

Plans of Sufficient Detail are one of the most important elements of a broadband access permit application. Quality plans will greatly expedite application review and approval. Plans must include elements such as Right-of-Way (ROW) lines, Edge of Pavement (EOP), centerline, driveways, bridges and culvert/drain inlets and outlets, ditches, proposed underground fiber, etc. Work not associated with INDOT ROW should not be included on the submitted plans. **(See Example [Plans of Sufficient Detail](#))**

Plans of Sufficient Detail are addressed on Page 3 of INDOT's [Broadband Permit Guidelines](#).

Plans of Sufficient Detail Should Include Elements Such As:

- **A Vicinity Map** – A map that shows all the roads that will be included in the permit, and the surrounding areas of the work. The vicinity map should have a north arrow and show the proposed location of the facility relative to the state highway. **(See Example [Vicinity Map](#))**
- **Directional Arrow and Scale** – Plans will be of sufficient detail and scale to show the proposed location of the facility relative to ROW congestion.
- **A Legend** – The Legend should show the symbols used on the plans, and the color-coding used to mark the plans if applicable. **(See Example [Legend](#))**
- **Existing Structures and Information** – Plans should include any features that might interfere with proposed Installation. Existing structures should include guardrails, sidewalks, utility poles, traffic signals, landscaping, sanitary sewer lines, storm sewer lines, bridges, culverts, walls, other existing utilities, etc.
- **Ditch Lines** - No fiber optic cable installation will be permitted in a ditch line. Fiber optic cable installations will be permitted along the backside of the ditch line (only).
- **Location of the Proposed Fiber in Relation to all Signalized Intersection Equipment** – Fiber optic cable must be located so as not to interfere with INDOT's traffic signals and related equipment. The plan must indicate all of the equipment including the loop detectors, and the distance from the equipment. Proposed Fiber crossing near Signalized Intersection Equipment must be a minimum of 10 feet away from the loop detectors on the backside of the loops.
- **Proposed Fiber Location in INDOT ROW** – Longitudinal installations of facilities, individual service connections and facility maintenance points must be located on a uniform alignment at most **two feet** from the back edge of INDOT's ROW line and within INDOT's ROW to provide the maximum space for possible future highway construction or facility maintenance. Measurements from the proposed fiber to the back edge of the ROW and from the edge of pavement is required in all locations in order to determine that the line will be placed as close to the 2' threshold as possible.
- **Vertical Clearance for Overhead Crossings** - The vertical clearance for overhead fiber optic lines above the highway must be a minimum of **18 feet**. Overhead crossings are to be made perpendicular to the roadway. The plan view must show the horizontal distance to the nearest affected utility and/or ROW object.
- **Handhold/Hand Hole Locations and Details** – Handhole/Handhold locations should be identified on the plans. Plans should also include typical details for proposed handholds.
- **Typical Section and Dept of Cover** - A typical section showing the proposed types of installations (such as underground or aerial), and the minimum depth of cover (48 inches or 10 feet in a broadband corridor) or minimum vertical clearance (18 feet) for the proposed fiber. Please do not

include typical sections that do not pertain to the proposed work in INDOT ROW (ex. an individual section view for the crossing of a non INDOT road).

- **Method of Installation** – If the proposed construction will utilize both underground and aerial installation methods, they should be clearly identified on the plans. A single permit application can be submitted for aerial and underground installations. When longitudinal fiber along a state highway will cross or impact another state highway, that transverse crossing should be permitted separately from the longitudinal run. A longitudinal run that crosses into another County or INDOT District will require a separate permit application.
- **Vertical Structures** - All vertical structures within INDOT right of way must meet INDOT clear zone requirements, as per [INDOT Design Manual - Chapter 49](#).
- **Individual Section Views for Proposed Crossings** - Individual section views should be submitted for any mainline underground or aerial crossing. The section view may be contained on the same plan sheet as the crossing.
 - **Individual Section View for an Aerial Transverse Crossing** – The section view for an aerial transverse crossing should include vertical clearances. The vertical clearance for overhead fiber optic lines above the highway must be a minimum of 18 feet in all locations within the right of way. Vertical clearances should be measured at the location where the line is closest to the right of way surface. The vertical clearance of overhead fiber optic lines relative to other highway structures must provide reasonable space for construction and maintenance activities in accordance with OSHA standards. For vertical compliance, aerial facilities should remain 200 linear feet away from a highway bridge and/or culvert. (See **Example [Individual Section View for an Aerial Transverse Crossing](#)**)
 - **Individual Section View for an Underground Transverse Crossings** – Lines crossing under highways require conduit and must have a minimum depth of cover of 4 feet. Further, all lines must be a minimum of 2.0 feet below any buried drainage structure or improvement. An individual section view should be submitted for any transverse crossing under the mainline highway. The individual section view should illustrate elements including, the type of roadway (curb and gutter or ditch line), launch and receiving pits in relation to the ROW, drainage or other structures present at the crossing, and the appropriate depth of cover. The minimum depth of cover for the crossing needs to be figured from the lowest point of the right of way surface, which is generally the bottom of the ditch. The section view may be contained on the same plan sheet as the crossing. Underground crossing of any paved state highway must be by directional bore. Open cut construction is strongly discouraged and, in most cases, will not be permitted by INDOT. A Boring and Jacking Specifications Worksheet for Broadband should also be completed for each location to be bored under the mainline highway and can be found on the [INDOT Permit Forms Website](#). (See **Example [Individual Section View for an Underground Transverse Crossing](#)**)

Example Vicinity Map

All fiber to be placed via direction drill within state highway right of way

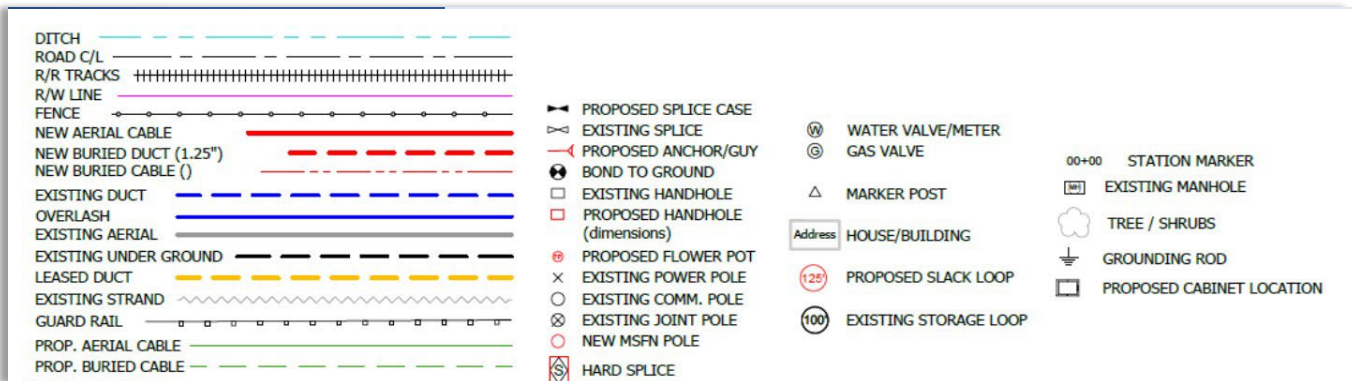
ABC Wireless
Chestnut Hill Exchange
SR 160 - D Route



Sheet 1 of 1



Example Legend



Plans of Sufficient Detail

Right of Way Clearly Identified

Edge of Pavement Identified

Proposed Construction Method and Materials Identified

Existing Features such as Ditches, Guardrails and Medians Identified

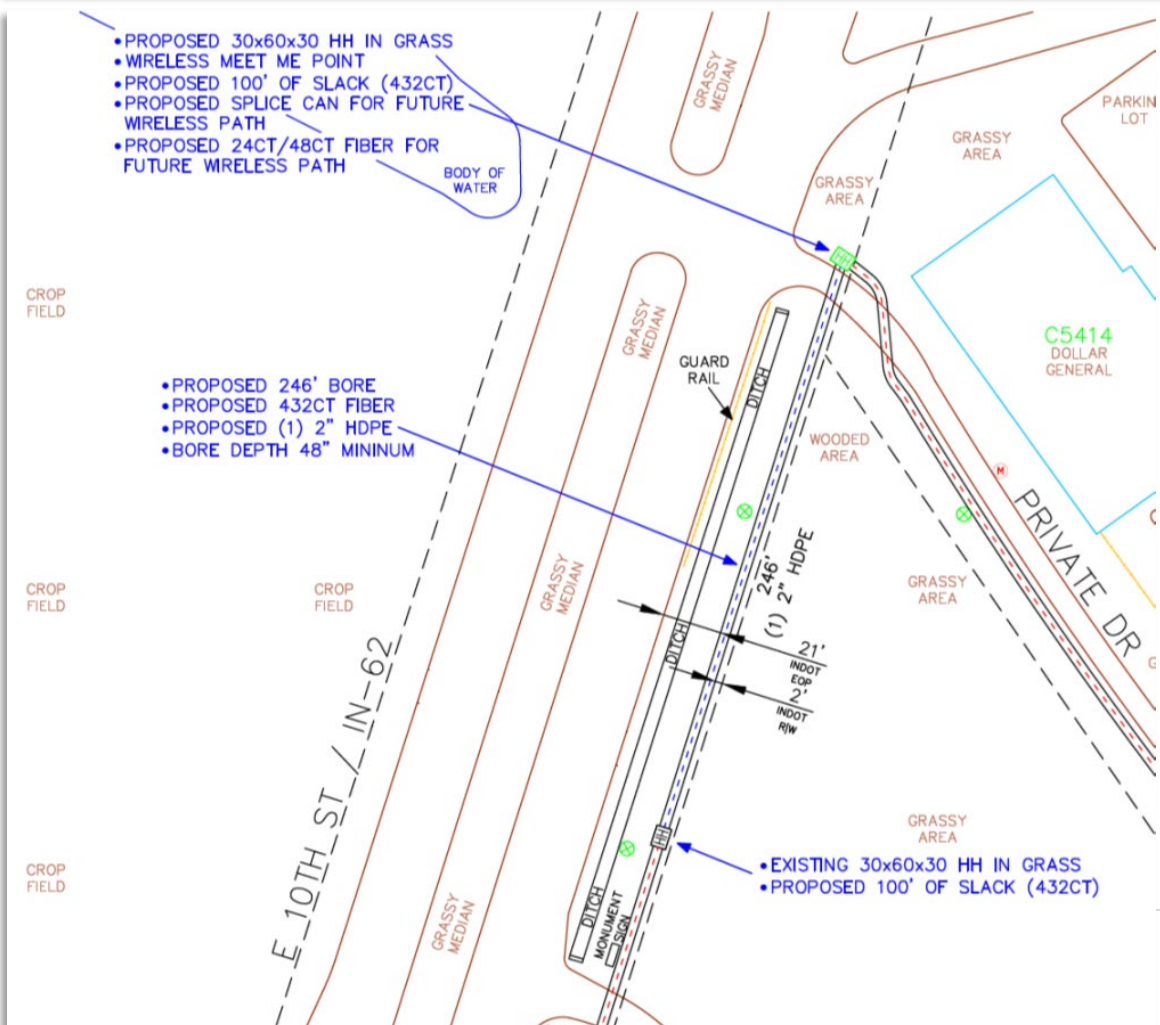
Measurement from the Edge of Pavement to Right of Way

Measurements from the Proposed Fiber to the back edge of the Right of Way

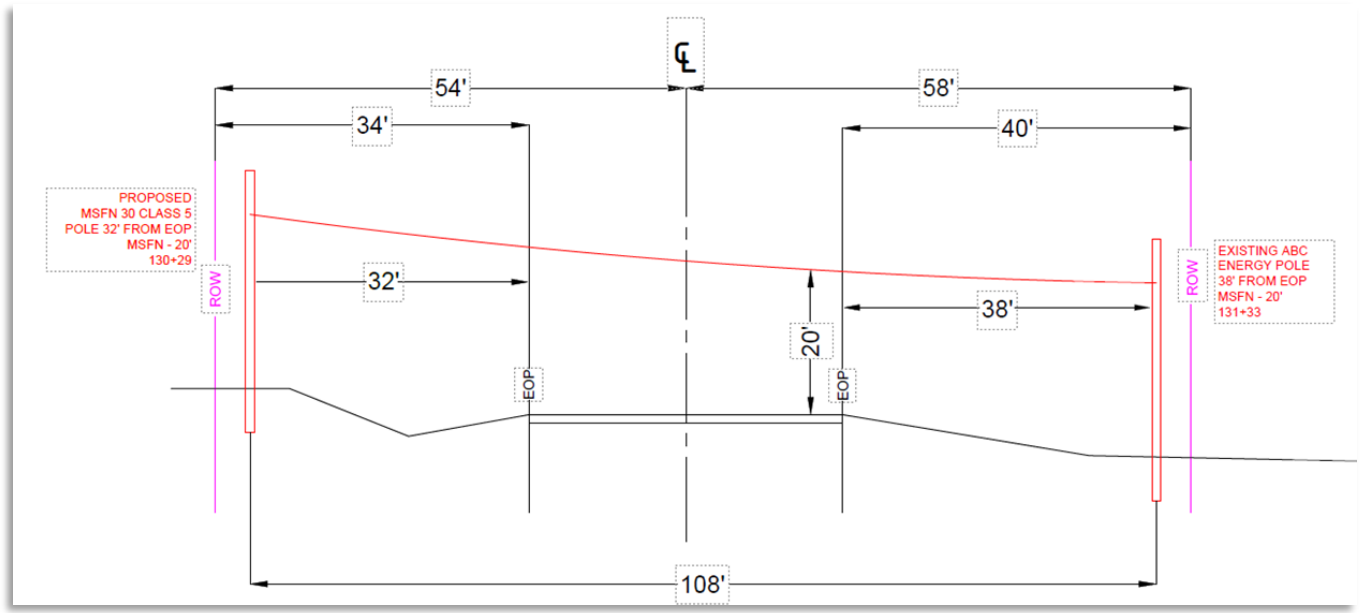
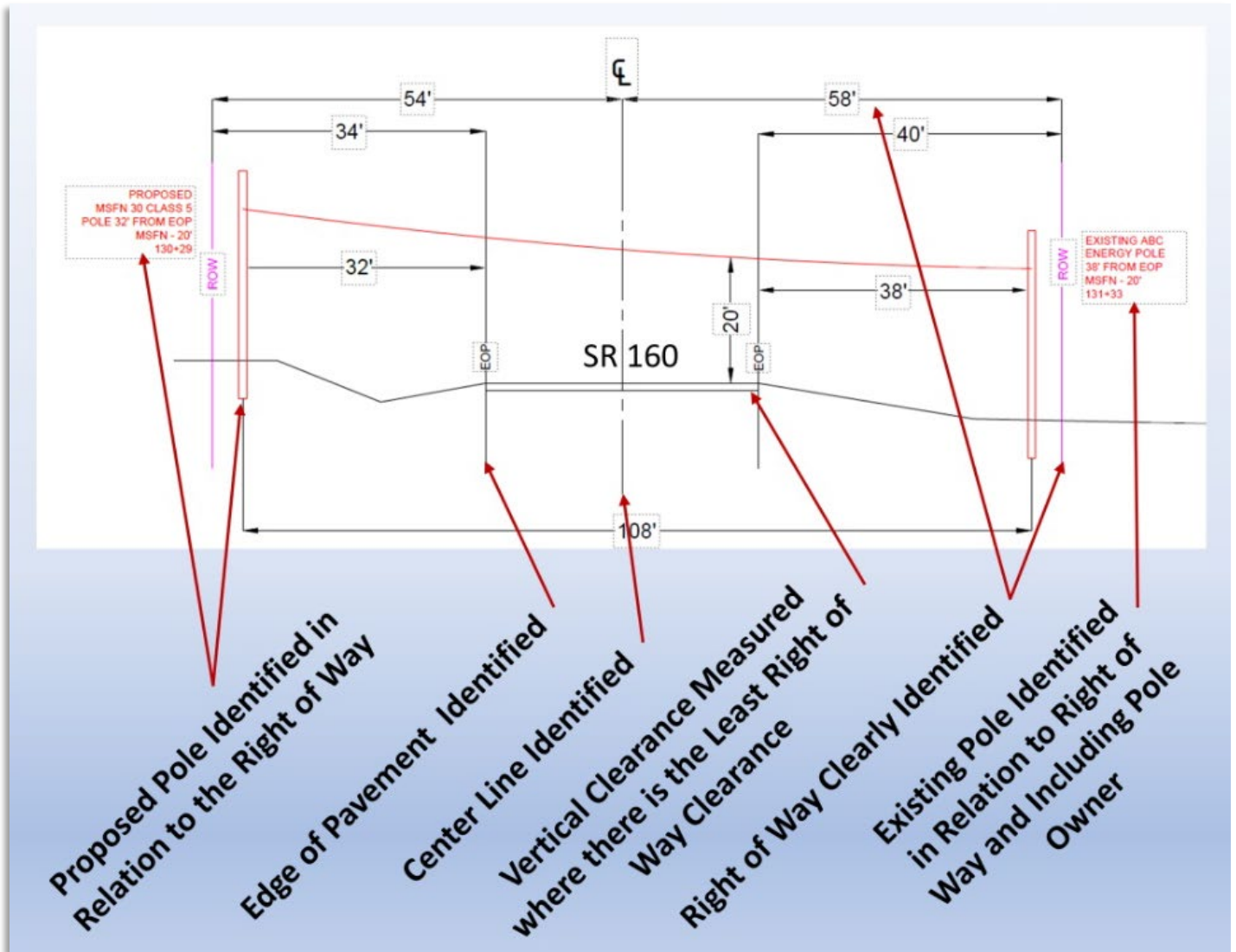
Street Labeling

Handhole Locations Identified

Existing and Proposed Construction Identified

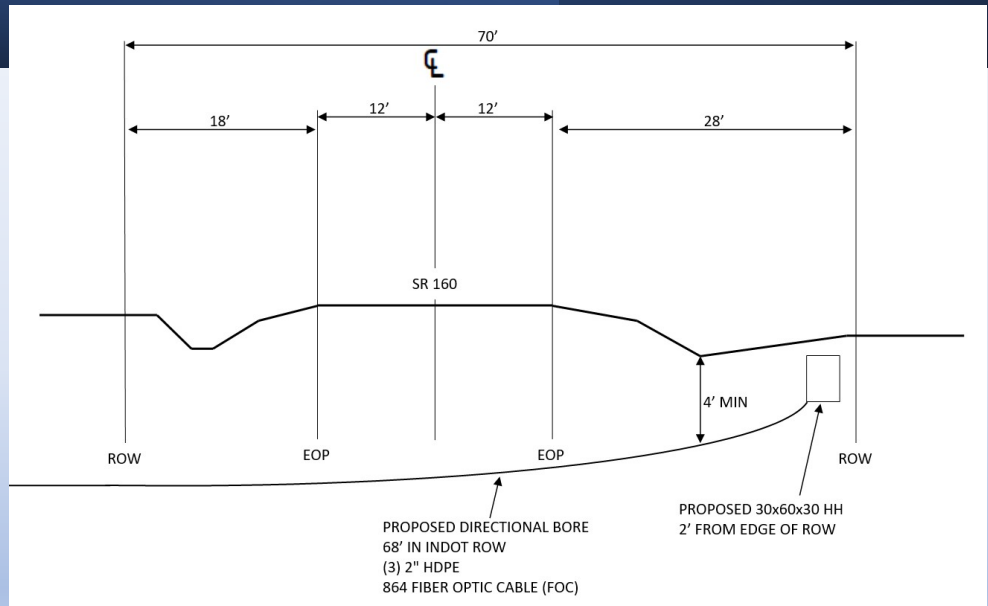


Example Individual Section View for an Aerial Transverse Crossing



Underground Transverse Crossing

- Transverse Crossings Under Highways must have a Minimum 4' Depth of Cover
- Transverse Crossings of the Broadband Corridor Require a Minimum 10' Depth of Cover
- Depth of Cover should be Figured from the Lowest Point of the Roadway, which is Generally the Bottom of the Ditch



Example Individual Section View for Underground Transverse Crossing

