



**Plan Preparation Guidelines  
for Consultants Preparing  
Right-of-Way Plans**

**Version 3.0  
October 2023**

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## What's New: Plan Preparation Guidelines for Consultants Preparing ROW plans – Version 3.0

- **S3 Surveyor** – The PLS prequalified in the S3 category that is participating in the development of the ROW plans must be the same PLS that will prepare the layout plan and instrument. See [page 6](#).
- **Title Sheet and Index** – The notes on the title sheet and index have been updated. See [page 15](#) and [Appendix B.1](#).
- **Parcel Summary Sheet** – There are a few changes. See [page 17](#) and [Appendix B.5](#).
  - The layout has been updated, with some columns for parcel area consolidated.
  - A column listing the zoning district for each property has been added.
  - The total property area must be taken from the deed. If no area is available on the deed or record plan, the number from the assessor's database may be used and a footnote must be added to the parcel summary sheet.
- **Encroachments (Municipal ROW)** – A separate encroachment list is required for each entity that will be responsible for acquiring the needed rights. See [page 38](#) and [Appendix A.4](#).
- **Temporary Impacts to Properties with Land Restrictions** – For temporary impacts to properties with land restrictions, a Temporary Construction Area (TCA) shall be shown. See [page 56](#).
- **Common Mistakes on the ROW plans** – This is a new section that has been added and represents the most common and time-consuming mistakes found during the review process. See [page 58](#).
- **QA/QC Form** – Language in the QA/QC Form has been updated. See [page 59](#), [Appendix C.3](#) and [Appendix C.4](#).
- **CAD Standard** – The MADOT-R.stb plot style has been updated so that the existing layout lines and property lines will plot red, and proposed layout alterations will plot green. See [page 61](#), [Appendix D.2](#), and [Appendix D.3](#).
- **MassDOT ROW Disposition Guidelines for Privately Owned Items** – Sheds and shipping containers have been added to the guidelines. See [Appendix A.2](#).

Please be sure to read through the entire document thoroughly. The changes noted above represent the most significant changes in Version 3.0 of the guidelines. However, additional information and context has been added at many locations throughout the guidelines.

## Introduction

When a road, bridge, or corridor owned by the Commonwealth of Massachusetts is affected by a project that is funded through the Statewide Transportation Improvement Projects (STIP), MassDOT is responsible for acquiring all needed rights in private and public lands along State owned roadways. The municipalities and Local Public Agencies are responsible for acquiring all needed rights in private and public lands along roads owned by the municipality/Local Public Agency. MassDOT has many professionals dedicated to the acquisition process.

The acquisition of right-of-way is vital to the development of many projects and can often be the critical path to getting a project advertised on time. All proposed work, on federal aid MassDOT advertised projects, must be shown on the Right-of-Way (ROW) Plans before the MassDOT ROW Bureau can certify to federal highway that all needed property rights have been acquired.

ROW Plans are a specialized plan set. They are an essential part of the Construction Plans, that is developed as a separate entity and requires a significant amount of knowledge in both the right of way field and the profession of land surveying. The ROW plans provide information to define the extent of the proposed permanent or temporary takings required in order to construct and maintain a highway, roadway, or corridor. They consist of three layers of information including the existing survey baseplan, proposed design, and the right-of-way information. The ROW Plans must be accurate and precise. They must also be presented in a way that those who do not have developed plan reading skills can understand what is proposed adjacent to the existing public ROW.

**MassDOT prequalified land surveyors in the A&E Review Board Category S2 shall prepare the survey baseplan for all state and municipal projects. The surveyors prequalified under MassDOT's A&E Review Board Category S3 must participate in the development of the ROW Plans, so the geometry and parcel configurations can be seamlessly utilized in the preparation of the Layout/Easement plans. The surveyor prequalified in the S3 category must assist designers by verifying highway layout baselines and sidelines, verifying municipal layouts, verifying that abutter property lines are depicted based on record deeds and plans, verifying current abutters ownership information, verifying existing permanent easements, and verifying any other elements in the survey base plan that affects dispositions and land acquisitions. The surveyor participating in the development of the ROW plans must be retained at the pre-25% design level. The PLS prequalified in the S3 category that is participating in the development of the ROW Plans must be the same PLS that will prepare the Layout/Easement documents.**

ROW Plans are a tool used by MassDOT, the municipalities, and Local Public Agencies for:

- ROW agents, municipalities, appraisers, legal counsel, etc. to explain project impacts to the abutting property owners.
- Appraisers to determine the award of damages due to the abutting property owners.
- Ensuring that all proposed permanent and temporary acquisitions comply with State and Federal law.

The information provided to the property owners by the ROW agents, municipalities, appraisers, legal counsel, etc. early in the acquisition process, needs to match the construction plans, as well as the subsequent recorded Layout/Easement plans.

The purpose of this guide is to provide guidance to both experienced and inexperienced Right of Way Plan Designers, and to promote uniformity among MassDOT's consulting firms. If the procedures outlined in this guide are carried out, the entire process should be easier for the many individuals involved in each project, resulting in greater accuracy and efficiency.

These guidelines shall be used in conjunction with and as a supplement to the following (or their successor publication):

[Project Development & Design Guide 2006](#)

[Survey Manual - 1996 Edition](#)

[2013 MassDOT LRFD Bridge Manual Design Guidelines](#)

[MassDOT Highway Division CAD Standard](#)

[MassDOT Highway Division Field Survey Guidelines and Base Plan Requirements](#)

If any contradictions exist, please defer to this guide when preparing Right of Way plans.

In general, State and Municipal ROW plans shall follow the same guidelines, except as noted in the sections below.

## State ROW Process

Acting on behalf of MassDOT, the ROW Bureau is authorized to acquire land interests for State transportation purposes in accordance with State and Federal laws. The ROW Bureau is responsible for the acquisition of all real property required for the highway program. Real property is land, and anything growing on, affixed to, or built upon said land. Real property is characterized as property that doesn't move or is attached to the land.

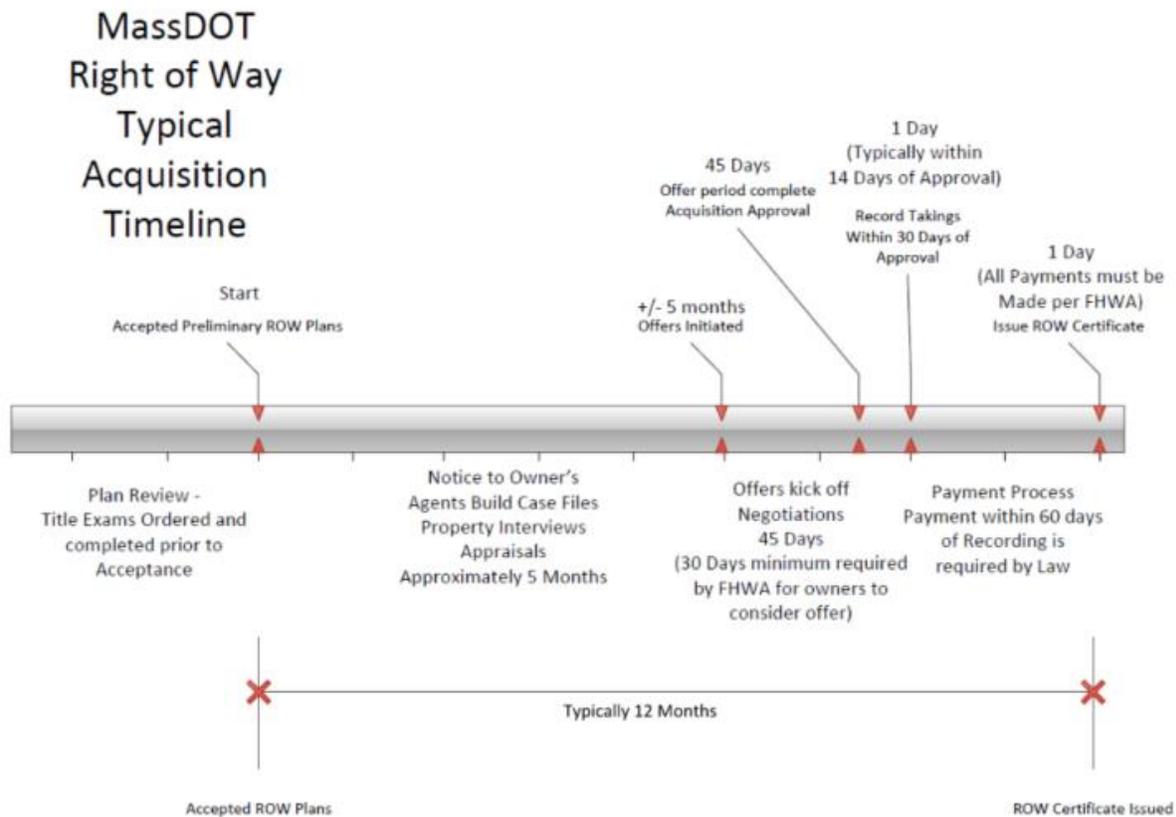
In order to allow MassDOT adequate time to acquire the right of way, when submitting the 25% plans the designer should notify the ROW Bureau of the items that will most adversely affect the individual properties, including, but not limited to, highway design that:

1. Goes through existing buildings, structures, septic systems or leach fields.
2. Requires the taking of a large amount, or all, of a subject's property.
3. Impacts properties with Article 97 or other legal restrictions.
4. Eliminates access to and from property.
5. Eliminates a significant amount of parking.



## The Acquisition Process

The acquisition process begins after the ROW plans are accepted. In order to ensure the earliest possible commencement of the acquisition process, the ROW plans should be accepted at the 75% design stage. This will allow time to complete the acquisition process, in coordination with the advertisement date. It is critical that the design adjacent to the existing ROW is locked down at the time plans are accepted/approved, so that the project can be advertised in accordance with the project schedule.



Our agents in the ROW Bureau meet with property owners to explain impacts to their property based on information from the accepted ROW Plans. Our appraisers use the square footage and dispositions shown on the ROW plans to determine just compensation.

**MassDOT ROW cannot send offers or negotiate with property owners until National Environmental Policy Act (NEPA) is cleared by the Environmental Section. Once appraisals are complete, our process is on hold if NEPA has not been cleared.**

The ROW Certificate needs to be issued two weeks before the advertising date.

## Parcel Designation and Abbreviations (State ROW)

**The geometry of the proposed takings and easements is determined by the proposed work shown on the ROW plans. The linework of the fee taking or easement should only encompass the required area for construction activities.**

**The proposed fee taking, and easement size must be justified by the proposed work and cannot be excessive in size or nature including overburdening or oversizing a proposed easement.**

When State ROW is completing the acquisition of a parcel, the parcel identification must have a prefix number. A different prefix number will be assigned by MassDOT at the appropriate time for each project and for each City and or Town when multiple municipalities are involved.

See [Appendix A.1 – Parcel Abbreviation and Designation](#).

### Dispositions

Correctly showing and communicating the disposition for all personal property within the impacted area is one of the most important components of the ROW Plans.

**All privately owned items, within a proposed easement requires a disposition.**

The disposition of the features must be represented consistently on both the construction and ROW plans, to ensure all parties (property owner, agents, appraisers, legal counsel, project managers, district personnel and the contractor) understand which features may be compensable, which are to be retained and which are to be removed.

The appraisers use the dispositions shown on the accepted ROW plans to determine the items that need to be accounted for in the appraisal report.

See [Appendix A.2 – Dispositions \(State and Muni\)](#).

### Municipal ROW Process

When a road, bridge, or corridor is, or will be, owned or controlled by a municipality/Local Public Agency (LPA), and is impacted by a proposed Transportation Improvement Program (TIP) funded transportation project, the municipality/Local Public Agency is responsible for acquiring all needed rights in private and public lands for the design, construction, and implementation of the project. To fulfill those responsibilities, the municipality/Local Public Agency performs title exams, and hires qualified appraisers and review appraisers to determine the value and just

compensation due to impacted property owners abutting the project area. Their legal counsel will advise them in the acquisition process with regards to warrant articles for a Town meeting vote if needed, titles, appraisals, and the written offers that will be sent to each affected property owner to disclose the just compensation they are due.

In order to allow the municipality adequate time to acquire the needed rights when submitting the 25% plans, the designer should notify the municipality, ROW Community Compliance Administrator, the ROW Community Compliance Officer, and the MassDOT District Project Development Engineer of the items that will most adversely affect the individual properties, including, but not limited to, highway design that:

1. Goes through existing buildings, structures, septic systems or leach fields.
2. Requires the taking of a large amount or all of a subject's property.
3. Impacts properties with Article 97 or other legal restrictions.
4. Eliminates access to and from property.
5. Eliminates a significant amount of parking.

The Title Examiner will use the 25% ROW plans to perform the initial title exams. Once the title exams are complete, the ROW plans must reflect the title information. Once approved, the ROW plans are the starting point for the appraiser, review appraiser, City Solicitor or Town Counsel, and the municipality/Local Public Agency to communicate changes and impacts to the abutting property owners. For this reason, the plans need to:

1. Be developed enough to enable the appraiser and review appraiser to accurately assess the damages (i.e. fair compensation) due to the impacted landowners.
2. Communicate the same information as is communicated to the contractor on the construction plan set and all other specialty plan sets.
3. Be easy to understand for those without developed plan reading skills.

Most of the acquisition tasks described above take place when the ROW plans have been sufficiently developed to show the affected property owners, and the impacts to their property. The ROW plans are usually approved for acquisition at the 75% submission stage. It is critical that the ROW plans have all the necessary information included, and clearly identified, at the time that the plans are approved to show the property owner, appraisers, legal counsel, and others how each property is impacted.

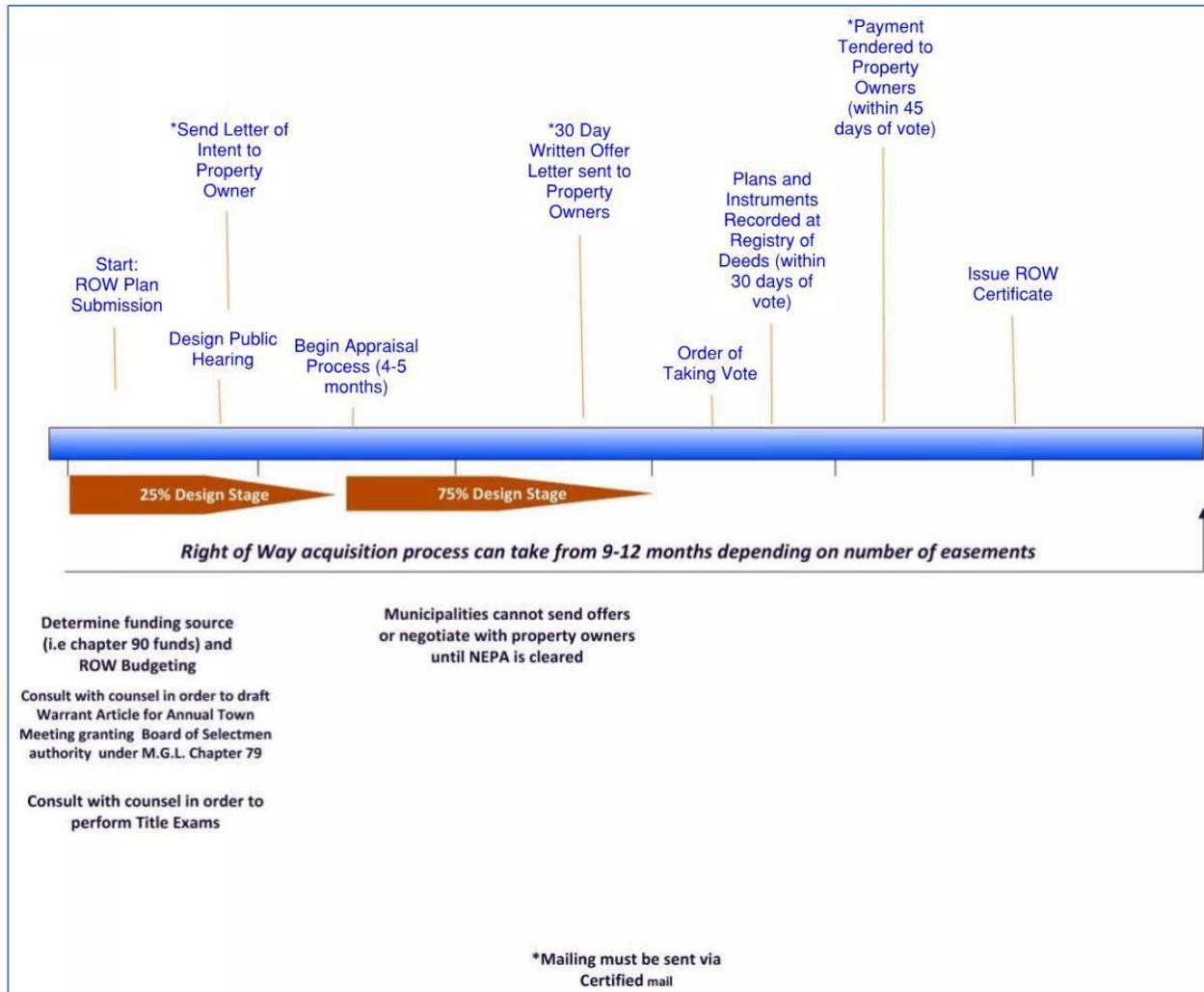
If the design changes after ROW plans have been approved, then updated ROW plans are required. This may result in additional easements, involving new property owners, and updated areas of the previously proposed easements. Design changes can be problematic, resulting in restarting the acquisition process including title work, appraisals, review appraisals, etc., which could cause a change in the Advertising Date for the project.

The appraisers use the approved ROW plans to determine just compensation for what is being acquired by the municipality/Local Public Agency.

The location of the layout lines must be accurate before the intended users of the ROW plans begin their work. Recordable plans will need to be recorded prior to advertising the project for construction bids. If the initial design was not based on accurate survey baseplans, then delays or inaccuracies will likely occur. Without regard to the source of the survey baseplan (whether the survey was from MassDOT, a subconsultant to the Designer, or hired separately by the municipality/Local Public Agency), the design consultant is responsible for checking and assuring that the survey baseplan shows accurate layout lines, property lines, and easement lines. It is the designer's responsibility to identify the need for an additional/higher quality survey if needed. The designer must make this determination in consultation with the Professional Land Surveyor who will be responsible for developing the recordable documents.

On each ROW submission, after reviewing the survey baseplan provided to the design engineer and the subsequent submission, the Professional Land Surveyor (PLS) registered in Massachusetts who is in responsible charge of the survey baseplan must sign, date, and affix his/her stamp to the following statement: "The layout lines, as represented on the Preliminary Right of Way plans, are based upon an instrument survey that meets 250 CMR 6.00 and are suitable to be used for a recordable plan, and meet the standards set forth in both 250 CMR 6.01 and 6.02" The name, signature, registration number, and date must be clear. The PLS must review each submission prior to certifying the statement above and provide a new date.

Here is an outline of the process that the ROW plan supports:



## Parcel Designation and Abbreviations (Municipal ROW)

Parcels acquired by the municipalities do not have a prefix number.

See [Appendix A.3 – Parcel Abbreviations and Designation \(Muni ROW\)](#).

## ROW Plan Content (State & Municipal)

The ROW Plan set consists of a Title Sheet and Index, Legend, Abbreviation and Project Description, Typical Cross-Sections, Critical Profiles, Parcel Summary Sheet, Location Plan, and Property Plan.

## Title Sheet and Index

The title sheet shall be labeled “PRELIMINARY RIGHT OF WAY PLANS” and shall include a project file number, an index, locus map with project limits identified, a revision block with the date, design phase, and parcels that have been “ADDED”, “ALTERED” or “DELETED” since the previous submission.

**The following notes are a REQUIREMENT and must be on the title sheet of every plan set:**

- “The survey baseplan was prepared by XYZ Company in [Month, Year] and supplemented by XYZ Company in [Month, Year].”
- “The most recent site visit was completed in [Month, Year] to verify that the existing conditions shown on the plan are the current conditions in the field.”
- “The property lines shown on the plan were compiled from [\_\_\_\_\_] and certified by [\_\_\_\_\_], a PLS in direct charge and supervision of the survey base plan.”
- Layout lines are unambiguously retracable and depicted accurately on the Right-of-Way Plans by an on-the-ground survey performed in accordance with 250 CMR 6.01 and 6.02.
- “The owners have been checked and updated per the registry of deeds as of [Month, Year].”
- “The prequalified surveyor under the S3 category is participating in the development of the ROW plans. [\_\_\_\_\_] has verified highway layout baselines and sidelines, verified municipal layouts, verified that abutters property lines are created based on record deeds and plans, verified current abutters ownership information, verified existing permanent easements, and verified any other elements in the survey base plan that affects dispositions and land acquisitions.”

See [Appendix B.1 – Title Sheet and Index](#).

## Legend, Abbreviations and Project Description

The legend, abbreviations and project description sheet is a **REQUIREMENT** and must be included on every plan set.

All plan sets shall have a legend. All symbols and abbreviations shown in the plan set shall be listed here. The latest MassDOT approved CAD Standards shall be followed to standardize drawing information, symbols, abbreviations between MassDOT and consultants. By utilizing the CAD standard, all projects will be uniform and consistent, and the plans can be easily understood with little or no learning curve for the next person utilizing the plans.

Each legend page shall include a note stating the primary purpose and improvements of the proposed project.

See [Appendix B.2 – Legends, Abbreviations and Project Description](#).

### Typical Sections

The ROW Bureau and the municipalities/Local Public Agencies use the typical cross-sectional view of the roadway to help understand the impact to properties affected by construction. The Typical Sections shall be a copy of those in the construction plans. All existing and proposed layout lines and proposed easement lines shall be shown and labeled on the typical sections.

Detail sections shall be provided as needed by the designer or as requested by the ROW Bureau.

If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then TYPICAL SECTIONS are NOT required. A note should be added below the Title Sheet index such as: “THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS ARE NEEDED OR PROVIDED.”

See [Appendix B.3 – Typical Cross-Sections](#).

## Critical Profile

The critical profile shows the existing roadway elevation and proposed roadway elevation. If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a CRITICAL PROFILE is NOT required. A note should be added below the Title Sheet index such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO CRITICAL PROFILES ARE NEEDED OR PROVIDED."

Not all profile sheets from the construction plans are required in the ROW plans. Only those that show critical areas, such as bridges, culvert crossings, or where there are significant changes in grades. Most projects will only have one or two critical profile sheets.

See [Appendix B.4 – Critical Profiles](#).

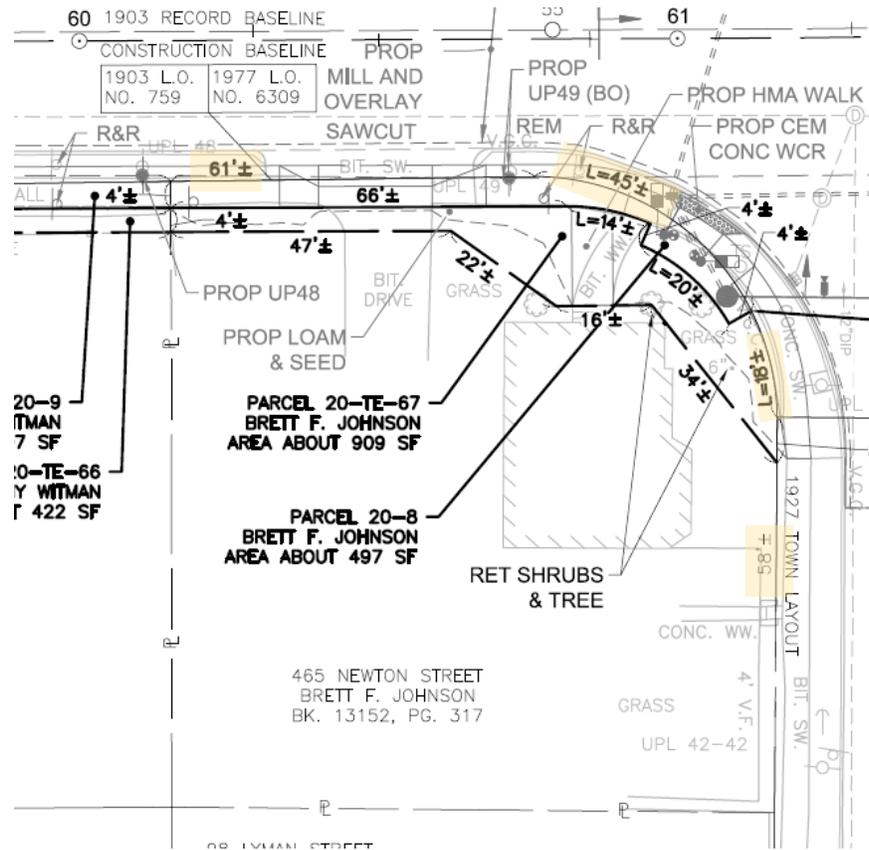
## Parcel Summary Sheet

The parcel summary sheet shall show each parcel grouped together by titleholder. The table shall contain each deed reference, proposed easement type (fee, permanent easement, or temporary easement), square footage of easement, total square footage taken, square footage remaining, total property area, frontage shown on the ROW plans, property address, zoning district, remarks, and land restrictions. The parcel summary sheet should separate a titleholder's parcels if title was obtained by different source deeds.

**Frontage, property address, remarks, zoning district and land restrictions (if any) shown on the Parcel Summary Sheet is a REQUIREMENT for every property affected by ROW impacts.**

The frontage calculated on the ROW plans shall match the frontage reported in the deed description and/or other record information. Allowable tolerances will be considered for frontages with  $\pm$  distances. The designer shall be sure that the entire frontage is dimensioned on the property plans or location plans so the reviewer can verify the information.

Frontage is the direct access to the public layout. If a property abuts a “no access” state highway layout, then “no access” should be written in the frontage column of the Parcel Summary Sheet.



The total property area must be taken from the deed. If no area is available on the deed or record plan, the number from the assessor’s database may be used. Include an asterisk (\*) next to the area and the following footnote shall be shown at the bottom of the parcel summary sheet on each sheet that has an asterisk: “Total area derived from assessed are on the property record card.”

The zoning district information shall be derived from the town zoning map, property record card, or the assessors GIS database.

**Remarks for every fee taking, permanent and temporary easement is a REQUIREMENT and must be filled out at the 25% submission. If the project design creates a slope within a proposed easement, be sure to add the slope ratio to the remark’s column.**

Every proposed parcel, whether it is a fee taking, permanent or temporary easement should have the remarks column filled out. Generally, the remarks column should be a few words, but it must include a list of all proposed work and improvements taking place within the parcel limits. Temporary easements should list improvements to the parcel. Be sure the remarks

column matches what is shown on the ROW plans, and that the remarks column is updated as the design progresses. All impacts to property with land restrictions, including but not limited to, Article 97, Agricultural Preservation Restrictions (APR), Environmental activity/use limitations (AULs) Conservation Restrictions (CRs), Federally owned land, State owned land, and railroads shall be noted in the “land restrictions” column on the parcel summary sheet.

The **PROJECTS TOTALS** table must be included on the Parcel Summary Sheet

<b>PROJECT TOTALS</b>			
<b>AFFECTED PROPERTIES</b>	<b>FEE TAKINGS</b>	<b>PERMANENT EASEMENTS</b>	<b>TEMPORARY EASEMENTS</b>
7	6	4	5

The total number of affected property owners with unique title references, that contain ROW impacts, should be included in this tabulation. The project totals table must also include a count of all the fee taking parcels, permanent easement parcels and temporary easement parcels.

This column shall be kept updated throughout the design development process.

When a project is split between State ROW and Municipal ROW, a separate project totals table is required.

See [Appendix B.5 – Parcel Summary Sheet](#).

When a project extends into two or more municipalities provide separate Parcel Summary tables for each municipality.

See [Appendix B.6 – Parcel Summary Sheet \(2 Cities\)](#).

When a project has both State and municipal takings, provide separate Parcel Summary tables for parcels to be acquired by the State and for parcels to be acquired by the municipality/Local Public Agency.

## **Location Plan**

The location plan is an important tool for the appraisers and review appraisers to understand the impacts to the property and how they affect the value of the property.

The location plan shows all the permanent easements and fee takings in the context of the entire property at a scale that the entire property, and sometimes the whole project, is shown

clearly on one sheet. Only fee takings and permanent easements are shown on the location plan. All temporary easements should be removed from the location plan.

The location plan should have the current title holders name and total property area (from deed or plan of record). The existing State Highway Layout and Town Layout lines should be shown and identified by year and layout number, following CAD Standards.

The roadway baseline(s), both construction and record, should be shown and identified, following CAD Standards.

All properties impacted by a fee taking or permanent easement shall have their entire perimeter shown and dimensioned on the location plan, based on the deed or plan of record description. For large properties, separate details may be provided at a reduced scale to show and dimension the entire property without diminishing the readability of the location plan itself.

For longer corridor projects, multiple location plans may be used.

For very small projects where entire properties can be shown on the property plan at 20-scale, or projects where only temporary easements are proposed, location plans are not required.

See [Appendix B.7 – Location Plan](#).

## **Property Plan**

The property plan consists of three layers of information: the survey baseplan, the proposed design, and the ROW information.

The property plan should not be split or cut in half showing part of the project on the top half of the sheet and continue the project below on the lower half of the same sheet.

See [Appendix B.8 – Property Plan \(Survey\)](#), [Appendix B.9 – Property Plan \(Highway Design\)](#), [Appendix B.10 – Property Plan \(ROW Information\)](#).

## **Survey Baseplan**

The survey baseplan shown on the ROW Plans shall be submitted to the ROW Engineering Section accurately for State Highway acquisitions. The survey baseplan is the foundation of the entire set of roadway plans. Correctly showing the existing conditions, layout lines, property lines, frontages, property owner information, and existing easements is imperative to successfully completing the needed acquisitions for the entire project. The deeds, orders of taking, plans, and other research documents used to prepare the survey baseplan shall be downloaded or scanned into a research folder in a filing structure adhering to MassDOT Survey Baseplan Standards.

Survey coordinates, benchmarks, distances, and bearings are not necessary on the ROW plan set and can clutter the plan if they are included. Unless the municipality specifically requires these items then omit them.

It is the PLS participating in the preparation of the ROW plans responsibility to identify the existing ROW lines, recorded property rights, and property lines that will be affected by the proposed project. Protection of the property owners' rights and proper compensation is mandated by State and Federal Law.

**MassDOT REQUIRES surveyors prequalified in the S3 category to participate in the development and preparation of the ROW plans. The consultant shall bring in the surveyor that will prepare the layout/easement documents at the pre-25% design level. This will ensure the survey information on the survey baseplan is brought up to date. The PLS needs to accept the previous survey work under the provisions in 250CMR Section 5.03(4). The PLS prequalified in the S3 category that is participating in the development of the ROW Plans must be the same PLS that will prepare the Layout/Easement documents.**

**Responsibilities of the PLS participating in the preparation of the ROW plans shall include:**

- **Confirmation that the survey baseplan is complete and accurate before the designer begins the proposed design.**
- **Ensure that the geometry and parcel configurations on the accepted/approved ROW plans can be seamlessly utilized in the preparation of the Layout/Easement plans.**
- **Update the property owner information, per the registry of deeds, throughout the design process, especially before the 25% and 75% submission.**
- **Confirm land restrictions are properly identified on the ROW plans.**
- **Review the title package when it becomes available from State ROW or the municipality to ensure:**
  - **Abutter property frontages are within an acceptable tolerance per the deed and record plan.**
  - **Parcels shown on the location plan have the proper geometry per the deed and record plan.**
  - **All existing easements are properly shown.**
  - **Property owner information is shown correctly on the parcel summary sheet, location plan and property plan.**

### *Existing Conditions/Site Visit*

Prior to submitting ROW plans, the consultant shall perform a site visit to confirm that the survey baseplan accurately depicts actual in-the-field conditions. The survey baseplan shall be updated to reflect any changes observed in the field. This is a critical task that will result in more accurate appraisals and eliminate changes later in the ROW acquisition process.

The consultant shall note the date of the site visit on the title sheet as previously noted. The design consultant must complete a site visit before the 25% and 75% submission to ensure the existing conditions are correctly shown on the ROW plans. Depending on the project duration, size and location, multiple site visits may be necessary during the ROW plan development process. If the ROW plans are still not accepted at the 100% design phase, a site visit must be completed before the 100% submission. When the ROW plans are accepted/approved the information provided by the consultant is expected to accurately depict the actual in-the-field conditions.

Consultants must identify privately owned underground features (e.g. septic systems and irrigation systems) on plans when components are plainly visible.

### *Existing Easements*

While many deeds make reference to easements, not all easements of record are captured or referenced on the deeds. The consultant shall contact the State Layout Engineer to obtain copies of all State Easements of record within the project limits and shall plot easements on the survey baseplan. The Layout Section has many records but unfortunately is not 100% complete. Additional sources of record information research, such as the Registry of Deeds, may be needed. The Consultant shall then use information presented on the easement sketch, plan or deed to search the Registry of Deeds. The consultant shall make a diligent effort to determine the deed book and page reference.

In cases where existing easements are not clearly defined in the taking documents or plans, such as older drainage easements or drainage grants, it is recommended to show the easement centered on the pipe and parallel at a scaled width from record plans or at an assumed width (i.e. 10-foot wide). The assumed width of the drainage easement should be based on size and depth of the pipe. The easement shall be called out "Existing State Drain Easement (width unknown)" with the deed book/page and/or plan reference.

In cases where existing temporary easements have been taken on a property, the Consultant shall review the associated order of taking to determine if the easement duration has expired. If the easement duration has not expired, the date of expiration shall be noted in the existing easement callout. If the easement duration has expired, the easement should not be shown on

the survey baseplan. This is important so the department does not acquire additional rights unnecessarily.

### *Existing Layout Lines*

**It is the responsibility of the surveyor to accurately place the existing location (layout) lines based on survey bounds and record information. It is the responsibility of the surveyor prequalified under the S3 category that is participating in the development of the ROW plans to verify the establishment of the existing layout lines.**

Bounds must be found and located during the field survey for each project, and specific bounds shall be used to establish the existing location lines. The location lines of the State highway and Town way altered and laid out are to be defined by bounds set thereon at angle points, points of curvature, and at the beginning and ending thereof, where feasible. The actual bound type and specification and setting of the bound should follow the construction standard.

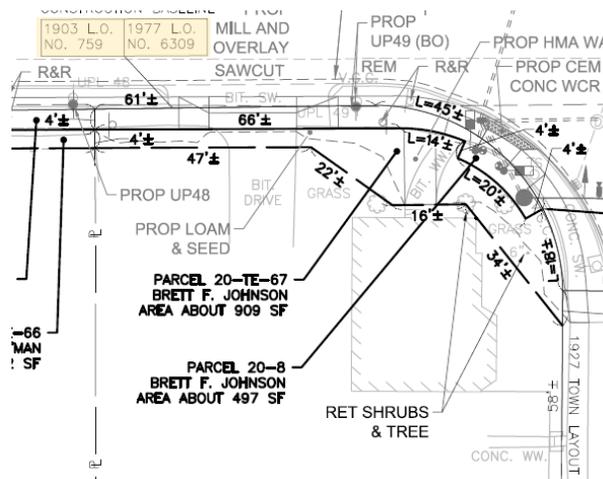
Reference the instrument, including the jurisdiction and year, for each layout line shown for every road where work is proposed, including intersecting roads. If this information is unknown, then the municipality/Local Public Agency, or entity with jurisdiction, will need to remedy. Frequently, the remedy involves recreating the existing layout. This can take several months. Because of the time to remedy, it is important that the layout references be shown, or clearly state that it is unknown so that the municipality/Local Public Agency can begin the remedy. Finding out late in the design process can delay the project from meeting the advertising schedule. For this reason, it is important to label each layout line with the needed information during the 25% level of design. Most towns require town meeting approval to establish a layout.

Please note: The Surveyor (PLS) who developed the survey baseplan should be able to provide the documents that were used to place the existing layout lines. The consultant should provide that reference along the layout line. In locations where the jurisdiction of the layout line changes (e.g. from State Highway Layout to Town Line Layout), the consultant should clearly flag on the plan where the jurisdiction changes.

Provide all road names, widths, and whether it is public or private. All work proposed on private roads requires easements. For private ways, the Surveyor shall determine if the private way was taken by easement or fee and whether the abutting properties own to the centerline of the private way.

The layout line should be labeled at least once on each page on each side of the road.

Layout flags should be used to show changes in State Highway Layouts. Flags should also be used to denote change in access provisions, where applicable, along existing State Highway Layout lines.



### What happens when an existing layout line is placed incorrectly on the ROW Plans?

When the layout line of the existing State Highway layout or municipal layout is shown incorrectly on the ROW plans, the project is at an overall standstill in terms of the ROW process. The project is on hold until the plans can be adjusted and correctly show the layout lines.

The discovery of the improper placement of the layout lines is usually found during the creation of the layout plans, or in the review of layout plans. This comes at a critical stage in the project and puts the AD (advertising) date in jeopardy.

If the layout lines are placed incorrectly throughout the entire corridor, the proposed parcels shown on the entire plan set are incorrect and will need to be updated.

When easement sizes change after the plans are accepted (or approved for municipal projects), it causes severe delays in the acquisition process. The ROW plans will need to be re-accepted (or re-approved for municipal projects).

#### When plans are re-accepted (or re-approved) the following occurs:

- The engineering section will need to review the plans again.
- The projects section will need to meet with property owners again.
- The appraisals sections will need to recalculate the compensation.
- Towns may need to go back and obtain new Town Meeting approval authority for acquisitions.

Whereas the State **accepts** plans, the Community Compliance Section **approves** the plans. The reason Community Compliance Section does not **accept** them is because MassDOT does not own the roadway and is only responsible to ensure the plans have been reviewed to meet the applicable requirements. The municipality/Local Public Agency should also review each submission, including but not limited to the ROW plans.

*Land Restrictions (Parkland Article 97, Federally Owned land, State Owned land)*

The PLS participating in the development of the ROW plans shall make a diligent effort to determine if a property has restrictions or covenants that may affect the ROW process. For example, many properties owned by, or under the control of, the Department of Conservation and Recreation (DCR) are protected by Article 97.

While MassMapper GIS is a useful tool, it is not 100% accurate. The Consultant shall perform the necessary research at the Registry of Deeds to determine if there are any known restrictions on a parcel of land. Other examples of protected land include Agricultural Preservation Restrictions (APR) and Conservation Restrictions (CRs).

If a property has restrictions, the type of restriction along with the legal reference (if applicable), shall be noted underneath the owner information on the survey baseplan, and on the parcel summary under the “land restrictions” column.

For all government owned land, provide not only the owner, book, and page, but also the entity (government body) that controls the property. When taxpayer funds are used to purchase property, there is a purpose for that purchase. As a result, there is a process of acquiring the needed rights.

**Government-owned property cannot be acquired by eminent domain. The process to be able to use government-owned property can vary in time and complexity.**

For this reason, it is important to identify the entity that controls each piece of government-owned property at the 25% level of design. When work is proposed on government owned land, easements or occupancy areas are required to be shown on the plan in the same way as they are required on private property. The purpose of the easement or occupancy area is to define the affected area.

All land acquisitions on government-owned land must be granted by agreement with the entity in possession.

When a railroad property falls within the work limits of a proposed project, all acquisitions are by agreement and can be in the form of a lease, land damage agreement or grant. MassDOT (and the municipalities/Local Public Agencies) do not “take” from MassDOT’s Rail & Transit

Division, Massachusetts Bay Transportation Authority (MBTA), CSX Transportation, Genesee & Wyoming, or Pan Am. In many instances there is a railroad fee owner, with others having freight/operations rights. It is important to understand and address all interests of all parties.

Some examples of State government-owned land include but are not limited to: DCR, Department of Fish and Wildlife, State Police, Department of Correction, Commonwealth of Massachusetts Property – Maintained by Division of Capital Asset Management & Maintenance (DCAMM), and State Universities.

Some examples of Federal government-owned land include but are not limited to: Veteran Affairs (VA) Hospitals, Military Bases – Department of Defense, National Park Land, Federal Government Office Properties, and the U.S Post Office.

**The designer should make every effort possible to avoid any work on protected land. When that option is not possible, minimize acquisitions on properties with land restrictions and government-owned land.**

All impacts to property with land restrictions shall be noted in the “land restrictions” column on the parcel summary sheet.

### *Property Lines and Frontage*

For properties with proposed parcel takings, the property lines must be shown with connections to the sideline of the layout.

Property lines of abutters to State Highway and other roadways are required to be established on the plans by compiling information from the best available source. The best available sources include the deed for the property, record plans of the property, subdivisions plans, land court plans, etc. By utilizing this process there is an expected degree of accuracy on the placement of the property lines. Even though they are approximate, the accuracy of the property lines should be within an acceptable tolerance.

Frontage should be dimensioned along the entire State Highway Layout or Municipal Layout on the property plan for each property with a proposed easement. Total frontage should be filled out in the appropriate column on the parcel summary sheet.

**Frontage distances must coincide with record deed and/or plan information for that property. It is the responsibility of the surveyor prequalified under the S3 category that is participating in the development of the ROW plans to verify the establishment of the property lines.**

Label each property line with a “PL” line symbol where a different owner owns each side of the property line. Label each property line with a “Z” line symbol where the same owner owns each side of the property line with ownership derived from the same deed. A “Z” symbol is used to divide land that is owned by one owner, but the property was previously acquired by separate deeds.

Geographic Information System (GIS) data and information from assessors’ maps should NEVER be used to establish property lines of abutters to State Highway and other roadways. GIS data and assessors’ maps can be inconsistent and are far less precise than an accurate ground survey.

GIS data and assessor’s map information are not drawn with the accuracy required for acquiring the needed rights for transportation projects.

The **ONLY** time GIS lines are acceptable is for lines that are along shorelines, riverbanks, wetlands, etc. as long as they do not represent a property line.

### **What happens when a property line is placed incorrectly on the ROW Plans?**

When the property lines of abutters to public ways are shown incorrectly on the ROW plans, the project is on hold until the plans can be adjusted and correctly show the property lines and proposed easement areas.

The discovery of the improper placement of the property lines is usually found during the title examination, the creation of the layout plans, or in the review of layout plans. This comes at a critical stage in the project and puts the AD date in jeopardy.

When easement sizes change after the plans are accepted, it causes severe delays in the acquisition process, as the ROW plans will need to be re-accepted (or re-approved).

As previously mentioned, when plans are re-accepted (or re-approved) the following occurs:

- The engineering section or municipal official will need to review the plans again.
- The projects section will need to meet with property owners again.
- The appraisals sections will need to recalculate the compensation.

### **What happens when the ROW sidelines do not agree with the deed or plan of record dimensions?**

The location lines on the ROW plans should agree with the plan of record. If there is an error on the recorded state highway layout plan, the Layout Section should be contacted immediately. For other roadways, contact the authority with jurisdiction.

The property lines on the ROW plans should agree or be within an acceptable tolerance of the frontage reported on the deed description. There is not a specific guideline when trying to resolve discrepancies in record information. Each issue is resolved differently based on the circumstances. Key differences are urban areas compared to suburban or rural areas of the state. Deficiencies in levels of discrepancies are looked at differently.

These circumstances are encountered routinely by experienced land surveyors. Abutter property lines should be placed during the preparation of the survey baseplan. The frontages are a result of a thorough evaluation and analysis of record deeds and plans. We realize some abutters property information may sometimes need to be analyzed during the preparation of the ROW plans which in part is why we require having a PLS participate in the preparation of the ROW plans.

#### *Property Owner Information*

It is critical to show property owner information **EXACTLY** as written on the deed, as this information is used in ROW case files, paying award of damages, tax forms, and on the Layout/Easement plan and order of taking.

If the information is not shown correctly from the very beginning of plan development, there will be multiple locations on the ROW plans that will need to be revised, including Parcel Summary, Location Plans, and Property Plans. The Title Examiner will note in their report all the changes that are required on the plans, including owner spelling, punctuation, deed reference and other critical owner information.

If the owner information is shown correctly from the outset, Title Exams will take less time to complete and there will be less changes to the ROW plans which will shorten the review process and avoid potential delays to the ROW acquisition process.

**The PLS participating in the development of the ROW plans must check and update the deed reference utilizing the registry of deeds before the 25% and the 75% submission.**

**This will ensure the correct property owner information is shown on the ROW plans. Depending on the project duration, multiple run downs at the registry may be necessary during the ROW plan development process.**

**Title reference should never be derived solely from assessor's records which are often incorrect and frequently not up to date. Although the assessor's information is purportedly derived from deeds of record, said information should only be used as an adjunct. In this regard, the information obtained through the assessor's records must be verified by conducting title rundowns in the respective deed registries to ensure that the most current owners and registry references are incorporated into the ROW plans.**

Include owner information for all properties within the project limits and for at least one property beyond each limit of the project in each direction.

Be sure that the property address is included in the property owner information. If the address number isn't known, "Address Unknown" should be listed under the property address column.

Owner Unknown should be used sparingly. The PLS participating in the development of the ROW plans must make a diligent effort to determine ownership and provide a title reference. If Owner Unknown is used, please provide justification on the QA/QC form.

The correct format for showing property owner information is as follows:

Recorded Land	Registered Land <sup>4</sup>
<p style="text-align: center;">OWNER 1 AND OWNER 2 BK/PG XXXX/XXX PB/PL XXX/XXX<sup>1</sup> # STREET</p>	<p style="text-align: center;">OWNER 1 AND OWNER 2 L.C.C. No. XXXX-A (LOT X)<sup>2</sup> L.C.C. No. XXXX-C (LOT Y)<sup>3</sup> CERT. NO. XXXXX DOC. NO. XXXXXX # STREET</p>

<sup>1</sup> Other acceptable plan reference formats include PLAN XX OF 19XX, Plan RBKX/XX, etc. depending on the Registry of Deeds plan naming convention.

<sup>2</sup> Lot No. shown on the Land Court Plan. This is important for the Title Examiner to confirm the correct parcel is identified. Lot No. will also be referenced in the schedule at the end of the Order of Taking.

<sup>3</sup> Some deeds may include multiple lots from different Land Court Plans. In this case, all land court plans and lots shall be listed.

<sup>4</sup> If the property is registered land the name of trustees is required. If the property is recorded land the name of trustees is not required. For registered land, we must show on our instrument(s) the owner of record as exactly stated on the Certificate of Title issued by the Land Court. The Certificate of Title always names the individual trustee(s) and the name of the trust. If not shown on our instrument exactly as shown on the Certificate of Title, we run the risk that the land court department of the registry will not accept the instrument for recording.

Below are examples of acceptable and unacceptable formats for showing owner information:

Unacceptable	Acceptable
<p style="text-align: center;">Smith John A et ux BK/PG 8291-414 PB/PL 214/87 123 Main St</p>	<p style="text-align: center;">JOHN A. SMITH AND SUSAN G. SMITH BK/PG 8291/414 PB/PL 214/87 123 MAIN STREET</p>

Other important items to look for on deeds include: commas, periods, life estates, and % interest. Below are examples of how property owners shall be listed for various scenarios:

SCENARIO	CORRECT FORMAT FOR OWNER INFORMATION
Properties that are owned by a trust on RECORDED LAND	SMITH FAMILY TRUST BK/PG 8291/414 PB/PL 214/87 123 MAIN STREET
Properties that are owned by a trust on REGISTERED LAND	JOHN A. SMITH AND SUSAN G. SMITH, TRUSTEES OF THE SMITH FAMILY TRUST L.C.C. No. 2148-A (LOT 3) L.C.C. No. 2148-C (LOT 21) CERT. NO. 84537 DOC. NO. 147854 123 MAIN STREET
Properties that are granted and a life estate is retained by the grantor(s)	JOHN A. SMITH AND SUSAN G. SMITH, WITH A LIFE ESTATE IN MARGARET D. SMITH BK/PG 8291/414 PB/PL 214/87 123 MAIN STREET
Properties that are owned by multiple entities with undivided interest (list % or fraction of interest after each entity)	JOHN A. SMITH, AS TO AN UNDIVIDED ½ INTEREST, AND THOMAS E. BRADY, JR., AS TO AN UNDIVIDED ½ INTEREST BK/PG 2019/190 PB/PL 12/87 1 PATRIOT PLACE
Properties that have legal restrictions (Article 97, Conservation, Open space, etc.)  (note: local restrictions such as the types, quality or uses of buildings do not need to be listed)	TOWN OF ANYTOWN (CONSERVATION COMMISSION) BK/PG 811/42 PLAN 187 OF 1960 1 NORTH STREET  (PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS)

SCENARIO	CORRECT FORMAT FOR OWNER INFORMATION
<p>If a property is owned by the Commonwealth of Massachusetts, then the state agency who has jurisdiction of the property shall also be listed</p>	<p>COMMONWEALTH OF MASSACHUSETTS, ACTING THROUGH ITS DEPARTMENT OF CONSERVATION AND RECREATION BK/PG 811/42 PLAN 187 OF 1960 1 NORTH STREET</p> <p>(PARCEL IS SUBJECT TO ARTICLE 97 RESTRICTIONS)</p>
<p>If a property is owned by a municipality/Local Public Agency, then the local department, board, or commission who has jurisdiction of the property shall also be listed</p>	<p>TOWN OF ANYTOWN (BOARD OF SELECTMEN) BK/PG 811/42 PLAN 187 OF 1960 1 NORTH STREET</p>

Note: N/F should only be used on property that is not affected by a proposed taking or easement. If the research is completed properly as outlined above, the property owner information has been verified.

*Title Package (State ROW)*

The MassDOT Engineering Section will send the designer the title examination package upon its completion.

The title package must be reviewed to ensure the correct owner information is shown on the parcel summary sheet and the location and property plans. The title package must be reviewed to ensure that all abutter property frontages and all parcels shown on location plans have the proper geometry per deed and record plan. Specific attention should be paid to notations on the Title Cover Sheet indicated by the Conveyancing Attorney as significant.

The title package must be reviewed to ensure that all existing easements are properly shown. The deed research, easements, abutter information, and frontages based on deed description should be performed by the project surveyor with this being a double check. **Required changes** from the title package shall be included in the next submission.

The PLS participating in the development of the ROW plans must review the title package when it becomes available.

### *Title Package (Municipal ROW)*

For municipal projects, the title exams should start once the 25% ROW Plan set is submitted. The title exams are typically performed by the municipalities' legal counsel or city solicitor. Designers need to seek the title package from the municipality when it is a municipal project.

Once the title exams have been performed, they should be used to update the ROW plans. Occasionally, property along a transportation project is subdivided or a property line is adjusted. It is important to keep the plans updated with the current owners and any adjusted property lines so that the current owners' property rights are protected.

### *Research Materials (State ROW)*

Upon the initial 25% submission, research materials shall be submitted to the ROW Engineering Section. Research materials shall include, State, County, and Municipal Roadways/Highway Layout plans, instruments and the deed of properties being impacted by a proposed alteration and/or easement. As the property owner information is updated throughout the plan development process, the updated property deed shall be sent to the ROW Engineering Section on an as needed basis.

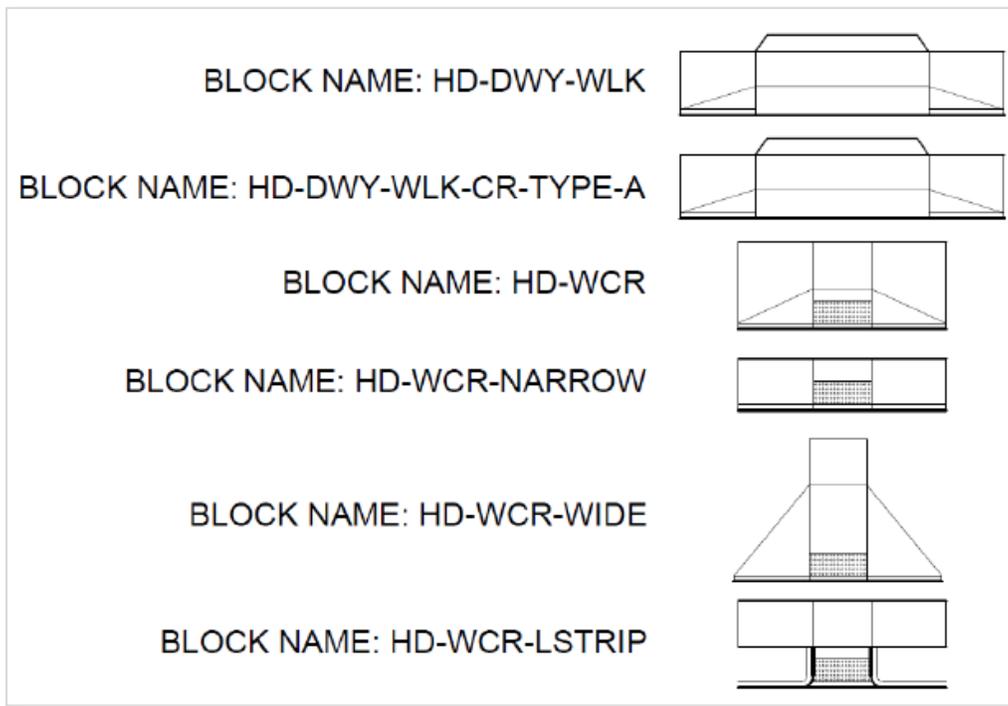
See [Appendix B.8 – Property Plan \(Survey\)](#).

### *Highway Design*

It is vital that the design shown on the ROW plans is updated as the design progresses. The highway design should be evaluated for impacts to property owners at every step of the design development process. Impacts to private property should be minimized to the greatest extent feasible. Significant impacts to minimize include, but are not limited to:

- Parking Spaces – Can they be avoided? How many spaces would be impacted (temporarily and permanently)?
- Large Commercial signs – Can they be avoided? These are often very expensive to relocate and result in temporary impacts to the business.
- Gas Stations and other potentially contaminated sites – minimize or avoid impacts altogether.
- Utility Poles – In addition to the cost associated with relocating the poles, Permanent Utility Easements (PUE's) also need to be acquired for relocated poles, guys and wires that encroach on private property.

All symbols and highway design elements shall follow the CAD Standard. Below are examples of driveways and wheelchair ramps according to the CAD Standard.



See [Appendix B.9 – Property Plan \(Highway Design\)](#).

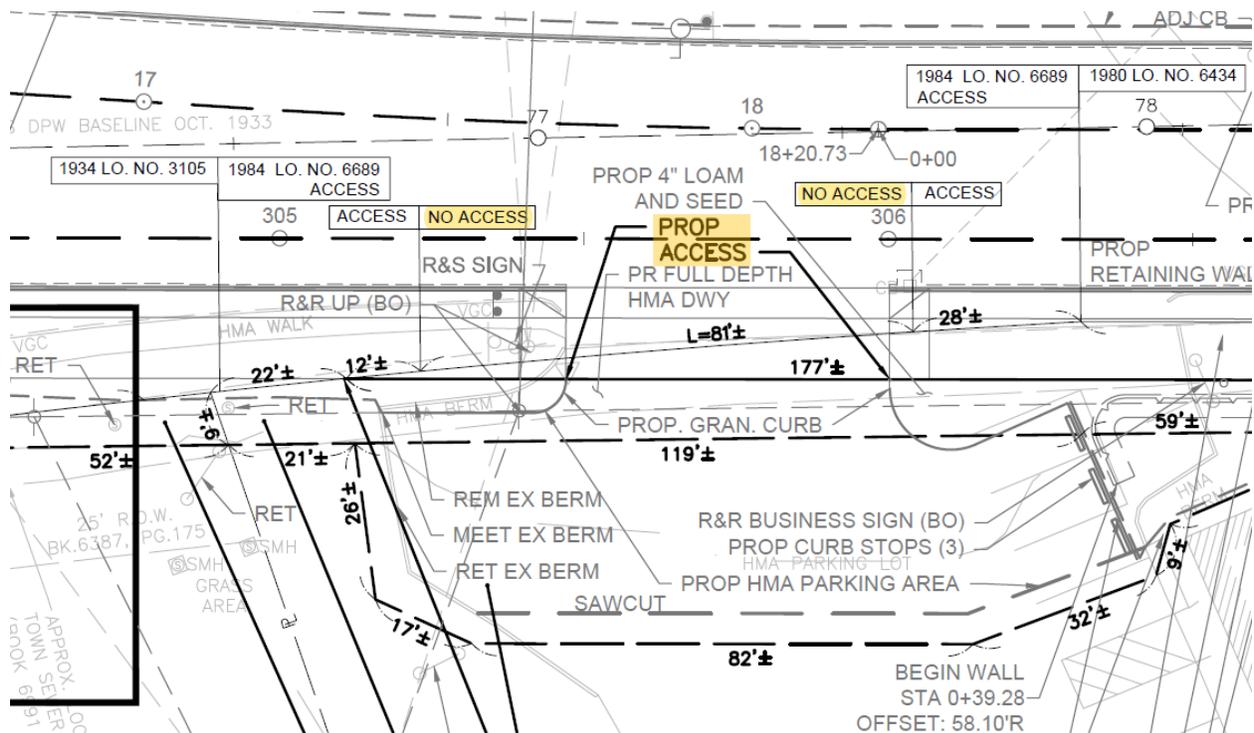
## ROW Information

### *Access Provisions*

A layout alteration is required to change access provisions. If the project is located within Limited Access State Highway Layout, the limits of access restrictions shall be shown and identified on the ROW plans. If access is currently allowed for railroad purposes where a railroad corridor crosses a Limited Access State Highway, and a Shared Use Path is proposed along the railroad corridor, then a proposed Layout Alteration shall be shown on the ROW plans stating “Access for Recreational Purposes Hereby Allowed.”

Other access provisions include utility maintenance, ingress/egress restrictions, and at/under ground level.

If a proposed access provision change is along a proposed alteration, the limits of the access change must be clearly identified on the ROW Plans as shown below.



### Advanced Takings

Advance Takings are required where a significant portion of a property needs to be acquired in fee or permanent highway (or other transportation facility) easement in order to construct the project. For example, if a house or commercial building needs to be demolished due to roadway widening, an Advance Taking would occur.

Federal Highway approval is required for Advanced Takings made prior to NEPA approval.

The Advance Taking process typically involves acquiring rights to an entire property or demolishing a building. The process usually begins well in advance of all other acquisitions due to the time needed to relocate the residents or business.

Advance Taking parcels are identified as X-A, X-B, etc. (for fee taking of the entire property), or X-TRT-1-A, X-TRT-2-A, etc. (for temporary removal taking easement) which allows for demolition of a building, but not taking the entire parcel in fee.

For X-A, X-B parcels, all property lines shall be calculated based on deeds and record plans, instead of just the property frontage. The total property area shall match the area listed in the recorded deed and/or shown on a recorded plan, unless it can be shown that a different area is more accurate (i.e. a subsequent taking on the property).

For State Highway ROW acquisitions, an Advance Taking plan specification package will be ordered by the ROW Bureau and issued by the State Layout Engineer, at the appropriate time. After the Advance Taking plan and Instrument are recorded, the ROW plans shall be updated with the legal reference of the new owner (Commonwealth of Massachusetts, acting through its Department of Transportation). Advanced acquisitions can also be acquired by deed. This will be determined by the ROW Bureau at the appropriate time.

For municipal ROW acquisitions, the municipality/LPA will coordinate with the ROW Bureau Community Compliance Administrator to seek FHWA approval for early acquisition approval for advanced takings in accordance with the provisions of 23CFR710.50(c)(1) through (5).

### *Lands Subject to Article 97*

Any taking on lands subject to Article 97, including by the power of eminent domain, is subject to approval by State legislation. Permanent impacts to Article 97 properties shall be avoided to the maximum extent feasible. **If permanent impacts are unavoidable, notify the ROW Bureau immediately of potential impacts to Article 97 land.**

### *Chapter 634 and Chapter 690 Bridges*

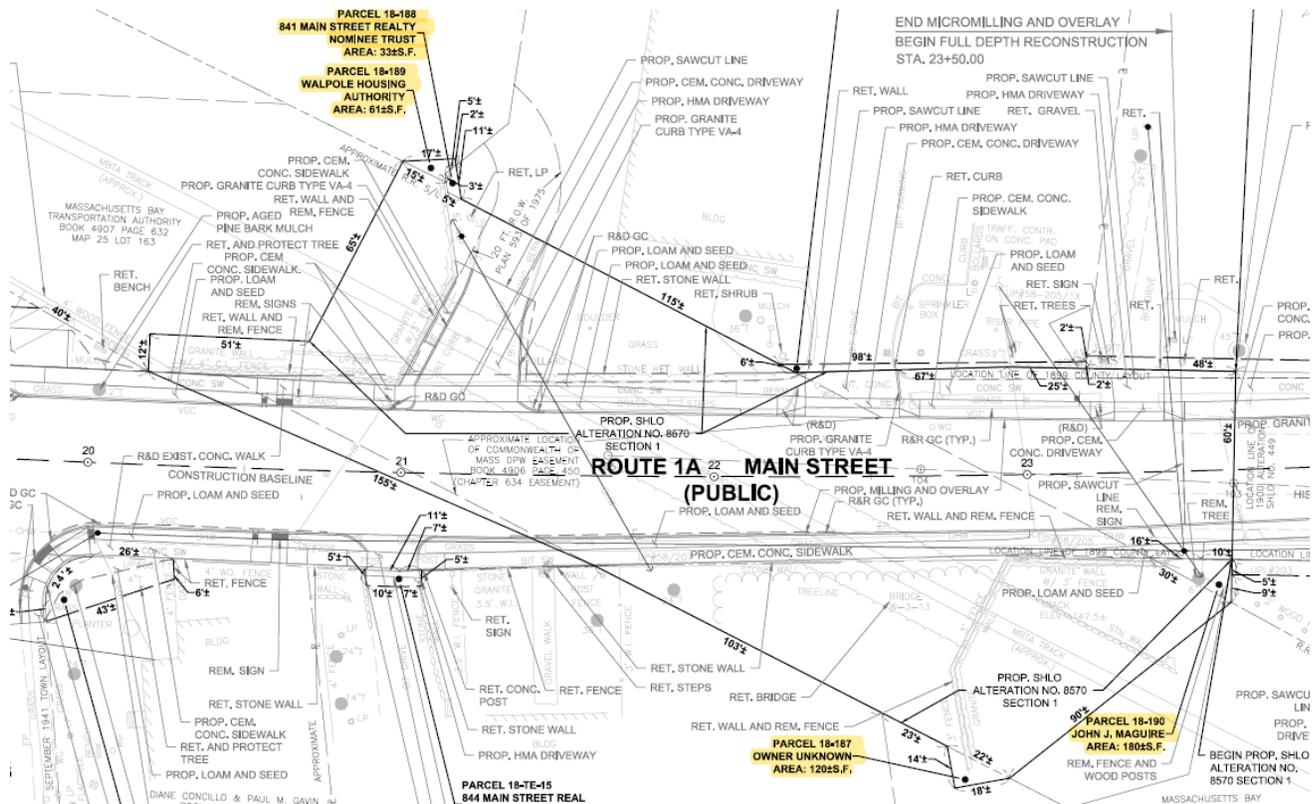
Under Chapter 634 and Chapter 690, bridges became State Highway by legislation and only a fraction of the bridges have formal layout plans and instruments.

Generally, anytime there is a State Project that includes Chapter 634/690 Bridges, State Highway Layout plans and instruments should be prepared if no record Department documents exists. This is the case whether or not there are any ROW impacts.

The geometry should box out all parts of the permanent bridge structure including approach slabs. The layout should be offset a minimum of 10 feet past the approach slabs and wingwalls/abutments. For railroad bridges, the box out should include the entire width of the railroad corridor.

Under State statutes, it is not necessary to take parcels from an existing public way or a railroad company (within 110' in either direction from the centerline of the bridge) on a Chapter 634 bridge.

If the geometry of the proposed State Highway Layout is situated on private property, a proposed parcel will be required. See example below:



### Dispositions

As previously mentioned, correctly showing and communicating the disposition for all personal property is one of the most important components of the ROW Plans.

**All existing infrastructure, landscaping and ground features within all proposed easements must be accurately located and have the disposition for each (i.e. will it still be there or not after the proposed construction is complete) labeled on the Right of Way plans. All dispositions must be shown on both the construction and right of way plans, to ensure all parties (property owner, agents, appraisers, project managers, districts personnel, and the contractor) understand which items are to be retained, removed, and removed and reset by others.**

**Note that certain items will have different dispositions on the ROW plans than they do on highway plans depending on whether the item is trespassing or not.**

Refer to [Appendix A.2](#) for correct dispositions of privately-owned items.

Below are some examples of personal property that require special attention.

### **Encroachments (State ROW)**

Encroachments consist of objects located within the public right of way and are not permitted to be there. Encroachments within State Highway shall be handled on a case-by-case basis. Examples of typical encroachments include private signs, landscaping, buildings and private utilities, etc.

A disposition is required for all encroachments.

If personal property is encroaching within the State Highway and it is within the project limits, but not being impacted by the project, the Consultant shall identify the encroachment(s) and coordinate with the respective District Office to determine if the encroachment has been previously permitted or if it will be allowed to remain as an encroachment. This correspondence should be archived by the designer and sent to the ROW Bureau.

### **Encroachments (Municipal ROW)**

Existing privately-owned encroachments within the existing municipal layout will need a license from the municipality/Local Public Agency or will need to be removed. All existing encroachments within the public right of way must be accurately located and the disposition of each noted on the plan.

The consultant shall develop a separate encroachment list for each entity that will be responsible for acquiring the needed rights. For example, for a project spanning multiple municipalities, provide separate lists. Also, separate lists will be required for MBTA and other entities that will be responsible sending out encroachment contact letters. For each encroachment, please provide the following information:

1. Header to include project number, Municipality, or other acquiring entity.
2. Property Address
3. Encroachment Description (e.g. fence, light, sign, wall, landscaped area)
4. Beginning station and specify right of left\*
5. Ending station and specify right of left\*
6. Entity to license the encroachment OR will the encroachment be removed (i.e. To be licensed by \_\_\_\_ OR "To be removed")
7. Road name if more than one road in project
8. Sheet number

\* Provide offset if needed.

Each item on this list will be either removed or licensed (as specified above) prior to Right of Way Certificate. Proof of licensure (or vote for blanket approval) is required prior to issuance of Right of Way Certificate.

See [Appendix A.4 – Standardized Encroachments List \(Muni ROW\)](#).

### **Fences**

MassDOT does not reset privately owned fences, except under special circumstances such as fences required for public safety or site security. If the disposition changes along the length of the fence, the limits shall be identified on the plans with lengths and/or stations.

For example, if only a portion of a fence is to be removed and stacked (R&S), the plan should read:

**R&S** STA 130+25 to 130+35

**REM** STA 130+35 to 130+50

### **Irrigation Systems**

MassDOT does not reset or replace privately owned irrigation heads or any other part of an irrigation system. Irrigation heads shall be called out as R&S if trespassing or REM if on private property. Each impacted irrigation head shall be shown and labeled to allow for an accurate appraisal.

### **Mailboxes**

Due to United States Postal Service (USPS) requirements, mailboxes that are impacted by the project shall be Removed and Reset (R&R), regardless of trespass. In no case shall mailboxes be Removed and Stacked (R&S).

### **Memorials**

If the memorial is inside the State highway layout, please consult the district for their policy.

If the memorial is on private property, ownership research of the memorial would be required.

If the memorial was erected with the owner's permission, they will be eligible for relocation benefits.

### **Relocation Benefits - Privately Owned Signs, Light Poles and Flag Poles (State ROW)**

Any property owner (individual, family, partnership, association or corporation) whose non-encroaching personal property (e.g. business sign, flag pole, light pole) is moved as a direct result of the acquisition of real property is entitled to relocation benefits as mandated by 49 CFR Part 24 and M.G.L. 79A. The relocation benefits include the cost to relocate personal property from a proposed Right of Way.

If certain non-encroaching personal property, such as a business sign, flagpole, or light pole cannot be retained, the disposition shall be **R&R(BO)**.

This disposition indicates that ROW's Relocation Section will work with the property owners of the personal property.

### **Privately Owned Signs, Light Poles and Flag Poles (Municipal/Local Public Agency ROW)**

Private signs, light poles, and flag poles that that must be removed due to the proposed construction should be labeled remove and stack (R&S) or remove and reset by others (R&R (B.O.)). If the private signs, light poles, and flag poles are located within the existing layout, then the abutting landowner may not be eligible for damages. If the private signs, light poles, and flag poles are located on private property, then the abutting landowner generally is entitled to just compensation and relocation benefits from the municipality/Local Public Agency.

It is critical to show all private signs, light poles, and flag poles within the project limits accurately and to-scale, including any spotlights or other ancillary items associated with the sign.

### **Publicly Owned Items**

Generally, dispositions for publicly owned items within the existing ROW are not required on the ROW plans.

If items are to be removed and reset, **R&R** disposition is required along with the proposed location.

### **Septic Systems**

Impacts to a septic system should try to be avoided and designed out of a project. If the impact cannot be avoided, the designer may be asked to provide an engineer's estimate to the MassDOT appraiser for the cost of designing and relocating or replacing the system. The acquiring agency will compensate the owner for the cost to relocate/replace the septic system.

### **Walls**

If the disposition changes along the length of the wall, the limits shall be identified on the plans with lengths and/or stations.

For example, if only a portion of a wall is to be removed and stacked (R&S), the plan should read:

**R&S** STA 130+25 to 130+35

**REM** STA 130+35 to 130+50

### *Easement Grants*

MassDOT has regularly granted an easement within the State Highway layout for various reasons (municipal utilities, etc.). More recently the Department has begun to establish easement grants within the State Highway layout for recreation paths that (usually) pass under State Highways.

The correct label of the easement grant is:

X-EG-1

(Name of the Recipient)

Area About XXX S.F.

Most of the time the State Highway is a limited access State Highway layout (i.e. old rail line under an interstate highway where the rail line is transformed to a recreational path). Access provisions are changed from “Access for Railroad Purposes” to “Bicycle and Pedestrian Access Hereby Allowed” along with an establishment of an easement grant parcel.

Easement grants should not be shown on the parcel summary sheet.



## *Proposed Takings*

**Title 23 of the Code of Federal Regulations requires “the State shall acquire rights-of-way of such nature and extent as are adequate for the construction, operation, and maintenance of a project.”**

**Title 49, Part 24 of the Code of Federal Regulations is the Uniform Act, which ensures that property owners are treated fairly and consistently.**

**The geometry of the proposed taking and easement is mandated by the proposed work shown on the ROW plans. The linework of the taking or easement must encompass the required area for construction activities.**

It is desirable, whenever possible, that the ROW linework is parallel to the existing location line unless the guidance below overrides.

There are three types of takings that can be acquired:

- Fee taking
- Permanent easement
- Temporary easement

### **General**

Separate easements or fee takings shall be provided where land is bisected by a municipal boundary (Town/City line) because there will be different acquiring agencies depending on which Town/City the easement or taking is located.

Where the jurisdiction limit of a roadway occurs in the middle of a property (i.e. State Highway ends/begins), fee takings shall be split along an extension of the jurisdiction line. A portion of the taking will then become part of the State Highway alteration and the other portion will become part of the municipal alteration.

### **Fee Taking (State ROW)**

When a fee taking is acquired, MassDOT is acquiring the land in fee simple and has unrestricted ownership and control of the land.

In all locations not currently in the existing public layout where the public is intended to pass and repass, an alteration is required. The design engineer needs to show the beginning and end of the alterations.

## Fee Taking on behalf of the Commonwealth/Town/City (State ROW)

A fee taking on behalf of the Commonwealth/Town/City usually translates into a State Highway/Town/City alteration. An alteration is required in all locations not currently in the existing public layout where the public is intended to pass and re-pass. The alteration may not begin/end on an approximate property line and must be at minimum 5 feet from the approximate property line.

The beginning and end of the alteration must be clearly identified on the ROW Plans.

For example:

“Begin [End] Prop. SHLO [XXXX], Section 1”

“Begin [End] Prop. City LO [XXXX], Section 1”

Fee taking parcels are one of the most common types of permanent taking and are required for features such as:

- Roadway and Curbing
- Sidewalk and Wheelchair Ramps
- Traffic Signal Equipment (Mast Arms, Posts, Pullboxes, Conduit, etc.)
- Sight distance: if it is determined that unobstructed sight distance is required for the safety of an intersection this area should be included in fee takings. Please be sure to plot and label the sight distance line and add it to the remark’s column in the parcel summary sheet.

## Access Taking (State ROW)

An access taking shall be acquired to remove an abutting property’s direct legal access to a highway by imposing limited access provisions along a State Highway layout line. Alternative means of access to a State Highway shall be provided to the abutting property whose legal access was taken. Access takings typically impose a burden to the abutting property by forcing a longer access route to a public way and the owner can be compensated. Access takings are not shown on the same parcel of land taken in fee for an alteration, since the owner will be compensated additionally in the Fee Taking. Access takings are linear takings along the sidelines of limited access State Highway layouts.

## Drainage in Fee

A drainage in fee parcel shall be acquired by the department for the purpose of draining and maintaining the State highway. MassDOT acquires the land in fee simple, but this area is not included in the State highway layout.

Elements within a drainage in fee taking include, but are not limited to:

- Proposed drainage basin

### Uneconomic Remainder

An uneconomic remainder parcel is typically shown on a property adjacent to a fee taking where the remaining land on a property after the fee taking is too small or unsuitable to build upon.

MassDOT acquires the land in fee simple, but this area is not included in the State Highway layout.

The municipality/LPA acquires the land in fee, but this area is not included in the municipal layout.

### Fee Taking (Municipal ROW)

When a fee taking is acquired, the municipality/Local Public Agency is acquiring the land in fee simple and has unrestricted ownership and control of the land.

An alteration is required in all locations not currently in the existing public layout where the public is intended to pass and re-pass. The design engineer needs to show the beginning and end of the alterations. In most cases, the alteration will involve a fee taking except for certain cases where permanent easements are required as noted below.

### Permanent Easement Taking

When a permanent easement is acquired, MassDOT or the municipality/Local Public Agency has the right to use the land for transportation purposes for an unlimited amount of time. The land is still owned by the property owner.

When parcels are to be acquired by State ROW and are located adjacent to the Town or City Layout, the parcel will be taken on behalf of the Town/City.

For example: X-D-T

### Channel Easement

A channel easement shall be acquired for the purpose of improving the existing or proposed channels of rivers, streams or brooks: and consists of the right to enter upon said land at any time with the necessary equipment to clear sand, gravel and debris that is obstructing the waterway, to excavate and to install rip-rap, and to maintain and use the aforesaid channel.

Channel easements should be sized to provide sufficient area for future access and maintenance.

## Drainage Easement

A drainage easement shall be acquired for the purpose of draining and maintaining the State or municipal transportation facility. It consists of the right to enter upon said land at any time to construct thereon, and to use and maintain drainage structures and/or drainage ditches, together with the right to discharge surface water upon said land.

Drainage easements should be sized to provide enough area for future maintenance.

In general, drainage easements should be centered upon and parallel to the pipe and have a minimum of 10 feet of width.

For cross-country drainage pipes, the size and depth of the pipe shall be taken into account when sizing the easement. For example, a 12" pipe buried 4' deep will require a narrower easement than a 60" pipe buried 12' deep.

For headwalls, flared end sections, and stone at pipe ends, a minimum of 5' from the face of headwall or outer edge of stone shall be provided.

Elements within a proposed drainage easement include, but are not limited to:

- Headwall
- Pipe
- Flared end section
- Basin
- Trench
- Swale
- Catch basin

Typically, MassDOT does not allow private drainage to be brought into the State transportation system. However, this is not a ROW Bureau call: confirmation is required from the District Office that each tie-in is acceptable, whether the tie-in is existing (there might be a permit) or proposed (permit will be required). The District should contact the private property owner to have the existing/proposed work be permitted through the Access Permit Process.

Similarly, for proposed transportation infrastructure owned by the municipality/Local Public Agency, the Community Compliance section will need written confirmation from the municipal officials that they each tie-in is acceptable. Again, a permit or license will likely be required.

The consultant and project manager will obtain a copy of the permit from the District Office (or municipality/Local Public Agency if the proposed transportation facility is owned by the municipality/Local Public Agency) and send the ROW bureau a copy when it becomes available.

### Floodplain Easement

A floodplain easement shall be acquired for the purpose of altering the terrain for compensatory flood storage and/or changes in grading which result in FEMA map changes.

### Guardrail Easement

A guardrail easement shall be acquired for the purpose of constructing and maintaining guardrail and consists of the right to enter upon said land at any time, and to construct thereon, and to use and maintain guardrail and to perform any other necessary incidental work on said lands.

In general, guardrail easements should be parallel to and 5 feet beyond the face of guardrail. The easement shall extend 5 feet beyond the end treatment.

### Highway Easement

A highway easement (identified as an “E” parcel) shall be acquired for highway purposes that conveys the right to construct and maintain a highway facility on the land of the fee holder. A highway easement is used to alter the sidelines of a layout when the parcel cannot be acquired in fee. Highway Easements (E-Parcels) encompass the same physical features as Fee Takings, except the property owner retains the fee interest in the underlying land. E-parcels should only be used under special circumstances, such as:

- Gas Stations or other potentially contaminated sites
- Land Court Parcels (registered land)
- If requested by property owner to maintain zoning requirements (setbacks, etc.)
- Across railroad corridors
- Across land owned or under control of other State Agencies
- Contaminated land sites upon environmental determination
- Land owned by the MBTA
- When directed by the municipality (most municipalities do not acquire the fee interest)

An alteration is required for a highway easement. The alteration may not begin/end on an approximate property line and must be, at minimum, 5 feet from the approximate property line.

The beginning and end of the alteration must be clearly identified on the ROW Plans.

For example:

“Begin [End] Prop. SHLO [XXXX], Section 1”

“Begin [End] Prop. City LO [XXXX], Section 1”

### Highway Sign Easement

A highway sign easement shall be acquired for the purpose of constructing and maintaining highway signage, and consists of the right to enter upon said land at any time to construct thereon and to maintain and use said signage and any other necessary appurtenances.

In general, highway sign easements shall be centered on the highway sign and provide a minimum of 2 feet around all sides of the sign. HS easements are generally square or rectangular in shape and of even distances.

### Highway Light Easement

A highway light easement shall be acquired for the purpose of constructing and maintaining highway lighting, and consists of the right to enter upon said land at any time to construct thereon, and to maintain and use said lighting and any other necessary appurtenances.

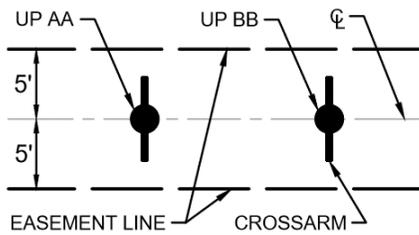
In general, highway light easements shall be centered on the highway light foundation and provide a minimum of 2 feet around all sides of the foundation. HL easements are generally square or rectangular in shape and of even distances.

### Public Utility Easement

A public utility easement shall be acquired for public utility purposes: to lay, construct, and install and/or remove poles, anchors, and lines for the transmission for power, intelligence, and communications upon, or any other utility, over, under and across the parcels of land abutting the project. The rights being more particularly described within said parcels of land to lay, construct, reconstruct, replace and remove underground cables, pipes, conduits, manholes, and other appurtenances within pipes, wires and/or cables therein. A separate agreement or permit between any public utility and the entity who has roadway jurisdiction is required for the use of any of these easements by a utility company.

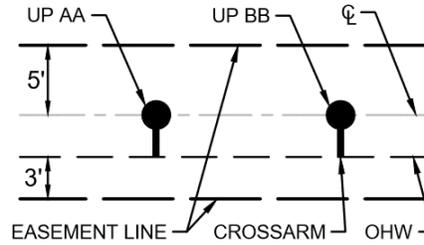
MassDOT does not acquire PUE's over existing buildings.

In general, public utility easements are 5' offset and parallel to the pole-to-pole center line for cross arm construction and 3' offset and parallel to the pole-to-pole center line for offset construction (i.e. the overhead wires are on one side of the pole only).



**DETAIL 1**

PUEs are 5' offset and parallel to pole-pole centerline for cross arm construction



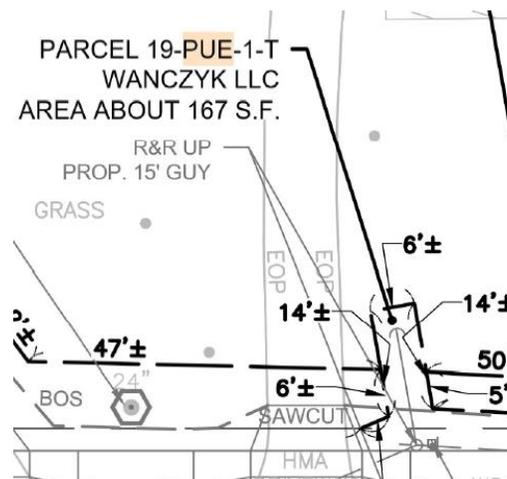
**DETAIL 2**

PUEs are 3' offset from the edge of the cross arm and parallel to the pole-to-pole centerline for offset construction (i.e. the overhead wires are only on one side of the pole)

For guy wires, the PUE shall be centered upon and parallel to the guy wire and 6' feet in width.

**If there are utility relocations proposed within the project, early coordination between the District Utility Constructability Engineer (DUCE), utility company and designer is imperative to the ROW process. Since utility conflicts and relocations are usually not clear until the DUCE walk, these conflicts may have a major impact on the type of right of way acquired as well as the amount of land acquired, significantly changing the ROW plans.**

The PUE shall extend approximately 3 feet beyond the guy wire anchor. If the guy wire is perpendicular, or nearly perpendicular to the layout/alteration, the PUE should be offset parallel from the layout/alteration.



Elements within a proposed public utility easement include, but are not limited to:

- Proposed/relocated utility poles
- Proposed overhead wires
- Proposed guy wires/guy poles

On the ROW plans, the “(BO)” notation should not be posted for utility pole relocations. The “(BO)” designation on the ROW plans is strictly reserved to signal that ROW’s Relocation Section will be involved in moving the item. The “(BO)” designation shall remain on the Construction Plans for utility relocations.

For guidance on tree trimming see the Temporary Easements section on [page 52](#).

### *Service Connections*

Permanent and/or temporary easements are not required to provide service connections to homes or businesses.

If the connection benefits only the property owner on their property, it is considered a service connection.

During the DUCE walk the consultant shall confirm all existing and proposed service connections update the linework accordingly on the construction and ROW plans.

The consultant shall label the service connections as such on the ROW plans.

### **Public Utility Easement (Additional Municipal ROW Requirements)**

Permanent overhead wire (OHW) relocation is handled differently for municipalities that will acquire permanent easement and then provide a license to the utility company than it is handled for municipalities that will not acquire on behalf of the utility company. In both cases the existing and proposed OHW must be shown on the ROW plans. Municipalities have the option of acquiring permanent utility easements. Municipalities must acquire temporary easements for temporary OHW relocations. If the municipality/Local Public Agency is acquiring permanent utility easements, then they should follow the requirements noted above.

### **Slope Easement**

A slope easement shall be acquired for the purpose of constructing or maintaining a slope or slopes of excavation and/or embankment, where roadside slopes are necessary to maintain the integrity of the roadway. A slope easement consists of the right to enter upon said lands at any time to construct thereon and to maintain slopes of excavation and/or embankment.

In general, slope easements shall be a minimum of 5 feet beyond the limit of slope to allow for future maintenance, unless within wetlands.

Elements within a proposed slope easement include, but are not limited to:

- A slope steeper than 2:1
- Rip-rap, modified rockfill or other slope stabilization elements

### Shared Use Path Easement (State ROW)

A shared use path easement shall be acquired for the purpose of constructing and maintaining the shared use path for transportation and recreational purposes, and consists of the right to enter upon said land at any time, construct thereon and to use and maintain said shared use path, and to perform any other necessary incidental work on said lands.

### Wall Easement

A wall easement shall be acquired for the purpose of constructing and maintaining wall or walls, and consists of the right to enter upon said land at any time, construct thereon and to use and maintain said wall or walls, and to perform any other necessary incidental work on said lands.

Wall easements are only taken for walls that support the transportation facility and are not taken for walls that support private property (except in extenuating circumstances).

In general, wall easements shall be a minimum of 5 feet beyond the proposed footing of the wall to allow for future maintenance. Wider wall easements may be needed for taller walls.

### Watermain Easement

A watermain easement shall be acquired to construct the water main and related appurtenances, and to use, maintain, repair, and replace said watermain and related appurtenances. A watermain easement consists of the right to enter upon said land at any time to construct thereon and to use, maintain, repair, and replace said water main and related appurtenances from time to time as may be necessary.

Watermain easements are only taken for water appurtenances that provide service to the general public and are not taken for individual water service connections.

In areas where a hydrant or other water appurtenance is located within or near a proposed PUE, the PUE can be expanded to include the water appurtenance instead of proposing a separate WM easement.

In general, watermain easements shall be centered on the hydrant and provide a minimum of 3 feet around all sides of the hydrant. WM easements are generally rectangular in shape and of even distances.

## Temporary Easement Taking

When a temporary easement is acquired, MassDOT or the Municipality/Local Public Agency has the right to enter upon said land at any time during the effective period of said easement. All rights revert to the property owner after the designated period has expired. Said easement is temporary in nature and is to be in effect for a designated period from the date of recording.

## Temporary Easement

A temporary easement shall be acquired for the purpose of providing temporary rights to perform construction activities, such as grading, loam & seed, saw cutting driveways, installing erosion control measures, and other activities that are ancillary to the construction. The temporary easements shall be large enough for not only the proposed work, but also the workers and equipment used to construct the proposed work.

Temporary easements are **not** allowed to be taken for storing material, laydown area or staging construction areas.

When existing utility poles, overhead wires and guy wires are being removed or temporarily relocated as part of the project, a TE shall be acquired for the rights to remove or temporarily relocate the structures.

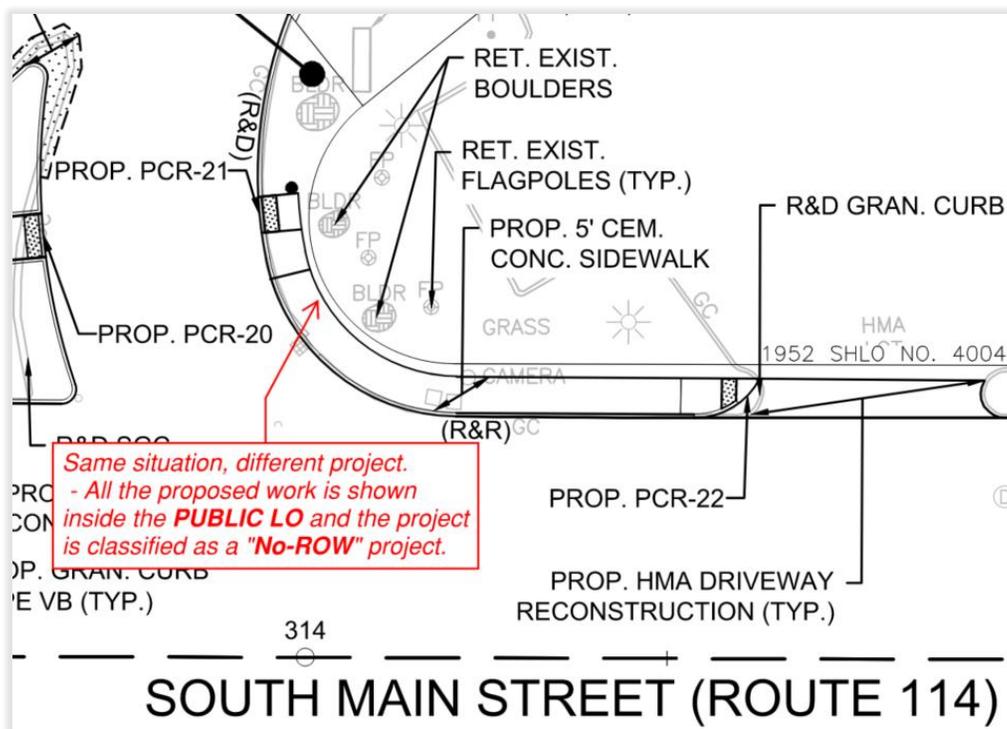
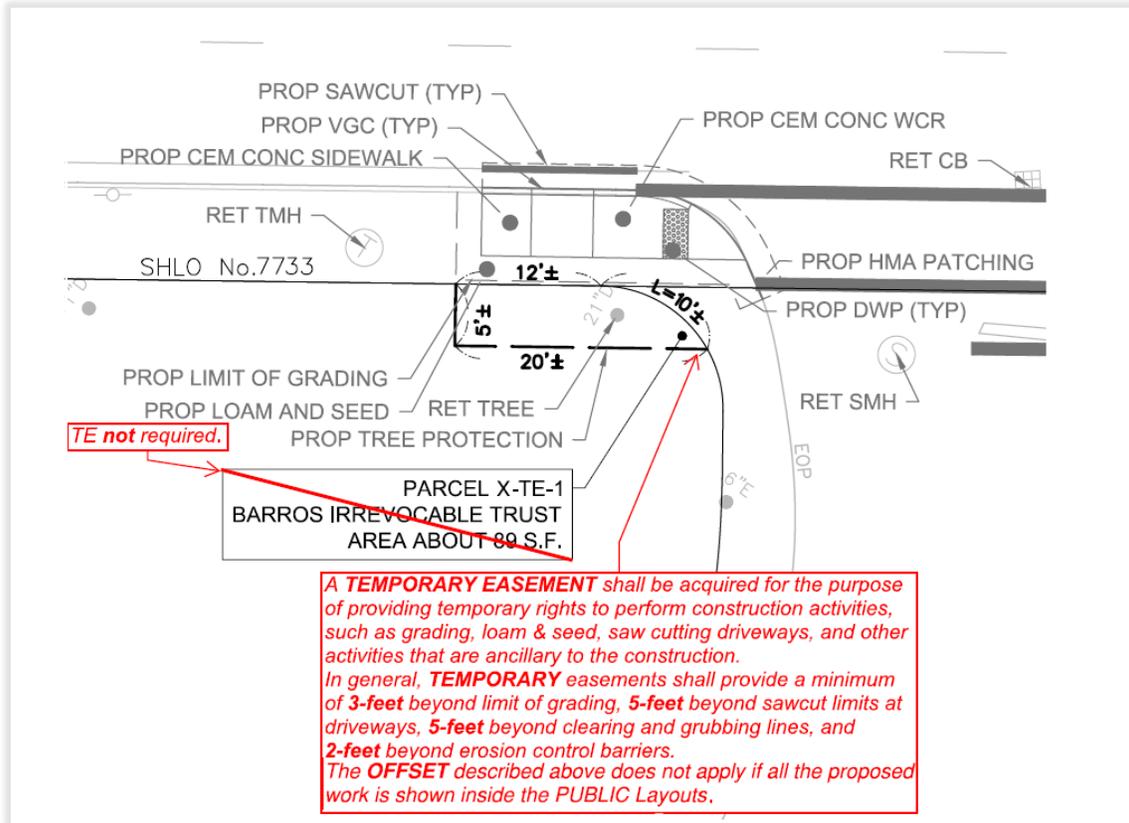
If tree trimming is required, the limit of tree trimming should be plotted on the ROW plans. The PUE will cover the tree trimming inside of the PUE limits. The PUE should be extended enough to accommodate the future maintenance required at this location. If additional tree trimming is required for construction, but does not require future maintenance, then the work should be covered within a TE. Coordination with the utility company, the DUCE and designer is required to ensure proper line clearance is shown on the plans.

For State projects, TE's are taken for a period of 5 years. The 5-year timeline begins upon recording of the Order of Taking.

For State projects, TE's shall provide a minimum of 3 feet beyond limit of grading, 5 feet beyond sawcut limits at driveways, 5 feet beyond clearing and grubbing lines, and 2 feet beyond erosion control barriers.

The offsets described above does not apply if all the proposed work is shown inside the public layout. The designer should use their engineering expertise to determine if the contractor needs additional space. If the contractor will need additional space a TE is required. If the contractor can build entirely within the Public LO, then a TE is not needed.

See example as shown below:



For municipal projects, TE's need to be taken for a period of 3 years unless a longer duration is anticipated due to the scope of the project. If the project is combined State/Municipal, the Municipal TE's shall be taken for the same duration as the State TE's (5 years).

For municipal projects, temporary easements shall provide a minimum of 5 feet beyond limit of grading, 5 feet beyond sawcut limits at driveways, 5 feet beyond clearing and grubbing lines, and 2 feet beyond erosion control barriers.

Municipal roads have different physical and jurisdictional features than State Highways. Municipal roadways are typically narrower. Contractors will need additional space to accommodate the different features.

In areas where walls, fences, or other physical obstructions are present, the TE line shall follow the obstruction if no construction activities are occurring beyond the obstruction. The offsets described above do not apply in this scenario.

A temporary easement is not to be used for contractor parking, or for contractor storage of materials or equipment.

#### Temporary Wetland Replication Easement

A temporary wetland replication easement (TWLR) shall be acquired to provide environmental mitigation when the project impacts an existing wetland area. The TWLR is used for the purpose of providing temporary rights to perform wetland replication activities, such as excavation, grading, seeding, planting, erosion control, as well as providing temporary rights to perform inspection and monitoring.

TWLR's are taken for a period of 10 years. The 10-year timeline begins upon recording of the Order of Taking.

In general, TWLR's shall provide a minimum of 2 feet beyond limit of wetland replication and shall connect to a permanent easement or public layout in order to provide legal access for inspection and monitoring during the 10-year easement duration.

#### Temporary Footbridge Utility Easement

A temporary footbridge utility easement (TFBU) shall be acquired for the purpose of constructing a temporary footbridge and utility. The TFBU is used to maintain use of said foot bridge, and to construct slopes of excavation and/or embankment. The temporary footbridge should be plotted on the plans.

### Temporary Footbridge Easement

A temporary footbridge easement (TFB) shall be acquired for the purpose of constructing and maintaining a temporary foot bridge. The TFB is for the use of said foot bridge, and to construct slopes of excavation and/or embankment. The temporary footbridge should be plotted on the plans.

### Temporary Pedestrian Walkway Easement

A temporary pedestrian walkway easement (TPWW) shall be acquired for the purpose of providing temporary pedestrian circulation and continuous access. The temporary pedestrian walkway should be plotted on the plans.

### Temporary Road Easement

A temporary road easement (TR) shall be acquired for the purpose of constructing and maintaining a temporary road, and to construct slopes of excavation and/or embankment. The temporary road should be plotted on the plans.

### Temporary Road Bridge Utility Easement

A temporary road bridge utility easement shall be acquired for the purpose of constructing a temporary road bridge and utilities and consists of the right to enter upon said land at any time during the effective period of said years to construct thereon, to use and to maintain a temporary roadway, temporary bridge, necessary utilities, and slopes of excavation and/or embankment.

### Temporary Removal Taking Easement

A temporary removal taking easement (TRT) is to be acquired for the purpose of removing or demolishing existing structures.

### Temporary Impacts to DCR Properties

For temporary impacts on DCR land, the ROW plans shall show a TEMPORARY OCCUPANCY AREA "A", "B", etc. with the approximate area and a note that a Construction Access Permit is being requested. The TEMPORARY OCCUPANCY line shall have same characteristics as a temporary easement line and shall be dimensioned similarly.

TEMPORARY OCCUPANCY AREA "B" AREA ABOUT 196 S.F. (CONSTRUCTION ACCESS PERMIT IS BEING REQUESTED)
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For State projects, the Consultant shall coordinate with the MassDOT Project Manager to file a Construction Access Permit with DCR.

For municipal projects, municipalities or their consultants will need to file for their Construction Access Permit with DCR through DCR's online portal service.

Temporary occupancy areas should be removed from the parcel summary sheet and a separate table at the end of the parcel summary should be created labeled as “TEMPORARY CONSTRUCTION AREAS TO BE OBTAINED THROUGH DCR CONSTRUCTION ACCESS PERMIT”

**CITY OF NEWTON  
TEMPORARY OCCUPANCY AREAS TO BE OBTAINED THROUGH ITS DCR CONSTRUCTION ACCESS PERMIT**

PARCEL NO.	PLAN SHEET NO.	TITLE HOLDER	TITLE REFERENCE				AREA (S.F. ±)						TOTAL PROPERTY AREA (S.F.)	FRONTAGE ON ROW PLAN (FT.)	PROPERTY ADDRESS	REMARKS	LAND RESTRICTION FROM THE DEED
			DEED BOOK	PAGE NO.	L.C.C. NO.	CERT. NO.	TAKEN		EASEMENT		TOTAL TAKEN	TOTAL REMAINING					
							STATE	CITY	TYPE	AREA							
"A"	17	COMMONWEALTH OF MASSACHUSETTS ACTING BY AND THROUGH ITS DEPARTMENT OF CONSERVATION AND RECREATION	2681	201	-	-	-	-	TEMP	67	-	-	-	20	2500 COMMONWEALTH AVE	STONE PIPE ENDS CONSTRUCTION	DCR
"B"	18 / 19	COMMONWEALTH OF MASSACHUSETTS ACTING BY AND THROUGH ITS DEPARTMENT OF CONSERVATION AND RECREATION	2678 / 2708	201 / 70	-	-	-	-	TEMP	2,946	-	-	-	881	x	GRADING (4:1), DRIVEWAY CONSTRUCTION, TIMBER FENCE, TREE PROTECTION	DCR

**TOWN OF WESTON  
TEMPORARY OCCUPANCY AREAS TO BE OBTAINED THROUGH ITS DCR CONSTRUCTION ACCESS PERMIT**

PARCEL NO.	PLAN SHEET NO.	TITLE HOLDER	TITLE REFERENCE				AREA (S.F. ±)						TOTAL PROPERTY AREA (S.F.)	FRONTAGE ON ROW PLAN (FT.)	PROPERTY ADDRESS	REMARKS	LAND RESTRICTION FROM THE DEED
			DEED BOOK	PAGE NO.	L.C.C. NO.	CERT. NO.	TAKEN		EASEMENT		TOTAL TAKEN	TOTAL REMAINING					
							STATE	CITY	TYPE	AREA							
"C"	16 / 17 / 22	COMMONWEALTH OF MASSACHUSETTS ACTING BY AND THROUGH ITS DEPARTMENT OF CONSERVATION AND RECREATION	2678	201	-	-	-	-	TEMP	64,516	-	-	-	x	x	GRADING (MAX 2:1), SHARED USE PATH CONSTRUCTION	DCR

The Layout Alteration/Easement plans will also show and label the TEMPORARY OCCUPANCY AREA and a paragraph will be included in the Order of Taking.

See [Appendix B.10 – Property Plan \(ROW Information\)](#).

### Temporary Impacts to Properties with Land Restrictions

For temporary impacts to properties with land restrictions, that will be granted by agreement or license by the entity in possession, the ROW plans shall show a “TEMPORARY CONSTRUCTION AREA” (TCA). The temporary impact shall have the same characteristics as a Temporary Easement line and shall be dimensioned similarly.

For State projects, the callout shall be labeled as X-TCA-1, X-TCA-2, etc.

For Municipal projects, the callout shall be labeled as TCA-1, TCA-2, etc.

The TCA shall be listed in the parcel summary sheet. The remarks column should specify that this is a temporary construction area that will be granted by agreement.

### Accepting/Approving the ROW Plans

The design must be at 75%, at minimum, in order to accept the ROW Plans, or in the case of the municipality, approve.

**The acquisition process takes an average of 12 months from the date that the ROW Plans are accepted or approved.**

## **Re-accepting/Re-approving the ROW Plans**

As mentioned earlier, re-accepting/re-approving the ROW plans creates havoc within the ROW Bureau/Municipality/Local Public Agency. In the event the ROW Plans do need to be re-accepted/re-approved, the ROW Engineering Administrator and Supervisor should be contacted immediately. If the proposed transportation facility is within an existing or proposed way owned (or to be owned) by the municipality/Local Public Agency, then the Community Compliance Administrator should also be contacted immediately.

The consultant will be asked to fill out an Easement Area and Design Changes form noting everything that is changing with the new submission.

The Easement Area and Design Changes Form is always required when re-accepting/re-approving the ROW plans.

See [Appendix C.1 – Easement Area and Design Changes Form](#).

See [Appendix C.2 – Blank \(Excel File\) Easement Area and Design Changes Form](#).

## **Design Changes After the ROW Plans are Accepted**

As previously mentioned, it is critical that the design adjacent to the existing ROW is locked down at the time the ROW plans are accepted/approved. Changes to the ROW plans after the plans have been accepted/approved will delay the acquisition process and jeopardize the AD date.

Review comments after the ROW plans have been accepted/approved SHOULD NOT change the ROW plans, including comments from DUCE, Complete Streets and Landscape.

If the design change is deemed unavoidable, the ROW Bureau should be contacted immediately. The ROW plans will need to be re-accepted and delays in the acquisition process and project schedule should be expected.

## **Response to Comments**

The consultant will respond to comments by setting a status to the comment within Bluebeam and providing a written response to the comment within Bluebeam.

After all the comments have been responded to, the consultant shall save the plan with the response to comments and include this PDF with the next submission.

It is necessary for ROW to be provided the PDF version of the plan including the response to comments, rather than only the summary table.

## Common Mistakes on ROW plans

This is a list of commonly found mistakes on the ROW plans that the consultant shall be mindful of when developing the preliminary ROW Plans.

- Plans are hard to read. Plans have overlapping text, are crowded, or show excessive information that is not required on the ROW plans such as survey data (coordinates, inverts, lengths of pipes and curves), long leader lines, underground utilities not impacted by proposed work.
- Text is cut off between sheets.
- Information is inconsistent and does not match between sheets, including between sheets on the property plan, and between the parcel summary sheet, location plan, and property plan.
- Disposition of private property within a proposed easement is missing or shown incorrectly (not according to the Disposition Guidelines – see [Appendix A.2.](#))
- Dispositions are not on the correct layer in CAD and do not plot correctly.
- Incorrect property owner information is shown, e.g. incorrect book and page number.
- Existing conditions are not plotted on the base map – specifically, privately owned items that are impacted by the proposed work.
- Permanent easements or fee takings next to City/Town layouts are missing the suffix “-C” or “-T”.
- Property plans are missing parcel dimensions or frontage dimensions.
- Existing drainage is missing flow of water arrow. If MassDOT is draining on private property, the existing drainage easement needs to be plotted. If an existing drainage easement does not exist, we need to show a proposed drainage easement. Proposed parcels are excessive and extend well beyond proposed work. Parcel size needs to be justified by the proposed work plotted on the plans.
- Proposed work extends outside of the existing layout line or proposed parcels and is shown on private property.
- PL or Z line symbols are missing.
- “Beginning”, “End”, and “Section #” notes of alterations are missing.
- Leader lines are pointing to the incorrect location.
- Frontage total per property is missing the calculated distance on the side street (if public way) and does not match frontage per deed. (Frontage is direct access to the public layout.)
- Proposed work is shown on Construction Plan but missing on ROW plan, or is otherwise inconsistent between Construction Plan and ROW plan.
- Response to comments within the Bluebeam session are missing.

## QA/QC Form

The QA/QC form shall be submitted with the ROW plans to ensure all plan requirements are followed. A new form is required for every submission. A separate form must be submitted to State ROW and Municipal ROW on projects with split ROW responsibilities. The PE and PLS participating in the development of the ROW plans will each sign the QA/QC form. Each will have specific responsibilities as outlined on the form.

The PLS prequalified in the S3 category that is participating in the development on the ROW plans must be the same PLS that will prepare the layout plan/instrument.

See [Appendix C.3 – State ROW QA-QC Form](#).

See [Appendix C.4 – Muni ROW QA-QC Form](#).

A fillable version of each form can be found on the Mass.gov [Design Guides and Manuals](#) website.

## CAD Standards

The MassDOT CAD Standards Download Package is available online at <https://www.mass.gov/how-to/get-the-latest-cad-standards-download-package>. Please check for updates prior to beginning each project. The date of last update is shown at the top of the page.

Please review the MassDOT CAD Standards Manual included in the download package. The Manual provides all information for drawing file naming convention, folder tree for digital submissions, policy on external references and data shortcuts, etc. CAD Standards must be adhered to for the ROW Plan Set to be properly formatted.

The creation of additional layers for ROW drawings is encouraged. Newly created layers must follow the standard layer naming convention. The plot style of the new layer is to be selected from existing plot styles based on the information contained on the new layer. A description must be entered in the Layer Properties Manager for all new layers.

## CAD Drawing Setup

The proper CAD drawing setup will allow reviewers to open CAD files and see exactly what is presented on the respective ROW plan sheet. Follow the file naming conventions laid out in the CAD Standards Manual (see “File Naming”, page 9). For example, a ROW plan set might contain the following files:

- 60XXXX\_RW(Title\_Sheet).dwg

- 60XXXX\_RW(Legend\_&\_Notes).dwg
- 60XXXX\_RW(Typical\_Sections).dwg
- 60XXXX\_RW(Critical\_Profile).dwg
- 60XXXX\_RW(Parcel\_Summary).dwg
- 60XXXX\_RW(Location\_Plan).dwg
- 60XXXX\_RW(Property\_Plan).dwg

Each file should contain all sheets relevant to that section stored as individual drawing layouts. Different sections may optionally be combined as long as the names clearly indicate what can be found in each file, for instance, **60XXXX\_RW(Title\_Legend\_Notes).dwg**. On the other hand, a section can be broken up to prevent cumbersome files if more than ten sheets are required, for instance, **60XXXX\_RW(Property\_Plans\_1\_10).dwg** and **60XXXX\_RW(Property\_Plans\_11\_20).dwg**.

## Sheet Templates

To create a new ROW sheet, always start from a blank template. Do not just copy a layout from an old project as some of the templates may have changed. A new sheet based on a template can be inserted into a drawing through use of the AutoCAD design center (command ADCENTER).

All sheet templates can be found inside the CAD standards package in the file **Sheets\ROW\_SHEETS.dwg**. The only exception is the Legends, Abbreviations and Project Description sheet, which should be taken from **HWYDESIGN\_SHEETS.dwg**. All symbols and linetypes should be identical to those used in the highway design plans.

The project description may be manually entered on the Legends, Abbreviations and Project Description sheet or can be automatically populated when included in a sheet set. See the section “Use of Sheet Set Manager” in the MassDOT CAD Standards Manual for further information.

Each new sheet should come in already set to plot in **ARCH Expand D (36.00 x 24.00 Inches)** using **MADOT-R.stb**.

## Parcel Summary Sheet

Civil3D includes an easy-to-use table editor which should be used for the creation of the parcel summary sheet table. An appropriately formatted table can be found in the “PARCEL SUMMARY SHEET” layout template included in the CAD standards package. If desired, the table can be moved into model space and viewports utilized in order to use a single table for the entire project. Optionally, you may instead opt to keep parcel information in an Excel spreadsheet that is data-linked to the Civil3D table object, which can facilitate editing and

counting parcels. Keep the spreadsheet in the same folder as the parcel summary sheet CAD file and make sure to include it with every submission.

### **ROW CAD Layers, Text Styles and Labels Styles**

ROW linework, text, and labels shall be on the appropriate CAD layers in order to plot correctly. The appendix provides a summary of all recommended layer and style settings for the property plan sheets.

See [Appendix D.1 – CAD Standard \(Layers, Text Styles and Label Styles\)](#).

See [Appendix D.2 – CAD Standard \(Layer and Plot Style Guidelines\)](#).

### **Plot Styles**

All ROW plan sheets should be configured to use the style table file **MADOT-R.stb** from the MassDOT CAD Standards package. Together with the correct placement of objects onto the standard layers as described in the MassDOT CAD Standards Manual, this will ensure all lines and text plot with the appropriate lineweight and color for optimal readability. Please check to make sure you have the most recent version of MADOT-R.stb downloaded to the AutoCAD style table directory.

**Using the latest version of the CAD standard package, LAYOUT LINES and PROPERTY LINES will plot with THICK, COLOR lines.**

**This is a NEW REQUIREMENT.**

Using the most recent drawing template and copy of MADOT-R.stb from the CAD Standards package, new drawings will automatically plot with these new styles. However, the plot styles in drawings that were created using an older version of the template must be manually adjusted in order to match the style requirement. Instructions on how to accomplish this can be found in the appendices.

See [Appendix D.3 – Instructions for Updating CAD Layer Styles](#).

### **Parcel Callouts**

Parcel Callout Text shall be multileaders with a solid dot leader head, placed on the layer **PR-RW-TEXT**. The end of the leader should connect to a point inside the parcel boundary. The callout text itself should be placed somewhere within the limits of the property, if possible.

Parcel Callouts shall list the Parcel prefix (X- for first submittal, then prefix number assigned by ROW Bureau for all other submittals) and then the type of taking parcel. For combination parcels, they shall be listed alphabetically (i.e. X-D-GR-PUE-1 instead of X-PUE-D-GR-1). The Owner names shall be listed on the middle line and parcel areas listed on bottom line “AREA ABOUT XXX S.F” or “AREA XXX +/- S.F.”

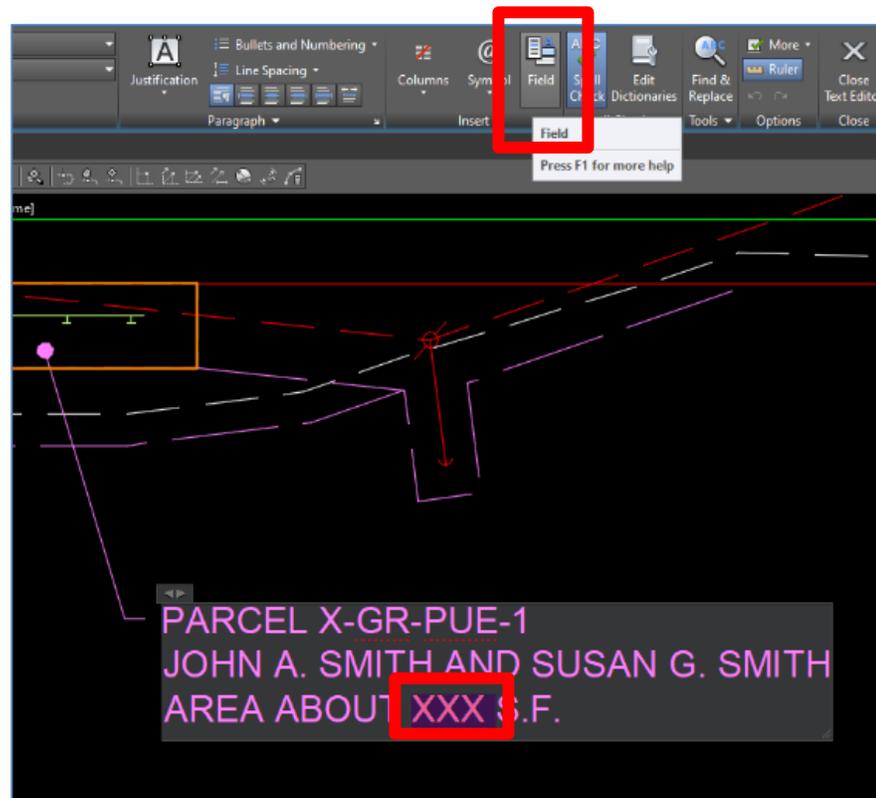
**Parcel Areas shall be linked to a closed polyline that traces the entire parcel. These polylines can be created in the ROW sheet files on the no-plot layers PR-RW-AREACALC-PERM and PR-RW-AREACALC-TEMP.**

**An AutoCAD field linked to these polylines shall then be inserted in the multileader text box.**

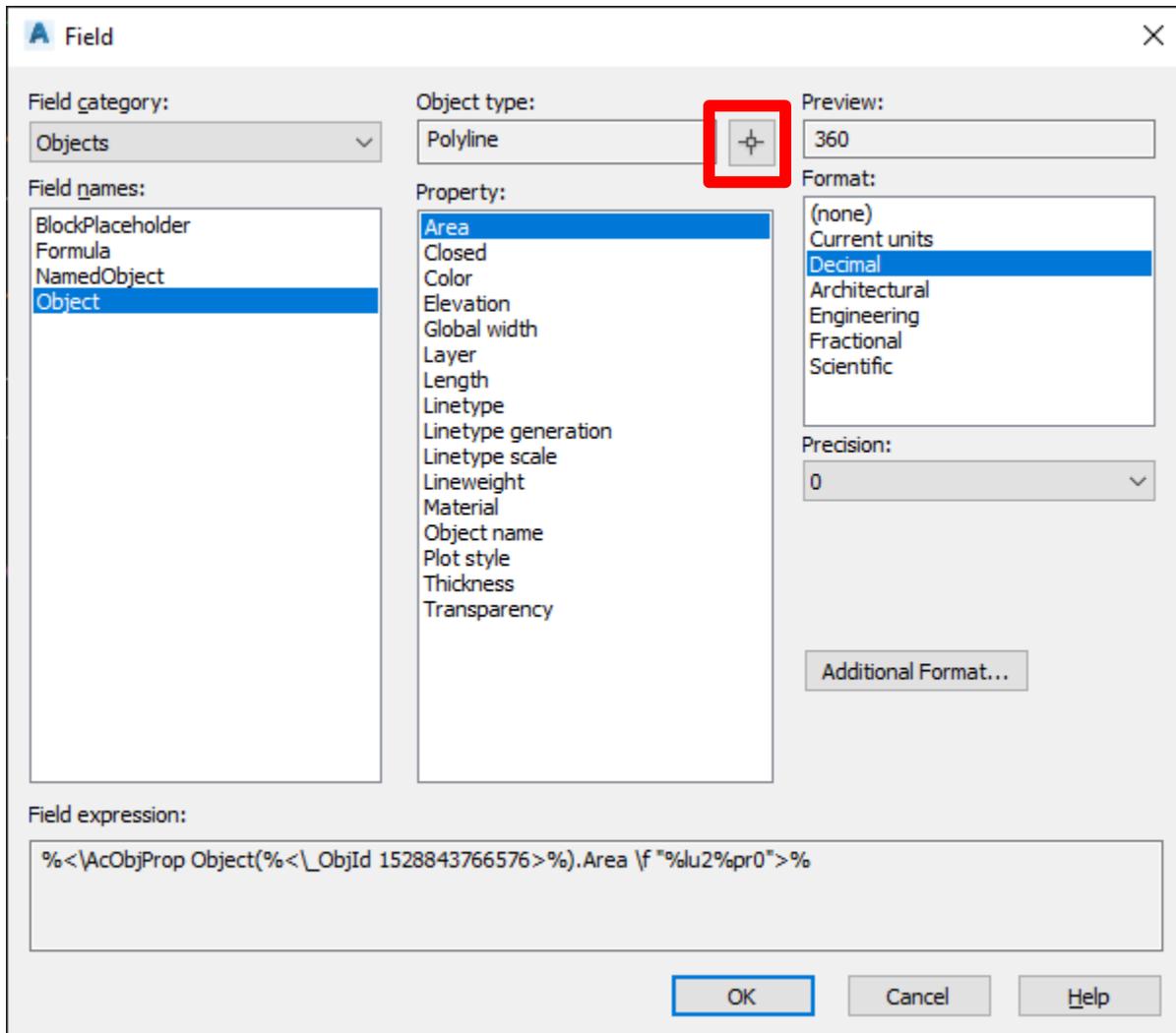
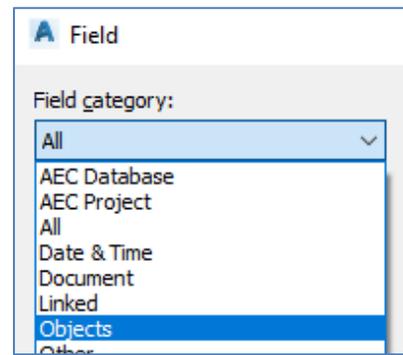
As always, extra layers (such as a third layer for fee takings) may be created at the drafter’s discretion.

To insert a field into an AutoCAD annotation object, follow the steps below.

1. Double click inside the multileader and select the location of insertion.
2. Select the **Field** button in the ribbon above.
3. In the Field dialog box, select **Objects** from the Field category.
4. Choose **Object**.
5. In the **Object** type column, click the **Select Object** button and select the closed polyline associated with the parcel callout.



6. In the **Property** section, choose **Area**.
7. In the **Format** section, choose **Decimal** and change precision to **0**.
8. Click **Ok**. A greyed out field with the area of the polyline is now inserted in the Multileader.
9. When the vertices of the closed polyline are moved, added, or deleted, the area text will update after typing **RE (REGEN)**.



## Parcel Dimensions

Parcel Dimensions shall be automatic line or curve labels linked to a line or curve. Plain text is not allowed for parcel dimensions and will result in ROW plans being rejected.

Line and curve labels can be attached directly to the polylines used for area calculation. Labels shall be provided for the entire outer perimeter of each parcel. Each label should indicate the length of the line or curve, rounded to the nearest foot. Only one label is needed per segment in cases where two parcels share the same bounding edge. Labels can be added using the style **MassDOT\_LO\_PR\_D\_PLUS-MINUS** for lines and **MassDOT\_LO\_PR\_L\_PLUS-MINUS** for curves.

Crow's feet shall also be added at the ends of each line and curve and on the same side of the line or curve as the dimension text. Half-size crow's feet are recommended for clarity as areas of dense ROW activity often cause the full-size crow's feet to overlap with one another. Half-size crow's feet can be added using the label style **MassDOT\_LO\_EX\_Crows\_Feet\_Small** for both lines and curves. If this is not an issue, regular crow's feet can be added using the style **MassDOT\_LO\_Crows Feet** for lines and **MassDOT\_LO\_EX\_Crows\_Feet** for curves. The labels can optionally be exploded after they are applied in order to rotate the crow's feet for clarity.

### Frontage Dimensions

ROW staff need to check property frontage against the deed before accepting plans. Usually the dimensions supplied for fee and easement parcels are sufficient to perform this check. In cases where ROW parcels do not extend along the full frontage of a property, the remaining distance should be labelled using thin black text to distinguish it from parcel dimensions. These labels can be added using the style **MassDOT\_LO\_EX\_D\_PLUS-MINUS** for lines and **MassDOT\_LO\_EX\_L\_PLUS-MINUS** for curves.

### Other Drawing Elements

In addition to ROW parcel callouts and dimensions, the property plans show and label the existing conditions and the proposed work, including transportation facility linework, utilities, traffic signals and signs, and landscaping.

It is particularly important to show all the proposed work that is within ROW parcels.

**In order to emphasize this information, all dispositions within a proposed ROW parcel, including items in trespass, shall be moved to the layer PR-RW-TEXT-DISP.**

This will cause them to plot in darker text, enabling agents and homeowners to more clearly visualize the impacts on the property. Refer to the appendices for an example of how this should look.

Below is a summary of items that shall be shown on the Property Plans:

Feature	Existing	Proposed
Curbing, Sidewalk, edges of pavement, gravel, brick, etc.	✓	✓
Walls, Guardrail, Fences, Bridge components, buildings	✓	✓
Landscaping, trees	✓	X <sup>1</sup>
Mailboxes, Posts, Private Signs, Planters, Flagpoles, Benches, Bike Racks, Trash Receptacles, Lighting, Existing Structures (buildings, pools, sheds), etc.	✓	✓
Utility Poles, guy wires, transformers, handholes, meters and Overhead wires	✓	✓
Utilities – Underground (except Drainage or proposed public utilities on private property)	X	X
Drainage – Structures, Pipes, Rip Rap, Septic Systems	✓	✓
Hydrants, Gates, Meters, Manholes	✓	✓
Utility Text (Inverts, pipe sizes, pipe materials)	X	X
Sawcut Lines	n/a	✓
Contour Lines	X	X
Limits of Grading/Paving/Work/Modified fill	n/a	✓
Traffic Signal Posts, Poles, Mast arms, Foundations, Cabinets, Conduit, Loop detectors	✓	✓
Traffic Signal heads, Video detection zones	X	✓
Traffic Signs	✓	✓
Parking Stripes	✓	X
Pavement Markings (lane lines, arrows)	X	X
Pavement Markings (Stop lines, Crosswalks, Parking Stalls)	X	X
Underground Structures	✓	✓
Wetland Lines and Flags, Streams, Edges of Water	✓	✓
Wetland Buffers	X	X
Wetland impacts	n/a	X
Survey Coordinates, Benchmarks, Distances & Bearings	X	X

<sup>1</sup> Proposed landscape/trees within the Public Layout should not be shown on the ROW plans. Only under special circumstances should landscape items be proposed on private property. If landscape is proposed on private property, these features should be shown in the ROW plan set.

Engineering judgement should be used for other items not shown in the above table. The Designer should determine whether showing (or not showing) the item will have any benefit to all users of the ROW plans.

### Note on Readability

All ROW text must be easily legible for reviewers, engineers, legal counsel, and appraisers. Plans that contain too much text that overlaps with other text or linework will be rejected.

Wherever possible, annotations should be moved to empty spaces in the plans to avoid overlap. Parcel labels can be moved near the edge of the sheet if their leader is clearly attached to the associated parcel. In some cases, applying a background mask to text objects might be necessary in order to avoid conflicts with survey linework. For more info on using background masks, refer to <https://knowledge.autodesk.com/support/autocad-lt/learn-explore/caas/CloudHelp/cloudhelp/2019/ENU/AutoCAD-LT/files/GUID-3448A24E-E18B-4C8C-B8AB-84F4CD4EBC81-hm.html>.

In areas of very dense linework and annotations, it might be necessary to provide enlarged insets to avoid overlap. Insets should use an engineering scale such as 1"=10' and be titled "DETAIL 1", "DETAIL 2", etc. as needed per sheet. The limits and name of the inset should be clearly called out on the main drawing. The proposed work shall be shown on the inset.

See example on following page. The second screenshot was included on the property plans, and the first screen shot is a detail of the area.



## Submitting CAD Files

It is critical for ROW plan reviewers to be able to review ROW CAD files to spot check parcel areas and dimensions, property frontages, and ensure all private property items have a disposition.

**Submitting ROW CAD files is a REQUIREMENT. Failure to do so will result in the ROW plans being rejected.**

When submitting CAD files, it is important that the files load on another computer exactly as displayed on the submitted PDFs. To ensure this, closely follow the guidelines given in the CAD standards manual under “General Drawing Data Requirements,” “Digital Submission Requirements,” and “Policy on External References and Data Shortcuts.”

Specifically:

- Organize all files according to the folder hierarchy given in the CAD standards package in the folder **Project Templates\\_MassDOT Proj Template - Standard**
- Make sure all external references are set to relative path. Referenced drawings should be stored in the subfolder **Project Drawing Data\DWG\References\XREF**
- Unused external references should be **detached from the drawing** and not merely unloaded. Otherwise it is difficult to differentiate between missing or unused attachments.
- Make sure any layer states are **restored to the same state used for plotting the submitted plans**.
- CAD files should be submitted in the same manner that the CAD files are set up.

Appendix A.1

Commonly Used Abbreviations for State Right-of-Way and Layout Plans

**FEE TAKING:** Owner sells land to State and the State has all control.

<u>Abbrev.</u>	<u>Meaning</u>
X-1	Taken in fee on behalf of the Commonwealth
X-1-C	Taken in fee on behalf of the City
X-1-T	Taken in fee on behalf of the Town
X-D-1-F	Drainage taken in fee
X-1 <sup>*</sup> -UR	Uneconomic remainder

*\*This should be the same number as the fee taking associated with the property*

**PERMANENT EASEMENT TAKING:** State owns easement right for highway purposes.

<u>Abbrev.</u>	<u>Meaning</u>
X-C-1	Channel Easement
X-D-1	Drainage Easement
X-E-1	Highway Easement
X-GR-1	Guardrail Easement
X-HS-1	Highway Sign Easement
X-HL-1	Highway Light Easement
X-FP-1	Flood Plain Easement
X-PUE-1	Public Utility Easement
X-S-1	Slope Easement
X-SUP-1	Shared Use Path Easement
X-W-1	Wall Easement
X-WM-1	Watermain Easement

Easements can be combined on an as-needed basis, and should be listed alphabetically (i.e. X-HS-PUE-1, if the easement is for a highway sign and public utility easement)

**TEMPORARY EASEMENT TAKING:** State owns easement for a designated period of time and then the rights revert back to property owner.

<u>Abbrev.</u>	<u>Meaning</u>
X-TE-1	Temp. Easement
X-TWLR-1	Temp. Wetland Replication Easement
X-TFBU-1	Temp. Footbridge Utility Easement
X-TFB-1	Temp. Footbridge Easement
X-TPWW-1	Temp. Pedestrian Walkway Easement
X-TR-1	Temp. Road Easement
X-TRBU-1	Temp. Road Bridge Utility
X-TRT-1	Temp. Removal Taking Easement

This list is an example of most commonly used takings and easements. If required, additional easements can be created on a case by case basis.

## Appendix A.2 – Dispositions (State and Muni)

### MassDOT ROW Disposition Guidelines for Privately Owned Items

Every item within a fee taking, permanent and temporary easement requires a disposition

**RET:** Retain - The item can remain in place and will not be impacted by construction (property owner is **not compensated** for item through the acquisition process).

**REM:** Remove- The item will be impacted by construction and will be removed (property owner **may be compensated** for the item through the acquisition process).

**R&S:** Remove & Stack - Trespassing items ONLY. The item is located inside the State Highway layout or Town/City layout (property owner is **not compensated** for the item through the acquisition process).

**R&D:** Remove & Dispose - Trespassing landscaping ONLY. The landscaping item is located inside the State Highway layout (property owner is **not compensated** for the item through the acquisition process).

**R&R:** Remove & Reset - The item will be disrupted during construction. Contractor to remove and reset item. (property owner is **not compensated** for the item through the acquisition process).

**R&R (BO):** Remove & Reset By Others - The item qualifies for relocation benefits by ROW's Relocation Section if privately owned and on private property.

Is item Trespassing?	ROW PLANS				HIGHWAY PLANS			
	Yes		No		Yes		No	
	No	Yes	No	Yes	No	Yes	No	Yes
<b>Bench</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S
<b>Bollard</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S
<b>Boulder (Decorative)</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S
<b>Bush</b>	RET <sup>1</sup>	R&D	RET	REM	RET <sup>1</sup>	R&D	RET	R&D
<b>Fence or Guardrail</b>	RET <sup>1</sup>	R&S	RET	REM or R&R <sup>3</sup>	RET <sup>1</sup>	R&S	RET	R&S or R&R <sup>3</sup>
<b>Flag Pole</b>	RET <sup>1</sup>	R&S	RET	R&R (BO)	RET <sup>1</sup>	R&S	RET	R&R(BO)
<b>Irrigation System</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S
<b>Light Pole</b>	RET <sup>1</sup>	R&S	RET	R&R (BO)	RET <sup>1</sup>	R&S	RET	R&R(BO)
<b>Landscape Area</b>	RET <sup>1</sup>	R&D	RET	REM	RET <sup>1</sup>	R&D	RET	R&D
<b>Mailbox</b>	RET	R&R <sup>2</sup>	RET	R&R <sup>2</sup>	RET	R&R <sup>2</sup>	RET	R&R <sup>2</sup>
<b>Monuments (Private)</b>	RET <sup>1</sup>	R&S	RET	R&R(BO)	RET <sup>1</sup>	R&S	RET	R&R(BO)
<b>Monuments (Public)</b>	RET <sup>1</sup>	R&S	RET	R&R	RET <sup>1</sup>	R&S	RET	R&R(BO)
<b>Planter</b>	RET <sup>1</sup>	R&D	RET	REM	RET <sup>1</sup>	R&D	RET	R&D
<b>Septic System</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&D
<b>Sheds</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&D
<b>Sign (Private)</b>	RET <sup>1</sup>	R&S	RET	R&R (BO)	RET <sup>1</sup>	R&S	RET	R&R (BO)
<b>Sign (Highway)</b>	RET <sup>1</sup>	R&S	RET	REM or R&R <sup>4</sup>	RET <sup>1</sup>	R&S	RET	R&S or R&R <sup>4</sup>
<b>Steps</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S
<b>Shipping Containers</b>	RET <sup>1</sup>	R&S	RET	R&R(BO)	RET <sup>1</sup>	R&S	RET	R&R (BO)
<b>Tree (Decorative)</b>	RET <sup>1</sup>	R&D	RET	REM	RET <sup>1</sup>	R&D	RET	R&D
<b>Walkway</b>	RET	R&S	RET	REM or R&R <sup>5</sup>	RET	R&S	RET	R&S or R&R <sup>5</sup>
<b>Wall</b>	RET <sup>1</sup>	R&S	RET	REM	RET <sup>1</sup>	R&S	RET	R&S

RET <sup>1</sup>	Permit is required from District to allow continued trespass (State) and license is required from municipality (Muni)
R&R <sup>2</sup>	Mailboxes shall always be R&R due to USPS requirements
R&R <sup>3</sup>	R&R if fence or guardrail is required for public safety or site security
R&R <sup>4</sup>	R&R only if sign is in good condition and still applicable
R&R <sup>5</sup>	R&R if there is MassDOT Standard Item (brick, flagstone, etc.)

1. Any exception will be handled on a case-by-case basis. If you think a specific item merits an exception, please request a determination from the ROW Engineering Administrator and ROW Engineering Supervisor
2. Dispositions not required for items within layout and are publicly owned (i.e. guardrail, hydrants, manholes, etc)
3. Dispositions not required for naturally occurring vegetation (trees/wooded areas, brush/overgrowth, etc.)

Notes: 4. On the ROW plans, we no longer post "(BO)" on utility pole relocations. The "(BO)" designation on the ROW plans is strictly reserved to signal that our Relocation section will be involved. The "(BO)" designation remains on the construction plans for utility relocations

Appendix A.3

Commonly Used Abbreviations for Municipal Right-of-Way Plans

**FEE TAKING:** Municipality acquires land and takes possession of the land.

<u>Abbrev.</u>	<u>Meaning</u>
1-C	Taken in fee by the City
1-T	Taken in Fee by the Municipality
D-1-F	Drainage taken in fee
UR-1*-C	Uneconomic remainder

*\*This should be the same number as the fee taking associated with the property*

**PERMANENT EASEMENT TAKING:** Municipality acquires easement for transportation project.

<u>Abbrev.</u>	<u>Meaning</u>
C-1	Channel Easement
D-1	Drainage Easement
E-1	Highway Easement
GR-1	Guardrail Easement
PUE-1	Public Utility Easement
S-1	Slope Easement
W-1	Wall Easement
WM-1	Watermain Easement
BP-1	Bike Path/Multi-Use Path Easement
CFS-1	Compensatory Flood Storage Easement

Easements can be combined on an as-needed basis, and should be listed alphabetically (i.e. X-HS-PUE-1, if the easement for a highway sign and public utility easement).

**TEMPORARY EASEMENT TAKING:** Municipality acquires easement for a designated period of time, and then the rights revert back to property owner.

<u>Abbrev.</u>	<u>Meaning</u>
TE-1	Temp. Easement
TWLR-1	Temp. Wetland Replication Easement
TFBU-1	Temp. Footbridge Utility Easement
TFB-1	Temp. Footbridge Easement
TPWW-1	Temp. Pedestrian Walkway Easement
TR-1	Temp. Road Easement
TRT-1	Temp. Removal Taking Easement

This list is an example of most commonly used takings and easements. If required, additional easements can be created on a case by case basis.



# MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

COHASSET & SCITUATE  
ROUTE 3A IMPROVEMENTS

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	1	34
PROJECT FILE NO.		608007	

PRELIMINARY RIGHT OF WAY  
TITLE SHEET & INDEX

PLAN AND PROFILE OF  
ROUTE 3A IMPROVEMENTS  
BRIDGE NO. M-10-006 (25T)

Plan set title must include the BRIDGE NO. (if applicable)

Provide UPDATED date and time stamp with each submission.

If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a CRITICAL PROFILE or TYPICAL SECTIONS are NOT required. A note should be added below the index such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND/OR ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS OR CRITICAL PROFILES ARE NEEDED NOR PROVIDED".

IN THE TOWN OF  
COHASSET & SCITUATE  
NORFOLK & PLYMOUTH COUNTIES  
PRELIMINARY RIGHT OF WAY PLANS

THESE PLANS ARE SUPPLEMENTED BY THE OCTOBER 2017 CONSTRUCTION STANDARD DETAILS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, MASSDOT TRAFFIC MANAGEMENT PLANS AND DETAIL DRAWINGS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.

FEDERAL AID PROJECT NO.

Provide a SHEET INDEX and include all required sheets in the correct order. Revised SHEET INDEX includes LEGEND, ABBREVIATIONS AND PROJECT DESCRIPTION

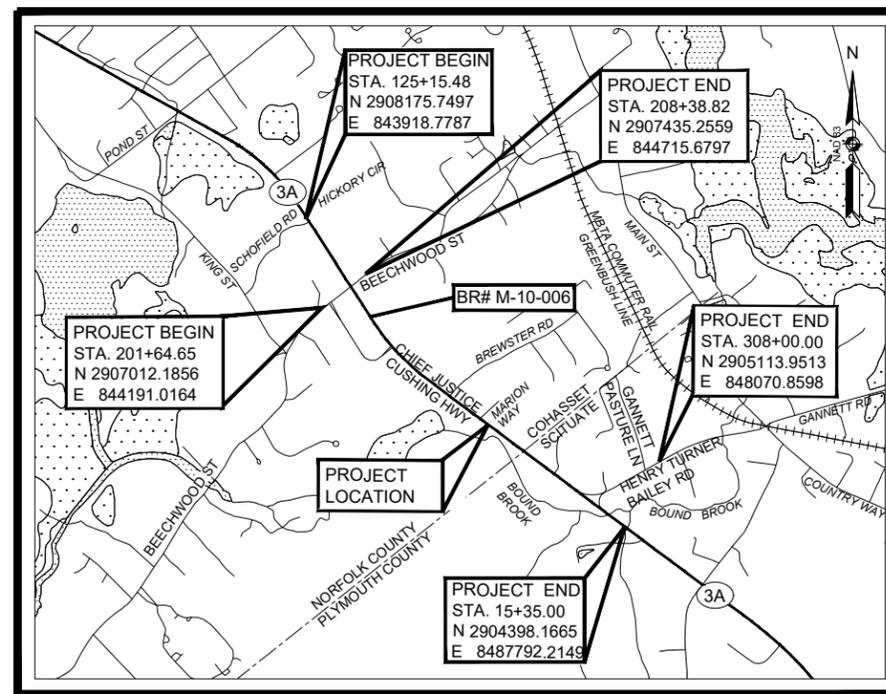
INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET & INDEX
2	LEGEND, ABBREVIATIONS AND PROJECT DESCRIPTION
3-9	TYPICAL SECTIONS
10-11	CRITICAL PROFILES
12-14	PARCEL SUMMARY SHEETS
15-16	LOCATION PLANS
17-30	PROPERTY PLANS

BASEPLAN NOTES are required in all ROW submissions.

BASEPLAN NOTES

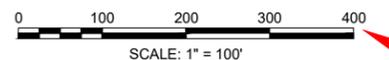
- THE SURVEY BASEPLAN WAS PREPARED BY XYZ COMPANY IN [MONTH, YEAR] AND SUPPLEMENTED BY XYZ COMPANY IN [MONTH, YEAR].
- THE MOST RECENT SITE VISIT WAS COMPLETED IN [MONTH, YEAR] TO VERIFY THAT THE EXISTING CONDITIONS SHOWN ON THE PLAN ARE THE CURRENT CONDITIONS IN THE FIELD.
- THE PROPERTY LINES SHOWN ON THE PLAN WERE COMPILED FROM [ ] AND CERTIFIED BY [ ENTER PLS NAME ], A PLS IN DIRECT CHARGE AND SUPERVISION OF THE SURVEY BASEPLAN.
- LAYOUT LINES ARE UNAMBIGUOUSLY RETRACEABLE AND DEPICTED ACCURATELY ON THE RIGHT OF WAY PLANS BY AN ON-THE-GROUND SURVEY PERFORMED IN ACCORDANCE WITH 250 CMR 6.01 AND 6.02.
- THE OWNERS HAVE BEEN CHECKED AND UPDATED PER THE REGISTRY OF DEEDS AS OF [MONTH, YEAR].
- THE PREQUALIFIED SURVEYOR UNDER THE S3 CATEGORY IS PARTICIPATING IN THE DEVELOPMENT OF THE ROW PLANS. [ ENTER PLS NAME AND COMPANY ] HAS VERIFIED HIGHWAY LAYOUT BASELINES AND SIDELINES, VERIFIED MUNICIPAL LAYOUTS, VERIFIED THAT ABUTTERS PROPERTY LINES ARE CREATED BASED ON RECORD DEEDS AND PLANS, VERIFIED CURRENT ABUTTERS OWNERSHIP INFORMATION, VERIFIED EXISTING PERMANENT EASEMENTS, AND VERIFIED ANY OTHER ELEMENTS IN THE SURVEY BASEPLAN THAT AFFECTS DISPOSITIONS AND LAND ACQUISITIONS.



All information (PROJECT LOCATION, BRIDGE NO. (if applicable), PROJECT LIMITS (BEGIN/END) must match LOCATION and PROPERTY PLANS

Fill out the REVISION BOX correctly for all submissions of ROW Plans. NEW PARCELS, ALTERED PARCELS and DELETED PARCELS must be shown correctly.

Add "ROW Plans Prepared by" and Consultant's LOGO (if different than Designer).



LENGTH OF PROJECT = 12,345.67 FEET = 2.338 MILES

Provide a LOCUS MAP at the center of the sheet, showing nearby street names, project limits (with STA), a NORTH ARROW, a GRAPHIC SCALE (in English units - miles, feet, inches) and LENGTH OF PROJECT.

CONSULTANT'S LOGO (REQUIRED)

MM-DD-YYYY	DESCRIPTION	REV #
	25% DESIGN	
	NEW PARCELS: X-TE-5, X-TE-6 ALTERED PARCELS: X-1-T, X-3-T, X-4-T, X-TE-1, X-TE-3 DELETED PARCELS: X-TE-2, X-2-T	1
	INITIAL SUBMISSION	0



RECOMMENDED FOR APPROVAL

CHIEF ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_

# Appendix B.2 – Legend, Abbreviations, and Project Description

Every set of ROW Plans shall include a Legend, Abbreviations and Project Description.  
 All **SYMBOLS** found on the ROW plans shall be included here.  
 All **ABBREVIATIONS** found on the ROW plans shall be included here.

## GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		GUARD RAIL - DOUBLE FACE - STEEL POSTS
		GUARD RAIL - DOUBLE FACE - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		SEDIMENT BARRIER
		COIR LOG SEDIMENT BARRIER
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

## TRAFFIC SIGNALS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

## PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOTTED WHITE LINE
		DOTTED YELLOW LINE
		DOTTED WHITE LINE EXTENSION
		DOTTED YELLOW LINE EXTENSION
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE

## PROJECT DESCRIPTION:

THE PROPOSED PROJECT CONSISTS OF THE RECONSTRUCTION, LARGELY IN PLACE, OF WINTHROP AVE FROM ROUTE 16 TO JUST BEYOND THE BENNINGTON AVE INTERSECTION. THE PROPOSED RECONSTRUCTION WILL INCLUDE MILLING AND OVERLAY OF THE EXISTING ROADWAY AND RECONSTRUCTION OF THE SIDEWALKS ALONG WINTHROP AVE, ADA COMPLIANT RAMPS, NEW CROSSWALKS, AND BICYCLE ACCOMMODATIONS CONSISTING OF AN ON-ROAD BUFFERED BICYCLE LANE ALONG THE MAJORITY OF THE CORRIDOR. AT THE INTERSECTION OF BENNINGTON STREET, AS WELL AS AT THE ENTRANCE OF REVERE HIGH SCHOOL, THE BIKE LANE WILL BE CONSTRUCTED WITHOUT THE BUFFER TO ALLOW FOR CONSTRUCTION OF LEFT LANE TURNS.

**A PROJECT DESCRIPTION shall be included, stating the primary purpose and improvements of the proposed project**

## ABBREVIATIONS

GENERAL	DESCRIPTION
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ABAN	ABANDON
ADJ	ADJUST
APPROX.	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CIP	CAST IRON PIPE
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DHV	DESIGN HOURLY VOLUME
DI	DROP INLET
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
DW	STEADY DON'T WALK - PORTLAND ORANGE
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EXIST (or EX)	EXISTING
EXC	EXCAVATION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
FDN.	FOUNDATION
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HDW	HEADWALL
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HYD	HYDRANT
INV	INVERT
JCT	JUNCTION
L	LENGTH OF CURVE
LB	LEACH BASIN
LP	LIGHT POLE
LT	LEFT
MAX	MAXIMUM
MB	MAILBOX
MH	MANHOLE
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
M&O	MILL & OVERLAY
NIC	NOT IN CONTRACT
NO.	NUMBER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	PEDESTRIAN CURB RAMP
P.G.L.	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PT	POINT OF TANGENCY

WINTHROP AVENUE (ROUTE 16)			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		2	99
PROJECT FILE NO.		607111	

## LEGEND & ABBREVIATIONS

### ABBREVIATIONS (cont.)

GENERAL	DESCRIPTION
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVMT	PAVEMENT
PWW	PAVED WATER WAY
R	RADIUS OF CURVATURE
R&D	REMOVE AND DISPOSE
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RDWY	ROADWAY
REM	REMOVE
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SMH	SEWER MANHOLE
ST	STREET
STA	STATION
SSD	STOPPING SIGHT DISTANCE
SHLO	STATE HIGHWAY LAYOUT LINE
SW	SIDEWALK
T	TANGENT DISTANCE OF CURVE/TRUCK %
TAN	TANGENT
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TYP	TYPICAL
UP	UTILITY POLE
VAR	VARIES
VERT	VERTICAL
VC	VERTICAL CURVE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN
X-SECT	CROSS SECTION

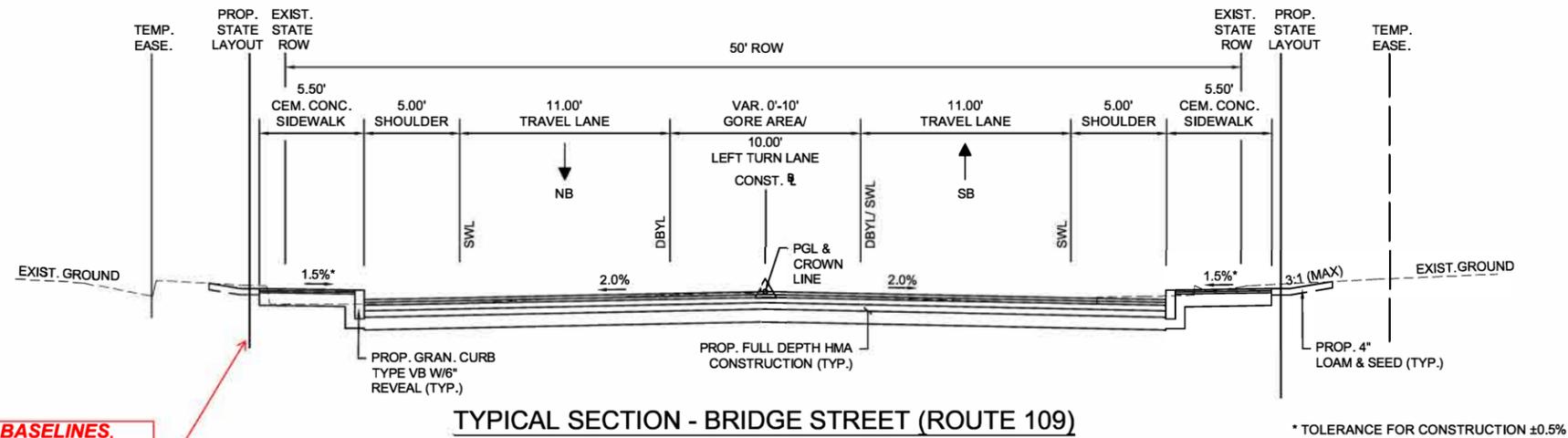
### TRAFFIC SIGNAL ABBREVIATIONS

CAB	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY UPRAISED HAND
FDW	FLASHING UPRAISED HAND
FR	FLASHING CIRCULAR RED
FRL	FLASHING RED LEFT ARROW
FRR	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
FYL	FLASHING YELLOW LEFT ARROW
FYR	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
GL	STEADY GREEN LEFT ARROW
GR	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
GV	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
RL	STEADY RED LEFT ARROW
RR	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALKING PERSON
Y	STEADY CIRCULAR YELLOW
YL	STEADY YELLOW LEFT ARROW

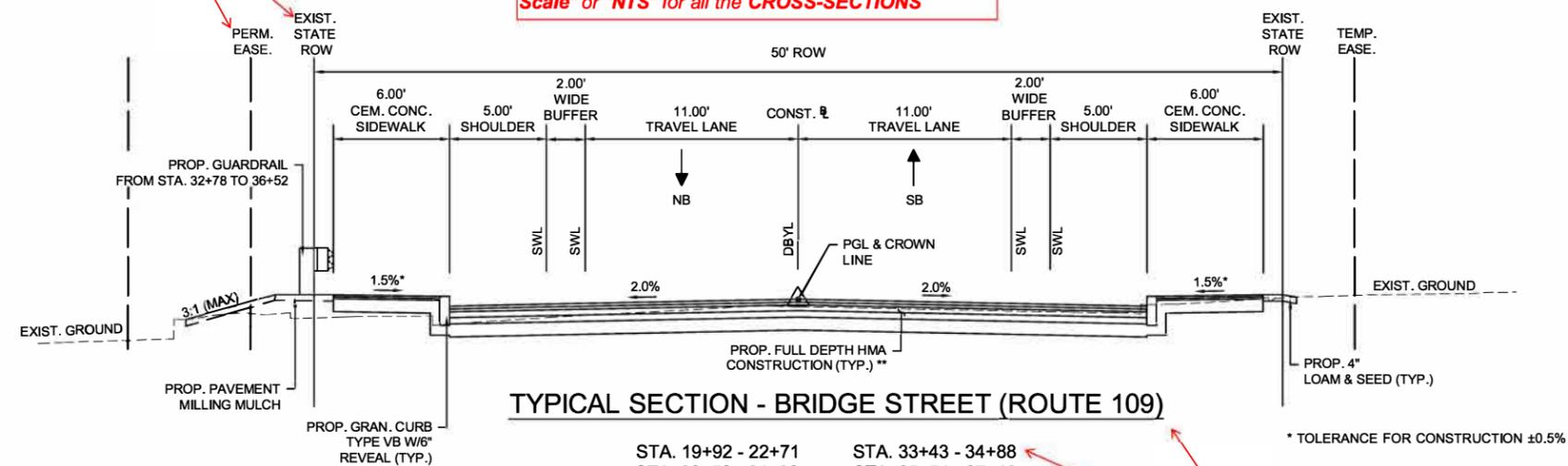
**TYPICAL SECTIONS** shall be provided to facilitate the understanding of the impacts to properties affected by the proposed work. Detail sections shall be provided as determined to be needed by the designer, or as requested by the ROW Bureau. In general, **TYPICAL SECTIONS** are copied or xref'd from **HIGHWAY PLANS**.

Approximate location of **BASELINES**, **EXISTING LAYOUT LINES**, **PROPOSED LAYOUT LINES** and **PROPOSED ROW PARCELS** (if applicable) must be shown and identified.

If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a **CRITICAL PROFILE** or **TYPICAL SECTIONS** are **NOT** required. A note should be added on the title sheet such as: **"THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS OR CRITICAL PROFILES ARE NEEDED NOR PROVIDED."**

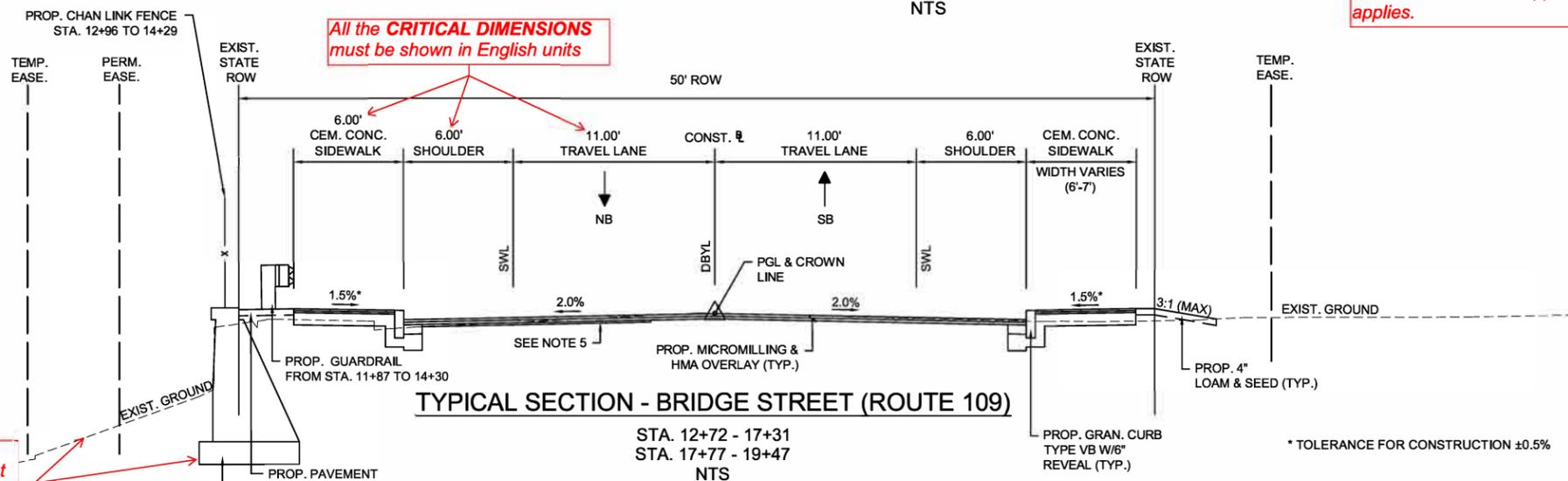


Provide a **SCALE** (in English units), or a note **"Not to Scale"** or **"NTS"** for all the **CROSS-SECTIONS**



Each **CROSS-SECTION** must be labeled with the **STREET NAME** and approximate **STA** where it applies.

All the **CRITICAL DIMENSIONS** must be shown in English units



All the **EXISTING** and **PROPOSED** conditions must be shown, identified and clearly differentiated

DEDHAM  
 AMES STREET & BRIDGE STREET (ROUTE 109)

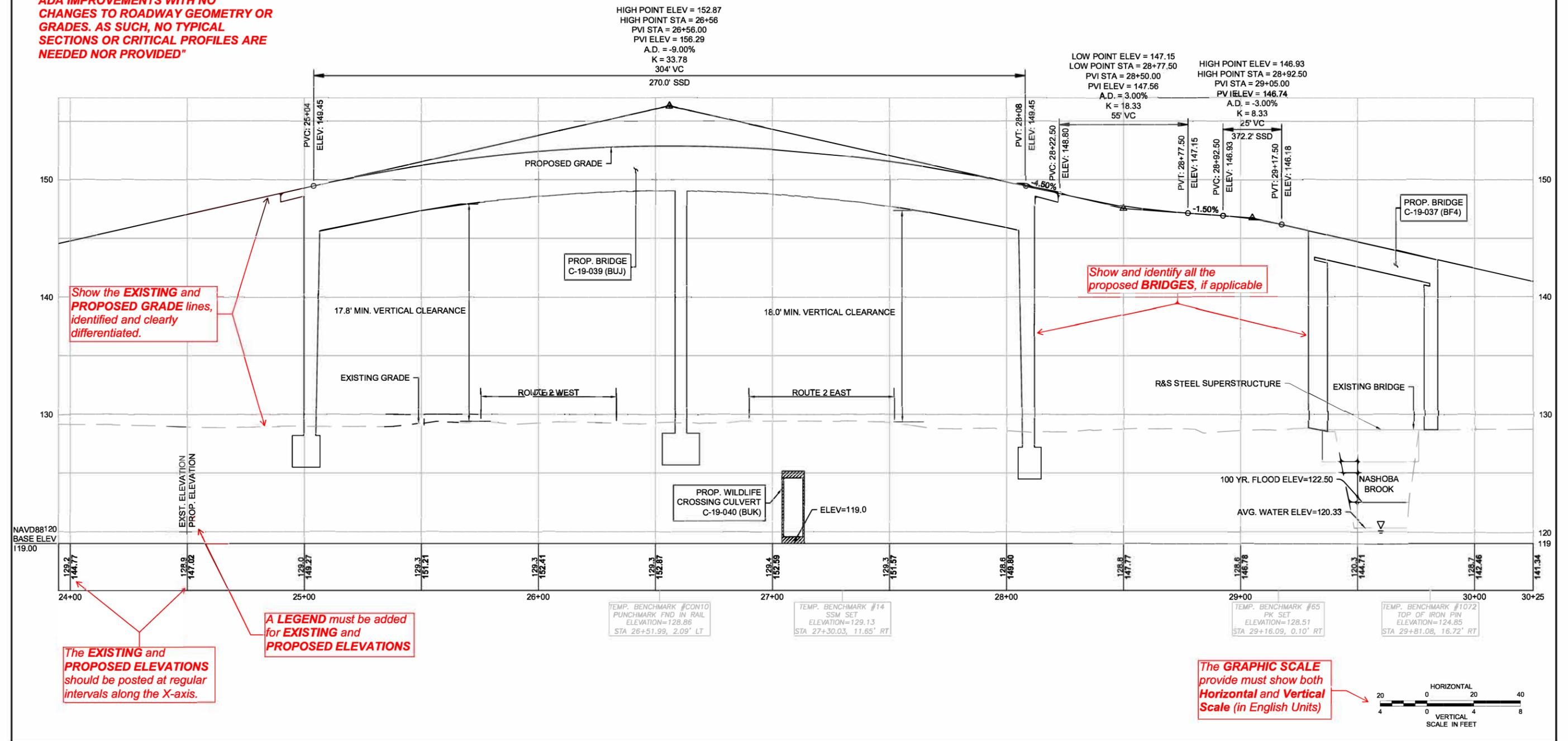
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		2	27

PROJECT FILE NO. 608587  
 PRELIMINARY RIGHT OF WAY  
 TYPICAL SECTIONS  
 SHEET 1 OF 3

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		4	15

If there are no significant changes in grade (such as a resurfacing project without widening) or if the project includes work at isolated intersections (such as a traffic signal or ADA ramps only project), then a CRITICAL PROFILE or TYPICAL SECTIONS are NOT required. A note should be added on the title sheet such as: "THIS PROJECT CONSISTS OF TRAFFIC SIGNAL AND ADA IMPROVEMENTS WITH NO CHANGES TO ROADWAY GEOMETRY OR GRADES. AS SUCH, NO TYPICAL SECTIONS OR CRITICAL PROFILES ARE NEEDED NOR PROVIDED"

Not ALL profile sheets from the CONSTRUCTION PLANS are required in the ROW Plans. Only those that show CRITICAL AREAS, such as BRIDGES, CULVERT CROSSINGS, or where there are SIGNIFICANT CHANGES IN GRADE. Most projects will only have 1 or 2 CRITICAL PROFILE sheets.



**Appendix B.5 – Parcel Summary Sheet**

**MUNICIPALITY  
ROUTE 123**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		10	24
PROJECT FILE NO.		123456	

**PRELIMINARY RIGHT OF WAY  
SHEET SET SUBSET NAME  
SHEET 1 OF 3**

(1)

PROJECT TOTALS			
AFFECTED PROPERTIES	FEE TAKINGS	PERMANENT EASEMENTS	TEMPORARY EASEMENTS
7	6	4	5

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

(11)

(12)

PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	TITLE REFERENCE				ROW PARCEL		PROPERTY TOTALS (S.F.)			FRONTAGE ON ROW PLAN (FT.)	PROPERTY ADDRESS	ZONING DISTRICT	REMARKS	LAND RESTRICTION FROM THE DEED
			DEED BOOK	DEED PAGE	LCC NO.	CERT NO.	INTEREST ACQUIRED	AREA (S.F. +/-)	TOTAL TAKEN	REMAINING	TOTAL PROPERTY AREA (RECORD)					
X-TE-1	10,11	Franklin Park Zoo	1234	567			TEMP	650				250	100 Main Street	C	Grading (MAX 3:1), Loam & Seed	ARTICLE 97
X-1	11,12	John Doe	4321	123			FEE	1,000	1,500	53,500	55,000 * (6)	209	102 Main Street	RB	Sidewalk, WCR, Traffic Control Equipment	
X-1-C	11,12	(13) John Doe	4321	123			FEE	500							Sidewalk	
X-TE-2	11,12	John Doe	4321	123			TEMP	300							Grading (MAX 3:1), Driveway Reconstruction	
X-E-1	12	John Thompson and Tom Thompson, Trustees of Thompson Realty Trust			12345	67890	PERM	700			44,590	220	149 Main Street	RA	Sidewalk	
X-E-1-C	12	John Thompson and Tom Thompson, Trustees of Thompson Realty Trust			12345	67890	PERM	300							Sidewalk	
X-TE-3	12	John Thompson and Tom Thompson, Trustees of Thompson Realty Trust			12345	67890	TEMP	2,500							(15) Grading (4:1), Haybale Installation	
X-2	13	Tom Thompson & Linda Thompson	2345	198			FEE	3,000	3,000	29,000	32,000	110	154 Main Street	RA	Bridge Components, Sidewalk	
X-D-1	13	Tom Thompson & Linda Thompson	2345	198			PERM	450							Catch Basin, 18" RCP	
X-TE-3	15	Tom Thompson & Linda Thompson	2345	198			TEMP	1,250							Grading (MAX 2:1), Loam & Seed	
X-2-C	12,13	ABC Realty, LLC	3219	456	(16)		FEE	1,250	1,250	248,750	250,000	350	204 Main Street	C	Sidewalk	
X-W-1-C	12,13	ABC Realty, LLC	3219	456			PERM	500							Reinforced Concrete Wall	
X-3	12,13	ABC Realty, LLC	3971	357			FEE	625	625	36,375	37,000	NO ACCESS (7)	232 Main Street	I	Bridge Components	
X-4	12,13	249 Main Street Realty Trust	7410	258			FEE	5,000	5,000	95,000	100,000	115	249 Main Street	I	Sidewalk, WCR	
X-TRT-1	12,13	249 Main Street Realty Trust	7410	258			TEMP	400							Building Removal, Grading (MAX 3:1)	

- (1) A **PROJECT TOTALS** table must be included on the first parcel summary page. It should show the **total number of affected properties across the project**, i.e. the total number of properties with unique owners or title references that contain ROW impacts. It should also include a **count** of all fee taking parcels, permanent easement parcels, and temporary easement parcels for the entire project. A separate table required for the proposed State Takings and Municipal Takings.
- (2) Use **MassDOT Standard Parcel Designations** only. See **MassDOT Plan Preparation Guidelines for Consultants Preparing Right-of-Way Plans**. Prefix "X" will be provided for parcels to be acquired by the **STATE**. For parcels that are to be acquired by a single **MUNICIPALITY**, no prefix is required. If multiple **MUNICIPALITIES** are acquiring parcels for one project, use the first letter of the **MUNICIPALITY** as a **PREFIX**, unless otherwise directed by the ROW Bureau.
- (3) The **TITLEHOLDER** information provided must match with the DEED Records. Name of the Trustees required only if the property is a **REGISTERED LAND (LLC No. and Cert No)**.
- (4) The **TITLE REFERENCE** information provided must match with the DEED Records. If no information found, leave the cell blank and change the TITLEHOLDER's name to **OWNER**

- UNKNOWN.**
- (5) Fill in the **INTEREST ACQUIRED** and **AREA** (in S.F. +/-) for each ROW parcel. Interest acquired should be either **FEE** (parcels taken on behalf of the state, city, or town for creation/alteration of a highway layout), **PERM** (for permanent easements), and **TEMP** (for temporary easements).
- (6) Fill out once for each property affected by **FEE TAKINGS** and/or **PERMANENT EASEMENTS**. Leave blank for properties affected only by **TEMPORARY EASEMENTS**. Area must be taken from the **DEED**. If no area is available on the deed or the record plan, the number from the assessors' database may be used. Include an asterisk (\*) next to the area and the following footnote shall be shown at the bottom of the parcel summary sheet on each sheet that has an asterisk: "Total area derived from assessed area on the property record card".
- (7) Fill out once for each property listed on Parcel Summary Table. **FRONTAGE** shown on the plans must match with the deed description. If property has no access to Public Layout, please put **"NO ACCESS"** for the property.
- (8) Fill out once for each property listed on Parcel Summary Table. **PROPERTY ADDRESS** provided must match with the information provided on the **PROPERTY PLAN**.

- (9) Fill out once for each property listed on Parcel Summary Table. Zoning information may be taken from the town zoning map, property record card, or assessors' GIS database.
- (10) Providing **SPECIFIC PURPOSES** is required for **ALL** parcels at each design submission for both **STATE** and **MUNICIPAL** (Community Compliance) projects.
- (11) Fill out once for each property (if applicable). All **LAND RESTRICTIONS** are described in the **DEED** or in **OTHER PUBLIC RECORDS**.
- (12) Hierarchy : List the **FEE TAKINGS** first (STATE, then CITY), **PERMANENT EASEMENTS** **alphabetically** second (for the STATE, then on behalf of the City), **TEMPORARY EASEMENTS** third.
- (13) Group together parcels with the same **TITLEHOLDER** and **TITLE REFERENCE**.
- (14) Provide a space (**BLANK ROW**) to separate all individual properties.
- (15) The **SLOPE RATIO** is required when the project design creates a slope within a proposed easement.
- (16) Provide the probate number if available.
- (17) For **COMBINED** State/Municipal (Community Compliance) projects, provide **separate Parcel Summaries for State Takings and Municipal Takings**.

(6)\* Total area derived from assessed area on the property record card

**Appendix B.6 – Parcel Summary Sheet (Two Municipalities)**

**MUNICIPALITY  
ROUTE 123**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	10	24
PROJECT FILE NO.		123456	

**PRELIMINARY RIGHT OF WAY  
SHEET SET SUBSET NAME  
SHEET 1 OF 3**

PROJECT TOTALS			
AFFECTED PROPERTIES	FEE TAKINGS	PERMANENT EASEMENTS	TEMPORARY EASEMENTS
5	4	2	5

**In the case of multiple municipalities, provide a separate SUMMARY TABLE for each municipality.**

**CITY OF BOSTON**

PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	TITLE REFERENCE				ROW PARCEL		PROPERTY TOTALS (S.F.)			FRONTAGE ON ROW PLAN (FT.)	PROPERTY ADDRESS	ZONING DISTRICT	REMARKS	LAND RESTRICTION FROM THE DEED
			DEED BOOK	DEED PAGE	LCC NO.	CERT NO.	INTEREST ACQUIRED	AREA (S.F. +/-)	TOTAL TAKEN	REMAINING	TOTAL PROPERTY AREA (RECORD)					
X-TE-1	10,11	Franklin Park Zoo	1234	567			TEMP	650				250	100 Main Street	C	Grading (MAX 3:1), Loam & Seed	ARTICLE 97
X-1	11,12	John Doe	4321	123			FEE	1,000	1,500	53,500	55,000 *	209	102 Main Street	RB	Sidewalk, WCR, Traffic Control Equipment	
X-1-C	11,12	John Doe	4321	123			FEE	500							Sidewalk	
X-TE-2	11,12	John Doe	4321	123			TEMP	300							Grading (MAX 3:1), Driveway Reconstruction	

\* Total area derived from assessed area on the property record card

**CITY OF QUINCY**

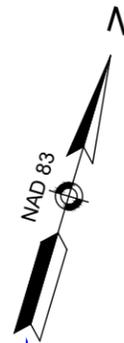
PARCEL NO.	PLAN SHEET NO.	TITLEHOLDER	TITLE REFERENCE				ROW PARCEL		PROPERTY TOTALS (S.F.)			FRONTAGE ON ROW PLAN (FT.)	PROPERTY ADDRESS	ZONING DISTRICT	REMARKS	LAND RESTRICTION FROM THE DEED
			DEED BOOK	DEED PAGE	LCC NO.	CERT NO.	INTEREST ACQUIRED	AREA (S.F. +/-)	TOTAL TAKEN	REMAINING	TOTAL PROPERTY AREA (RECORD)					
Y-TE-1	11,12	James Smith Park	3454	215			TEMP	750				149	120 Main Street	RES A	Grading (MAX 3:1), Loam & Seed	
Y-1	12	John Thompson	1789	123			FEE	1200	1,500	53,500	55,000	450	129 Main Street	RES B-1	WCR, Crosswalk, Traffic Control Equipment	
Y-1-C	12	John Thompson	1789	123			FEE	300							Sidewalk	
Y-TE-2	12,13	John Thompson	1789	123			TEMP	450							Grading (2:1), Driveway Reconstruction	
Y-E-1	13	ABC Inc.			78945	12345	PERM	750			44,590	339	140 Main Street	RES B-2	Sidewalk	
Y-D-1	13	ABC Inc.			78945	12345	PERM	250							18" RCP	
Y-TE-3	13	ABC Inc.			78945	12345	TEMP	1390							Grading (MAX 4:1), Haybale Installation	

**Appendix B.7 – Location Plan**

NORTHAMPTON  
DAMON ROAD

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	-	11	23
PROJECT FILE NO. 608236			

PRELIMINARY RIGHT OF WAY  
LOCATION PLANS  
SHEET 1 OF 2



Label all permanently impacted properties with a note indicating the **TITLEHOLDER** and **TOTAL PROPERTY AREA** (taken from deed)  
  
If no area is available on the deed or record plan, the number from the assessors' database may be used. Include an asterisk (\*) next to the area listed under the "TOTAL PROPERTY AREA (RECORD)" column on the parcel summary sheet for the respective property. See Appendix B.5 for example.

Roadway names identified as public or private

**NORTH KING STREET (PUBLIC)**

**PAN AM SOUTHERN RAILROAD**

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION  
BK/PG 11945/59  
TOTAL PROPERTY AREA 500,000 S.F.

INDUSTRIAL REALTY CORP.  
BK/PG 7745/268  
TOTAL PROPERTY AREA 23,912 S.F.

CITY OF NORTHAMPTON (CITY COUNCIL)  
BK/PG 596/375  
TOTAL PROPERTY AREA 4,598 S.F.

WILLIAM J. KILBRIDE  
BK/PG 7598/310  
TOTAL PROPERTY AREA 7,540 S.F.

Provide a **NORTH ARROW** on every sheet.

"PL" or "Z" symbol on abutter property lines as appropriate

Show the outline of property plan sheet with sheet subset #

The roadway baseline(s): construction and record BL, properly patterned based on type and CAD Standards.

This comment applies to State ROW only:  
• Note highlighted indicates the **END OF STATE** and **BEGINNING of MUNICIPALITY**  
• Prop. ROW Parcels highlighted show the difference between **STATE and MUNICIPALITY**. **STATE ROW Parcel identification must have a PREFIX Number**, a different Prefix number will be assigned for each project and town.

The roadway sidelines identified by year and layout number, properly patterned based on ownership and CAD Standards.

BEGIN PROJECT STA. 11+25.00  
MEET EXISTING N2950198.4854  
E348128.6754

END PROP. CITY ALT. NO. 8637 (SECTION 1)

END PROP. CITY ALT. (SECTION A)

END PROP. CITY ALT. NO. 8637 (SECTION 2)

BEGIN PROP. CITY ALT. (SECTION A)

END PROP. SHLO ALT. NO. 8637 (SECTION 2)

BEGIN PROP. CITY ALT. NO. 8637 (SECTION 2)

BEGIN PROP. SHLO ALT. NO. 8637 (SECTION 2)

ELLENDAVE, LLC BK/PG 7212/25  
TOTAL PROPERTY AREA 65,079 S.F.

BRIAN J. MCLAUGHLIN BK/PG 9403/64  
TOTAL PROPERTY AREA 31,581 S.F.

END PROP. S.H.L.O. ALT. NO. 8637 (SECTION 4)

BEGIN PROP. CITY ALT. NO. 8637 (SECTION 5)

LIMIT OF WORK STA. 211+30.00  
MEET EXISTING N2949725.9614  
E348803.6314

All properties impacted by a **FEE** or **PERMANENT EASEMENT** shall have their entire perimeter shown and dimensioned (+/- to the nearest foot)... The location plan will be to a scale practical to clearly show the property in its entirety without match lines.

NOTE: **FEE Taking Parcels** are split at limit of jurisdiction

For combined State/Municipal ROW:  
• Municipal Alterations being performed by the Municipality shall be labeled (Section A, Section B, etc.)  
• State/City Alterations being performed by the State shall be labeled (Section 1, Section 2, etc.)

BASE MAPPING AND PROPOSED DESIGN FEATURES SHOULD NOT BE SHOWN ON LOCATION PLAN.



All dimensions should be shown in English system. Bar scales should be provided. Location plan scale can be adjusted to fit contents on one page, with a maximum scale of 1" = 100'

**Appendix B.8 – Property Plan (Survey)**

**SURVEY - BASE - BLUE**  
**CONSTRUCTION HD - GREEN**  
**ROW COMMENTS - YELLOW**

Prior to submitting the ROW Plans, the consultant shall perform a **SITE VISIT** to confirm the survey base plan is **ACCURATE** based on the **ACTUAL IN-THE-FIELD-CONDITIONS**. Multiple site visits may be necessary depending on project duration, size and location

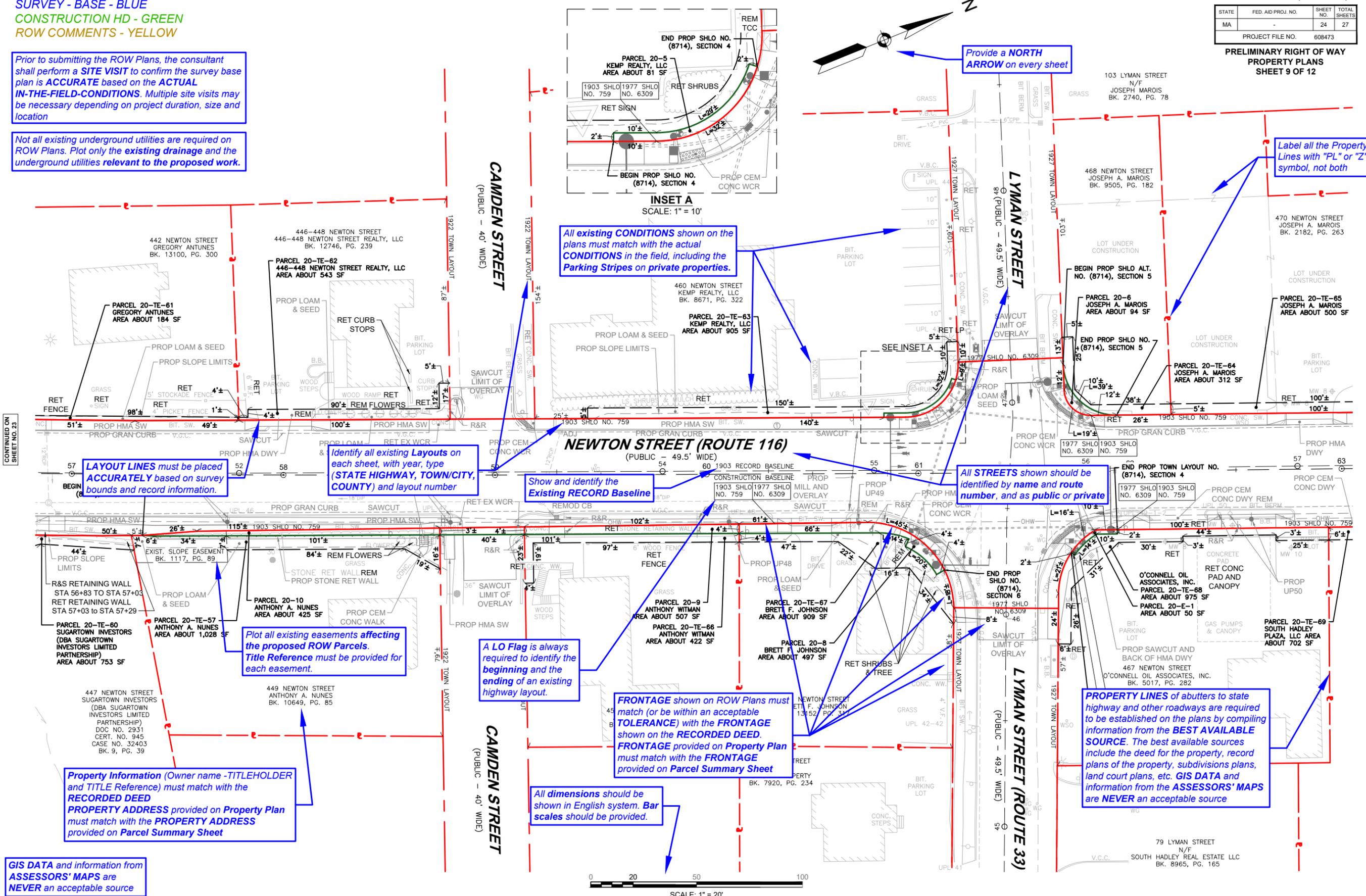
Not all existing underground utilities are required on ROW Plans. Plot only the **existing drainage** and the underground utilities **relevant to the proposed work**.

**SOUTH HADLEY  
 NEWTON STREET (ROUTE 116)**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		24	27

PROJECT FILE NO. 608473

**PRELIMINARY RIGHT OF WAY  
 PROPERTY PLANS  
 SHEET 9 OF 12**



All existing **CONDITIONS** shown on the plans must match with the actual **CONDITIONS** in the field, including the **Parking Stripes** on private properties.

Provide a **NORTH ARROW** on every sheet

Label all the Property Lines with "PL" or "Z" symbol, not both

**LAYOUT LINES** must be placed **ACCURATELY** based on survey bounds and record information.

Identify all existing **Layouts** on each sheet, with year, type (**STATE HIGHWAY, TOWN/CITY, COUNTY**) and layout number

Show and identify the **Existing RECORD Baseline**

All **STREETS** shown should be identified by name and route number, and as public or private

Plot all existing easements affecting the proposed ROW Parcels. **Title Reference** must be provided for each easement.

A **LO Flag** is always required to identify the beginning and the ending of an existing highway layout.

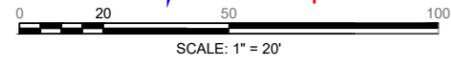
**FRONTAGE** shown on ROW Plans must match (or be within an acceptable **TOLERANCE**) with the **FRONTAGE** shown on the **RECORDED DEED**. **FRONTAGE** provided on Property Plan must match with the **FRONTAGE** provided on **Parcel Summary Sheet**

**PROPERTY LINES** of abutters to state highway and other roadways are required to be established on the plans by compiling information from the **BEST AVAILABLE SOURCE**. The best available sources include the deed for the property, record plans of the property, subdivisions plans, land court plans, etc. **GIS DATA** and information from the **ASSESSORS' MAPS** are **NEVER** an acceptable source

**Property Information** (Owner name -**TITLEHOLDER** and **TITLE Reference**) must match with the **RECORDED DEED**. **PROPERTY ADDRESS** provided on Property Plan must match with the **PROPERTY ADDRESS** provided on **Parcel Summary Sheet**

**GIS DATA** and information from **ASSESSORS' MAPS** are **NEVER** an acceptable source

All dimensions should be shown in **English system**. **Bar scales** should be provided.



CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25

# Appendix B.9 – Property Plan (Highway Design)

**SURVEY - BASE - BLUE**  
**CONSTRUCTION HD - GREEN**  
**ROW COMMENTS - YELLOW**

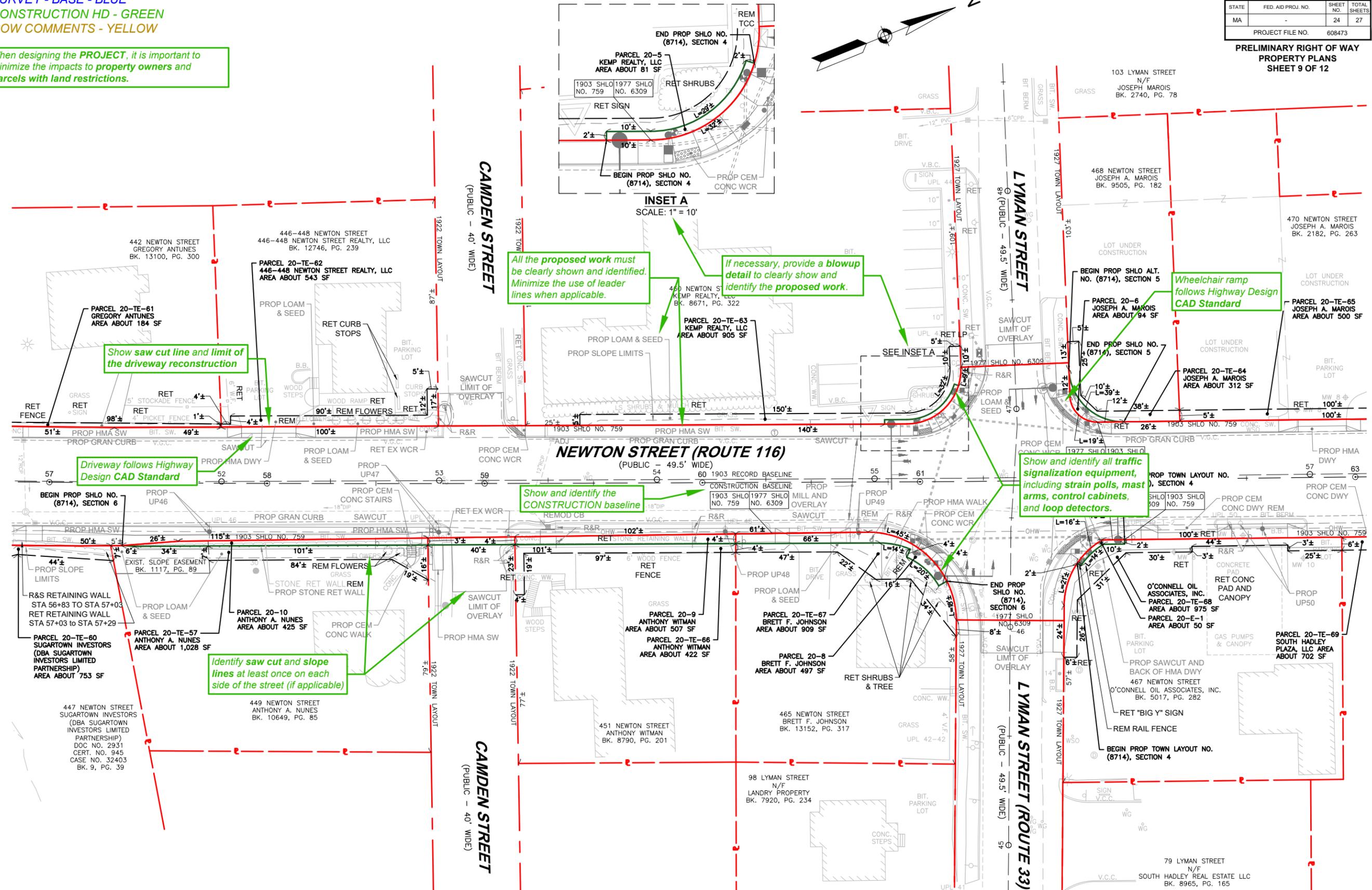
When designing the **PROJECT**, it is important to minimize the impacts to property owners and parcels with land restrictions.

SOUTH HADLEY NEWTON STREET (ROUTE 116)			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		24	27
PROJECT FILE NO. 608473			

**PRELIMINARY RIGHT OF WAY  
PROPERTY PLANS  
SHEET 9 OF 12**

CONTINUED ON  
SHEET NO. 23

CONTINUED ON  
SHEET NO. 25



All the proposed work must be clearly shown and identified. Minimize the use of leader lines when applicable.

If necessary, provide a blowup detail to clearly show and identify the proposed work.

Show saw cut line and limit of the driveway reconstruction

Driveway follows Highway Design CAD Standard

Show and identify the CONSTRUCTION baseline

Show and identify all traffic signalization equipment, including strain polls, mast arms, control cabinets, and loop detectors.

Identify saw cut and slope lines at least once on each side of the street (if applicable)

**INSET A**  
SCALE: 1" = 10'

END PROP SHLO NO. (8714), SECTION 4  
 PARCEL 20-5 KEMP REALTY, LLC AREA ABOUT 81 SF  
 1903 SHLO NO. 759  
 1977 SHLO NO. 6309  
 RET SHRUBS  
 RET SIGN  
 BEGIN PROP SHLO NO. (8714), SECTION 4  
 PROP CEM CONC WCR

Wheelchair ramp follows Highway Design CAD Standard

**LYMAN STREET (ROUTE 33)**  
(PUBLIC - 49.5' WIDE)

**CAMDEN STREET**  
(PUBLIC - 40' WIDE)

**NEWTON STREET (ROUTE 116)**  
(PUBLIC - 49.5' WIDE)

**CAMDEN STREET**  
(PUBLIC - 40' WIDE)

**Appendix B.10 – Property Plan (ROW Information)**

**SURVEY - BASE - BLUE**  
**CONSTRUCTION HD - GREEN**  
**ROW COMMENTS - YELLOW**

The geometry of the proposed takings and easements is mandated by the proposed work shown on the ROW plans. The line work of the taking or easement must encompass the required area for the construction activities. Proposed taking and easement size must be justified by the proposed work shown.

SOUTH HADLEY NEWTON STREET (ROUTE 116)			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		24	27
PROJECT FILE NO. 608473			

**PRELIMINARY RIGHT OF WAY  
PROPERTY PLANS  
SHEET 9 OF 12**

Identify and provide disposition for all private items and landscaping within the Right of Way acquisition limits, including private items trespassing in existing Layout.

Title package (deed description) must be reviewed to ensure that all existing EASEMENTS are properly shown. Existing SLOPE Easement covers the proposed work, no additional easement is required.

The perimeter of proposed Parcels should be dimensioned (+/-, to nearest linear foot), with tick marks at all changes in direction of the parcel lines.

Add Detail Blowups as needed to improve legibility

Provide dispositions for privately owned items immediately adjacent to proposed easements, takings, and encroachments.

All information provided on Property Plan must match with the information provided on Parcel Summary Sheet

All existing and proposed WCRs and Crosswalks must be inside existing or proposed public layouts

All existing and proposed traffic signalization equipments, including strain polls, mast arms, control cabinet, and loop detectors must be inside existing or proposed public layouts.

Trim TE parcels around GAS STATION CONCRETE PADS.

BEGIN or END the proposed SHLO Alteration at least 5 ft away from the approximate PL (Property Line). Beginning or Ending at the property line is only acceptable if the property has been recently surveyed by the SURVEYOR who will be producing the LAYOUT PLAN & INSTRUMENT.

Dispositions for publicly owned items, within the existing layout limits are not required on the ROW plans

All ROW Parcels should be labeled correctly. ROW Parcel identification text format: (Parcel number, titleholder, approximate area), post the identification text on every sheet which they appear.

Identify the beginnings and endings of all proposed layout alteration sections with notes, including the proposed layout number and sequential number. If prop. Alteration continues on multiple sheets, the alteration line must be identified at least once per sheet.

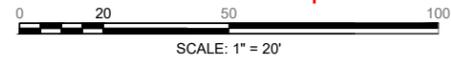
Provide E Parcels instead of fee takings on all REGISTERED LAND (land court) properties or on GAS STATIONS.

Disposition identification text for all privately owned signs must include the text displayed on the sign.

- Parcel numbers are never re-assigned. If a parcel is eliminated from the plans, that parcel number is discarded, and any subsequent new parcels created are given a new (never previously used) parcel number.
- If parcels are combined, they keep one of the original parcel numbers, and the others are discarded.
- If a parcel is divided, one portion keeps the original parcel number, while the others receive new (never previously used) parcel numbers.

CONTINUED ON SHEET NO. 23

CONTINUED ON SHEET NO. 25



# Appendix C.1 - Easement Area and Design Change Form

Titleholder information provided must match with information provided on Parcel Summary Sheet

All prop. Easements affected by the design change must be listed on the Right of Way Design Change Form

Fill out the Remarks and Change in S.F. columns for each easement listed on ROW Design Change Form

Fill in the column for all easements listed on ROW Design Change Form - Provide a detailed explanation to orient the Plan Reviewer

Property Owner	Easement	Original Area (S.F.)	New Area (S.F.)	Change in S.F.	Remarks	Reason for Change in parcel area
John Doe	17-TE-1	365	365	0	REVISED DISPOSITIONS	Clarified disposition of "No Entrance" sign to be R&R
Tom Thompson	17-TE-11	740	958	218	REVISED PARCEL & DISPOSITIONS	Limit of driveway reconstruction was increased. Changed disposition of landscaping to R&D.
249 Main Street Realty Trust	17-6	505	711	206	REVISED PARCEL	Revised Prop SHLO for widened roadway
	17-TE-7	1413	2072	659	REVISED PARCEL	Revised grading limits based on widened roadway
ABC Realty, LLC	17-2-T	21	0	-21	REMOVED PARCEL	Parcel changed from taking to easement
	17-E-1-T	0	21	21	ADDED PARCEL & REVISED DISPOSITIONS	Parcel changed from taking to easement. Revised disposition of landscaping to "remove" and trees to "protect"
James Smith	17-TE-9	2095	2095	0	REVISED DISPOSITIONS	Revised dispositions of stop signs from R&R(BO) to RET
	17-TE-15	549	549	0		Revised disposition of stop sign from R&R(BO) to R&D.
	17-PUE-1-C	76	76	0		Revised disposition of business sign from R&R(BO) to RET.
Robert Smith	17-TE-17	234	359	125	REVISED PARCEL & DISPOSITIONS	Revised dispositions of planter and sign from RET to R&R(BO)
ABC INC.	17-TE-12	2093	1062	-1031	REVISED PARCEL & DISPOSITIONS	Removed proposed curbing; revised disposition of trees from REM to R&D, individually noted trees to be R&D; denoted "Customer Parking Only" sign to be R&R (BO)
Original Area (S.F.) - From "Prelim. ROW Plans - Rev. 6 (Dated 7-11-2019) - Accepted (7-17-2019)"						
New Area (S.F.) - From "Prelim. ROW Plans - Rev. 7 (Dated 10-16-2019)"						

Original Area - All information provided must match with the information provided on Accepted Right of Way Plans  
 New Area - All information provided must reflect the design changes, and match with the revised Right of Way Plans

If the square footage remains the same, but the disposition of a privately owned item, within an easement area changes, it must be listed on the ROW Design Change Form.  
 The old disposition and new disposition should be clearly identified in the remarks column.

ACCEPTED RIGHT OF WAY PLANS - All new design changes (parcel locations/size, dispositions of existing items, minor changes to proposed work, etc) that have resulted in changes to the Accepted Right of Way Plans must be reported to Right of Way Engineering Section.  
 - Fill out the ROW DESIGN CHANGE FORM, and submit it together with the revised Right of Way Plans.



## State ROW QA/QC Form

Project File Number	City / Town	Street name / Route Number
---------------------	-------------	----------------------------

I am submitting the required documents for review to the MassDOT Highway Division ROW Engineering Section: (PE)

Phase	Revision (if applicable)
<input type="checkbox"/> Pre-25%	_____
<input type="checkbox"/> 25%	_____
<input type="checkbox"/> 25/75%	_____
<input type="checkbox"/> 75%	_____
<input type="checkbox"/> 75/100%	_____
<input type="checkbox"/> 100%	_____
<input type="checkbox"/> Other:	_____

### Project Personnel

I, \_\_\_\_\_, a Massachusetts Professional Engineer,  
(print name) (PE license no.)  
 employed by \_\_\_\_\_, am in direct charge and supervision of the design  
(company name)  
 plans, including the development and preparation of the right of way plans.

I, \_\_\_\_\_, a Massachusetts Professional Land Surveyor,  
(print name) (PLS license no.)  
 employed by \_\_\_\_\_, prequalified by the A&E Review Board in Category  
(company name)  
 "S3 – Layout Document Preparation", am in direct charge and supervision of assisting the designer in the development and preparation of the right of way plans.

The same S3-prequalified PLS participating in the development of the ROW plans will be involved in the preparation of the layout plan/instrument.

Project Schedule	Yes	No	N/A	If No, Explain
1. I am submitting the ROW plans in accordance with MassDOT's most recent design schedule template. If any deviations occur from the ROW portion of the design schedule template the changes have been approved by the ROW Engineering Administrator. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Review Comments (Not applicable for first submission)	Yes	No	N/A	If No, Explain
2. I have addressed all the review comments provided to me by the ROW Engineering Section. (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. I provided a written response to all comments in either Bluebeam or Adobe. I have provided a PDF version of the plan which include the response to comments (rather than only the summary table). (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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Title Sheet and Index	Yes	No	N/A	If No, Explain
4. I have included the base map notes and the content in each note has been updated for this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. I have included a revision box and have shown any updated new parcels, altered parcels and deleted parcels that differ from the previous submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.1** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Title Sheet and Index.

Legend, Abbreviation and Project Description	Yes	No	N/A	If No, Explain
6. I have included all symbols and abbreviations that have been used on the property plan sheet. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.2** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Legend, Abbreviations and Project Description.

Typical Cross-Sections	Yes	No	N/A	If No, Explain
7. I have included the typical cross-section sheet in the ROW plan set. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.3** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on Typical Cross-Sections.

Critical Profile	Yes	No	N/A	If No, Explain
8. I have included the critical profile sheet in the ROW plan set. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.4** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on Critical Profiles.

Parcel Summary Sheet	Yes	No	N/A	If No, Explain
9. I have provided a space (blank row) to separate all individual property owners, including the properties with the same titleholder but different title reference. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. I have grouped together properties with the same titleholder and title reference. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. I have provided a book and page number, per the registry of deeds, as a title reference for all recorded land. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. I have provided a LCC No. and Cert No., per the registry of deeds, as a title reference for all registered land. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. No "Owner Unknown" is shown on the ROW plans. (PLS) If this is not the case, please provide justification below as to why you were unable to provide a title reference:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. I have verified that the titleholder and title reference are shown as accurately as possible based on a diligent review of records at the registry of deeds, and the information on the parcel summary sheet matches the location plan and the property plan. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. I have verified that the "area" column matches the area provided on the property plan, and has been updated with this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. I have verified the frontage on the ROW plans is calculated as direct access to the public layout and the calculated frontage is consistent between the location plan and property plan for each property. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

17. I have verified that the “Frontage on ROW Plan” column matches or is within an acceptable tolerance to the frontage reported in the deed or record plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18. I have verified that the “remarks” column has been filled out and updated as the design progresses. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19. I have verified that the “land restriction” column has been filled out as accurately as possible based on a diligent review of records at the registry of deeds and other publicly available records. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. I have included the projects total table. The count of the affected properties, fee takings parcels, permanent easement parcels and temporary easement parcels are accurate and have been updated for this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. I have included a separate parcel summary sheet for State ROW and Municipal ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. I have included a separate project total table for State ROW and Municipal ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.5** and **Appendix B.6** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Parcel Summary Sheet.

<b>Location Plan</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
23. I have verified that all properties impacted by a fee taking or permanent easement have their entire perimeter shown and dimensioned, based on the deed or plan of record, at a scale that the entire property is shown clearly on one sheet. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. I have verified that the current titleholder’s name and total property area is shown as accurately as possible based on a diligent review of records at the registry of deeds and other record sources. This information matches with the same as shown on the parcel summary sheet. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.7** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Location Plan.

<b>Property Plan – Survey Baseplan</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
25. I have verified highway layout baselines, layout sidelines, and railroad sidelines. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. I have verified municipal layouts. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
27. I have verified that all public layouts are recorded. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. I have verified that all streets shown are identified by name, route number and as public or private. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. I have verified that abutter property lines are based on record deeds and plans. The frontage distances shown on the ROW plans match or are within an acceptable tolerance of the frontage reported in the deed description and/or other record information. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. No GIS property line data was incorporated into the submitted plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31. No property lines from Assessors Maps were incorporated into the submitted plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. I have verified current abutter ownership information per the registry of deeds and the up-to-date property owner information is listed on the parcel summary, location plan and property plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. I have reviewed and updated the ROW plans based on the title examination package, if available. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

34. I have verified that all existing conditions shown on the plans represent to the best of my knowledge, information and belief, the actual conditions in the field. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35. I have verified existing permanent easements based on a diligent review of records at the registry of deeds. Easements are shown with book and page info where applicable. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36. I have plotted all existing drainage in connection with private property and have plotted the direction of flow with arrows. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37. Private drainage is being tied into the state drainage system and I have coordinated with the District office that the tie-in is acceptable. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38. I have verified to the best of my knowledge, information and belief if impacts are being made to a property with land restrictions. (PLS) Please list all properties subject to a land restriction that we are impacting along with the type of restriction:  _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39. Based on a diligent review, I have verified any other elements in the survey baseplan that affects dispositions and land acquisitions. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40. I am submitting research materials required (if any- not previously submitted). (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.8** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (Survey).

<b>Property Plan – Highway Design</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
41. I have evaluated the highway design to minimize impacts to private property to the greatest extent feasible. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42. To the best of my knowledge, information, and belief, the proposed design does not impact parking permanently. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43. To the best of my knowledge, information, and belief, the proposed design does not impact parking temporarily. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44. To the best of my knowledge, information, and belief, the proposed design does not impact commercial signs. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45. To the best of my knowledge, information, and belief, the proposed design does not impact a current or former gas station, nor a site with subsurface hazardous materials. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46. To the best of my knowledge, information, and belief, the proposed design does not go through existing buildings, structures, septic systems, or leach fields. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47. To the best of my knowledge, information, and belief, the proposed design does not require the taking of a large amount or all of a subject’s property. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48. To the best of my knowledge, information, and belief, the proposed design does not temporarily or permanently eliminate access to and from property. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49. The proposed work is clearly plotted and labeled. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50. The proposed work on the ROW Plans matches the work shown on the construction plan. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51. The proposed design on the ROW plans represents the most up to date design. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.9** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (Highway Design).

<b>Property Plan – ROW Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
52. Based on a diligent review, the geometry of the proposed takings and easements has been determined by the proposed work shown on the ROW plans does not exceed the size or nature necessary for the project. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
53. The perimeter of proposed parcels is dimensioned (+/-, to the nearest foot), with crow's feet at all changes in direction of the parcel lines. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
54. E parcels (highway easements) have been provided in lieu of fee takings on registered land, railroad properties, or gas station properties. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55. The beginning or end of any proposed State/City/Town Highway Alteration is at least 5' away from an approximate property line. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56. All privately owned items including existing infrastructure, landscaping, and ground features, within a proposed easement have the appropriate disposition on the ROW plans and Construction Plans in accordance with the MassDOT ROW Disposition Guidelines for Privately Owned Items. The Disposition Guidelines can be found in <b>Appendix A.2</b> in the Plan Preparation Guidelines for Consultants Preparing ROW Plans. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57. All privately owned items encroaching in the layout have the appropriate disposition on the ROW plans and Construction Plans in accordance with the MassDOT ROW Disposition Guidelines for Privately Owned Items. The Disposition Guidelines can be found in <b>Appendix A.2</b> in the Plan Preparation Guidelines for Consultants Preparing ROW Plans. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58. All privately owned items encroaching in the layout, not being impacted by the proposed design, have been coordinated with the respective District office on to determine if the encroachment has been previously permitted or if it will be allowed to remain as an encroachment. This correspondence has been archived by the designer and sent to the ROW Bureau. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. Utility relocations have been coordinated with the DUCE and Utility Company. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. Parcel numbers have not been reassigned. If a parcel is eliminated from the plans, that parcel number has been discarded, and any subsequent new parcels created have been given a new (never previously used) parcel number. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.10** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (ROW Information).

<b>CAD and CAD Standard</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
61. I am submitting a compressed folder or sharing link containing all the ROW AutoCAD files to the ROW Engineering Section to accompany this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. The submitted plan was prepared in accordance with the current MassDOT CAD Standard. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
63. The submitted plan was prepared in accordance with the current Plan Preparation Guidelines for Consultants preparing ROW Plans. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. All files required for plotting of the plans are included in the package. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. Any unused XREFs have been detached from the drawings. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66. I have created inset blowups as needed to improve readability. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

67. I have minimized overlapping text to the greatest extent feasible. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. I understand these plans are to be used by non-engineers and the plans are presented in a way that those who do not have developed plan reading skills can understand what is proposed adjacent to the existing public ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix D.1** and **Appendix D.2** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the CAD Standard.

<b>Accepted ROW Plans</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
69. I understand the geometry, parcel configuration and proposed parcel area needs to be consistent between the taking documents and accepted ROW Plans. (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. I understand that it is critical that the design adjacent to the existing ROW is locked down at the time the ROW plans are accepted. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
71. I understand that review comments after the ROW plans have been accepted should not change the ROW plans, including comments from DUCE, Complete Streets and Landscape. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. I understand if there is a design changes that has been deemed unavoidable the ROW Engineering Administrator and ROW Engineering Supervisor should be notified immediately. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. I understand if the ROW Plans need to be reaccepted delays in the acquisition process is expected and the project's advertisement date will be jeopardized. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please use the space below to elaborate on any answer that did not fit in the boxes on prior pages. Include the number of the question in your response.

## Municipal ROW QA/QC Form

Project File Number	City/Town	Street name / Route Number
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I am submitting the required documents for review to the MassDOT Highway Division ROW Community Compliance Section: (PE)

Phase	Revision (if applicable)
<input type="checkbox"/> Pre-25%	_____
<input type="checkbox"/> 25%	_____
<input type="checkbox"/> 25/75%	_____
<input type="checkbox"/> 75%	_____
<input type="checkbox"/> 75/100%	_____
<input type="checkbox"/> 100%	_____
<input type="checkbox"/> Other: _____	

### Project Personnel

I, \_\_\_\_\_, \_\_\_\_\_, a Massachusetts Professional Engineer,  
(print name) (PE license no.)  
 employed by \_\_\_\_\_, am in direct charge and supervision of the design  
(company name)  
 plans, including the development and preparation of the right of way plans.

I, \_\_\_\_\_, \_\_\_\_\_, a Massachusetts Professional Land Surveyor,  
(print name) (PLS license no.)  
 employed by \_\_\_\_\_, prequalified by the A&E Review Board in Category  
(company name)  
 "S3 – Layout Document Preparation", am in direct charge and supervision of assisting the designer in the development and preparation of the right of way plans.

Project Schedule	Yes	No	N/A	If No, Explain
1. I am submitting the ROW plans in accordance with MassDOT's most recent design schedule template. If any deviations occur from the ROW portion of the design schedule template the changes have been approved by the ROW Federal Aid Administrator. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Review Comments (Not applicable for first submission)	Yes	No	N/A	If No, Explain
2. I have addressed all the review comments provided to me by the ROW Community Compliance engineering section. (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. I provided a written response to all comments in either Bluebeam or Adobe. I have provided a PDF version of the plan which include the response to comments (rather than only the summary table). (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

<b>Title Sheet and Index</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
4. The 250 CMR 6.01 and 6.02 note is written, dated, signed, and stamped by the Massachusetts PLS in charge. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. I have included the base map notes and the content in each note has been updated for this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. I have included a revision box and have shown any updated new parcels, altered parcels and deleted parcels that differ from the previous submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.1** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Title Sheet and Index.

<b>Legend, Abbreviation and Project Description</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
7. I have included all symbols and abbreviations that have been used on the property plan sheet. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.2** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Legend, Abbreviations and Project Description.

<b>Typical Cross-Sections</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
8. I have included the typical cross-section sheet in the ROW plan set. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.3** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on Typical Cross-Sections.

<b>Critical Profile</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
9. I have included the critical profile sheet in the ROW plan set. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.4** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on Critical Profiles.

<b>Parcel Summary Sheet</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
10. I have provided a space (blank row) to separate all individual property owners, including the properties with the same titleholder but different title reference. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. I have grouped together properties with the same titleholder and title reference. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. I have provided a book and page number, per the registry of deeds, as a title reference for all recorded land. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. I have provided a LCC No. and Cert No., per the registry of deeds, as a title reference for all registered land. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. No "Owner Unknown" is shown on the ROW plans. (PLS) If this is not the case, please provide justification below as to why you were unable to provide a title reference:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. I have verified that the titleholder and title reference are shown as accurately as possible based on a diligent review of records at the registry of deeds, and the information on the parcel summary sheet matches the location plan and the property plan. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. I have verified that the "area" column matches the area provided on the property plan, and has been updated with this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. I have verified the frontage on the ROW plans is calculated as direct access to the public layout and the calculated frontage is consistent between the location plan and property plan for each property. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

18. I have verified that the “Frontage on ROW Plan” column matches or is within an acceptable tolerance to the frontage reported in the deed or record plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19. I have verified that the “remarks” column has been filled out and updated as the design progresses. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. I have verified that the “land restriction” column has been filled out as accurately as possible based on a diligent review of records at the registry of deeds and other publicly available records. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. I have included the projects total table. The count of the affected properties, fee takings parcels, permanent easement parcels and temporary easement parcels are accurate and have been updated for this submission. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. I have included a separate parcel summary sheet for State ROW and Municipal ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. I have included a separate project total table for State ROW and Municipal ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.5** and **Appendix B.6** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Parcel Summary Sheet.

<b>Location Plan</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
24. I have verified that all properties impacted by a fee taking or permanent easement have their entire perimeter shown and dimensioned, based on the deed or plan of record, at a scale that the entire property is shown clearly on one sheet. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
25. I have verified that the current titleholder’s name and total property area is shown as accurately as possible based on a diligent review of records at the registry of deeds and other record sources. This information matches with the same as shown on the parcel summary sheet. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
26. I have verified that the proposed fee takings and permanent easements are all shown accurately and to scale. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.7** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Location Plan.

<b>Property Plan – Survey Baseplan</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
27. Highway layout baselines, layout lines, and railroad sidelines have been verified and shown in accordance with 250 CMR 6.01 (Elements Common to All Survey Work) and 250 CMR 6.02 (Survey Work Affecting Property Rights). (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
28. Municipal layouts have been verified and shown in accordance with 250 CMR 6.01 (Elements Common to All Survey Work) and 250 CMR 6.02 (Survey Work Affecting Property Rights). (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29. I have verified that all public layouts are recorded. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30. I have verified that all streets shown are identified by name, route number and as public or private. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31. I have verified that abutter property lines are based on record deeds and plans. The frontage distances shown on the ROW plans match or are within an acceptable tolerance of the frontage reported in the deed description and/or other record information. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32. No GIS property line data was incorporated into the submitted plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
33. No property lines from Assessors Maps were incorporated into the submitted plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

34. I have verified current abutter ownership information per the registry of deeds and the up-to-date property owner information is listed on the parcel summary, location plan and property plan. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35. I have reviewed and updated the ROW plans based on the title examination package, if available. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36. I have verified that all existing conditions shown on the plans represent to the best of my knowledge, information and belief, the actual conditions in the field. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37. I have verified existing permanent easements based on a diligent review of records at the registry of deeds. Easements are shown with book and page info where applicable. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
38. I have plotted all existing drainage in connection with private property, and plotted the direction of flow with arrows. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39. Private drainage is being tied into the state drainage system and I have coordinated with the District office that the tie-in is acceptable. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
40. I have verified to the best of my knowledge, information and belief if impacts are being made to a property with land restrictions. (PLS) Please list all properties subject to a land restriction that we are impacting along with the type of restriction:  _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
41. Based on a diligent review, I have verified any other elements in the survey baseplan that affects dispositions and land acquisitions. (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42. I am submitting research materials required (if any not previously submitted). (PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.8** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (Survey).

<b>Property Plan – Highway Design</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
43. I have evaluated the highway design to minimize impacts to private property to the greatest extent feasible. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44. To the best of my knowledge, information, and belief, the proposed design does not impact parking permanently. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45. To the best of my knowledge, information, and belief, the proposed design does not impact parking temporarily. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46. To the best of my knowledge, information, and belief, the proposed design does not impact commercial signs. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47. To the best of my knowledge, information, and belief, the proposed design does not impact a current or former gas station, nor a site with subsurface hazardous materials. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
48. To the best of my knowledge, information, and belief, the proposed design does not go through existing buildings, structures, septic systems, or leach fields. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
49. To the best of my knowledge, information, and belief, the proposed design does not require the taking of a large amount or all of a subject's property. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
50. To the best of my knowledge, information, and belief, the proposed design does not temporarily or permanently eliminate access to and from property. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
51. The proposed work is clearly plotted and labeled. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
52. The proposed work on the ROW Plans matches the work shown on the construction plan. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

53. The proposed design on the ROW plans represents the most up to date design. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
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Please refer to **Appendix B.9** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (Highway Design).

<b>Property Plan – ROW Information</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
54. Based on a diligent review, the geometry of the proposed takings and easements has been determined by the proposed work shown on the ROW plans does not exceed the size or nature necessary for the project. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
55. The perimeter of proposed parcels is dimensioned (+/-, to the nearest foot), with crow's feet at all changes in direction of the parcel lines. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
56. E parcels (highway easements) have been provided in lieu of fee takings on registered land, railroad properties, or gas station properties. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
57. The beginning or end of any proposed State/City/Town Alteration is at least 5' away from an approximate property line. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
58. All privately owned items including existing infrastructure, landscaping, and ground features, within a proposed easement have the appropriate disposition on the ROW plans and Construction Plans in accordance with the MassDOT ROW Disposition Guidelines for Privately Owned Items. The Disposition Guidelines can be found in <b>Appendix A.2</b> in the Plan Preparation Guidelines for Consultants Preparing ROW Plans. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
59. All privately owned items encroaching in the layout have the appropriate disposition on the ROW plans and Construction Plans in accordance with the MassDOT ROW Disposition Guidelines for Privately Owned Items. The Disposition Guidelines can be found in <b>Appendix A.2</b> in the Plan Preparation Guidelines for Consultants Preparing ROW Plans. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
60. All privately owned items encroaching in the layout, not being impacted by the proposed design, have been coordinated with the appropriate municipal official to determine if the encroachment has been previously permitted or if it will be allowed to remain as an encroachment. This correspondence has been archived by the designer and sent to the ROW Bureau. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
61. Utility relocations have been coordinated with the DUCE and Utility Company. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
62. Parcel numbers have not been reassigned. If a parcel is eliminated from the plans, that parcel number has been discarded, and any subsequent new parcels created have been given a new (never previously used) parcel number. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix B.10** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the Property Plan (ROW Information).

<b>CAD and CAD Standard</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
63. I am submitting a compressed folder containing all the ROW AutoCAD files to the ROW Engineering Section to accompany this submission. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
64. The submitted plan was prepared in accordance with the current MassDOT CAD Standard. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
65. The submitted plan was prepared in accordance with the current Plan Preparation Guidelines for Consultants preparing ROW Plans. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
66. All files required for plotting of the plans are included in the package. (□ PE or □ PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

67. Any unused XREFs have been detached from the drawings. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
68. I have created inset blowups as needed to improve readability. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
69. I have minimized overlapping text to the greatest extent feasible. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
70. I understand these plans are to be used by non-engineers and the plans are presented in a way that those who do not have developed plan reading skills can understand what is proposed adjacent to the existing public ROW. ( <input type="checkbox"/> PE or <input type="checkbox"/> PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please refer to **Appendix D.1** and **Appendix D.2** in the Plan Preparation Guidelines for Consultants Preparing ROW Plans for additional information on the CAD Standard.

<b>Approved ROW Plans</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>	<b>If No, Explain</b>
71. I understand the geometry, parcel configuration and proposed parcel area needs to be consistent between the taking documents and accepted ROW Plans. (PE and PLS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
72. I understand that it is critical that the design adjacent to the existing ROW is locked down at the time the ROW plans are accepted. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
73. I understand that review comments after the ROW plans have been accepted should not change the ROW plans, including comments from DUCE, Complete Streets and Landscape. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
74. I understand if there is a design changes that has been deemed unavoidable, the ROW Federal Aid Administrator and ROW Agent (also known as Community Compliance Officer) should be notified immediately. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
75. I understand if the ROW Plans need to be reaccepted delays in the acquisition process is expected and the project's advertisement date will be jeopardized. (PE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Please use the space below to elaborate on any answer that did not fit in the boxes on prior pages. Include the number of the question in your response.

# Appendix D.1 – CAD Standard (Layers, Text styles, and Label styles)

SOUTH HADLEY NEWTON STREET (ROUTE 116)			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA		24	27
PROJECT FILE NO.		608473	

PRELIMINARY RIGHT OF WAY  
PROPERTY PLANS  
SHEET 9 OF 12

Using **MADOT-R.stb**, plan elements should plot with the following color scheme:

- Survey plan information
  - Layout lines and property lines: Thick red
  - Layout text, property owner text, easement lines/text, street names: Thin black
  - All other elements: Light gray
- Proposed work: Dark gray
  - Layout alteration lines: Thick green
  - All other elements: Thick black

See examples below. This should happen automatically if the correct layers are used.

**Existing Layout Lines, and Property Lines**  
Plot style: **ROW 100% C**  
Using this new plot style in **MADOT-R.stb**, these elements should plot **THICK RED**.

**Layout Alteration Lines**  
Plot style: **ROW 200% C**  
Using this new plot style in **MADOT-R.stb**, these elements should plot **THICK GREEN**.

Insets may be created as necessary to improve readability.

- Insets should use the same paper space text size as other plan elements.
- Insets should use an engineering scale.
- Annotations displayed in the inset may be removed from the plan to reduce clutter.
- The extents of each inset should be clearly shown on the plan.
- The proposed work should be plotted on the inset.

**Layout Alteration Callouts**  
Layer: **PR-LO-TEXT**  
Text: **DOT-LO, 0.125"**  
Arrowhead: Closed filled, 0.10"

**Layout Change Flags**  
Layer: **EX-LO-TEXT**  
Text: **DOT-E, 0.100"**  
Flag drawn with polylines

**Parcel Boundary Polyines**  
Use layer **PR-RW-AREACALC-PERM** for fee takings and permanent easements  
Use layer **PR-RW-AREACALC-TEMP** for temporary easements  
The parcel boundaries are used for attaching the parcel dimension labels and for calculating the parcel area. Both layers are no-plot layers.

**Street Names**  
Layer: **GE-TEXT**  
Text: **DOT-STREET, 0.25"**

**Parcel Callouts**  
Layer: **PR-RW-TEXT**  
Text: **DOT-LO, 0.125"**  
Arrowhead: Dot small, 0.20"

Drag text and dimensions as needed for legibility.

**Dispositions INSIDE ROW Parcels, and PRIVATELY OWNED Items In Trespass**  
Move these MText or multiline objects to the layer **PR-RW-TEXT-DISP**. They should plot black.

Overhead wires should have the text "OHW"

All symbols used in the basemaps must be MassDOT standard symbols. These can be found in the Symbols folder in the CAD standards download package, and should match the symbols shown on the Legend sheet.  
  
If there is no standard symbol for a feature, a text callout should be used to avoid confusion.

**Frontage Dimensions**  
Add these dimensions in locations where ROW parcel dimensions are insufficient to calculate property frontage.  
Line label style: **MassDOT\_LO\_EX\_D\_PLUS-MINUS**  
Curve label style: **MassDOT\_LO\_EX\_L\_PLUS-MINUS**  
(These styles plot with THIN 0.10" DOT-LO text)  
Include crow's feet. (See note below)

**Proposed Work Text, and Dispositions For PUBLICLY OWNED Items**  
Keep same layer as the construction plans, e.g. **PR-HD-TEXT**. They should plot dark gray.

**Parcel Dimensions**  
Add these dimensions to the entire perimeter of all taking or easement parcels.  
Line label style: **MassDOT\_LO\_PR\_D\_PLUS-MINUS**  
Curve label style: **MassDOT\_LO\_PR\_L\_PLUS-MINUS**  
(These styles plot with THICK 0.125" DOT-LO text)  
Include crow's feet. (See note below left)

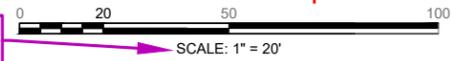
**Crow's Feet Note**  
Crow's feet should be added at the beginning and end of all dimension measurements.  
Regular crow's feet (0.10"):  

- Line label style: **MassDOT\_LO\_Crows Feet**
- Curve label style: **MassDOT\_LO\_PR\_Crows Feet**

 Half-sized crow's feet (0.05", shown in drawing) may be used instead to improve readability  

- Line label style: **MassDOT\_LO\_Crows\_Feet\_Small**
- Curve label style: **MassDOT\_LO\_EX\_Crows\_Feet\_Small**

Property plans are drawn to a scale of **1" = 20'**



CONTINUED ON  
SHEET NO. 23

CONTINUED ON  
SHEET NO. 25

# Appendix D.2 – CAD Standard (Layer and Plot Style Guidelines)

<p>EXISTING SIDELINE LINEWORK AND TEXT TEXT LAYER = EX-LO-TEXT TEXT STYLE = DOT-LO</p>	<p>COUNTY LAYOUT SIDELINE = EX-LO-CT </p> <p>RAILROAD LAYOUT SIDELINE = EX-LO-RR </p> <p>STATE HIGHWAY LAYOUT SIDELINE = EX-LO-SHLO-1945-LO-3345 </p>
<p>PROPOSED SIDELINE LINEWORK AND TEXT TEXT LAYER = PR-LO-TEXT TEXT STYLE = DOT-LO</p>	<p>TOWN/CITY LAYOUT SIDELINE = EX-LO-TN </p> <hr/> <p>COUNTY LAYOUT SIDELINE = PR-LO-CT </p> <p>RAILROAD LAYOUT SIDELINE = PR-LO-SHALT </p> <p>STATE HIGHWAY LO SIDELINE = PR-LO-SHALT </p> <p>TOWN/CITY LAYOUT SIDELINE = PR-LO-TN </p>
<p>PROPOSED EASEMENT LINEWORK AND TEXT TEXT LAYER = PR-RW-TEXT TEXT STYLE = DOT-LO</p>	<p>PERM EASEMENT LINE = PR-RW-PERMEASE-ST (OR TN/CT) </p> <p>TEMP. EASEMENT LINE = PR-RW-TEMPEASE </p>
<p>SURVEY LINEWORK AND TEXT TEXT LAYER = EX-SV-LN-TEXT TEXT STYLE = DOT-LO</p>	<p>EXISTING EASEMENT LINE = EX-SV-LN-EASE </p> <p>ABUTTER PROPERTY LINE = EX-SV-LN-PROP </p> <p>ABUTTER COMMON PROPERTY LINE Z = EX-SV-LN-PROP-COMMON </p> <p>STATE LINE (MA-NH BORDER) = EX-SV-LN-STATE </p> <p>TOWN/CITY LINE (REVERE/SAUGUS BORDER) = EX-SV-LN-TN </p>
<p>EXISTING CONDITIONS LINEWORK AND TEXT TEXT LAYER = EX-SV-TEXT TEXT STYLE = DOT-E</p>	<p>VGC = EX-SV-CURB-BOT / EX-SV-CURB-TOP </p> <p>CONC. WALK = EX-SV-EOC </p> <p>EOP = EX-SV-EOP </p> <p>CHAIN LINK FENCE = EX-SV-FNCE-CLF </p> <p>GUARDRAIL = EX-SV-GRDL-STBM </p>
<p>PROPOSED LINEWORK AND TEXT TEXT STYLE = DOT-P</p>	<p>PROP. CURB = PR-HD-CURB-BOT / PR-HD-CURB-TOP </p> <p>PROP. CEM CONC. WALK = PR-HD-WALK </p> <p>PROP. HMA = PR-HD-EPAV </p> <p>SAWCUT = PR-HD-SAWCUT </p> <p>BOS / TOS = PR-HD-LIMIT-GRAD </p>

This is to be as an example of the hierarchy of linework that the ROW Staff is trained to recognize

## Appendix D.3 – Instructions for Updating CAD Layer Styles

To update layer styles in an existing drawing to the new styles that include color layout and property lines, follow the steps below.

1. Download the [latest CAD standards package](#) from the mass.gov website. Completely install all relevant files to your AutoCAD directory.

This should upgrade your plot style file to the latest version. To upgrade only the plot style file, follow the steps below:

- a. Find the file **\Common\Support\Plot Styles\MADOT-R.stb** in the CAD standards download package.
  - b. Open the default Plot Styles directory (AutoCAD command **STYLESMANAGER.**) Replace the copy of MADOT-R.stb in that folder with the copy of MADOT-R.stb from the CAD standards download package.
2. Download the zipped folder located here to your computer: <https://www.mass.gov/media/2665026/download>. Extract the .lsp file from the zipped folder. AutoLISP files (.lsp files) contain groups of commands that can be executed within AutoCAD, which is also known as a macro.
  3. Execute the AutoLISP file by taking the file and dragging it onto the paperspace or modelspace of the property plans. You may see a security warning. Click on “Load Once”.
  4. Perform a plot preview to make sure the new color styles are displaying as intended. Save the file.
  5. Repeat for the location plans drawing. You should not need to make any changes to any other drawing files or any external references, unless the XREFs are detached and reattached.

In lieu of using the AutoLISP file described in steps 2–5, you may copy and paste the macro manually. Copy the commands given below and paste them directly into the command bar in AutoCAD. Make sure to press ENTER after to ensure the final line gets executed.

```
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-LO-SHLO*" "")
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-LO-CT*" "")
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-LO-RR*" "")
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-LO-TN*" "")
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-LO-TP*" "")
(command "_.-LAYER" "ps" "ROW 100%C" "*EX-SV-LN-PROP" "")
(command "_.-LAYER" "ps" "ROW 200%C" "*PR-LO-SHALT" "")
(command "_.-LAYER" "ps" "ROW 200%C" "*PR-LO-CT" "")
(command "_.-LAYER" "ps" "ROW 200%C" "*PR-LO-RR" "")
(command "_.-LAYER" "ps" "ROW 200%C" "*PR-LO-TN" "")
```