that are located within 25 feet of the track shall be encased.
- d. At proposed pipe crossing, the casing pipe shall be laid across the entire width of right of way except where depth requires the pipe to be extended beyond the right-of-way.
- e. At the discretion of NOPB, casing pipe maybe required for any application, regardless of the product.

##### **B. Location along Right-of-Way**

- a. Pipelines laid longitudinally along right-of-way shall be located as far as practicable from any tracks or facilities. They shall not be located within earth embankments or within ditches on the right-of-way.
- b. Pipelines shall be located to cross tracks at approximate right angles, but always greater than 45 degrees.
- c. Pipelines shall not be located within a culvert, bridge nor closer than 45 to a bridge structure, building or other important railroad structure.
- d. Pipelines shall not be located within the limits of a turnout.
- e. Pipelines shall not be designed as open cult where the pipeline is to be located within the limits of a grade crossing.
- f. Pipelines conveying liquefied petroleum gas shall, where practicable, cross the railroad where tracks are carried on an embankment.

- C. Depth of Installation
  - a. Pipelines conveying non-flammable substances
    - i. Casing/carrier pipes shall be not less than 5.5 feet from base of rail to top of pipe at its shallowest point
    - ii. Pipelines laid longitudinal on the right-of-way shall be buried not less than 4 feet from ground to top of pipe.
  - b. Pipelines conveying flammable substances
    - i. Casing/carrier pipes shall be not less than 5.5 feet from base of rail to top of pipe at its shallowest point
    - ii. Pipelines laid longitudinal on the right-of-way shall be buried not less than 6 feet from ground to top of pipe.
- D. Modification of Existing Facilities
  - a. Any replacement or repair of an existing carrier pipe and/or casing shall be considered as a new installation, subject to the requirements of this specification.
- E. Corrosion Protection
  - a. Pipelines that carry petroleum products or other hazard liquids shall be design in accordance with all federal, state and local laws, rules and regulations that mandate leak detection automatic shut-off, leak monitoring, sacrificial anodes and/or exterior coatings to minimize corrosion and prevent releases.
- F. Plastic Carrier Pipes
  - a. Plastic carrier pipes may include PVC, HDPE, PE, Fiberglass, and other similar systems.
  - b. Plastic carrier pipes shall be encased according to AREMA Chapter 1, Section 5.1.5
  - c. Plastic pipe material shall not be used to convey flammable substances.
  - d. Plastic pipe material shall be resistant to chemicals with which may contact can be anticipated.
  - e. Plastic carrier pipe can be utilized to convey flammable gas products provided the material is compatible with the substance and the maximum allowable operating pressure is less than 100 psi. Materials must meet all the requirements of FR 49CFR178 to 199, ASME B31.8, and ASTM D2513. They must be encased per AREMA Chapter 1, Section 5.1.5.
- G. Soil Testing
  - a. For all crossings greater than 36", soil borings must be provided to determine the bedding requirement and soil conditions at the crossing. A test boring log must be submitted showing the location and depth of the bores prior to performing the work.

## **Design Requirements**

- A. Design Loads
  - a. All pipes, manholes, and other facilities shall be designed for the external and internal loads to which they may be subjected.
  - b. They must allow for both the existing track loads and any future loads within the right-of-way that may occur.
- B. Earth Load
  - a. Earth load shall be a minimum of 120 lbs per cubic foot

C. Rail Load

- a. The railroad live load shall be Cooper E-80 loading, this loading is 80 kips axle load spaced 5 foot on centers
- b. An impact load of 1.75 shall be used for the depth of cover up to 5 feet. Between 5 feet and 30 feet, the impact factor shall be reduced by 0.03 per foot of depth. Below 30 feet, the factor is 1.0.

D. Casing Pipe

- a. Casing pipe shall be constructed to prevent any leakage of the carrier pipe except at the ends of the casing pipe or through approved vents. Casing pipe shall be designed to not allow ponding of water under the tracks.
- b. Casing pipe shall be steel with a minimum yield strength of 35 ksi designed to withstand the Copper E80 loading
- c. Casing pipe shall be sized to allow the interior carrier pipe to be slid inside the pipe with room for spacers and supports. The carrier pipe shall be supported by spaces and shall not rest directly on the casing pipe.
- d. The casing pipe shall extend the greater of the following:
  - i. Across the entire right-of-way
  - ii. 3 feet beyond ditch line
  - iii. 2 feet beyond toe of slope
  - iv. A minimum distance of 45 feet from each side of the centerline of track
  - v. Beyond the theoretical railroad embankment line. This line begins at a point 12 horizontally from the centerline of the track, 18 inches below the top of rail and extends downward on a 1-1/2 (H) to 1 (V) slope.
  - vi. If additional tracks are installed in the future, the casing will be extended at the applicant's expense.

E. Carrier pipes

- a. Approved carrier pipes include PVC, Ductile Iron, and HDPE provided a casing pipe is used.
- b. RCP or CMP may be used without a casing pipe, provided the wall thickness and laying conditions meet Cooper E80 loading.