Air Quality and Noise Evaluation
for
State Route 18 Improvements Madison and Hardeman Counties, Tennessee

Submitted to:

TDOT Go.

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1.0 INTRODUCTION

This report documents the results of an analysis of the air quality and noise impacts of improving State Route 18 from State Route 100 in Hardeman County to State Route 5 (US 45) in Madison County. The project area is shown in Figure 1.

The project includes six Build Alternatives and the No-Build Alternative. The locations of the Build Alternatives are shown in Figure 2 and discussed in the following section.

The proposed typical section for all rural segments consists of a four-lane divided roadway with four 12-foot lanes separated by a 48-foot depressed median and two 12-foot shoulders within a 250-foot right-of-way (ROW).

The proposed typical section for all urban segments consists of four 12-foot lanes, a 12-foot center left-turn lane, and two 12-foot outside shoulders including curb and gutter within a 104-foot ROW.

2.0 BUILD ALTERNATIVES

As shown in Figure 2, each build alternative consists of a combination of roadway "segments." The project includes 11 segments with 4 segments involving the widening of existing SR 18 (Segments A-1, A-2, A-3, and A-4) and seven segments on new alignment.

All six Build alternatives include Segment A-1, which is the widening existing SR 18 from two lanes to four lanes from SR 100 to near Dacus Road.

Each alternative includes different combinations of segments north of Segment A-1. Some segments are included in two or more alternatives, and some segments are included in only one alternative.

2.1 Alternative 1

Alternative 1 involves widening existing SR 18 from two-lanes to four lanes from SR 100 to SR 5 (Segments A-1, A-2, A-3, and A-4). Alternative 1 would go through the Cities of Medon and Malesus.

The northern terminus of Alternative 1 would be the existing intersection of SR 18 and SR 5 (US 45), where a new interchange would be constructed to alleviate existing and projected traffic congestion.

2.2 Alternative 2

Alternative 2 would consist of a four-lane highway on a new alignment (Segments B-1, B-2, B-3, and B-4) north of Segment A-1 running somewhat parallel and east of existing SR 18. Alternative 2 would bypass the Cities of Medon and Malesus, including many residences and businesses.

The northern terminus of Alternative 2 would occur at SR 5, approximately one mile southeast of the existing intersection of SR 18 and SR 5. This location would provide for adequate space for an interchange and would likely remove some traffic from the more highly congested area near existing SR 18.

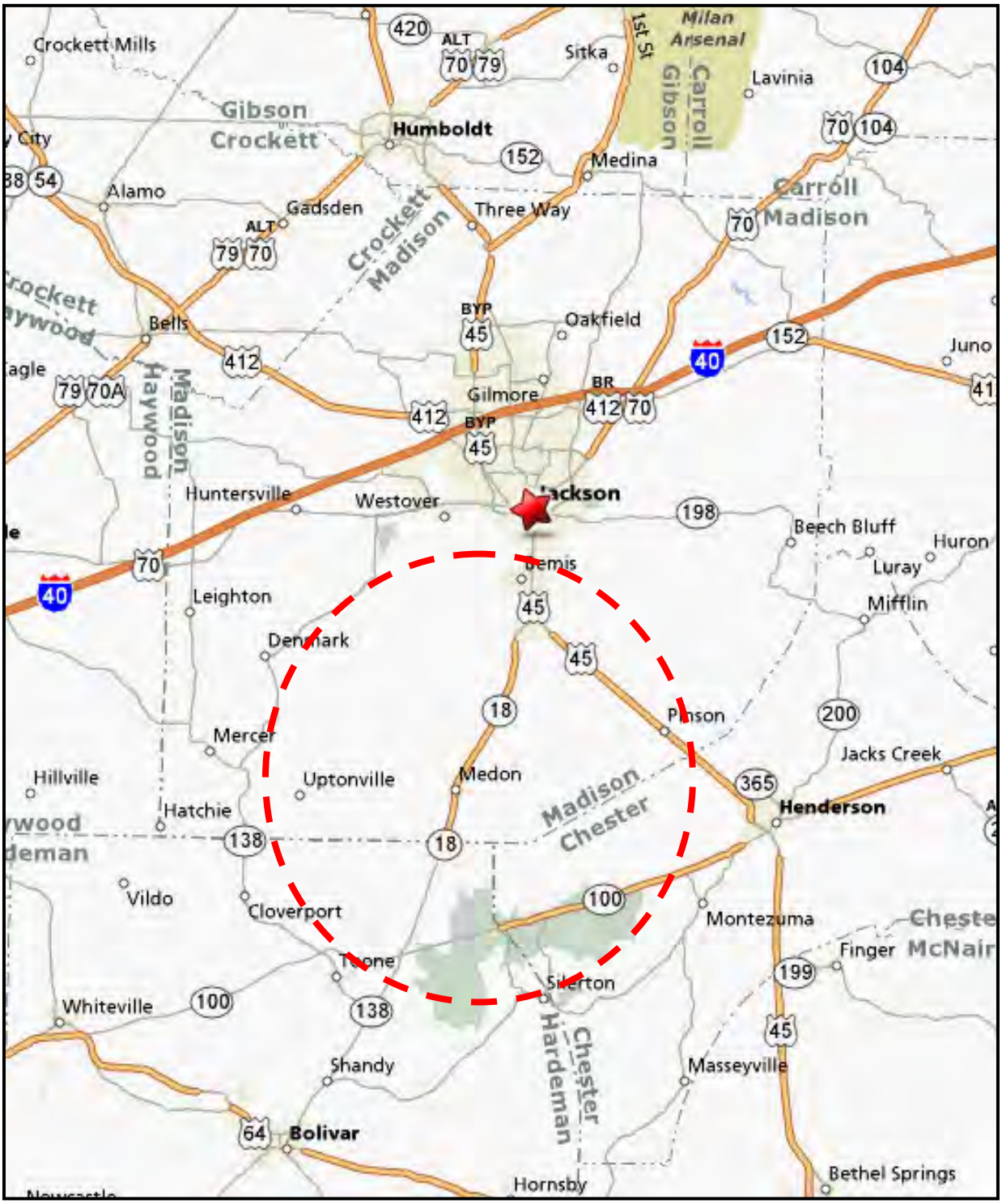


Figure 1: Project Area

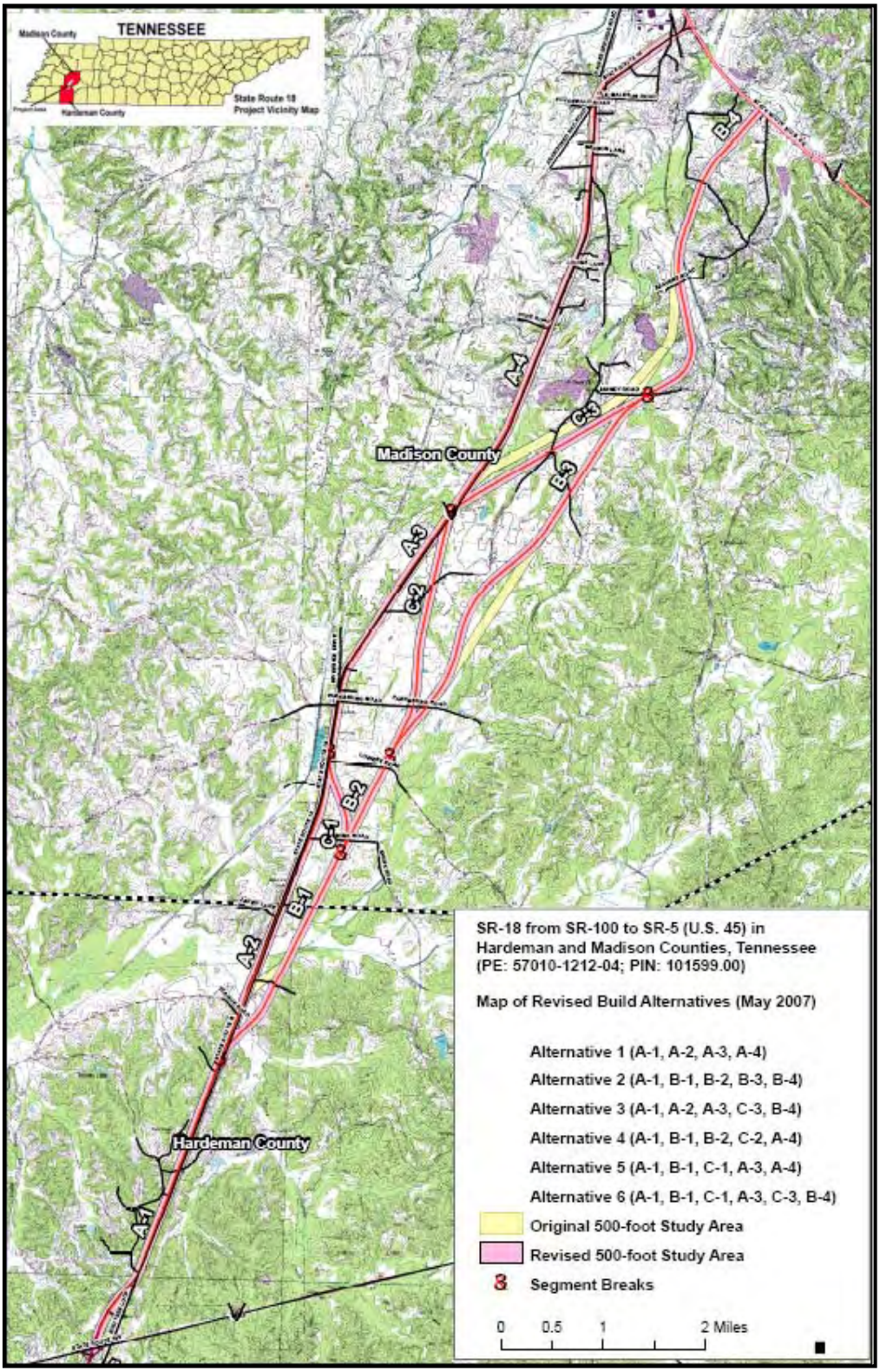


Figure 2: Build Alternatives

2.3 Alternative 3

Alternative 3 is similar to Alternative 1 in that it utilizes the existing SR 18 alignment throughout the southern two-thirds of the alignment from SR 100 to north of Medon-Malesus Road (Segments A-1, A-2, and A-3). Alternative 3 differs from Alternative 1 in the northern one-third of the study area where it would be located on a new alignment (Segments C-3 and B-4).

The northern terminus of Alternative 3 would be the same as Alternative 2.

2.4 Alternative 4

Alternative 4 is similar to Alternative 1, except that the middle one-third will be on a new alignment to avoid the City of Medon (Segments B-1, B-2 and C-2).

The northern terminus of Alternative 4 would be the same as Alternative 1.

2.5 Alternative 5

Alternative 5 is similar to Alternative 4, except that a shorter portion of the middle will be on new alignment (Segments B-1 and C-1).

The northern terminus of Alternative 4 would be the same as Alternative 1.

2.6 Alternative 6

Alternative 6 consists of a four-lane highway on a new alignment from Segment A-1 to Lowery Road (Segments B-1 and C-1). Existing SR 18 would be widened from two lanes to four lanes from Lowery Road to north of Medon-Malesus Road (Segment A-3). The northern one-third of Alternative 6 would be located on new alignment (Segments C-3 and B-4).

The northern terminus of Alternative 3 would be the same as Alternative 2.

3.0 AIR QUALITY EVALUATION

3.1 Carbon Monoxide Analysis

Based upon the analyses of highway projects with similar meteorological conditions and traffic volumes, the carbon monoxide levels of the subject project are expected to be below the National Ambient Air Quality Standard (NAAQS).

3.2 Transportation Conformity

Transportation conformity is a process required of Metropolitan Planning Organizations (MPOs) pursuant to the Clean Air Act Amendments of 1990 (CAAA of 1990) to ensure that Federal funding and approval are given to those transportation activities that are consistent with air quality goals. CAAA require

that transportation plans, programs, and projects in nonattainment or maintenance areas that are funded or approved by the Federal Highway Administration (FHWA) be in conformity with the State Implementation Plan (SIP) which represents the State's plan to either achieve or maintain the NAAQS for a particular pollutant.

The proposed project is not currently located in a nonattainment or maintenance area, so conformity does not apply to this project.

3.3 Mobile Source Air Toxics (MSATs)

3.3.1 Background

In addition to the criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS), EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners) and stationary sources (e.g., factories or refineries).

Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics defined by the Clean Air Act. The MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

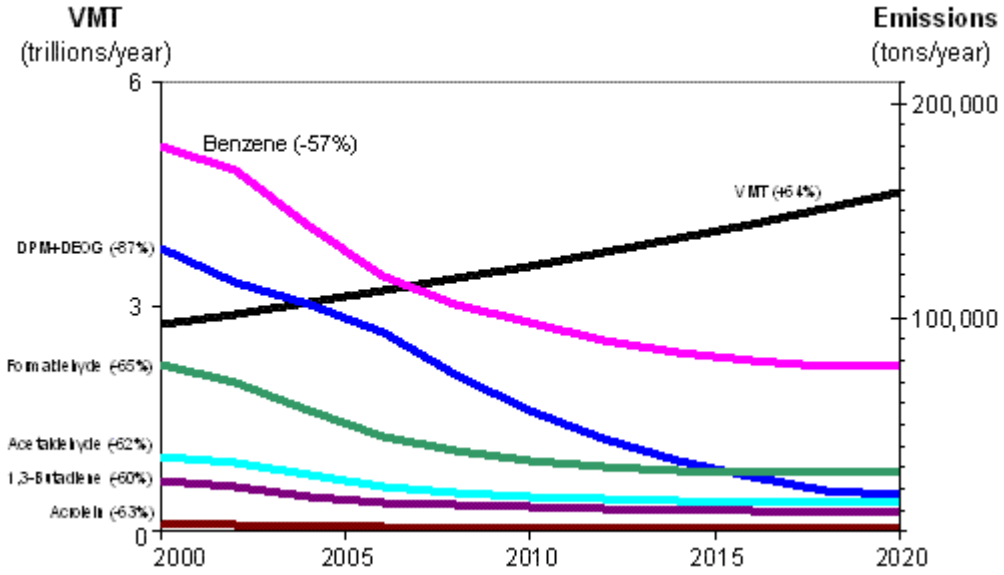
The EPA is the lead Federal Agency for administering the Clean Air Act and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources, 66 FR 17229 (March 29, 2001). This rule was issued under the authority in Section 202 of the Clean Air Act. In its rule, EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, its national low emission vehicle (NLEV) standards, its Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and its proposed heavy duty engine and vehicle standards and on-highway diesel fuel sulfur control requirements. Between 2000 and 2020, FHWA projects that even with a 64 percent increase in VMT, these programs will reduce on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 percent to 65 percent, and will reduce on-highway diesel PM emissions by 87 percent, as shown in Figure 3.

As a result, EPA concluded that no further motor vehicle emissions standards or fuel standards were necessary to further control MSATs. The agency is preparing another rule under authority of CAA Section 202(l) that will address these issues and could make adjustments to the full 21 and the primary six MSATs.

3.3.2 Unavailable Information for Project Specific MSAT Impact Analysis

The air quality analysis for this project includes a basic analysis of the likely MSAT emission impacts of this project. However, available technical tools do not enable the prediction of the project-specific health impacts of the emission changes associated with the proposed alternative. Due to these limitations, the following discussion is included in accordance with CEQ regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information:

Figure 3: U.S. Annual Vehicle Miles Traveled (VMT) vs. Mobile Source Air Toxics Emissions, 2000-2020*



Notes: For on-road mobile sources. Emissions factors were generated using MOBILE6.2. MTBE proportion of market for oxygenates is held constant, at 50%. Gasoline RVP and oxygenate content are held constant. VMT: Highway Statistics 2000, Table VM-2 for 2000, analysis assumes annual growth rate of 2.5%. "DPM + DEOG" is based on MOBILE6.2-generated factors for elemental carbon, organic carbon and SO4 from diesel-powered vehicles, with the particle size cutoff set at 10.0 microns.

* From FHWA's "*Interim Guidance on Air Toxic Analysis in NEPA Documents.* "

Information that is Unavailable or Incomplete. Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements, including emissions modeling, dispersion modeling in order to estimate ambient concentrations resulting from the estimated emissions, exposure modeling in order to estimate human exposure to the estimated concentrations, and then final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science that prevents a more complete determination of the MSAT health impacts of this project.

Emissions: The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 is used to predict emissions at a regional level, it has limited applicability at the project level. MOBILE 6.2 is a trip-based model--emission factors are projected based on a typical trip of 7.5 miles and on average speeds for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects, and cannot adequately capture emissions effects of smaller projects. For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Lastly, in its discussions of PM under the conformity rule, EPA has identified problems with MOBILE6.2 as an obstacle to quantitative analysis.

These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends, and performing relative analyses between alternatives for very large projects, but it is not sensitive enough to capture the effects of travel changes tied to smaller projects or to predict emissions near specific roadside locations.

Dispersion. The tools to predict how MSATs disperse are also limited. The EPA's current regulatory models, CALINE3 and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of carbon monoxide to determine compliance with the NAAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The NCHRP is conducting research on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

Exposure Levels and Health Effects. Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis preclude us from reaching meaningful conclusions about project-specific health impacts. Exposure assessments are difficult because it is difficult to accurately calculate annual concentrations of MSATs near roadways, and to determine the portion of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATs. Research into the health impacts of MSATs is ongoing. For different emission types, there are a variety of studies that show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emissions levels found in occupational settings) or that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of EPA efforts. Most notably, the agency conducted the National Air Toxics Assessment (NATA) in 1996 to evaluate modeled estimates of human exposure applicable to the county level. While not intended for use as a measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The EPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment. The IRIS database is located at http://www.epa.gov/iris. The following toxicity information for the six prioritized MSATs was taken from the IRIS database *Weight of Evidence Characterization* summaries. This information is taken verbatim

from EPA's IRIS database and represents the Agency's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen, based on limited evidence in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel exhaust** (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.
- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms, such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

There have been other studies that address MSAT health impacts in proximity to roadways. The Health Effects Institute, a non-profit organization funded by EPA, FHWA, and industry, has undertaken a major series of studies to research near-roadway MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes -- particularly respiratory problems [1]. Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable performance of a more comprehensive evaluation of the health impacts specific to this project.

Relevance of Unavailable or Incomplete Information to Evaluating Reasonably Foreseeable Significant Adverse Impacts on the Environment, and Evaluation of impacts based upon theoretical approaches or research methods generally accepted in the scientific community. Because of the uncertainties outlined above, a quantitative assessment of the effects of air toxic emissions impacts on human health cannot be made at the project level. While available tools do allow us to reasonably predict relative emissions changes between alternatives for larger projects, the amount of MSAT emissions from each of the project alternatives and MSAT concentrations or exposures created by each of the project alternatives cannot be predicted with enough accuracy to be useful in estimating health impacts. (As noted above, the current emissions model is not capable of serving as a meaningful emissions analysis tool for smaller projects.) Therefore, the relevance of the unavailable or incomplete information is that it is not possible to make a determination of whether any of the alternatives would have "significant adverse impacts on the human environment."

3.3.3 Qualitative Analysis

As discussed above, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions of this project. However, even though reliable methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions. The qualitative assessment presented below has been prepared in accordance with FHWA's "*Interim Guidance on Air Toxic Analysis in NEPA Documents*" [2] and is derived in part from a study conducted by the FHWA entitled *"A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives."* [3]

For each alternative, the amount of MSATs emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. The estimated VMT under each of the Build Alternatives are the same as or lower than the VMT for the No-Build Alternative as shown in Table 1. Therefore, it is expected that there would be no appreciable difference in overall MSAT emissions among the various alternatives.

Table 1: Design Year VMT Projections on Affected Roadway Network

Alternative	*Year 2031 VMT*
No-Build	264,400
1	264,400
2	245,300
3	251,000
4	261,000
5	264,400
6	251,000

Additionally, travel speeds for the Build Alternatives will be higher than for the No-Build Alternative. According to EPA's MOBILE6 emissions model, emissions of all of the priority MSATs except for diesel particulate matter decrease as speed increases. The extent to which these speed-related emissions decreases will offset VMT-related emissions increases cannot be reliably projected due to the inherent deficiencies of technical models.

Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent from 2000 to 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The additional travel lanes contemplated as part of the project alternatives will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSATs could be higher under certain Build Alternatives than the No-Build Alternative. The localized increases in MSAT concentrations would likely be most pronounced along the segments of SR 18 that would be widened as part of Alternatives 1 through 6 and along the new roadway segments included in Alternatives 2 though 6. However, as discussed above, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be accurately quantified due to the inherent deficiencies of current models.

In sum, when a highway is widened and, as a result, moves closer to receptors, the localized level of MSAT emissions for the Build Alternatives could be higher relative to the No-Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSATs will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

Substantial construction-related MSAT emissions are not anticipated for this project as construction is not planned to occur over an extended building period. However, construction activity may generate temporary increases in MSAT emissions in the project area.

4.0 NOISE EVALUATION

This study has been prepared in accordance with Federal Highway Administration (FHWA) noise standards, *Procedures for Abatement of Highway Traffic and Construction Noise*, *23 CFR 772* [4], and the Tennessee Department of Transportation's *Policy on Highway Traffic Noise Abatement*. [5] The noise analysis included the following tasks:

- Identification of noise-sensitive land uses in the project area;
- Determination of existing sound levels at sensitive receivers in the project area;
- Determination of future sound levels for each alternative;
- Determination of impacts for each alternative;
- Evaluation of noise abatement;
- Discussion of construction noise; and,
- Coordination with local officials.

Each of these analysis steps is discussed below following a discussion of TDOT's criteria for determining noise impacts.

4.1 Criteria for Determining Impacts

4.1.1 Traffic Noise Terminology

Traffic noise levels are expressed in terms of the hourly, A-weighted equivalent sound level in decibels (dBA). A sound level represents the level of the rapid air pressure fluctuations caused by sources such as traffic that are heard as noise. A decibel is a unit that relates the sound pressure of a noise to the

faintest sound the young human ear can hear. The A-weighting refers to the amplification or attenuation of the different frequencies of the sound (subjectively, the pitch) to correspond to the way the human ear "hears" these frequencies. Generally, when the sound level exceeds the mid-60 dBA range, outdoor conversation in normal tones at a distance of three feet becomes difficult. A 9-10 dB increase in sound level is typically judged by the listener to be twice as loud as the original sound while a 9-10 dB reduction is judged to be half as loud. Doubling the number of sources (i.e., vehicles) will increase the hourly equivalent sound level by approximately 3 dB, which is usually the smallest change in hourly equivalent A-weighted traffic noise levels that people can detect without specifically listening for the change.

Because most environmental noise fluctuates from moment to moment, it is standard practice to condense data into a single level called the equivalent sound level (L_{eq}). The L_{eq} is a steady sound level that would contain the same amount of sound energy as the actual time-varying sound evaluated over the same time-period. The L_{eq} averages the louder and quieter moments, but gives much more weight to the louder moments in the averaging. For traffic noise assessment purposes, L_{eq} is typically evaluated over the worst one-hour period and is defined as L_{eq} (1h).

The term insertion loss (IL) is generally used to describe the reduction in L_{eq} (1h) at a location after a noise barrier is constructed. For example, if the L_{eq} (1h) at a residence before a barrier is constructed is 75 dBA and the L_{eq} (1h) after a barrier constructed is 65 dBA then the insertion loss would be 10 dB.

4.1.2 Noise Abatement Criteria (NAC)

Noise impact is determined by comparing future project sound levels: (1) to a set of Noise Abatement Criteria (NAC) for a particular land use category, and (2) to existing sound levels.

The FHWA noise standards (contained in 23 CFR 772) and TDOT noise policy state that traffic noise impacts require consideration of abatement when worst-hour equivalent sound levels approach or exceed the NAC listed in Table 2. TDOT noise policy defines "approach" as one decibel below the NAC, or 66 dBA.

Table 2: Noise Abatement Criteria

Activity Category	*L_{Aeq}(1h) (dBA)*	*Description of Activity*
A	57 (Exterior)	Land on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 (Exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	---	Undeveloped lands.
E	52 (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

As shown in Table 2, Category A land uses refer to parks or other areas where low noise levels are essential for the proper use of the area, such as nature areas. Activity Category B land uses include picnic and recreation areas, playgrounds, active sports areas, parks, and the exterior areas of residences, motels, hotels, schools, churches, libraries, and hospitals. Activity Category C includes all developed lands not included in Categories A and B, while Category D includes undeveloped lands. Activity Category E land uses are those Activity Category B areas where there is no outdoor use of the property and so interior noise levels are considered.

The FHWA noise standards and TDOT noise policy also define impacts to occur if there is a substantial increase in design year equivalent sound levels above the existing equivalent sound levels when the predicted design year equivalent sound levels are between 57 and 67 dBA L_{eq}. Table 3 presents the TDOT criteria used to define noise increase.

Table 3: TDOT Criteria to Define Noise Increase

Increase in Existing Noise Level (dB)	*Subjective Descriptor*
0 – 5	Minor Increase
6 – 9	Moderate Increase
10 or more	Substantial Increase

It should be noted that an impact is defined as either approaching or exceeding the NAC, or as a substantial increase in existing sound levels but not both.

4.2 Identification of Noise-Sensitive Land Uses

Review of available electronic mapping and field reconnaissance revealed numerous residences on SR 18 and local intersecting local roads that might be affected by the project. Residential development near SR 18 is typically low-density with pockets of higher density development north of Medon-Malesus Road. The historic Swink Stage House at 2034 Hwy 18 is also a residence.

Several churches are located near SR 18 including the New Union Baptist Church, the Clover Creek Baptist Church, the Faith Tabernacle Worship Center, the Church of God, the South Jackson Church of Christ, the Bemis Pentecostal Church, and the Malesus Baptist Church.

Other noise-sensitive land uses near SR 18 include the Malesus Elementary School and the Malesus Civic Park & South Jackson Community Center.

There are also residences near the segments of new alignment for Build Alternatives 2 through 6. These residences are on Dacus Road, Swink Road, Lowery Road, Parkburg Road, Medon-Malesus Road, John Anderson Road, Mandy Road, and Seavers Road.

As a result, the NAC for Activity Category B apply. Noise impacts would occur and noise abatement would be considered if future equivalent sound levels at noise-sensitive receptors are 66 dBA or higher, or if a substantial increase in existing equivalent sound levels (10 dB or more) is predicted, and the predicted design year equivalent sound levels are between 57 and 67 dBA.

4.3 Determination of Existing Sound Levels

Measurements were conducted at several noise-sensitive land uses in the project area on February 27, 2007 and September 18-19, 2007. Table 4 summarizes the measured equivalent sound levels at each of the measurement locations. The noise measurement data sheets and site photographs are provided in Appendix A. Figure 4 shows the equivalent peak hour sound levels at the measurement locations.

Short-term 20 to 30 minute noise measurements at all locations were conducted at one-minute intervals. Background noise (i.e. dog barking, sirens, etc.) during these measurements was noted, and the corresponding one-minute measurement intervals were eliminated. A reference microphone was located adjacent to SR 18 near the Faith Tabernacle Worship Center approximately 100 feet from SR 18 for the duration of the measurement period to identify changes in sound levels throughout the day. Adjustments were then developed and applied to off-peak measurements to arrive at peak hour sound levels at the measurement sites.

As indicated in Table 4 and Figure 4, the peak hour equivalent sound levels at the residences near existing SR 18 (Segments A-1, A-2, A-3, and A-4) range from a low of 47 dBA at 1165 Medon-Malesus Road approximately 450 feet from SR 18 to a high of 69 dBA at 2364 Hwy 18 approximately 50 feet from SR 18. The sound level differences are primarily a function of the distance between the residences and existing SR 18, and the existence terrain such as the top of cuts and intervening hills.

Sound levels at the measurements locations near the roadway segments on new alignment (Segments B-2, B-3, and C-3) range from 40 to 44 dBA. These levels are representative of background sound levels in the project area where no significant noise sources exist.

4.4 Determination of Future Sound Levels

4.4.1 No-Build Alternative

Sound levels for the No-Build Alternative can be reasonably estimated by evaluating existing and future traffic volumes on SR 18.

As noted previously, doubling the traffic on a roadway would result in a 3 dB increase in the sound level at a given receiver assuming all other conditions remain the same. Year 2031 traffic volumes on SR18 are predicted to be approximately 50% higher than existing volumes. This increase in traffic would increase sound levels at nearly receivers by approximately 2 dB.

As a result, the existing peak hour equivalent sound levels shown in Table 4 have been increased by 2 dB to arrive at design year 2031 peak hour equivalent sound levels at the measurement locations for the No-Build Alternative shown in Figure 4.

Sound levels at residences a significant distance from existing SR 18 would not be affected by the increases in traffic on SR 18. The future No-Build sound levels at these locations are the same as existing sound levels.

Table 4: Existing Sound Levels at Measurement Locations

Location	*Project Segment*	*Date*	*Period*	*L_{eq} (1h) (dBA)*	*Adjustment**	*Peak Hour L_{eq} (1h) (dBA)*
27870 Hwy 18 N	A-1	9/18/2007	11:11 - 11:31 AM	62	2	64
28770 Hwy 18 N	A-1	9/18/2007	10:34 - 10:54 AM	62	1	65
28855 Hwy 18 N	A-1	9/18/2007	10:00 - 10:20 AM	56	1	57
2364 Hwy 18	A-2	9/18/2007	9:18 - 9:38 AM	69	0	69
Clover Creek Baptist Church (2112 Hwy 18)	A-3	9/18/2007	8:36 - 8:56 AM	67	1	68
Swink Stage House (2304 Hwy 18)	A-3	9/18/2007	7:55 - 8:15 AM	53	1	54
1861 Hwy 18	A-3	9/18/2007	4:51 - 5:11 PM	60	1	61
1163 Medon-Malesus Road	A-3	9/18/2007	5:16 - 5:36 PM	46	1	47
1669 Hwy 18	A-3	9/18/2007	4:18 - 4:38 PM	62	1	63
1543 Hwy 18	A-4	9/18/2007	3:42 - 4:02 PM	56	1	57
14 Southwood Drive	A-4	9/18/2007	1:53 - 2:13 PM	58	1	59
36 Southwood Drive	A-4	9/18/2007	2:23 - 2:43 PM	48	1	49
334 Bolivar Highway	A-4	9/18/2007	12:25 - 12:45 PM	60	2	62
130 Bolivar Highway	A-4	9/18/2007	1:03 - 1:33 PM	64	2	66
110 Swink Road	B-2	9/19/2007	7:47 - 8:07 AM	43	0	43
133 Lowery Road	B-2	9/19/2007	8:23 - 8:43 AM	44	0	44
McDaniel Cemetery	B-3	9/19/2007	9:05 - 9:25 AM	42	0	42
482 Seavers Road	B-4	2/27/2007	4:48 - 5:18 PM	40	0	40
2406 Highway 45	B-4	9/19/2007	10:43 - 11:03 AM	66	1	67
Rosenwald School ** (Medon-Malesus Road)	C-3	9/19/2007	9:50 - 10:20 AM	42	0	42

* Based on reference microphone.
** Abandoned.

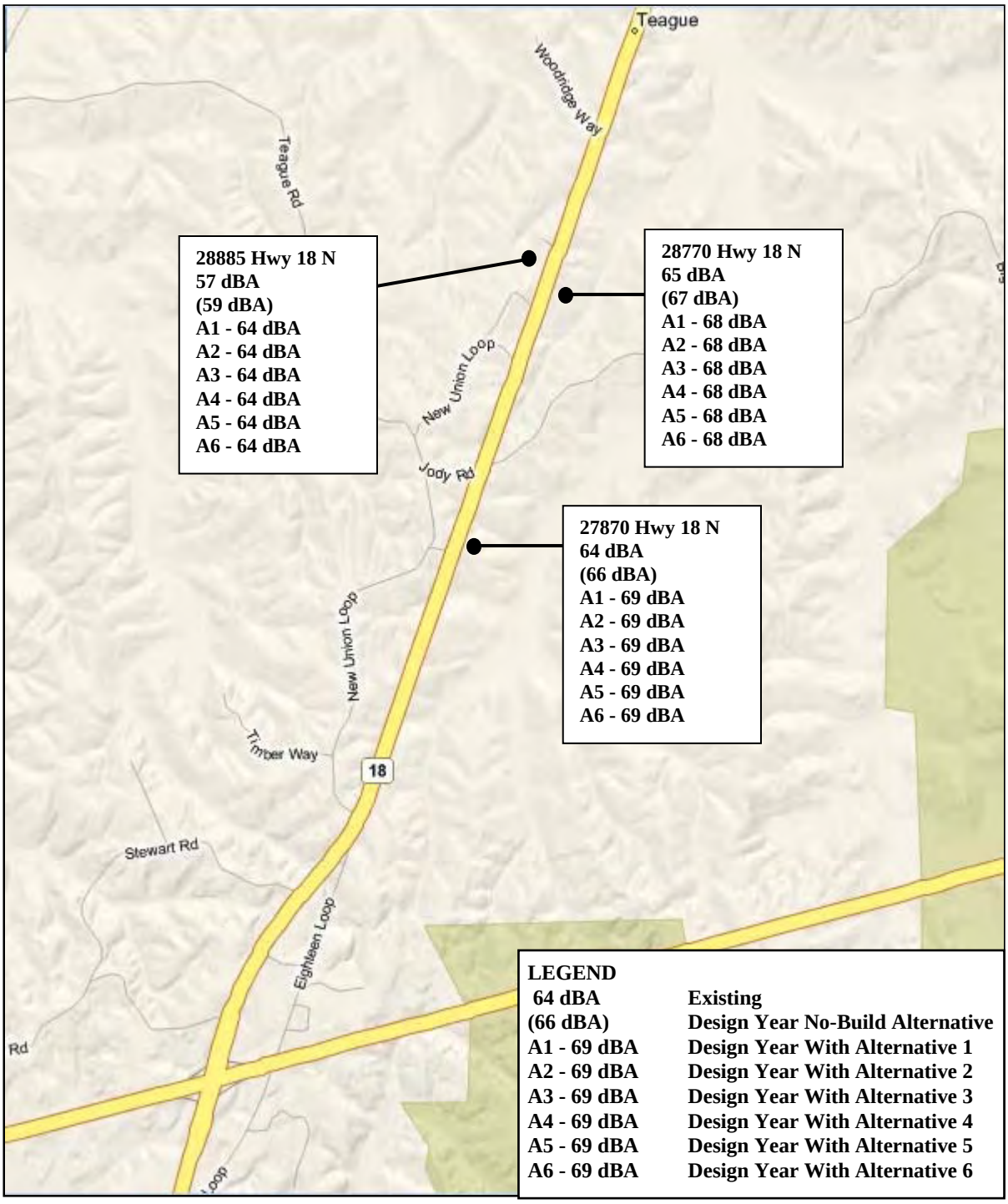


Figure 4: Existing and Design Year 2031 Sound Levels

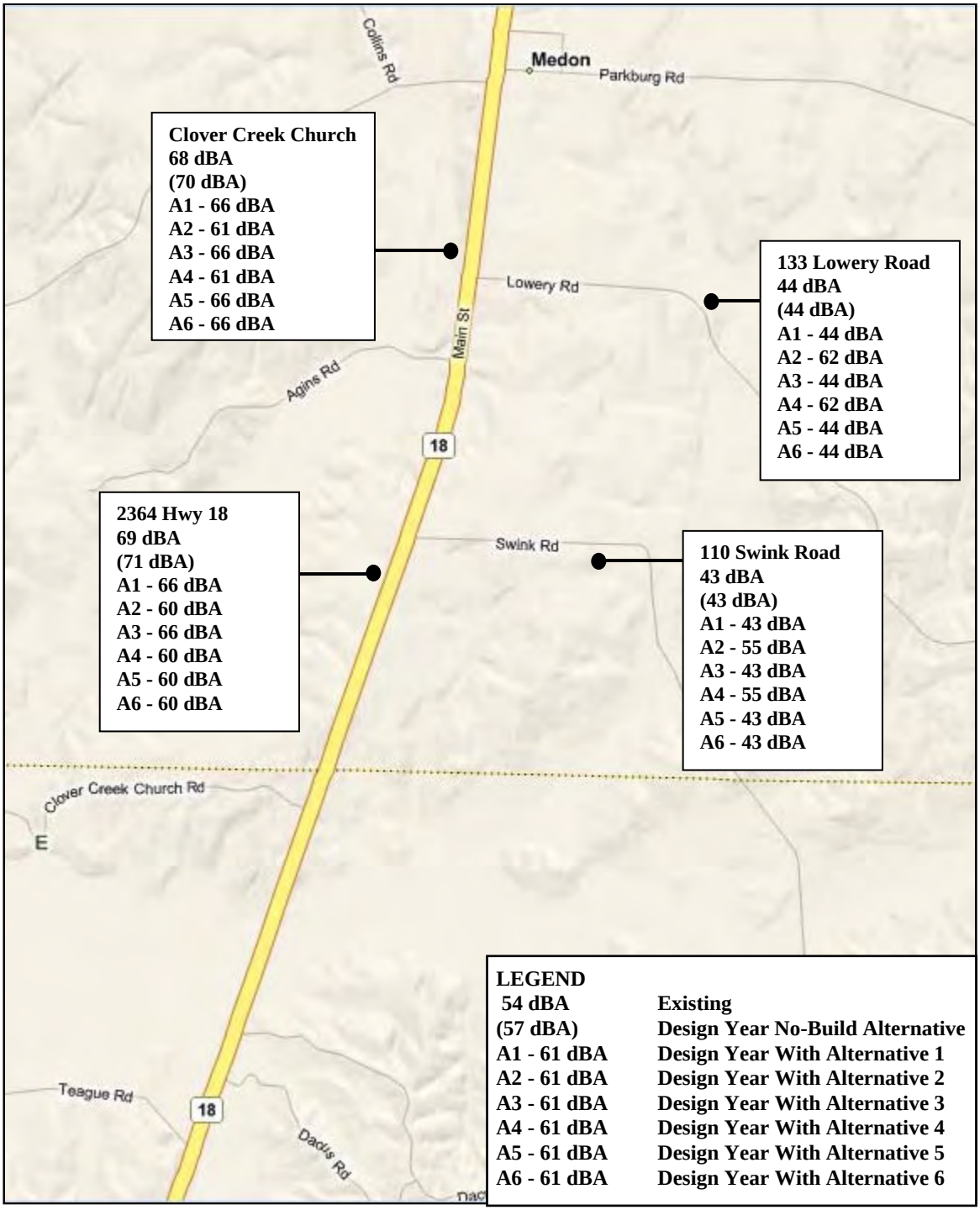


Figure 4: Existing and Design Year 2031 Sound Levels

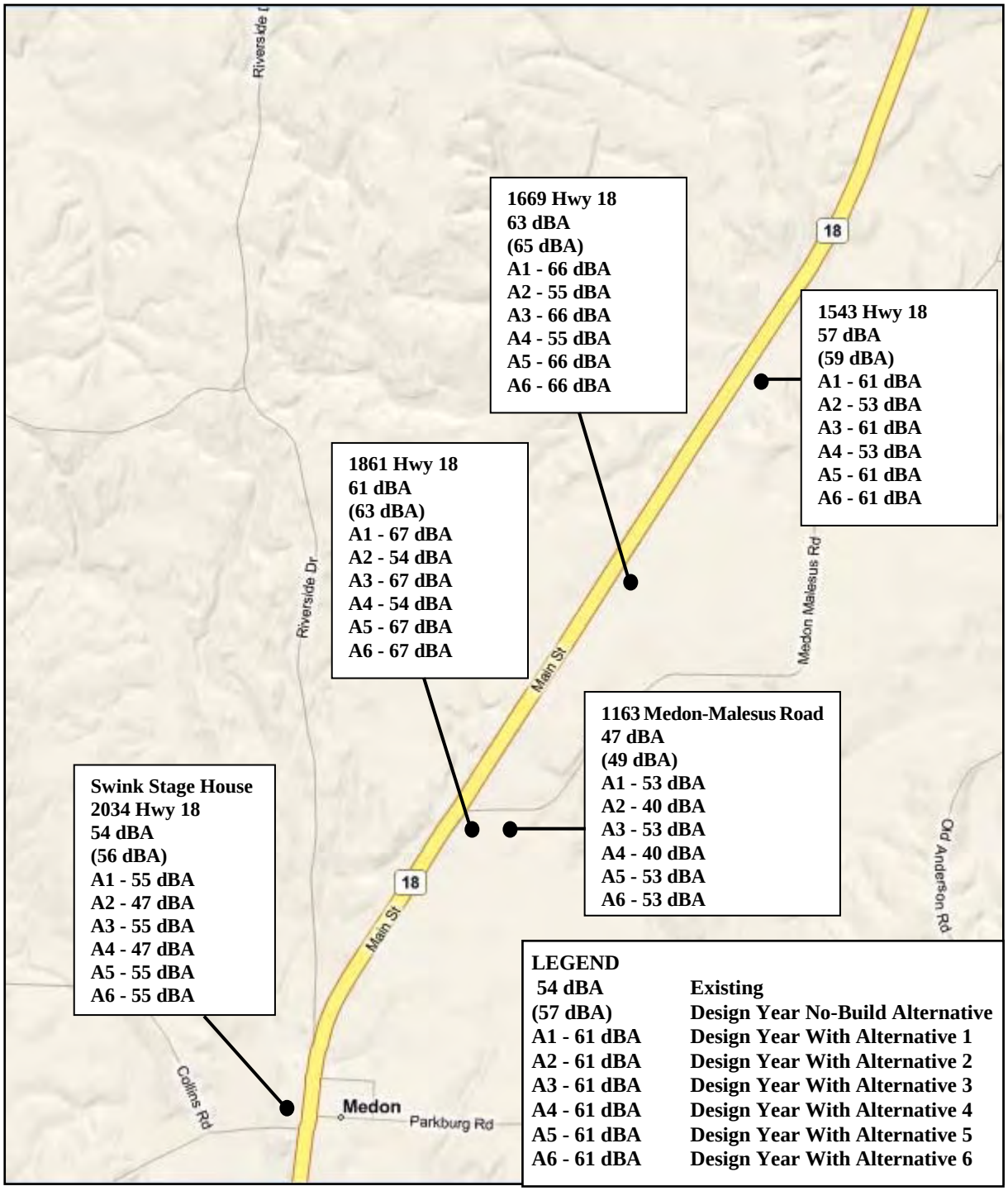


Figure 4: Existing and Design Year 2031 Sound Levels

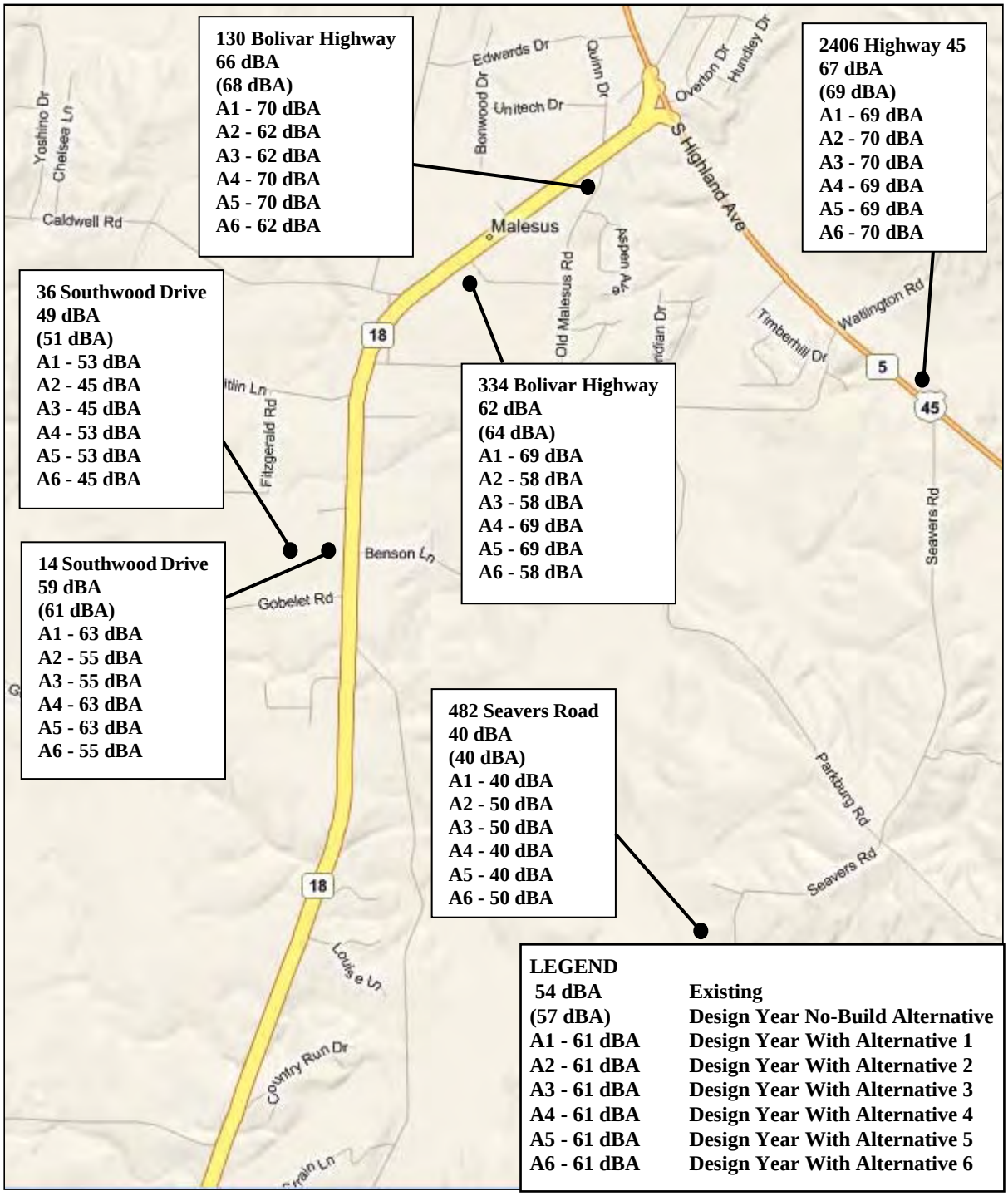


Figure 4: Existing and Design Year 2031 Sound Levels

The existing sound levels at the measurement locations were adjusted based on measured differences in distances from SR 18 to estimate existing sound levels for residences and noise-sensitive locations where measurements were not conducted.

4.4.2 Build Alternatives

The FHWA Traffic Noise Model (TNM 2.5) computer program was used to calculate peak hour equivalent sound levels in the design year (2031) for the residences, churches, and other noise-sensitive land uses in the project area, including the measurement locations for each alternative.

Design year 2031 traffic projections provided by TDOT were used for the noise analysis. These projections indicated a design hour volume of 7% to 8% total trucks on SR 18. A speed of 55 mph was modeled for SR 18 for all alternatives.

TNM plan views showing the locations of the modeled roadways and TNM input tables are provided in Appendix B. Predicted sound levels and impacts for each alternative are discussed in the following section.

4.5 Noise Impact Analysis

As noted previously, a location is impacted if 1) the predicted worst hour L_{eq} (1h) approaches or exceeds the NAC (defined by TDOT as 66 dBA), or 2) a substantial increase (defined by TDOT as an increase of 10 or more dBA) in L_{eq}(1h) occurs when the predicted design year equivalent sound level is between 57 and 67 dBA.

Table 5 summarizes the number of impacts predicted to occur under to No-Build and Build Alternatives. Tables showing predicted year 2031 design hour sound levels and impacts for each roadway segment are provided in Appendix C. Figure 4 shows the design year sound levels at the measurement locations.

4.5.1 No-Build Alternative

As described previously, design year sound levels under the No-Build Alternative at receivers along SR 18 will be approximately 2 dB higher than existing sound levels. These increases are defined as “minor” in accordance with TDOT noise policy. No residences will experience a substantial increase in sound levels under the No-Build Alternative.

Design year sound levels under the No-Build Alternative at most receivers are predicted to be below 66 dBA. However, design year sound levels at 58 residences are predicted to be 66 dBA or higher. These residences are predicted to be impacted under the No-Build Alternative.

Additionally, the predicted design year sound level at exterior of the Malesus Elementary School at 610 Bolivar Highway is 68 dBA. Therefore, the exterior areas of the School near SR 18 are predicted to be impacted under the No-Build Alternative.

The historic Swink Stage House will not be impacted under the No-Build Alternative.

Table 5: Design Year 2031 Noise Impact Summary

Segment	No-Build Alternative			Alternative 1			Alternative 2			Alternative 3			Alternative 4			Alternative 5			Alternative 6		
	NAC	Sub'l Increas	Total	NAC	Sub'l Increase	Total	NAC	Sub'l Increase	Total	NAC	Sub'l Increase	Total	NAC	Sub'l Increase	Total	NAC	Sub'l Increase	Total	NAC	Sub'l Increase	Total
A-1	3	0	3	7	0	7	7	0	7	7	0	7	7	0	7	7	0	7	7	0	7
A-2	13	0	13	8	0	8	--	--	--	8	0	8	--	--	--	--	--	--	--	--	--
A-3	7	0	7	26	0	26	--	--	--	26	0	26	--	--	--	26	0	26	26	0	26
A-4	37*	0	37*	94*	0	94*	--	--	--	--	--	--	94*	0	94*	94*	0	91*	--	--	--
B-1	--	--	--	--	--	--	0	1	1	--	--	--	0	1	1	0	1	1	0	1	1
B-2	--	--	--	--	--	--	0	2	2	--	--	--	0	2	2	--	--	--	--	--	--
B-3	--	--	--	--	--	--	0	3	3	--	--	--	--	--	--	--	--	--	--	--	--
B-4	--	--	--	--	--	--	4	6	10	4	6	10	--	--	--	--	--	--	4	6	10
C-1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	6	7	1	6	7
C-2	--	--	--	--	--	--	--	--	--	--	--	--	0	4	4	--	--	--	--	--	--
C-3	--	--	--	--	--	--	--	--	--	0	5	5	--	--	--	--	--	--	0	5	5
Total	***59****	***0***	***59****	***135****	***0***	***135****	***11***	***12***	***23***	***45***	***11***	***56***	***101****	***7***	***108****	***128****	***7***	***135****	***38***	***18***	***56***

** Includes the exterior of Malesus Elementary School.*

Finally, the design year sound level at the exterior of the Clover Creek Church at 2112 Hwy 18 is predicted to be 70 dBA. Since no exterior areas of "frequent human use" exist at the Church, impacts are assessed for interior conditions. The Church is air-conditioned and would normally be expected to operate under a "closed windows" condition. Applying a 25 dB reduction for building attenuation results in predicted interior sound levels well below the NAC of 52 dBA for Activity Category E land uses. As a result, the Clover Creek Church is not predicted to be impacted under the No-Build Alternative.

4.5.2 Alternative 1

Design year sound levels under Alternative 1 at most receivers are predicted to be between 1 and 8 dB higher than existing sound levels. These increases are defined as "minor" or "moderate" in accordance with TDOT noise policy. No receivers will experience a substantial increase in sound levels under Alternative 1.

Design year sound levels under Alternative 1 at most receivers are predicted to be below 66 dBA. However, design year sound levels at 134 residences are predicted to be 66 dBA or higher. These residences are predicted to be impacted by the project. Most of these residences are located on the east side of Segment A- 3 north of Medon-Malesus Road, including street addresses between 1611 Hwy 18 and 1861 Hwy 18, or on the east and west sides of Segment A-4 south of Quinn Drive including street addresses between 103 Bolivar Highway and 411 Bolivar Highway.

In some areas, design year sound levels are predicted to be the same or lower with Alternative 1 than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from some receivers.

Additionally, the predicted design year sound level at exterior of the Malesus Elementary School at 610 Bolivar Highway is 68 dBA. Therefore, the exterior areas of the School near SR 18 are predicted to be impacted under Alternative 1.

Finally, the predicted design year sound level at the exteriors of both the Clover Creek Church at 2112 Hwy 18 and the Faith Tabernacle Worship Center at 1925 Hwy 18 is 66 dBA. Since no exterior areas of "frequent human use" exist at either Church, impacts are assessed for interior conditions. The Churches are air-conditioned and would normally be expected to operate under a "closed windows" condition. Applying a 25 dB reduction for building attenuation results in predicted interior sound levels well below the NAC of 52 dBA for Activity Category E land uses. As a result, no impacts are predicted to occur at the Churches under Alternative 1.

A total of 134 residences and the exterior of Malesus Elementary School are predicted to be impacted under Alternative 1.

The historic Swink Stage House will not be impacted under Alternative 1.

4.5.3 Alternative 2

As discussed for Alternative 1, no residences along the widened segments of SR 18 will experience a substantial increase in existing sound levels.

Seven residences along Segment A-1 are predicted to have design year sound levels of 66 dBA or higher and are, therefore, impacted under Alternative 2.

Design year sound levels at some receivers along Segment A-1 are predicted to be the same or lower than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from those receivers.

Existing sound levels at most receivers near the roadway segments on new alignment are between 40 and 44 dBA. Design year sound levels at most of these receivers are predicted to be more than 10 dB higher than existing sound levels. However, the design year sound levels at most receivers are predicted to be below 57 dBA. Therefore, most receivers will not be impacted by a substantial increase in sound levels.

However, 12 residences are predicted to have design year sound levels between 57 and 67 dBA and are predicted to be impacted by a substantial increase in sound levels.

Additionally, 4 residences near the roadway segments on new alignment will have design year sound levels of 66 dBA or higher. These residences are also impacted.

A total of 23 residences are predicted to be impacted under Alternative 2. Of these, 11 residences are predicted to be impacted with sound levels approaching or exceeding the NAC, and 12 residences are predicted to be impacted by a substantial increase in existing sound levels.

The historic Swink Stage House will not be impacted under Alternative 2.

4.5.4 Alternative 3

As discussed for Alternative 1, no residences along the widened segments of SR 18 will experience a substantial increase in existing sound levels.

Design year sound levels at 41 residences along the widened segments of SR 18 are predicted to be 66 dBA or higher. These residences are predicted to be impacted under Alternative 3.

As with Alternative 2, design year sound levels at some receivers along Segment A-1 are predicted to be the same or lower than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from those receivers.

Design year sound levels at 11 residences along the new alignment segments are predicted to be 10 dB or more higher that existing levels with design year sound levels between 57 and 67 dBA. These residences are predicted to be impacted by a substantial increase in sound levels.

Additionally, 4 residences along the new alignment segments have predicted design year sound levels of 66 dBA or higher and are, therefore, predicted to be impacted under Alternative 3.

A total of 56 residences are predicted to be impacted under Alternative 3. Of these, 45 residences are predicted to be impacted with sound levels approaching or exceeding the NAC, and 11 residences are predicted to be impacted by a substantial increase in existing sound levels.

The historic Swink Stage House will not be impacted under Alternative 3.

4.5.5 Alternative 4

As discussed for Alternative 1, no residences along the widened segments of SR 18 will experience a substantial increase in existing sound levels.

Design year sound levels at 100 residences and the exterior of the Malesus Elementary School along the widened segments of SR 18 are predicted to be 66 dBA or higher. Theses residences and the School are predicted to be impacted under Alternative 4.

As with Alternatives 2 and 3, design year sound levels at some receivers along Segment A-1 are predicted to be the same or lower than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from those receivers.

Design year sound levels at 7 residences along the new alignment segments are predicted to be 10 dB or more higher that existing levels with design year sound levels between 57 and 67 dBA. These residences are predicted to be impacted by a substantial increase in sound levels.

No residences along the new alignment segments have predicted design year sound levels of 66 dBA or higher.

A total of 107 residences and the exterior of Malesus Elementary School are predicted to be impacted under Alternative 4. Of these, 100 residences and Malesus Elementary School are predicted to be impacted with sound levels approaching or exceeding the NAC, and 7 residences are predicted to be impacted by a substantial increase in existing sound levels.

The historic Swink Stage House will not be impacted under Alternative 4.

4.5.6 Alternative 5

As discussed for Alternative 1, no residences along the widened segments of SR 18 will experience a substantial increase in existing sound levels.

Design year sound levels at 126 residences and the exterior of the Malesus Elementary School along the widened segments of SR 18 are predicted to be 66 dBA or higher. Theses residences and the School are predicted to be impacted under Alternative 5.

As with Alternatives 2, 3 and 4, design year sound levels at some receivers along Segment A-1 are predicted to be the same or lower than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from those receivers.

Design year sound levels at 7 residences along the new alignment segments are predicted to be 10 dB or more higher that existing levels with design year sound levels between 57 and 67 dBA. These residences are predicted to be impacted by a substantial increase in sound levels. One additional residence along the new alignment segments is predicted to have a sound level above 66 dBA.

A total of 134 residences and the exterior of Malesus Elementary School are predicted to be impacted under Alternative 5. Of these, 127 residences and Malesus Elementary School are predicted to be impacted

with sound levels approaching or exceeding the NAC, and 7 residences are predicted to be impacted by a substantial increase in existing sound levels.

The historic Swink Stage House will not be impacted under Alternative 5.

4.5.7 Alternative 6

As discussed for Alternative 1, no residences along the widened segments of SR 18 will experience a substantial increase in existing sound levels.

Design year sound levels at 33 residences along the widened segments of SR 18 are 66 dBA or higher. These residences are predicted to be impacted under Alternative 6.

As with Alternatives 2 through 5, design year sound levels at some receivers along Segment A-1 are predicted to be the same or lower than existing sound levels as a result of the shifting of the existing SR 18 alignment farther from those receivers.

Design year sound levels at 18 residences along the new alignment segments are predicted to be 10 dB or more higher that existing levels with design year sound levels between 57 and 67 dBA. These residences are predicted to be impacted by a substantial increase in sound levels.

Additionally, 5 residences along the new alignment segments will have a design year sound level of 66 dBA or higher and are, therefore, predicted to be impacted under Alternative 6.

A total of 56 residences are predicted to be impacted by Alternative 6. Of these, 38 residences are predicted to be impacted with sound levels approaching or exceeding the NAC, and 18 residences are predicted to be impacted by a substantial increase in existing sound levels.

The historic Swink Stage House will not be impacted under Alternative 6.

4.5.8 Noise Impact Comparison

As indicated at the bottom of Table 5, Alternatives 1 and 5 are each predicted to result in a total of 135 noise impacts followed by Alternative 4 which is predicted to result in a total of 108 noise impacts. All three of these alternatives include the widening of SR 18 from north of Medon-Malesus Road to SR 5 (Segment A-4) where 94 impacts are predicted.

Alternatives 3 and 6 are each predicted to result in a total of 56 noise impacts while Alternative 2 will result in only 23 noise impacts.

The No-Build Alternative is predicted to result in a total of 60 impacts.

It should also be noted that the diversion of traffic from existing SR 18 to the new alignment segments included in Build Alternatives 2 through 6 will result in a significant reduction in existing sound levels at receivers along existing SR 18. These reductions are predicted to range from 4 to 9 dB depending on location.

4.6 Noise Abatement Evaluation

Abatement is generally evaluated when impacts are predicted to occur. Noise abatement measures may include alteration of horizontal and vertical alignment, and traffic management measures (such as reducing speed limits, prohibition of heavy trucks, etc.). Discussions with TDOT's Environmental Division indicated that these forms of mitigation were not possible at this point in project development and that noise barriers would be the best available abatement measure to reduce sound levels for impacted areas.

As described above, numerous residences are predicted to be impacted under each alternative. Many of these residences are located along existing SR 18. There are also impacted residences near the new alignment segments although, in most areas, there are only one or two impacted residences nearby. Noise barriers for areas where one only or two residences are predicted to be impacted were determined to be cost prohibitive.

In order for noise barriers to be included in a project, they must be determined to be both feasible and reasonable in accordance with TDOT's noise policy.

4.6.1 Noise Barrier Feasibility

Feasibility means that: (1) the construction of a barrier would not be anticipated to pose any major design, construction, maintenance or safety problems; and, (2) the noise barriers will provide a noise reduction (or insertion loss) of at least 7 dB at impacted first-row receivers ("acoustic feasibility").

Most of the residences that are predicted to be impacted are located along existing SR 18. However, existing SR 18 is not a limited access roadway, so the construction of noise barriers is not possible since the barriers would limit access from adjacent properties. As a result, noise abatement is not feasible for impacted residences along existing SR 18.

The only area where there are more than two impacted residences near the new alignment segments is the Parkburg Road area near Segment B-4.

At the present time, there do not appear to be any major design, construction, maintenance, or safety problems associated with construction of noise barriers along Segment B-4. However, this analysis was completed based on functional design plans. As a result, noise barrier design or construction issues could exist and would not be identified until later in the design process.

As a result, noise barriers were considered to reduce sound levels for impacted residences on Parkburg Road near Segment B-4. Impacted residences are located on both the east and west sides of Segment B-4. Therefore, noise barriers would be needed on both sides of Segment B-4.

The TNM program was used to predict design hour equivalent sound levels with barriers present and to evaluate alternative noise barrier designs for this area.

TDOT noise policy requires that noise barriers provide a substantial noise reduction. Substantial reduction is defined as a 10 dB reduction in the equivalent sound level, whenever possible. However, in situations where a 10 dB reduction cannot be attained, the noise barrier must provide a minimum reduction of 7 dB at the properties where the greatest noise reduction can be achieved in order to be considered feasible.

The results of the noise barrier evaluation indicate that noise barriers would provide at least 7 dB noise reduction at the impacted residences and are, therefore, acoustically feasible.

Although noise barriers for the Parkburg Road area appear to be feasible, feasibility alone does not dictate whether a noise barrier will be built. Each noise barrier must also pass a "reasonableness" test as described below.

4.6.1 Noise Barrier Reasonableness

Reasonableness refers to the cost of the noise barriers weighed against the benefits. TDOT policy states that a barrier is reasonable if the cost of the barrier divided by the number of benefitted residences does not exceed the allowable cost per benefitted residence for that area. The allowable cost per benefitted residence for each area is calculated using the following formula:

Allowable Cost Per Benefitted Residence = Base Allowance
+ Development Date/New Alignment Allowance
+ Future Noise Levels Allowance
+ Build Versus Existing Levels Allowance

where:

Base Allowance: $15,000

Development Date/New Alignment Allowance:
Post-dates road = $0
Pre-dates road* or road is on new alignment = $15,000
* The majority (more than 50%) of dwelling units existed before original highway construction.

Noise Levels Allowance*:
69 or less dBA = $0
70 – 74 dBA = $2,000
75 or more dBA = $4,000
* Based on an average of the impacted first–row receivers' levels.

Build Versus Existing Noise Levels Allowance*:
0 – 4 dBA = $0
5 – 9 dBA = $4,000
10 or more dBA = $8,000
* An average of the increases in existing noise levels at impacted first-row receivers.

The area was assigned a $15,000 Base Allowance and a $15,000 Development Date/New Alignment Allowance. Predicted future sound levels are below 69 dBA, so the area does not receive a Noise Levels Allowance. Since the change in existing to future build noise levels is greater than 10 dBA, the area qualifies for an $8,000 Build Versus Existing Noise Levels Allowance. The resulting allowable cost per benefitted residence for the area is $38,000.

The insertion loss for each residence was used to determine the total number of benefitted residences. Benefitted residences receive five or more dB of insertion loss due to construction of the barriers.

Barrier costs were then estimated based on TDOT's unit costs of $20 per square foot for free standing noise barriers. The total barrier cost was then divided by the number of benefitted residences to arrive at the cost per benefitted residence for the barriers. Barriers for this area are reasonable if the calculated cost per benefitted residence is lower than the allowable cost per benefitted residence.

As indicated in Table 6, the cost per benefitted residence substantially exceeds the allowable cost per benefitted residence. Therefore, noise barriers are not reasonable for this area.

Table 6: Noise Barrier Design Results and Reasonableness Analysis

Area	*Length (ft.)*	*Average Height (ft.)*	*Cost*	*Benefitted Residences*	*Cost Per Benefitted Residence*	*Allowable Cost Per Benefitted Residence*	*Reasonable?*
Parkburg Road	3,300	12	$780,000	8	$97,500	$38,000	No

4.7 Mitigation of Construction Noise

If TDOT's construction specifications apply to this project, construction procedures shall be governed by the *Standard Specifications for Road and Bridge Construction* as issued by TDOT and as amended by the most recent applicable supplements. The contractor will be bound by Section 107.01 of the Standard Specifications to observe any noise ordinance in effect within the project limits. Detoured traffic shall be routed during construction so as to cause the least practicable noise impact upon noise-sensitive areas.

4.8 Coordination with Local Officials

TDOT encourages local communities and developers to practice noise compatible land use planning in order to avoid future noise impacts. The following language is included in TDOT's noise policy:

> *"Highway traffic noise should be reduced through a program of shared responsibility. Local governments should use their power to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway or that the developments are planned, designed and constructed in such a way that noise impacts are minimized."*

Two guidance documents on noise compatible land use planning are available from FHWA. [6, 7]

Table 7 presents predicted design year equivalent sound levels for areas along SR 18 where vacant and possibly developable lands exist. Noise predictions were made at distances between 100 and 500 feet from SR 18 for the year 2031 design hour. These values do not represent predicted levels at every location. Sound levels will vary with changes in terrain and will be affected by the shielding of objects such as houses.

Table 7: Design Year 2031 Sound Levels With Project – Undeveloped Lands

Distance[1]	L_{Aeq}*(1h) (dBA)*[2]
100 feet	67
200 feet	63
300 feet	58
400 feet	55
500 feet	53

(1) Perpendicular distance to the edge of roadway pavement.
(2) For at-grade situation.

This information is being included to make local officials and planners aware of anticipated highway noise levels so that future development will be compatible with these levels.

As noted previously, TDOT's noise policy states that *"noise abatement will also not be considered reasonable for land uses constructed after the date of adoption of this noise policy (based upon local Assessor's records), except for projects involving construction of a roadway on a new alignment."*

TDOT's noise policy was adopted in April 2005. Development constructed after this date will not be eligible for noise abatement.

Finally, TDOT currently has an active Type II Noise Barrier Program to facilitate the construction of "retrofit" noise barriers along existing highways. To be eligible for a Type II noise barrier, an area must meet the following criteria:

- The neighborhood must be located along a limited-access roadway;
- The neighborhood must be primarily residential;
- The majority (more than 50%) of residences in the neighborhood near the highway pre-dated the initial highway construction;
- A noise barrier for the neighborhood must not have been previously determined to be not reasonable or not feasible as part of a new highway construction or through-lane widening study (Type I project);
- Existing noise levels measured in the neighborhood must be above the Noise Abatement Criteria (NAC) of 66 dB (1-hour equivalent sound level);
- A barrier must be feasible to construct and will provide substantial noise reduction; and,
- A barrier must be reasonable (barrier cost per benefitted residence) in accordance with TDOT noise policy. A residence is considered "benefitted" if the noise barrier will reduce the traffic noise by at least 5 dB.

5.0 REFERENCES

[1] *South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards,* The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

[2] *Interim Guidance on Air Toxic Analysis in NEPA Documents*, FHWA, February 3, 2006. http://www.fhwa.dot.gov/environment/airtoxic/020306guidmem.htm

[3] Claggett, M., et. al., "*A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives,"* Federal Highway Administration, Resource Center.

[4] *Procedures for Abatement of Highway Traffic and Construction Noise*, 23 CFR 772, Federal Highway Administration.

[5] *Policy on Highway Traffic Noise Abatement*, Tennessee Department of Transportation, April, 2005.

[6] *The Audible Landscape: A Manual for Highway Noise and Land Use*, FHWA, November, 1974. http://www.fhwa.dot.gov/environment/audible/index.htm

[7] *Entering the Quiet Zone: Noise Compatibility Land Use Planning*, FHWA, May, 2002. http://www.fhwa.dot.gov/environment/noise/quietzon

Appendix A
Noise Measurements Data Sheets and Photographs

Reference looking east to SR 18

Reference south toward Faith Tabernacle Worship Center

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

speed limit 40

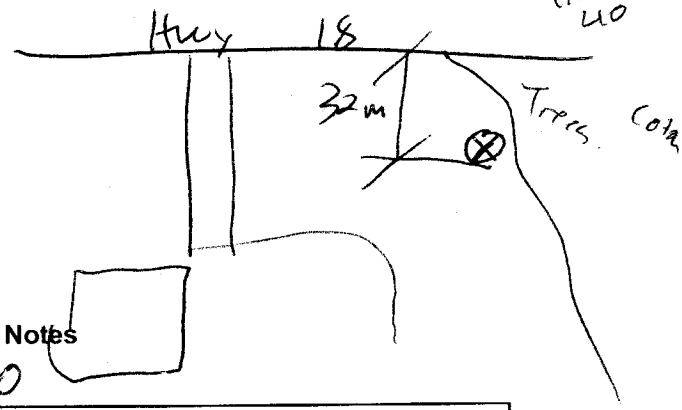
Date 9/18/2007

Site REF

Area Faith Tabernacle

Address 1425 Hwy 18

Site Sketch



Weather

Temp

Wind

Direction

Other Notes

RION/LD/N121# 00151072 Cal@ 94.0 Cal Check= 94.0

#	Time Start	Description
1	7:36	start
2	6:00	Stop
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
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AU2-1800

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
1	7:36:00 AM	57.8	64.3	602560	Y	1
2	7:37:00 AM	55.0	63.1	316228	Y	1
3	7:38:00 AM	58.0	68.5	630957	Y	1
4	7:39:00 AM	59.8	68.9	954993	Y	1
5	7:40:00 AM	63.2	73.5	2089296	Y	1
6	7:41:00 AM	56.7	62.7	467735	Y	1
7	7:42:00 AM	56.5	61.6	446684	Y	1
8	7:43:00 AM	58.7	66.9	741310	Y	1
9	7:44:00 AM	56.8	64.0	478630	Y	1
10	7:45:00 AM	58.4	68.9	691831	Y	1
11	7:46:00 AM	58.2	68.9	660693	Y	1
12	7:47:00 AM	54.6	64.4	288403	Y	1
13	7:48:00 AM	56.2	63.9	416869	Y	1
14	7:49:00 AM	57.0	63.8	501187	Y	1
15	7:50:00 AM	59.7	68.2	933254	Y	1
16	7:51:00 AM	58.2	64.9	660693	Y	1
17	7:52:00 AM	56.3	63.8	426580	Y	1
18	7:53:00 AM	59.8	69.2	954993	Y	1
19	7:54:00 AM	48.8	58.0	75858	Y	1
20	7:55:00 AM	54.4	60.9	275423	Y	1
21	7:56:00 AM	51.9	62.6	154882	Y	1
22	7:57:00 AM	60.1	67.8	1023293	Y	1
23	7:58:00 AM	56.0	63.6	398107	Y	1
24	7:59:00 AM	55.0	62.3	316228	Y	1
25	8:00:00 AM	52.2	62.4	165959	Y	1
26	8:01:00 AM	56.3	64.4	426580	Y	1
27	8:02:00 AM	59.9	68.8	977237	Y	1
28	8:03:00 AM	58.3	69.5	676083	Y	1
29	8:04:00 AM	54.6	62.8	288403	Y	1
30	8:05:00 AM	59.7	68.7	933254	Y	1
31	8:06:00 AM	58.3	69.0	676083	Y	1
32	8:07:00 AM	60.7	71.0	1174898	Y	1
33	8:08:00 AM	61.1	72.1	1288250	Y	1
34	8:09:00 AM	56.4	67.8	436516	Y	1
35	8:10:00 AM	58.6	65.7	724436	Y	1
36	8:11:00 AM	50.9	61.8	123027	Y	1
37	8:12:00 AM	57.2	65.6	524807	Y	1
38	8:13:00 AM	54.4	61.4	275423	Y	1
39	8:14:00 AM	60.7	71.2	1174898	Y	1
40	8:15:00 AM	53.5	64.1	223872	Y	1
41	8:16:00 AM	60.2	69.1	1047129	Y	1
42	8:17:00 AM	52.2	62.3	165959	Y	1
43	8:18:00 AM	49.0	58.5	79433	Y	1
44	8:19:00 AM	54.2	59.7	263027	Y	1
45	8:20:00 AM	54.5	63.5	281838	Y	1
46	8:21:00 AM	58.4	67.8	691831	Y	1
47	8:22:00 AM	58.7	70.1	741310	Y	1
48	8:23:00 AM	58.5	68.4	707946	Y	1
49	8:24:00 AM	55.1	60.1	323594	Y	1
50	8:25:00 AM	57.0	63.7	501187	Y	1
51	8:26:00 AM	56.7	62.5	467735	Y	1
52	8:27:00 AM	54.1	61.7	257040	Y	1
53	8:28:00 AM	52.4	62.0	173780	Y	1
54	8:29:00 AM	56.1	64.4	407380	Y	1
55	8:30:00 AM	48.7	58.0	74131	Y	1
56	8:31:00 AM	55.0	63.1	316228	Y	1
57	8:32:00 AM	54.4	60.6	275423	Y	1
58	8:33:00 AM	57.9	66.1	616595	Y	1
59	8:34:00 AM	52.8	62.2	190546	Y	1
60	8:35:00 AM	57.5	66.7	562341	Y	1
61	8:36:00 AM	54.3	61.3	269153	Y	1
62	8:37:00 AM	50.7	61.9	117490	Y	1
63	8:38:00 AM	58.8	68.1	758578	Y	1
64	8:39:00 AM	57.3	64.6	537032	Y	1
65	8:40:00 AM	55.2	61.2	331131	Y	1
66	8:41:00 AM	58.5	66.0	707946	Y	1
67	8:42:00 AM	56.8	64.9	478630	Y	1
68	8:43:00 AM	59.9	68.9	977237	Y	1
69	8:44:00 AM	58.1	68.9	645654	Y	1
70	8:45:00 AM	58.6	68.1	724436	Y	1
71	8:46:00 AM	54.3	60.1	269153	Y	1
72	8:47:00 AM	54.5	63.1	281838	Y	1
73	8:48:00 AM	55.7	63.1	371535	Y	1
74	8:49:00 AM	61.6	71.4	1445440	Y	1
75	8:50:00 AM	62.3	70.3	1698244	Y	1
76	8:51:00 AM	53.5	60.4	223872	Y	1
77	8:52:00 AM	56.4	66.8	436516	Y	1
78	8:53:00 AM	54.2	64.4	263027	Y	1
79	8:54:00 AM	58.0	64.1	630957	Y	1
80	8:55:00 AM	55.9	65.7	389045	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
81	8:56:00 AM	55.6	62.8	363078	Y	1
82	8:57:00 AM	54.2	59.8	263027	Y	1
83	8:58:00 AM	60.0	71.9	1000000	Y	1
84	8:59:00 AM	58.1	69.5	645654	Y	1
85	9:00:00 AM	59.6	70.1	912011	Y	1
86	9:01:00 AM	59.4	67.1	870964	Y	1
87	9:02:00 AM	62.5	71.7	1778279	Y	1
88	9:03:00 AM	55.5	63.1	354813	Y	1
89	9:04:00 AM	55.9	64.8	389045	Y	1
90	9:05:00 AM	55.3	65.4	338844	Y	1
91	9:06:00 AM	59.8	71.8	954993	Y	1
92	9:07:00 AM	70.8	83.7	12022644	Y	1
93	9:08:00 AM	55.3	63.1	338844	Y	1
94	9:09:00 AM	51.6	61.4	144544	Y	1
95	9:10:00 AM	60.6	68.5	1148154	Y	1
96	9:11:00 AM	40.9	46.7	12303	Y	1
97	9:12:00 AM	53.3	62.2	213796	Y	1
98	9:13:00 AM	54.4	62.1	275423	Y	1
99	9:14:00 AM	58.4	66.9	691831	Y	1
100	9:15:00 AM	55.6	64.1	363078	Y	1
101	9:16:00 AM	61.7	67.4	1479108	Y	1
102	9:17:00 AM	57.6	64.3	575440	Y	1
103	9:18:00 AM	71.0	82.8	12589254	Y	1
104	9:19:00 AM	57.5	67.0	562341	Y	1
105	9:20:00 AM	61.4	70.9	1380384	Y	1
106	9:21:00 AM	58.0	66.7	630957	Y	1
107	9:22:00 AM	51.0	55.1	125893	Y	1
108	9:23:00 AM	58.3	67.5	676083	Y	1
109	9:24:00 AM	56.4	62.1	436516	Y	1
110	9:25:00 AM	56.7	63.7	467735	Y	1
111	9:26:00 AM	55.6	62.7	363078	Y	1
112	9:27:00 AM	54.8	65.1	301995	Y	1
113	9:28:00 AM	58.6	67.5	724436	Y	1
114	9:29:00 AM	62.5	71.0	1778279	Y	1
115	9:30:00 AM	59.2	70.0	831764	Y	1
116	9:31:00 AM	52.7	59.1	186209	Y	1
117	9:32:00 AM	56.1	64.9	407380	Y	1
118	9:33:00 AM	50.3	58.1	107152	Y	1
119	9:34:00 AM	60.1	69.8	1023293	Y	1
120	9:35:00 AM	59.7	67.0	933254	Y	1
121	9:36:00 AM	59.6	69.5	912011	Y	1
122	9:37:00 AM	62.5	72.6	1778279	Y	1
123	9:38:00 AM	60.4	72.3	1096478	Y	1
124	9:39:00 AM	60.9	71.3	1230269	Y	1
125	9:40:00 AM	57.5	65.4	562341	Y	1
126	9:41:00 AM	57.3	69.5	537032	Y	1
127	9:42:00 AM	56.0	65.8	398107	Y	1
128	9:43:00 AM	56.8	63.9	478630	Y	1
129	9:44:00 AM	52.7	61.7	186209	Y	1
130	9:45:00 AM	60.9	68.8	1230269	Y	1
131	9:46:00 AM	60.2	70.3	1047129	Y	1
132	9:47:00 AM	57.1	65.2	512861	Y	1
133	9:48:00 AM	48.0	56.6	63096	Y	1
134	9:49:00 AM	57.7	67.5	588844	Y	1
135	9:50:00 AM	56.5	63.5	446684	Y	1
136	9:51:00 AM	57.4	64.1	549541	Y	1
137	9:52:00 AM	57.7	65.7	588844	Y	1
138	9:53:00 AM	54.0	64.8	251189	Y	1
139	9:54:00 AM	55.0	63.7	316228	Y	1
140	9:55:00 AM	56.9	65.0	489779	Y	1
141	9:56:00 AM	56.5	63.1	446684	Y	1
142	9:57:00 AM	58.6	67.2	724436	Y	1
143	9:58:00 AM	54.8	66.6	301995	Y	1
144	9:59:00 AM	55.5	62.4	354813	Y	1
145	10:00:00 AM	61.9	72.0	1548817	Y	1
146	10:01:00 AM	54.9	63.0	309030	Y	1
147	10:02:00 AM	57.4	65.9	549541	Y	1
148	10:03:00 AM	57.8	68.7	602560	Y	1
149	10:04:00 AM	61.1	73.5	1288250	Y	1
150	10:05:00 AM	54.5	60.6	281838	Y	1
151	10:06:00 AM	59.0	70.2	794328	Y	1
152	10:07:00 AM	58.2	67.3	660693	Y	1
153	10:08:00 AM	56.9	66.0	489779	Y	1
154	10:09:00 AM	53.2	61.3	208930	Y	1
155	10:10:00 AM	58.8	66.0	758578	Y	1
156	10:11:00 AM	57.0	64.7	501187	Y	1
157	10:12:00 AM	51.3	61.8	134896	Y	1
158	10:13:00 AM	59.3	70.9	851138	Y	1
159	10:14:00 AM	54.0	64.0	251189	Y	1
160	10:15:00 AM	54.4	65.3	275423	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
161	10:16:00 AM	57.4	67.0	549541	Y	1
162	10:17:00 AM	54.7	63.7	295121	Y	1
163	10:18:00 AM	50.0	56.7	100000	Y	1
164	10:19:00 AM	54.9	65.8	309030	Y	1
165	10:20:00 AM	58.4	69.2	691831	Y	1
166	10:21:00 AM	52.3	59.1	169824	Y	1
167	10:22:00 AM	54.5	62.9	281838	Y	1
168	10:23:00 AM	53.6	60.3	229087	Y	1
169	10:24:00 AM	60.5	72.2	1122018	Y	1
170	10:25:00 AM	58.2	69.3	660693	Y	1
171	10:26:00 AM	56.9	67.2	489779	Y	1
172	10:27:00 AM	62.0	71.3	1584893	Y	1
173	10:28:00 AM	60.5	68.7	1122018	Y	1
174	10:29:00 AM	51.8	59.9	151356	Y	1
175	10:30:00 AM	53.7	62.9	234423	Y	1
176	10:31:00 AM	61.6	71.1	1445440	Y	1
177	10:32:00 AM	41.4	43.9	13804	Y	1
178	10:33:00 AM	50.3	57.9	107152	Y	1
179	10:34:00 AM	60.7	71.8	1174898	Y	1
180	10:35:00 AM	62.4	70.9	1737801	Y	1
181	10:36:00 AM	53.7	61.2	234423	Y	1
182	10:37:00 AM	61.7	70.8	1479108	Y	1
183	10:38:00 AM	56.0	65.7	398107	Y	1
184	10:39:00 AM	51.0	59.6	125893	Y	1
185	10:40:00 AM	51.9	59.5	154882	Y	1
186	10:41:00 AM	55.4	61.0	346737	Y	1
187	10:42:00 AM	59.1	67.7	812831	Y	1
188	10:43:00 AM	49.4	65.6	87096	Y	1
189	10:44:00 AM	53.7	61.1	234423	Y	1
190	10:45:00 AM	55.6	63.6	363078	Y	1
191	10:46:00 AM	69.1	82.0	8128305	Y	1
192	10:47:00 AM	52.5	59.6	177828	Y	1
193	10:48:00 AM	60.2	70.5	1047129	Y	1
194	10:49:00 AM	49.4	57.6	87096	Y	1
195	10:50:00 AM	62.2	70.2	1659587	Y	1
196	10:51:00 AM	54.2	64.3	263027	Y	1
197	10:52:00 AM	49.8	58.9	95499	Y	1
198	10:53:00 AM	52.9	61.4	194984	Y	1
199	10:54:00 AM	57.3	67.2	537032	Y	1
200	10:55:00 AM	54.2	61.6	263027	Y	1
201	10:56:00 AM	54.4	62.8	275423	Y	1
202	10:57:00 AM	43.5	49.6	22387	Y	1
203	10:58:00 AM	58.6	66.8	724436	Y	1
204	10:59:00 AM	53.0	62.6	199526	Y	1
205	11:00:00 AM	56.1	62.3	407380	Y	1
206	11:01:00 AM	57.5	66.8	562341	Y	1
207	11:02:00 AM	59.1	67.8	812831	Y	1
208	11:03:00 AM	53.4	60.8	218776	Y	1
209	11:04:00 AM	55.1	62.0	323594	Y	1
210	11:05:00 AM	56.6	62.2	457088	Y	1
211	11:06:00 AM	55.8	65.0	380189	Y	1
212	11:07:00 AM	55.1	66.9	323594	Y	1
213	11:08:00 AM	48.9	57.4	77625	Y	1
214	11:09:00 AM	56.3	66.6	426580	Y	1
215	11:10:00 AM	57.9	69.7	616595	Y	1
216	11:11:00 AM	55.0	62.7	316228	Y	1
217	11:12:00 AM	57.9	67.1	616595	Y	1
218	11:13:00 AM	50.8	57.2	120226	Y	1
219	11:14:00 AM	47.3	57.6	53703	Y	1
220	11:15:00 AM	54.2	64.9	263027	Y	1
221	11:16:00 AM	58.2	68.1	660693	Y	1
222	11:17:00 AM	52.0	61.7	158489	Y	1
223	11:18:00 AM	46.7	57.5	46774	Y	1
224	11:19:00 AM	46.8	56.7	47863	Y	1
225	11:20:00 AM	54.9	64.1	309030	Y	1
226	11:21:00 AM	50.6	62.2	114815	Y	1
227	11:22:00 AM	53.8	63.5	239883	Y	1
228	11:23:00 AM	56.5	68.2	446684	Y	1
229	11:24:00 AM	61.2	69.4	1318257	Y	1
230	11:25:00 AM	57.8	67.5	602560	Y	1
231	11:26:00 AM	52.8	61.7	190546	Y	1
232	11:27:00 AM	60.5	71.1	1122018	Y	1
233	11:28:00 AM	52.6	59.2	181970	Y	1
234	11:29:00 AM	57.2	67.9	524807	Y	1
235	11:30:00 AM	69.8	83.0	9549926	Y	1
236	11:31:00 AM	64.9	83.1	3090295	Y	1
237	11:32:00 AM	51.5	58.1	141254	Y	1
238	11:33:00 AM	59.3	69.5	851138	Y	1
239	11:34:00 AM	60.7	70.3	1174898	Y	1
240	11:35:00 AM	54.9	61.4	309030	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
241	11:36:00 AM	58.7	69.5	741310	Y	1
242	11:37:00 AM	61.4	71.6	1380384	Y	1
243	11:38:00 AM	55.2	64.8	331131	Y	1
244	11:39:00 AM	40.0	50.4	10000	Y	1
245	11:40:00 AM	58.3	67.5	676083	Y	1
246	11:41:00 AM	55.2	63.5	331131	Y	1
247	11:42:00 AM	51.0	59.6	125893	Y	1
248	11:43:00 AM	53.2	61.3	208930	Y	1
249	11:44:00 AM	59.0	70.3	794328	Y	1
250	11:45:00 AM	53.8	61.3	239883	Y	1
251	11:46:00 AM	56.6	66.7	457088	Y	1
252	11:47:00 AM	50.8	59.6	120226	Y	1
253	11:48:00 AM	55.0	65.8	316228	Y	1
254	11:49:00 AM	59.9	72.2	977237	Y	1
255	11:50:00 AM	58.2	68.2	660693	Y	1
256	11:51:00 AM	52.3	60.6	169824	Y	1
257	11:52:00 AM	53.1	61.8	204174	Y	1
258	11:53:00 AM	52.8	62.2	190546	Y	1
259	11:54:00 AM	54.8	60.3	301995	Y	1
260	11:55:00 AM	53.7	59.8	234423	Y	1
261	11:56:00 AM	62.8	75.2	1905461	Y	1
262	11:57:00 AM	56.6	66.7	457088	Y	1
263	11:58:00 AM	53.7	61.1	234423	Y	1
264	11:59:00 AM	64.8	77.2	3019952	Y	1
265	12:00:00 PM	57.6	68.6	575440	Y	1
266	12:01:00 PM	52.5	62.8	177828	Y	1
267	12:02:00 PM	51.7	59.9	147911	Y	1
268	12:03:00 PM	54.2	60.1	263027	Y	1
269	12:04:00 PM	48.8	57.8	75858	Y	1
270	12:05:00 PM	60.8	69.9	1202264	Y	1
271	12:06:00 PM	57.4	68.2	549541	Y	1
272	12:07:00 PM	60.3	68.2	1071519	Y	1
273	12:08:00 PM	54.3	63.1	269153	Y	1
274	12:09:00 PM	61.1	69.9	1288250	Y	1
275	12:10:00 PM	51.4	59.2	138038	Y	1
276	12:11:00 PM	49.0	56.6	79433	Y	1
277	12:12:00 PM	52.7	58.8	186209	Y	1
278	12:13:00 PM	59.5	70.9	891251	Y	1
279	12:14:00 PM	49.3	57.1	85114	Y	1
280	12:15:00 PM	54.1	62.2	257040	Y	1
281	12:16:00 PM	50.7	60.8	117490	Y	1
282	12:17:00 PM	60.6	72.0	1148154	Y	1
283	12:18:00 PM	59.4	69.5	870964	Y	1
284	12:19:00 PM	52.4	62.5	173780	Y	1
285	12:20:00 PM	53.6	60.3	229087	Y	1
286	12:21:00 PM	51.8	58.0	151356	Y	1
287	12:22:00 PM	56.7	65.0	467735	Y	1
288	12:23:00 PM	50.7	61.5	117490	Y	1
289	12:24:00 PM	54.9	60.9	309030	Y	1
290	12:25:00 PM	58.9	70.2	776247	Y	1
291	12:26:00 PM	53.1	59.1	204174	Y	1
292	12:27:00 PM	62.1	70.7	1621810	Y	1
293	12:28:00 PM	54.0	62.4	251189	Y	1
294	12:29:00 PM	52.2	61.5	165959	Y	1
295	12:30:00 PM	54.4	61.9	275423	Y	1
296	12:31:00 PM	50.9	59.5	123027	Y	1
297	12:32:00 PM	51.9	59.7	154882	Y	1
298	12:33:00 PM	54.6	60.5	288403	Y	1
299	12:34:00 PM	60.1	69.2	1023293	Y	1
300	12:35:00 PM	49.2	58.1	83176	Y	1
301	12:36:00 PM	54.1	61.0	257040	Y	1
302	12:37:00 PM	53.7	60.9	234423	Y	1
303	12:38:00 PM	58.8	70.1	758578	Y	1
304	12:39:00 PM	57.7	69.3	588844	Y	1
305	12:40:00 PM	50.9	61.9	123027	Y	1
306	12:41:00 PM	54.6	62.5	288403	Y	1
307	12:42:00 PM	62.0	69.4	1584893	Y	1
308	12:43:00 PM	48.0	56.2	63096	Y	1
309	12:44:00 PM	53.4	61.1	218776	Y	1
310	12:45:00 PM	51.6	60.6	144544	Y	1
311	12:46:00 PM	54.4	61.2	275423	Y	1
312	12:47:00 PM	55.4	64.3	346737	Y	1
313	12:48:00 PM	52.8	63.0	190546	Y	1
314	12:49:00 PM	53.8	60.3	239883	Y	1
315	12:50:00 PM	51.3	60.6	134896	Y	1
316	12:51:00 PM	47.1	58.3	51286	Y	1
317	12:52:00 PM	59.5	70.8	891251	Y	1
318	12:53:00 PM	54.0	61.7	251189	Y	1
319	12:54:00 PM	57.1	68.7	512861	Y	1
320	12:55:00 PM	45.4	56.2	34674	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
321	12:56:00 PM	57.0	67.2	501187	Y	1
322	12:57:00 PM	62.3	71.8	1698244	Y	1
323	12:58:00 PM	55.7	68.6	371535	Y	1
324	12:59:00 PM	61.4	71.8	1380384	Y	1
325	1:00:00 PM	54.8	61.0	301995	Y	1
326	1:01:00 PM	54.6	63.4	288403	Y	1
327	1:02:00 PM	51.4	58.8	138038	Y	1
328	1:03:00 PM	59.5	67.4	891251	Y	1
329	1:04:00 PM	56.7	68.3	467735	Y	1
330	1:05:00 PM	55.2	60.5	331131	Y	1
331	1:06:00 PM	45.8	56.3	38019	Y	1
332	1:07:00 PM	41.0	52.0	12589	Y	1
333	1:08:00 PM	59.8	68.8	954993	Y	1
334	1:09:00 PM	58.2	64.7	660693	Y	1
335	1:10:00 PM	67.2	79.1	5248075	Y	1
336	1:11:00 PM	54.5	62.4	281838	Y	1
337	1:12:00 PM	49.0	58.4	79433	Y	1
338	1:13:00 PM	55.1	61.9	323594	Y	1
339	1:14:00 PM	52.7	60.7	186209	Y	1
340	1:15:00 PM	51.6	62.0	144544	Y	1
341	1:16:00 PM	47.7	57.4	58884	Y	1
342	1:17:00 PM	60.1	70.4	1023293	Y	1
343	1:18:00 PM	54.7	64.0	295121	Y	1
344	1:19:00 PM	38.2	43.5	6607	Y	1
345	1:20:00 PM	59.7	69.1	933254	Y	1
346	1:21:00 PM	56.2	68.6	416869	Y	1
347	1:22:00 PM	54.5	60.9	281838	Y	1
348	1:23:00 PM	52.8	59.9	190546	Y	1
349	1:24:00 PM	48.1	57.3	64565	Y	1
350	1:25:00 PM	56.9	68.0	489779	Y	1
351	1:26:00 PM	59.1	67.9	812831	Y	1
352	1:27:00 PM	62.3	69.6	1698244	Y	1
353	1:28:00 PM	53.1	59.1	204174	Y	1
354	1:29:00 PM	48.7	59.6	74131	Y	1
355	1:30:00 PM	51.5	60.5	141254	Y	1
356	1:31:00 PM	54.5	61.4	281838	Y	1
357	1:32:00 PM	53.1	64.2	204174	Y	1
358	1:33:00 PM	51.8	65.3	151356	Y	1
359	1:34:00 PM	61.7	68.4	1479108	Y	1
360	1:35:00 PM	61.8	72.2	1513561	Y	1
361	1:36:00 PM	52.1	60.5	162181	Y	1
362	1:37:00 PM	58.4	70.9	691831	Y	1
363	1:38:00 PM	61.2	70.4	1318257	Y	1
364	1:39:00 PM	57.0	69.4	501187	Y	1
365	1:40:00 PM	60.4	68.2	1096478	Y	1
366	1:41:00 PM	48.5	60.9	70795	Y	1
367	1:42:00 PM	67.2	79.4	5248075	Y	1
368	1:43:00 PM	49.9	60.1	97724	Y	1
369	1:44:00 PM	54.0	60.3	251189	Y	1
370	1:45:00 PM	58.4	70.0	691831	Y	1
371	1:46:00 PM	52.8	60.2	190546	Y	1
372	1:47:00 PM	52.0	62.2	158489	Y	1
373	1:48:00 PM	51.9	59.9	154882	Y	1
374	1:49:00 PM	53.7	61.8	234423	Y	1
375	1:50:00 PM	46.6	57.1	45709	Y	1
376	1:51:00 PM	47.3	56.6	53703	Y	1
377	1:52:00 PM	51.7	59.0	147911	Y	1
378	1:53:00 PM	60.7	68.8	1174898	Y	1
379	1:54:00 PM	61.0	69.8	1258925	Y	1
380	1:55:00 PM	56.4	67.2	436516	Y	1
381	1:56:00 PM	60.3	67.7	1071519	Y	1
382	1:57:00 PM	53.1	63.1	204174	Y	1
383	1:58:00 PM	63.0	73.3	1995262	Y	1
384	1:59:00 PM	38.5	46.5	7079	Y	1
385	2:00:00 PM	51.2	63.2	131826	Y	1
386	2:01:00 PM	53.1	62.3	204174	Y	1
387	2:02:00 PM	56.0	64.3	398107	Y	1
388	2:03:00 PM	52.6	62.2	181970	Y	1
389	2:04:00 PM	56.3	65.7	426580	Y	1
390	2:05:00 PM	55.0	63.0	316228	Y	1
391	2:06:00 PM	52.4	60.6	173780	Y	1
392	2:07:00 PM	56.4	67.6	436516	Y	1
393	2:08:00 PM	54.7	63.9	295121	Y	1
394	2:09:00 PM	60.0	70.9	1000000	Y	1
395	2:10:00 PM	40.4	47.6	10965	Y	1
396	2:11:00 PM	59.6	69.2	912011	Y	1
397	2:12:00 PM	52.0	61.4	158489	Y	1
398	2:13:00 PM	55.1	62.0	323594	Y	1
399	2:14:00 PM	51.3	60.0	134896	Y	1
400	2:15:00 PM	53.8	59.5	239883	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
401	2:16:00 PM	58.4	65.6	691831	Y	1
402	2:17:00 PM	47.8	57.2	60256	Y	1
403	2:18:00 PM	56.4	64.8	436516	Y	1
404	2:19:00 PM	50.2	57.9	104713	Y	1
405	2:20:00 PM	64.9	78.7	3090295	Y	1
406	2:21:00 PM	57.0	64.1	501187	Y	1
407	2:22:00 PM	51.1	60.7	128825	Y	1
408	2:23:00 PM	52.3	57.8	169824	Y	1
409	2:24:00 PM	51.4	57.7	138038	Y	1
410	2:25:00 PM	59.1	69.3	812831	Y	1
411	2:26:00 PM	58.0	64.7	630957	Y	1
412	2:27:00 PM	59.2	71.0	831764	Y	1
413	2:28:00 PM	51.6	59.0	144544	Y	1
414	2:29:00 PM	48.7	57.3	74131	Y	1
415	2:30:00 PM	53.8	61.8	239883	Y	1
416	2:31:00 PM	63.1	72.8	2041738	Y	1
417	2:32:00 PM	56.2	68.1	416869	Y	1
418	2:33:00 PM	57.7	69.5	588844	Y	1
419	2:34:00 PM	61.2	71.7	1318257	Y	1
420	2:35:00 PM	52.6	62.9	181970	Y	1
421	2:36:00 PM	60.6	68.4	1148154	Y	1
422	2:37:00 PM	59.7	70.4	933254	Y	1
423	2:38:00 PM	57.5	67.2	562341	Y	1
424	2:39:00 PM	51.6	60.6	144544	Y	1
425	2:40:00 PM	61.1	72.0	1288250	Y	1
426	2:41:00 PM	52.0	71.6	158489	Y	1
427	2:42:00 PM	59.2	70.4	831764	Y	1
428	2:43:00 PM	58.6	66.4	724436	Y	1
429	2:44:00 PM	53.8	63.3	239883	Y	1
430	2:45:00 PM	54.0	60.6	251189	Y	1
431	2:46:00 PM	59.2	67.5	831764	Y	1
432	2:47:00 PM	57.9	66.1	616595	Y	1
433	2:48:00 PM	56.0	66.7	398107	Y	1
434	2:49:00 PM	61.3	69.2	1348963	Y	1
435	2:50:00 PM	54.3	62.6	269153	Y	1
436	2:51:00 PM	57.0	69.2	501187	Y	1
437	2:52:00 PM	54.8	63.9	301995	Y	1
438	2:53:00 PM	58.4	67.9	691831	Y	1
439	2:54:00 PM	59.3	68.4	851138	Y	1
440	2:55:00 PM	55.8	65.9	380189	Y	1
441	2:56:00 PM	49.1	59.3	81283	Y	1
442	2:57:00 PM	54.8	64.2	301995	Y	1
443	2:58:00 PM	59.2	69.4	831764	Y	1
444	2:59:00 PM	52.7	65.6	186209	Y	1
445	3:00:00 PM	49.1	59.0	81283	Y	1
446	3:01:00 PM	59.8	72.1	954993	Y	1
447	3:02:00 PM	60.4	72.8	1096478	Y	1
448	3:03:00 PM	57.7	65.4	588844	Y	1
449	3:04:00 PM	59.1	66.2	812831	Y	1
450	3:05:00 PM	59.4	68.8	870964	Y	1
451	3:06:00 PM	50.9	58.9	123027	Y	1
452	3:07:00 PM	57.2	66.3	524807	Y	1
453	3:08:00 PM	55.7	65.3	371535	Y	1
454	3:09:00 PM	52.7	62.7	186209	Y	1
455	3:10:00 PM	55.5	65.0	354813	Y	1
456	3:11:00 PM	53.9	60.1	245471	Y	1
457	3:12:00 PM	61.2	69.2	1318257	Y	1
458	3:13:00 PM	54.3	61.0	269153	Y	1
459	3:14:00 PM	52.1	58.4	162181	Y	1
460	3:15:00 PM	54.2	60.7	263027	Y	1
461	3:16:00 PM	56.8	63.1	478630	Y	1
462	3:17:00 PM	55.3	61.4	338844	Y	1
463	3:18:00 PM	56.8	66.1	478630	Y	1
464	3:19:00 PM	55.3	63.3	338844	Y	1
465	3:20:00 PM	56.1	66.3	407380	Y	1
466	3:21:00 PM	58.0	67.6	630957	Y	1
467	3:22:00 PM	58.0	66.5	630957	Y	1
468	3:23:00 PM	54.0	63.6	251189	Y	1
469	3:24:00 PM	56.1	62.7	407380	Y	1
470	3:25:00 PM	58.1	67.3	645654	Y	1
471	3:26:00 PM	51.5	57.9	141254	Y	1
472	3:27:00 PM	56.2	64.3	416869	Y	1
473	3:28:00 PM	53.1	64.2	204174	Y	1
474	3:29:00 PM	57.4	65.4	549541	Y	1
475	3:30:00 PM	60.8	72.5	1202264	Y	1
476	3:31:00 PM	59.6	69.5	912011	Y	1
477	3:32:00 PM	59.2	69.0	831764	Y	1
478	3:33:00 PM	57.0	64.3	501187	Y	1
479	3:34:00 PM	57.6	66.8	575440	Y	1
480	3:35:00 PM	62.3	72.6	1698244	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
481	3:36:00 PM	61.6	69.5	1445440	Y	1
482	3:37:00 PM	66.8	78.9	4786301	Y	1
483	3:38:00 PM	55.6	65.0	363078	Y	1
484	3:39:00 PM	55.3	63.9	338844	Y	1
485	3:40:00 PM	55.9	63.1	389045	Y	1
486	3:41:00 PM	56.4	61.8	436516	Y	1
487	3:42:00 PM	60.1	71.7	1023293	Y	1
488	3:43:00 PM	60.4	70.7	1096478	Y	1
489	3:44:00 PM	58.9	67.2	776247	Y	1
490	3:45:00 PM	56.6	64.8	457088	Y	1
491	3:46:00 PM	61.2	69.8	1318257	Y	1
492	3:47:00 PM	55.4	68.2	346737	Y	1
493	3:48:00 PM	59.2	67.0	831764	Y	1
494	3:49:00 PM	58.2	67.9	660693	Y	1
495	3:50:00 PM	51.0	57.9	125893	Y	1
496	3:51:00 PM	55.1	65.9	323594	Y	1
497	3:52:00 PM	50.9	59.6	123027	Y	1
498	3:53:00 PM	57.1	67.0	512861	Y	1
499	3:54:00 PM	56.5	66.3	446684	Y	1
500	3:55:00 PM	61.4	69.7	1380384	Y	1
501	3:56:00 PM	54.9	63.1	309030	Y	1
502	3:57:00 PM	54.3	60.4	269153	Y	1
503	3:58:00 PM	58.0	67.6	630957	Y	1
504	3:59:00 PM	56.9	66.4	489779	Y	1
505	4:00:00 PM	55.1	63.3	323594	Y	1
506	4:01:00 PM	55.6	65.9	363078	Y	1
507	4:02:00 PM	55.7	64.0	371535	Y	1
508	4:03:00 PM	56.8	65.7	478630	Y	1
509	4:04:00 PM	55.8	59.5	380189	Y	1
510	4:05:00 PM	51.9	61.8	154882	Y	1
511	4:06:00 PM	52.7	63.1	186209	Y	1
512	4:07:00 PM	56.8	64.1	478630	Y	1
513	4:08:00 PM	52.8	62.0	190546	Y	1
514	4:09:00 PM	59.0	67.9	794328	Y	1
515	4:10:00 PM	60.5	70.2	1122018	Y	1
516	4:11:00 PM	49.5	57.4	89125	Y	1
517	4:12:00 PM	56.2	63.0	416869	Y	1
518	4:13:00 PM	59.0	69.0	794328	Y	1
519	4:14:00 PM	58.1	68.1	645654	Y	1
520	4:15:00 PM	57.8	67.6	602560	Y	1
521	4:16:00 PM	53.3	62.5	213796	Y	1
522	4:17:00 PM	52.6	61.4	181970	Y	1
523	4:18:00 PM	57.3	63.1	537032	Y	1
524	4:19:00 PM	54.3	60.5	269153	Y	1
525	4:20:00 PM	53.3	62.5	213796	Y	1
526	4:21:00 PM	57.2	65.7	524807	Y	1
527	4:22:00 PM	56.3	65.3	426580	Y	1
528	4:23:00 PM	58.9	67.2	776247	Y	1
529	4:24:00 PM	57.6	66.4	575440	Y	1
530	4:25:00 PM	57.5	66.6	562341	Y	1
531	4:26:00 PM	51.7	61.3	147911	Y	1
532	4:27:00 PM	57.6	66.9	575440	Y	1
533	4:28:00 PM	59.3	70.1	851138	Y	1
534	4:29:00 PM	57.8	64.9	602560	Y	1
535	4:30:00 PM	58.6	68.2	724436	Y	1
536	4:31:00 PM	56.6	66.0	457088	Y	1
537	4:32:00 PM	49.2	56.4	83176	Y	1
538	4:33:00 PM	60.2	70.5	1047129	Y	1
539	4:34:00 PM	60.4	69.3	1096478	Y	1
540	4:35:00 PM	61.8	70.5	1513561	Y	1
541	4:36:00 PM	57.0	64.8	501187	Y	1
542	4:37:00 PM	54.3	60.6	269153	Y	1
543	4:38:00 PM	60.0	68.8	1000000	Y	1
544	4:39:00 PM	56.8	66.1	478630	Y	1
545	4:40:00 PM	53.0	60.2	199526	Y	1
546	4:41:00 PM	49.4	60.7	87096	Y	1
547	4:42:00 PM	57.3	63.6	537032	Y	1
548	4:43:00 PM	55.4	62.4	346737	Y	1
549	4:44:00 PM	61.1	74.2	1288250	Y	1
550	4:45:00 PM	56.2	64.3	416869	Y	1
551	4:46:00 PM	59.4	70.1	870964	Y	1
552	4:47:00 PM	56.0	63.8	398107	Y	1
553	4:48:00 PM	57.8	67.0	602560	Y	1
554	4:49:00 PM	59.4	71.5	870964	Y	1
555	4:50:00 PM	63.0	72.5	1995262	Y	1
556	4:51:00 PM	49.2	58.9	83176	Y	1
557	4:52:00 PM	56.1	66.0	407380	Y	1
558	4:53:00 PM	58.2	62.8	660693	Y	1
559	4:54:00 PM	55.3	65.1	338844	Y	1
560	4:55:00 PM	60.7	69.3	1174898	Y	1

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***Reference, 1925 Highway 18***
Description: ***Faith Tabernacle Worship Center***
Filename: ***AU2_1800***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count
561	4:56:00 PM	53.9	61.5	245471	Y	1
562	4:57:00 PM	55.8	63.6	380189	Y	1
563	4:58:00 PM	59.3	66.1	851138	Y	1
564	4:59:00 PM	59.7	67.4	933254	Y	1
565	5:00:00 PM	48.4	59.1	69183	Y	1
566	5:01:00 PM	59.0	69.5	794328	Y	1
567	5:02:00 PM	57.8	62.2	602560	Y	1
568	5:03:00 PM	52.8	60.9	190546	Y	1
569	5:04:00 PM	70.9	83.8	12302688	Y	1
570	5:05:00 PM	57.7	68.0	588844	Y	1
571	5:06:00 PM	61.0	70.1	1258925	Y	1
572	5:07:00 PM	56.0	64.1	398107	Y	1
573	5:08:00 PM	57.5	65.3	562341	Y	1
574	5:09:00 PM	56.8	61.7	478630	Y	1
575	5:10:00 PM	48.0	58.5	63096	Y	1
576	5:11:00 PM	53.2	60.6	208930	Y	1
577	5:12:00 PM	56.9	63.6	489779	Y	1
578	5:13:00 PM	59.0	66.7	794328	Y	1
579	5:14:00 PM	56.4	63.3	436516	Y	1
580	5:15:00 PM	62.9	70.7	1949845	Y	1
581	5:16:00 PM	57.9	68.8	616595	Y	1
582	5:17:00 PM	53.1	60.2	204174	Y	1
583	5:18:00 PM	57.6	63.2	575440	Y	1
584	5:19:00 PM	50.4	59.3	109648	Y	1
585	5:20:00 PM	59.1	68.4	812831	Y	1
586	5:21:00 PM	53.8	64.4	239883	Y	1
587	5:22:00 PM	59.8	64.8	954993	Y	1
588	5:23:00 PM	54.5	64.1	281838	Y	1
589	5:24:00 PM	55.6	63.0	363078	Y	1
590	5:25:00 PM	57.1	66.9	512861	Y	1
591	5:26:00 PM	59.6	65.9	912011	Y	1
592	5:27:00 PM	55.3	62.5	338844	Y	1
593	5:28:00 PM	54.4	62.8	275423	Y	1
594	5:29:00 PM	52.1	62.9	162181	Y	1
595	5:30:00 PM	61.0	70.7	1258925	Y	1
596	5:31:00 PM	57.3	64.6	537032	Y	1
597	5:32:00 PM	52.6	63.3	181970	Y	1
598	5:33:00 PM	53.0	60.5	199526	Y	1
599	5:34:00 PM	52.2	59.6	165959	Y	1
600	5:35:00 PM	53.1	61.7	204174	Y	1
601	5:36:00 PM	56.8	64.2	478630	Y	1
602	5:37:00 PM	57.6	67.3	575440	Y	1
603	5:38:00 PM	55.2	60.6	331131	Y	1
604	5:39:00 PM	53.9	61.0	245471	Y	1
605	5:40:00 PM	58.6	67.7	724436	Y	1
606	5:41:00 PM	54.2	61.3	263027	Y	1
607	5:42:00 PM	60.9	70.0	1230269	Y	1
608	5:43:00 PM	58.2	66.3	660693	Y	1
609	5:44:00 PM	52.6	59.3	181970	Y	1
610	5:45:00 PM	56.3	62.5	426580	Y	1
611	5:46:00 PM	51.5	58.7	141254	Y	1
612	5:47:00 PM	57.0	65.7	501187	Y	1
613	5:48:00 PM	53.5	61.2	223872	Y	1
614	5:49:00 PM	52.8	59.3	190546	Y	1
615	5:50:00 PM	50.0	59.2	100000	Y	1
616	5:51:00 PM	54.5	61.9	281838	Y	1
617	5:52:00 PM	59.1	68.2	812831	Y	1
618	5:53:00 PM	55.8	64.1	380189	Y	1
619	5:54:00 PM	56.7	67.8	467735	Y	1
620	5:55:00 PM	56.8	67.2	478630	Y	1
621	5:56:00 PM	53.6	58.3	229087	Y	1
622	5:57:00 PM	63.8	77.2	2398833	Y	1
623	5:58:00 PM	53.3	63.3	213796	Y	1
624	5:59:00 PM	52.5	59.0	177828	Y	1
625	6:00:00 PM	41.2	41.8	0	N	0

27870 Highway 18 looking west to SR 18

27870 Highway 18 looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

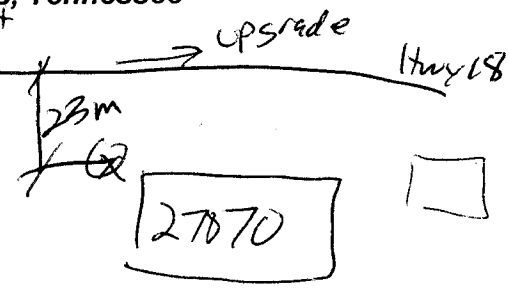
Date 9/18/2007

Site

Area

Address 27870 Hwy 18

Site Sketch



Weather

Temp 80

Wind 7 mph

Direction E

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	11:11:00	57 dB PC NB, 1 MT 44 dB, 62 dB pickup SB, 63 dB PC SB
2	11:12	68 dB MT SB, 65 dB PC NB,
3	13	74 dB HT SB, weedwacker across st., weedwacker 48 dB
4	14	62 dB pickup NB, 64 dB SUV SB, 63 dB van NB, 64 dB small bus
5	15	66 dB MC NB, 77 dB 2 HTs, 73 dB HT SB
6	16	lawn equ. 46-47 dB, 67 dB pickup SB, 64 dB SUV SB
7	17	65 dB MT SB, 62 dB 2 PCs NB, 72 dB HT NB
8	18	72 dB HT NB, 65 dB 2 PCs,
9	19	73 dB HT SB, 51 dB weedwacker, 64 dB van NB
10	20	weedwacker 48 dB, 74 dB HT SB
11	21	58 dB PC NB, 65 dB PCs NB, 63 dB pickup SB
12	22	59 dB SUV SB
13	23	73 dB HT SB
14	24	63 dB SUV NB, 2 HTs 77 dB, 63 dB PC SB
15	25	68 dB PC SB, 63 dB PC NB, 60 dB van NB
16	26	64 dB PC SB, 61 dB PC NB, 69 dB HT NB
17	27	71 dB pickup NB
18	28	62 dB pickup NB SB, 75 dB HT NB, 66 dB MT NB
19	29	weedwacker 48 dB,
20	30	73 dB HT NB
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AV2-1806

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***27870 Highway 18***
Description: ***Residence***
Filename: ***AU2_1806***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	11:11:00 AM	55.4	63.2	346737	Y	1	
2	11:12:00 AM	61.6	70.0	1445440	Y	1	
3	11:13:00 AM	63.6	74.8	2290868	Y	1	
4	11:14:00 AM	59.2	63.9	831764	Y	1	
5	11:15:00 AM	66.6	77.2	4570882	Y	1	
6	11:16:00 AM	57.8	67.2	602560	Y	1	
7	11:17:00 AM	63.8	72.6	2398833	Y	1	
8	11:18:00 AM	61.8	72.1	1513561	Y	1	
9	11:19:00 AM	63.2	72.9	2089296	Y	1	
10	11:20:00 AM	63.2	74.0	2089296	Y	1	
11	11:21:00 AM	61.6	71.5	1445440	Y	1	
12	11:22:00 AM	55.7	65.1	371535	Y	1	
13	11:23:00 AM	62.3	73.5	1698244	Y	1	
14	11:24:00 AM	66.5	77.4	4466836	Y	1	
15	11:25:00 AM	59.5	65.4	891251	Y	1	
16	11:26:00 AM	61.6	69.5	1445440	Y	1	
17	11:27:00 AM	61.3	71.7	1348963	Y	1	
18	11:28:00 AM	64.2	75.4	2630268	Y	1	
19	11:29:00 AM	52.6	64.8	181970	Y	1	
20	11:30:00 AM	63.3	72.9	2137962	Y	1	
			Energy	34797144		20	
			Leq	**62.4**			

28720 Highway 18 looking west to SR 18

28720 Highway 18 looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2007

Site

Area

Address 25720 Hwy 18

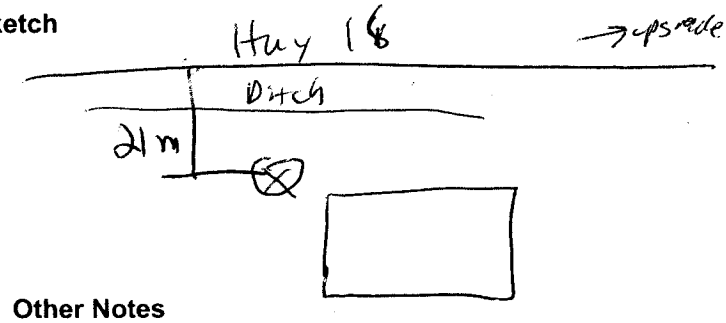
Weather

Temp 80°F

Wind 8

Direction S

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	10:34	58 dB PC SB, 66 dB SUV SB, 62 dB PC SB
2	35	73 dB HT SB, 66 dB PC NB
3	36	61 dB PC SB, 65 dB PC NB 62 dB van NB
4	37	67 dB van NB, 67 dB MT SB
5	38	lull 38 dB, no cars
6	39	66 dB pickup NB, 64 dB PC NB 65 dB pickup SB
7	40	64 dB pickup NB, 69 dB pickup NB, 86 dB HT NB
8	41	64 dB pickup NB, 67 dB PC SB
9	42	70 dB MT NB, wind from E 7 mph, 77 dB HT NB
10	43	64 dB SUV SB, airplane in dist
11	44	76 dB HT NB
12	45	76 dB HT NB (2), 72 dB MT SB, 73 dB HT SB
13	46	70 dB pickup/trailer, lull 37 dB, 36 dB
14	47	63 dB PC NB, 66 dB PC NB
15	48	64 dB 2 veh, 75 dB HT NB, 73 dB HT SB
16	49	66 dB pickup NB, 64 dB PC NB
17	50	69 dB pickup NB, 61 dB van SB, 69 dB SUV NB
18	51	70 dB MT NB
19	52	67 dB 3 PCs, 66 dB multiple PCs SB
20	53	wind gust, 65 dB van SB, 67 dB PC NB, 69 dB 2 PCs NB
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AU2-1805

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***28770 and 28720 Highway 18***
Description: ***Residence***
Filename: ***AU2_1805***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	10:34:00 AM	58.2	65.8	660693	Y	1	
2	10:35:00 AM	62.7	73.2	1862087	Y	1	
3	10:36:00 AM	59.2	68.7	831764	Y	1	
4	10:37:00 AM	60.8	68.7	1202264	Y	1	
5	10:38:00 AM	42.7	46.9	18621	Y	1	
6	10:39:00 AM	59.1	66.0	812831	Y	1	
7	10:40:00 AM	73.0	86.2	0	N	0	
8	10:41:00 AM	58.8	69.1	758578	Y	1	
9	10:42:00 AM	65.1	77.6	3235937	Y	1	
10	10:43:00 AM	53.0	64.3	199526	Y	1	
11	10:44:00 AM	64.9	76.4	3090295	Y	1	
12	10:45:00 AM	68.1	76.0	6456542	Y	1	
13	10:46:00 AM	57.9	70.3	616595	Y	1	
14	10:47:00 AM	55.5	66.8	354813	Y	1	
15	10:48:00 AM	66.0	75.0	3981072	Y	1	
16	10:49:00 AM	57.5	66.2	562341	Y	1	
17	10:50:00 AM	61.8	69.2	1513561	Y	1	
18	10:51:00 AM	55.9	70.2	389045	Y	1	
19	10:52:00 AM	61.4	66.7	1380384	Y	1	
20	10:53:00 AM	61.5	69.1	1412538	Y	1	
			Energy	29339488		19	
			Leq	**61.9**			

28855 Highway 18 looking west to SR 18

28855 Highway 18 looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

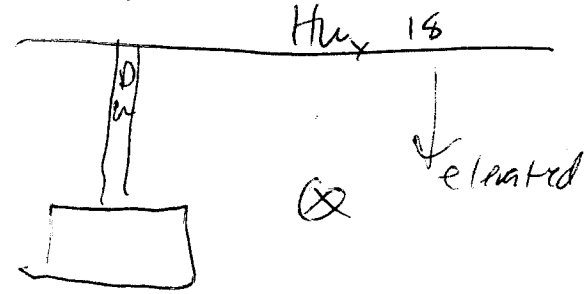
Date 9/18/2007

Site

Area

Address 28855 Hwy 18

Site Sketch



Weather

Temp 80°F

Wind 7

Direction SE

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	~~09:58~~ 10:00	no cars 39 dB, 57 dB SUV NB, 58 dB PC NB
2	10:01	66 dB 2 HTs, 64 dB MT SB
3	02	58 dB pickup, 59 dB pickup NB, 61 dB PCs NB
4	03	58 dB 2 PCs NB, lull 37 dB, buss 45 dB
5	04	lull 37 dB
6	05	66 dB pickup SB, 61 dB PCs NB, 64 dB multiple, 66 dB HT SB
7	06	57 dB pickup NB
8	07	buss 45 dB, 57 dB SUV SB, 67 dB pickup/trailer
9	08	66 dB HT NB, 63 dB PC SB
10	09	71 dB HT SB, 63 dB pickup/trailer NB
11	10	64 dB pickup/trailer, lull 37 dB, 55 dB PC NB
12	11	62 dB van SB
13	12	64 dB MT NB, 69 dB HT SB
14	13	57 dB van NB, 59 dB multiple veh, 58 dB PC SB
15	14	61 dB pickup SB, 63 dB pickup SB, 63 dB MT NB
16	15	lull 40 dB
17	16	65 dB HT SB, 63 dB 2 SUVs SB
18	17	61 dB 3 PCs NB, buss, 60 dB van SB
19	18	58 dB PC NB, 60 dB SUV NB
20	19	60 dB SUV NB, 66 dB MT SB, buss 51 dB, 66 dB HT NB
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AU2 1804

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***28855 Highway 18***
Description: ***Residence***
Filename: ***AU2_1804***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	10:00:00 AM	53.9	65.7	245471	Y	1	
2	10:01:00 AM	57.0	66.0	501187	Y	1	
3	10:02:00 AM	53.5	61.3	223872	Y	1	
4	10:03:00 AM	48.4	58.6	69183	Y	1	
5	10:04:00 AM	41.6	50.5	14454	Y	1	
6	10:05:00 AM	60.1	66.4	1023293	Y	1	
7	10:06:00 AM	53.0	62.6	199526	Y	1	
8	10:07:00 AM	55.9	66.9	389045	Y	1	
9	10:08:00 AM	55.9	65.9	389045	Y	1	
10	10:09:00 AM	59.8	71.4	954993	Y	1	
11	10:10:00 AM	52.9	64.6	194984	Y	1	
12	10:11:00 AM	56.5	65.1	446684	Y	1	
13	10:12:00 AM	57.0	68.8	501187	Y	1	
14	10:13:00 AM	52.6	59.4	181970	Y	1	
15	10:14:00 AM	57.3	63.8	537032	Y	1	
16	10:15:00 AM	43.4	53.5	21878	Y	1	
17	10:16:00 AM	55.3	65.4	338844	Y	1	
18	10:17:00 AM	55.5	60.9	354813	Y	1	
19	10:18:00 AM	52.1	60.4	162181	Y	1	
20	10:19:00 AM	57.7	66.3	588844	Y	1	
			Energy	7338487		20	
			Leq	**55.6**			

2364 Highway 18 looking west to SR 18

2364 Highway 18 looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

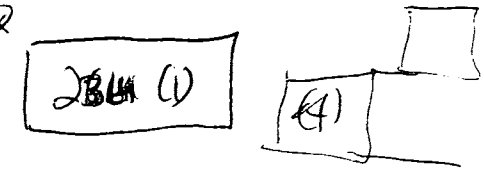
Date 9/14/2007

Site

Area

Address 2364 Hwy 18

Site Sketch Hwy 18



4 units

Weather

Temp 80°F
Wind 7 mph
Direction SE

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	9:18:03	76 dB HT NB, 79 dB HT NB
2	19	82 dB HT SB, 79 dB HT SB
3	20	73 dB PC SB, Lull 44 dB, MC 76 dB pickup
4	21	wind gust 10 mph, HT 79 dB SB, 79 dB HT SB
5	22	73 dB pickup NB, 73 dB PCs SB, 77 dB PCs
6	23	75 dB PCs NB, 75 dB PC NB
7	24	71 dB PC NB, 75 dB RV NB, ~~72 dB pick~~
8	25	72 dB pickup SB, 75 dB multiple, 78 dB HT NB
9	26	74 dB pickup SB, Lull 40 dB
10	27	79 dB HT NB, 81 dB HT NB, 81 dB HT NB
11	28	74 dB multiple PCs, 71 dB PC NB
12	29	72 dB PC SB, 73 dB PC NB
13	30	77 dB HT NB, 76 dB pickup SB
14	31	72 dB PC NB, 80 dB HT NB
15	32	72 dB PC SB, 74 dB pickup SB
16	33	70 dB PC NB, 79 dB HT NB
17	34	Lull 42 dB
18	35	74 dB PC NB, 83 dB pickup NB, 72 dB SUV SB
19	36	70 dB PC NB, 76 dB 2 PCs NB, 82 dB HT NB
20	37	73 dB SUV SB, 75 dB pickup SB, 80 dB HT SB, 81 dB HT SB
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AV2-1803

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***2364 Hwy 18***
Description: ***Multi-Family Residence***
Filename: ***AU2_1803***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	9:18:03 AM	71.0	79.0	12589254	Y	1	
2	9:19:03 AM	72.4	81.9	17378008	Y	1	
3	9:20:03 AM	66.0	76.0	3981072	Y	1	
4	9:21:03 AM	69.9	79.0	9772372	Y	1	
5	9:22:03 AM	69.1	77.1	8128305	Y	1	
6	9:23:03 AM	66.4	75.8	4365158	Y	1	
7	9:24:03 AM	65.2	76.0	3311311	Y	1	
8	9:25:03 AM	70.1	78.0	10232930	Y	1	
9	9:26:03 AM	66.8	79.7	4786301	Y	1	
10	9:27:03 AM	71.8	81.4	15135612	Y	1	
11	9:28:03 AM	65.2	77.1	3311311	Y	1	
12	9:29:03 AM	65.8	73.0	3801894	Y	1	
13	9:30:03 AM	67.9	76.9	6165950	Y	1	
14	9:31:03 AM	69.7	80.3	9332543	Y	1	
15	9:32:03 AM	64.1	74.2	2570396	Y	1	
16	9:33:03 AM	68.7	79.4	7413102	Y	1	
17	9:34:03 AM	46.9	65.1	48978	Y	1	
18	9:35:03 AM	71.4	83.0	13803843	Y	1	
19	9:36:03 AM	71.5	82.5	14125375	Y	1	
20	9:37:03 AM	72.6	81.5	18197009	Y	1	
			Energy	168450725		20	
			Leq	**69.3**			

133 Lowery Road looking west to SR 18

133 Lowery Road looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/19/2007

Site

Area

Address 133 Lowery

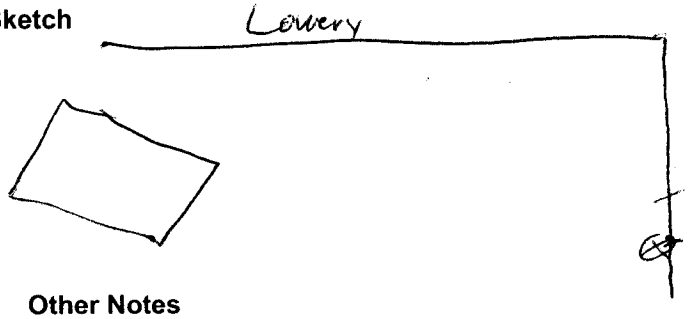
Weather

Temp 70°F

Wind calm

Direction

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	9:23	bird 44dB, 41 dB SR18, 44 dB load veh SR18
2	24	veh Lowery 55 dB, van Lowery 51 dB, 55 dB veh Lowery
3	25	birds SR18 - 40 dB, no veh on Lowery
4	26	41 dB HT SR18
5	27	veh on Lowery 52.5 dB low of 38 dB
6	28	41 dB HT SR 18, 44 dB HT SR 18
7	29	SR18 41 dB, PC Lowery 50.5 dB
8	30	veh in dist 45 dB, 53 dB veh on Lowery, 55 dB SUV
9	31	SR18 41 dB bird 45 dB
10	32	SR 18 39 dB, veh Lowery 52.4 dB
11	33	SR18 40 dB
12	34	38 dB ambient, veh in distance, 44 dB birds
13	35	51 dB pickup, 51 dB van
14	36	SUV 54 dB Lowery
15	37	birds 43 dB, 51 dB PC Lowery
16	38	bird 44 dB, hum in distance, SR 18
17	39	bird 47 dB
18	40	43 dB veh SR18
19	41	bird 45 dB
20	42	bird 43 dB
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AV2-187

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/19/07***
Site: ***133 Lowery Road***
Description: ***Residence***
Filename: ***AU2_1817***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	8:23:00 AM	43.0	47.3	19953	Y	1	
2	8:24:00 AM	50.0	55.3	100000	Y	1	
3	8:25:00 AM	40.2	42.4	10471	Y	1	
4	8:26:00 AM	40.3	42.8	10715	Y	1	
5	8:27:00 AM	44.9	52.8	30903	Y	1	
6	8:28:00 AM	40.4	44.1	10965	Y	1	
7	8:29:00 AM	44.2	50.8	26303	Y	1	
8	8:30:00 AM	49.0	55.5	79433	Y	1	
9	8:31:00 AM	40.1	44.5	10233	Y	1	
10	8:32:00 AM	44.4	52.4	27542	Y	1	
11	8:33:00 AM	40.8	46.8	12023	Y	1	
12	8:34:00 AM	40.9	43.9	12303	Y	1	
13	8:35:00 AM	45.9	51.1	38905	Y	1	
14	8:36:00 AM	45.9	53.7	38905	Y	1	
15	8:37:00 AM	45.1	50.9	32359	Y	1	
16	8:38:00 AM	43.1	47.4	20417	Y	1	
17	8:39:00 AM	42.4	47.1	17378	Y	1	
18	8:40:00 AM	42.0	42.8	15849	Y	1	
19	8:41:00 AM	42.3	45.4	16982	Y	1	
20	8:42:00 AM	42.5	44.3	17783	Y	1	
			Energy	549421		20	
			Leq	**44.4**			

2112 Highway 18 (Clover Creek Church) looking east to SR 18

2112 Highway 18 (Clover Creek Church) looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/14/2007

Site Clover Creek Baptist Church

Area

Address 2112 Hwy 18

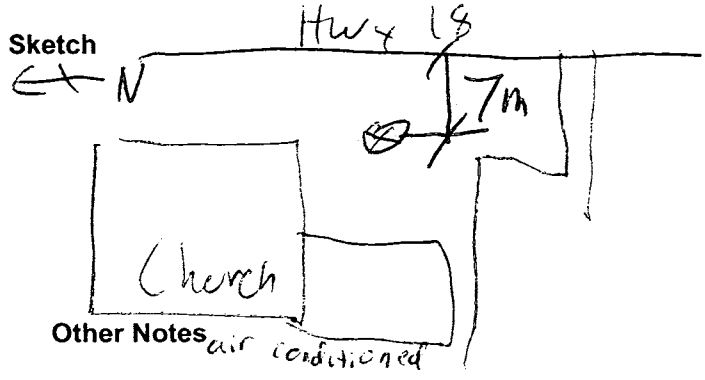
Weather

Temp 75°F

Wind SSE

Direction 3 mph

Site Sketch



Other Notes air conditioned

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	8:36	PC 69 dB NB, 72 dB PCs, 73 dB PC SB
2	37	70 dB multiple PCs
3	38	73 dB multiple PCs NB, 71 dB PC NB, 72 dB PCs
4	39	70 dB PC NB, 73 dB PCs NB, 74 dB pickup SB, 77 dB HT
5	40	70 dB PCs, 73 dB 2 PCs NB, 73 dB PCs SB
6	41	73 dB pickup NB 76 dB pickup SB
7	42	lull 42 dB, 71 dB SUV SB, 81 dB HT SB (JT)
8	43	passby's
9	44	74 dB pickup towing trailer, 80 dB HT SB
10	45	2 veh 72 dB
11	46	lull 40 dB, wind gust 7 mph, 75 dB NB PCs
12	47	71 dB NB PCs, veh into parking lot, 74 dB pickup SB
13	48	73 dB SUV NB, 72 dB PCs NB, 77 dB HT NB
14	49	79 dB HT, 75 dB multiple PCs, lull 40 dB
15	50	lull 39 dB, 72 dB 3 PCs SB
16	51	77 dB HT SB, 79 dB HT SB
17	52	72 dB pickup SB, 72 dB pickup SB, 65 dB PC NB
18	53	67 dB PC NB, 72 dB 2 PCs NB
19	54	74 dB multiple veh
20	55	74 dB multiple veh, 75 dB HT SB
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AV2-1802

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***2112 Highway 18***
Description: ***Clover Creek Baptist Church***
Filename: ***AU2_1802***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	8:36:00 AM	66.2	73.5	4168694	Y	1	
2	8:37:00 AM	63.5	71.8	2238721	Y	1	
3	8:38:00 AM	66.7	73.4	4677351	Y	1	
4	8:39:00 AM	69.9	77.5	9772372	Y	1	
5	8:40:00 AM	67.2	73.8	5248075	Y	1	
6	8:41:00 AM	66.6	76.2	4570882	Y	1	
7	8:42:00 AM	69.5	80.8	8912509	Y	1	
8	8:43:00 AM	63.7	72.7	2344229	Y	1	
9	8:44:00 AM	71.2	79.8	13182567	Y	1	
10	8:45:00 AM	64.3	72.4	2691535	Y	1	
11	8:46:00 AM	65.9	75.2	3890451	Y	1	
12	8:47:00 AM	66.0	74.2	3981072	Y	1	
13	8:48:00 AM	67.4	77.4	5495409	Y	1	
14	8:49:00 AM	69.7	77.9	9332543	Y	1	
15	8:50:00 AM	64.2	72.9	2630268	Y	1	
16	8:51:00 AM	70.2	79.6	10471285	Y	1	
17	8:52:00 AM	63.6	72.8	2290868	Y	1	
18	8:53:00 AM	62.0	72.0	1584893	Y	1	
19	8:54:00 AM	65.1	73.8	3235937	Y	1	
20	8:55:00 AM	67.2	74.9	5248075	Y	1	
			Energy	105967736		20	
			Leq	**67.2**			

2034 Highway 18 (Swink Stagehouse) looking east to SR 18

2034 Highway 18 (Swink Stagehouse)

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

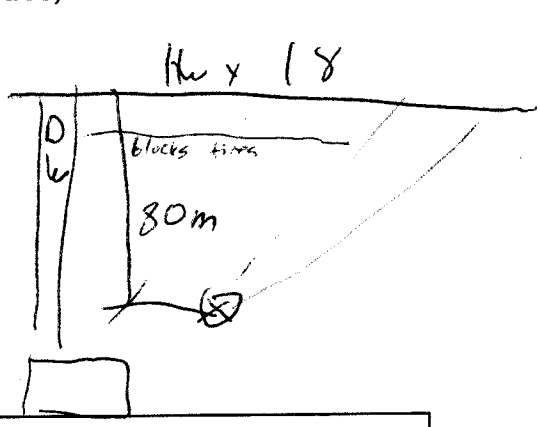
Date 9/18/2007

Site Swink House

Area Swink Stage House

Address 2034 Hwy 18

Site Sketch



Weather

Temp 75°F

Wind calm

Direction

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	7:55	lull 44 dB, cars 49-50 dB
2	56	pickup 53 dB NB, 2 SUVs 50 dB
3	57	52 dB traffic
4	58	MT 56 dB, 57 dB pickup accel, 62 dB HT SB
5	59	51 dB 2 veh
6	8:00	no traffic 44 dB, SUV 49 dB NB, 2 veh 49 dB
7	01	49 dB passbys, 55 dB pickup, 57 dB NB veh
8	02	57 dB NB veh, 56 dB MC accel, 59 dB veh SB
9	03	52 dB MT SB, 55 dB pickup NB
10	04	53 dB NB veh, ~~56 dB 2 NB P~~
11	05	56 dB 2 NB PCs, no veh 44 dB
12	06	58-59 dB traffic flow, 62 dB HT
13	07	voices, traffic
14	08	65 dB HT SB
15	09	64 dB HT SB, 52 dB MT NB
16	10	60 dB HT SB
17	11	54 dB veh SB, 59 dB pickup SB
18	12	HT accel 58 dB, 57 dB NB PCs
19	13	HT accel 61 dB
20	14	44 dB no cars, 50 dB pickup SB, 56 dB PC SB
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AU2-1801

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***2034 Highway 18***
Description: ***Swink Stage House***
Filename: ***AU2_1801***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	7:55:00 AM	48.4	54.5	69183	Y	1	
2	7:56:00 AM	49.3	54.9	85114	Y	1	
3	7:57:00 AM	49.8	54.2	95499	Y	1	
4	7:58:00 AM	54.5	60.1	281838	Y	1	
5	7:59:00 AM	50.0	56.3	100000	Y	1	
6	8:00:00 AM	47.2	51.3	52481	Y	1	
7	8:01:00 AM	52.2	57.7	165959	Y	1	
8	8:02:00 AM	54.4	59.8	275423	Y	1	
9	8:03:00 AM	50.5	55.5	112202	Y	1	
10	8:04:00 AM	50.4	54.8	109648	Y	1	
11	8:05:00 AM	50.8	56.6	120226	Y	1	
12	8:06:00 AM	55.6	61.8	363078	Y	1	
13	8:07:00 AM	50.4	57.0	109648	Y	1	
14	8:08:00 AM	56.2	65.3	416869	Y	1	
15	8:09:00 AM	55.7	64.0	371535	Y	1	
16	8:10:00 AM	51.8	60.5	151356	Y	1	
17	8:11:00 AM	52.5	59.0	177828	Y	1	
18	8:12:00 AM	54.6	59.9	288403	Y	1	
19	8:13:00 AM	54.6	61.4	288403	Y	1	
20	8:14:00 AM	50.8	56.9	120226	Y	1	
			Energy	3754920		20	
			Leq	**52.7**			

1861 Highway 18 looking east to SR 18

1861 Highway 18 looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

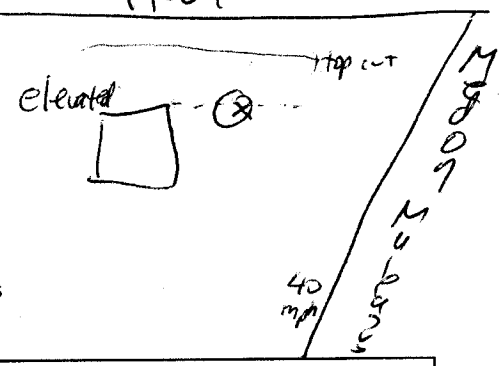
Date 9/18/2007

Site

Area

Address 1861 Hwy 18

Site Sketch Hwy 18



Weather

Temp 90°F
Wind 7 mph
Direction E

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	16:51	69 dB HT NB, 70 dB HT NB
2	52	63 dB MT SB, 69 dB MT SB, 66 dB PC SB
3	53	65 dB multiple, 60 dB PC NB
4	54	63-64 dB multiple PCs. 65 dB PC NB, 59 dB PC SB
5	55	63 dB 2 PCs 62 dB van SB
6	56	67 dB HT NB, 68 dB HT NB, 61 dB MC NB, hum in dist
7	57	hum 45 dB, 66 dB pickup SB, 68 dB HT SB
8	58	58 dB SUV SB, riding mower in background 45 dB,
9	59	66 dB multiple veh, 61 dB SUV SB, 64 dB MT NB, 66 dB HT
10	17:00	63 dB PC NB, 60 dB pickup NB
11	01	69 dB HT SB, 63-64 dB flow,
12	02	63 dB multiple, 66 dB multiple, 64 dB SUV SB
13	03	61 dB van NB, lull 41 dB - hum
14	04	59 dB PC SB, 60 dB PC SB, HT in dist
15	05	77 dB HT NB, 59 dB pickup SB, 63-64 dB SB
16	06	66 dB HT NB, 67 dB multiple, 68 dB HT NB
17	07	machinery 47 dB, 62 dB SUV SB, ~~59 dB~~
18	08	67 dB pickup SB, 62 dB pickup SB
19	09	64 dB van SB, 63 dB pickup SB
20	10	62 dB bus NB, 63 dB pickup SB
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AV2-1814

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***1861 Highway 18***
Description: ***Residence***
Filename: ***AU2_1814***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	4:51:01 PM	61.7	70.1	1479108	Y	1	
2	4:52:01 PM	61.7	69.2	1479108	Y	1	
3	4:53:01 PM	57.9	65.2	616595	Y	1	
4	4:54:01 PM	59.9	65.4	977237	Y	1	
5	4:55:01 PM	57.5	63.9	562341	Y	1	
6	4:56:01 PM	61.0	68.2	1258925	Y	1	
7	4:57:01 PM	62.0	68.7	1584893	Y	1	
8	4:58:01 PM	58.0	65.1	630957	Y	1	
9	4:59:01 PM	61.7	67.1	1479108	Y	1	
10	5:00:01 PM	53.8	63.3	239883	Y	1	
11	5:01:01 PM	62.2	70.0	1659587	Y	1	
12	5:02:01 PM	60.3	66.3	1071519	Y	1	
13	5:03:01 PM	50.9	61.1	123027	Y	1	
14	5:04:01 PM	56.8	63.7	478630	Y	1	
15	5:05:01 PM	64.8	76.8	3019952	Y	1	
16	5:06:01 PM	63.4	68.3	2187762	Y	1	
17	5:07:01 PM	57.6	66.1	575440	Y	1	
18	5:08:01 PM	58.9	67.6	776247	Y	1	
19	5:09:01 PM	58.5	64.2	707946	Y	1	
20	5:10:01 PM	56.5	63.3	446684	Y	1	
			Energy	21354951		20	
			Leq	**60.3**			

1163 Medon-Malesus Road looking west toward SR 18

1163 Medon-Malesus Road looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

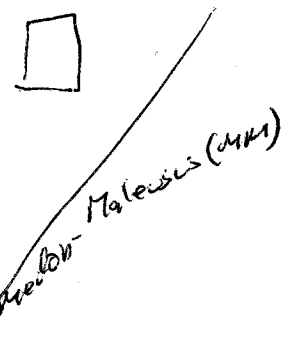
Date 9/18/2007

Site

Area

Address 1163 Medon-Malesus

Site Sketch SR 18



Weather

Temp 90

Wind 5 mph

Direction NE

Other Notes

RION/LD/N121# Cal@ Cal Check= 43.9

#	Time Start	Description
1	17:16	50 dB SR 18, farm eq. 43 dB
2	17	47 dB PCs SB, 44 dB PCs
3	18	46-47 dB PCs, 43-44 dB farm eq.
4	19	46 46 dB farm eq. 48 dB PCs
5	20	46 dB PC NB
6	21	49 dB veh, HT NB 49 dB PCs
7	22	49 dB PCs, 51 dB HT SB
8	23	41-42 farm eq. 47 dB PCs NB, 45 dB PC SB
9	24	48 dB PC NB, 56 dB PC MH
10	25	birds 47 dB, 44 dB PCs NB, 45 dB farm eq.
11	26	52 dB HT NB, farm eq.
12	27	52 dB bus NB, 45 dB farm eq.
13	28	46 dB PCs, farm eq. 41 dB, wind gust 6 mph
14	29	49 dB farm eq. 51 dB SR 18, voice 45 dB
15	30	45 dB voice, bird 44 dB farm eq 41 dB, 52 dB HT NB, 57 dB HT
16	31	48-49 dB SR 18
17	32	farm eq. 42 dB, voices audible, bell 39 dB, 44 dB farm eq.
18	33	farm eq. 40 dB, 46 dB Pickup SB, 47 dB PCs SB
19	34	44-45 dB SR 18, farm eq. 44-45 dB farm eq.
20	35	46 dB pickup SB, farm eq. 45 dB
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AW2-1815

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***1163 Medon-Malesus***
Description: ***Residence***
Filename: ***AU2_1815***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	5:16:00 PM	45.5	51.7	35481	Y	1	
2	5:17:00 PM	46.1	49.0	40738	Y	1	
3	5:18:00 PM	45.6	49.1	36308	Y	1	
4	5:19:00 PM	48.1	51.7	64565	Y	1	
5	5:20:00 PM	45.1	48.5	32359	Y	1	
6	5:21:00 PM	47.5	51.7	56234	Y	1	
7	5:22:00 PM	47.3	50.8	53703	Y	1	
8	5:23:00 PM	43.7	47.0	23442	Y	1	
9	5:24:00 PM	48.2	56.0	66069	Y	1	
10	5:25:00 PM	46.5	48.8	44668	Y	1	
11	5:26:00 PM	46.9	52.2	48978	Y	1	
12	5:27:00 PM	47.8	52.0	60256	Y	1	
13	5:28:00 PM	42.5	46.8	17783	Y	1	
14	5:29:00 PM	46.9	51.0	48978	Y	1	
15	5:30:00 PM	48.8	57.6	75858	Y	1	
16	5:31:00 PM	46.6	49.6	45709	Y	1	
17	5:32:00 PM	40.7	43.8	11749	Y	1	
18	5:33:00 PM	43.6	47.5	22909	Y	1	
19	5:34:00 PM	43.4	45.2	21878	Y	1	
20	5:35:00 PM	46.4	49.7	43652	Y	1	
			Energy	851317		20	
			Leq	**46.3**			

Rosenwald School (Medon-Malesus Road)

Rosenwald School (Medon-Malesus Road) looking toward Medon-Malesus Road

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

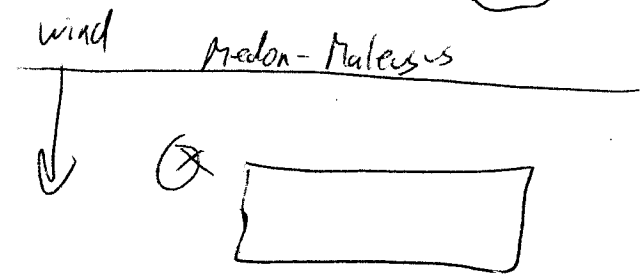
Date 4/19/2007

Site

Area

Address Rosenwood School

Site Sketch



Weather

Temp 75°F
Wind 6 mph
Direction E

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	9:50	amb 38 dB, dogs in distance 45 dB
2	51	dogs 42 dB
3	52	dogs 42 dB, dogs 43 dB, 47 dB (in distance), airplane, lawnmower
4	53	airplane 55 dB, veh MM
5	54	lawnmower 40-41 dB, dogs
6	55	lawnmower 40-41 dB, dogs in distance
7	56	dogs-lawnmower 43 dB, dogs 44 dB
8	57	lawnmower dogs 41 dB, dogs 47 dB
9	58	lawnmower-dogs 43 dB, lawnmower off
10	59	dog 40 dB, lawnmower on 42 dB, lawnmower 43 dB
11	10:00	lawnmower 44 dB, dogs
12	01	lawnmower 45 dB, dogs
13	02	lawnmower 41, voices, dogs
14	03	lawnmower 46 dB, dogs in distance
15	04	lawnmower 43, dogs, veh MM 51 dB
16	05	veh MM 51 dB, more lawnmowers, lawnmower stops, dogs
17	06	dogs in distance 41 dB, veh MM 47.8 dB
18	07	MT MM 45 dB
19	08	dogs 43 dB, dogs 45 dB
20	09	dogs 42 dB, dogs 49 dB
21	10	no dogs 34 dB, dogs 42 dB, wind gust 8 mph
22	11	wind gust 8 mph, birds, dogs
23	12	veh MM 45 dB, dogs
24	13	dog 42 dB, birds
25	14	pickup MM, slow 42 dB, airplane audible
26	15	birds 40 dB no dogs
27	16	birds, insects 38 dB, no dogs
28	17	birds, veh hum in far distance, HT in far distance, no dogs
29	18	birds 35 dB no dogs
30	19	birds 36 dB, no dogs

AU2-1819

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/19/07***
Site: ***Medon-Malesus Road***
Description: ***Rosenwald School***
Filename: ***AU2_1819***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	9:50:00 AM	40.0	45.7	10000	Y	1	
2	9:51:00 AM	39.0	42.2	7943	Y	1	
3	9:52:00 AM	44.2	50.5	26303	Y	1	
4	9:53:00 AM	49.0	55.7	79433	Y	1	
5	9:54:00 AM	40.3	44.1	10715	Y	1	
6	9:55:00 AM	41.4	43.8	13804	Y	1	
7	9:56:00 AM	42.1	44.3	16218	Y	1	
8	9:57:00 AM	42.6	47.4	18197	Y	1	
9	9:58:00 AM	37.3	42.4	5370	Y	1	
10	9:59:00 AM	40.9	43.3	12303	Y	1	
11	10:00:00 AM	41.3	44.8	13490	Y	1	
12	10:01:00 AM	42.7	45.3	18621	Y	1	
13	10:02:00 AM	43.0	45.8	19953	Y	1	
14	10:03:00 AM	42.5	45.9	17783	Y	1	
15	10:04:00 AM	44.9	50.9	30903	Y	1	
16	10:05:00 AM	45.1	50.9	32359	Y	1	
17	10:06:00 AM	42.7	47.8	18621	Y	1	
18	10:07:00 AM	40.5	44.6	11220	Y	1	
19	10:08:00 AM	39.2	44.8	8318	Y	1	
20	10:09:00 AM	39.5	49.4	8913	Y	1	
21	10:10:00 AM	39.9	46.3	9772	Y	1	
22	10:11:00 AM	38.6	46.6	7244	Y	1	
23	10:12:00 AM	40.9	48.9	12303	Y	1	
24	10:13:00 AM	38.0	45.4	6310	Y	1	
25	10:14:00 AM	39.1	41.9	8128	Y	1	
26	10:15:00 AM	36.7	39.8	4677	Y	1	
27	10:16:00 AM	34.8	37.7	3020	Y	1	
28	10:17:00 AM	34.4	38.5	2754	Y	1	
29	10:18:00 AM	34.8	37.2	3020	Y	1	
30	10:19:00 AM	35.5	40.9	3548	Y	1	
			Energy	441242		30	
			Leq	**41.7**			

1669 Highway 18 looking west toward SR 18

1669 Highway 18 looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2007

Site

Area

Address 1669 Hwy 18

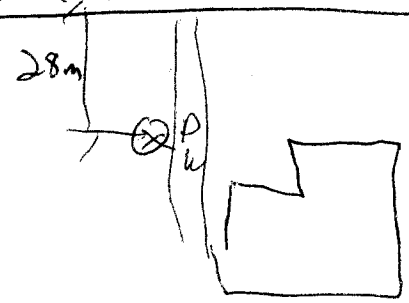
Weather

Temp

Wind

Direction

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	16:18	63 dB PC SB, 59 dB PC SB, 66 dB 2 PCs NB
2	19	66 dB PC SB, 63 dB multiple, 63 dB pickup NB
3	20	63 dB multiple, 64 dB 2 PCs, 64 dB PC pickup NB
4	21	62-63 dB PCs SB, 66 dB pickup NB, 75 dB HT SB
5	22	71 dB pickup NB
6	23	66 dB pickup SB, 61 dB SUV SB, 64 dB pickup SB, 71 dB HT
7	24	66 dB multiple, 63 dB PC NB
8	25	64 dB pickup SB, 68 dB PC NB
9	26	Stereo turned on inside, 61 dB PC NB, 73 dB HT SB, lull 39 dB
10	27	65 dB multiple, 64 dB pickup NB, 64 dB PC SB
11	28	door slam 52 dB, 62 dB PC SB, 68 dB multiple
12	29	61 dB pickup NB, 73 dB HT SB, 71 dB pickup SB, 71 dB HT NB
13	30	65 dB SUV SB, 61 dB PC SB, 60 dB PC NB
14	31	63-64 dB multiple veh, dog in background, 65 dB pickup NB, 73 dB HT
15	32	65 dB 2 PCs SB, 69 dB bus SB, lull 37 dB
16	33	voices, airplane audible, 64 dB SUV SB
17	34	73 dB HT SB, 66 dB multiple veh, 68 dB pickup/trailer SB
18	35	63 dB multiple, 66 dB 2 PCs SB, 69 dB HT NB, 72 dB HT NB
19	36	lull 39 dB, 71 dB HT SB, 72 dB HT NB
20	37	66 dB multiple, 63 dB pickup NB, 71 dB pickup SB
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AV2-1813

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***1669 Highway 18***
Description: ***Residence***
Filename: ***AU2_1813***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	4:18:00 PM	57.4	66.1	0	N	0	Lull
2	4:19:00 PM	56.6	66.2	0	N	0	Lull
3	4:20:00 PM	59.6	64.6	0	N	0	Lull
4	4:21:00 PM	64.1	75.4	2570396	Y	1	
5	4:22:00 PM	62.4	72.9	1737801	Y	1	
6	4:23:00 PM	61.4	70.9	1380384	Y	1	
7	4:24:00 PM	58.4	68.4	691831	Y	1	
8	4:25:00 PM	59.7	67.9	933254	Y	1	
9	4:26:00 PM	61.3	73.3	1348963	Y	1	
10	4:27:00 PM	59.8	65.2	954993	Y	1	
11	4:28:00 PM	58.8	68.0	758578	Y	1	
12	4:29:00 PM	64.4	73.4	2754229	Y	1	
13	4:30:00 PM	56.9	65.5	489779	Y	1	
14	4:31:00 PM	62.8	73.5	1905461	Y	1	
15	4:32:00 PM	58.4	69.2	691831	Y	1	
16	4:33:00 PM	55.9	64.4	389045	Y	1	
17	4:34:00 PM	62.8	72.8	1905461	Y	1	
18	4:35:00 PM	64.0	71.8	2511886	Y	1	
19	4:36:00 PM	62.2	71.7	1659587	Y	1	
20	4:37:00 PM	62.7	72.1	1862087	Y	1	
			Energy	24545565		17	
			Leq	**61.6**			

1543 Highway 18 looking west toward SR 18

1543 Highway 18 looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2007

Site

Area

Address 1543 Hwy 18

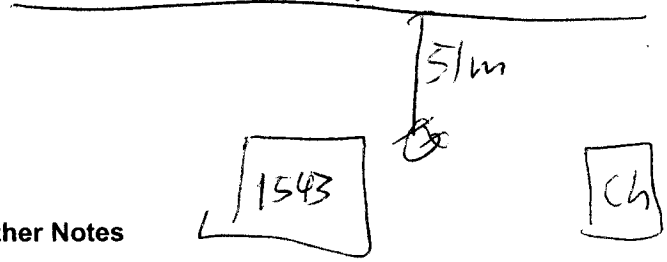
Weather

Temp 40°F

Wind ~~calm~~ light

Direction variable

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	15:42	leave to find street address
2	43	
3	44	lull 37 dB, 57 dB pickup SB
4	45	64 dB HT NB, 65 dB HT NB
5	46	57 dB SUV NB, 62 dB multiple vehs, 58 dB multiple veh, 65 dB HT SB
6	47	63 dB HT SB, lull 40 dB
7	48	55 dB PC SB, 56 dB PC SB, 64 dB HT NB
8	49	57 dB PC NB, 66 dB pickup SB, 56 dB PC SB
9	50	52 dB PC SB, 62 dB multiple, lull 39 dB
10	51	53 dB PC NB (2), lull 36 dB
11	52	54 dB PC NB, 64 dB HT SB
12	53	53 dB PC NB, 60 dB multiple, 64 dB HT SB
13	54	57 dB pickup SB, 60 dB multiple
14	55	58 dB pickup NB, 65 dB HT NB
15	56	55 dB PC NB, 65.5 dB HT SB, 61.6 dB PC SB
16	57	54 dB pickup NB, 56 dB SUV SB, 65 dB HT NB
17	58	55 dB PC SB, 58 dB 2 PCs, 60 dB bus SB
18	59	58 dB multiple (2), lull 37 dB
19	16:00	56 dB pickup NB, 55 dB multiple
20	01	56 dB PC NB, 59 dB pickup/trailer SB
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AV2-1812

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***1543 Highway 18***
Description: ***Residence***
Filename: ***AU2_1812***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	3:42:00 PM	53.8	60.8	239883	Y	1	
2	3:43:00 PM	59.4	66.2	870964	Y	1	
3	3:44:00 PM	47.9	57.1	61660	Y	1	
4	3:45:00 PM	57.9	65.0	616595	Y	1	
5	3:46:00 PM	58.2	65.2	660693	Y	1	
6	3:47:00 PM	55.6	63.7	363078	Y	1	
7	3:48:00 PM	57.2	64.5	524807	Y	1	
8	3:49:00 PM	56.6	66.4	457088	Y	1	
9	3:50:00 PM	55.2	61.8	331131	Y	1	
10	3:51:00 PM	48.5	53.7	70795	Y	1	
11	3:52:00 PM	55.5	63.8	354813	Y	1	
12	3:53:00 PM	56.1	63.9	407380	Y	1	
13	3:54:00 PM	53.3	59.9	213796	Y	1	
14	3:55:00 PM	56.7	65.6	467735	Y	1	
15	3:56:00 PM	57.3	65.9	537032	Y	1	
16	3:57:00 PM	56.4	64.7	436516	Y	1	
17	3:58:00 PM	53.5	60.6	223872	Y	1	
18	3:59:00 PM	53.1	60.6	204174	Y	1	
19	4:00:00 PM	50.2	56.3	104713	Y	1	
20	4:01:00 PM	54.3	59.9	269153	Y	1	
			Energy	7415879		20	
			Leq	**55.7**			

14 Southwood Drive looking east toward SR 18

14 Southwood Drive looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2005

Site

Area

Address 14 Southwood Drive

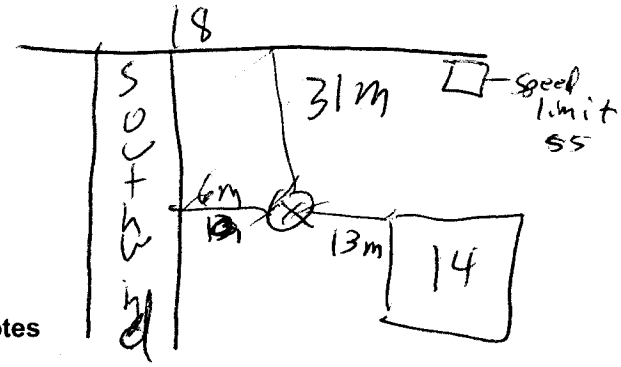
Weather

Temp 85°F

Wind 5 mph

Direction E

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	13:53	37 dB no cars, no cars this period
2	54	62 dB pickup SB, 59 dB PC NB, ~~wind sst 8mph E~~
3	55	wind sust 8 mph E, multiple veh, 64 dB PC NB
4	56	63 dB pickup SB, 62 dB SUV SB, 67 dB pickup SB
5	57	lull 34 dB, 60 dB van SB, ~~54 dB PC SB~~
6	58	59 dB PC SB, 67 dB multiple veh
7	59	63 dB van SB, 58 dB SUV SB, 67 dB HT NB
8	14:00	62 dB multiple veh, 68 dB HT NB (2), 62 dB HT NB
9	01	60 dB PC SB, 70 dB HT SB, 64 dB pickup SB
10	02	58 dB PC NB, lull 34 dB, 61 dB PC SB
11	03	69 dB pickup SB, 65 dB 2 PCs, 61 dB pickup NB
12	04	64 dB pickup SB, 61 dB pickup NB, 66 dB HT NB
13	05	71 dB HT SB 65 dB PC NB
14	06	68 dB pickup SB, lull 39 dB, 63 dB pickup SB
15	07	71 dB HT NB, 64 dB pickup SB
16	08	62 dB pickup NB, 64 dB PC SB, 65 dB SUV SB, 66 dB HT NB
17	09	63 dB multiple PCs 67 dB van SB, 71 dB HT NB
18	10	60 dB PC SB, 64 dB PC SB, lull 36 dB
19	11	67 dB bus SB, ~~car~~ car horn, airplane audible
20	12	65 dB 2 veh SB, wind sust 7 mph, lull 37 dB
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AV2-1809

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***14 Southwood Drive***
Description: ***Residence***
Filename: ***AU2_1809***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	1:53:00 PM	35.1	39.7	3236	Y	1	
2	1:54:00 PM	51.0	63.0	125893	Y	1	
3	1:55:00 PM	55.4	64.9	346737	Y	1	
4	1:56:00 PM	57.1	66.6	512861	Y	1	
5	1:57:00 PM	47.1	60.7	51286	Y	1	
6	1:58:00 PM	57.1	67.0	512861	Y	1	
7	1:59:00 PM	56.0	66.5	398107	Y	1	
8	2:00:00 PM	60.7	68.1	1174898	Y	1	
9	2:01:00 PM	59.4	70.0	870964	Y	1	
10	2:02:00 PM	49.2	60.7	83176	Y	1	
11	2:03:00 PM	59.3	69.4	851138	Y	1	
12	2:04:00 PM	55.9	65.7	389045	Y	1	
13	2:05:00 PM	61.4	71.5	1380384	Y	1	
14	2:06:00 PM	55.6	68.1	363078	Y	1	
15	2:07:00 PM	60.7	70.9	1174898	Y	1	
16	2:08:00 PM	58.3	66.1	676083	Y	1	
17	2:09:00 PM	61.4	71.8	1380384	Y	1	
18	2:10:00 PM	52.2	63.9	165959	Y	1	
19	2:11:00 PM	59.5	66.7	891251	Y	1	
20	2:12:00 PM	53.9	66.1	245471	Y	1	
			Energy	11597710		20	
			Leq	**57.6**			

36 Southwood Drive looking east toward SR 18

36 Southwood Drive looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2007

Site

Area

Address 36 Southwind

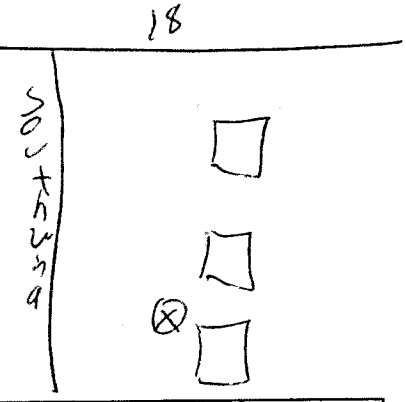
Weather

Temp 85°F

Wind 9 mph

Direction E

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	14:23	voices 43dB, 47 dB vehs w/18, 45 dB leaves rustling
2	24	51 dB PC NB, 51 dB bus SB, 50-52 dB traffic, airplane audible
3	25	wind blowing to N, 56 dB HT SB
4	26	55 dB HT SB, voices + HVAC in dot keeping level above 40
5	27 X-?	47 dB laugh, 44 dB pickup SB, 53 dB laugh
6	28	61 dB pickup, 47 dB multiple veh
7	29	Garage door opens 46 dB veh 18, 48 dB multiple veh, 51 dB HT
8	30 X-?	58 dB HT SB 57 dB local veh
9	31	43 dB PC NB, 56 dB pickup SB
10	32	54 dB multiple veh, 47 dB 2 veh
11	33	47 dB pickup SB, 57 dB HT NB
12	34	47 dB PCs, wind gust
13	35	wind 10 mph from E, 48 dB PC NB
14	36	56 dB HT NB, 57 dB multiple HTs
15	37	55 dB HT SB
16	38 X	local scooter 65 dB
17	39 X	local scooter 64 dB, 57 dB HT NB
18	40	lull 37 dB, 48 dB 2 veh SB
19	41	59 dB pickup/trailer, airplane audible
20	42	54 dB pickup NB
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AV2-1870

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***36 Southwood Drive***
Description: ***Residence***
Filename: ***AU2_1810***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	2:23:00 PM	44.6	49.2	28840	Y	1	
2	2:24:00 PM	48.1	51.7	64565	Y	1	
3	2:25:00 PM	48.3	55.9	67608	Y	1	
4	2:26:00 PM	47.2	54.5	52481	Y	1	
5	2:27:00 PM	46.3	53.7	42658	Y	1	
6	2:28:00 PM	49.8	61.3	95499	Y	1	
7	2:29:00 PM	45.4	51.3	34674	Y	1	
8	2:30:00 PM	51.6	59.2	0	N	0	Local Vehicle
9	2:31:00 PM	48.8	56.9	75858	Y	1	
10	2:32:00 PM	48.8	55.0	75858	Y	1	
11	2:33:00 PM	48.2	57.0	66069	Y	1	
12	2:34:00 PM	48.8	57.7	75858	Y	1	
13	2:35:00 PM	44.9	50.0	30903	Y	1	
14	2:36:00 PM	50.0	57.4	100000	Y	1	
15	2:37:00 PM	46.6	54.8	45709	Y	1	
16	2:38:00 PM	54.1	66.3	0	N	0	Local Scooter
17	2:39:00 PM	54.2	63.9	0	N	0	Local Scooter
18	2:40:00 PM	43.0	49.4	19953	Y	1	
19	2:41:00 PM	50.2	58.9	104713	Y	1	
20	2:42:00 PM	43.3	54.3	21380	Y	1	
			Energy	1002625		17	
			Leq	**47.7**			

334 Bolivar Highway looking west toward SR 18

334 Bolivar Highway looking north

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 4/18/2007

Site

Area

Address 334 Bolivar Hwy

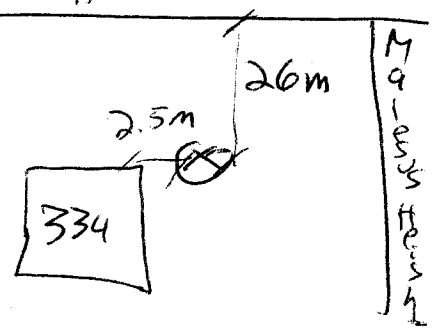
Weather

Temp 85°F

Wind light/var

Direction

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	12:25	63 dB van SB, 60 dB 2 veh
2	26	HVAC 48-49 dB, 65 dB PCs, 60 dB van SB
3	27	62 dB PC SB, 64 dB pickup SB, 62 dB pickup SB
4	28	66 dB pickup SB, 66 dB pickup NB, 64 dB PC SB
5	29	Garbage truck, stops, takes up lane of traffic, 68 dB garbage truck
6	30	Garbage truck 3 horses down, 62 dB PC NB
7	31	62 dB pickup SB 66 dB HT SB, slowing because of Garbage truck
8	32	HVAC 48 dB, 68 dB HT NB
9	33	69.5 dB HT SB (DT), dump truck still slowing traffic, 69 dB HT NB
10	34	65 dB HT NB (DT), 65 dB multiple veh
11	35	62 dB multiple veh, 71 dB HT NB
12	36	63 dB pickup SB, 63 dB SUV NB, wind S 3 mph
13	37	71 dB HT NB, 65 dB pickup SB
14	38	63 dB multiple PCs
15	39	62 dB multiple veh, 62 dB pickup SB, 64 dB pickup SB
16	40	HVAC 47-48, bird 59 dB, 60 dB pickup NB
17	41	65 dB HT SB, 64 dB multiple, 66 dB pickup SB
18	42	64 dB multiple
19	43	58 dB PC NB, 62 dB PC SB, 64 dB 2 PCs
20	44	61 dB SUV SB, 63 dB van SB, 65 dB multiple
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AV2-01807

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***334 Bolivar Highway***
Description: ***Residence***
Filename: ***AU2_1807***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	12:25:00 PM	59.3	66.3	851138	Y	1	
2	12:26:00 PM	59.8	65.7	954993	Y	1	
3	12:27:00 PM	58.9	65.3	776247	Y	1	
4	12:28:00 PM	60.8	66.5	1202264	Y	1	
5	12:29:00 PM	64.0	70.4	2511886	Y	1	
6	12:30:00 PM	57.3	62.9	537032	Y	1	
7	12:31:00 PM	58.8	66.0	758578	Y	1	
8	12:32:00 PM	57.4	68.4	549541	Y	1	
9	12:33:00 PM	62.2	69.7	1659587	Y	1	
10	12:34:00 PM	61.5	68.5	1412538	Y	1	
11	12:35:00 PM	62.4	70.8	1737801	Y	1	
12	12:36:00 PM	59.2	64.2	831764	Y	1	
13	12:37:00 PM	62.0	71.4	1584893	Y	1	
14	12:38:00 PM	60.1	63.8	1023293	Y	1	
15	12:39:00 PM	58.4	64.1	691831	Y	1	
16	12:40:00 PM	52.3	60.6	169824	Y	1	
17	12:41:00 PM	60.9	66.5	1230269	Y	1	
18	12:42:00 PM	60.7	64.6	1174898	Y	1	
19	12:43:00 PM	56.4	63.7	436516	Y	1	
20	12:44:00 PM	58.9	64.9	776247	Y	1	
			Energy	20871139		20	
			Leq	**60.2**			

130 Bolivar Highway looking west toward SR 18

130 Bolivar Highway looking south

Noise Measurement Data Sheet

Ind.

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/18/2007

Site

Area

Address 130 Bolivar Hwy

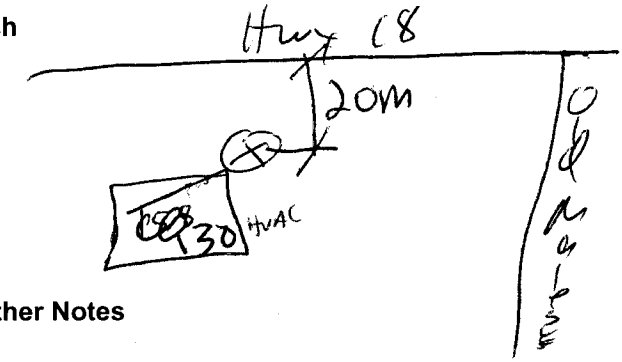
Weather

Temp 85°F

Wind 3 mph

Direction S

Site Sketch



Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	13:03	63 dB van NB, 67 dB pickup old Malibu, 66 dB multiple
2	04	76 dB accel old Malibu, 65 dB 2 PCs
3	05	61 dB PC NB, 63 dB van SB, 71 dB HT NB, 70 dB pickup
4	06	65 dB pickup NB, 63 dB pickup SB, 72 dB 2 HTs
5	07	77 dB MC SB, horn, 61 dB pickup SB
6	08	69 dB pickup SB, bird 53 dB, 64 dB SUV SB, 67 dB pickup accel
7	09	69 dB old Malibu accel, 67 dB SUVs NB, 74 dB HT NB
8	10	63 dB multiple, 69 dB HT SB, 63 dB PC SB, 68 dB 2 veh
9	11	HVAC On, 70 dB HT NB, HVAC 58 dB, 57 dB
10	12	HVAC 57, 61 dB Bans, 63 dB PC NB, 65 dB multiple
11	13	67 dB multiple veh, 70.4 dB HT SB
12	14	HVAC 55-56 dB, 63.8 dB PC SB, 64.6 dB PC SB
13	15	62.7 dB PC SB, 67.2 dB pickup NB, 71.6 dB HT SB
14	16	HVAC 56-57 dB, 67.4 dB pickup NB
15	17	HVAC on, 64 dB HT SB, 72 dB MCs SB
16	18	HVAC on 55-56 dB, 64.3 dB pickup SB, 76 dB HT NB
17	19	HVAC on, multiple veh 67 dB
18	20	HVAC still on, 63 dB 3 PCs SB, 64 dB SUV SB, 67 dB multiple, 70 dB
19	21	67.4 dB multiple, HVAC on
20	22	wind behind me, HVAC on, 69 dB pickup NB, 66 dB PC NB
21	23	65 dB multiple veh, HVAC on, 64 dB pickup SB, 66 dB multiple
22	24	72.3 dB HT SB, HVAC on, 63 dB pickup SB
23	25	66 dB 2 veh, 63 dB Bus accel to V, 65 dB multiple, HVAC 57 dB
24	26	64 dB multiple, 72 dB pickup accel SB, 65 dB pickup NB
25	27	72 dB HT SB, HVAC on, 65 dB multiple, 69 dB HT SB, 71 dB HT
26	28	HVAC on, 62 dB pickup NB, 64 dB 2 PCs NB
27	29	69 dB HT SB (DT) HVAC on 65 dB PC SB, wind gust from S
28	30	65 dB pickup SB, 66 dB multiple 71 dB HT SB
29	31	63 dB multiple veh 66 dB SUV SB
30	32	72 dB HT SB, 73 dB HT SB, 67 dB multiple

AV2-1808

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/18/07***
Site: ***130 Bolivar Highway***
Description: ***Residence***
Filename: ***AU2_1808***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	1:03:00 PM	60.9	68.5	1230269	Y	1	
2	1:04:00 PM	65.2	75.8	3311311	Y	1	
3	1:05:00 PM	65.2	72.1	3311311	Y	1	
4	1:06:00 PM	67.9	78.0	6165950	Y	1	
5	1:07:00 PM	60.3	70.8	1071519	Y	1	
6	1:08:00 PM	62.7	69.2	1862087	Y	1	
7	1:09:00 PM	64.6	74.0	2884032	Y	1	
8	1:10:00 PM	63.2	69.4	2089296	Y	1	
9	1:11:00 PM	62.3	70.3	1698244	Y	1	
10	1:12:00 PM	62.0	65.9	1584893	Y	1	
11	1:13:00 PM	63.0	70.4	1995262	Y	1	
12	1:14:00 PM	60.2	65.1	1047129	Y	1	
13	1:15:00 PM	63.7	71.6	2344229	Y	1	
14	1:16:00 PM	60.9	67.4	1230269	Y	1	
15	1:17:00 PM	64.8	72.0	3019952	Y	1	
16	1:18:00 PM	67.5	76.2	5623413	Y	1	
17	1:19:00 PM	60.5	67.1	1122018	Y	1	
18	1:20:00 PM	62.2	69.9	1659587	Y	1	
19	1:21:00 PM	62.6	67.4	1819701	Y	1	
20	1:22:00 PM	62.8	69.1	1905461	Y	1	
21	1:23:00 PM	64.0	72.3	2511886	Y	1	
22	1:24:00 PM	62.5	72.3	1778279	Y	1	
23	1:25:00 PM	61.8	66.8	1513561	Y	1	
24	1:26:00 PM	64.5	72.4	2818383	Y	1	
25	1:27:00 PM	65.8	71.6	3801894	Y	1	
26	1:28:00 PM	59.7	67.8	933254	Y	1	
27	1:29:00 PM	62.2	69.3	1659587	Y	1	
28	1:30:00 PM	64.2	71.1	2630268	Y	1	
29	1:31:00 PM	60.9	66.4	1230269	Y	1	
30	1:32:00 PM	65.9	72.7	3890451	Y	1	
			Energy	69743766		30	
			Leq	**63.7**			

2406 Highway 45 looking south to Highway 45

2406 Highway 45

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

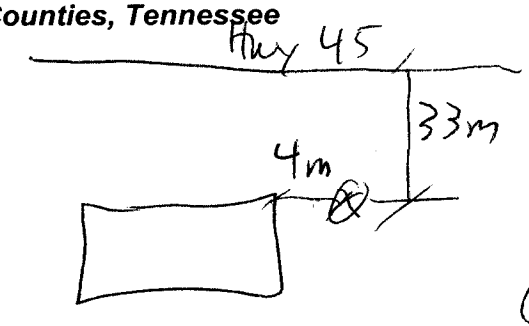
Date 9/19/2007

Site

Area

Address 2406 Hwy 45

Site Sketch



Conm

Weather

Temp 75°F

Wind 6 mph

Direction

Other Notes

RION/LD/N121# Cal@ Cal Check= 94.2

#	Time Start	Description
1	10:43	HT 68 dB SB, 2HTs 70dB NB
2	44	67 dB pickup NB, 71 dB HT SB, MT SB, 72 dB HT NB
3	45	70 dB HT SB, 74 dB HT SB,
4	46	70 dB HT SB, 64-65 dB PCs, 76dB 3HTs SB, 77 dB 2HTs SB
5	47	65 dB PCs SB, lull 45 dB HT 67 dB NB
6	48	HT 72 dB NB, 3 HTs 74 dB NB
7	49	73 dB HT NB, 79 dB HT SB
8	50	64 dB PCs 68 dB pickups/SUVs, lull 46 dB
9	51	70 dB HT NB, 63 dB PCs, MT SB 70dB
10	52	HTs SB 72 dB, HTs SB 75 dB
11	53	70 dB MT SB, 71 dB HT SB
12	54	72 dB HT SB
13	55	69.8 dB HT SB
14	56	72 dB HT NB
15	57	63 dB PCs, 70 dB HT SB, HT SB, 71 dB MT NB
16	58	HT 69 dB SB, HTs 72 dBSB
17	59	65 dB pickup/dumpee w/trailer, 73 dB 2HTs SB
18	11:00	63 dB SUV SB, 70 dB multiple veh,
19	01	70 dB HT SB, MT SB, lull 46 dB
20	02	73 dB MC NB, HT SB
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AU-1820

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/19/07***
Site: ***2406 Highway 45***
Description: ***Residence***
Filename: ***AU2_1820***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	10:43:00 AM	64.3	71.7	2691535	Y	1	
2	10:44:00 AM	67.8	72.1	6025596	Y	1	
3	10:45:00 AM	67.0	74.3	5011872	Y	1	
4	10:46:00 AM	69.1	77.3	8128305	Y	1	
5	10:47:00 AM	60.1	68.5	1023293	Y	1	
6	10:48:00 AM	68.3	74.4	6760830	Y	1	
7	10:49:00 AM	69.7	78.5	9332543	Y	1	
8	10:50:00 AM	61.9	68.0	1548817	Y	1	
9	10:51:00 AM	62.6	70.1	1819701	Y	1	
10	10:52:00 AM	66.8	74.4	4786301	Y	1	
11	10:53:00 AM	63.7	71.4	2344229	Y	1	
12	10:54:00 AM	62.4	72.0	1737801	Y	1	
13	10:55:00 AM	63.8	69.8	2398833	Y	1	
14	10:56:00 AM	64.0	72.3	2511886	Y	1	
15	10:57:00 AM	64.4	70.8	2754229	Y	1	
16	10:58:00 AM	65.4	72.9	3467369	Y	1	
17	10:59:00 AM	65.3	72.8	3388442	Y	1	
18	11:00:00 AM	63.4	70.0	2187762	Y	1	
19	11:01:00 AM	62.5	69.6	1778279	Y	1	
20	11:02:00 AM	65.3	73.0	3388442	Y	1	
			Energy	73086063		20	
			Leq	**65.6**			

110 Swink Road looking west

110 Swink Road looking north to Swink Road

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 9/14/2007

Site

Area

Address 110 Swink Rd

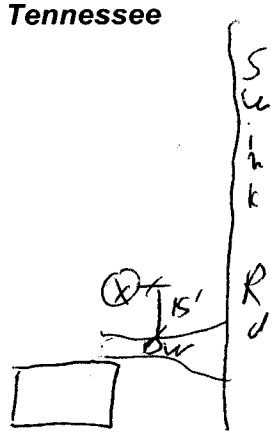
Weather

Temp 65°F

Wind calm

Direction

Site Sketch



Other Notes

RION/LD/N121# 006 4 08/18 Cal@ 94.0 Cal Check=

#	Time Start		Description
1	7:47		SR 18 in dist 41-42 dB, bird 43 dB
2	48		birds 42 dB SR18 distant, drop to 37 dB, birds 45 dB
3	49		39-43 dB, birds End SR18, 49 dB HT SR18
4	50		machinery 45 dB, cars 41 dB
5	51		bird 42 dB
6	52		low of 36 dB, PCs SR18 43 dB
7	53		41 dB PC SR18
8	54		SR 18 quiets, 35 dB, accel 43 dB
9	55		engine rev 48 dB, veh 45 dB
10	56		39-40 dB vehicles
11	57		veh Swink road 62 dB
12	58		47 dB veh SR18
13	59		birds-SR18 37 dB, dog
14	8:00	X	dog barking 55 dB
15	01	X	dips in dist, dogs
16	02	X	dog
17	03	X	dog
18	04	X	dog
19	05	X	dog
20	06	X	dog
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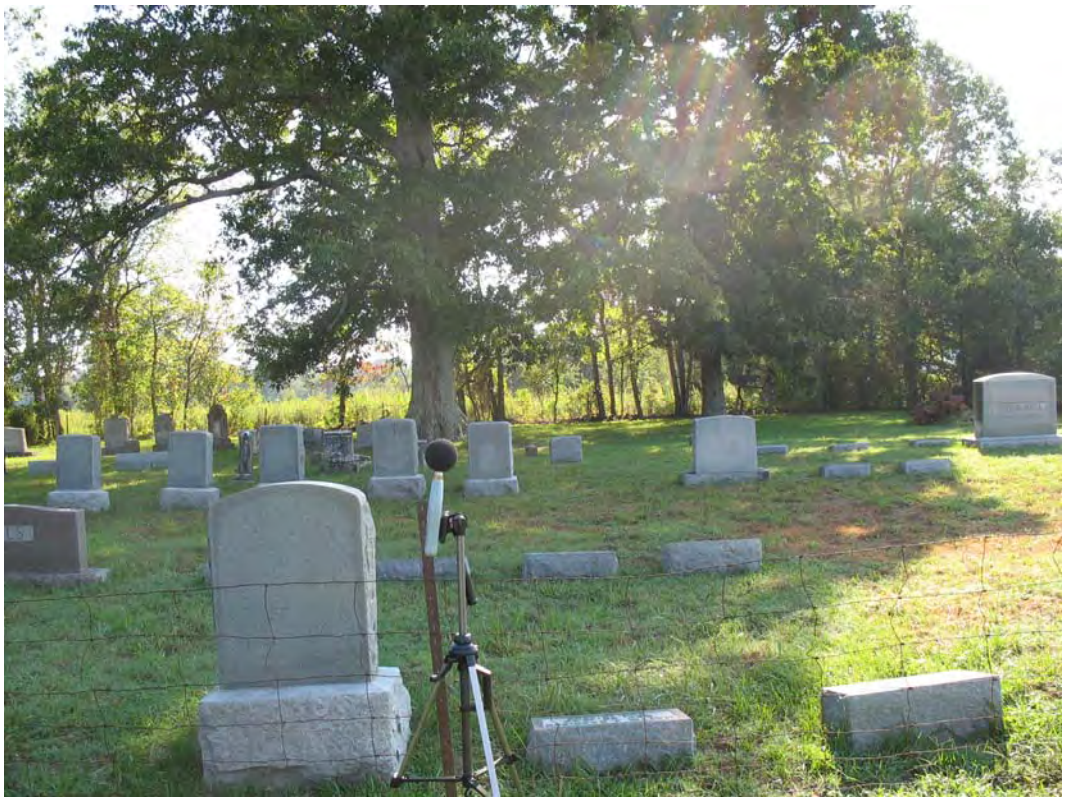
AN2-1816

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/19/07***
Site: ***110 Swink Road***
Description: ***Residence***
Filename: ***AU2_1816***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	7:47:00 AM	41.2	43.7	13183	Y	1	
2	7:48:00 AM	39.8	46.0	9550	Y	1	
3	7:49:00 AM	44.5	49.5	28184	Y	1	
4	7:50:00 AM	42.4	46.6	17378	Y	1	
5	7:51:00 AM	40.0	45.8	10000	Y	1	
6	7:52:00 AM	40.5	44.1	11220	Y	1	
7	7:53:00 AM	39.8	43.9	9550	Y	1	
8	7:54:00 AM	37.7	43.5	5888	Y	1	
9	7:55:00 AM	41.1	48.1	12882	Y	1	
10	7:56:00 AM	40.0	42.4	10000	Y	1	
11	7:57:00 AM	51.0	62.5	125893	Y	1	Local Vehicle
12	7:58:00 AM	41.2	46.6	13183	Y	1	
13	7:59:00 AM	42.8	56.5	19055	Y	1	
14	8:00:00 AM	55.1	62.2	0	N	0	Dogs
15	8:01:00 AM	54.8	62.5	0	N	0	Dogs
16	8:02:00 AM	57.1	62.4	0	N	0	Dogs
17	8:03:00 AM	56.1	62.4	0	N	0	Dogs
18	8:04:00 AM	59.0	65.1	0	N	0	Dogs
19	8:05:00 AM	58.8	64.7	0	N	0	Dogs
20	8:06:00 AM	59.5	64.5	0	N	0	Dogs
			Energy	285965		13	
			Leq	**43.4**			



McDaniel Cemetery (Parkburg Road)

McDaniel Cemetery (Parkburg Road) looking south

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

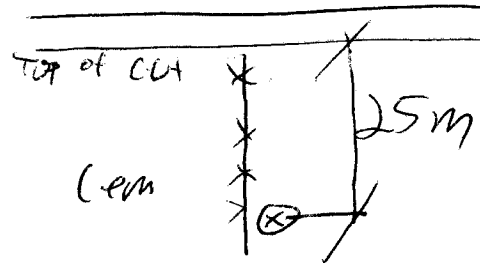
Date 9/14/2001

Site

Area

Address McDaniel Cemetery, Parksburg Road Cem

Site Sketch



Weather

Temp 70°F
Wind 5 mph
Direction E

Other Notes

RION/LD/N121# Cal@ Cal Check=

#	Time Start	Description
1	9:05	39-40 dB SR18 bird 46 dB
2	06	bird ~~46~~ 45 dB, SR 18 faint
3	07	birds, insects, chirp 47dB
4	08	birds, SR 18 in dist
5	09	birds, SR 18 in dist, 41 dB SR 18 veh, 42 dB HT SR18
6	10	birds 42-43 dB, SR18 in dist, bird 45 dB
7	11	veh in distance, bird 44dB, veh 50 dB, veh 53 dB
8	12	bird 44 dB, veh in distance, HT stark SR18
9	13	HT 43 dB SR18, airplane audible
10	14	airplane 43 dB, 44 dB, 47 dB, 49 dB
11	15	airplane 43 dB, birds
12	16	bang, clang? - 49dB, possibly the tape, birds
13	17	birds - SR18 42 dB
14	18	birds - SR18 42 dB, 49 dB crow
15	19	birds, leaves rustling 41-42 dB
16	20	insects 40-41 dB
17	21	insecs birds 41-42 dB
18	22	insects 39-41 dB, 43 dB bird
19	23	insects 42 dB
20	24	insects 41 dB, airplane faint
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		

AU2-1818

SR 18, Madison and Hardeman Counties
Sound Level Measurements

Date: ***09/19/07***
Site: ***Parksburg Road***
Description: ***McDaniel Cemetary***
Filename: ***AU2_1818***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	9:05:00 AM	42.2	47.5	16596	Y	1	
2	9:06:00 AM	41.6	44.6	14454	Y	1	
3	9:07:00 AM	42.4	46.6	17378	Y	1	
4	9:08:00 AM	40.9	43.4	12303	Y	1	
5	9:09:00 AM	41.5	43.4	14125	Y	1	
6	9:10:00 AM	42.6	44.7	18197	Y	1	
7	9:11:00 AM	47.6	55.8	57544	Y	1	
8	9:12:00 AM	42.2	43.8	16596	Y	1	
9	9:13:00 AM	41.2	43.2	13183	Y	1	
10	9:14:00 AM	44.4	48.7	27542	Y	1	
11	9:15:00 AM	41.3	43.1	13490	Y	1	
12	9:16:00 AM	41.8	49.5	15136	Y	1	
13	9:17:00 AM	41.3	42.6	13490	Y	1	
14	9:18:00 AM	41.9	49.4	15488	Y	1	
15	9:19:00 AM	40.6	41.9	11482	Y	1	
16	9:20:00 AM	40.5	41.4	11220	Y	1	
17	9:21:00 AM	41.1	41.9	12882	Y	1	
18	9:22:00 AM	41.2	43.4	13183	Y	1	
19	9:23:00 AM	41.2	42.0	13183	Y	1	
20	9:24:00 AM	41.3	42.2	13490	Y	1	
			Energy	340960		20	
			Leq	**42.3**			

482 Seavers Road looking south to Seavers Road

482 Seavers Road

Noise Measurement Data Sheet

State Route 18, Madison and Hardeman Counties, Tennessee

Date 2/27/2007

Site

Area

Address 482 Seavers Road

Weather

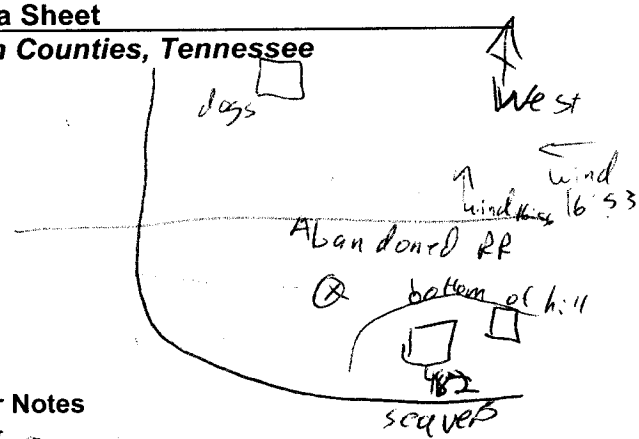
Temp 55°F

Wind variable

Direction

RION/LD/N121# 00841 0868 Cal@ 94.0 Cal Check= 94.0

Site Sketch



Other Notes

#	Time Start		Description
1	16:48		birds 35-36 dB, airplane in dist, airplane 39 dBA
2	49		vehicle distance 36 dB, 46 dB veh on seavers
3	50		38 dB vehicle, MC accel 37 dB
4	51		birds 33-34 dBA level drops to 30 dBA
5	52		43 dB paper birds 31-32 dBA winds calm
6	53		birds 30-31 dBA, airplane audible 34 dBA, wind N 5 mph
7	54	x	53 dBA paper
8	55		airplane 42 dBA - 46 dBA, birds 32-33 dBA
9	56		airplane audible 36 dBA up to 42 dBA wind 5 mph
10	57		bird 37 dBA wind/leaves 36 dBA 40 dB dog
11	58	x	42 dB dog and vehicle, 48 dB dog, 46 dB engine
12	59	x	42 dB dogs door slam 45 dB door slam dogs
13	17:00	x	dogs
14	01	x	dogs walking, leaves rustling
15	02	x	talking
16	03	x	talking
17	04	x	dogs 38-42 dBA in dist 42-43 dBA
18	05	x	42 dB dog in dist, dog 47 dBA
19	06	x	51 dB dog lays down down to 28 dBA
20	07		29-30 dBA, 40 dBA dogs 37 dBA dogs 37 dBA dogs
21	08		29-30 dBA hammering 33 dB, 35 dBA dogs, hammering 32 dBA
22	09		37 dB dog coming here, 43 dB, tops, 55 dB leaves from dog
23	10	x	44-45 dB dogs 54 dB dog rustles leaves
24	11	x	dogs bark 42 dBA 44-45 dB dog bark
25	12	x	dogs 46 dBA 44 dB dog rustles leaves, 46 dB dog
26	13		48 dB dog, 49 dB PC Seavers, barking noise in distance
27	14		bird and dogs 38 dBA, dog 43 dBA
28	15	x	dog 40 dBA dog 43 dBA, 60 dB dog Yawn 51 dB leaves rustle
29	16		35-37 dB leaves rustling dog, 46 dB dog dist.
30	17		39-40 dB leaves rustling 31-32 dBA, 33-34 leaves rustle

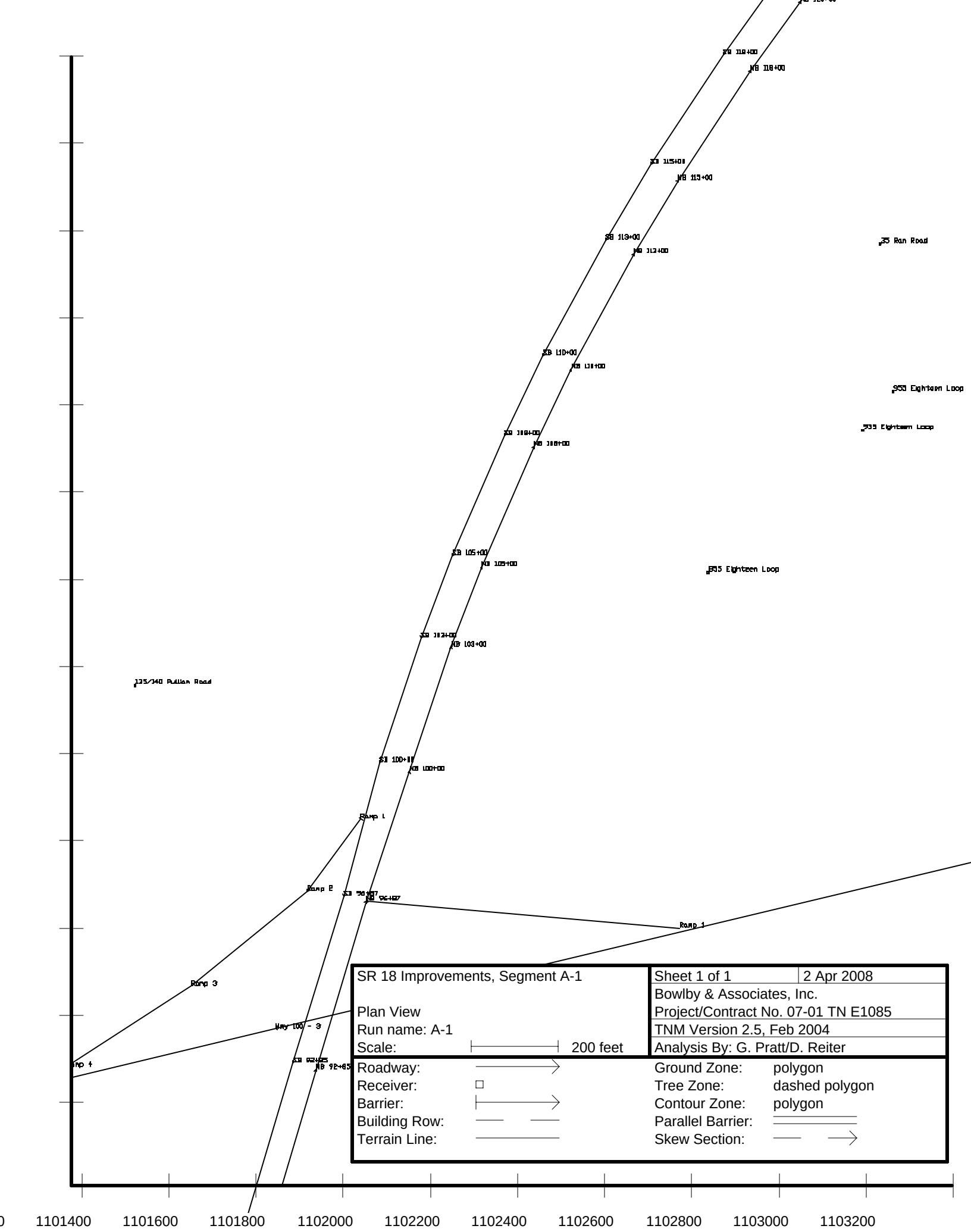
AU2-1831

SR 18, Madison and Hardeman Counties
Sound Level Measurements

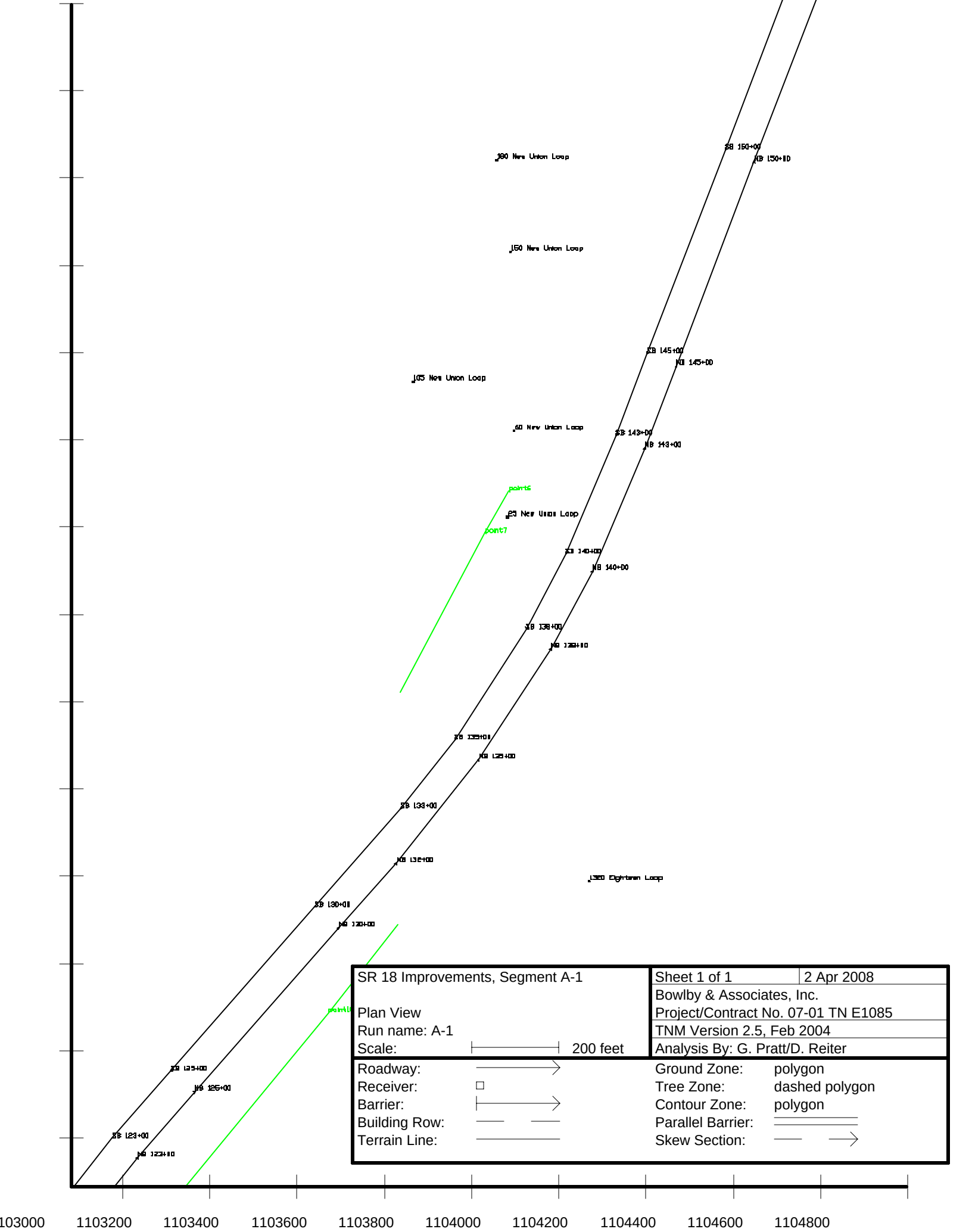
Date: ***02/27/07***
Site: ***482 Seavers Road***
Description: ***Residence***
Filename: ***AU2_1831***

Period #	Time Start	Leq	Lmax	Energy	Keep?	Count	Note
1	4:48:01 PM	36.8	40.6	4786	Y	1	
2	4:49:01 PM	39.6	46.8	9120	Y	1	
3	4:50:01 PM	34.4	38.5	2754	Y	1	
4	4:51:01 PM	33.7	42.4	2344	Y	1	
5	4:52:01 PM	34.2	45.6	2630	Y	1	
6	4:53:01 PM	34.8	39.6	3020	Y	1	
7	4:54:01 PM	46.0	56.5	0	N	0	Paper Rustle
8	4:55:01 PM	39.6	49.7	9120	Y	1	
9	4:56:01 PM	38.1	42.0	6457	Y	1	
10	4:57:01 PM	35.7	41.1	3715	Y	1	
11	4:58:01 PM	42.3	49.7	16982	Y	1	Vehicle, dogs, engine rev
12	4:59:01 PM	52.1	64.9	0	N	0	Dogs
13	5:00:01 PM	46.8	56.2	0	N	0	Dogs
14	5:01:01 PM	58.0	66.8	0	N	0	Talking
15	5:02:01 PM	54.8	62.6	0	N	0	Talking
16	5:03:01 PM	57.5	69.4	0	N	0	Talking
17	5:04:01 PM	40.5	45.5	11220	Y	1	Barking in Distance
18	5:05:01 PM	41.2	49.2	13183	Y	1	Barking in Distance
19	5:06:01 PM	40.5	52.0	11220	Y	1	Barking in Distance
20	5:07:01 PM	34.1	40.4	2570	Y	1	
21	5:08:01 PM	32.4	35.9	1738	Y	1	
22	5:09:01 PM	44.2	53.9	0	N	0	Dogs
23	5:10:01 PM	45.8	57.3	0	N	0	Leaves rustling, dog
24	5:11:01 PM	43.0	45.9	0	N	0	Dogs
25	5:12:01 PM	40.6	47.6	11482	Y	1	
26	5:13:01 PM	41.8	49.2	15136	Y	1	Vehicle on Seavers, dog
27	5:14:01 PM	38.5	47.8	7079	Y	1	
28	5:15:01 PM	48.1	60.9	0	N	0	Dogs
29	5:16:01 PM	38.4	52.3	6918	Y	1	
30	5:17:01 PM	35.1	42.8	3236	Y	1	
			Energy	144712		20	
			Leq	**38.6**			

Appendix B
TNM Input Data and Results



SR 18 Improvements, Segment A-1		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: A-1		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SR 18 Improvements, Segment A-1
Plan View
Run name: A-1
Scale: 200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
SB 150+00
NB 150+00
SB 145+00
NB 145+00
SB 143+00
NB 143+00
SB 140+00
NB 140+00
SB 138+00
SB 135+00
NB 135+00
SB 133+00
NB 133+00
SB 130+00
NB 130+00
SB 125+00
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NB 123+00
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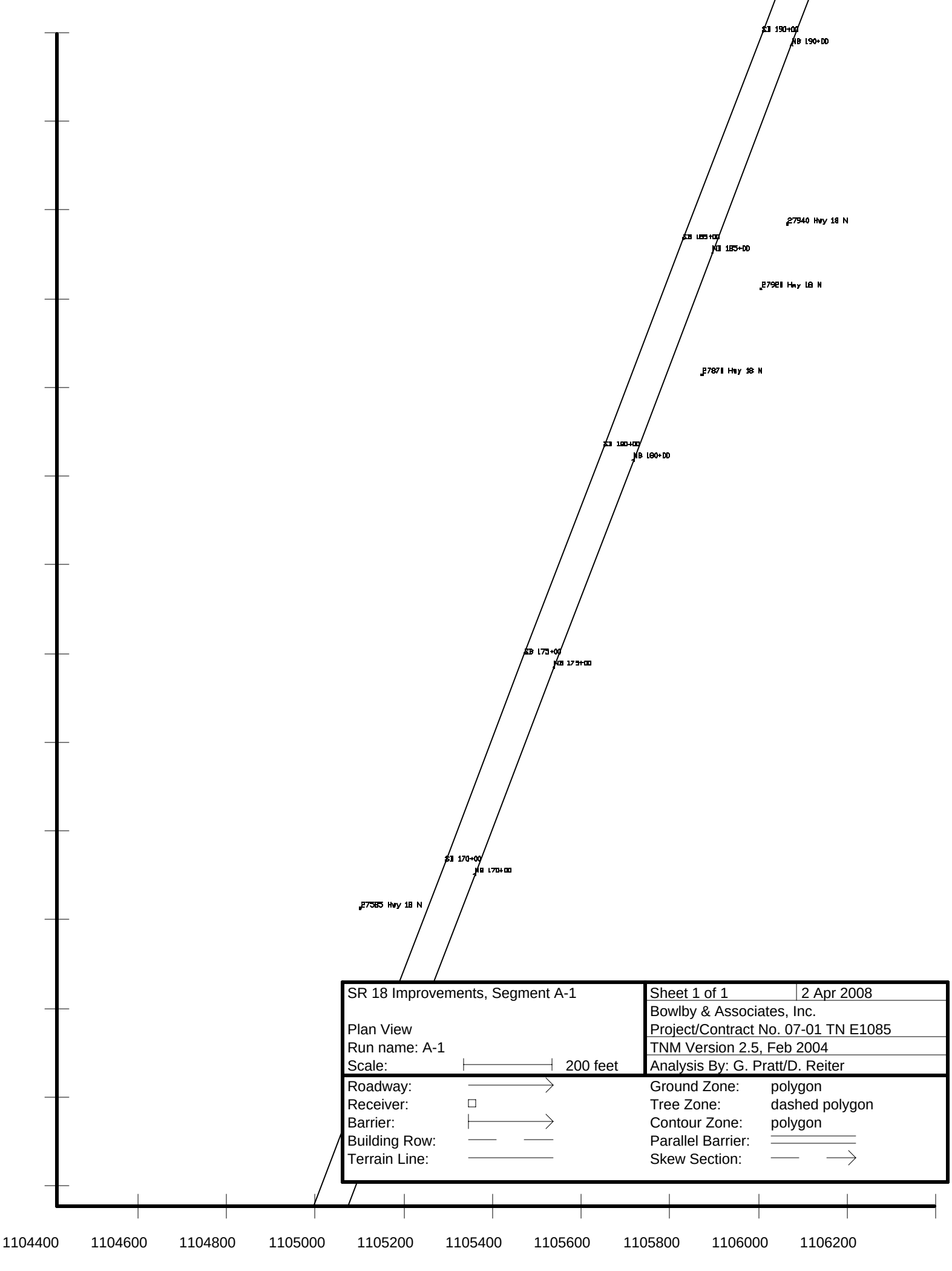
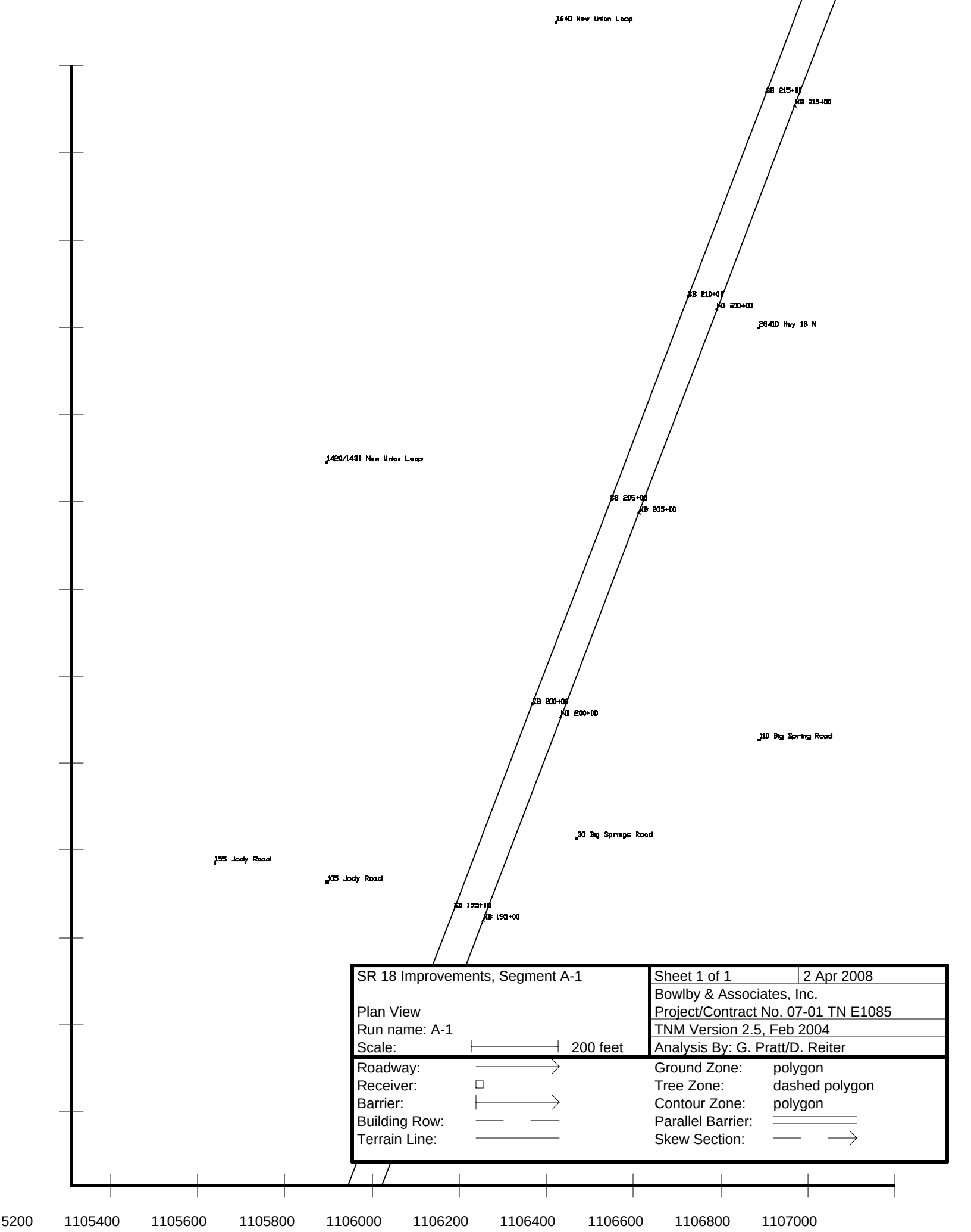


SR 18 Improvements, Segment A-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-1	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


1640 New Union Loop
SB 215+00
NB 215+00
SB 210+00
NB 210+00
2841D Hwy 18 N
1420/1431 New Union Loop
SB 205+00
NB 205+00
SB 200+00
NB 200+00
110 Big Spring Road
30 Big Springs Road
155 Jody Road
105 Jody Road
SB 195+00
NB 195+00
SR 18 Improvements, Segment A-1
Plan View
Run name: A-1
Scale: 200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
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1105400
1105600
1105800
1106000
1106200
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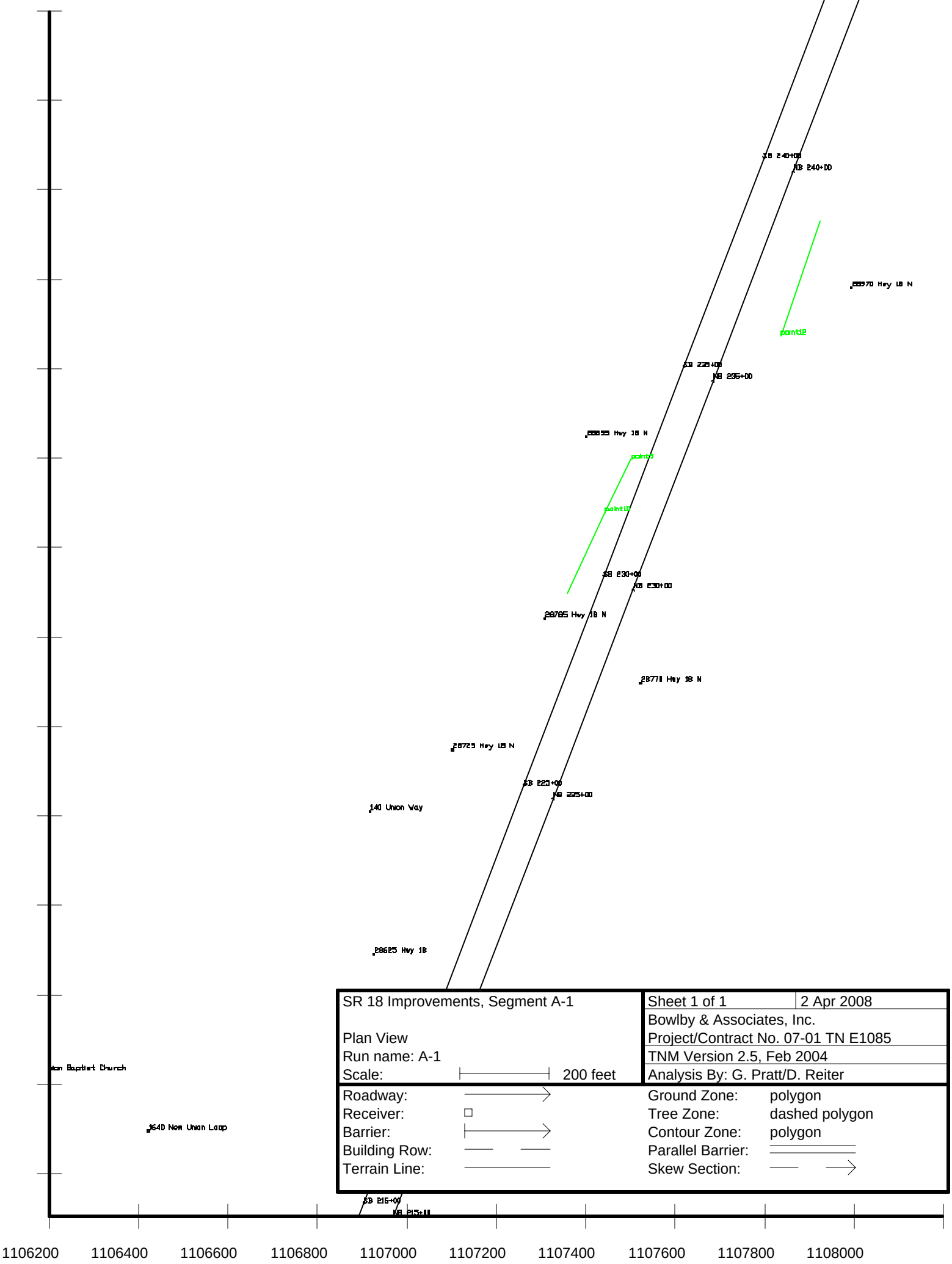


SR 18 Improvements, Segment A-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-1	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: ROADWAYS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment A-1**

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Highway 100 east of SR 18	28.0	Hwy 100 -	1	1,103,345.4	388,579.5	560.00				Average	
		Hwy 100 -	2	1,101,852.1	388,220.7	520.00				Average	Y
		Hwy 100 -	3	1,101,643.2	388,171.2	520.00					
WB Entrance Ramp to Hwy 100	24.0	Ramp 1	4	1,101,838.1	388,651.8	513.00	Onramp	15.00	100	Average	
		Ramp 2	5	1,101,715.6	388,486.2	514.00				Average	
		Ramp 3	6	1,101,449.6	388,269.2	516.00				Average	
		Ramp 4	7	1,101,163.8	388,083.7	518.00				Average	
		Ramp 5	8	1,100,943.2	388,017.2	520.00				Average	
		Hwy 100 -	9	1,100,300.8	387,849.5	500.00					
WB Exit Ramp to SR 18	24.0	Ramp 1	10	1,102,569.6	388,402.2	540.00				Average	
		NB 96+87	11	1,101,850.8	388,463.4	510.00					
NB SR 18	48.0	NB 86+23	12	1,101,545.8	387,444.3	500.00				Average	
		NB 89+02	13	1,101,627.4	387,711.5	500.00				Average	
		NB 92+85	14	1,101,735.9	388,078.4	503.00				Average	
		NB 96+87	15	1,101,850.8	388,463.4	510.00				Average	
		NB 100+0	16	1,101,950.6	388,761.3	515.00				Average	
		NB 103+0	17	1,102,045.8	389,046.8	520.00				Average	
		NB 105+0	18	1,102,116.0	389,230.6	528.00				Average	
		NB 108+0	19	1,102,235.5	389,506.2	535.00				Average	
		NB 110+0	20	1,102,321.8	389,683.6	543.00				Average	
		NB 113+0	21	1,102,464.9	389,948.0	555.00				Average	
		NB 115+0	22	1,102,565.5	390,115.7	555.00				Average	
		NB 118+0	23	1,102,731.9	390,367.7	560.00				Average	
		NB 120+0	24	1,102,846.6	390,525.9	560.00				Average	
		NB 123+0	25	1,103,032.5	390,760.2	553.00				Average	

		NB 125+0	26	1,103,162.9	390,911.0	542.00				Average	
		NB 130+0	27	1,103,493.2	391,286.7	535.00				Average	
		NB 132+0	28	1,103,625.5	391,434.2	529.00				Average	
		NB 135+0	29	1,103,814.5	391,671.3	522.00				Average	
		NB 138+0	30	1,103,979.2	391,925.0	533.00				Average	
		NB 140+0	31	1,104,074.2	392,104.0	540.00				Average	
		NB 143+0	32	1,104,194.0	392,385.3	528.00				Average	
		NB 145+0	33	1,104,266.0	392,573.3	520.00				Average	
		NB 150+0	34	1,104,444.8	393,040.3	500.00				Average	
		NB 155+0	35	1,104,623.4	393,507.3	490.00				Average	
		NB 160+0	36	1,104,802.0	393,974.2	490.00				Average	
		NB 165+0	37	1,104,980.8	394,441.2	510.00				Average	
		NB 170+0	38	1,105,159.4	394,908.2	510.00				Average	
		NB 175+0	39	1,105,338.1	395,375.2	490.00				Average	
		NB 180+0	40	1,105,516.8	395,842.2	480.00				Average	
		NB 185+0	41	1,105,695.5	396,309.2	495.00				Average	
		NB 190+0	42	1,105,874.1	396,776.2	490.00				Average	
		NB 195+0	43	1,106,052.8	397,243.2	510.00				Average	
		NB 200+0	44	1,106,231.5	397,710.2	500.00				Average	
		NB 205+0	45	1,106,410.2	398,177.1	480.00				Average	
		NB 210+0	46	1,106,588.9	398,644.1	485.00				Average	
		NB 215+0	47	1,106,767.5	399,110.9	480.00				Average	
		NB 220+0	48	1,106,946.2	399,577.9	470.00				Average	
		NB 225+0	49	1,107,124.9	400,044.9	480.00				Average	
		NB 230+0	50	1,107,303.6	400,512.0	495.00				Average	
		NB 235+0	51	1,107,482.2	400,979.1	480.00				Average	
		NB 240+0	52	1,107,661.0	401,446.1	465.00				Average	
		NB 245+0	53	1,107,839.8	401,913.1	460.00				Average	
		NB 250+0	54	1,108,018.4	402,380.1	470.00				Average	
		NB 255+0	55	1,108,197.1	402,847.0	475.00				Average	
		NB 260+0	56	1,108,379.8	403,312.5	480.00				Average	
		NB 265+0	57	1,108,565.9	403,776.3	460.00				Average	
		NB 270+0	58	1,108,752.2	404,240.3	435.00					
SB SR 18	48.0	SB 270+0	59	1,108,685.2	404,266.4	435.00				Average	
		SB 265+0	60	1,108,498.9	403,802.5	460.00				Average	
		SB 260+0	61	1,108,312.6	403,338.6	480.00				Average	
		SB 255+0	62	1,108,130.0	402,873.2	475.00				Average	
		SB 250+0	63	1,107,951.2	402,406.2	470.00				Average	
		SB 245+0	64	1,107,772.6	401,939.2	460.00				Average	

		SB 240+0	65	1,107,593.9	401,472.2	465.00				Average	
		SB 235+0	66	1,107,415.2	401,005.3	480.00				Average	
		SB 230+0	67	1,107,236.5	400,538.1	495.00				Average	
		SB 225+0	68	1,107,057.8	400,071.0	480.00				Average	
		SB 220+0	69	1,106,879.1	399,604.1	470.00				Average	
		SB 215+0	70	1,106,700.4	399,137.1	480.00				Average	
		SB 210+0	71	1,106,521.8	398,670.2	485.00				Average	
		SB 205+0	72	1,106,343.1	398,203.3	480.00				Average	
		SB 200+0	73	1,106,164.4	397,736.3	500.00				Average	
		SB 195+0	74	1,105,985.8	397,269.3	510.00				Average	
		SB 190+0	75	1,105,807.0	396,802.3	490.00				Average	
		SB 185+0	76	1,105,628.4	396,335.3	495.00				Average	
		SB 180+0	77	1,105,449.8	395,868.3	480.00				Average	
		SB 175+0	78	1,105,270.9	395,401.3	490.00				Average	
		SB 170+0	79	1,105,092.2	394,934.2	510.00				Average	
		SB 165+0	80	1,104,913.6	394,467.3	510.00				Average	
		SB 160+0	81	1,104,735.0	394,000.5	490.00				Average	
		SB 155+0	82	1,104,556.2	393,533.6	490.00				Average	
		SB 150+0	83	1,104,377.6	393,066.7	500.00				Average	
		SB 145+0	84	1,104,199.0	392,599.7	520.00				Average	
		SB 143+0	85	1,104,127.2	392,412.3	528.00				Average	
		SB 140+0	86	1,104,012.1	392,140.6	540.00				Average	
		SB 138+0	87	1,103,921.1	391,968.4	533.00				Average	
		SB 135+0	88	1,103,757.8	391,715.5	522.00				Average	
		SB 133+0	89	1,103,634.5	391,557.6	525.00				Average	
		SB 130+0	90	1,103,437.5	391,332.3	535.00				Average	
		SB 125+0	91	1,103,107.2	390,956.6	542.00				Average	
		SB 123+0	92	1,102,974.2	390,802.8	553.00				Average	
		SB 120+0	93	1,102,787.4	390,566.9	560.00				Average	
		SB 118+0	94	1,102,669.0	390,403.4	560.00				Average	
		SB 115+0	95	1,102,503.4	390,152.2	555.00				Average	
		SB 113+0	96	1,102,399.5	389,978.7	555.00				Average	
		SB 110+0	97	1,102,256.5	389,714.2	543.00				Average	
		SB 108+0	98	1,102,167.2	389,530.2	535.00				Average	
		SB 105+0	99	1,102,048.4	389,255.6	528.00				Average	
		SB 103+0	100	1,101,976.2	389,066.4	520.00				Average	
		SB 100+0	101	1,101,881.5	388,781.6	515.00				Average	
		SB 96+87	102	1,101,799.5	388,475.1	510.00				Average	
		SB 92+85	103	1,101,682.8	388,092.4	503.00				Average	

		SB 89+02	104	1,101,573.2	387,723.7	500.00				Average	
		SB 86+23	105	1,101,489.2	387,460.1	500.00					
Highway 100 west of SR 18	28.0	Hwy 100 -	106	1,101,643.2	388,171.2	520.00				Average	
		Hwy 100 -	107	1,100,972.8	388,010.0	520.00				Average	
		Hwy 100 -	108	1,100,300.8	387,849.5	500.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-1

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
Highway 100 east of SR 18	Hwy 100 - 1	1	284	55	8	55	15	55	0	0	0	0
	Hwy 100 - 2	2	284	55	8	55	15	55	0	0	0	0
	Hwy 100 - 3	3										
WB Entrance Ramp to Hwy 100	Ramp 1	4	250	45	7	45	13	45	0	0	0	0
	Ramp 2	5	250	45	7	45	13	45	0	0	0	0
	Ramp 3	6	250	45	7	45	13	45	0	0	0	0
	Ramp 4	7	250	45	7	45	13	45	0	0	0	0
	Ramp 5	8	250	45	7	45	13	45	0	0	0	0
	Hwy 100 - 5	9										
WB Exit Ramp to SR 18	Ramp 1	10	163	45	4	45	9	45	0	0	0	0
	NB 96+87	11										
NB SR 18	NB 86+23	12	531	55	14	55	28	55	0	0	0	0
	NB 89+02	13	531	55	14	55	28	55	0	0	0	0
	NB 92+85	14	531	55	14	55	28	55	0	0	0	0
	NB 96+87	15	531	55	14	55	28	55	0	0	0	0
	NB 100+00	16	531	55	14	55	28	55	0	0	0	0
	NB 103+00	17	531	55	14	55	28	55	0	0	0	0
	NB 105+00	18	531	55	14	55	28	55	0	0	0	0
	NB 108+00	19	531	55	14	55	28	55	0	0	0	0
	NB 110+00	20	531	55	14	55	28	55	0	0	0	0
	NB 113+00	21	531	55	14	55	28	55	0	0	0	0
	NB 115+00	22	531	55	14	55	28	55	0	0	0	0
	NB 118+00	23	531	55	14	55	28	55	0	0	0	0

	NB 120+00	24	531	55	14	55	28	55	0	0	0	0
	NB 123+00	25	531	55	14	55	28	55	0	0	0	0
	NB 125+00	26	531	55	14	55	28	55	0	0	0	0
	NB 130+00	27	531	55	14	55	28	55	0	0	0	0
	NB 132+00	28	531	55	14	55	28	55	0	0	0	0
	NB 135+00	29	531	55	14	55	28	55	0	0	0	0
	NB 138+00	30	531	55	14	55	28	55	0	0	0	0
	NB 140+00	31	531	55	14	55	28	55	0	0	0	0
	NB 143+00	32	531	55	14	55	28	55	0	0	0	0
	NB 145+00	33	531	55	14	55	28	55	0	0	0	0
	NB 150+00	34	531	55	14	55	28	55	0	0	0	0
	NB 155+00	35	531	55	14	55	28	55	0	0	0	0
	NB 160+00	36	531	55	14	55	28	55	0	0	0	0
	NB 165+00	37	531	55	14	55	28	55	0	0	0	0
	NB 170+00	38	531	55	14	55	28	55	0	0	0	0
	NB 175+00	39	531	55	14	55	28	55	0	0	0	0
	NB 180+00	40	531	55	14	55	28	55	0	0	0	0
	NB 185+00	41	531	55	14	55	28	55	0	0	0	0
	NB 190+00	42	531	55	14	55	28	55	0	0	0	0
	NB 195+00	43	531	55	14	55	28	55	0	0	0	0
	NB 200+00	44	531	55	14	55	28	55	0	0	0	0
	NB 205+00	45	531	55	14	55	28	55	0	0	0	0
	NB 210+00	46	531	55	14	55	28	55	0	0	0	0
	NB 215+00	47	531	55	14	55	28	55	0	0	0	0
	NB 220+00	48	531	55	14	55	28	55	0	0	0	0
	NB 225+00	49	531	55	14	55	28	55	0	0	0	0
	NB 230+00	50	531	55	14	55	28	55	0	0	0	0
	NB 235+00	51	531	55	14	55	28	55	0	0	0	0
	NB 240+00	52	531	55	14	55	28	55	0	0	0	0
	NB 245+00	53	531	55	14	55	28	55	0	0	0	0
	NB 250+00	54	531	55	14	55	28	55	0	0	0	0
	NB 255+00	55	531	55	14	55	28	55	0	0	0	0
	NB 260+00	56	531	55	14	55	28	55	0	0	0	0
	NB 265+00	57	531	55	14	55	28	55	0	0	0	0
	NB 270+00	58										
SB SR 18	SB 270+00	59	531	55	14	55	28	55	0	0	0	0

	SB 265+00	60	531	55	14	55	28	55	0	0	0	0
	SB 260+00	61	531	55	14	55	28	55	0	0	0	0
	SB 255+00	62	531	55	14	55	28	55	0	0	0	0
	SB 250+00	63	531	55	14	55	28	55	0	0	0	0
	SB 245+00	64	531	55	14	55	28	55	0	0	0	0
	SB 240+00	65	531	55	14	55	28	55	0	0	0	0
	SB 235+00	66	531	55	14	55	28	55	0	0	0	0
	SB 230+00	67	531	55	14	55	28	55	0	0	0	0
	SB 225+00	68	531	55	14	55	28	55	0	0	0	0
	SB 220+00	69	531	55	14	55	28	55	0	0	0	0
	SB 215+00	70	531	55	14	55	28	55	0	0	0	0
	SB 210+00	71	531	55	14	55	28	55	0	0	0	0
	SB 205+00	72	531	55	14	55	28	55	0	0	0	0
	SB 200+00	73	531	55	14	55	28	55	0	0	0	0
	SB 195+00	74	531	55	14	55	28	55	0	0	0	0
	SB 190+00	75	531	55	14	55	28	55	0	0	0	0
	SB 185+00	76	531	55	14	55	28	55	0	0	0	0
	SB 180+00	77	531	55	14	55	28	55	0	0	0	0
	SB 175+00	78	531	55	14	55	28	55	0	0	0	0
	SB 170+00	79	531	55	14	55	28	55	0	0	0	0
	SB 165+00	80	531	55	14	55	28	55	0	0	0	0
	SB 160+00	81	531	55	14	55	28	55	0	0	0	0
	SB 155+00	82	531	55	14	55	28	55	0	0	0	0
	SB 150+00	83	531	55	14	55	28	55	0	0	0	0
	SB 145+00	84	531	55	14	55	28	55	0	0	0	0
	SB 143+00	85	531	55	14	55	28	55	0	0	0	0
	SB 140+00	86	531	55	14	55	28	55	0	0	0	0
	SB 138+00	87	531	55	14	55	28	55	0	0	0	0
	SB 135+00	88	531	55	14	55	28	55	0	0	0	0
	SB 133+00	89	531	55	14	55	28	55	0	0	0	0
	SB 130+00	90	531	55	14	55	28	55	0	0	0	0
	SB 125+00	91	531	55	14	55	28	55	0	0	0	0
	SB 123+00	92	531	55	14	55	28	55	0	0	0	0
	SB 120+00	93	531	55	14	55	28	55	0	0	0	0
	SB 118+00	94	531	55	14	55	28	55	0	0	0	0
	SB 115+00	95	531	55	14	55	28	55	0	0	0	0

	SB 113+00	96	531	55	14	55	28	55	0	0	0	0
	SB 110+00	97	531	55	14	55	28	55	0	0	0	0
	SB 108+00	98	531	55	14	55	28	55	0	0	0	0
	SB 105+00	99	531	55	14	55	28	55	0	0	0	0
	SB 103+00	100	531	55	14	55	28	55	0	0	0	0
	SB 100+00	101	531	55	14	55	28	55	0	0	0	0
	SB 96+87	102	531	55	14	55	28	55	0	0	0	0
	SB 92+85	103	531	55	14	55	28	55	0	0	0	0
	SB 89+02	104	531	55	14	55	28	55	0	0	0	0
	SB 86+23	105										
Highway 100 west of SR 18	Hwy 100 - 3	106	445	55	12	55	23	55	0	0	0	0
	Hwy 100 - 4	107	445	55	12	55	23	55	0	0	0	0
	Hwy 100 - 5	108										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment A-1**

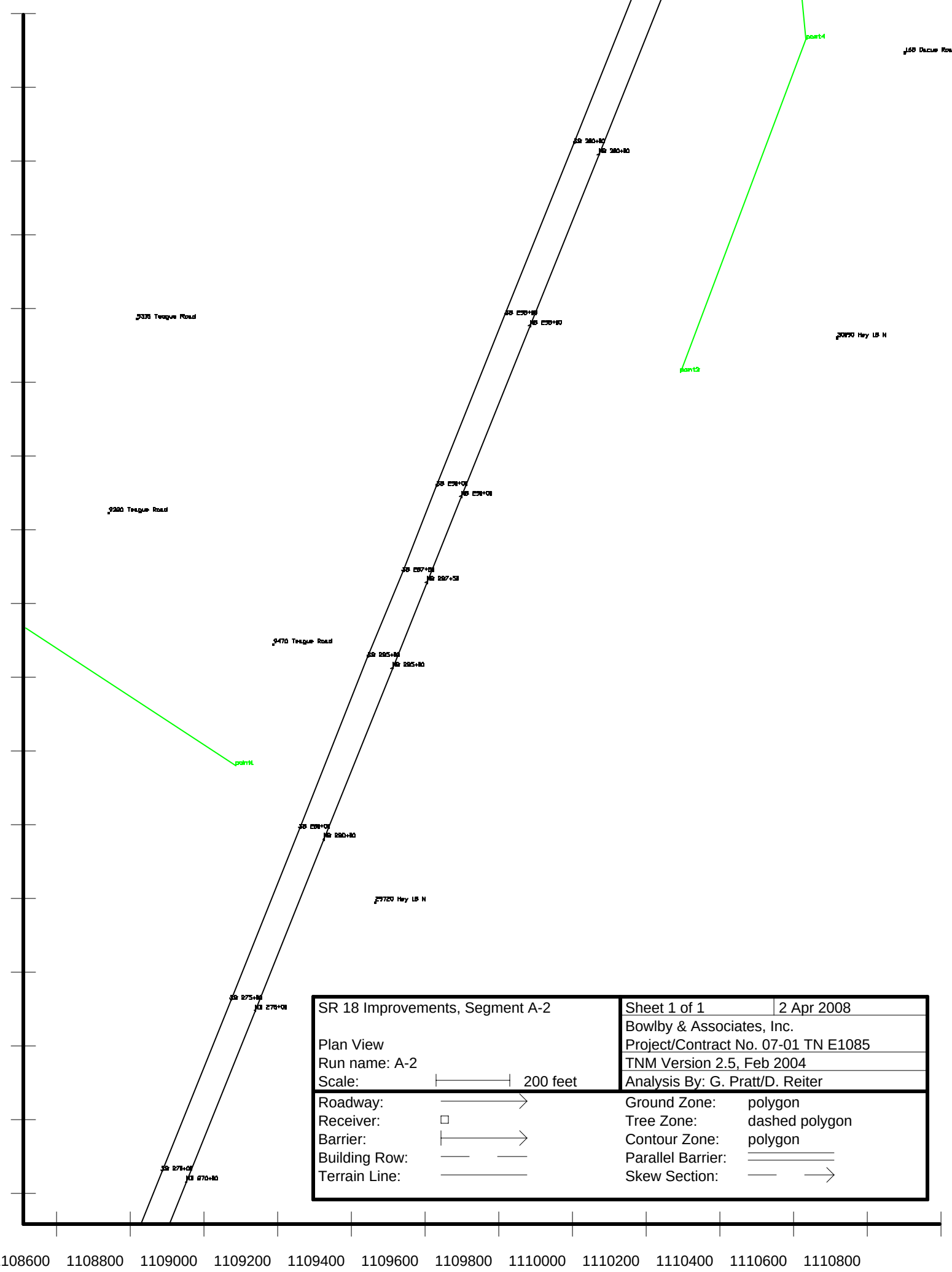
Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
135/140 Pulliam Road	1	2	1,101,320.6	388,958.3	560.00	5.00	0.00	66	10.0	10.0	
855 Eighteen Loop	3	1	1,102,635.0	389,217.1	560.00	5.00	0.00	66	10.0	10.0	
935 Eighteen Loop	5	1	1,102,989.5	389,542.5	565.00	5.00	0.00	66	10.0	10.0	
955 Eighteen Loop	7	1	1,103,058.4	389,631.1	565.00	5.00	0.00	66	10.0	10.0	
35 Ran Road	9	1	1,103,029.4	389,970.0	565.00	5.00	0.00	66	10.0	10.0	
1320 Eighteen Loop	15	2	1,104,065.9	391,391.4	540.00	5.00	0.00	66	10.0	10.0	
25 New Union Loop	17	1	1,103,879.2	392,225.5	550.00	5.00	0.00	66	10.0	10.0	
60 New Union Loop	19	1	1,103,893.5	392,422.8	535.00	5.00	0.00	66	10.0	10.0	
105 New Union Loop	21	1	1,103,662.6	392,535.8	550.00	5.00	0.00	66	10.0	10.0	
150 New Union Loop	23	1	1,103,886.1	392,832.7	540.00	5.00	0.00	66	10.0	10.0	
180 New Union Loop	25	1	1,103,853.6	393,042.5	540.00	5.00	0.00	66	10.0	10.0	Y
27585 Hwy 18 N	27	1	1,104,900.5	394,829.1	520.00	5.00	0.00	66	10.0	10.0	
27870 Hwy 18 N	31	1	1,105,670.2	396,031.4	490.00	5.00	64.00	66	10.0	10.0	
27920 Hwy 18 N	33	1	1,105,803.9	396,224.5	490.00	5.00	0.00	66	10.0	10.0	
27940 Hwy 18 N	35	1	1,105,862.8	396,370.2	500.00	5.00	0.00	66	10.0	10.0	
105 Jody Road	37	1	1,105,693.8	397,329.4	510.00	5.00	0.00	66	10.0	10.0	
155 Jody Road	39	1	1,105,435.8	397,373.2	515.00	5.00	0.00	66	10.0	10.0	
30 Big Springs Road	41	1	1,106,266.2	397,429.6	510.00	5.00	0.00	66	10.0	10.0	
110 Big Spring Road	43	1	1,106,684.4	397,655.7	500.00	5.00	0.00	66	10.0	10.0	
1420/1430 New Union Loop	45	2	1,105,692.2	398,291.4	520.00	5.00	0.00	66	10.0	10.0	
28410 Hwy 18 N	48	1	1,106,682.6	398,599.6	490.00	5.00	0.00	66	10.0	10.0	
1640 New Union Loop	51	1	1,106,219.1	399,299.8	500.00	5.00	0.00	66	10.0	10.0	

New Union Baptist Church	53	1	1,105,946.0	399,432.4	510.00	5.00	0.00	66	10.0	10.0	
28625 Hwy 18	59	3	1,106,722.9	399,695.1	480.00	5.00	0.00	66	10.0	10.0	
140 Union Way	61	1	1,106,714.1	400,014.3	510.00	5.00	0.00	66	10.0	10.0	Y
28725 Hwy 18 N	63	1	1,106,898.8	400,152.1	490.00	5.00	0.00	66	10.0	10.0	
28770 Hwy 18 N	67	1	1,107,318.9	400,300.9	490.00	5.00	65.00	66	10.0	10.0	Y
28785 Hwy 18 N	79	1	1,107,104.5	400,444.6	500.00	5.00	0.00	66	10.0	10.0	
28855 Hwy 18 N	83	2	1,107,197.6	400,850.9	490.00	5.00	57.00	66	10.0	10.0	
28970 Hwy 18 N	85	1	1,107,789.6	401,183.6	490.00	5.00	0.00	66	10.0	10.0	
135/140 Pulliam Road 1											
855 Eighteen Loop 2											
935 Eighteen Loop 3											
955 Eighteen Loop 4											
35 Ran Road 5											
1320 Eighteen Loop 8											
25 New Union Loop 9											
60 New Union Loop 10											
105 New Union Loop 11											
150 New Union Loop 12A											
180 New Union Loop 12											
27585 Hwy 18 N 13											
27870 Hwy 18 N 15											
27920 Hwy 18 N 16											
27940 Hwy 18 N 17											
105 Jody Road 18											
155 Jody Road 16A											
30 Big Springs Road 19											
110 Big Spring Road 20 (Church Parsonage)											
1420/1430 New Union Loop 21 (1635 New Union Loop)											
28410 Hwy 18 N 23											
1640 New Union Loop 25											
New Union Baptist Church 26											
28625 Hwy 18 29											
140 Union Way 30 (SF and MH)											
28725 Hwy 18 N 31											
28770 Hwy 18 N 32A											

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

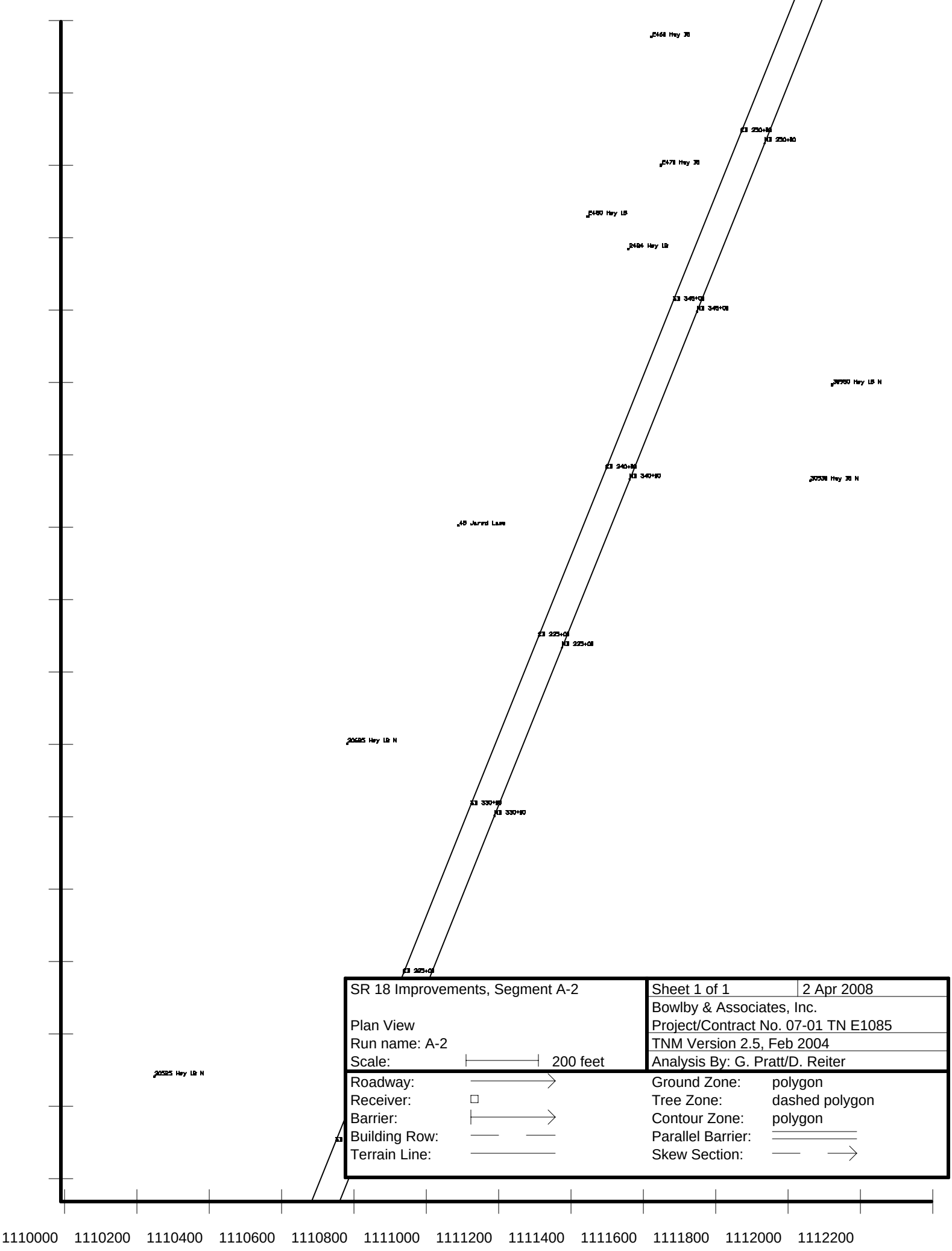
INPUT: TERRAIN LINES
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment A-1**

Terrain Line	Points			
Name	No.	Coordinates (ground)		
		X	Y	Z
		ft	ft	ft
Hill STA 141-135	1	1,103,882.5	392,285.0	550.00
	2	1,103,827.6	392,189.1	550.00
	3	1,103,633.9	391,825.1	500.00
Hill STA 122-131	4	1,103,123.6	390,671.6	560.00
	5	1,103,469.5	391,091.2	560.00
	6	1,103,627.2	391,291.7	540.00
Hill STA 237-239	7	1,107,632.4	401,077.6	490.00
	8	1,107,720.4	401,334.2	490.00
Cut STA 233-228	9	1,107,298.1	400,801.1	490.00
	10	1,107,239.9	400,683.1	500.00
	11	1,107,154.1	400,500.8	500.00



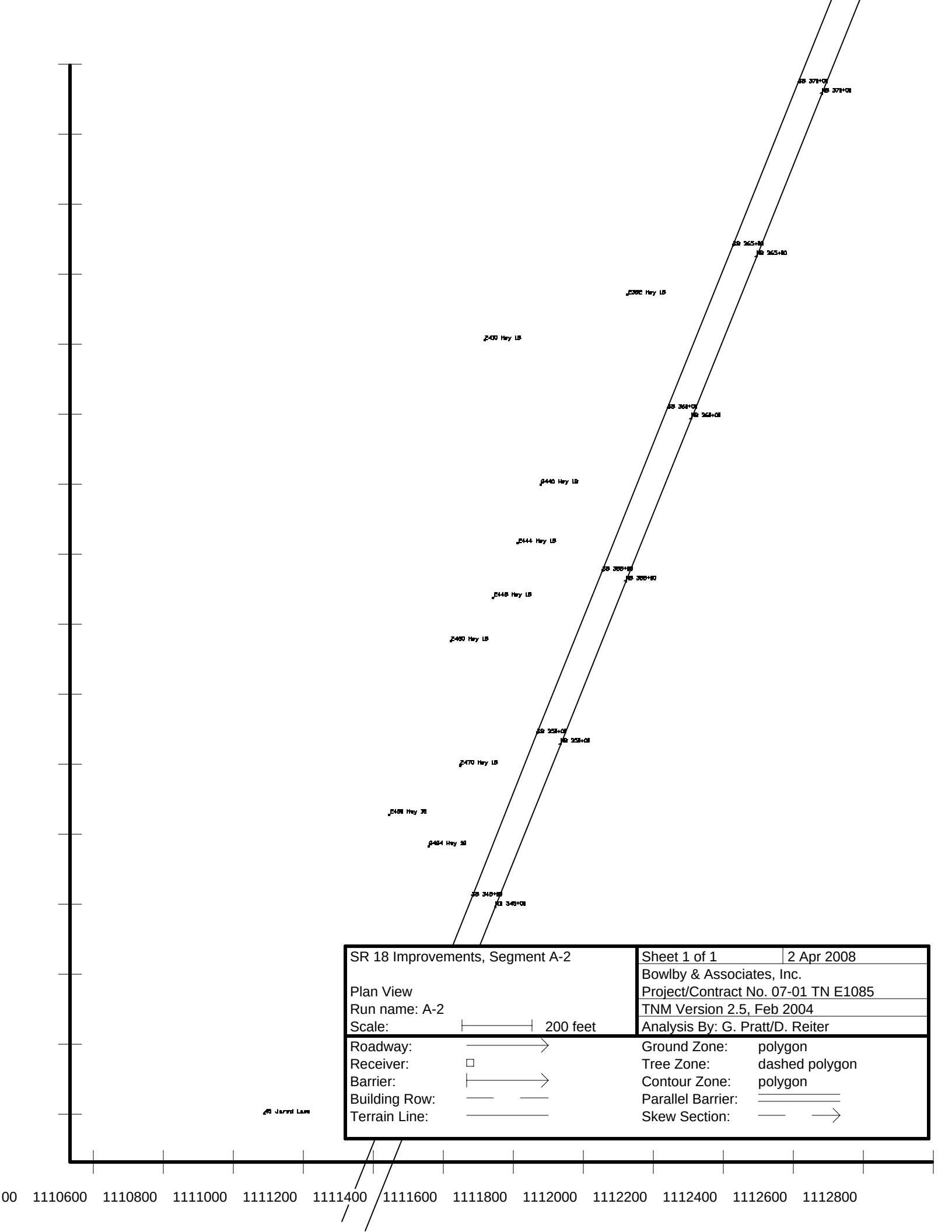
SR 18 Improvements, Segment A-2	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-2	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-2	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-2	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SB 378+00
NB 378+00
SB 365+00
NB 365+00
2392 Hwy 18
2430 Hwy 18
SB 368+00
NB 368+00
2440 Hwy 18
2444 Hwy 18
SB 366+00
NB 366+00
2448 Hwy 18
2450 Hwy 18
SB 358+00
NB 358+00
2470 Hwy 18
2480 Hwy 18
2484 Hwy 18
SB 348+00
NB 348+00
45 Jarrod Lane
SR 18 Improvements, Segment A-2
Plan View
Run name: A-2
Scale: 200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
00
1110600
1110800
1111000
1111200
1111400
1111600
1111800
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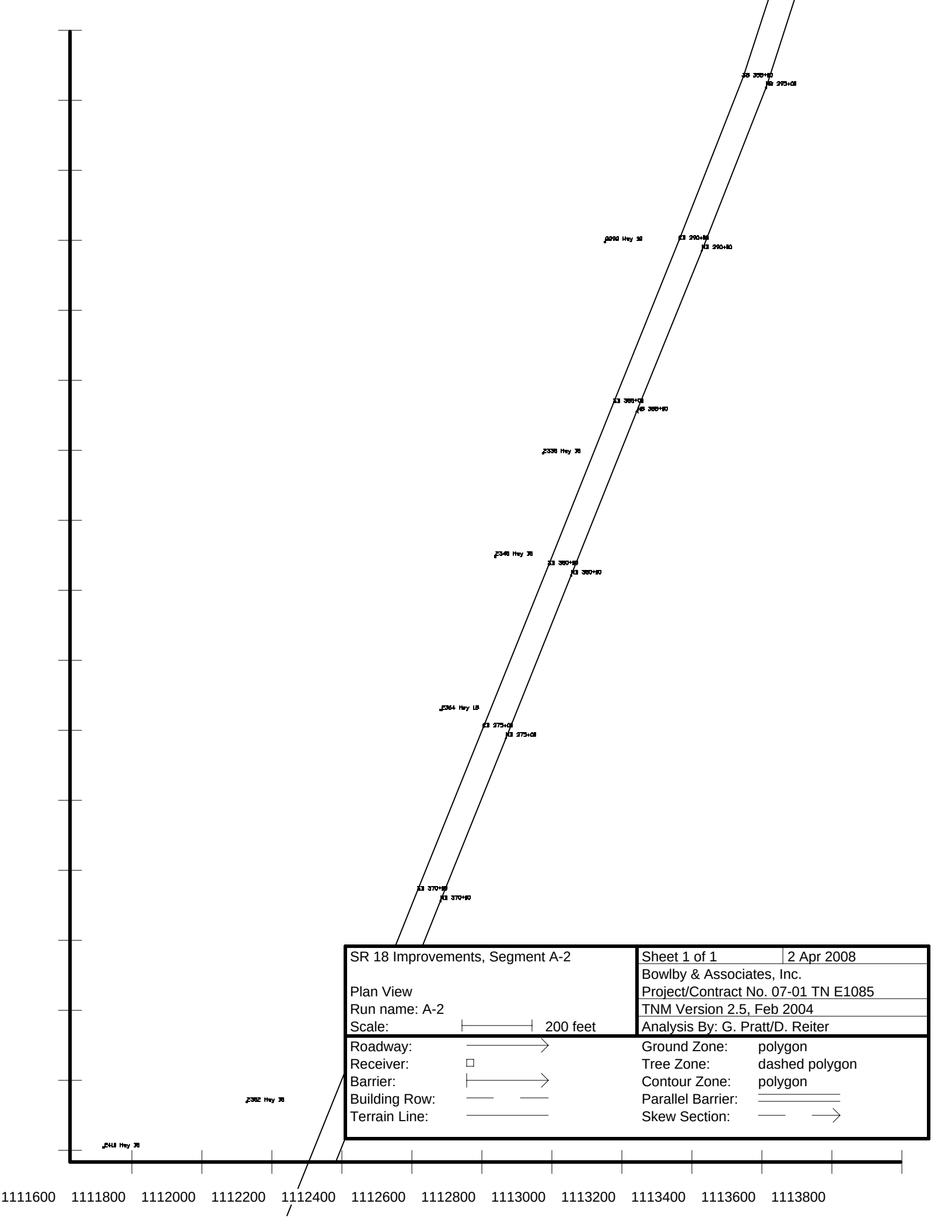
SR 18 Improvements, Segment A-2
Plan View
Run name: A-2
Scale: 200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
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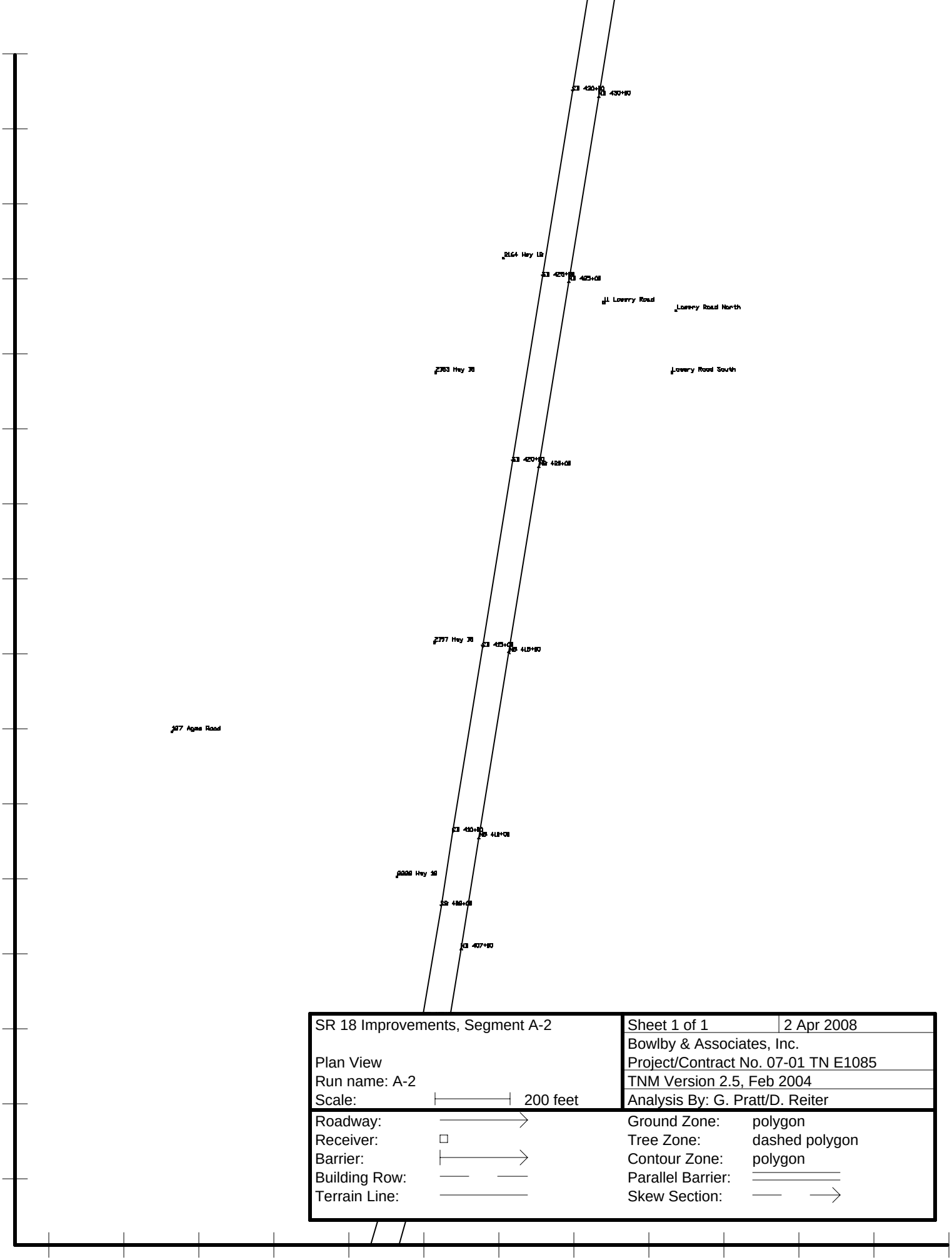


SR 18 Improvements, Segment A-2	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-2	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-2

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 255+0	185	1,108,197.1	402,847.0	475.00				Average	
		NB 260+0	184	1,108,379.8	403,312.5	480.00				Average	
		NB 265+0	183	1,108,565.9	403,776.3	460.00				Average	
		NB 270+0	182	1,108,752.2	404,240.3	435.00				Average	
		NB 275+0	181	1,108,938.6	404,704.3	417.00				Average	
		NB 280+0	180	1,109,125.0	405,168.5	410.00				Average	
		NB 285+0	179	1,109,311.4	405,632.5	400.00				Average	
		NB 287+5	178	1,109,404.5	405,864.5	400.00				Average	
		NB 290+0	177	1,109,497.8	406,096.3	390.00				Average	
		NB 295+0	63	1,109,684.0	406,560.2	385.00				Average	
		NB 300+0	62	1,109,870.4	407,024.4	385.00				Average	
		NB 305+0	61	1,110,056.8	407,488.5	385.00				Average	
		NB 310+0	60	1,110,243.1	407,952.5	385.00				Average	
		NB 315+0	59	1,110,429.5	408,416.5	390.00				Average	
		NB 320+0	58	1,110,615.8	408,880.4	395.00				Average	
		NB 325+0	57	1,110,802.2	409,344.7	415.00				Average	
		NB 330+0	56	1,110,988.6	409,808.6	435.00				Average	
		NB 335+0	55	1,111,174.9	410,272.6	435.00				Average	
		NB 340+0	54	1,111,361.2	410,736.6	440.00				Average	
		NB 345+0	53	1,111,547.8	411,200.6	450.00				Average	
		NB 350+0	52	1,111,734.0	411,664.6	470.00				Average	
		NB 355+0	51	1,111,920.4	412,128.6	480.00				Average	
		NB 360+0	50	1,112,106.8	412,592.8	470.00				Average	
		NB 365+0	49	1,112,293.1	413,056.8	480.00				Average	
		NB 370+0	48	1,112,479.5	413,520.8	480.00				Average	

		NB 375+0	47	1,112,665.9	413,985.1	480.00				Average	
		NB 380+0	46	1,112,852.2	414,449.1	485.00				Average	
		NB 385+0	45	1,113,039.9	414,915.8	475.00				Average	
		NB 390+0	44	1,113,225.0	415,377.1	456.00				Average	
		NB 395+0	43	1,113,407.4	415,842.1	444.00				Average	
		NB 398+0	42	1,113,502.5	416,130.3	440.00				Average	
		NB 400+0	41	1,113,556.8	416,323.0	440.00				Average	
		NB 402+0	40	1,113,604.8	416,518.6	440.00				Average	
		NB 405+0	39	1,113,664.1	416,818.2	440.00				Average	
		NB 407+0	38	1,113,696.8	417,019.3	440.00				Average	
		NB 410+0	37	1,113,744.5	417,315.1	440.00				Average	
		NB 415+0	36	1,113,824.1	417,808.7	440.00				Average	
		NB 420+0	35	1,113,903.8	418,302.3	450.00				Average	
		NB 425+0	34	1,113,983.2	418,795.8	455.00				Average	
		NB 430+0	33	1,114,062.9	419,289.4	460.00				Average	
		NB 435+0	198	1,114,142.6	419,783.2	480.00				Average	
		NB 440+0	199	1,114,222.2	420,276.8	480.00				Average	
		NB 445+0	200	1,114,301.8	420,770.3	480.00					
SB SR 18	48.0	SB 445+0	197	1,114,230.8	420,782.4	480.00				Average	
		SB 440+0	196	1,114,151.2	420,289.0	480.00				Average	
		SB 435+0	195	1,114,071.6	419,795.3	480.00				Average	
		SB 430+0	141	1,113,992.0	419,301.5	460.00				Average	
		SB 425+0	140	1,113,912.2	418,807.9	455.00				Average	
		SB 420+0	139	1,113,832.8	418,314.5	450.00				Average	
		SB 415+0	138	1,113,753.1	417,820.9	440.00				Average	
		SB 410+0	137	1,113,673.6	417,327.5	440.00				Average	
		SB 408+0	136	1,113,641.8	417,130.4	440.00				Average	
		SB 405+0	135	1,113,594.1	416,835.9	440.00				Average	
		SB 403+0	134	1,113,557.5	416,641.5	440.00				Average	
		SB 400+0	133	1,113,488.6	416,346.8	440.00				Average	
		SB 398+0	132	1,113,434.4	416,153.9	440.00				Average	
		SB 395+0	131	1,113,340.4	415,868.4	444.00				Average	
		SB 390+0	130	1,113,157.9	415,403.3	456.00				Average	
		SB 385+0	129	1,112,971.6	414,939.2	475.00				Average	
		SB 380+0	128	1,112,785.2	414,475.3	485.00				Average	
		SB 375+0	127	1,112,598.9	414,011.2	480.00				Average	
		SB 370+0	126	1,112,412.4	413,546.9	480.00				Average	
		SB 365+0	125	1,112,226.0	413,083.0	480.00				Average	
		SB 360+0	124	1,112,039.8	412,618.9	470.00				Average	

		SB 355+0	123	1,111,853.2	412,154.8	480.00				Average	
		SB 350+0	122	1,111,666.9	411,690.7	470.00				Average	
		SB 345+0	121	1,111,480.6	411,226.7	450.00				Average	
		SB 340+0	120	1,111,294.2	410,762.7	440.00				Average	
		SB 335+0	119	1,111,107.9	410,298.7	435.00				Average	
		SB 330+0	118	1,110,921.5	409,834.7	435.00				Average	
		SB 325+0	117	1,110,735.2	409,370.8	415.00				Average	
		SB 320+0	116	1,110,548.8	408,906.6	395.00				Average	
		SB 315+0	115	1,110,362.4	408,442.6	390.00				Average	
		SB 310+0	114	1,110,176.1	407,978.6	385.00				Average	
		SB 305+0	113	1,109,989.8	407,514.6	385.00				Average	
		SB 300+0	112	1,109,803.2	407,050.5	385.00				Average	
		SB 295+0	174	1,109,616.9	406,586.3	385.00				Average	
		SB 290+0	186	1,109,430.6	406,122.4	390.00				Average	
		SB 287+5	187	1,109,337.5	405,890.6	400.00				Average	
		SB 285+0	188	1,109,244.2	405,658.6	400.00				Average	
		SB 280+0	189	1,109,057.9	405,194.6	410.00				Average	
		SB 275+0	190	1,108,871.5	404,730.4	417.00				Average	
		SB 270+0	191	1,108,685.2	404,266.4	435.00				Average	
		SB 265+0	192	1,108,498.9	403,802.5	460.00				Average	
		SB 260+0	193	1,108,312.6	403,338.6	480.00				Average	
		SB 255+0	194	1,108,130.0	402,873.2	475.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-2

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 255+00	185	531	55	14	55	28	55	0	0	0	0
	NB 260+00	184	531	55	14	55	28	55	0	0	0	0
	NB 265+00	183	531	55	14	55	28	55	0	0	0	0
	NB 270+00	182	531	55	14	55	28	55	0	0	0	0
	NB 275+00	181	531	55	14	55	28	55	0	0	0	0
	NB 280+00	180	531	55	14	55	28	55	0	0	0	0
	NB 285+00	179	531	55	14	55	28	55	0	0	0	0
	NB 287+50	178	531	55	14	55	28	55	0	0	0	0
	NB 290+00	177	531	55	14	55	28	55	0	0	0	0
	NB 295+00	63	531	55	14	55	28	55	0	0	0	0
	NB 300+00	62	531	55	14	55	28	55	0	0	0	0
	NB 305+00	61	531	55	14	55	28	55	0	0	0	0
	NB 310+00	60	531	55	14	55	28	55	0	0	0	0
	NB 315+00	59	531	55	14	55	28	55	0	0	0	0
	NB 320+00	58	531	55	14	55	28	55	0	0	0	0
	NB 325+00	57	531	55	14	55	28	55	0	0	0	0
	NB 330+00	56	531	55	14	55	28	55	0	0	0	0
	NB 335+00	55	531	55	14	55	28	55	0	0	0	0
	NB 340+00	54	531	55	14	55	28	55	0	0	0	0
	NB 345+00	53	531	55	14	55	28	55	0	0	0	0
	NB 350+00	52	531	55	14	55	28	55	0	0	0	0
	NB 355+00	51	531	55	14	55	28	55	0	0	0	0
	NB 360+00	50	531	55	14	55	28	55	0	0	0	0

	NB 365+00	49	531	55	14	55	28	55	0	0	0	0
	NB 370+00	48	531	55	14	55	28	55	0	0	0	0
	NB 375+00	47	531	55	14	55	28	55	0	0	0	0
	NB 380+00	46	531	55	14	55	28	55	0	0	0	0
	NB 385+00	45	531	55	14	55	28	55	0	0	0	0
	NB 390+00	44	531	55	14	55	28	55	0	0	0	0
	NB 395+00	43	531	55	14	55	28	55	0	0	0	0
	NB 398+00	42	531	55	14	55	28	55	0	0	0	0
	NB 400+00	41	531	55	14	55	28	55	0	0	0	0
	NB 402+00	40	531	55	14	55	28	55	0	0	0	0
	NB 405+00	39	531	55	14	55	28	55	0	0	0	0
	NB 407+00	38	531	55	14	55	28	55	0	0	0	0
	NB 410+00	37	531	55	14	55	28	55	0	0	0	0
	NB 415+00	36	531	55	14	55	28	55	0	0	0	0
	NB 420+00	35	531	55	14	55	28	55	0	0	0	0
	NB 425+00	34	531	55	14	55	28	55	0	0	0	0
	NB 430+00	33	531	55	14	55	28	55	0	0	0	0
	NB 435+00	198	531	55	14	55	28	55	0	0	0	0
	NB 440+00	199	531	55	14	55	28	55	0	0	0	0
	NB 445+00	200										
SB SR 18	SB 445+00	197	531	55	14	55	28	55	0	0	0	0
	SB 440+00	196	531	55	14	55	28	55	0	0	0	0
	SB 435+00	195	531	55	14	55	28	55	0	0	0	0
	SB 430+00	141	531	55	14	55	28	55	0	0	0	0
	SB 425+00	140	531	55	14	55	28	55	0	0	0	0
	SB 420+00	139	531	55	14	55	28	55	0	0	0	0
	SB 415+00	138	531	55	14	55	28	55	0	0	0	0
	SB 410+00	137	531	55	14	55	28	55	0	0	0	0
	SB 408+00	136	531	55	14	55	28	55	0	0	0	0
	SB 405+00	135	531	55	14	55	28	55	0	0	0	0
	SB 403+00	134	531	55	14	55	28	55	0	0	0	0
	SB 400+00	133	531	55	14	55	28	55	0	0	0	0
	SB 398+00	132	531	55	14	55	28	55	0	0	0	0
	SB 395+00	131	531	55	14	55	28	55	0	0	0	0
	SB 390+00	130	531	55	14	55	28	55	0	0	0	0
	SB 385+00	129	531	55	14	55	28	55	0	0	0	0

	SB 380+00	128	531	55	14	55	28	55	0	0	0	0
	SB 375+00	127	531	55	14	55	28	55	0	0	0	0
	SB 370+00	126	531	55	14	55	28	55	0	0	0	0
	SB 365+00	125	531	55	14	55	28	55	0	0	0	0
	SB 360+00	124	531	55	14	55	28	55	0	0	0	0
	SB 355+00	123	531	55	14	55	28	55	0	0	0	0
	SB 350+00	122	531	55	14	55	28	55	0	0	0	0
	SB 345+00	121	531	55	14	55	28	55	0	0	0	0
	SB 340+00	120	531	55	14	55	28	55	0	0	0	0
	SB 335+00	119	531	55	14	55	28	55	0	0	0	0
	SB 330+00	118	531	55	14	55	28	55	0	0	0	0
	SB 325+00	117	531	55	14	55	28	55	0	0	0	0
	SB 320+00	116	531	55	14	55	28	55	0	0	0	0
	SB 315+00	115	531	55	14	55	28	55	0	0	0	0
	SB 310+00	114	531	55	14	55	28	55	0	0	0	0
	SB 305+00	113	531	55	14	55	28	55	0	0	0	0
	SB 300+00	112	531	55	14	55	28	55	0	0	0	0
	SB 295+00	174	531	55	14	55	28	55	0	0	0	0
	SB 290+00	186	531	55	14	55	28	55	0	0	0	0
	SB 287+50	187	531	55	14	55	28	55	0	0	0	0
	SB 285+00	188	531	55	14	55	28	55	0	0	0	0
	SB 280+00	189	531	55	14	55	28	55	0	0	0	0
	SB 275+00	190	531	55	14	55	28	55	0	0	0	0
	SB 270+00	191	531	55	14	55	28	55	0	0	0	0
	SB 265+00	192	531	55	14	55	28	55	0	0	0	0
	SB 260+00	193	531	55	14	55	28	55	0	0	0	0
	SB 255+00	194										

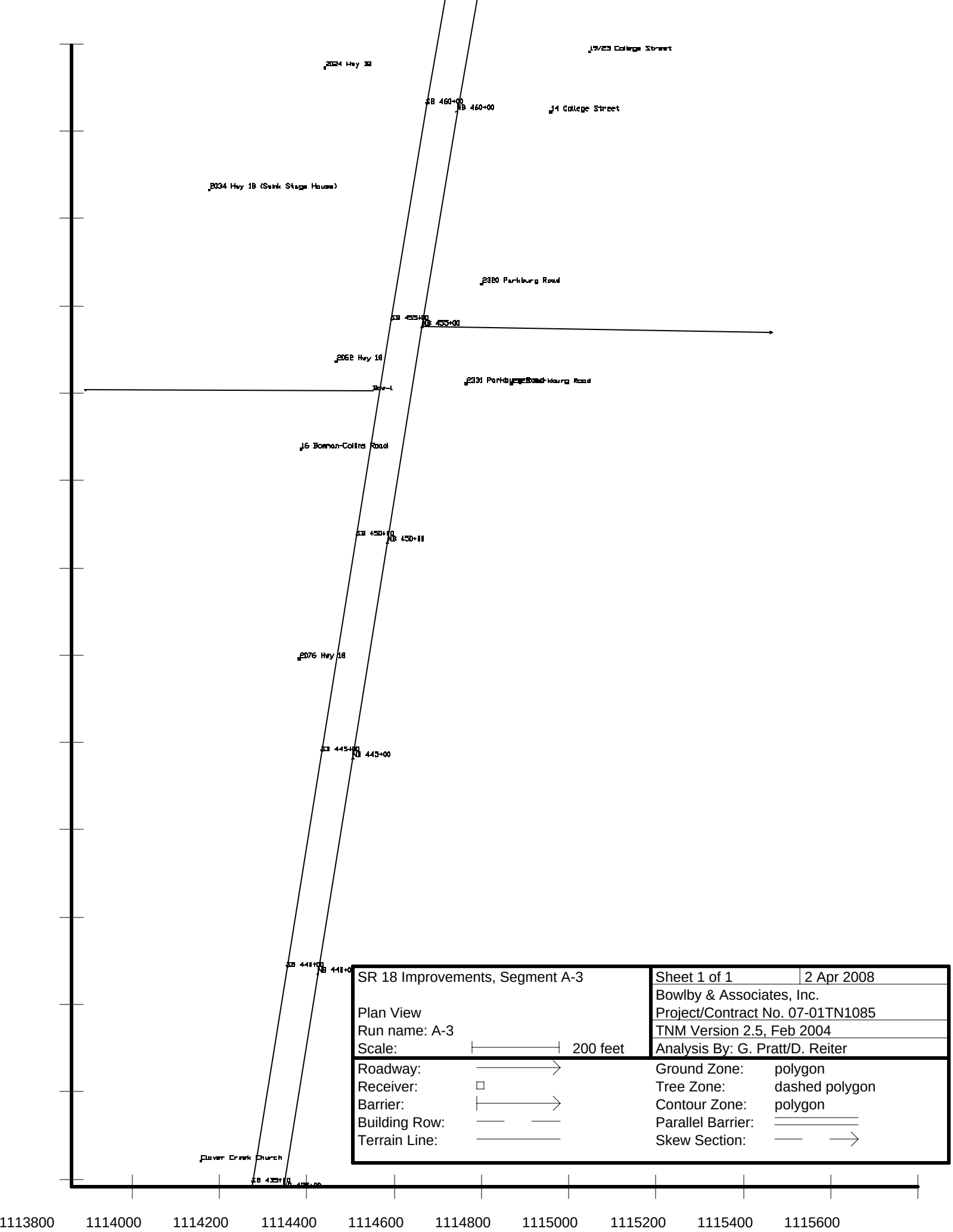
Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-2

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
29720 Hwy 18 N	1	1	1,109,263.2	404,995.3	410.00	5.00	0.00	66	10.0	10.0	
9470 Teague Road	3	1	1,108,987.8	405,693.9	410.00	5.00	0.00	66	10.0	10.0	
9320 Teague Road	5	1	1,108,540.5	406,049.8	420.00	5.00	0.00	66	10.0	10.0	
9315 Teague Road	7	1	1,108,618.5	406,574.3	400.00	5.00	0.00	66	10.0	10.0	
30090 Hwy 18 N	9	1	1,110,516.1	406,523.6	410.00	5.00	0.00	66	10.0	10.0	
165 Dacus Road	11	1	1,110,700.0	407,296.4	420.00	5.00	0.00	66	10.0	10.0	
30525 Hwy 18 N	13	1	1,110,048.0	409,086.1	392.00	5.00	0.00	66	10.0	10.0	
30685 Hwy 18 N	15	1	1,110,580.0	410,003.9	455.00	5.00	0.00	66	10.0	10.0	
45 Jared Lane	17	1	1,110,888.1	410,605.8	443.00	5.00	0.00	66	10.0	10.0	
30930 Hwy 18 N	20	1	1,111,858.6	410,729.4	430.00	5.00	0.00	66	10.0	10.0	
30950 Hwy 18 N	21	1	1,111,920.0	410,994.9	430.00	5.00	0.00	66	10.0	10.0	
2484 Hwy 18	23	1	1,111,356.9	411,369.4	455.00	5.00	0.00	66	10.0	10.0	
2480 Hwy 18	26	1	1,111,245.1	411,460.2	450.00	5.00	0.00	66	10.0	10.0	
2470 Hwy 18	27	1	1,111,447.2	411,600.9	465.00	5.00	0.00	66	10.0	10.0	
2460 Hwy 18	29	1	1,111,420.1	411,954.1	500.00	5.00	0.00	66	10.0	10.0	
2448 Hwy 18	35	1	1,111,541.0	412,079.5	500.00	5.00	0.00	66	10.0	10.0	
2444 Hwy 18	36	1	1,111,611.1	412,234.0	490.00	5.00	0.00	66	10.0	10.0	
2440 Hwy 18	42	1	1,111,676.5	412,401.1	490.00	5.00	0.00	66	10.0	10.0	
2410 Hwy 18	44	1	1,111,516.5	412,813.3	475.00	5.00	0.00	66	10.0	10.0	
2382 Hwy 18	45	1	1,111,924.0	412,942.9	480.00	5.00	0.00	66	10.0	10.0	
2364 Hwy 18	48	4	1,112,479.2	414,061.9	480.00	5.00	69.00	66	10.0	10.0	Y
2348 Hwy 18	51	1	1,112,633.0	414,500.4	485.00	5.00	0.00	66	10.0	10.0	

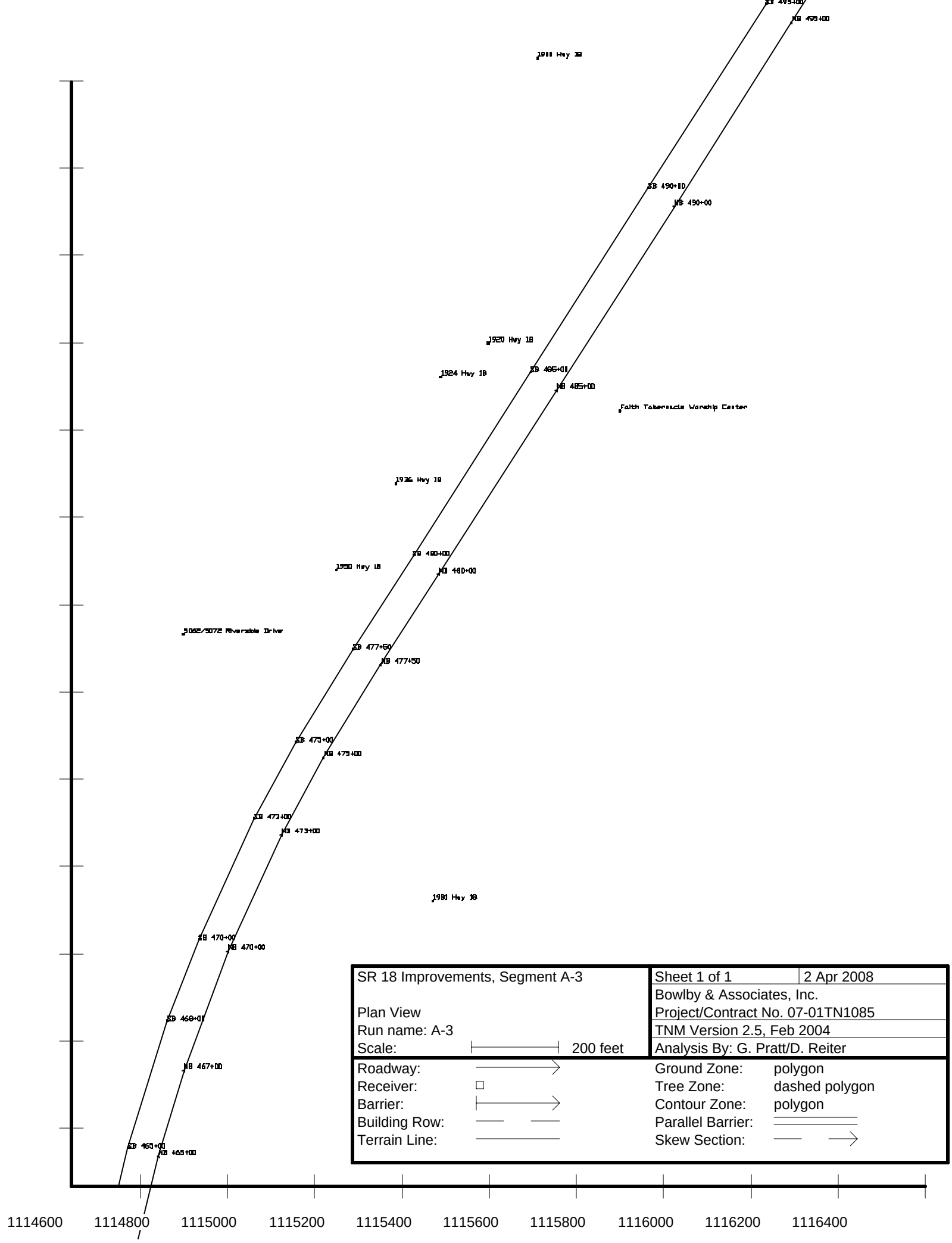
2338 Hwy 18	52	1	1,112,769.6	414,793.9	475.00	5.00	0.00	66	10.0	10.0	
2292 Hwy 18	54	1	1,112,947.1	415,397.9	460.00	5.00	0.00	66	10.0	10.0	
2264 Hwy 18	109	1	1,113,409.1	416,674.4	440.00	5.00	0.00	66	10.0	10.0	
2228 Hwy 18	110	1	1,113,525.1	417,208.8	440.00	5.00	0.00	66	10.0	10.0	
127 Agins Road	111	1	1,112,926.1	417,595.9	420.00	5.00	0.00	66	10.0	10.0	
2197 Hwy 18	113	1	1,113,625.1	417,833.4	440.00	5.00	0.00	66	10.0	10.0	
2183 Hwy 18	115	1	1,113,628.1	418,552.2	460.00	5.00	0.00	66	10.0	10.0	
2164 Hwy 18	117	1	1,113,809.1	418,856.6	455.00	5.00	0.00	66	10.0	10.0	
11 Lowery Road	119	1	1,114,075.9	418,738.6	460.00	5.00	0.00	66	10.0	10.0	
Lowery Road North	121	2	1,114,268.5	418,716.8	460.00	5.00	0.00	66	10.0	10.0	
Lowery Road South	123	2	1,114,257.0	418,552.1	460.00	5.00	0.00	66	10.0	10.0	
29720 Hwy 18 N 37											
9470 Teague Road 38											
9320 Teague Road 39											
9315 Teague Road 40											
30090 Hwy 18 N 41											
165 Dacus Road 42											
30525 Hwy 18 N 43											
30685 Hwy 18 N 44											
45 Jared Lane 45											
30930 Hwy 18 N 47											
30950 Hwy 18 N 49											
2484 Hwy 18 51											
2480 Hwy 18 53											
2470 Hwy 18 54											
2460 Hwy 18 56											
2448 Hwy 18 111											
2444 Hwy 18 112											
2440 Hwy 18 116											
2410 Hwy 18 117											
2382 Hwy 18 117A											
2364 Hwy 18 119											
2348 Hwy 18 122											
2338 Hwy 18 123											
2292 Hwy 18 124											
2264 Hwy 18 34											

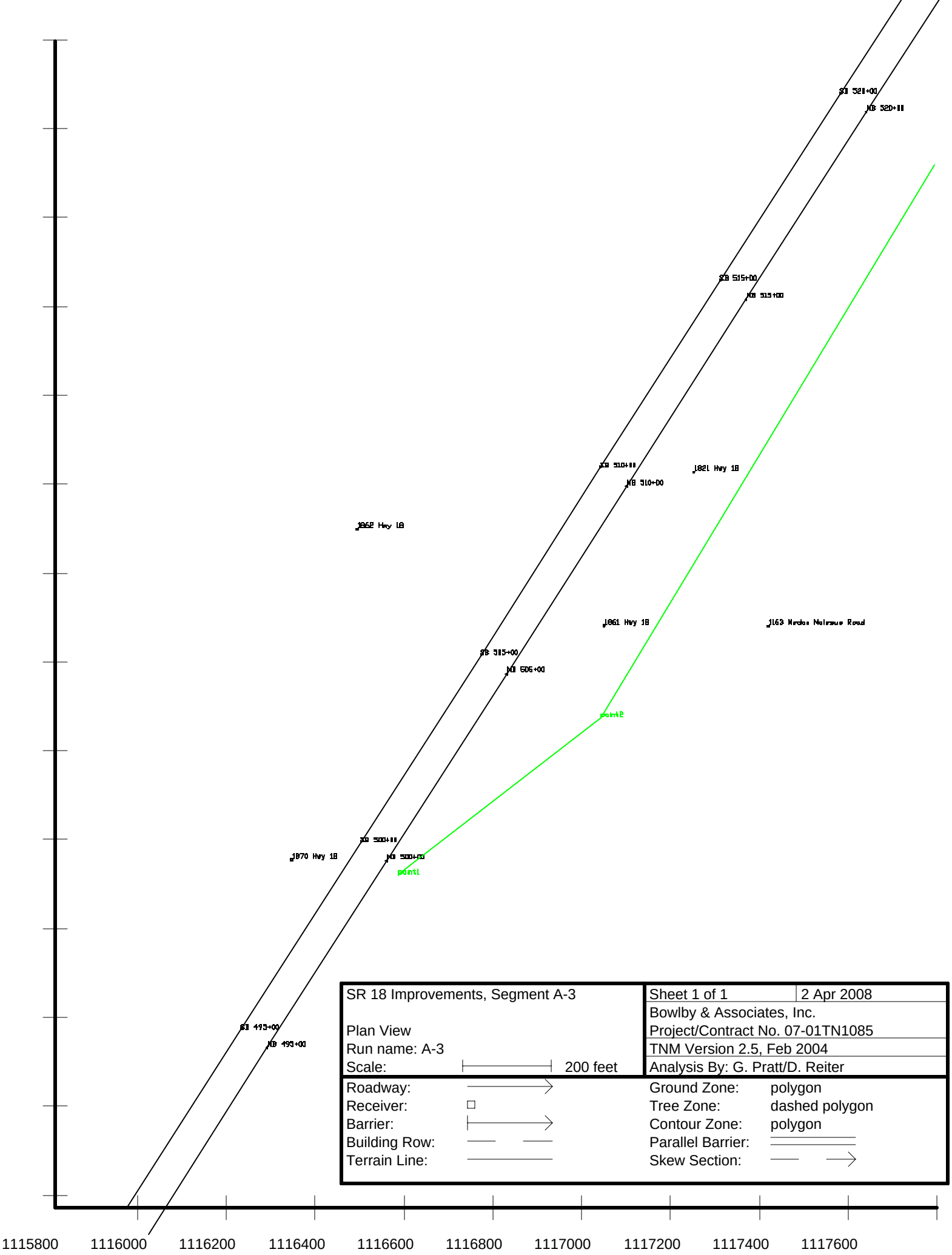
2228 Hwy 18 35											
127 Agins Road 36											



SR 18 Improvements, Segment A-3		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01TN1085	
Run name: A-3		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	

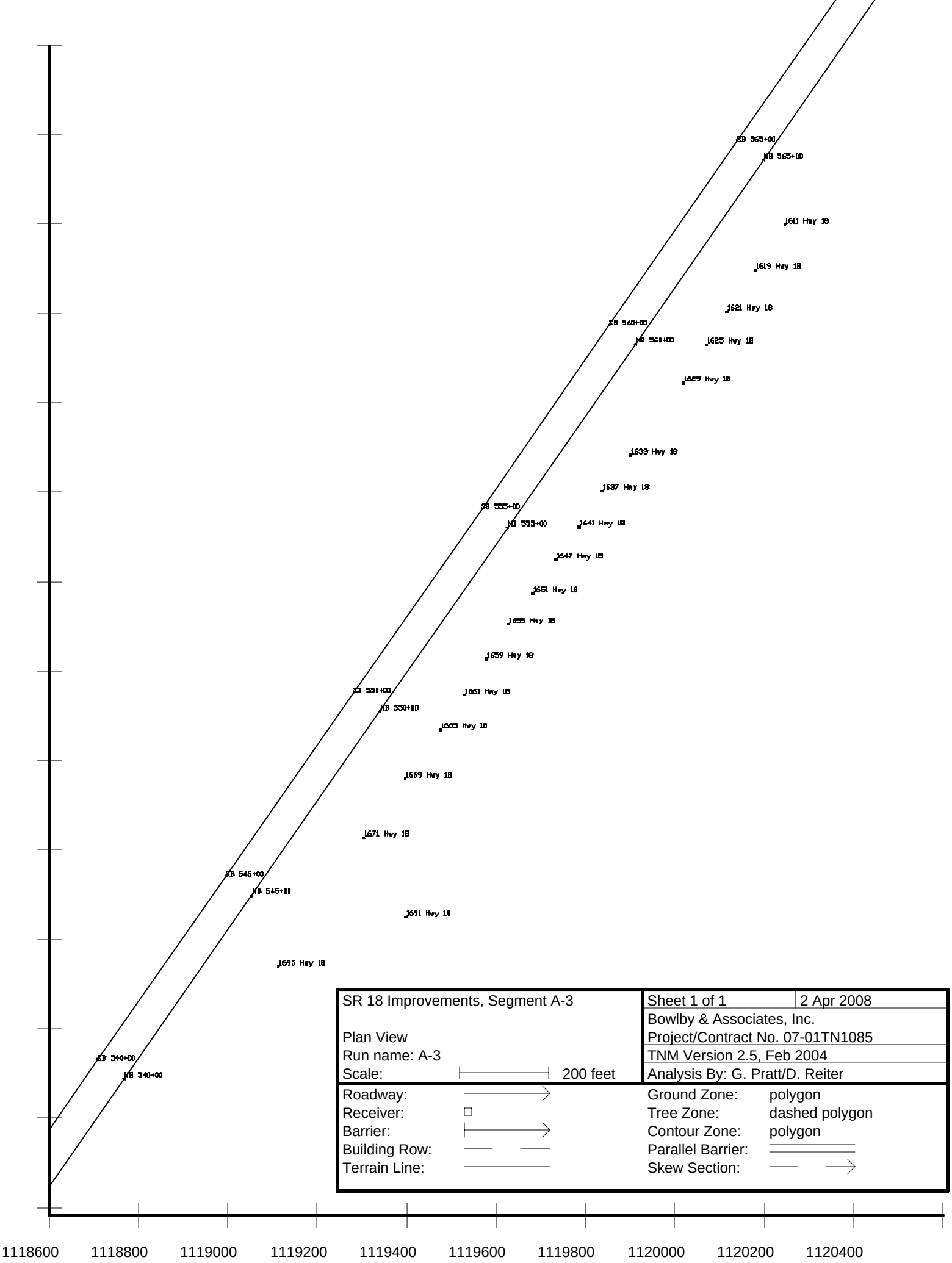
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SB 495+00
NB 495+00
1911 Hwy 18
SB 490+00
NB 490+00
1920 Hwy 18
1924 Hwy 18
SB 485+00
NB 485+00
Faith Tabernacle Worship Center
1926 Hwy 18
SB 480+00
NB 480+00
1930 Hwy 18
5062/5072 Riverside Drive
SB 477+50
NB 477+50
SB 475+00
NB 475+00
SB 473+00
NB 473+00
1981 Hwy 18
SB 470+00
NB 470+00
SB 468+00
NB 467+00
SB 465+00
NB 465+00
1114600
1114800
1115000
1115200
1115400
1115600
1115800
1116000
1116200
1116400
SR 18 Improvements, Segment A-3
Plan View
Run name: A-3
Scale: 200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01TN1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:



SR 18 Improvements, Segment A-3	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01TN1085	
Run name: A-3	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-3	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01TN1085
Run name: A-3	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01TN1085
RUN: SR 18 Improvements, Segment A-3

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18 STA 420-455	48.0	NB 420+0	178	1,113,903.8	418,302.3	463.00				Average	
		NB 425+0	177	1,113,983.2	418,795.8	440.00				Average	
		NB 430+0	33	1,114,062.9	419,289.4	460.00				Average	
		NB 435+0	32	1,114,142.6	419,783.2	480.00				Average	
		NB 440+0	31	1,114,222.2	420,276.8	480.00				Average	
		NB 445+0	30	1,114,301.8	420,770.3	480.00				Average	
		NB 450+0	29	1,114,381.4	421,263.9	480.00				Average	
		NB 455+0	28	1,114,461.0	421,757.4	478.00					
SB SR 18 STA 580-455	48.0	SB 580+0	186	1,120,793.4	432,418.3	464.00				Average	
		SB 575+0	185	1,120,507.8	432,007.8	476.00				Average	
		SB 570+0	184	1,120,222.0	431,597.1	500.00				Average	
		SB 565+0	171	1,119,936.1	431,186.3	500.00				Average	
		SB 560+0	170	1,119,650.1	430,775.3	500.00				Average	
		SB 555+0	169	1,119,364.2	430,364.5	500.00				Average	
		SB 550+0	168	1,119,078.4	429,953.7	500.00				Average	
		SB 545+0	167	1,118,792.6	429,543.0	500.00				Average	
		SB 540+0	166	1,118,506.6	429,132.1	500.00				Average	
		SB 535+0	165	1,118,220.6	428,721.2	500.00				Average	
		SB 530+0	164	1,117,935.0	428,310.7	500.00				Average	
		SB 525+0	163	1,117,650.2	427,899.6	500.00				Average	
		SB 520+0	162	1,117,377.6	427,480.4	490.00				Average	
		SB 515+0	161	1,117,108.1	427,059.3	500.00				Average	
		SB 510+0	160	1,116,838.8	426,638.3	490.00				Average	
		SB 505+0	159	1,116,569.2	426,217.1	480.00				Average	
		SB 500+0	158	1,116,299.6	425,795.7	485.00				Average	

		SB 495+0	157	1,116,030.4	425,375.0	490.00				Average	
		SB 490+0	156	1,115,760.9	424,953.8	484.00				Average	
		SB 485+0	155	1,115,491.5	424,532.9	480.00				Average	
		SB 480+0	154	1,115,222.0	424,111.7	470.00				Average	
		SB 477+5	176	1,115,084.9	423,897.5	463.00				Average	
		SB 475+0	153	1,114,953.8	423,684.8	470.00				Average	
		SB 473+0	152	1,114,858.2	423,508.7	470.00				Average	
		SB 470+0	151	1,114,731.0	423,232.7	470.00				Average	
		SB 468+0	150	1,114,659.4	423,046.1	470.00				Average	
		SB 465+0	149	1,114,569.1	422,755.2	460.00				Average	
		SB 463+0	148	1,114,522.4	422,560.4	460.00				Average	
		SB 460+0	147	1,114,470.0	422,265.0	470.00				Average	
		SB 455+0	146	1,114,390.1	421,769.6	478.00					
Parkburg Road	24.0	NB 455+0	187	1,114,461.0	421,757.4	478.00				Average	
		Park - 1	188	1,115,262.0	421,741.8	470.00					
Bowman Road	24.0	Bow-1	189	1,114,347.5	421,608.7	479.00				Average	
		Bow-2	190	1,113,686.6	421,610.7	480.00					
NB SR 18 STA 455-580	48.0	NB 455+0	191	1,114,461.0	421,757.4	478.00				Average	
		NB 460+0	27	1,114,540.6	422,251.1	470.00				Average	
		NB 463+0	26	1,114,593.2	422,547.8	460.00				Average	
		NB 465+0	25	1,114,639.6	422,739.9	460.00				Average	
		NB 467+0	24	1,114,698.2	422,936.8	470.00				Average	
		NB 470+0	23	1,114,799.5	423,209.9	470.00				Average	
		NB 473+0	22	1,114,922.6	423,476.5	470.00				Average	
		NB 475+0	21	1,115,018.8	423,653.4	470.00				Average	
		NB 477+5	175	1,115,150.2	423,866.0	463.00				Average	
		NB 480+0	20	1,115,282.9	424,073.2	470.00				Average	
		NB 485+0	19	1,115,552.4	424,494.4	480.00				Average	
		NB 490+0	18	1,115,821.8	424,915.3	484.00				Average	
		NB 495+0	17	1,116,091.2	425,336.5	490.00				Average	
		NB 500+0	16	1,116,360.5	425,757.2	485.00				Average	
		NB 505+0	15	1,116,630.1	426,178.6	480.00				Average	
		NB 510+0	14	1,116,899.6	426,599.8	490.00				Average	
		NB 515+0	13	1,117,169.0	427,020.8	500.00				Average	
		NB 520+0	12	1,117,438.5	427,441.9	490.00				Average	
		NB 525+0	11	1,117,711.1	427,861.1	500.00				Average	
		NB 530+0	10	1,117,995.9	428,272.2	500.00				Average	
		NB 535+0	9	1,118,281.6	428,682.6	500.00				Average	
		NB 540+0	8	1,118,567.5	429,093.6	500.00				Average	

		NB 545+0	7	1,118,853.5	429,504.5	500.00				Average	
		NB 550+0	6	1,119,139.2	429,915.1	500.00				Average	
		NB 555+0	5	1,119,425.1	430,326.0	500.00				Average	
		NB 560+0	4	1,119,711.0	430,736.8	500.00				Average	
		NB 565+0	3	1,119,997.0	431,147.8	500.00				Average	
		NB 570+0	181	1,120,282.9	431,558.6	500.00				Average	
		NB 575+0	182	1,120,568.8	431,969.3	476.00				Average	
		NB 580+0	183	1,120,854.2	432,380.5	464.00					
SB SR 18 STA 455-420	48.0	SB 455+0	192	1,114,390.1	421,769.6	478.00				Average	
		SB 450+0	145	1,114,310.5	421,276.0	480.00				Average	
		SB 445+0	144	1,114,230.8	420,782.4	480.00				Average	
		SB 440+0	143	1,114,151.2	420,289.0	480.00				Average	
		SB 435+0	142	1,114,071.6	419,795.3	480.00				Average	
		SB 430+0	141	1,113,992.0	419,301.5	460.00				Average	
		SB 425+0	179	1,113,912.2	418,807.9	440.00				Average	
		SB 420+0	180	1,113,832.8	418,314.5	463.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01TN1085
RUN: SR 18 Improvements, Segment A-3

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18 STA 420-455	NB 420+00	178	531	55	14	55	28	55	0	0	0	0
	NB 425+00	177	531	55	14	55	28	55	0	0	0	0
	NB 430+00	33	531	55	14	55	28	55	0	0	0	0
	NB 435+00	32	531	55	14	55	28	55	0	0	0	0
	NB 440+00	31	531	55	14	55	28	55	0	0	0	0
	NB 445+00	30	531	55	14	55	28	55	0	0	0	0
	NB 450+00	29	531	55	14	55	28	55	0	0	0	0
	NB 455+00	28										
SB SR 18 STA 580-455	SB 580+00	186	582	55	15	55	31	55	0	0	0	0
	SB 575+00	185	582	55	15	55	31	55	0	0	0	0
	SB 570+00	184	582	55	15	55	31	55	0	0	0	0
	SB 565+00	171	582	55	15	55	31	55	0	0	0	0
	SB 560+00	170	582	55	15	55	31	55	0	0	0	0
	SB 555+00	169	582	55	15	55	31	55	0	0	0	0
	SB 550+00	168	582	55	15	55	31	55	0	0	0	0
	SB 545+00	167	582	55	15	55	31	55	0	0	0	0
	SB 540+00	166	582	55	15	55	31	55	0	0	0	0
	SB 535+00	165	582	55	15	55	31	55	0	0	0	0
	SB 530+00	164	582	55	15	55	31	55	0	0	0	0
	SB 525+00	163	582	55	15	55	31	55	0	0	0	0
	SB 520+00	162	582	55	15	55	31	55	0	0	0	0
	SB 515+00	161	582	55	15	55	31	55	0	0	0	0
	SB 510+00	160	582	55	15	55	31	55	0	0	0	0

	SB 505+00	159	582	55	15	55	31	55	0	0	0	0
	SB 500+00	158	582	55	15	55	31	55	0	0	0	0
	SB 495+00	157	582	55	15	55	31	55	0	0	0	0
	SB 490+00	156	582	55	15	55	31	55	0	0	0	0
	SB 485+00	155	582	55	15	55	31	55	0	0	0	0
	SB 480+00	154	582	55	15	55	31	55	0	0	0	0
	SB 477+50	176	582	55	15	55	31	55	0	0	0	0
	SB 475+00	153	582	55	15	55	31	55	0	0	0	0
	SB 473+00	152	582	55	15	55	31	55	0	0	0	0
	SB 470+00	151	582	55	15	55	31	55	0	0	0	0
	SB 468+00	150	582	55	15	55	31	55	0	0	0	0
	SB 465+00	149	582	55	15	55	31	55	0	0	0	0
	SB 463+00	148	582	55	15	55	31	55	0	0	0	0
	SB 460+00	147	582	55	15	55	31	55	0	0	0	0
	SB 455+00	146										
Parkburg Road	NB 455+00	187	73	35	1	35	0	0	0	0	0	0
	Park - 1	188										
Bowman Road	Bow-1	189	63	35	1	35	0	0	0	0	0	0
	Bow-2	190										
NB SR 18 STA 455-580	NB 455+00	191	582	55	15	55	31	55	0	0	0	0
	NB 460+00	27	582	55	15	55	31	55	0	0	0	0
	NB 463+00	26	582	55	15	55	31	55	0	0	0	0
	NB 465+00	25	582	55	15	55	31	55	0	0	0	0
	NB 467+00	24	582	55	15	55	31	55	0	0	0	0
	NB 470+00	23	582	55	15	55	31	55	0	0	0	0
	NB 473+00	22	582	55	15	55	31	55	0	0	0	0
	NB 475+00	21	582	55	15	55	31	55	0	0	0	0
	NB 477+50	175	582	55	15	55	31	55	0	0	0	0
	NB 480+00	20	582	55	15	55	31	55	0	0	0	0
	NB 485+00	19	582	55	15	55	31	55	0	0	0	0
	NB 490+00	18	582	55	15	55	31	55	0	0	0	0
	NB 495+00	17	582	55	15	55	31	55	0	0	0	0
	NB 500+00	16	582	55	15	55	31	55	0	0	0	0
	NB 505+00	15	582	55	15	55	31	55	0	0	0	0
	NB 510+00	14	582	55	15	55	31	55	0	0	0	0
	NB 515+00	13	582	55	15	55	31	55	0	0	0	0

	NB 520+00	12	582	55	15	55	31	55	0	0	0	0
	NB 525+00	11	582	55	15	55	31	55	0	0	0	0
	NB 530+00	10	582	55	15	55	31	55	0	0	0	0
	NB 535+00	9	582	55	15	55	31	55	0	0	0	0
	NB 540+00	8	582	55	15	55	31	55	0	0	0	0
	NB 545+00	7	582	55	15	55	31	55	0	0	0	0
	NB 550+00	6	582	55	15	55	31	55	0	0	0	0
	NB 555+00	5	582	55	15	55	31	55	0	0	0	0
	NB 560+00	4	582	55	15	55	31	55	0	0	0	0
	NB 565+00	3	582	55	15	55	31	55	0	0	0	0
	NB 570+00	181	582	55	15	55	31	55	0	0	0	0
	NB 575+00	182	582	55	15	55	31	55	0	0	0	0
	NB 580+00	183										
SB SR 18 STA 455-420	SB 455+00	192	531	55	14	55	28	55	0	0	0	0
	SB 450+00	145	531	55	14	55	28	55	0	0	0	0
	SB 445+00	144	531	55	14	55	28	55	0	0	0	0
	SB 440+00	143	531	55	14	55	28	55	0	0	0	0
	SB 435+00	142	531	55	14	55	28	55	0	0	0	0
	SB 430+00	141	531	55	14	55	28	55	0	0	0	0
	SB 425+00	179	531	55	14	55	28	55	0	0	0	0
	SB 420+00	180										

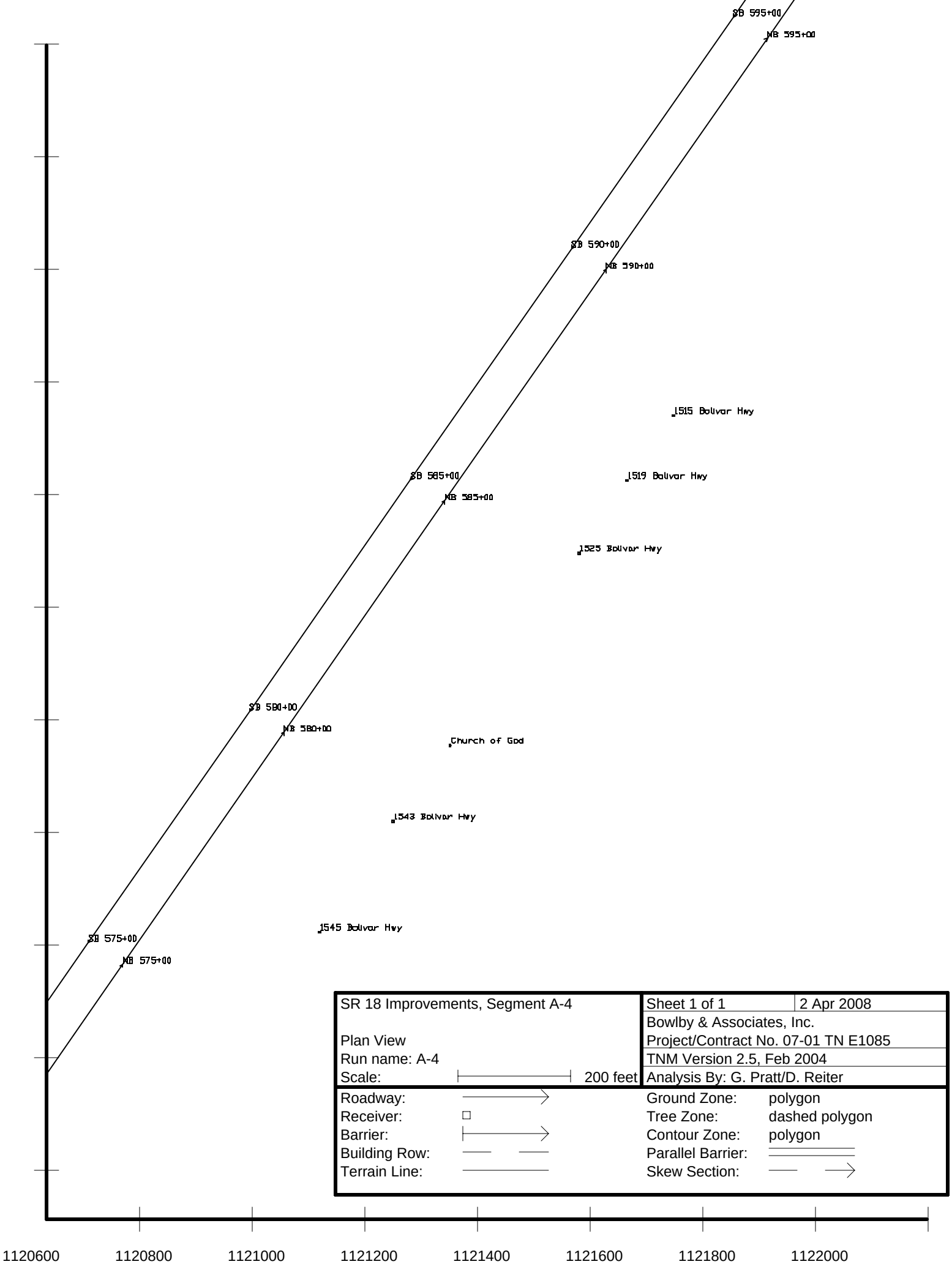
Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01TN1085**
RUN: **SR 18 Improvements, Segment A-3**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Clover Creek Church	57	1	1,113,953.6	419,845.1	480.00	5.00	68.00	66	10.0	10.0	Y
16 Bowman-Collins Road	60	1	1,114,183.2	421,475.5	480.00	5.00	0.00	66	10.0	10.0	
2076 Hwy 18	62	1	1,114,179.0	420,995.0	480.00	5.00	0.00	66	10.0	10.0	
2052 Hwy 18	63	1	1,114,263.6	421,675.8	480.00	5.00	0.00	66	10.0	10.0	
2034 Hwy 18 (Swink Stage House)	64	1	1,113,973.2	422,069.1	464.00	5.00	54.00	66	10.0	10.0	Y
2024 Hwy 18	66	1	1,114,237.5	422,348.9	470.00	5.00	0.00	66	10.0	10.0	
2331 Parkburg Road	67	1	1,114,561.2	421,625.4	480.00	5.00	0.00	66	10.0	10.0	
2323 Parkburg Road	68	1	1,114,665.1	421,623.6	477.00	5.00	0.00	66	10.0	10.0	
2320 Parkburg Road	69	1	1,114,596.8	421,853.2	480.00	5.00	0.00	66	10.0	10.0	
14 College Street	74	1	1,114,755.0	422,247.5	470.00	5.00	0.00	66	10.0	10.0	
19/23 College Street	76	2	1,114,843.6	422,384.9	460.00	5.00	0.00	66	10.0	10.0	
5062/5072 Riverside Drive	77	2	1,114,696.1	423,932.9	450.00	5.00	0.00	66	10.0	10.0	
1981 Hwy 18	79	1	1,115,267.6	423,322.6	470.00	5.00	0.00	66	10.0	10.0	
1950 Hwy 18	80	1	1,115,046.2	424,080.1	465.00	5.00	0.00	66	10.0	10.0	
1936 Hwy 18	82	1	1,115,183.0	424,278.9	470.00	5.00	0.00	66	10.0	10.0	
1924 Hwy 18	84	1	1,115,286.2	424,523.0	480.00	5.00	0.00	66	10.0	10.0	
1920 Hwy 18	86	1	1,115,394.9	424,600.6	480.00	5.00	0.00	66	10.0	10.0	
1900 Hwy 18	87	1	1,115,507.5	425,252.8	475.00	5.00	0.00	66	10.0	10.0	
Faith Tabernacle Worship Center	88	1	1,115,696.5	424,445.4	480.00	5.00	0.00	66	10.0	10.0	
1870 Hwy 18	89	1	1,116,145.0	425,757.4	475.00	5.00	0.00	66	10.0	10.0	
1862 Hwy 18	93	1	1,116,292.0	426,500.9	480.00	5.00	0.00	66	10.0	10.0	
1861 Hwy 18	94	1	1,116,847.6	426,284.1	490.00	5.00	61.00	66	10.0	10.0	Y

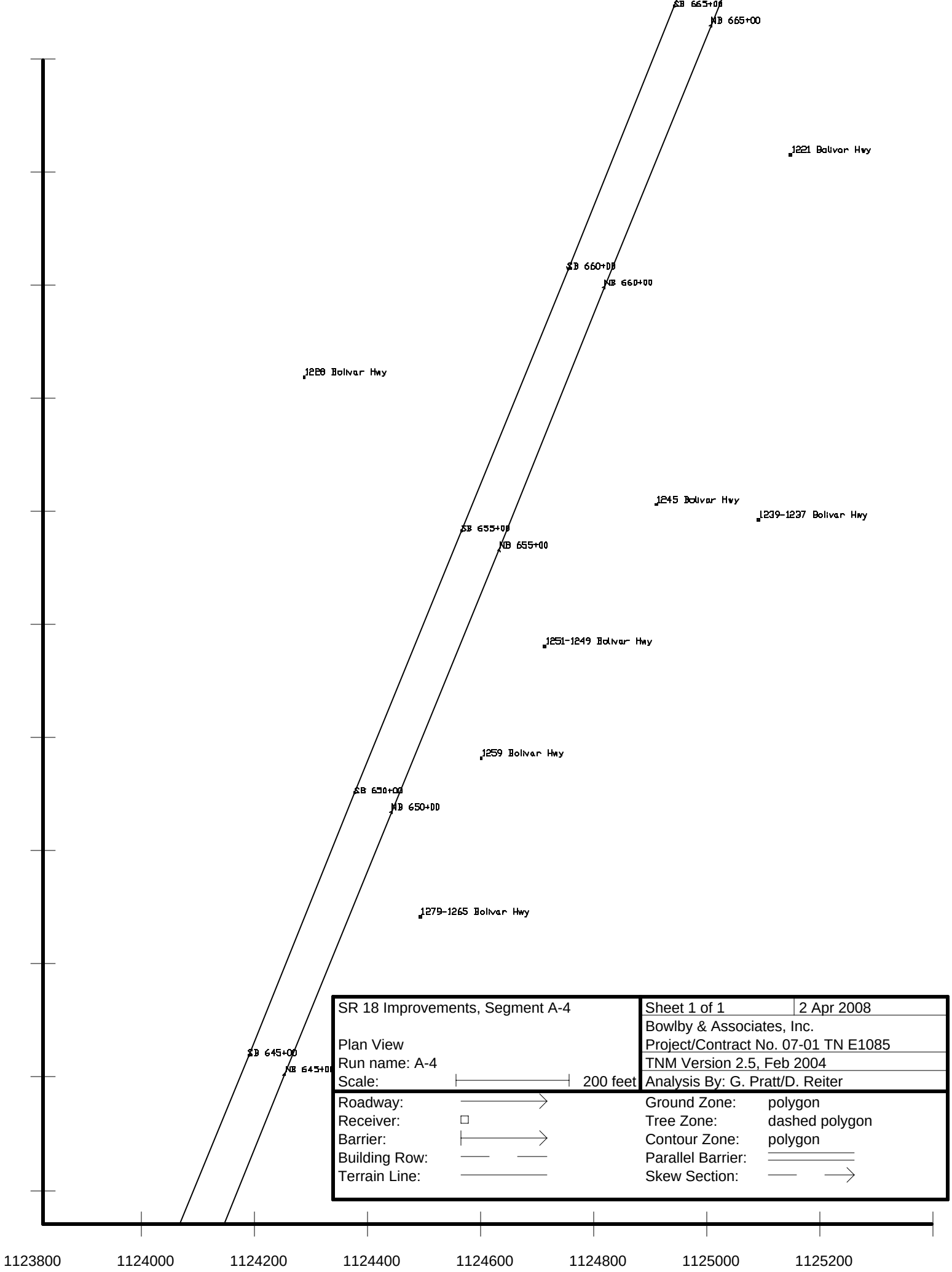
1821 Hwy 18	95	1	1,117,049.8	426,629.6	490.00	5.00	0.00	66	10.0	10.0	
1163 Medon Malesus Road	96	1	1,117,217.0	426,282.8	500.00	5.00	47.00	66	10.0	10.0	Y
1695 Hwy 18	98	1	1,118,911.5	429,343.0	500.00	5.00	0.00	66	10.0	10.0	
1691 Hwy 18	99	1	1,119,195.4	429,453.6	500.00	5.00	0.00	66	10.0	10.0	
1671 Hwy 18	100	1	1,119,102.1	429,630.6	500.00	5.00	0.00	66	10.0	10.0	
1669 Hwy 18	102	1	1,119,194.4	429,762.7	500.00	5.00	62.00	66	10.0	10.0	Y
1665 Hwy 18	103	1	1,119,273.8	429,872.8	500.00	5.00	0.00	66	10.0	10.0	
1661 Hwy 18	108	1	1,119,327.2	429,949.4	500.00	5.00	0.00	66	10.0	10.0	
1659 Hwy 18	110	1	1,119,376.4	430,030.1	500.00	5.00	0.00	66	10.0	10.0	
1655 Hwy 18	111	1	1,119,425.5	430,107.6	500.00	5.00	0.00	66	10.0	10.0	
1651 Hwy 18	113	1	1,119,479.5	430,176.4	500.00	5.00	0.00	66	10.0	10.0	
1647 Hwy 18	115	1	1,119,531.2	430,252.1	500.00	5.00	0.00	66	10.0	10.0	
1641 Hwy 18	117	1	1,119,583.4	430,325.2	500.00	5.00	0.00	66	10.0	10.0	
1637 Hwy 18	118	1	1,119,635.1	430,406.1	500.00	5.00	0.00	66	10.0	10.0	
1633 Hwy 18	120	1	1,119,698.4	430,485.6	500.00	5.00	0.00	66	10.0	10.0	
1629 Hwy 18	121	1	1,119,816.8	430,647.5	500.00	5.00	0.00	66	10.0	10.0	
1625 Hwy 18	123	1	1,119,868.1	430,733.2	500.00	5.00	0.00	66	10.0	10.0	
1621 Hwy 18	124	1	1,119,913.4	430,807.2	500.00	5.00	0.00	66	10.0	10.0	
1619 Hwy 18	126	1	1,119,977.9	430,899.8	500.00	5.00	0.00	66	10.0	10.0	
1611 Hwy 18	128	1	1,120,043.2	431,001.3	500.00	5.00	0.00	66	10.0	10.0	
Clover Creek Church 126											
16 Bowman-Collins Road 127A											
2076 Hwy 18 128A MH											
2052 Hwy 18 133											
2034 Hwy 18 (Swink Stage House) 135											
2024 Hwy 18 129											
2331 Parkburg Road 130											
2323 Parkburg Road 134											
2320 Parkburg Road 136											
14 College Street 137A											
19/23 College Street 137											
5062/5072 Riverside Drive 138											
1981 Hwy 18 139											
1950 Hwy 18 141 (1925 Hwy 18)											
1936 Hwy 18 140											
1924 Hwy 18 142											

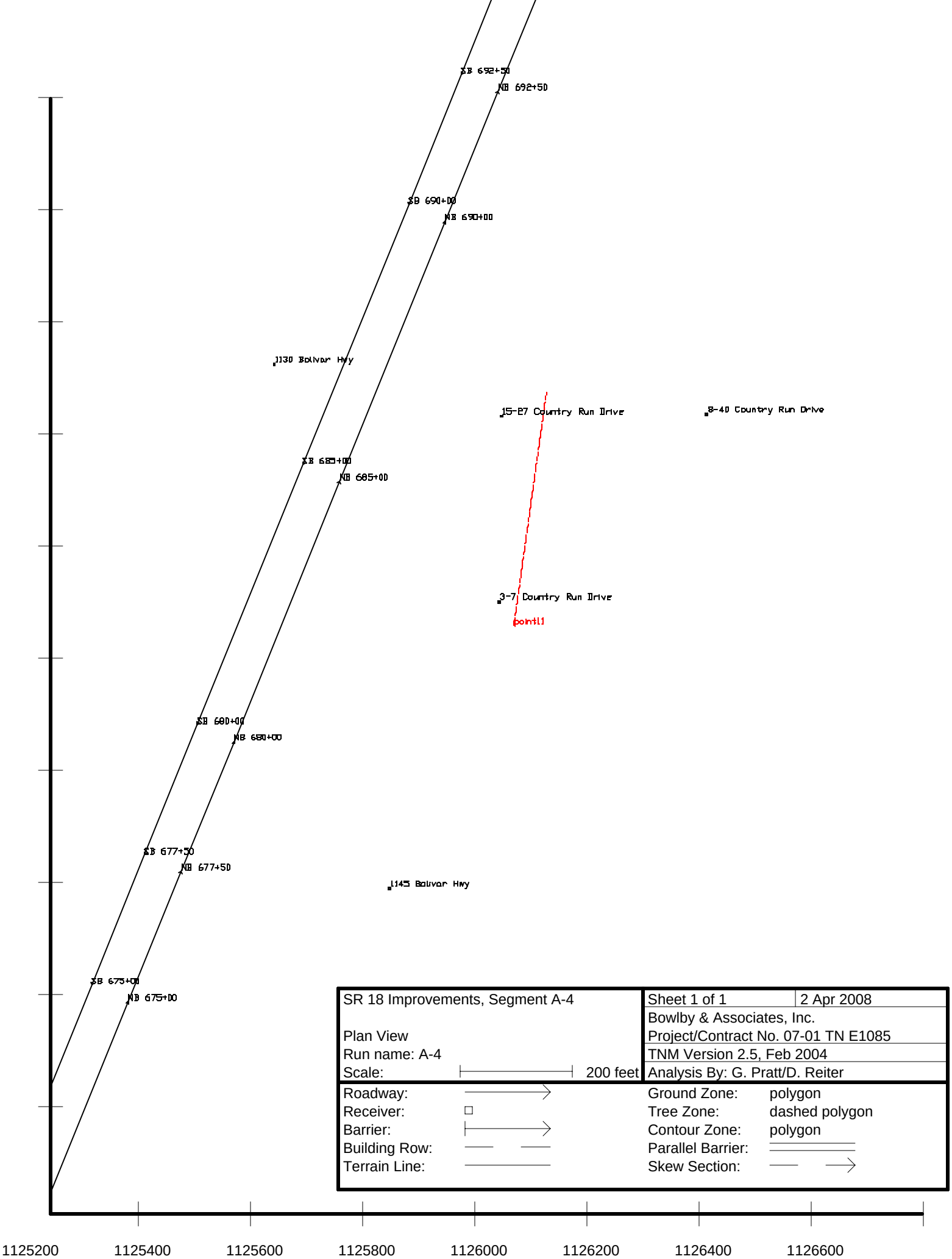
1920 Hwy 18 143											
1900 Hwy 18 144											
Faith Tabernacle Worship Center 145											
1870 Hwy 18 146											
1862 Hwy 18 59A											
1861 Hwy 18 59											
1821 Hwy 18 60											
1163 Medon Malesus Road 61											
1695 Hwy 18 62											
1691 Hwy 18 63											
1671 Hwy 18 64											
1669 Hwy 18 65											
1665 Hwy 18 66											



SR 18 Improvements, Segment A-4		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: A-4		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	

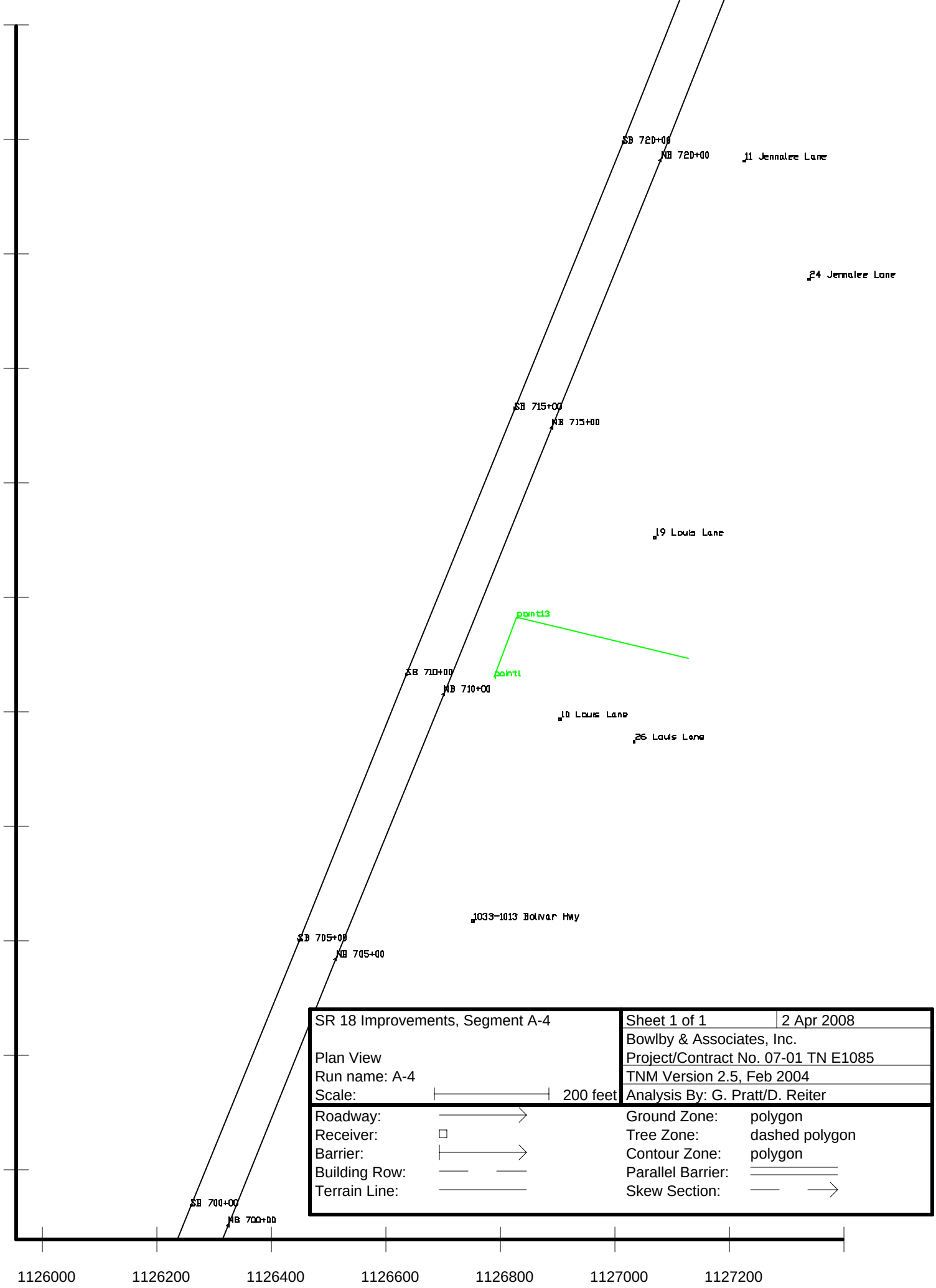
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SB 665+00
NB 665+00
1221 Bolivar Hwy
SB 660+00
NB 660+00
1288 Bolivar Hwy
1245 Bolivar Hwy
1239-1237 Bolivar Hwy
SB 655+00
NB 655+00
1251-1249 Bolivar Hwy
1259 Bolivar Hwy
SB 650+00
NB 650+00
1279-1265 Bolivar Hwy
SB 645+00
NB 645+00
SR 18 Improvements, Segment A-4
Plan View
Run name: A-4
Scale:
200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
1123800
1124000
1124200
1124400
1124600
1124800
1125000
1125200



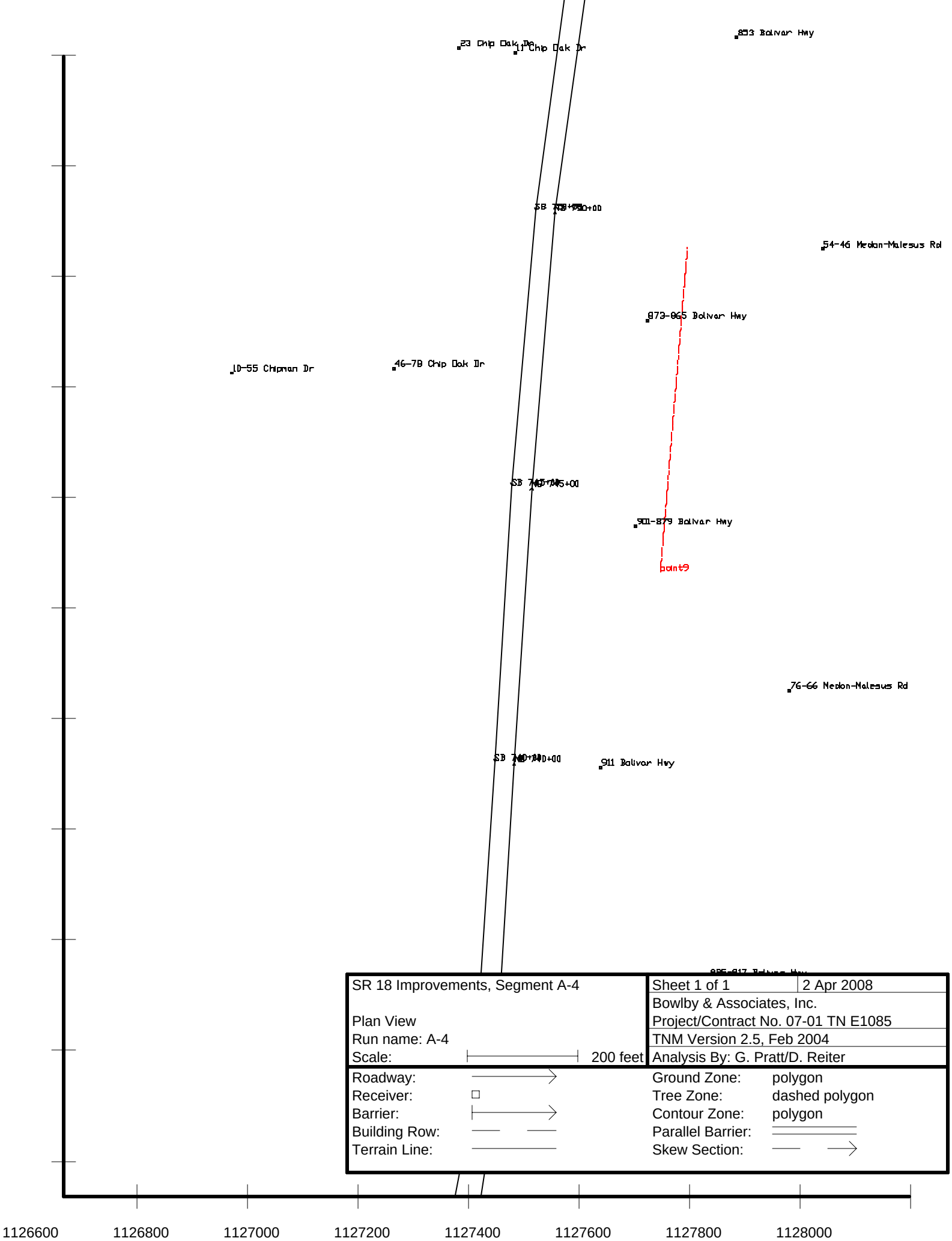
SR 18 Improvements, Segment A-4	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



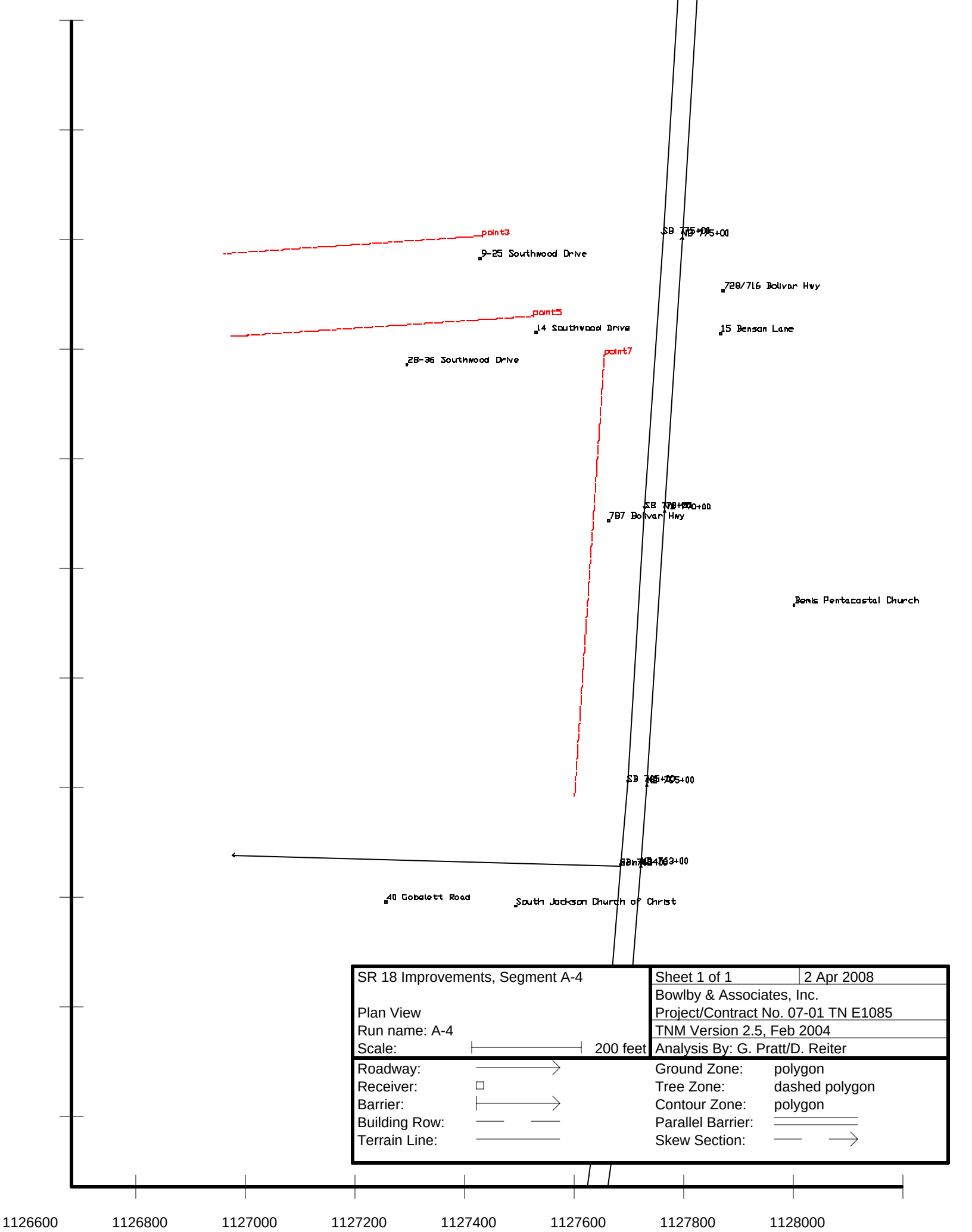
SR 18 Improvements, Segment A-4	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



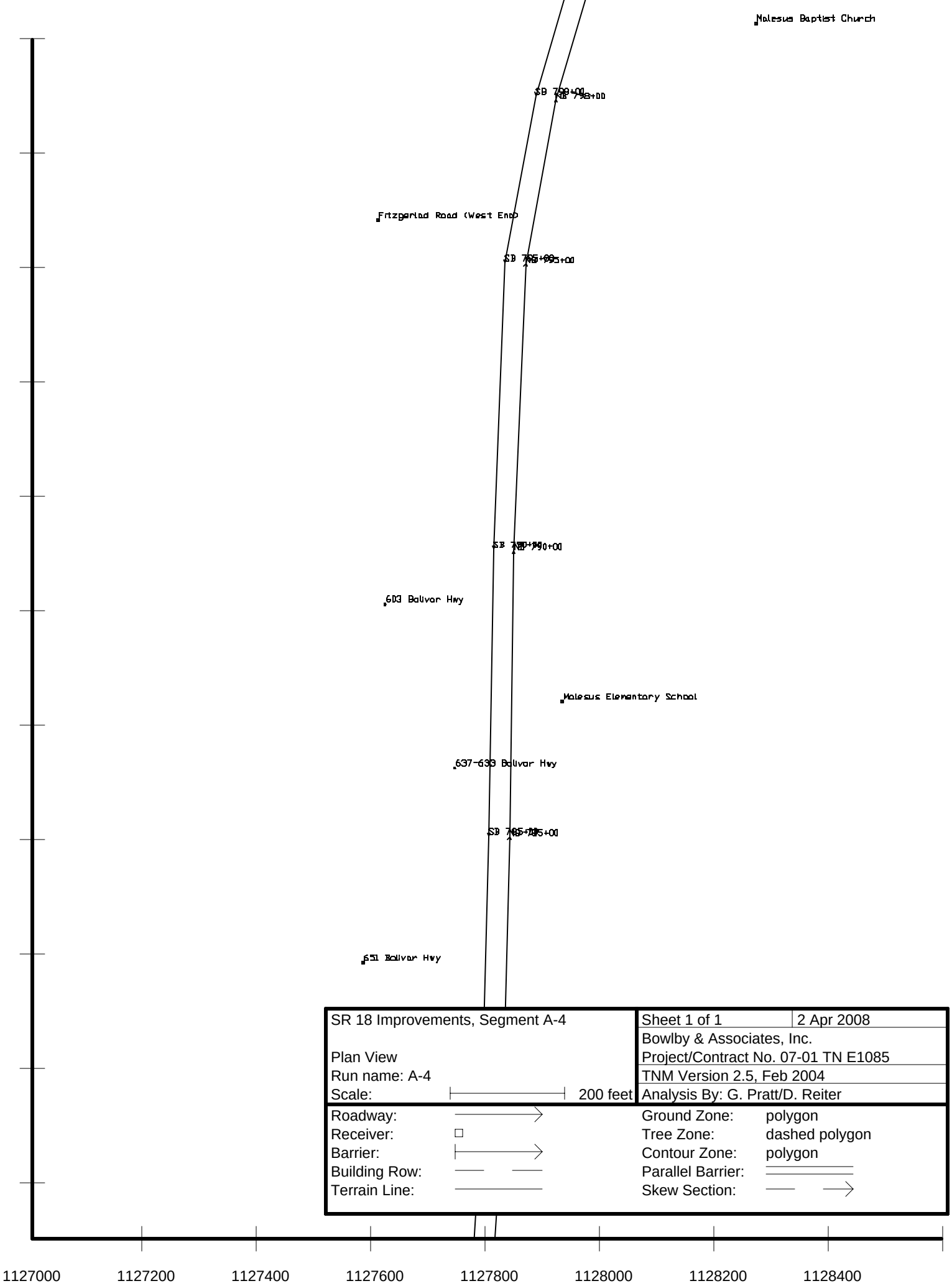
SR 18 Improvements, Segment A-4	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



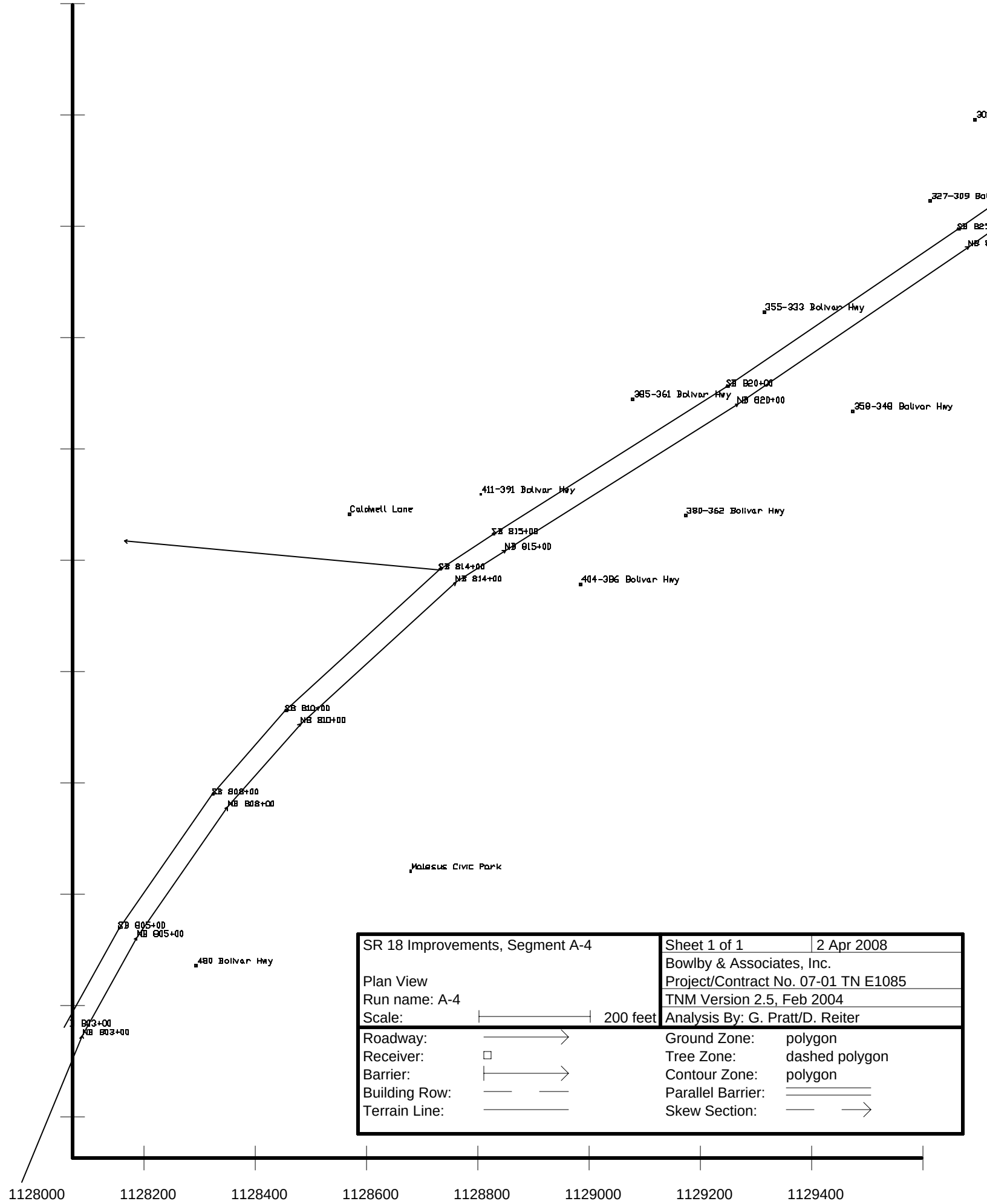
SR 18 Improvements, Segment A-4	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



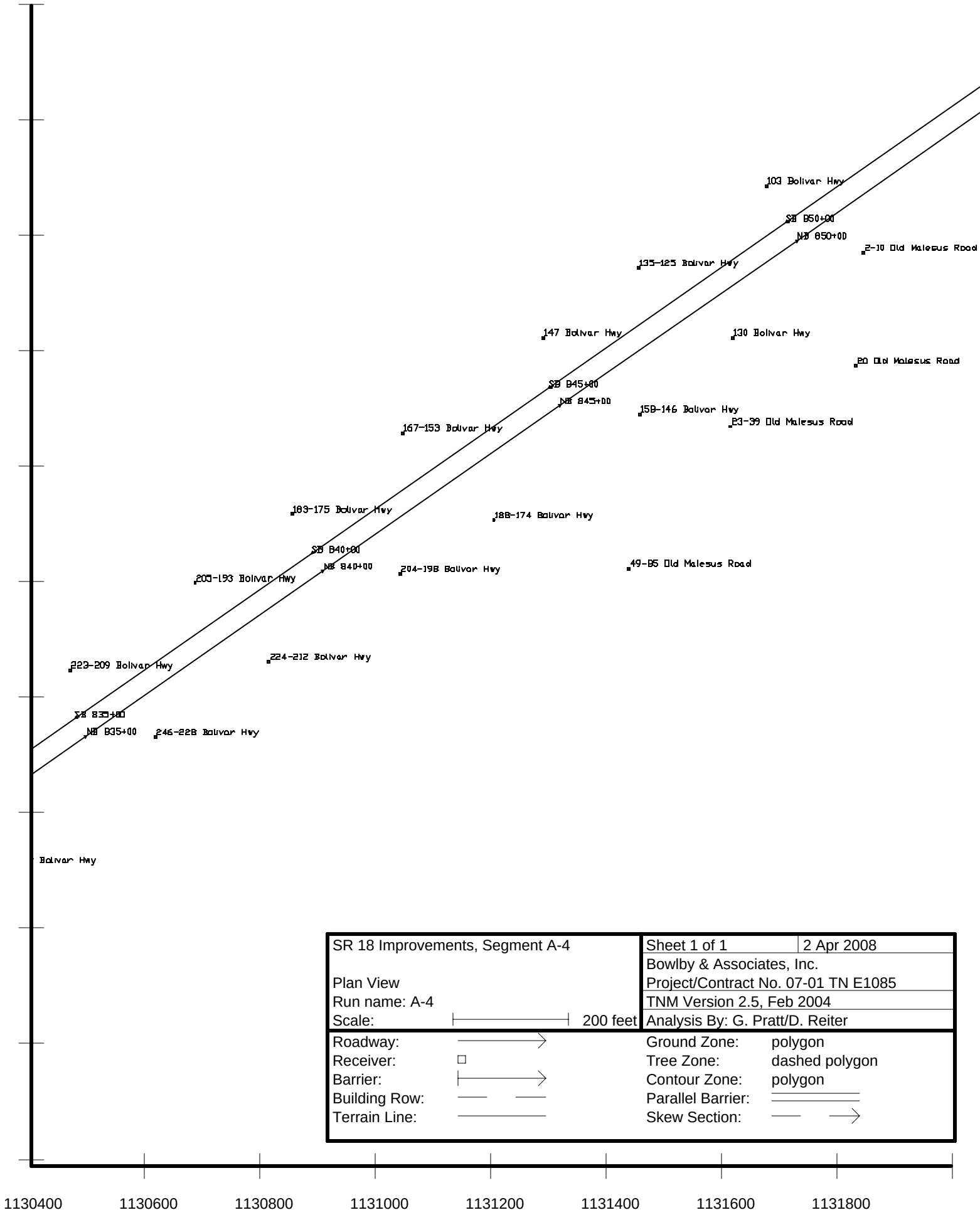
SR 18 Improvements, Segment A-4	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: A-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-4	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01 TN E1085	
Run name: A-4	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-4	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01 TN E1085	
Run name: A-4	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-4

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18 STA 560-763 (Gobelett)	48.0	NB 560+0	1	1,119,711.0	430,736.8	500.00				Average	
		NB 565+0	2	1,119,997.0	431,147.8	500.00				Average	
		NB 570+0	3	1,120,282.9	431,558.6	500.00				Average	
		NB 575+0	4	1,120,568.8	431,969.3	476.00				Average	
		NB 580+0	5	1,120,854.2	432,380.5	464.00				Average	
		NB 585+0	6	1,121,140.2	432,790.8	460.00				Average	
		NB 590+0	7	1,121,426.1	433,201.5	440.00				Average	
		NB 595+0	8	1,121,711.8	433,612.0	440.00				Average	
		NB 600+0	9	1,121,997.1	434,022.2	440.00				Average	
		NB 605+0	10	1,122,283.1	434,433.0	445.00				Average	
		NB 610+0	11	1,122,569.0	434,843.9	455.00				Average	
		NB 613+0	12	1,122,739.8	435,090.8	455.00				Average	
		NB 615+0	13	1,122,847.8	435,259.3	455.00				Average	
		NB 618+0	14	1,123,000.4	435,520.6	444.00				Average	
		NB 620+0	15	1,123,093.6	435,697.1	440.00				Average	
		NB 623+0	16	1,123,222.6	435,971.0	433.00				Average	
		NB 625+0	17	1,123,300.2	436,155.8	440.00				Average	
		NB 630+0	18	1,123,488.5	436,619.4	455.00				Average	
		NB 635+0	19	1,123,676.8	437,082.9	437.00				Average	
		NB 640+0	20	1,123,865.2	437,547.5	430.00				Average	
		NB 645+0	21	1,124,053.2	438,010.4	430.00				Average	
		NB 650+0	22	1,124,241.5	438,474.0	454.00				Average	
		NB 655+0	23	1,124,431.8	438,937.2	470.00				Average	
		NB 660+0	24	1,124,617.8	439,400.8	473.00				Average	
		NB 665+0	25	1,124,806.0	439,864.2	455.00				Average	

		NB 670+0	26	1,124,994.2	440,327.8	440.00				Average	
		NB 675+0	27	1,125,182.5	440,791.4	450.00				Average	
		NB 677+5	28	1,125,276.6	441,023.0	457.00				Average	
		NB 680+0	29	1,125,370.6	441,254.9	450.00				Average	
		NB 685+0	31	1,125,558.8	441,718.4	470.00				Average	
		NB 690+0	30	1,125,747.1	442,182.0	448.00				Average	
		NB 692+5	32	1,125,841.4	442,413.7	440.00				Average	
		NB 695+0	33	1,125,935.5	442,645.9	445.00				Average	
		NB 700+0	34	1,126,123.2	443,108.6	450.00				Average	
		NB 705+0	35	1,126,311.4	443,571.9	460.00				Average	
		NB 710+0	36	1,126,499.8	444,035.5	465.00				Average	
		NB 715+0	37	1,126,688.9	444,501.0	460.00				Average	
		NB 720+0	38	1,126,878.2	444,967.3	445.00				Average	
		NB 725+0	39	1,127,060.6	445,427.1	430.00				Average	
		NB 728+0	40	1,127,145.0	445,723.5	442.00				Average	
		NB 730+0	41	1,127,188.4	445,919.1	450.00				Average	
		NB 733+0	42	1,127,233.9	446,219.3	447.00				Average	
		NB 735+0	43	1,127,251.8	446,420.5	445.00				Average	
		NB 740+0	44	1,127,282.0	446,922.3	443.00				Average	
		NB 745+0	45	1,127,313.1	447,419.9	440.00				Average	
		NB 750+0	46	1,127,355.1	447,918.1	450.00				Average	
		NB 755+0	47	1,127,423.9	448,415.2	440.00				Average	
		NB 760+0	48	1,127,490.8	448,910.8	430.00				Average	
		NB 763+0	148	1,127,520.8	449,262.5	436.00					
SB SR 18 STA 863-814 (Caldwell)	48.0	SB 863+0	74	1,132,550.8	456,752.2	420.00				Average	
		SB 860+0	75	1,132,328.1	456,597.3	427.00				Average	
		SB 855+0	76	1,131,918.8	456,311.0	440.00				Average	
		SB 850+0	77	1,131,509.0	456,025.2	445.00				Average	
		SB 845+0	78	1,131,098.8	455,738.7	448.00				Average	
		SB 840+0	79	1,130,688.2	455,452.5	449.00				Average	
		SB 835+0	80	1,130,278.8	455,166.6	453.00				Average	
		SB 830+0	81	1,129,868.6	454,880.4	447.00				Average	
		SB 825+0	82	1,129,459.2	454,594.3	449.00				Average	
		SB 820+0	83	1,129,044.4	454,313.1	456.00				Average	
		SB 815+0	84	1,128,624.2	454,047.4	458.00				Average	
		SB 814+0	85	1,128,528.5	453,984.0	457.00					
Gobelett Road	24.0	SB 763+0	149	1,127,483.0	449,260.7	436.00				Average	
		GR-2	150	1,126,774.8	449,280.9	445.00					
Caldwell Lane	24.0	SB 814+0	151	1,128,528.5	453,984.0	457.00				Average	

		Cald-2	152	1,127,964.6	454,036.5	450.00					
NB SR 18 STA 763 - 814 (Caldwell)	48.0	NB 763+0	153	1,127,520.8	449,262.5	436.00				Average	
		NB 765+0	49	1,127,531.5	449,410.2	440.00				Average	
		NB 770+0	50	1,127,563.2	449,908.9	442.00				Average	
		NB 775+0	51	1,127,595.2	450,407.6	444.00				Average	
		NB 780+0	52	1,127,627.0	450,907.1	445.00				Average	
		NB 785+0	53	1,127,640.0	451,407.3	447.00				Average	
		NB 790+0	54	1,127,648.2	451,907.4	449.00				Average	
		NB 795+0	55	1,127,668.4	452,407.6	452.00				Average	
		NB 798+0	56	1,127,721.4	452,694.3	452.00				Average	
		NB 800+0	57	1,127,778.9	452,886.6	452.00				Average	
		NB 803+0	58	1,127,888.8	453,148.3	452.00				Average	
		NB 805+0	59	1,127,986.4	453,325.0	452.00				Average	
		NB 808+0	60	1,128,149.5	453,558.4	453.00				Average	
		NB 810+0	61	1,128,280.4	453,708.6	454.00				Average	
		NB 814+0	62	1,128,559.1	453,962.4	457.00					
SB SR 18 STA 763 (Gobelett) - 560	48.0	point154	154	1,127,483.0	449,260.7	436.00				Average	
		SB 760+0	99	1,127,454.8	448,913.4	430.00				Average	
		SB 755+0	100	1,127,387.8	448,417.6	440.00				Average	
		SB 750+0	101	1,127,319.6	447,920.8	450.00				Average	
		SB 745+0	102	1,127,277.2	447,422.7	440.00				Average	
		SB 740+0	103	1,127,246.6	446,925.0	443.00				Average	
		SB 735+0	104	1,127,214.1	446,427.2	445.00				Average	
		SB 733+0	105	1,127,191.4	446,232.3	447.00				Average	
		SB 730+0	106	1,127,136.0	445,935.2	450.00				Average	
		SB 728+0	107	1,127,087.2	445,741.7	442.00				Average	
		SB 725+0	108	1,126,994.4	445,456.5	430.00				Average	
		SB 720+0	109	1,126,810.9	444,993.1	445.00				Average	
		SB 715+0	110	1,126,622.1	444,528.6	460.00				Average	
		SB 710+0	111	1,126,433.8	444,064.5	465.00				Average	
		SB 705+0	112	1,126,245.5	443,600.8	460.00				Average	
		SB 700+0	113	1,126,057.5	443,137.9	450.00				Average	
		SB 695+0	114	1,125,869.4	442,674.6	445.00				Average	
		SB 692+5	115	1,125,775.2	442,442.8	440.00				Average	
		SB 690+0	116	1,125,681.2	442,211.2	448.00				Average	
		SB 685+0	117	1,125,493.0	441,747.6	470.00				Average	
		SB 680+0	118	1,125,304.8	441,283.9	450.00				Average	
		SB 677+5	119	1,125,210.8	441,052.2	457.00				Average	
		SB 675+0	120	1,125,116.5	440,820.4	450.00				Average	

		SB 670+0	121	1,124,928.2	440,356.8	440.00				Average	
		SB 665+0	122	1,124,740.0	439,893.2	455.00				Average	
		SB 660+0	123	1,124,552.0	439,430.0	473.00				Average	
		SB 655+0	124	1,124,363.8	438,966.3	470.00				Average	
		SB 650+0	125	1,124,175.6	438,503.1	454.00				Average	
		SB 645+0	126	1,123,987.4	438,039.5	430.00				Average	
		SB 640+0	127	1,123,799.4	437,576.5	430.00				Average	
		SB 635+0	128	1,123,610.8	437,112.0	437.00				Average	
		SB 630+0	129	1,123,422.6	436,648.3	455.00				Average	
		SB 625+0	130	1,123,234.2	436,184.8	440.00				Average	
		SB 622+0	131	1,123,115.9	435,909.4	430.00				Average	
		SB 620+0	132	1,123,030.5	435,732.3	440.00				Average	
		SB 617+0	133	1,122,888.5	435,468.3	446.00				Average	
		SB 615+0	134	1,122,787.1	435,297.7	455.00				Average	
		SB 612+0	135	1,122,633.2	435,039.8	455.00				Average	
		SB 610+0	136	1,122,508.0	434,882.5	455.00				Average	
		SB 605+0	137	1,122,222.1	434,471.4	445.00				Average	
		SB 600+0	138	1,121,936.2	434,060.5	440.00				Average	
		SB 595+0	139	1,121,650.9	433,650.6	440.00				Average	
		SB 590+0	140	1,121,365.1	433,239.9	440.00				Average	
		SB 585+0	141	1,121,079.5	432,829.4	460.00				Average	
		SB 580+0	142	1,120,793.4	432,418.3	464.00				Average	
		SB 575+0	143	1,120,507.8	432,007.8	476.00				Average	
		SB 570+0	144	1,120,222.0	431,597.1	500.00				Average	
		SB 565+0	145	1,119,936.1	431,186.3	500.00				Average	
		SB 560+0	146	1,119,650.1	430,775.3	500.00					
NB SR 18 STA 814 - 863 (SR 5)	48.0	NB 814+0	155	1,128,559.1	453,962.4	457.00				Average	
		NB 815+0	63	1,128,647.8	454,019.8	458.00				Average	
		NB 820+0	64	1,129,065.5	454,283.4	456.00				Average	
		NB 825+0	65	1,129,479.2	454,564.7	449.00				Average	
		NB 830+0	66	1,129,889.1	454,850.8	447.00				Average	
		NB 835+0	67	1,130,299.2	455,137.2	453.00				Average	
		NB 840+0	68	1,130,709.2	455,423.2	449.00				Average	
		NB 845+0	69	1,131,119.5	455,709.5	448.00				Average	
		NB 850+0	70	1,131,529.8	455,995.7	445.00				Average	
		NB 855+0	71	1,131,939.4	456,281.6	440.00				Average	
		NB 860+0	72	1,132,348.9	456,567.5	427.00				Average	
		NB 863+0	73	1,132,571.2	456,722.6	420.00					
SB SR 18 STA 814 - 763 (Gobelett)	48.0	SB 814+0	156	1,128,528.5	453,984.0	457.00				Average	

		SB 810+0	86	1,128,251.8	453,730.1	454.00				Average	
		SB 808+0	87	1,128,120.8	453,580.0	453.00				Average	
		SB 805+0	88	1,127,953.2	453,340.3	452.00				Average	
		SB 803+0	89	1,127,856.2	453,163.9	452.00				Average	
		SB 800+0	90	1,127,743.4	452,894.3	452.00				Average	
		SB 798+0	91	1,127,685.9	452,702.0	452.00				Average	
		SB 795+0	92	1,127,631.9	452,410.7	452.00				Average	
		SB 790+0	93	1,127,612.5	451,910.5	449.00				Average	
		SB 785+0	94	1,127,604.1	451,409.5	447.00				Average	
		SB 780+0	95	1,127,591.2	450,909.6	445.00				Average	
		SB 775+0	96	1,127,560.2	450,411.7	444.00				Average	
		SB 770+0	97	1,127,527.6	449,911.4	442.00				Average	
		SB 765+0	98	1,127,495.9	449,412.9	440.00				Average	
		SB 763+0	147	1,127,483.0	449,260.7	436.00					
SR 5 west of SR 18	80.0	SR5-1	157	1,131,974.9	457,546.2	420.00				Average	
		SR5-2	158	1,132,588.4	456,765.3	420.00					
SR 5 east of SR 18	80.0	SR5-2	159	1,132,588.4	456,765.3	420.00				Average	
		SR5-3	160	1,133,238.8	455,991.3	395.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-4

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18 STA 560-763 (Gobelett)	NB 560+00	1	582	55	15	55	31	55	0	0	0	0
	NB 565+00	2	582	55	15	55	31	55	0	0	0	0
	NB 570+00	3	582	55	15	55	31	55	0	0	0	0
	NB 575+00	4	582	55	15	55	31	55	0	0	0	0
	NB 580+00	5	582	55	15	55	31	55	0	0	0	0
	NB 585+00	6	582	55	15	55	31	55	0	0	0	0
	NB 590+00	7	582	55	15	55	31	55	0	0	0	0
	NB 595+00	8	582	55	15	55	31	55	0	0	0	0
	NB 600+00	9	582	55	15	55	31	55	0	0	0	0
	NB 605+00	10	582	55	15	55	31	55	0	0	0	0
	NB 610+00	11	582	55	15	55	31	55	0	0	0	0
	NB 613+00	12	582	55	15	55	31	55	0	0	0	0
	NB 615+00	13	582	55	15	55	31	55	0	0	0	0
	NB 618+00	14	582	55	15	55	31	55	0	0	0	0
	NB 620+00	15	582	55	15	55	31	55	0	0	0	0
	NB 623+00	16	582	55	15	55	31	55	0	0	0	0
	NB 625+00	17	582	55	15	55	31	55	0	0	0	0
	NB 630+00	18	582	55	15	55	31	55	0	0	0	0
	NB 635+00	19	582	55	15	55	31	55	0	0	0	0
	NB 640+00	20	582	55	15	55	31	55	0	0	0	0
	NB 645+00	21	582	55	15	55	31	55	0	0	0	0
	NB 650+00	22	582	55	15	55	31	55	0	0	0	0
	NB 655+00	23	582	55	15	55	31	55	0	0	0	0

	NB 660+00	24	582	55	15	55	31	55	0	0	0	0
	NB 665+00	25	582	55	15	55	31	55	0	0	0	0
	NB 670+00	26	582	55	15	55	31	55	0	0	0	0
	NB 675+00	27	582	55	15	55	31	55	0	0	0	0
	NB 677+50	28	582	55	15	55	31	55	0	0	0	0
	NB 680+00	29	582	55	15	55	31	55	0	0	0	0
	NB 685+00	31	582	55	15	55	31	55	0	0	0	0
	NB 690+00	30	582	55	15	55	31	55	0	0	0	0
	NB 692+50	32	582	55	15	55	31	55	0	0	0	0
	NB 695+00	33	582	55	15	55	31	55	0	0	0	0
	NB 700+00	34	582	55	15	55	31	55	0	0	0	0
	NB 705+00	35	582	55	15	55	31	55	0	0	0	0
	NB 710+00	36	582	55	15	55	31	55	0	0	0	0
	NB 715+00	37	582	55	15	55	31	55	0	0	0	0
	NB 720+00	38	582	55	15	55	31	55	0	0	0	0
	NB 725+00	39	582	55	15	55	31	55	0	0	0	0
	NB 728+00	40	582	55	15	55	31	55	0	0	0	0
	NB 730+00	41	582	55	15	55	31	55	0	0	0	0
	NB 733+00	42	582	55	15	55	31	55	0	0	0	0
	NB 735+00	43	582	55	15	55	31	55	0	0	0	0
	NB 740+00	44	582	55	15	55	31	55	0	0	0	0
	NB 745+00	45	582	55	15	55	31	55	0	0	0	0
	NB 750+00	46	582	55	15	55	31	55	0	0	0	0
	NB 755+00	47	582	55	15	55	31	55	0	0	0	0
	NB 760+00	48	582	55	15	55	31	55	0	0	0	0
	NB 763+00	148										
SB SR 18 STA 863-814 (Caldwell)	SB 863+00	74	784	55	13	55	26	55	0	0	0	0
	SB 860+00	75	784	55	13	55	26	55	0	0	0	0
	SB 855+00	76	784	55	13	55	26	55	0	0	0	0
	SB 850+00	77	784	55	13	55	26	55	0	0	0	0
	SB 845+00	78	784	55	13	55	26	55	0	0	0	0
	SB 840+00	79	784	55	13	55	26	55	0	0	0	0
	SB 835+00	80	784	55	13	55	26	55	0	0	0	0
	SB 830+00	81	784	55	13	55	26	55	0	0	0	0
	SB 825+00	82	784	55	13	55	26	55	0	0	0	0
	SB 820+00	83	784	55	13	55	26	55	0	0	0	0

	SB 815+00	84	784	55	13	55	26	55	0	0	0	0
	SB 814+00	85										
Gobelett Road	SB 763+00	149	111	35	1	35	2	35	0	0	0	0
	GR-2	150										
Caldwell Lane	SB 814+00	151	324	35	2	35	4	35	0	0	0	0
	Cald-2	152										
NB SR 18 STA 763 - 814 (Caldwell)	NB 763+00	153	575	55	14	55	27	55	0	0	0	0
	NB 765+00	49	575	55	14	55	27	55	0	0	0	0
	NB 770+00	50	575	55	14	55	27	55	0	0	0	0
	NB 775+00	51	575	55	14	55	27	55	0	0	0	0
	NB 780+00	52	575	55	14	55	27	55	0	0	0	0
	NB 785+00	53	575	55	14	55	27	55	0	0	0	0
	NB 790+00	54	575	55	14	55	27	55	0	0	0	0
	NB 795+00	55	575	55	14	55	27	55	0	0	0	0
	NB 798+00	56	575	55	14	55	27	55	0	0	0	0
	NB 800+00	57	575	55	14	55	27	55	0	0	0	0
	NB 803+00	58	575	55	14	55	27	55	0	0	0	0
	NB 805+00	59	575	55	14	55	27	55	0	0	0	0
	NB 808+00	60	575	55	14	55	27	55	0	0	0	0
	NB 810+00	61	575	55	14	55	27	55	0	0	0	0
	NB 814+00	62										
SB SR 18 STA 763 (Gobelett) - 560	point154	154	582	55	15	55	31	55	0	0	0	0
	SB 760+00	99	582	55	15	55	31	55	0	0	0	0
	SB 755+00	100	582	55	15	55	31	55	0	0	0	0
	SB 750+00	101	582	55	15	55	31	55	0	0	0	0
	SB 745+00	102	582	55	15	55	31	55	0	0	0	0
	SB 740+00	103	582	55	15	55	31	55	0	0	0	0
	SB 735+00	104	582	55	15	55	31	55	0	0	0	0
	SB 733+00	105	582	55	15	55	31	55	0	0	0	0
	SB 730+00	106	582	55	15	55	31	55	0	0	0	0
	SB 728+00	107	582	55	15	55	31	55	0	0	0	0
	SB 725+00	108	582	55	15	55	31	55	0	0	0	0
	SB 720+00	109	582	55	15	55	31	55	0	0	0	0
	SB 715+00	110	582	55	15	55	31	55	0	0	0	0
	SB 710+00	111	582	55	15	55	31	55	0	0	0	0
	SB 705+00	112	582	55	15	55	31	55	0	0	0	0

	SB 700+00	113	582	55	15	55	31	55	0	0	0	0
	SB 695+00	114	582	55	15	55	31	55	0	0	0	0
	SB 692+50	115	582	55	15	55	31	55	0	0	0	0
	SB 690+00	116	582	55	15	55	31	55	0	0	0	0
	SB 685+00	117	582	55	15	55	31	55	0	0	0	0
	SB 680+00	118	582	55	15	55	31	55	0	0	0	0
	SB 677+50	119	582	55	15	55	31	55	0	0	0	0
	SB 675+00	120	582	55	15	55	31	55	0	0	0	0
	SB 670+00	121	582	55	15	55	31	55	0	0	0	0
	SB 665+00	122	582	55	15	55	31	55	0	0	0	0
	SB 660+00	123	582	55	15	55	31	55	0	0	0	0
	SB 655+00	124	582	55	15	55	31	55	0	0	0	0
	SB 650+00	125	582	55	15	55	31	55	0	0	0	0
	SB 645+00	126	582	55	15	55	31	55	0	0	0	0
	SB 640+00	127	582	55	15	55	31	55	0	0	0	0
	SB 635+00	128	582	55	15	55	31	55	0	0	0	0
	SB 630+00	129	582	55	15	55	31	55	0	0	0	0
	SB 625+00	130	582	55	15	55	31	55	0	0	0	0
	SB 622+00	131	582	55	15	55	31	55	0	0	0	0
	SB 620+00	132	582	55	15	55	31	55	0	0	0	0
	SB 617+00	133	582	55	15	55	31	55	0	0	0	0
	SB 615+00	134	582	55	15	55	31	55	0	0	0	0
	SB 612+00	135	582	55	15	55	31	55	0	0	0	0
	SB 610+00	136	582	55	15	55	31	55	0	0	0	0
	SB 605+00	137	582	55	15	55	31	55	0	0	0	0
	SB 600+00	138	582	55	15	55	31	55	0	0	0	0
	SB 595+00	139	582	55	15	55	31	55	0	0	0	0
	SB 590+00	140	582	55	15	55	31	55	0	0	0	0
	SB 585+00	141	582	55	15	55	31	55	0	0	0	0
	SB 580+00	142	582	55	15	55	31	55	0	0	0	0
	SB 575+00	143	582	55	15	55	31	55	0	0	0	0
	SB 570+00	144	582	55	15	55	31	55	0	0	0	0
	SB 565+00	145	582	55	15	55	31	55	0	0	0	0
	SB 560+00	146										
NB SR 18 STA 814 - 863 (SR 5)	NB 814+00	155	784	55	13	55	26	55	0	0	0	0
	NB 815+00	63	784	55	13	55	26	55	0	0	0	0

	NB 820+00	64	784	55	13	55	26	55	0	0	0	0
	NB 825+00	65	784	55	13	55	26	55	0	0	0	0
	NB 830+00	66	784	55	13	55	26	55	0	0	0	0
	NB 835+00	67	784	55	13	55	26	55	0	0	0	0
	NB 840+00	68	784	55	13	55	26	55	0	0	0	0
	NB 845+00	69	784	55	13	55	26	55	0	0	0	0
	NB 850+00	70	784	55	13	55	26	55	0	0	0	0
	NB 855+00	71	784	55	13	55	26	55	0	0	0	0
	NB 860+00	72	784	55	13	55	26	55	0	0	0	0
	NB 863+00	73										
SB SR 18 STA 814 - 763 (Gobelett)	SB 814+00	156	575	55	14	55	27	55	0	0	0	0
	SB 810+00	86	575	55	14	55	27	55	0	0	0	0
	SB 808+00	87	575	55	14	55	27	55	0	0	0	0
	SB 805+00	88	575	55	14	55	27	55	0	0	0	0
	SB 803+00	89	575	55	14	55	27	55	0	0	0	0
	SB 800+00	90	575	55	14	55	27	55	0	0	0	0
	SB 798+00	91	575	55	14	55	27	55	0	0	0	0
	SB 795+00	92	575	55	14	55	27	55	0	0	0	0
	SB 790+00	93	575	55	14	55	27	55	0	0	0	0
	SB 785+00	94	575	55	14	55	27	55	0	0	0	0
	SB 780+00	95	575	55	14	55	27	55	0	0	0	0
	SB 775+00	96	575	55	14	55	27	55	0	0	0	0
	SB 770+00	97	575	55	14	55	27	55	0	0	0	0
	SB 765+00	98	575	55	14	55	27	55	0	0	0	0
	SB 763+00	147										
SR 5 west of SR 18	SR5-1	157	2665	55	50	55	100	55	0	0	0	0
	SR5-2	158										
SR 5 east of SR 18	SR5-2	159	2602	55	49	55	98	55	0	0	0	0
	SR5-3	160										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment A-4**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
1545 Bolivar Hwy	1	1	1,120,917.8	432,026.0	480.00	5.00	0.00	66	10.0	10.0	
1543 Bolivar Hwy	2	1	1,121,048.5	432,222.8	475.00	5.00	57.00	66	10.0	10.0	Y
Church of God	3	0	1,121,149.2	432,357.1	468.00	5.00	0.00	66	10.0	10.0	
1525 Bolivar Hwy	4	1	1,121,378.5	432,698.2	460.00	5.00	0.00	66	10.0	10.0	
1519 Bolivar Hwy	5	1	1,121,463.6	432,827.4	455.00	5.00	0.00	66	10.0	10.0	
1515 Bolivar Hwy	6	1	1,121,546.0	432,942.8	450.00	5.00	0.00	66	10.0	10.0	
1387 Bolivar Hwy	7	1	1,123,206.5	435,425.3	444.00	5.00	0.00	66	10.0	10.0	
1285 Bolivar Hwy	8	1	1,124,201.5	438,067.7	440.00	5.00	0.00	66	10.0	10.0	
1279-1265 Bolivar Hwy	9	2	1,124,292.0	438,286.9	448.00	5.00	0.00	66	10.0	10.0	
1259 Bolivar Hwy	10	1	1,124,399.2	438,567.6	460.00	5.00	0.00	66	10.0	10.0	
1251-1249 Bolivar Hwy	11	2	1,124,512.1	438,765.3	470.00	5.00	0.00	66	10.0	10.0	
1245 Bolivar Hwy	12	1	1,124,708.9	439,015.2	476.00	5.00	0.00	66	10.0	10.0	
1239-1237 Bolivar Hwy	13	2	1,124,889.5	438,988.6	479.00	5.00	0.00	66	10.0	10.0	
1228 Bolivar Hwy	14	1	1,124,086.6	439,241.0	470.00	5.00	0.00	66	10.0	10.0	
1221 Bolivar Hwy	15	1	1,124,946.5	439,633.9	470.00	5.00	0.00	66	10.0	10.0	
1145 Bolivar Hwy	16	1	1,125,648.1	440,991.7	450.00	5.00	0.00	66	10.0	10.0	
1130 Bolivar Hwy	17	1	1,125,442.1	441,926.3	472.00	5.00	0.00	66	10.0	10.0	
3-7 Country Run Drive	18	2	1,125,842.2	441,503.6	460.00	5.00	0.00	66	10.0	10.0	
8-40 Country Run Drive	19	3	1,126,212.9	441,837.0	460.00	5.00	0.00	66	10.0	10.0	
15-27 Country Run Drive	20	2	1,125,847.2	441,833.9	470.00	5.00	0.00	66	10.0	10.0	
1033-1013 Bolivar Hwy	21	3	1,126,549.9	443,636.2	459.00	5.00	0.00	66	10.0	10.0	
10 Louis Lane	22	1	1,126,702.2	443,988.4	465.00	5.00	56.00	66	10.0	10.0	Y

19 Louis Lane	23	1	1,126,867.8	444,306.4	460.00	5.00	0.00	66	10.0	10.0	
26 Louis Lane	24	1	1,126,831.1	443,950.0	460.00	5.00	0.00	66	10.0	10.0	
11 Jennalee Lane	25	1	1,127,022.8	444,963.0	450.00	5.00	0.00	66	10.0	10.0	
24 Jennalee Lane	26	1	1,127,136.2	444,756.8	453.00	5.00	0.00	66	10.0	10.0	
931 Bolivar Hwy	27	1	1,127,450.9	446,067.0	430.00	5.00	0.00	66	10.0	10.0	
925-917 Bolivar Hwy	28	2	1,127,634.6	446,534.4	425.00	5.00	0.00	66	10.0	10.0	
911 Bolivar Hwy	29	1	1,127,438.0	446,913.4	442.00	5.00	0.00	66	10.0	10.0	
901-879 Bolivar Hwy	30	4	1,127,501.6	447,349.5	440.00	5.00	0.00	66	10.0	10.0	
873-865 Bolivar Hwy	31	2	1,127,522.5	447,721.8	440.00	5.00	0.00	66	10.0	10.0	
853 Bolivar Hwy	32	1	1,127,684.1	448,233.2	442.00	5.00	0.00	66	10.0	10.0	
844 Bolivar Hwy	33	1	1,127,746.9	448,940.6	435.00	5.00	0.00	66	10.0	10.0	
76-66 Medon-Malesus Rd	34	3	1,127,779.5	447,052.8	441.00	5.00	0.00	66	10.0	10.0	
54-46 Medon-Malesus Rd	35	3	1,127,838.8	447,850.7	440.00	5.00	0.00	66	10.0	10.0	
11 Chip Oak Dr	36	1	1,127,284.2	448,206.2	445.00	5.00	0.00	66	10.0	10.0	
23 Chip Oak Dr	37	1	1,127,182.2	448,214.2	450.00	5.00	0.00	66	10.0	10.0	
46-78 Chip Oak Dr	38	3	1,127,064.0	447,634.8	450.00	5.00	0.00	66	10.0	10.0	
10-55 Chipman Dr	39	2	1,126,771.5	447,626.9	453.00	5.00	0.00	66	10.0	10.0	
South Jackson Church of Christ	40	0	1,127,291.2	449,187.6	440.00	5.00	0.00	66	10.0	10.0	
40 Gobelett Road	41	1	1,127,055.2	449,195.2	443.00	5.00	0.00	66	10.0	10.0	
787 Bolivar Hwy	42	3	1,127,460.6	449,890.9	443.00	5.00	0.00	66	10.0	10.0	
Bemis Pentacostal Church	43	0	1,127,799.1	449,736.2	440.00	5.00	0.00	66	10.0	10.0	
728/716 Bolivar Hwy	44	2	1,127,670.4	450,309.8	445.00	5.00	0.00	66	10.0	10.0	
15 Benson Lane	45	1	1,127,665.8	450,231.7	445.00	5.00	0.00	66	10.0	10.0	
14 Southwood Drive	46	1	1,127,329.5	450,232.9	450.00	5.00	59.00	66	10.0	10.0	Y
9-25 Southwood Drive	47	2	1,127,227.1	450,368.6	450.00	5.00	0.00	66	10.0	10.0	
28-36 Southwood Drive	48	2	1,127,093.4	450,174.8	450.00	5.00	49.00	66	10.0	10.0	Y
673-663 Bolivar Hwy	49	2	1,127,508.8	450,887.7	445.00	5.00	0.00	66	10.0	10.0	
651 Bolivar Hwy	50	1	1,127,383.9	451,187.2	446.00	5.00	0.00	66	10.0	10.0	
637-633 Bolivar Hwy	51	3	1,127,544.4	451,527.3	445.00	5.00	0.00	66	10.0	10.0	
603 Bolivar Hwy	52	1	1,127,422.9	451,813.4	452.00	5.00	0.00	66	10.0	10.0	
Malesus Elementary School	53	0	1,127,732.8	451,643.0	450.00	5.00	0.00	66	10.0	10.0	
Fitzgerlad Road (West End)	54	3	1,127,410.5	452,483.8	450.00	5.00	0.00	66	10.0	10.0	
Malesus Baptist Church	55	0	1,128,070.2	452,828.1	450.00	5.00	0.00	66	10.0	10.0	
480 Bolivar Hwy	56	1	1,128,093.0	453,274.5	450.00	5.00	0.00	66	10.0	10.0	
Malesus Civic Park	57	0	1,128,477.9	453,443.4	457.00	5.00	0.00	66	10.0	10.0	
Caldwell Lane	58	3	1,128,367.8	454,085.6	450.00	5.00	0.00	66	10.0	10.0	

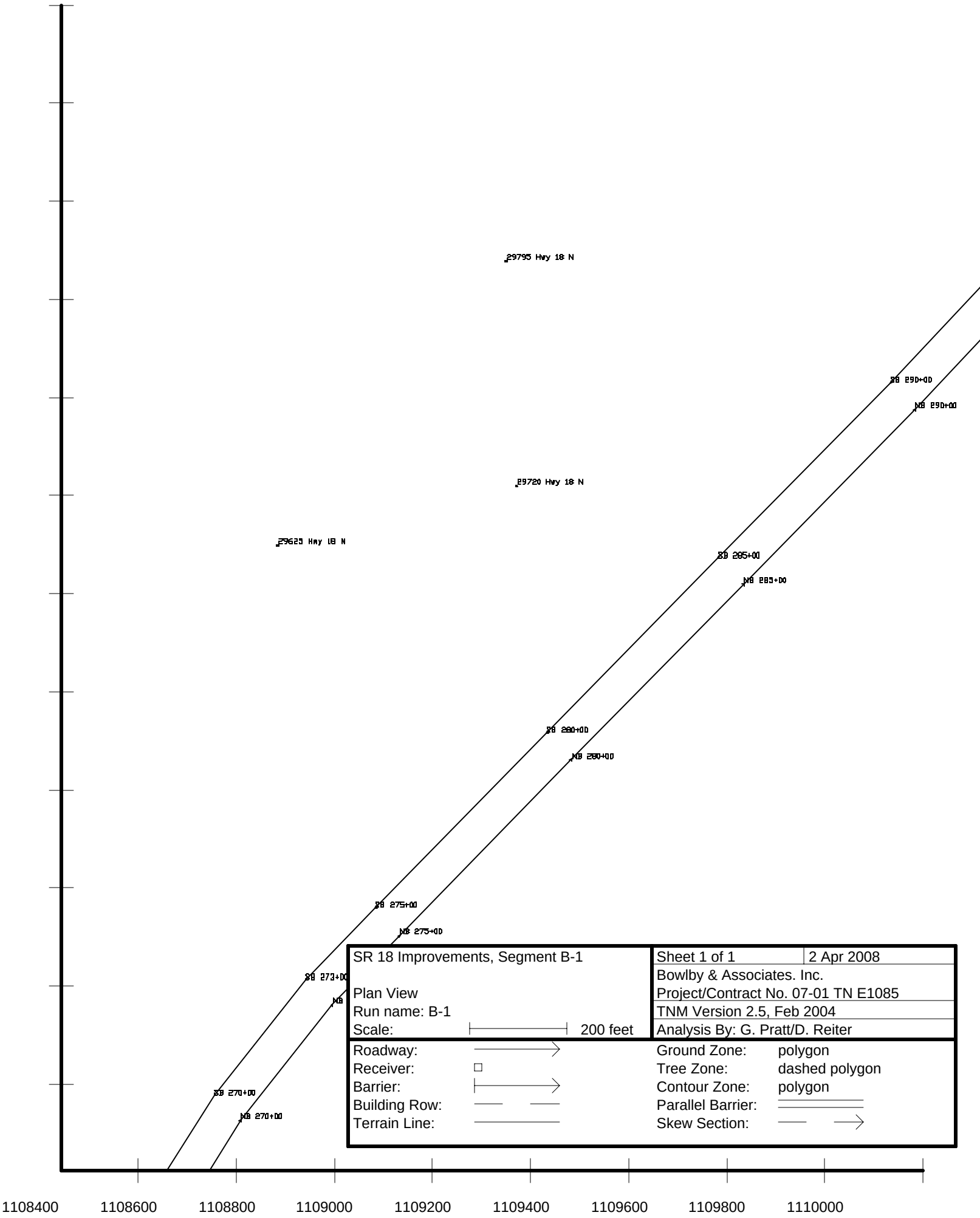
411-391 Bolivar Hwy	59	3	1,128,603.8	454,120.8	455.00	5.00	0.00	66	10.0	10.0	
404-386 Bolivar Hwy	60	3	1,128,783.2	453,959.2	460.00	5.00	0.00	66	10.0	10.0	
385-361 Bolivar Hwy	61	3	1,128,877.2	454,291.5	455.00	5.00	0.00	66	10.0	10.0	
380-362 Bolivar Hwy	62	3	1,128,972.1	454,082.6	460.00	5.00	0.00	66	10.0	10.0	
358-348 Bolivar Hwy	63	2	1,129,272.6	454,269.9	453.00	5.00	0.00	66	10.0	10.0	
355-333 Bolivar Hwy	64	3	1,129,113.1	454,447.6	455.00	5.00	0.00	66	10.0	10.0	
334-314 Bolivar Hwy	65	3	1,129,563.6	454,513.3	450.00	5.00	62.00	66	10.0	10.0	Y
327-309 Bolivar Hwy	66	3	1,129,411.4	454,647.1	450.00	5.00	0.00	66	10.0	10.0	
308-294 Bolivar Hwy	67	3	1,129,747.0	454,645.0	450.00	5.00	0.00	66	10.0	10.0	
301-291 Bolivar Hwy	68	2	1,129,492.0	454,793.6	445.00	5.00	0.00	66	10.0	10.0	
286-278 Bolivar Hwy	69	2	1,129,906.8	454,758.4	450.00	5.00	0.00	66	10.0	10.0	
283-275 Bolivar Hwy	70	2	1,129,655.8	454,823.4	445.00	5.00	0.00	66	10.0	10.0	
270-252 Bolivar Hwy	71	2	1,130,137.4	454,912.6	454.00	5.00	0.00	66	10.0	10.0	
253-247 Bolivar Hwy	72	2	1,129,796.0	454,913.9	445.00	5.00	0.00	66	10.0	10.0	
246-228 Bolivar Hwy	73	3	1,130,417.1	455,133.9	452.00	5.00	0.00	66	10.0	10.0	
237-231 Bolivar Hwy	74	2	1,130,030.2	455,080.7	450.00	5.00	0.00	66	10.0	10.0	
224-212 Bolivar Hwy	76	2	1,130,614.4	455,264.9	450.00	5.00	0.00	66	10.0	10.0	
223-209 Bolivar Hwy	77	3	1,130,270.1	455,249.9	450.00	5.00	0.00	66	10.0	10.0	
205-193 Bolivar Hwy	78	3	1,130,486.4	455,400.8	450.00	5.00	0.00	66	10.0	10.0	
204-198 Bolivar Hwy	79	2	1,130,841.1	455,416.7	450.00	5.00	0.00	66	10.0	10.0	
188-174 Bolivar Hwy	80	3	1,131,003.5	455,509.9	448.00	5.00	0.00	66	10.0	10.0	
183-175 Bolivar Hwy	81	2	1,130,654.1	455,520.2	450.00	5.00	0.00	66	10.0	10.0	
167-153 Bolivar Hwy	82	3	1,130,845.4	455,661.0	445.00	5.00	0.00	66	10.0	10.0	
158-146 Bolivar Hwy	83	2	1,131,255.5	455,693.3	447.00	5.00	0.00	66	10.0	10.0	
147 Bolivar Hwy	84	1	1,131,089.1	455,826.1	445.00	5.00	0.00	66	10.0	10.0	
135-125 Bolivar Hwy	85	2	1,131,253.8	455,946.2	445.00	5.00	0.00	66	10.0	10.0	
130 Bolivar Hwy	86	1	1,131,416.8	455,825.8	446.00	5.00	66.00	66	10.0	10.0	Y
103 Bolivar Hwy	87	1	1,131,475.8	456,088.7	445.00	5.00	0.00	66	10.0	10.0	
2-10 Old Malesus Road	88	2	1,131,643.6	455,972.8	446.00	5.00	0.00	66	10.0	10.0	
20 Old Malesus Road	89	1	1,131,630.6	455,776.7	447.00	5.00	0.00	66	10.0	10.0	
23-39 Old Malesus Road	90	2	1,131,413.5	455,672.1	447.00	5.00	0.00	66	10.0	10.0	
49-85 Old Malesus Road	91	2	1,131,237.5	455,426.1	455.00	5.00	0.00	66	10.0	10.0	
Church of God 1541 Bolivar Hwy											
South Jackson Church of Christ Gobelett Road											
Bemis Pentacostal Church 780 Bolivar Hwy											
Malesus Elementary School 610 Bolivar Hwy											

Malesus Baptist Church Old Malesus Road									
Malesus Civic Park Raines Springs Road									

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

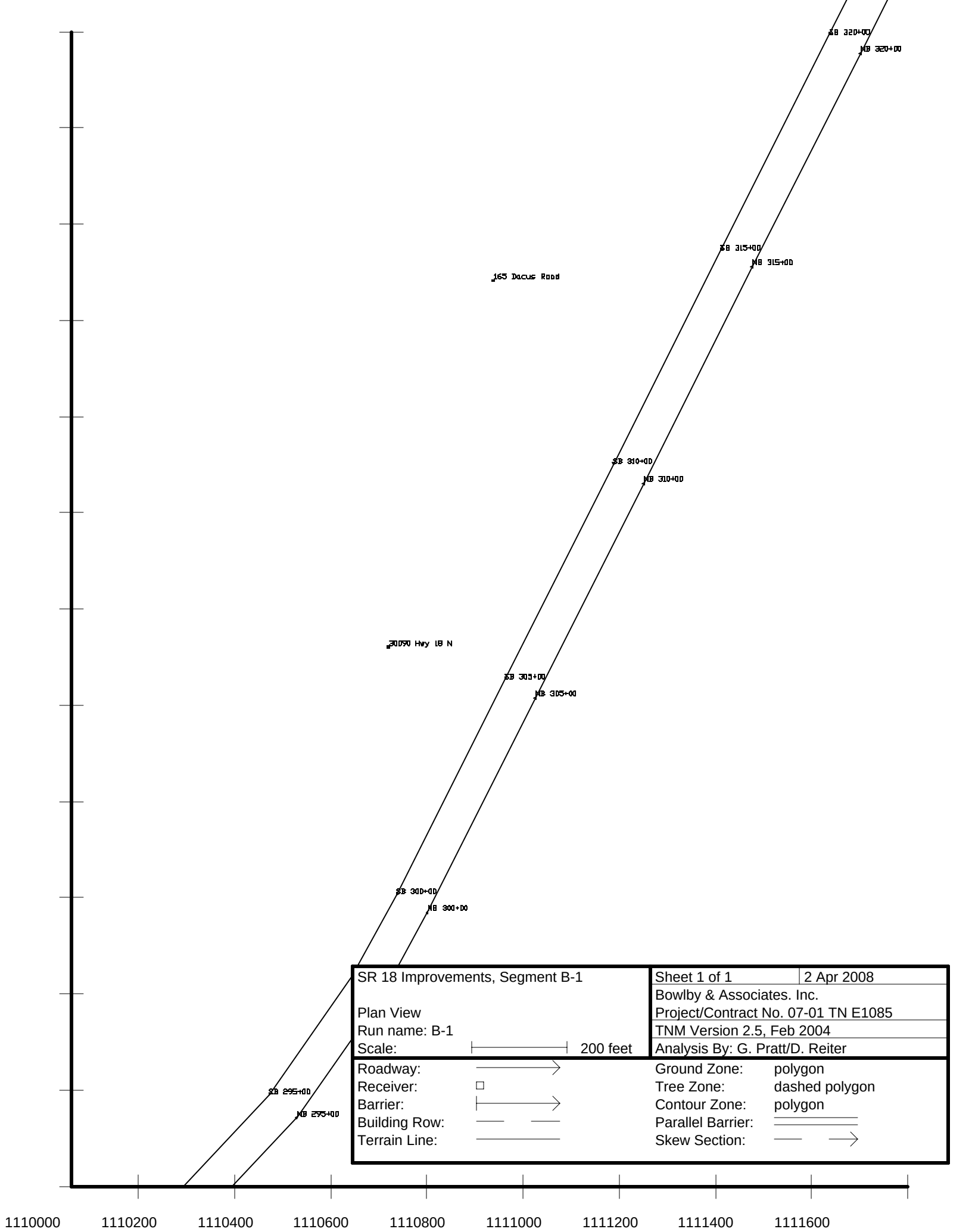
INPUT: BUILDING ROWS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment**

Building Row Name	Average Height	Building Percent	Points No.	Coordinates (ground) X	Y	Z
	ft	%		ft	ft	ft
South side of SR 5 north of SR 18	25.00	75	1	1,131,861.2	457,446.7	420.00
			2	1,132,367.4	456,812.3	420.00
North side Southwind	25.00	60	3	1,127,230.1	450,409.2	450.00
			4	1,126,759.0	450,376.8	450.00
South side Southwind	25.00	60	5	1,127,324.1	450,262.9	450.00
			6	1,126,772.9	450,225.9	450.00
West Side Bolivar at Southwind	25.00	40	7	1,127,453.6	450,193.0	445.00
			8	1,127,399.2	449,389.5	440.00
East Side Bolivar at Medon-Malesus	25.00	40	9	1,127,546.0	447,268.3	440.00
			10	1,127,594.9	447,854.6	440.00
Country Run Drive	25.00	40	11	1,125,869.1	441,461.6	460.00
			12	1,125,927.0	441,875.9	470.00



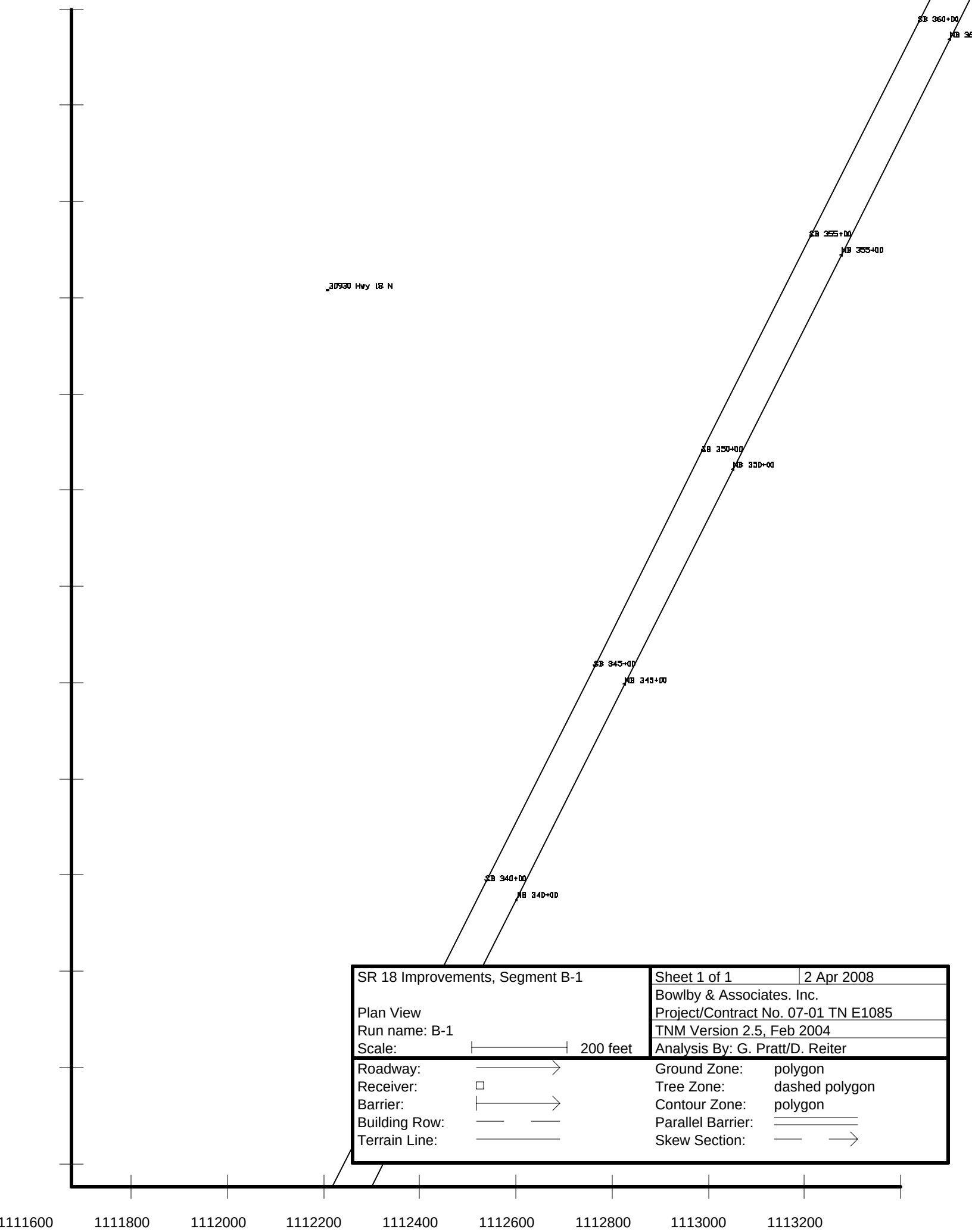
SR 18 Improvements, Segment B-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates. Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: B-1	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment B-1		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates. Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-1		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SB 360+00
NB 36
SB 355+00
NB 355+00
30930 Hwy 18 N
SB 350+00
NB 350+00
SB 345+00
NB 345+00
SB 340+00
NB 340+00
SR 18 Improvements, Segment B-1
Plan View
Run name: B-1
Scale:
200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates. Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
1111600
1111800
1112000
1112200
1112400
1112600
1112800
1113000
1113200

Bowlby & Associates. Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment B-1

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 265+0	85	1,108,372.0	403,291.1	460.00				Average	
		NB 268+0	84	1,108,504.8	403,567.0	445.00				Average	
		NB 270+0	83	1,108,606.6	403,730.7	435.00				Average	
		NB 273+0	81	1,108,794.0	403,965.9	425.00				Average	
		NB 275+0	80	1,108,930.8	404,107.2	417.00				Average	
		NB 280+0	79	1,109,281.6	404,465.1	405.00				Average	
		NB 285+0	78	1,109,632.4	404,822.8	400.00				Average	
		NB 290+0	77	1,109,981.5	405,178.9	400.00				Average	
		NB 295+0	76	1,110,327.0	405,547.8	410.00				Average	
		NB 298+0	75	1,110,501.6	405,796.7	422.00				Average	
		NB 300+0	74	1,110,598.8	405,974.8	430.00				Average	
		NB 305+0	73	1,110,823.2	406,421.0	420.00				Average	
		NB 310+0	86	1,111,047.8	406,867.0	410.00				Average	
		NB 315+0	72	1,111,274.1	407,316.0	430.00				Average	
		NB 320+0	71	1,111,498.1	407,761.1	410.00				Average	
		NB 325+0	10	1,111,720.8	408,201.9	410.00				Average	
		NB 330+0	12	1,111,951.5	408,661.5	400.00				Average	
		NB 335+0	13	1,112,176.4	409,108.0	400.00				Average	
		NB 340+0	14	1,112,401.2	409,554.6	400.00				Average	
		NB 345+0	15	1,112,626.1	410,001.2	400.00				Average	
		NB 350+0	16	1,112,851.4	410,448.1	415.00				Average	
		NB 355+0	17	1,113,075.9	410,894.4	435.00				Average	
		NB 360+0	18	1,113,300.8	411,340.9	450.00				Average	
		NB 365+0	19	1,113,525.6	411,787.5	460.00				Average	
		NB 370+0	20	1,113,750.5	412,234.1	460.00				Average	

		NB 375+0	21	1,113,975.2	412,680.7	460.00				Average	
		NB 380+0	22	1,114,200.2	413,127.9	460.00				Average	
		NB 385+0	23	1,114,425.0	413,573.6	460.00				Average	
		NB 390+0	24	1,114,649.8	414,020.2	465.00					
SB SR 18	48.0	SB 390+0	47	1,114,583.8	414,053.5	465.00				Average	
		SB 385+0	48	1,114,358.9	413,607.0	460.00				Average	
		SB 380+0	49	1,114,134.4	413,161.1	460.00				Average	
		SB 375+0	50	1,113,909.0	412,713.5	460.00				Average	
		SB 370+0	51	1,113,684.2	412,267.3	460.00				Average	
		SB 365+0	52	1,113,459.4	411,820.6	460.00				Average	
		SB 360+0	53	1,113,234.4	411,374.0	450.00				Average	
		SB 355+0	54	1,113,009.5	410,927.7	435.00				Average	
		SB 350+0	55	1,112,785.1	410,481.5	415.00				Average	
		SB 345+0	56	1,112,560.5	410,034.9	400.00				Average	
		SB 340+0	57	1,112,335.2	409,588.0	400.00				Average	
		SB 335+0	58	1,112,110.2	409,141.4	400.00				Average	
		SB 330+0	59	1,111,885.4	408,694.9	400.00				Average	
		SB 325+0	61	1,111,661.8	408,249.8	410.00				Average	
		SB 320+0	87	1,111,432.8	407,795.9	410.00				Average	
		SB 315+0	88	1,111,207.2	407,347.8	430.00				Average	
		SB 310+0	89	1,110,983.2	406,903.4	410.00				Average	
		SB 305+0	90	1,110,758.4	406,456.3	420.00				Average	
		SB 300+0	91	1,110,533.2	406,009.8	430.00				Average	
		SB 298+0	92	1,110,438.8	405,837.3	422.00				Average	
		SB 295+0	93	1,110,267.8	405,592.7	410.00				Average	
		SB 290+0	94	1,109,929.8	405,231.6	400.00				Average	
		SB 285+0	95	1,109,578.8	404,873.8	400.00				Average	
		SB 280+0	96	1,109,229.4	404,517.5	405.00				Average	
		SB 275+0	97	1,108,880.2	404,161.3	417.00				Average	
		SB 273+0	98	1,108,738.5	404,014.6	425.00				Average	
		SB 270+0	99	1,108,551.9	403,779.2	435.00				Average	
		SB 268+0	100	1,108,441.1	403,603.7	445.00				Average	
		SB 265+0	101	1,108,304.0	403,318.7	460.00					

Bowlby & Associates. Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment B-1**

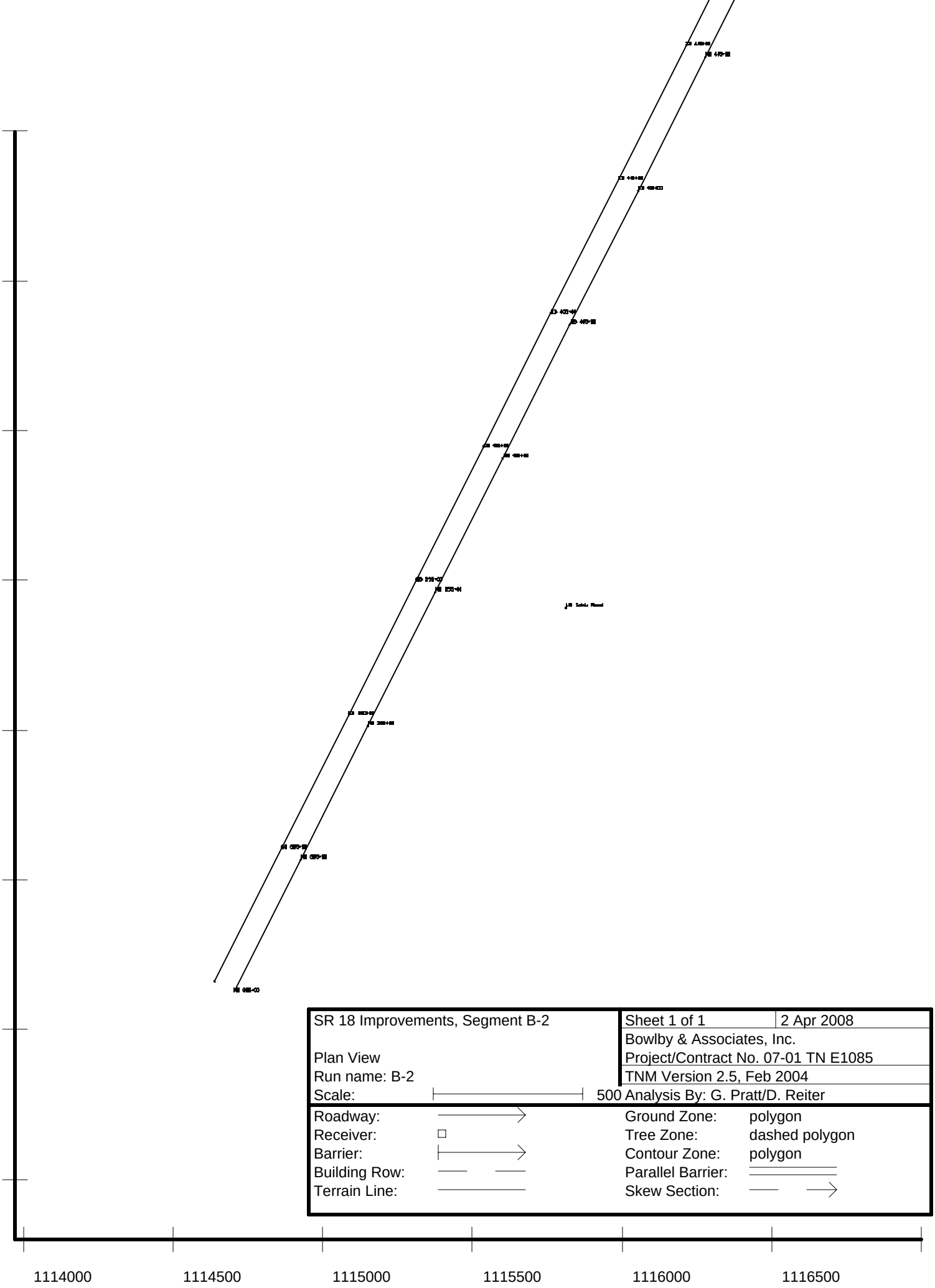
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 265+00	85	529	55	9	55	17	55	0	0	0	0
	NB 268+00	84	529	55	9	55	17	55	0	0	0	0
	NB 270+00	83	529	55	9	55	17	55	0	0	0	0
	NB 273+00	81	529	55	9	55	17	55	0	0	0	0
	NB 275+00	80	529	55	9	55	17	55	0	0	0	0
	NB 280+00	79	529	55	9	55	17	55	0	0	0	0
	NB 285+00	78	529	55	9	55	17	55	0	0	0	0
	NB 290+00	77	529	55	9	55	17	55	0	0	0	0
	NB 295+00	76	529	55	9	55	17	55	0	0	0	0
	NB 298+00	75	529	55	9	55	17	55	0	0	0	0
	NB 300+00	74	529	55	9	55	17	55	0	0	0	0
	NB 305+00	73	529	55	9	55	17	55	0	0	0	0
	NB 310+00	86	529	55	9	55	17	55	0	0	0	0
	NB 315+00	72	529	55	9	55	17	55	0	0	0	0
	NB 320+00	71	529	55	9	55	17	55	0	0	0	0
	NB 325+00	10	529	55	9	55	17	55	0	0	0	0
	NB 330+00	12	529	55	9	55	17	55	0	0	0	0
	NB 335+00	13	529	55	9	55	17	55	0	0	0	0
	NB 340+00	14	529	55	9	55	17	55	0	0	0	0
	NB 345+00	15	529	55	9	55	17	55	0	0	0	0
	NB 350+00	16	529	55	9	55	17	55	0	0	0	0
	NB 355+00	17	529	55	9	55	17	55	0	0	0	0
	NB 360+00	18	529	55	9	55	17	55	0	0	0	0

	NB 365+00	19	529	55	9	55	17	55	0	0	0	0
	NB 370+00	20	529	55	9	55	17	55	0	0	0	0
	NB 375+00	21	529	55	9	55	17	55	0	0	0	0
	NB 380+00	22	529	55	9	55	17	55	0	0	0	0
	NB 385+00	23	529	55	9	55	17	55	0	0	0	0
	NB 390+00	24										
SB SR 18	SB 390+00	47	529	55	9	55	17	55	0	0	0	0
	SB 385+00	48	529	55	9	55	17	55	0	0	0	0
	SB 380+00	49	529	55	9	55	17	55	0	0	0	0
	SB 375+00	50	529	55	9	55	17	55	0	0	0	0
	SB 370+00	51	529	55	9	55	17	55	0	0	0	0
	SB 365+00	52	529	55	9	55	17	55	0	0	0	0
	SB 360+00	53	529	55	9	55	17	55	0	0	0	0
	SB 355+00	54	529	55	9	55	17	55	0	0	0	0
	SB 350+00	55	529	55	9	55	17	55	0	0	0	0
	SB 345+00	56	529	55	9	55	17	55	0	0	0	0
	SB 340+00	57	529	55	9	55	17	55	0	0	0	0
	SB 335+00	58	529	55	9	55	17	55	0	0	0	0
	SB 330+00	59	529	55	9	55	17	55	0	0	0	0
	SB 325+00	61	529	55	9	55	17	55	0	0	0	0
	SB 320+00	87	529	55	9	55	17	55	0	0	0	0
	SB 315+00	88	529	55	9	55	17	55	0	0	0	0
	SB 310+00	89	529	55	9	55	17	55	0	0	0	0
	SB 305+00	90	529	55	9	55	17	55	0	0	0	0
	SB 300+00	91	529	55	9	55	17	55	0	0	0	0
	SB 298+00	92	529	55	9	55	17	55	0	0	0	0
	SB 295+00	93	529	55	9	55	17	55	0	0	0	0
	SB 290+00	94	529	55	9	55	17	55	0	0	0	0
	SB 285+00	95	529	55	9	55	17	55	0	0	0	0
	SB 280+00	96	529	55	9	55	17	55	0	0	0	0
	SB 275+00	97	529	55	9	55	17	55	0	0	0	0
	SB 273+00	98	529	55	9	55	17	55	0	0	0	0
	SB 270+00	99	529	55	9	55	17	55	0	0	0	0
	SB 268+00	100	529	55	9	55	17	55	0	0	0	0
	SB 265+00	101										

Bowlby & Associates. Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

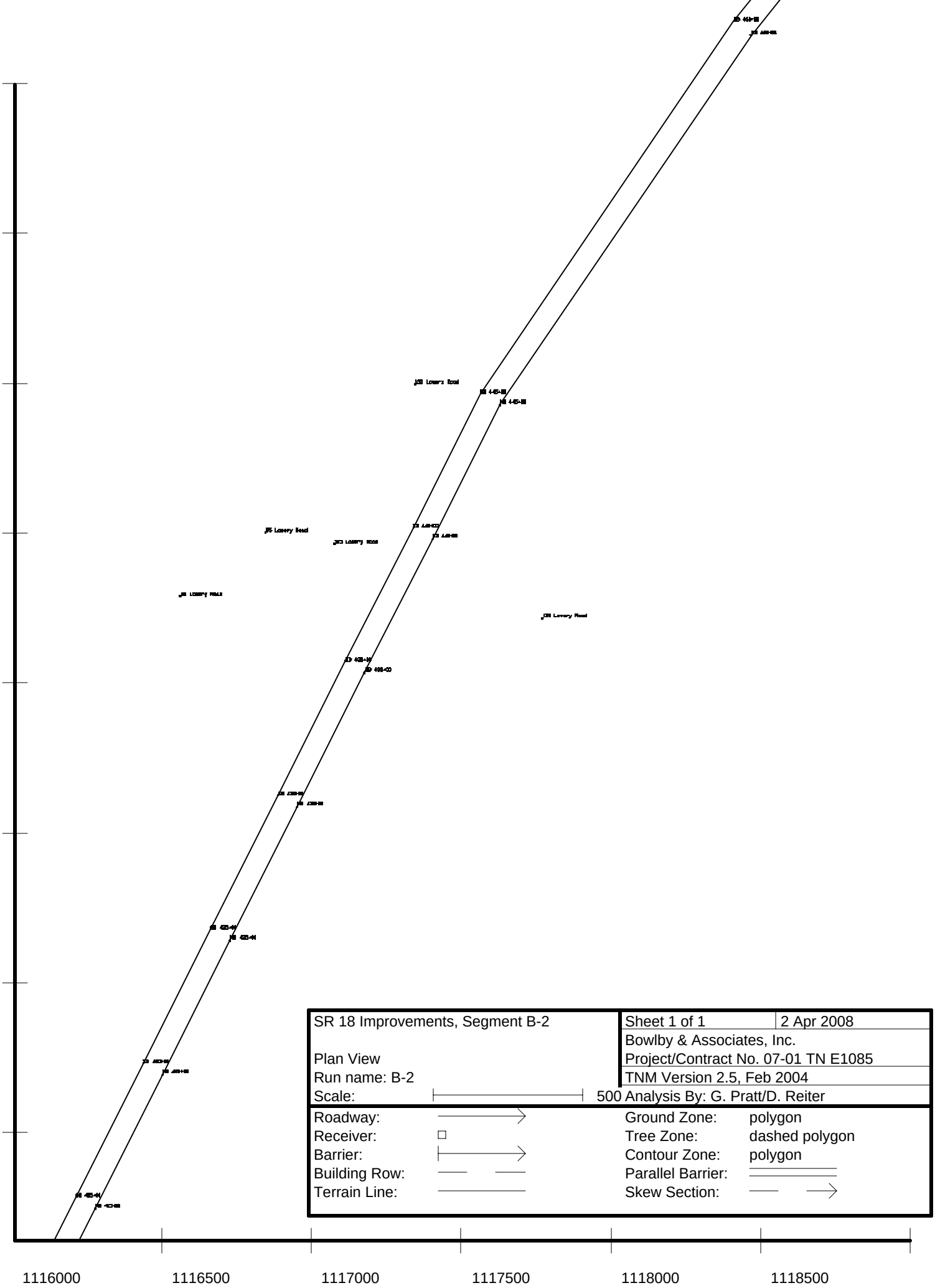
INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment B-1**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
29625 Hwy 18 N	1	1	1,108,681.9	404,901.0	420.00	5.00	0.00	66	10.0	10.0	Y
29720 Hwy 18 N	16	1	1,109,168.0	405,021.6	410.00	5.00	0.00	66	10.0	10.0	Y
29795 Hwy 18 N	17	1	1,109,146.5	405,480.0	405.00	5.00	0.00	66	10.0	10.0	Y
30090 Hwy 18 N	19	1	1,110,516.1	406,523.6	410.00	5.00	0.00	66	10.0	10.0	Y
165 Dacus Road	21	1	1,110,734.9	407,285.4	420.00	5.00	0.00	66	10.0	10.0	Y
30930 Hwy 18 N	22	1	1,112,007.8	410,818.1	420.00	5.00	0.00	66	10.0	10.0	Y
29625 Hwy 18 N 162											
29720 Hwy 18 N 38											
29795 Hwy 18 N 39											



SR 18 Improvements, Segment B-2		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-2		TNM Version 2.5, Feb 2004	
Scale:	500	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	


SR 18 Improvements, Segment B-2
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Plan View
Project/Contract No. 07-01 TN E1085
Run name: B-2
TNM Version 2.5, Feb 2004
Scale:
500
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
1116000
1116500
1117000
1117500
1118000
1118500

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment B-2

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 380+0	72	1,114,200.2	413,127.9	460.00				Average	
		NB 385+0	71	1,114,425.0	413,573.6	460.00				Average	
		NB 390+0	24	1,114,649.2	414,020.5	465.00				Average	
		NB 395+0	25	1,114,874.8	414,466.7	485.00				Average	
		NB 400+0	26	1,115,099.6	414,913.3	480.00				Average	
		NB 405+0	27	1,115,324.4	415,359.9	460.00				Average	
		NB 410+0	28	1,115,549.2	415,806.5	460.00				Average	
		NB 415+0	29	1,115,774.2	416,253.0	450.00				Average	
		NB 420+0	30	1,115,999.1	416,699.6	445.00				Average	
		NB 425+0	31	1,116,223.9	417,146.2	460.00				Average	
		NB 430+0	32	1,116,448.8	417,592.8	445.00				Average	
		NB 435+0	33	1,116,673.8	418,039.4	460.00				Average	
		NB 440+0	34	1,116,898.6	418,485.9	460.00				Average	
		NB 445+0	35	1,117,123.5	418,932.5	435.00				Average	
		NB 460+0	75	1,117,962.0	420,163.9	440.00				Average	
		NB 465+0	76	1,118,276.8	420,553.7	460.00				Average	
		NB 470+0	77	1,118,590.8	420,942.8	460.00					
SB SR 18	48.0	SB 470+0	80	1,118,532.1	420,987.9	460.00				Average	
		SB 465+0	79	1,118,217.8	420,598.6	460.00				Average	
		SB 460+0	78	1,117,903.2	420,209.0	440.00				Average	
		SB 445+0	36	1,117,057.4	418,965.8	435.00				Average	
		SB 440+0	37	1,116,832.5	418,519.1	460.00				Average	
		SB 435+0	38	1,116,607.6	418,072.8	460.00				Average	
		SB 430+0	39	1,116,382.8	417,626.1	445.00				Average	
		SB 425+0	40	1,116,157.8	417,179.8	460.00				Average	

		SB 420+0	41	1,115,933.0	416,733.1	445.00				Average	
		SB 415+0	42	1,115,708.1	416,286.5	450.00				Average	
		SB 410+0	43	1,115,483.2	415,839.8	460.00				Average	
		SB 405+0	44	1,115,258.4	415,393.3	460.00				Average	
		SB 400+0	45	1,115,033.5	414,946.7	480.00				Average	
		SB 395+0	46	1,114,808.8	414,500.1	485.00				Average	
		SB 390+0	73	1,114,583.8	414,053.5	465.00				Average	
		SB 385+0	47	1,114,358.9	413,607.0	460.00				Average	
		SB 380+0	74	1,114,134.4	413,161.1	460.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment B-2

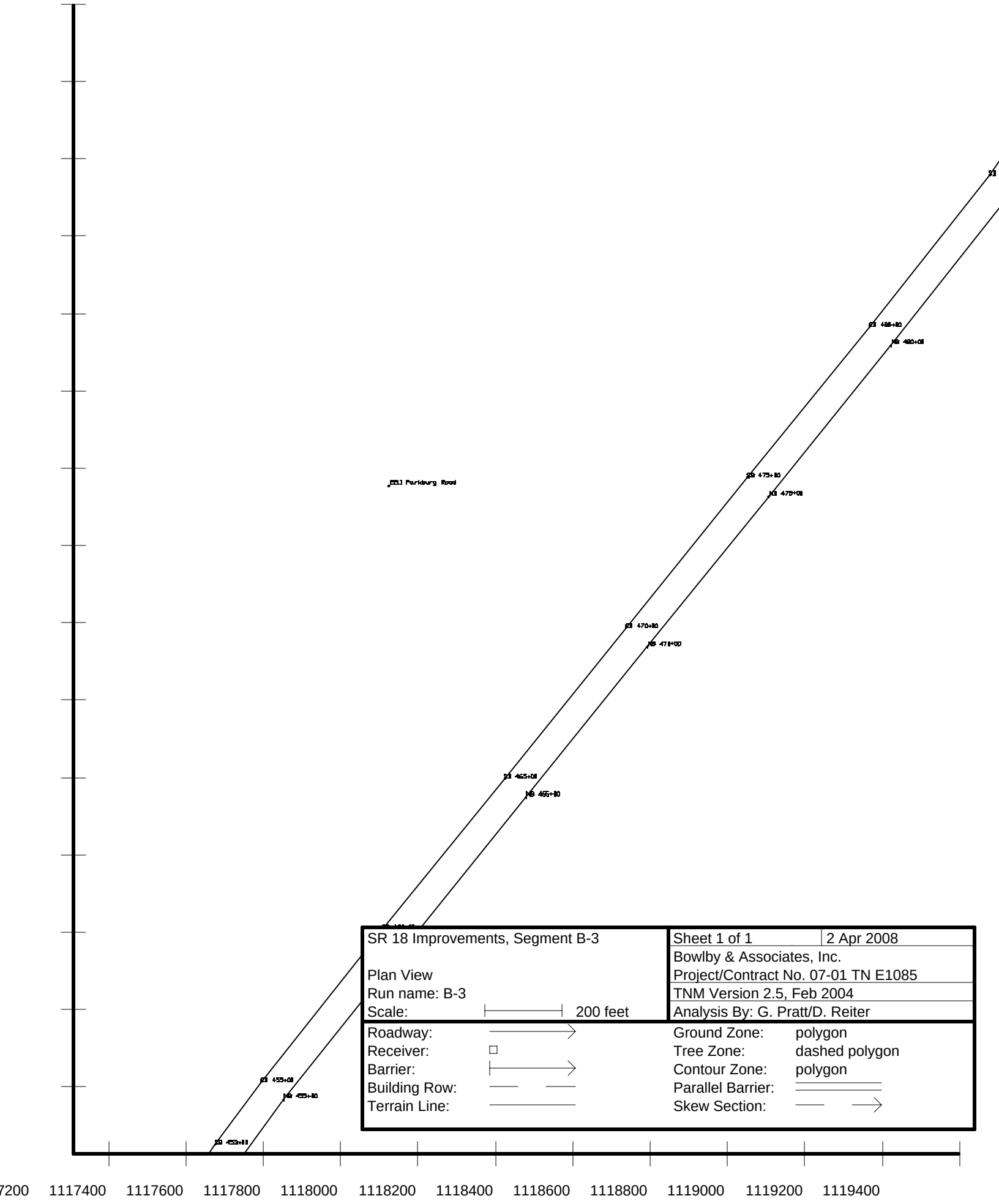
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 380+00	72	529	55	9	55	17	55	0	0	0	0
	NB 385+00	71	529	55	9	55	17	55	0	0	0	0
	NB 390+00	24	529	55	9	55	17	55	0	0	0	0
	NB 395+00	25	529	55	9	55	17	55	0	0	0	0
	NB 400+00	26	529	55	9	55	17	55	0	0	0	0
	NB 405+00	27	529	55	9	55	17	55	0	0	0	0
	NB 410+00	28	529	55	9	55	17	55	0	0	0	0
	NB 415+00	29	529	55	9	55	17	55	0	0	0	0
	NB 420+00	30	529	55	9	55	17	55	0	0	0	0
	NB 425+00	31	529	55	9	55	17	55	0	0	0	0
	NB 430+00	32	529	55	9	55	17	55	0	0	0	0
	NB 435+00	33	529	55	9	55	17	55	0	0	0	0
	NB 440+00	34	529	55	9	55	17	55	0	0	0	0
	NB 445+00	35	529	55	9	55	17	55	0	0	0	0
	NB 460+00	75	529	55	9	55	17	55	0	0	0	0
	NB 465+00	76	529	55	9	55	17	55	0	0	0	0
	NB 470+00	77										
SB SR 18	SB 470+00	80	529	55	9	55	17	55	0	0	0	0
	SB 465+00	79	529	55	9	55	17	55	0	0	0	0
	SB 460+00	78	529	55	9	55	17	55	0	0	0	0
	SB 445+00	36	529	55	9	55	17	55	0	0	0	0
	SB 440+00	37	529	55	9	55	17	55	0	0	0	0
	SB 435+00	38	529	55	9	55	17	55	0	0	0	0

	SB 430+00	39	529	55	9	55	17	55	0	0	0	0
	SB 425+00	40	529	55	9	55	17	55	0	0	0	0
	SB 420+00	41	529	55	9	55	17	55	0	0	0	0
	SB 415+00	42	529	55	9	55	17	55	0	0	0	0
	SB 410+00	43	529	55	9	55	17	55	0	0	0	0
	SB 405+00	44	529	55	9	55	17	55	0	0	0	0
	SB 400+00	45	529	55	9	55	17	55	0	0	0	0
	SB 395+00	46	529	55	9	55	17	55	0	0	0	0
	SB 390+00	73	529	55	9	55	17	55	0	0	0	0
	SB 385+00	47	529	55	9	55	17	55	0	0	0	0
	SB 380+00	74										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

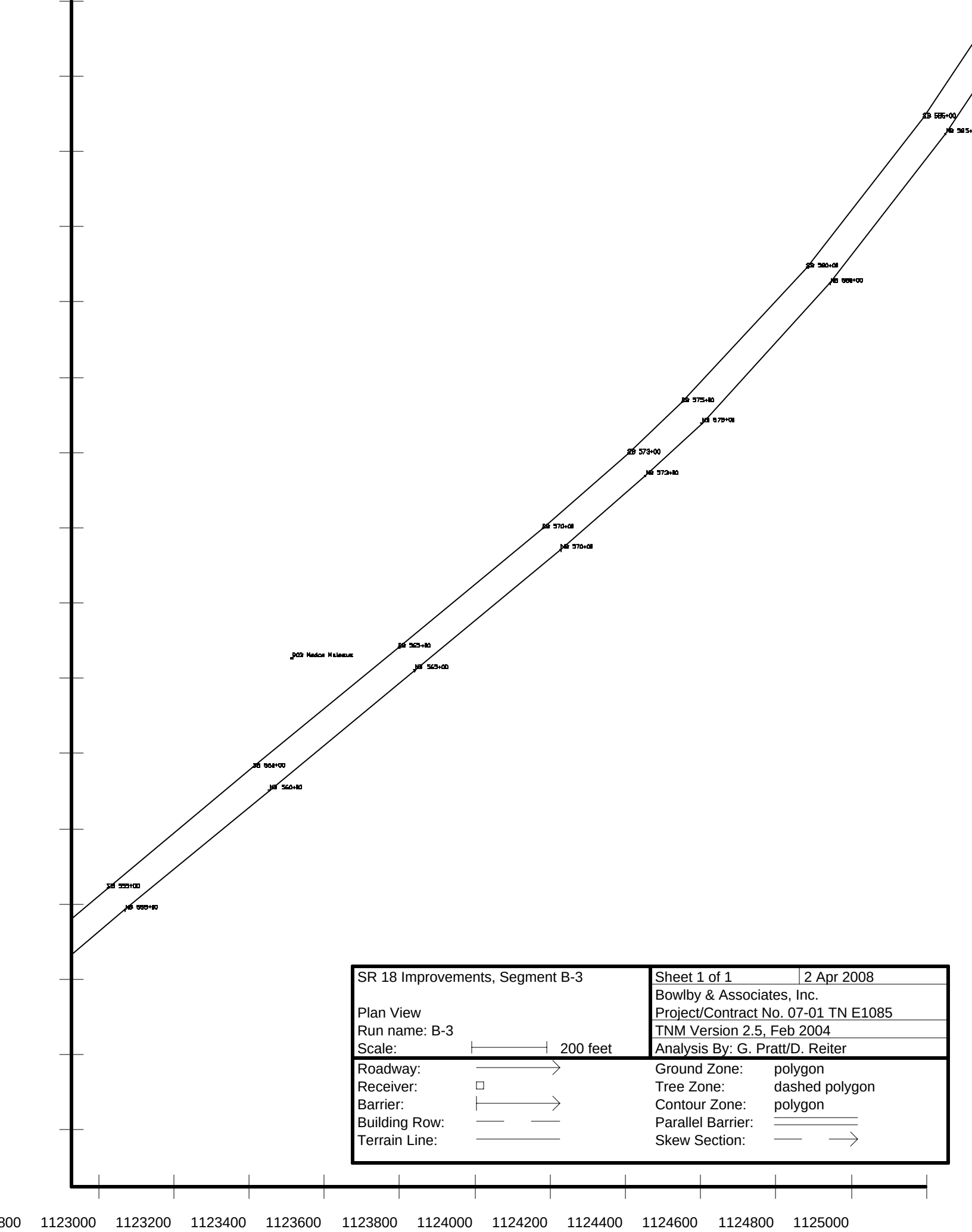
INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment B-2**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
110 Swink Road	3	1	1,115,306.9	414,411.2	480.00	5.00	44.00	66	10.0	10.0	Y
139 Lowery Road	5	1	1,117,265.5	418,217.8	458.00	5.00	0.00	66	10.0	10.0	Y
105 Lowery Road	7	1	1,116,570.6	418,464.7	460.00	5.00	0.00	66	10.0	10.0	Y
85 Lowery Road	9	1	1,116,339.8	418,502.9	460.00	5.00	0.00	66	10.0	10.0	Y
80 Lowery Road	10	2	1,116,057.2	418,290.2	460.00	5.00	0.00	66	10.0	10.0	Y
133 Lowery Road	12	1	1,116,838.8	418,998.4	450.00	5.00	45.00	66	10.0	10.0	Y
110 Swink Road 163											
139 Lowery Road 164											
105 Lowery Road 165											
85 Lowery Road 166											
80 Lowery Road 167											
133 Lowery Road 167A											



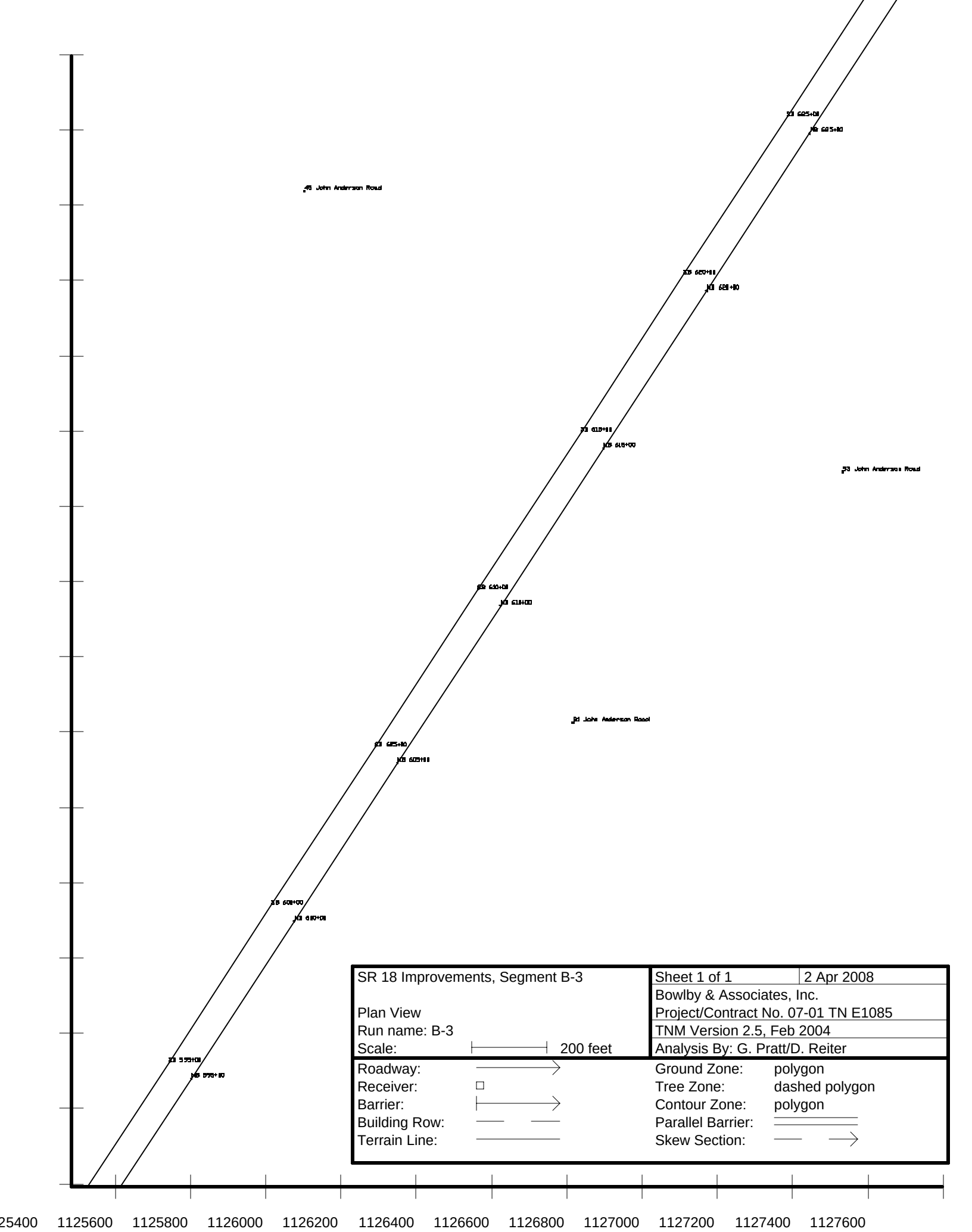
SR 18 Improvements, Segment B-3		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-3		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



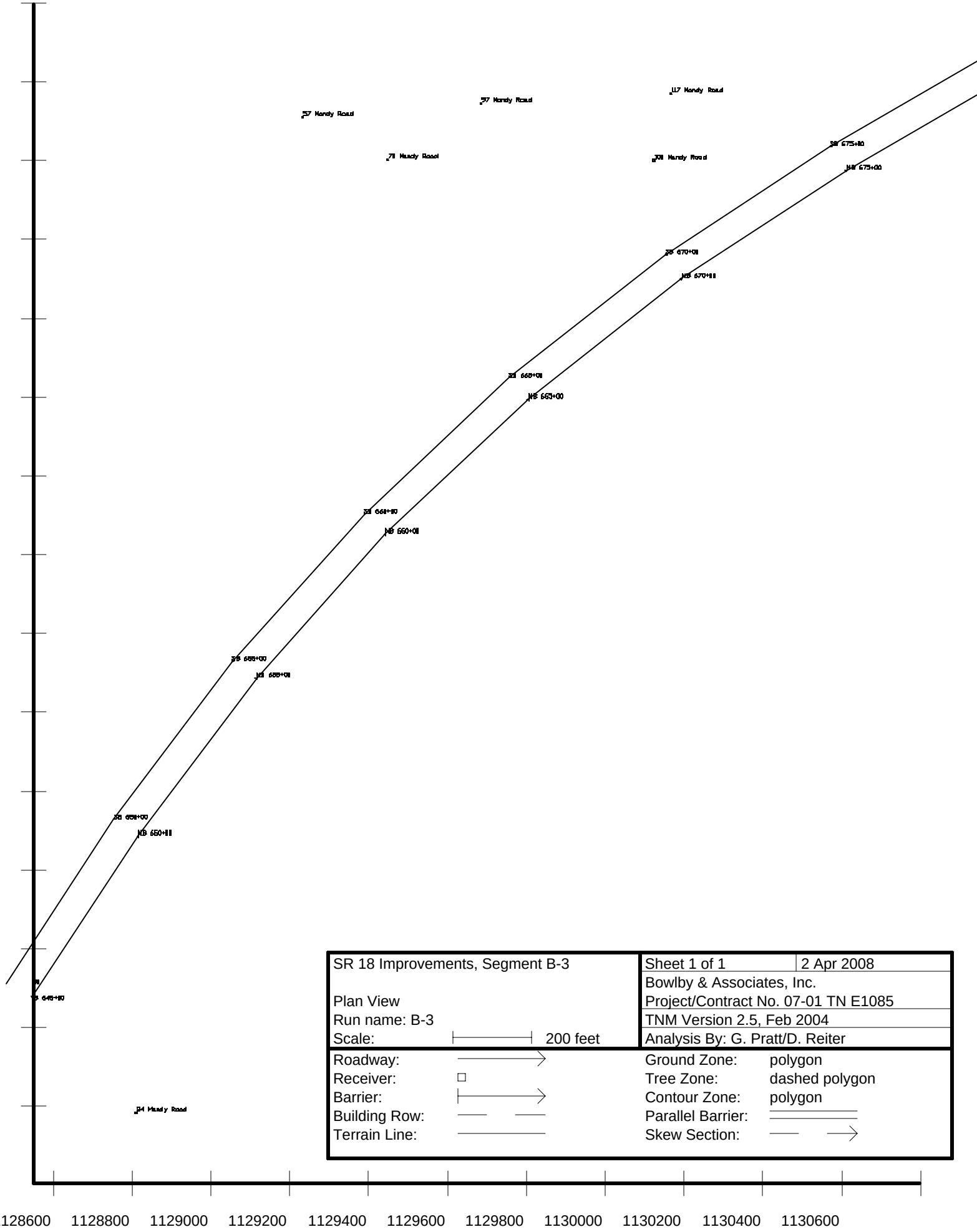
SR 18 Improvements, Segment B-3		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-3		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment B-3	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01 TN E1085	
Run name: B-3	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment B-3	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01 TN E1085	
Run name: B-3	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment B-3

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 445+0	1	1,117,123.5	418,932.5	435.00				Average	
		NB 448+0	2	1,117,266.9	419,196.5	425.00				Average	
		NB 450+0	3	1,117,368.5	419,363.7	425.00				Average	
		NB 453+0	4	1,117,533.4	419,612.1	434.00				Average	
		NB 455+0	5	1,117,650.1	419,772.8	440.00				Average	
		NB 460+0	6	1,117,962.0	420,163.9	440.00				Average	
		NB 465+0	7	1,118,276.8	420,553.7	460.00				Average	
		NB 470+0	8	1,118,590.8	420,942.8	460.00				Average	
		NB 475+0	9	1,118,904.9	421,331.9	460.00				Average	
		NB 480+0	10	1,119,220.0	421,722.2	460.00				Average	
		NB 485+0	11	1,119,529.4	422,113.3	440.00				Average	
		NB 488+0	12	1,119,701.2	422,358.5	434.00				Average	
		NB 490+0	13	1,119,809.2	422,526.5	430.00				Average	
		NB 493+0	14	1,119,960.5	422,787.2	430.00				Average	
		NB 495+0	15	1,120,055.5	422,969.6	432.00				Average	
		NB 500+0	16	1,120,260.2	423,428.9	435.00				Average	
		NB 505+0	17	1,120,425.2	423,903.7	440.00				Average	
		NB 510+0	18	1,120,553.6	424,386.6	440.00				Average	
		NB 515+0	19	1,120,679.2	424,873.4	450.00				Average	
		NB 520+0	20	1,120,804.8	425,355.3	460.00				Average	
		NB 525+0	21	1,120,958.5	425,827.4	460.00				Average	
		NB 528+0	22	1,121,070.0	426,102.7	472.00				Average	
		NB 530+0	23	1,121,153.6	426,286.1	480.00				Average	
		NB 533+0	24	1,121,287.6	426,549.2	472.00				Average	
		NB 535+0	25	1,121,387.0	426,723.3	460.00				Average	

		NB 538+0	26	1,121,545.9	426,976.1	465.00				Average	
		NB 538+0	27	1,121,689.9	427,184.4	470.00				Average	
		NB 540+0	28	1,121,807.5	427,341.4	480.00				Average	
		NB 545+0	29	1,122,132.2	427,720.1	500.00				Average	
		NB 550+0	30	1,122,486.8	428,067.0	500.00				Average	
		NB 555+0	117	1,122,870.0	428,389.6	500.00				Average	
		NB 560+0	116	1,123,254.6	428,707.5	500.00				Average	
		NB 565+0	115	1,123,640.6	429,026.3	505.00				Average	
		NB 570+0	114	1,124,027.5	429,346.1	510.00				Average	
		NB 573+0	113	1,124,252.8	429,542.8	510.00				Average	
		NB 575+0	31	1,124,402.1	429,682.9	510.00				Average	
		NB 580+0	32	1,124,743.5	430,053.9	505.00				Average	
		NB 585+0	33	1,125,050.2	430,451.1	500.00				Average	
		NB 590+0	34	1,125,326.8	430,867.7	500.00				Average	
		NB 595+0	35	1,125,601.4	431,285.6	500.00				Average	
		NB 600+0	36	1,125,875.0	431,704.0	480.00				Average	
		NB 605+0	37	1,126,148.5	432,123.6	465.00				Average	
		NB 610+0	38	1,126,422.2	432,541.1	480.00				Average	
		NB 615+0	39	1,126,695.8	432,959.5	480.00				Average	
		NB 620+0	40	1,126,970.5	433,377.9	485.00				Average	
		NB 625+0	41	1,127,244.5	433,796.3	495.00				Average	
		NB 630+0	42	1,127,517.5	434,215.8	480.00				Average	
		NB 635+0	43	1,127,791.1	434,634.3	480.00				Average	
		NB 640+0	44	1,128,064.6	435,052.7	475.00				Average	
		NB 645+0	45	1,128,338.6	435,471.6	460.00				Average	
		NB 650+0	46	1,128,613.2	435,889.5	460.00				Average	
		NB 655+0	47	1,128,913.0	436,290.3	460.00				Average	
		NB 660+0	48	1,129,240.2	436,655.7	460.00				Average	
		NB 665+0	49	1,129,603.8	436,997.1	460.00				Average	
		NB 670+0	50	1,129,992.8	437,303.5	440.00				Average	
		NB 675+0	51	1,130,410.8	437,576.7	420.00				Average	
		NB 680+0	124	1,130,840.2	437,827.4	420.00				Average	
		NB 685+0	125	1,131,272.2	438,079.5	430.00				Average	
		NB 690+0	129	1,131,705.1	438,332.0	445.00					
SB SR 18	48.0	SB 690+0	128	1,131,665.6	438,394.6	445.00				Average	
		SB 685+0	127	1,131,234.4	438,143.1	430.00				Average	
		SB 680+0	126	1,130,801.6	437,890.6	420.00				Average	
		SB 675+0	62	1,130,367.2	437,637.0	420.00				Average	
		SB 670+0	63	1,129,949.2	437,362.9	440.00				Average	

		SB 665+0	64	1,129,552.4	437,050.6	460.00				Average	
		SB 660+0	65	1,129,184.9	436,704.9	460.00				Average	
		SB 655+0	66	1,128,850.8	436,331.7	460.00				Average	
		SB 650+0	67	1,128,551.5	435,930.3	460.00				Average	
		SB 645+0	68	1,128,276.9	435,512.4	460.00				Average	
		SB 640+0	69	1,128,002.9	435,093.4	475.00				Average	
		SB 635+0	70	1,127,729.4	434,675.1	480.00				Average	
		SB 630+0	71	1,127,455.8	434,256.6	480.00				Average	
		SB 625+0	72	1,127,181.6	433,837.3	495.00				Average	
		SB 620+0	73	1,126,907.9	433,418.9	485.00				Average	
		SB 615+0	74	1,126,634.2	433,000.4	480.00				Average	
		SB 610+0	75	1,126,360.8	432,581.9	480.00				Average	
		SB 605+0	76	1,126,087.8	432,164.4	465.00				Average	
		SB 600+0	77	1,125,813.2	431,744.8	480.00				Average	
		SB 595+0	78	1,125,539.6	431,326.3	500.00				Average	
		SB 590+0	79	1,125,265.9	430,907.9	500.00				Average	
		SB 585+0	80	1,124,988.8	430,490.7	500.00				Average	
		SB 580+0	81	1,124,679.2	430,092.6	505.00				Average	
		SB 575+0	82	1,124,347.6	429,735.9	510.00				Average	
		SB 573+0	83	1,124,204.1	429,598.9	510.00				Average	
		SB 570+0	84	1,123,977.4	429,400.7	510.00				Average	
		SB 565+0	85	1,123,594.1	429,083.9	505.00				Average	
		SB 560+0	86	1,123,209.0	428,765.8	500.00				Average	
		SB 555+0	87	1,122,821.4	428,445.5	500.00				Average	
		SB 550+0	88	1,122,440.2	428,124.5	500.00				Average	
		SB 545+0	89	1,122,079.8	427,771.9	500.00				Average	
		SB 540+0	90	1,121,753.8	427,391.7	480.00				Average	
		SB 538+0	91	1,121,630.6	427,229.1	470.00				Average	
		SB 538+0	92	1,121,480.1	427,012.4	465.00				Average	
		SB 535+0	93	1,121,321.8	426,759.3	460.00				Average	
		SB 533+0	94	1,121,222.8	426,584.2	472.00				Average	
		SB 530+0	95	1,121,085.0	426,314.1	480.00				Average	
		SB 528+0	122	1,121,002.2	426,132.6	472.00				Average	
		SB 525+0	121	1,120,888.9	425,852.6	460.00				Average	
		SB 520+0	120	1,120,733.1	425,373.9	460.00				Average	
		SB 515+0	119	1,120,606.6	424,888.3	450.00				Average	
		SB 510+0	118	1,120,482.1	424,406.0	440.00				Average	
		SB 505+0	96	1,120,353.5	423,923.6	440.00				Average	
		SB 500+0	97	1,120,191.5	423,455.2	435.00				Average	

		SB 495+0	98	1,119,988.8	423,001.6	432.00				Average	
		SB 493+0	99	1,119,899.8	422,834.0	430.00				Average	
		SB 490+0	100	1,119,746.9	422,567.2	430.00				Average	
		SB 488+0	101	1,119,637.8	422,396.8	434.00				Average	
		SB 485+0	102	1,119,470.8	422,158.4	440.00				Average	
		SB 480+0	103	1,119,161.2	421,767.2	460.00				Average	
		SB 475+0	104	1,118,846.1	421,376.9	460.00				Average	
		SB 470+0	105	1,118,532.1	420,987.9	460.00				Average	
		SB 465+0	106	1,118,217.8	420,598.6	460.00				Average	
		SB 460+0	107	1,117,903.2	420,209.0	440.00				Average	
		SB 455+0	108	1,117,589.1	419,814.9	440.00				Average	
		SB 453+0	109	1,117,470.9	419,652.4	434.00				Average	
		SB 450+0	110	1,117,303.8	419,400.2	425.00				Average	
		SB 448+0	111	1,117,200.2	419,228.3	425.00				Average	
		SB 445+0	112	1,117,057.4	418,965.8	435.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment B-3

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 445+00	1	529	55	9	55	17	55	0	0	0	0
	NB 448+00	2	529	55	9	55	17	55	0	0	0	0
	NB 450+00	3	529	55	9	55	17	55	0	0	0	0
	NB 453+00	4	529	55	9	55	17	55	0	0	0	0
	NB 455+00	5	529	55	9	55	17	55	0	0	0	0
	NB 460+00	6	529	55	9	55	17	55	0	0	0	0
	NB 465+00	7	529	55	9	55	17	55	0	0	0	0
	NB 470+00	8	529	55	9	55	17	55	0	0	0	0
	NB 475+00	9	529	55	9	55	17	55	0	0	0	0
	NB 480+00	10	529	55	9	55	17	55	0	0	0	0
	NB 485+00	11	529	55	9	55	17	55	0	0	0	0
	NB 488+00	12	529	55	9	55	17	55	0	0	0	0
	NB 490+00	13	529	55	9	55	17	55	0	0	0	0
	NB 493+00	14	529	55	9	55	17	55	0	0	0	0
	NB 495+00	15	529	55	9	55	17	55	0	0	0	0
	NB 500+00	16	529	55	9	55	17	55	0	0	0	0
	NB 505+00	17	529	55	9	55	17	55	0	0	0	0
	NB 510+00	18	529	55	9	55	17	55	0	0	0	0
	NB 515+00	19	529	55	9	55	17	55	0	0	0	0
	NB 520+00	20	529	55	9	55	17	55	0	0	0	0
	NB 525+00	21	529	55	9	55	17	55	0	0	0	0
	NB 528+00	22	529	55	9	55	17	55	0	0	0	0
	NB 530+00	23	529	55	9	55	17	55	0	0	0	0

	NB 533+00	24	529	55	9	55	17	55	0	0	0	0
	NB 535+00	25	529	55	9	55	17	55	0	0	0	0
	NB 538+00A	26	529	55	9	55	17	55	0	0	0	0
	NB 538+00B	27	529	55	9	55	17	55	0	0	0	0
	NB 540+00	28	529	55	9	55	17	55	0	0	0	0
	NB 545+00	29	529	55	9	55	17	55	0	0	0	0
	NB 550+00	30	529	55	9	55	17	55	0	0	0	0
	NB 555+00	117	529	55	9	55	17	55	0	0	0	0
	NB 560+00	116	529	55	9	55	17	55	0	0	0	0
	NB 565+00	115	529	55	9	55	17	55	0	0	0	0
	NB 570+00	114	529	55	9	55	17	55	0	0	0	0
	NB 573+00	113	529	55	9	55	17	55	0	0	0	0
	NB 575+00	31	529	55	9	55	17	55	0	0	0	0
	NB 580+00	32	529	55	9	55	17	55	0	0	0	0
	NB 585+00	33	529	55	9	55	17	55	0	0	0	0
	NB 590+00	34	529	55	9	55	17	55	0	0	0	0
	NB 595+00	35	529	55	9	55	17	55	0	0	0	0
	NB 600+00	36	529	55	9	55	17	55	0	0	0	0
	NB 605+00	37	529	55	9	55	17	55	0	0	0	0
	NB 610+00	38	529	55	9	55	17	55	0	0	0	0
	NB 615+00	39	529	55	9	55	17	55	0	0	0	0
	NB 620+00	40	529	55	9	55	17	55	0	0	0	0
	NB 625+00	41	529	55	9	55	17	55	0	0	0	0
	NB 630+00	42	529	55	9	55	17	55	0	0	0	0
	NB 635+00	43	529	55	9	55	17	55	0	0	0	0
	NB 640+00	44	529	55	9	55	17	55	0	0	0	0
	NB 645+00	45	529	55	9	55	17	55	0	0	0	0
	NB 650+00	46	529	55	9	55	17	55	0	0	0	0
	NB 655+00	47	529	55	9	55	17	55	0	0	0	0
	NB 660+00	48	529	55	9	55	17	55	0	0	0	0
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	NB 670+00	50	529	55	9	55	17	55	0	0	0	0
	NB 675+00	51	529	55	9	55	17	55	0	0	0	0
	NB 680+00	124	529	55	9	55	17	55	0	0	0	0
	NB 685+00	125	529	55	9	55	17	55	0	0	0	0
	NB 690+00	129										

SB SR 18	SB 690+00	128	529	55	9	55	17	55	0	0	0	0
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	SB 675+00	62	529	55	9	55	17	55	0	0	0	0
	SB 670+00	63	529	55	9	55	17	55	0	0	0	0
	SB 665+00	64	529	55	9	55	17	55	0	0	0	0
	SB 660+00	65	529	55	9	55	17	55	0	0	0	0
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	SB 640+00	69	529	55	9	55	17	55	0	0	0	0
	SB 635+00	70	529	55	9	55	17	55	0	0	0	0
	SB 630+00	71	529	55	9	55	17	55	0	0	0	0
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	SB 580+00	81	529	55	9	55	17	55	0	0	0	0
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	SB 573+00	83	529	55	9	55	17	55	0	0	0	0
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	SB 565+00	85	529	55	9	55	17	55	0	0	0	0
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	SB 555+00	87	529	55	9	55	17	55	0	0	0	0
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	SB 538+00A	92	529	55	9	55	17	55	0	0	0	0
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	SB 528+00	122	529	55	9	55	17	55	0	0	0	0
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	SB 495+00	98	529	55	9	55	17	55	0	0	0	0
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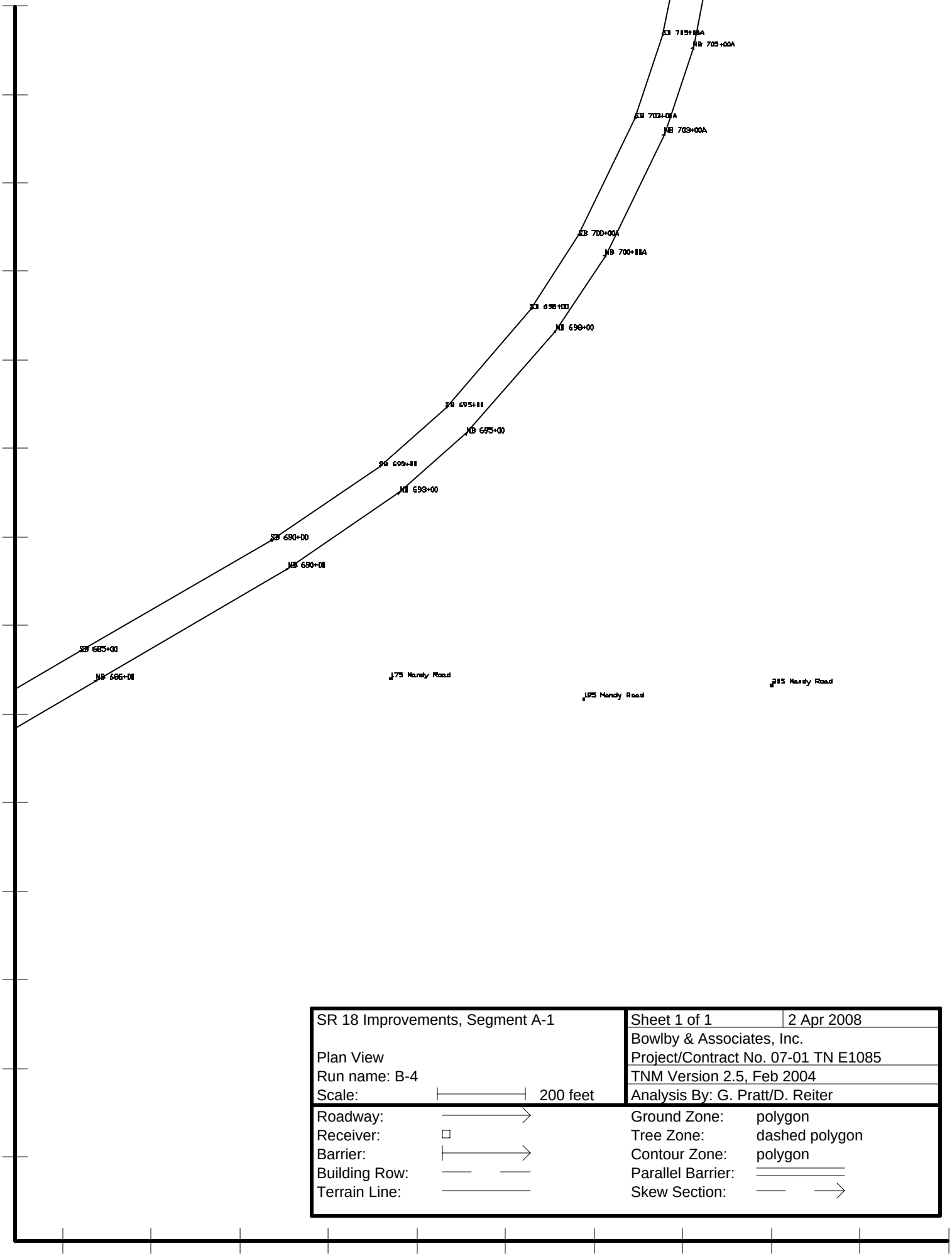
	SB 490+00	100	529	55	9	55	17	55	0	0	0	0
	SB 488+00	101	529	55	9	55	17	55	0	0	0	0
	SB 485+00	102	529	55	9	55	17	55	0	0	0	0
	SB 480+00	103	529	55	9	55	17	55	0	0	0	0
	SB 475+00	104	529	55	9	55	17	55	0	0	0	0
	SB 470+00	105	529	55	9	55	17	55	0	0	0	0
	SB 465+00	106	529	55	9	55	17	55	0	0	0	0
	SB 460+00	107	529	55	9	55	17	55	0	0	0	0
	SB 455+00	108	529	55	9	55	17	55	0	0	0	0
	SB 453+00	109	529	55	9	55	17	55	0	0	0	0
	SB 450+00	110	529	55	9	55	17	55	0	0	0	0
	SB 448+00	111	529	55	9	55	17	55	0	0	0	0
	SB 445+00	112										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment B-3**

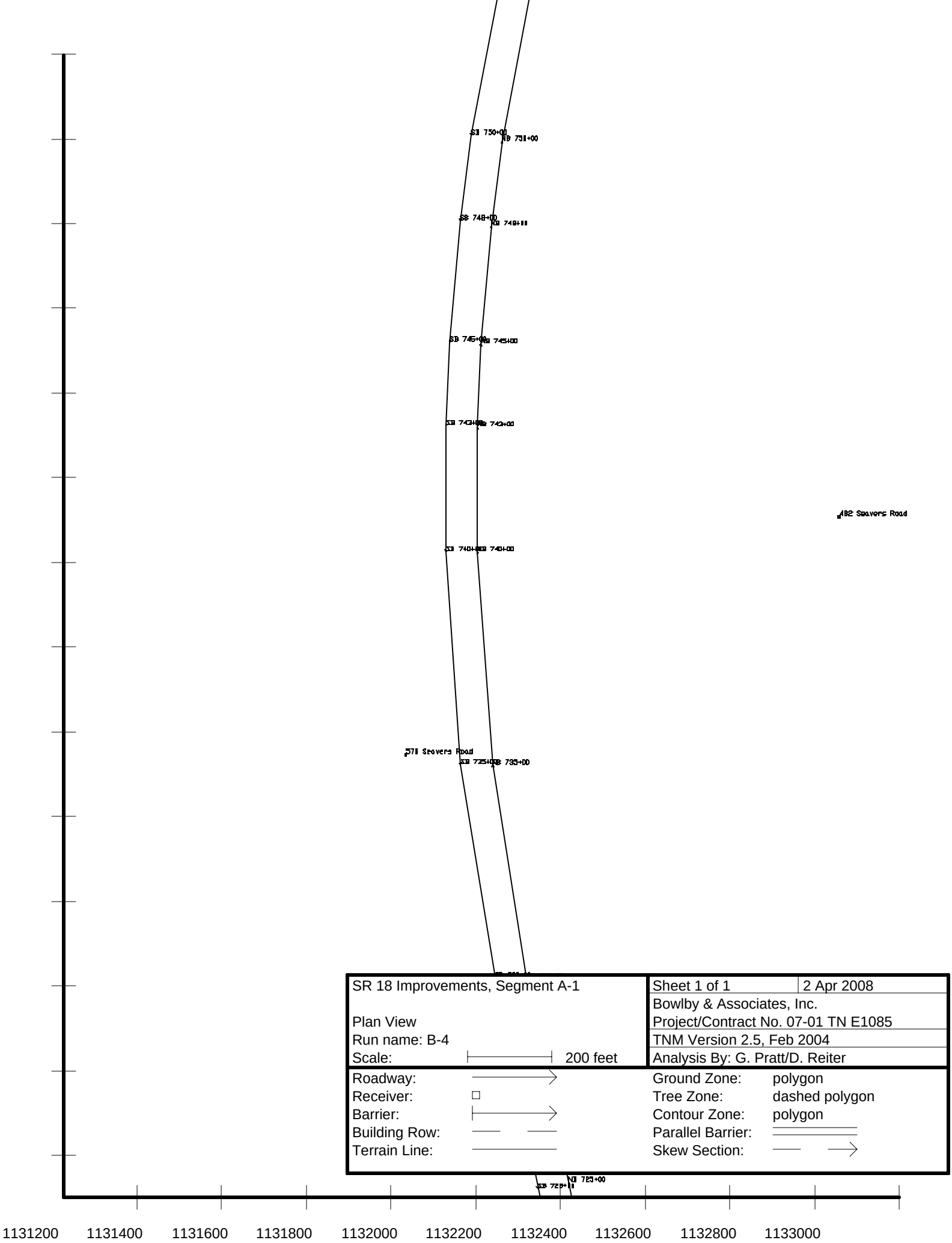
Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
2211 Parkburg Road	3	1	1,117,920.6	421,357.4	465.00	5.00	42.00	66	10.0	10.0	Y
903 Medon Malesus	5	1	1,123,311.5	429,056.4	500.00	5.00	0.00	66	10.0	10.0	Y
45 John Anderson Road	7	1	1,125,899.0	433,640.9	470.00	5.00	0.00	66	10.0	10.0	Y
81 John Anderson Road	9	1	1,126,613.2	432,227.9	490.00	5.00	0.00	66	10.0	10.0	Y
93 John Anderson Road	11	1	1,127,329.4	432,894.6	520.00	5.00	0.00	66	10.0	10.0	Y
24 Mandy Road	13	1	1,128,607.0	435,186.1	460.00	5.00	0.00	66	10.0	10.0	Y
57 Mandy Road	15	1	1,129,029.2	437,710.7	460.00	5.00	0.00	66	10.0	10.0	Y
70 Mandy Road	16	1	1,129,244.9	437,603.4	460.00	5.00	0.00	66	10.0	10.0	Y
97 Mandy Road	17	1	1,129,481.8	437,746.8	460.00	5.00	0.00	66	10.0	10.0	Y
100 Mandy Road	18	1	1,129,920.5	437,602.3	440.00	5.00	0.00	66	10.0	10.0	Y
117 Mandy Road	23	1	1,129,963.2	437,771.1	430.00	5.00	0.00	66	10.0	10.0	Y
2211 Parkburg Road 167C											
903 Medon Malesus 168											
45 John Anderson Road 169											
81 John Anderson Road 169B											
93 John Anderson Road 169A											
24 Mandy Road 170											
57 Mandy Road 171											
70 Mandy Road 172											
97 Mandy Road 173											
100 Mandy Road 174											



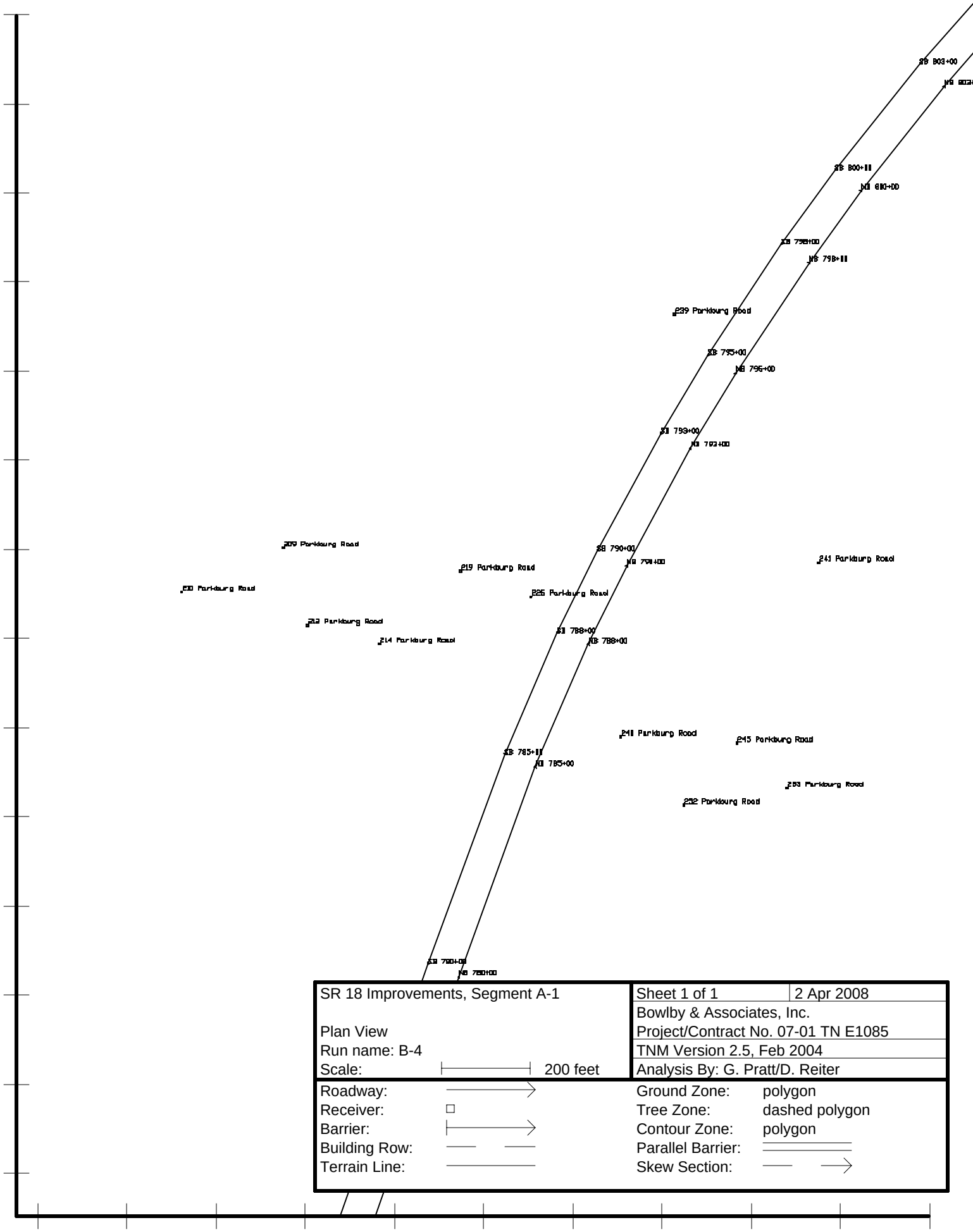
SR 18 Improvements, Segment A-1	Sheet 1 of 1 | 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: B-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

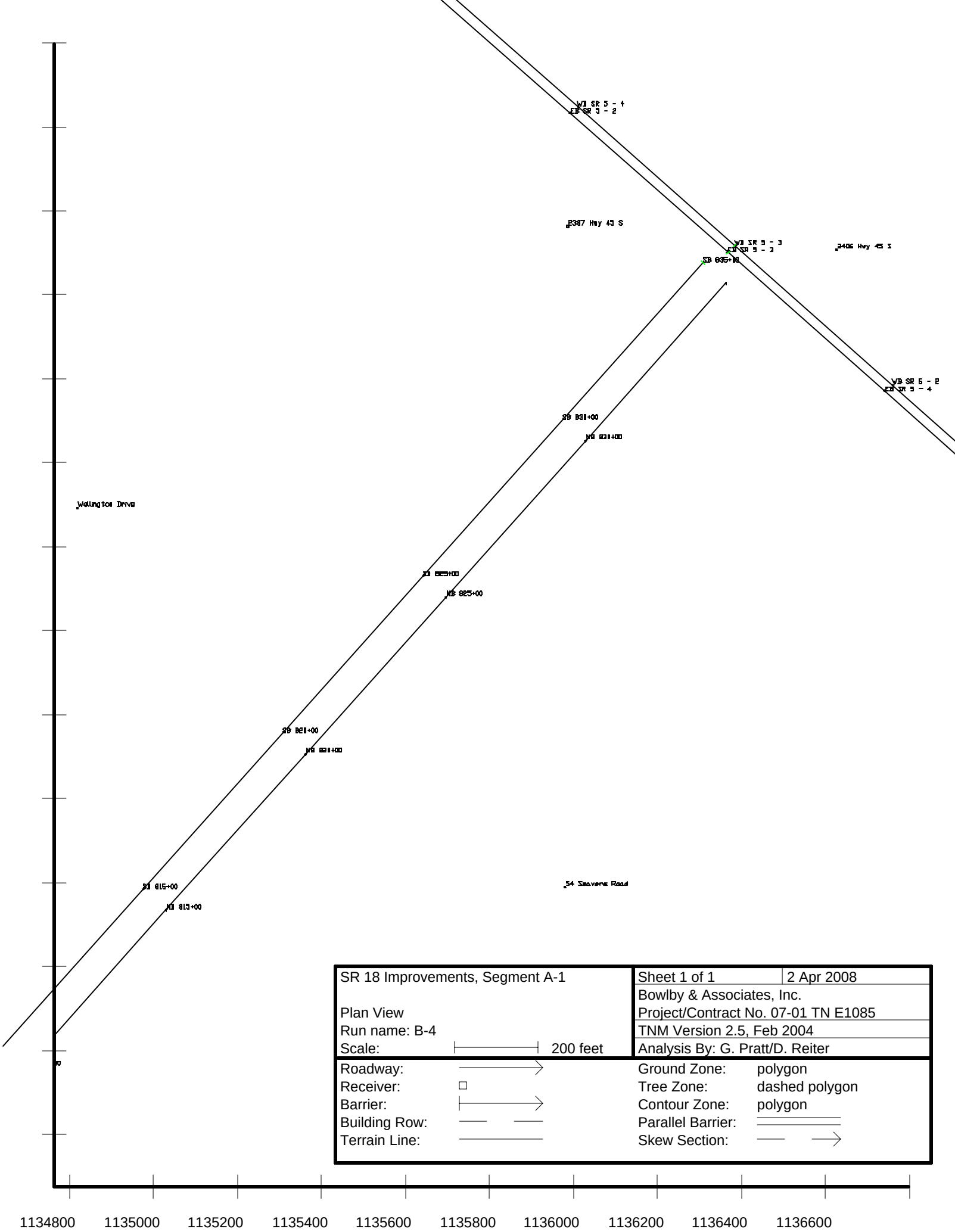
31200 1131400 1131600 1131800 1132000 1132200 1132400 1132600 1132800 1133000 1133200



SR 18 Improvements, Segment A-1		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-4		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-1		Sheet 1 of 1	2 Apr 2008
		Bowlby & Associates, Inc.	
Plan View		Project/Contract No. 07-01 TN E1085	
Run name: B-4		TNM Version 2.5, Feb 2004	
Scale:	200 feet	Analysis By: G. Pratt/D. Reiter	
Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment A-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: B-4	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-1

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 675+0	103	1,130,410.8	437,576.7	420.00				Average	
		NB 680+0	102	1,130,840.2	437,827.4	420.00				Average	
		NB 685+0	101	1,131,272.2	438,079.5	430.00				Average	
		NB 690+0	100	1,131,705.1	438,332.0	445.00				Average	
		NB 693+0	99	1,131,957.2	438,503.0	455.00				Average	
		NB 695+0	98	1,132,108.0	438,636.7	460.00				Average	
		NB 698+0	97	1,132,309.1	438,868.6	472.00				Average	
		NB 700+0	96	1,132,421.2	439,038.7	480.00				Average	
		NB 703+0	95	1,132,555.0	439,313.8	492.00				Average	
		NB 705+0	94	1,132,619.6	439,508.0	500.00				Average	
		NB 697+0	93	1,132,672.8	439,771.3	500.00				Average	
		NB 700+0	92	1,132,688.5	440,079.8	488.00				Average	
		NB 702+0	91	1,132,672.1	440,282.7	480.00				Average	
		NB 705+0	90	1,132,616.6	440,576.9	465.00				Average	
		NB 710+0	89	1,132,516.2	441,067.7	455.00				Average	
		NB 715+0	88	1,132,416.1	441,556.8	440.00				Average	
		NB 720+0	87	1,132,315.4	442,049.0	444.00				Average	
		NB 725+0	121	1,132,215.2	442,538.7	448.00				Average	
		NB 730+0	10	1,132,116.8	443,020.1	450.00				Average	
		NB 735+0	11	1,132,035.8	443,523.2	430.00				Average	
		NB 740+0	12	1,132,000.4	444,026.6	420.00				Average	
		NB 743+0	13	1,132,000.4	444,321.3	420.00				Average	
		NB 745+0	14	1,132,008.8	444,517.6	420.00				Average	
		NB 748+0	15	1,132,032.2	444,795.5	420.00				Average	
		NB 750+0	16	1,132,058.0	444,996.3	420.00				Average	

		NB 755+0	18	1,132,149.9	445,480.2	430.00				Average	
		NB 760+0	19	1,132,284.5	445,957.5	450.00				Average	
		NB 765+0	20	1,132,448.4	446,429.4	470.00				Average	
		NB 770+0	21	1,132,613.2	446,902.4	470.00				Average	
		NB 775+0	22	1,132,777.9	447,374.5	445.00				Average	
		NB 780+0	23	1,132,942.6	447,846.6	430.00				Average	
		NB 785+0	24	1,133,113.6	448,316.5	435.00				Average	
		NB 788+0	25	1,133,233.2	448,591.4	435.00				Average	
		NB 790+0	26	1,133,319.4	448,768.2	430.00				Average	
		NB 793+0	27	1,133,462.5	449,032.3	432.00				Average	
		NB 795+0	28	1,133,564.0	449,200.6	433.00				Average	
		NB 798+0	29	1,133,727.8	449,448.0	419.00				Average	
		NB 800+0	30	1,133,845.2	449,609.4	410.00				Average	
		NB 803+0	31	1,134,031.8	449,843.9	400.00				Average	
		NB 805+0	32	1,134,161.8	449,993.3	400.00				Average	
		NB 810+0	33	1,134,495.2	450,366.4	425.00				Average	
		NB 815+0	34	1,134,828.2	450,739.0	435.00				Average	
		NB 820+0	35	1,135,161.5	451,111.9	430.00				Average	
		NB 825+0	36	1,135,495.2	451,485.0	430.00				Average	
		NB 830+0	37	1,135,828.4	451,857.9	415.00				Average	
		NB 835+0	38	1,136,162.4	452,231.5	395.00					
SB SR 18	48.0	SB 835+0	39	1,136,105.9	452,279.1	395.00	Signal	0.00	60	Average	
		SB 830+0	40	1,135,771.6	451,905.3	415.00				Average	
		SB 825+0	41	1,135,438.4	451,532.4	430.00				Average	
		SB 820+0	42	1,135,104.8	451,159.3	430.00				Average	
		SB 815+0	43	1,134,771.4	450,786.4	435.00				Average	
		SB 810+0	44	1,134,438.2	450,413.9	425.00				Average	
		SB 805+0	45	1,134,104.8	450,040.8	400.00				Average	
		SB 803+0	46	1,133,974.8	449,891.4	400.00				Average	
		SB 800+0	47	1,133,784.9	449,652.4	410.00				Average	
		SB 798+0	48	1,133,664.8	449,486.8	419.00				Average	
		SB 795+0	49	1,133,500.2	449,238.0	433.00				Average	
		SB 793+0	50	1,133,394.5	449,061.6	432.00				Average	
		SB 790+0	51	1,133,252.0	448,798.7	430.00				Average	
		SB 788+0	52	1,133,162.0	448,613.9	435.00				Average	
		SB 785+0	53	1,133,043.8	448,341.7	435.00				Average	
		SB 780+0	54	1,132,873.0	447,871.7	430.00				Average	
		SB 775+0	55	1,132,708.2	447,399.4	445.00				Average	
		SB 770+0	56	1,132,543.8	446,927.4	470.00				Average	

		SB 765+0	57	1,132,378.8	446,454.6	470.00				Average	
		SB 760+0	58	1,132,215.0	445,982.6	450.00				Average	
		SB 755+0	59	1,132,078.6	445,499.3	430.00				Average	
		SB 750+0	61	1,131,985.2	445,010.1	420.00				Average	
		SB 748+0	62	1,131,959.1	444,808.2	420.00				Average	
		SB 745+0	63	1,131,934.9	444,521.4	420.00				Average	
		SB 743+0	64	1,131,926.5	444,324.3	420.00				Average	
		SB 740+0	65	1,131,926.2	444,026.6	420.00				Average	
		SB 735+0	66	1,131,960.6	443,524.4	430.00				Average	
		SB 730+0	67	1,132,040.8	443,021.7	450.00				Average	
		SB 725+0	104	1,132,142.8	442,523.6	448.00				Average	
		SB 720+0	105	1,132,243.2	442,032.7	444.00				Average	
		SB 715+0	106	1,132,343.1	441,544.7	440.00				Average	
		SB 710+0	107	1,132,443.4	441,054.1	455.00				Average	
		SB 705+0	108	1,132,543.6	440,564.4	465.00				Average	
		SB 702+0	109	1,132,599.2	440,269.3	480.00				Average	
		SB 700+0	110	1,132,614.8	440,073.4	488.00				Average	
		SB 697+0	111	1,132,599.5	439,781.6	500.00				Average	
		SB 705+0	112	1,132,550.1	439,534.4	500.00				Average	
		SB 703+0	113	1,132,488.2	439,346.6	492.00				Average	
		SB 700+0	114	1,132,360.8	439,081.7	480.00				Average	
		SB 698+0	115	1,132,252.0	438,915.8	472.00				Average	
		SB 695+0	116	1,132,060.6	438,693.9	460.00				Average	
		SB 693+0	117	1,131,910.5	438,560.4	455.00				Average	
		SB 690+0	118	1,131,665.6	438,394.6	445.00				Average	
		SB 685+0	119	1,131,234.4	438,143.1	430.00				Average	
		SB 680+0	120	1,130,801.6	437,890.6	420.00				Average	
		SB 675+0	122	1,130,367.2	437,637.0	420.00					
SB SR 5 W of SR 18	44.0	EB SR 5 -	81	1,135,415.9	452,963.8	410.00				Average	
		EB SR 5 -	80	1,135,790.8	452,634.2	400.00				Average	
		EB SR 5 -	79	1,136,165.6	452,303.3	395.00					
NB SR 5	44.0	WB SR 5 -	82	1,136,929.5	451,657.7	435.00				Average	
		WB SR 5 -	83	1,136,556.0	451,989.7	420.00				Average	
		WB SR 5 -	84	1,136,181.2	452,320.9	395.00					
SB SR 5 E of SR 18	44.0	EB SR 5 -	123	1,136,165.6	452,303.3	395.00	Signal	0.00	40	Average	
		EB SR 5 -	78	1,136,540.4	451,972.1	420.00				Average	
		EB SR 5 -	77	1,136,913.8	451,640.8	435.00					
NB SR 5 W of SR 18	44.0	WB SR 5 -	124	1,136,181.2	452,320.9	395.00	Signal	0.00	40	Average	
		WB SR 5 -	85	1,135,806.4	452,651.8	400.00				Average	

		WB SR 5 -	86	1,135,432.2	452,980.9	410.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment A-1

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 675+00	103	529	55	9	55	17	55	0	0	0	0
	NB 680+00	102	529	55	9	55	17	55	0	0	0	0
	NB 685+00	101	529	55	9	55	17	55	0	0	0	0
	NB 690+00	100	529	55	9	55	17	55	0	0	0	0
	NB 693+00	99	529	55	9	55	17	55	0	0	0	0
	NB 695+00	98	529	55	9	55	17	55	0	0	0	0
	NB 698+00	97	529	55	9	55	17	55	0	0	0	0
	NB 700+00A	96	529	55	9	55	17	55	0	0	0	0
	NB 703+00A	95	529	55	9	55	17	55	0	0	0	0
	NB 705+00A	94	529	55	9	55	17	55	0	0	0	0
	NB 697+00B	93	529	55	9	55	17	55	0	0	0	0
	NB 700+00B	92	529	55	9	55	17	55	0	0	0	0
	NB 702+00B	91	529	55	9	55	17	55	0	0	0	0
	NB 705+00	90	529	55	9	55	17	55	0	0	0	0
	NB 710+00	89	529	55	9	55	17	55	0	0	0	0
	NB 715+00	88	529	55	9	55	17	55	0	0	0	0
	NB 720+00	87	529	55	9	55	17	55	0	0	0	0
	NB 725+00	121	529	55	9	55	17	55	0	0	0	0
	NB 730+00	10	529	55	9	55	17	55	0	0	0	0
	NB 735+00	11	529	55	9	55	17	55	0	0	0	0
	NB 740+00	12	529	55	9	55	17	55	0	0	0	0
	NB 743+00	13	529	55	9	55	17	55	0	0	0	0
	NB 745+00	14	529	55	9	55	17	55	0	0	0	0

	NB 748+00	15	529	55	9	55	17	55	0	0	0	0
	NB 750+00	16	529	55	9	55	17	55	0	0	0	0
	NB 755+00	18	529	55	9	55	17	55	0	0	0	0
	NB 760+00	19	529	55	9	55	17	55	0	0	0	0
	NB 765+00	20	529	55	9	55	17	55	0	0	0	0
	NB 770+00	21	529	55	9	55	17	55	0	0	0	0
	NB 775+00	22	529	55	9	55	17	55	0	0	0	0
	NB 780+00	23	529	55	9	55	17	55	0	0	0	0
	NB 785+00	24	529	55	9	55	17	55	0	0	0	0
	NB 788+00	25	529	55	9	55	17	55	0	0	0	0
	NB 790+00	26	529	55	9	55	17	55	0	0	0	0
	NB 793+00	27	529	55	9	55	17	55	0	0	0	0
	NB 795+00	28	529	55	9	55	17	55	0	0	0	0
	NB 798+00	29	529	55	9	55	17	55	0	0	0	0
	NB 800+00	30	529	55	9	55	17	55	0	0	0	0
	NB 803+00	31	529	55	9	55	17	55	0	0	0	0
	NB 805+00	32	529	55	9	55	17	55	0	0	0	0
	NB 810+00	33	529	55	9	55	17	55	0	0	0	0
	NB 815+00	34	529	55	9	55	17	55	0	0	0	0
	NB 820+00	35	529	55	9	55	17	55	0	0	0	0
	NB 825+00	36	529	55	9	55	17	55	0	0	0	0
	NB 830+00	37	529	55	9	55	17	55	0	0	0	0
	NB 835+00	38										
SB SR 18	SB 835+00	39	529	55	9	55	17	55	0	0	0	0
	SB 830+00	40	529	55	9	55	17	55	0	0	0	0
	SB 825+00	41	529	55	9	55	17	55	0	0	0	0
	SB 820+00	42	529	55	9	55	17	55	0	0	0	0
	SB 815+00	43	529	55	9	55	17	55	0	0	0	0
	SB 810+00	44	529	55	9	55	17	55	0	0	0	0
	SB 805+00	45	529	55	9	55	17	55	0	0	0	0
	SB 803+00	46	529	55	9	55	17	55	0	0	0	0
	SB 800+00	47	529	55	9	55	17	55	0	0	0	0
	SB 798+00	48	529	55	9	55	17	55	0	0	0	0
	SB 795+00	49	529	55	9	55	17	55	0	0	0	0
	SB 793+00	50	529	55	9	55	17	55	0	0	0	0
	SB 790+00	51	529	55	9	55	17	55	0	0	0	0

	SB 788+00	52	529	55	9	55	17	55	0	0	0	0
	SB 785+00	53	529	55	9	55	17	55	0	0	0	0
	SB 780+00	54	529	55	9	55	17	55	0	0	0	0
	SB 775+00	55	529	55	9	55	17	55	0	0	0	0
	SB 770+00	56	529	55	9	55	17	55	0	0	0	0
	SB 765+00	57	529	55	9	55	17	55	0	0	0	0
	SB 760+00	58	529	55	9	55	17	55	0	0	0	0
	SB 755+00	59	529	55	9	55	17	55	0	0	0	0
	SB 750+00	61	529	55	9	55	17	55	0	0	0	0
	SB 748+00	62	529	55	9	55	17	55	0	0	0	0
	SB 745+00	63	529	55	9	55	17	55	0	0	0	0
	SB 743+00	64	529	55	9	55	17	55	0	0	0	0
	SB 740+00	65	529	55	9	55	17	55	0	0	0	0
	SB 735+00	66	529	55	9	55	17	55	0	0	0	0
	SB 730+00	67	529	55	9	55	17	55	0	0	0	0
	SB 725+00	104	529	55	9	55	17	55	0	0	0	0
	SB 720+00	105	529	55	9	55	17	55	0	0	0	0
	SB 715+00	106	529	55	9	55	17	55	0	0	0	0
	SB 710+00	107	529	55	9	55	17	55	0	0	0	0
	SB 705+00	108	529	55	9	55	17	55	0	0	0	0
	SB 702+00B	109	529	55	9	55	17	55	0	0	0	0
	SB 700+00B	110	529	55	9	55	17	55	0	0	0	0
	SB 697+00B	111	529	55	9	55	17	55	0	0	0	0
	SB 705+00A	112	529	55	9	55	17	55	0	0	0	0
	SB 703+00A	113	529	55	9	55	17	55	0	0	0	0
	SB 700+00A	114	529	55	9	55	17	55	0	0	0	0
	SB 698+00	115	529	55	9	55	17	55	0	0	0	0
	SB 695+00	116	529	55	9	55	17	55	0	0	0	0
	SB 693+00	117	529	55	9	55	17	55	0	0	0	0
	SB 690+00	118	529	55	9	55	17	55	0	0	0	0
	SB 685+00	119	529	55	9	55	17	55	0	0	0	0
	SB 680+00	120	529	55	9	55	17	55	0	0	0	0
	SB 675+00	122										
SB SR 5 W of SR 18	EB SR 5 - 1	81	2915	45	62	45	124	45	0	0	0	0
	EB SR 5 - 2	80	2915	45	62	45	124	45	0	0	0	0
	EB SR 5 - 3	79										

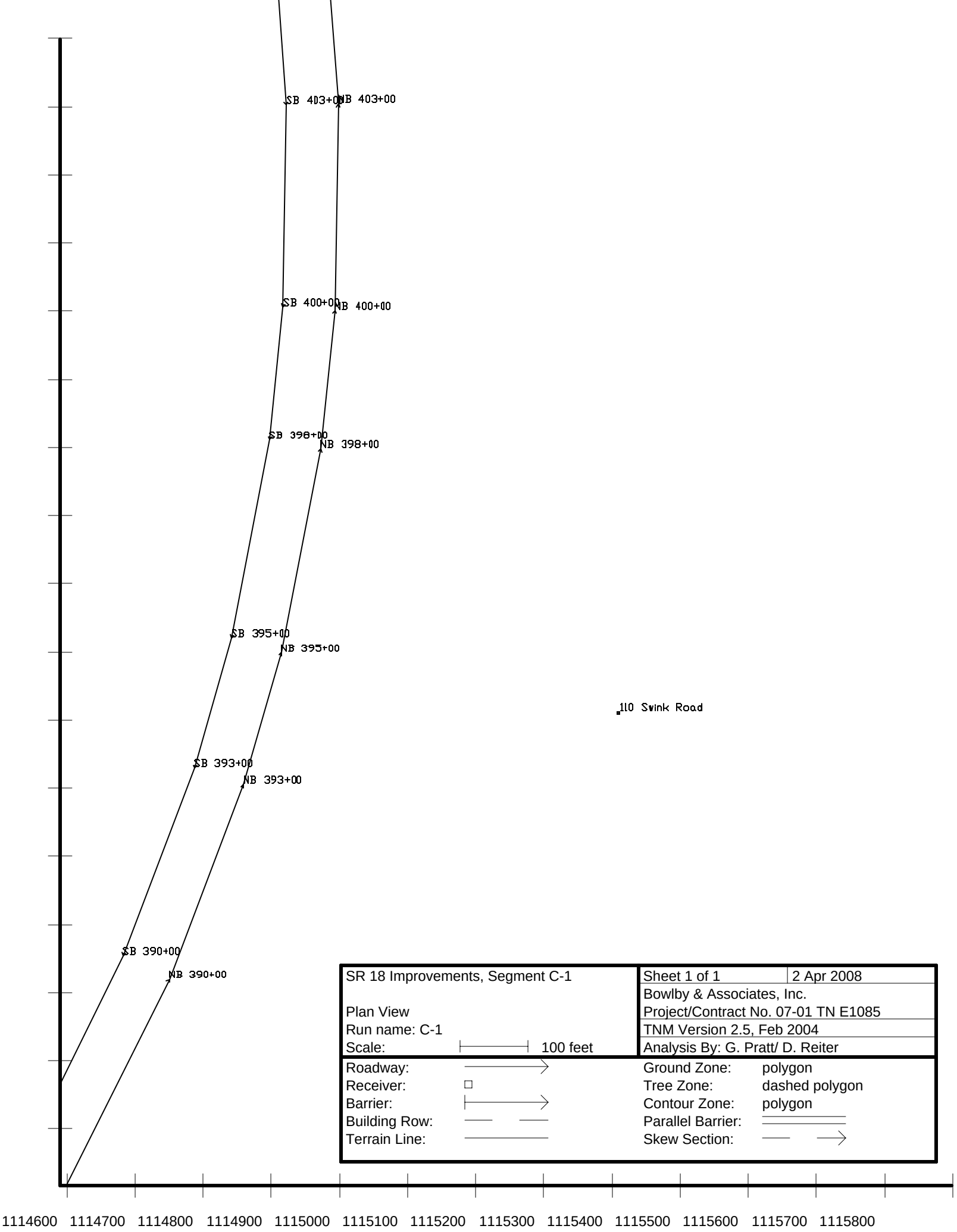
NB SR 5	WB SR 5 - 1	82	2583	45	55	45	110	45	0	0	0	0
	WB SR 5 - 2	83	2583	45	55	45	110	45	0	0	0	0
	WB SR 5 - 3	84										
SB SR 5 E of SR 18	EB SR 5 - 3	123	2583	45	55	45	110	45	0	0	0	0
	EB SR 5 - 4	78	2583	45	55	45	110	45	0	0	0	0
	EB SR 5 - 5	77										
NB SR 5 W of SR 18	WB SR 5 - 3	124	2915	45	62	45	124	45	0	0	0	0
	WB SR 5 - 4	85	2915	45	62	45	124	45	0	0	0	0
	WB SR 5 - 5	86										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment A-1**

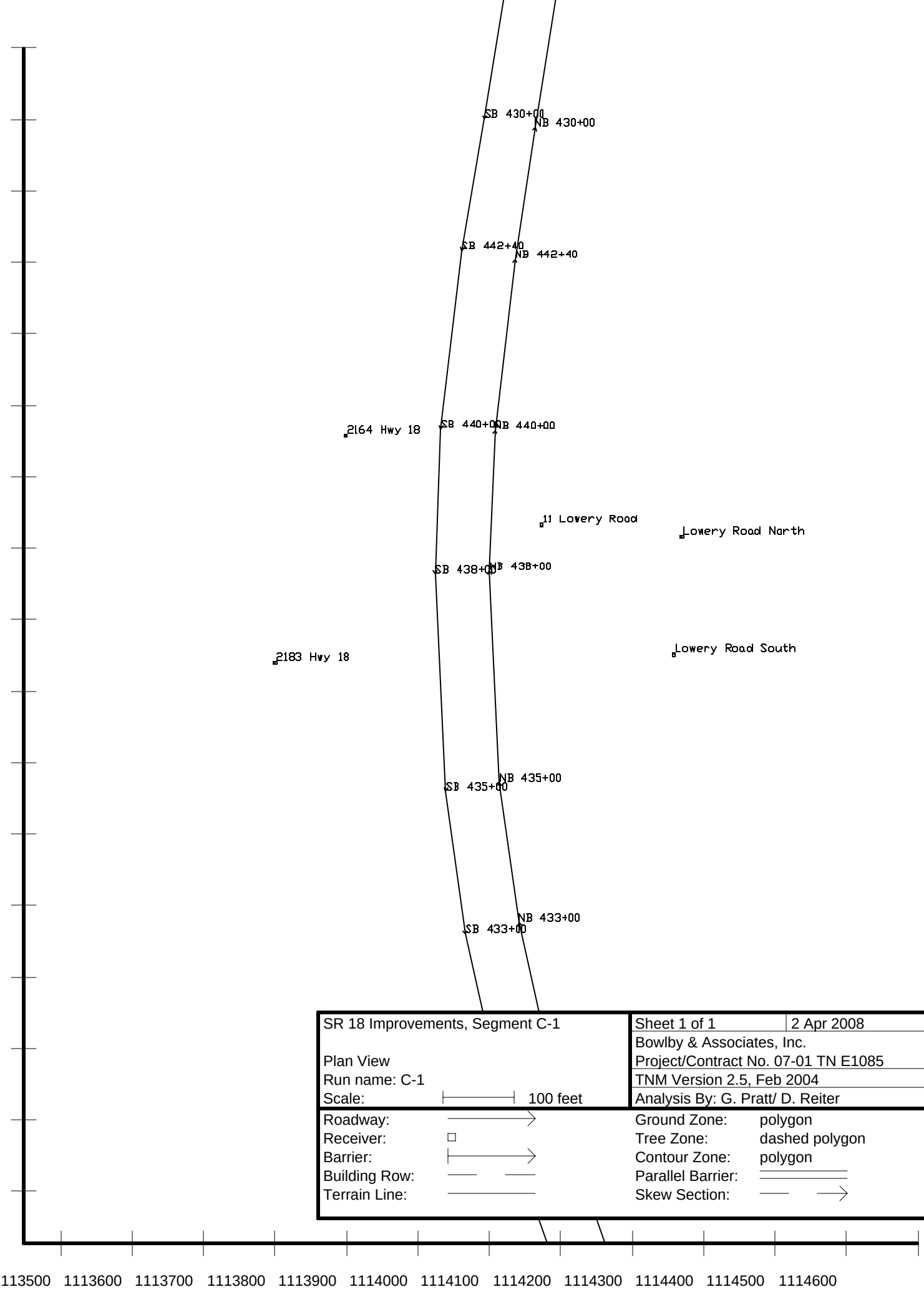
Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
175 Mandy Road	1	1	1,131,936.4	438,082.4	470.00	5.00	0.00	66	10.0	10.0	Y
195 Mandy Road	7	1	1,132,372.2	438,036.6	470.00	5.00	39.00	66	10.0	10.0	Y
205 Mandy Road	9	1	1,132,796.8	438,067.8	500.00	5.00	0.00	66	10.0	10.0	Y
213 Mandy Road	10	1	1,131,166.2	440,252.8	420.00	5.00	0.00	66	10.0	10.0	Y
482 Seavers Road	11	1	1,132,853.5	444,108.6	430.00	5.00	0.00	66	10.0	10.0	Y
570 Seavers Road	12	1	1,131,830.2	443,546.9	435.00	5.00	0.00	66	10.0	10.0	Y
189 Parkburg Road	14	1	1,134,022.6	450,373.8	410.00	5.00	0.00	66	10.0	10.0	Y
209 Parkburg Road	16	1	1,132,547.9	448,806.2	415.00	5.00	0.00	66	10.0	10.0	Y
210 Parkburg Road	17	1	1,132,319.9	448,707.3	405.00	5.00	0.00	66	10.0	10.0	Y
212 Parkburg Road	18	1	1,132,602.6	448,632.8	415.00	5.00	0.00	66	10.0	10.0	Y
214 Parkburg Road	19	1	1,132,764.0	448,590.8	410.00	5.00	0.00	66	10.0	10.0	Y
219 Parkburg Road	21	1	1,132,945.2	448,754.2	425.00	5.00	0.00	66	10.0	10.0	Y
225 Parkburg Road	23	1	1,133,103.8	448,696.4	430.00	5.00	0.00	66	10.0	10.0	Y
239 Parkburg Road	25	1	1,133,425.6	449,330.4	440.00	5.00	0.00	66	10.0	10.0	Y
240 Parkburg Road	27	1	1,133,304.5	448,382.7	440.00	5.00	0.00	66	10.0	10.0	Y
241 Parkburg Road	29	1	1,133,748.5	448,773.5	420.00	5.00	0.00	66	10.0	10.0	Y
245 Parkburg Road	30	1	1,133,565.4	448,368.6	440.00	5.00	0.00	66	10.0	10.0	Y
252 Parkburg Road	32	1	1,133,445.6	448,228.9	440.00	5.00	0.00	66	10.0	10.0	Y
253 Parkburg Road	33	1	1,133,677.8	448,267.9	440.00	5.00	0.00	66	10.0	10.0	Y
54 Seavers Road	34	1	1,135,777.1	450,792.1	445.00	5.00	0.00	66	10.0	10.0	Y
Wellington Drive	36	2	1,134,615.5	451,695.8	440.00	5.00	0.00	66	10.0	10.0	Y
2387 Hwy 45 S	37	1	1,135,783.4	452,365.6	400.00	5.00	0.00	66	10.0	10.0	Y

2406 Hwy 45 S	38	1	1,136,424.5	452,310.1	400.00	5.00	0.00	66	10.0	10.0	Y
175 Mandy Road 174B											
195 Mandy Road 175											
205 Mandy Road 178											
213 Mandy Road 179											
482 Seavers Road 180											
570 Seavers Road 180A											
189 Parkburg Road 181											
209 Parkburg Road 176											
210 Parkburg Road 176A											
212 Parkburg Road 177											
214 Parkburg Road 177A											
219 Parkburg Road 182											
225 Parkburg Road 183A											
239 Parkburg Road 183											
240 Parkburg Road 183B											
241 Parkburg Road 184											
245 Parkburg Road 185											
252 Parkburg Road 250											
253 Parkburg Road 251											
54 Seavers Road 252											
Wellington Drive 254											



SR 18 Improvements, Segment C-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-1	TNM Version 2.5, Feb 2004
Scale: 100 feet	Analysis By: G. Pratt/ D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment C-1	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-1	TNM Version 2.5, Feb 2004
Scale: 100 feet	Analysis By: G. Pratt/ D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/ D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment C-1

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 380+0	47	1,114,200.2	413,127.9	460.00				Average	
		NB 385+0	1	1,114,425.0	413,573.6	460.00				Average	
		NB 390+0	2	1,114,647.8	414,021.3	465.00				Average	
		NB 393+0	3	1,114,756.9	414,306.5	474.00				Average	
		NB 395+0	4	1,114,812.0	414,500.0	480.00				Average	
		NB 398+0	5	1,114,870.1	414,799.6	480.00				Average	
		NB 400+0	6	1,114,891.0	415,002.4	480.00				Average	
		NB 403+0	7	1,114,895.6	415,305.2	480.00				Average	
		NB 405+0	8	1,114,881.2	415,508.3	480.00				Average	
		NB 408+0	9	1,114,833.6	415,807.0	480.00				Average	
		NB 410+0	10	1,114,783.8	416,004.4	480.00				Average	
		NB 415+0	11	1,114,617.0	416,479.1	473.00				Average	
		NB 420+0	12	1,114,442.9	416,949.3	466.00				Average	
		NB 425+0	13	1,114,269.6	417,418.0	460.00				Average	
		NB 430+0	14	1,114,105.4	417,888.1	450.00				Average	
		NB 433+0	15	1,114,040.1	418,176.9	450.00				Average	
		NB 435+0	16	1,114,013.5	418,373.5	455.00				Average	
		NB 438+0	17	1,113,999.2	418,669.1	455.00				Average	
		NB 440+0	18	1,114,007.0	418,866.1	450.00				Average	
		NB 442+4	19	1,114,035.4	419,105.5	445.00				Average	
		NB 430+0	41	1,114,062.9	419,289.4	460.00				Average	
		NB 435+0	42	1,114,142.6	419,783.2	480.00				Average	
		NB 440+0	43	1,114,222.2	420,276.8	480.00					
SB SR 18	48.0	SB 440+0	46	1,114,151.2	420,289.0	480.00				Average	
		SB 435+0	45	1,114,071.6	419,795.3	480.00				Average	

		SB 430+0	44	1,113,992.0	419,301.5	460.00				Average	
		SB 442+4	20	1,113,960.2	419,117.6	445.00				Average	
		SB 440+0	21	1,113,931.0	418,867.9	450.00				Average	
		SB 438+0	22	1,113,923.2	418,664.9	455.00				Average	
		SB 435+0	23	1,113,938.1	418,361.2	455.00				Average	
		SB 433+0	24	1,113,965.5	418,161.4	450.00				Average	
		SB 430+0	25	1,114,032.8	417,864.8	450.00				Average	
		SB 425+0	26	1,114,198.8	417,390.6	460.00				Average	
		SB 420+0	27	1,114,372.1	416,921.5	466.00				Average	
		SB 415+0	28	1,114,545.1	416,453.5	473.00				Average	
		SB 410+0	29	1,114,710.5	415,984.8	480.00				Average	
		SB 408+0	30	1,114,758.4	415,794.1	480.00				Average	
		SB 405+0	31	1,114,805.6	415,500.2	480.00				Average	
		SB 403+0	32	1,114,819.8	415,303.7	480.00				Average	
		SB 400+0	33	1,114,815.1	415,007.2	480.00				Average	
		SB 398+0	34	1,114,795.0	414,812.5	480.00				Average	
		SB 395+0	35	1,114,739.2	414,522.3	480.00				Average	
		SB 393+0	36	1,114,684.8	414,330.9	474.00				Average	
		SB 390+0	37	1,114,579.8	414,055.6	465.00				Average	
		SB 385+0	38	1,114,358.9	413,607.0	460.00				Average	
		SB 380+0	48	1,114,134.4	413,161.1	460.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/ D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment C-1

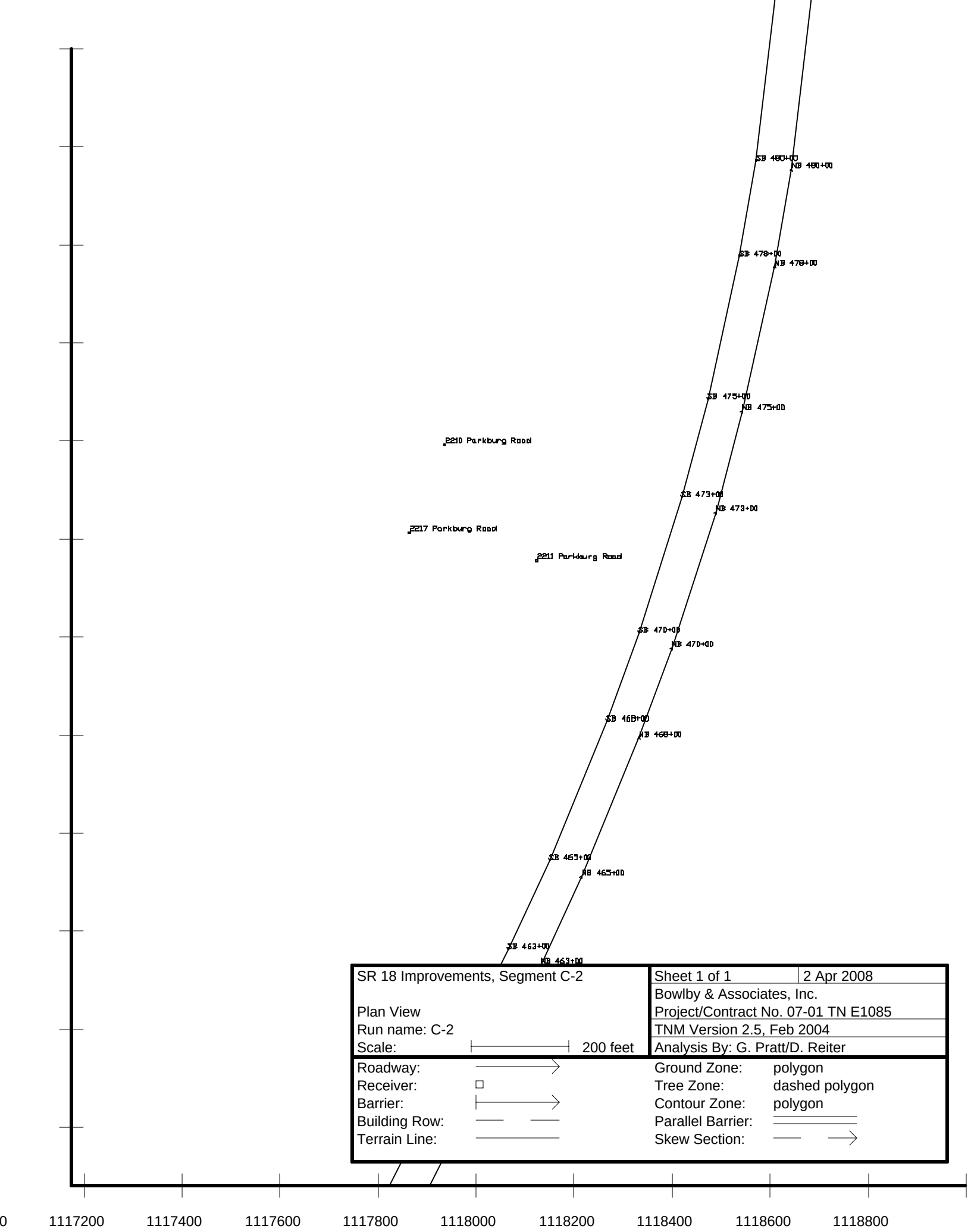
Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 380+00	47	529	55	9	55	17	55	0	0	0	0
	NB 385+00	1	529	55	9	55	17	55	0	0	0	0
	NB 390+00	2	529	55	9	55	17	55	0	0	0	0
	NB 393+00	3	529	55	9	55	17	55	0	0	0	0
	NB 395+00	4	529	55	9	55	17	55	0	0	0	0
	NB 398+00	5	529	55	9	55	17	55	0	0	0	0
	NB 400+00	6	529	55	9	55	17	55	0	0	0	0
	NB 403+00	7	529	55	9	55	17	55	0	0	0	0
	NB 405+00	8	529	55	9	55	17	55	0	0	0	0
	NB 408+00	9	529	55	9	55	17	55	0	0	0	0
	NB 410+00	10	529	55	9	55	17	55	0	0	0	0
	NB 415+00	11	529	55	9	55	17	55	0	0	0	0
	NB 420+00	12	529	55	9	55	17	55	0	0	0	0
	NB 425+00	13	529	55	9	55	17	55	0	0	0	0
	NB 430+00	14	529	55	9	55	17	55	0	0	0	0
	NB 433+00	15	529	55	9	55	17	55	0	0	0	0
	NB 435+00	16	529	55	9	55	17	55	0	0	0	0
	NB 438+00	17	529	55	9	55	17	55	0	0	0	0
	NB 440+00	18	529	55	9	55	17	55	0	0	0	0
	NB 442+40	19	529	55	9	55	17	55	0	0	0	0
	NB 430+00	41	529	55	9	55	17	55	0	0	0	0
	NB 435+00	42	529	55	9	55	17	55	0	0	0	0
	NB 440+00	43										

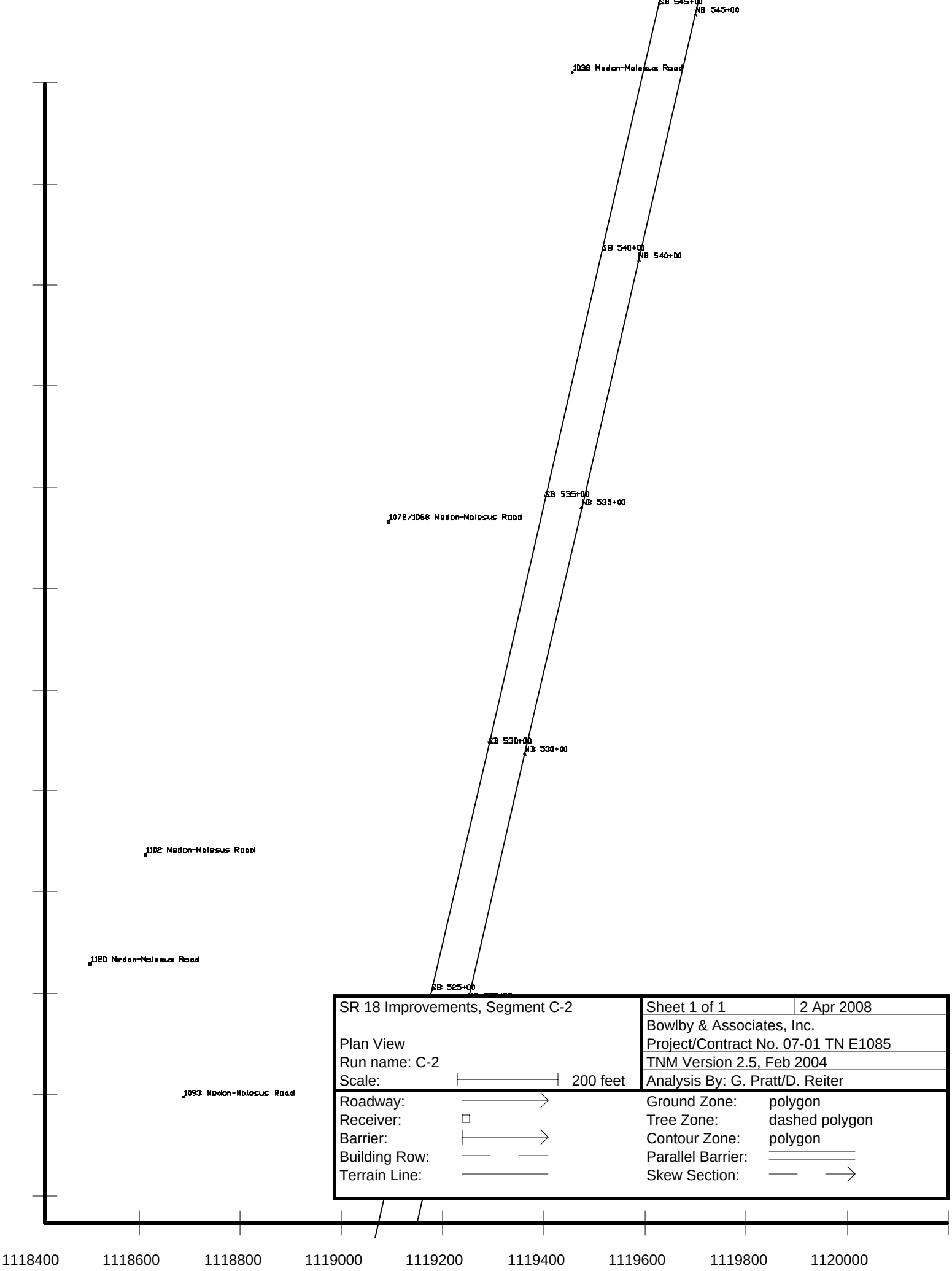
SB SR 18	SB 440+00	46	529	55	9	55	17	55	0	0	0	0
	SB 435+00	45	529	55	9	55	17	55	0	0	0	0
	SB 430+00	44	529	55	9	55	17	55	0	0	0	0
	SB 442+40	20	529	55	9	55	17	55	0	0	0	0
	SB 440+00	21	529	55	9	55	17	55	0	0	0	0
	SB 438+00	22	529	55	9	55	17	55	0	0	0	0
	SB 435+00	23	529	55	9	55	17	55	0	0	0	0
	SB 433+00	24	529	55	9	55	17	55	0	0	0	0
	SB 430+00	25	529	55	9	55	17	55	0	0	0	0
	SB 425+00	26	529	55	9	55	17	55	0	0	0	0
	SB 420+00	27	529	55	9	55	17	55	0	0	0	0
	SB 415+00	28	529	55	9	55	17	55	0	0	0	0
	SB 410+00	29	529	55	9	55	17	55	0	0	0	0
	SB 408+00	30	529	55	9	55	17	55	0	0	0	0
	SB 405+00	31	529	55	9	55	17	55	0	0	0	0
	SB 403+00	32	529	55	9	55	17	55	0	0	0	0
	SB 400+00	33	529	55	9	55	17	55	0	0	0	0
	SB 398+00	34	529	55	9	55	17	55	0	0	0	0
	SB 395+00	35	529	55	9	55	17	55	0	0	0	0
	SB 393+00	36	529	55	9	55	17	55	0	0	0	0
	SB 390+00	37	529	55	9	55	17	55	0	0	0	0
	SB 385+00	38	529	55	9	55	17	55	0	0	0	0
	SB 380+00	48										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/ D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment C-1**

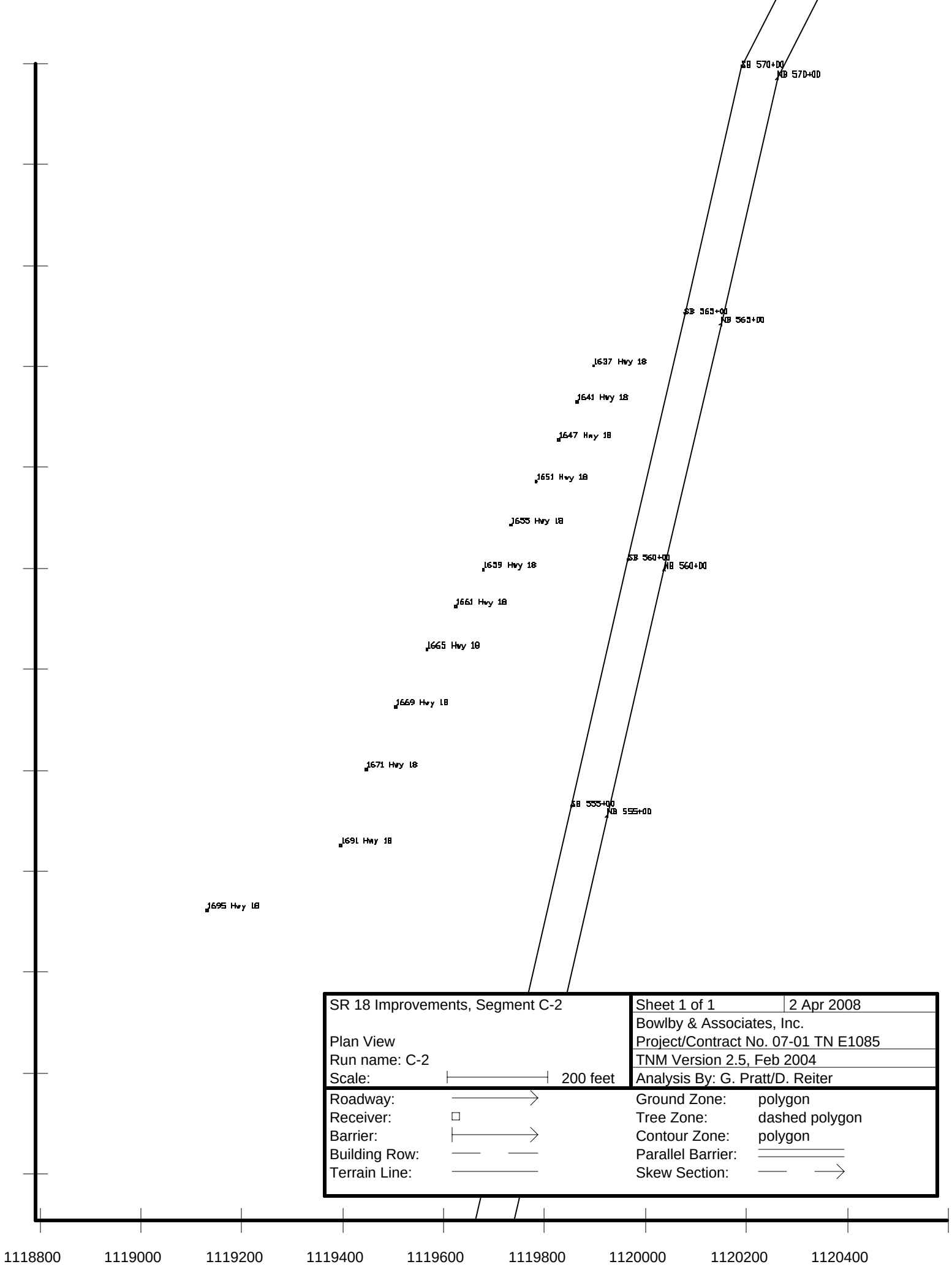
Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
110 Swink Road	1	1	1,115,306.9	414,411.2	480.00	5.00	0.00	66	10.0	10.0	Y
11 Lowery Road	2	1	1,114,072.1	418,733.4	460.00	5.00	0.00	66	10.0	10.0	Y
Lowery Road North	3	2	1,114,268.5	418,716.8	460.00	5.00	0.00	66	10.0	10.0	Y
Lowery Road South	4	2	1,114,257.0	418,552.1	460.00	5.00	0.00	66	10.0	10.0	Y
2164 Hwy 18	6	1	1,113,798.0	418,858.8	440.00	5.00	0.00	66	10.0	10.0	Y
2183 Hwy 18	7	1	1,113,699.1	418,540.9	460.00	5.00	0.00	66	10.0	10.0	Y
110 Swink Road 163											
11 Lowery Road 122											
Lowery Road North 123											
Lowery Road South 124											


SB 480+00
NB 480+00
SB 478+00
NB 478+00
SB 475+00
NB 475+00
2210 Parkburg Road
SB 473+00
NB 473+00
2217 Parkburg Road
2211 Parkburg Road
SB 470+00
NB 470+00
SB 468+00
NB 468+00
SB 465+00
NB 465+00
SB 463+00
NB 463+00
SR 18 Improvements, Segment C-2
Plan View
Run name: C-2
Scale:
200 feet
Sheet 1 of 1
2 Apr 2008
Bowlby & Associates, Inc.
Project/Contract No. 07-01 TN E1085
TNM Version 2.5, Feb 2004
Analysis By: G. Pratt/D. Reiter
Roadway:
Receiver:
Barrier:
Building Row:
Terrain Line:
Ground Zone: polygon
Tree Zone: dashed polygon
Contour Zone: polygon
Parallel Barrier:
Skew Section:
0
1117200
1117400
1117600
1117800
1118000
1118200
1118400
1118600
1118800



SR 18 Improvements, Segment C-2	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-2	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment C-2	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-2	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment C-2

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 445+0	1	1,117,107.8	418,901.8	435.00				Average	
		NB 450+0	2	1,117,344.6	419,371.7	425.00				Average	
		NB 455+0	3	1,117,569.4	419,818.2	435.00				Average	
		NB 460+0	4	1,117,794.2	420,264.8	455.00				Average	
		NB 463+0	5	1,117,929.8	420,534.8	460.00				Average	
		NB 465+0	6	1,118,013.6	420,714.7	460.00				Average	
		NB 468+0	7	1,118,130.6	420,997.6	460.00				Average	
		NB 470+0	8	1,118,197.0	421,181.0	460.00				Average	
		NB 473+0	9	1,118,286.4	421,457.5	463.00				Average	
		NB 475+0	10	1,118,340.8	421,663.4	466.00				Average	
		NB 478+0	11	1,118,407.1	421,958.3	470.00				Average	
		NB 480+0	12	1,118,441.4	422,156.8	471.00				Average	
		NB 485+0	13	1,118,498.4	422,654.3	474.00				Average	
		NB 490+0	14	1,118,527.2	423,153.7	477.00				Average	
		NB 495+0	15	1,118,555.5	423,652.9	480.00				Average	
		NB 500+0	16	1,118,583.8	424,152.1	485.00				Average	
		NB 503+0	17	1,118,604.9	424,447.0	485.00				Average	
		NB 505+0	18	1,118,627.4	424,645.1	485.00				Average	
		NB 508+0	19	1,118,673.8	424,936.9	483.00				Average	
		NB 510+0	20	1,118,712.2	425,128.2	480.00				Average	
		NB 515+0	21	1,118,824.2	425,615.5	470.00				Average	
		NB 520+0	22	1,118,936.8	426,102.7	480.00				Average	
		NB 525+0	23	1,119,049.1	426,589.9	500.00				Average	
		NB 530+0	24	1,119,161.4	427,077.1	500.00				Average	
		NB 535+0	25	1,119,273.8	427,564.4	480.00				Average	

		NB 540+0	26	1,119,386.2	428,051.6	480.00				Average	
		NB 545+0	27	1,119,498.2	428,537.6	490.00				Average	
		NB 550+0	28	1,119,610.9	429,025.8	500.00				Average	
		NB 555+0	29	1,119,723.2	429,513.1	500.00				Average	
		NB 560+0	31	1,119,835.6	430,000.3	500.00				Average	
		NB 565+0	33	1,119,948.0	430,487.6	500.00				Average	
		NB 570+0	35	1,120,060.0	430,973.2	500.00				Average	
		NB 575+0	83	1,120,568.8	431,969.3	476.00				Average	
		NB 580+0	84	1,120,854.2	432,380.5	464.00					
SB SR 18	48.0	SB 580+0	86	1,120,793.4	432,418.3	464.00				Average	
		SB 575+0	85	1,120,507.8	432,007.8	476.00				Average	
		SB 570+0	48	1,119,988.5	430,992.6	500.00				Average	
		SB 565+0	50	1,119,875.8	430,503.9	500.00				Average	
		SB 560+0	52	1,119,763.4	430,016.6	500.00				Average	
		SB 555+0	53	1,119,651.1	429,529.4	500.00				Average	
		SB 550+0	54	1,119,538.8	429,042.2	500.00				Average	
		SB 545+0	55	1,119,426.1	428,554.0	490.00				Average	
		SB 540+0	56	1,119,314.1	428,067.8	480.00				Average	
		SB 535+0	57	1,119,201.6	427,580.7	480.00				Average	
		SB 530+0	58	1,119,089.2	427,093.5	500.00				Average	
		SB 525+0	59	1,118,976.9	426,606.3	500.00				Average	
		SB 520+0	60	1,118,864.5	426,119.0	480.00				Average	
		SB 515+0	61	1,118,752.2	425,631.8	470.00				Average	
		SB 510+0	62	1,118,640.0	425,144.6	480.00				Average	
		SB 508+0	63	1,118,601.2	424,948.4	483.00				Average	
		SB 505+0	64	1,118,553.5	424,651.1	485.00				Average	
		SB 503+0	65	1,118,531.2	424,455.2	485.00				Average	
		SB 500+0	66	1,118,509.8	424,155.9	485.00				Average	
		SB 495+0	67	1,118,481.6	423,656.7	480.00				Average	
		SB 490+0	68	1,118,453.4	423,157.4	477.00				Average	
		SB 485+0	69	1,118,424.8	422,661.7	474.00				Average	
		SB 480+0	70	1,118,368.8	422,171.6	471.00				Average	
		SB 478+0	71	1,118,334.5	421,976.8	470.00				Average	
		SB 475+0	72	1,118,270.1	421,686.2	466.00				Average	
		SB 473+0	73	1,118,216.2	421,486.2	463.00				Average	
		SB 470+0	74	1,118,129.2	421,209.9	460.00				Average	
		SB 468+0	75	1,118,063.8	421,029.3	460.00				Average	
		SB 465+0	76	1,117,946.9	420,746.3	460.00				Average	
		SB 463+0	77	1,117,862.1	420,565.0	460.00				Average	

		SB 460+0	78	1,117,728.4	420,298.4	455.00				Average	
		SB 455+0	79	1,117,503.5	419,851.8	435.00				Average	
		SB 450+0	80	1,117,278.6	419,405.3	425.00				Average	
		SB 445+0	81	1,117,041.8	418,934.9	435.00					

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment C-2

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 445+00	1	529	55	9	55	17	55	0	0	0	0
	NB 450+00	2	529	55	9	55	17	55	0	0	0	0
	NB 455+00	3	529	55	9	55	17	55	0	0	0	0
	NB 460+00	4	529	55	9	55	17	55	0	0	0	0
	NB 463+00	5	529	55	9	55	17	55	0	0	0	0
	NB 465+00	6	529	55	9	55	17	55	0	0	0	0
	NB 468+00	7	529	55	9	55	17	55	0	0	0	0
	NB 470+00	8	529	55	9	55	17	55	0	0	0	0
	NB 473+00	9	529	55	9	55	17	55	0	0	0	0
	NB 475+00	10	529	55	9	55	17	55	0	0	0	0
	NB 478+00	11	529	55	9	55	17	55	0	0	0	0
	NB 480+00	12	529	55	9	55	17	55	0	0	0	0
	NB 485+00	13	529	55	9	55	17	55	0	0	0	0
	NB 490+00	14	529	55	9	55	17	55	0	0	0	0
	NB 495+00	15	529	55	9	55	17	55	0	0	0	0
	NB 500+00	16	529	55	9	55	17	55	0	0	0	0
	NB 503+00	17	529	55	9	55	17	55	0	0	0	0
	NB 505+00	18	529	55	9	55	17	55	0	0	0	0
	NB 508+00	19	529	55	9	55	17	55	0	0	0	0
	NB 510+00	20	529	55	9	55	17	55	0	0	0	0
	NB 515+00	21	529	55	9	55	17	55	0	0	0	0
	NB 520+00	22	529	55	9	55	17	55	0	0	0	0
	NB 525+00	23	529	55	9	55	17	55	0	0	0	0

	NB 530+00	24	529	55	9	55	17	55	0	0	0	0
	NB 535+00	25	529	55	9	55	17	55	0	0	0	0
	NB 540+00	26	529	55	9	55	17	55	0	0	0	0
	NB 545+00	27	529	55	9	55	17	55	0	0	0	0
	NB 550+00	28	529	55	9	55	17	55	0	0	0	0
	NB 555+00	29	529	55	9	55	17	55	0	0	0	0
	NB 560+00	31	529	55	9	55	17	55	0	0	0	0
	NB 565+00	33	529	55	9	55	17	55	0	0	0	0
	NB 570+00	35	529	55	9	55	17	55	0	0	0	0
	NB 575+00	83	529	55	9	55	17	55	0	0	0	0
	NB 580+00	84										
SB SR 18	SB 580+00	86	529	55	9	55	17	55	0	0	0	0
	SB 575+00	85	529	55	9	55	17	55	0	0	0	0
	SB 570+00	48	529	55	9	55	17	55	0	0	0	0
	SB 565+00	50	529	55	9	55	17	55	0	0	0	0
	SB 560+00	52	529	55	9	55	17	55	0	0	0	0
	SB 555+00	53	529	55	9	55	17	55	0	0	0	0
	SB 550+00	54	529	55	9	55	17	55	0	0	0	0
	SB 545+00	55	529	55	9	55	17	55	0	0	0	0
	SB 540+00	56	529	55	9	55	17	55	0	0	0	0
	SB 535+00	57	529	55	9	55	17	55	0	0	0	0
	SB 530+00	58	529	55	9	55	17	55	0	0	0	0
	SB 525+00	59	529	55	9	55	17	55	0	0	0	0
	SB 520+00	60	529	55	9	55	17	55	0	0	0	0
	SB 515+00	61	529	55	9	55	17	55	0	0	0	0
	SB 510+00	62	529	55	9	55	17	55	0	0	0	0
	SB 508+00	63	529	55	9	55	17	55	0	0	0	0
	SB 505+00	64	529	55	9	55	17	55	0	0	0	0
	SB 503+00	65	529	55	9	55	17	55	0	0	0	0
	SB 500+00	66	529	55	9	55	17	55	0	0	0	0
	SB 495+00	67	529	55	9	55	17	55	0	0	0	0
	SB 490+00	68	529	55	9	55	17	55	0	0	0	0
	SB 485+00	69	529	55	9	55	17	55	0	0	0	0
	SB 480+00	70	529	55	9	55	17	55	0	0	0	0
	SB 478+00	71	529	55	9	55	17	55	0	0	0	0
	SB 475+00	72	529	55	9	55	17	55	0	0	0	0

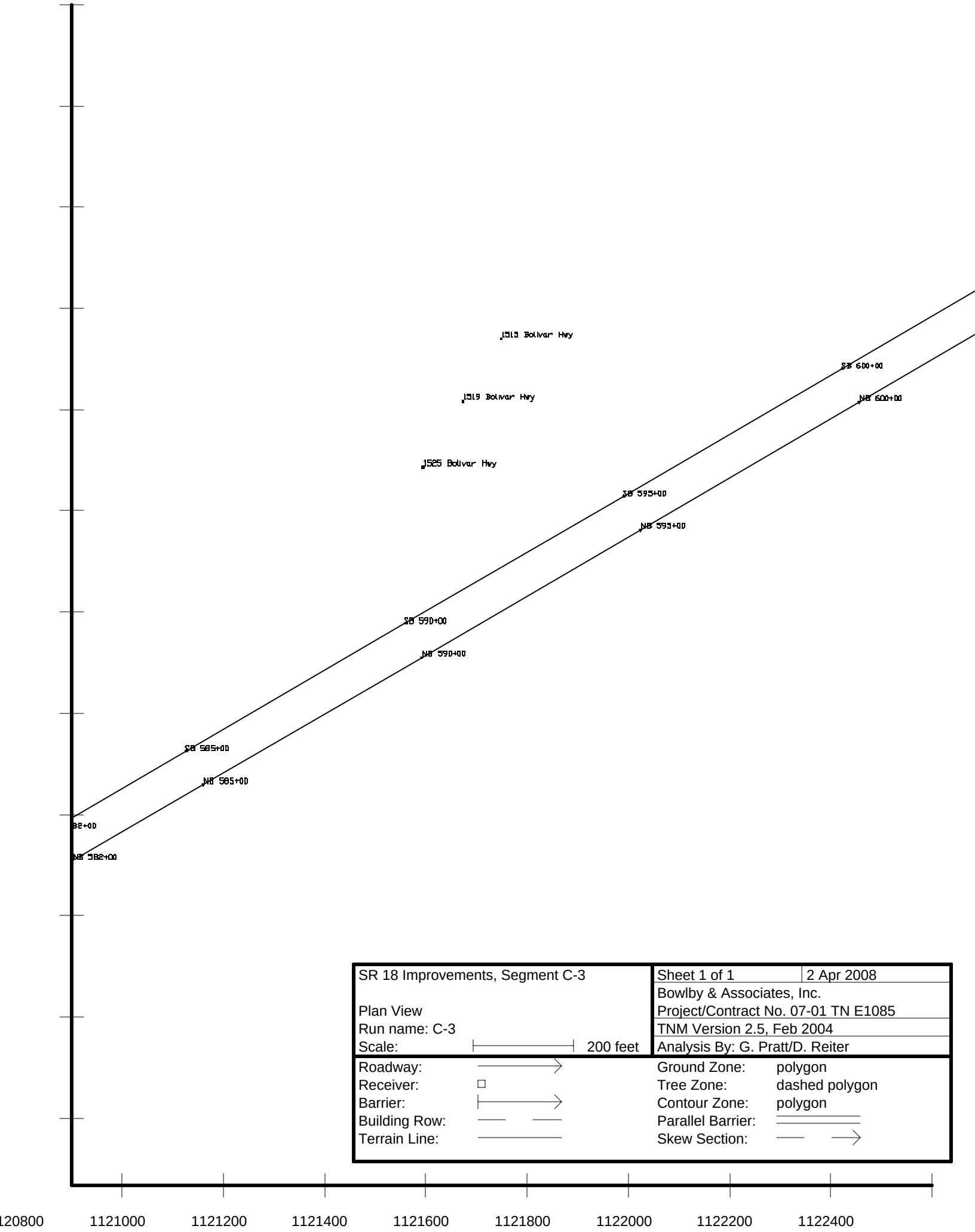
	SB 473+00	73	529	55	9	55	17	55	0	0	0	0
	SB 470+00	74	529	55	9	55	17	55	0	0	0	0
	SB 468+00	75	529	55	9	55	17	55	0	0	0	0
	SB 465+00	76	529	55	9	55	17	55	0	0	0	0
	SB 463+00	77	529	55	9	55	17	55	0	0	0	0
	SB 460+00	78	529	55	9	55	17	55	0	0	0	0
	SB 455+00	79	529	55	9	55	17	55	0	0	0	0
	SB 450+00	80	529	55	9	55	17	55	0	0	0	0
	SB 445+00	81										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment C-2**

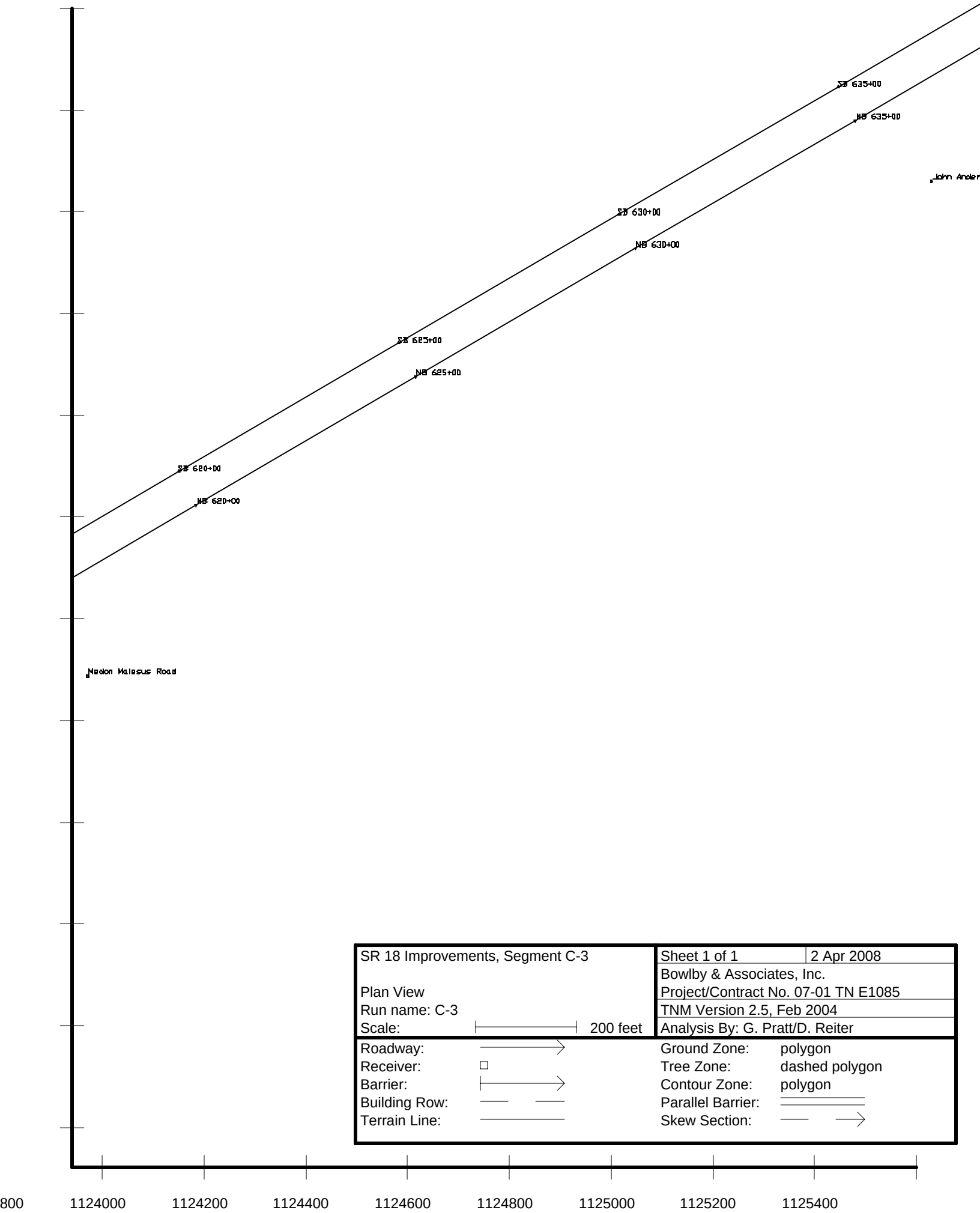
Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
2210 Parkburg Road	3	1	1,117,733.2	421,593.9	465.00	5.00	0.00	66	10.0	8.0	Y
2211 Parkburg Road	4	1	1,117,920.6	421,357.4	465.00	5.00	0.00	66	10.0	8.0	Y
2217 Parkburg Road	5	1	1,117,661.2	421,414.9	465.00	5.00	0.00	66	10.0	8.0	Y
1038 Medon-Malesus Road	7	1	1,119,254.4	428,421.0	490.00	5.00	0.00	66	10.0	8.0	Y
1072/1068 Medon-Malesus Road	9	2	1,118,891.6	427,533.4	480.00	5.00	0.00	66	10.0	8.0	Y
1093 Medon-Malesus Road	10	1	1,118,485.9	426,396.0	470.00	5.00	0.00	66	10.0	8.0	Y
1102 Medon-Malesus Road	12	1	1,118,411.1	426,875.8	480.00	5.00	0.00	66	10.0	8.0	Y
1120 Medon-Malesus Road	25	1	1,118,301.6	426,659.1	480.00	5.00	0.00	66	10.0	8.0	Y
1695 Hwy 18	28	1	1,118,929.8	429,324.7	500.00	5.00	0.00	66	10.0	8.0	Y
1691 Hwy 18	29	1	1,119,195.4	429,453.6	500.00	5.00	0.00	66	10.0	8.0	Y
1671 Hwy 18	30	1	1,119,245.5	429,604.1	500.00	5.00	0.00	66	10.0	8.0	Y
1669 Hwy 18	31	1	1,119,303.4	429,727.0	500.00	5.00	0.00	66	10.0	8.0	Y
1665 Hwy 18	32	1	1,119,365.4	429,840.6	500.00	5.00	0.00	66	10.0	8.0	Y
1661 Hwy 18	33	1	1,119,422.1	429,926.0	500.00	5.00	0.00	66	10.0	8.0	Y
1659 Hwy 18	34	1	1,119,477.1	429,999.3	500.00	5.00	0.00	66	10.0	8.0	Y
1655 Hwy 18	35	1	1,119,531.4	430,087.3	500.00	5.00	0.00	66	10.0	8.0	Y
1651 Hwy 18	36	1	1,119,582.0	430,173.3	500.00	5.00	0.00	66	10.0	8.0	Y
1647 Hwy 18	37	1	1,119,626.6	430,255.8	500.00	5.00	0.00	66	10.0	8.0	Y
1641 Hwy 18	38	1	1,119,662.6	430,331.6	500.00	5.00	0.00	66	10.0	8.0	Y
1637 Hwy 18	39	1	1,119,695.5	430,402.6	500.00	5.00	0.00	66	10.0	8.0	Y
2210 Parkburg Road 167C											
2211 Parkburg Road 210											

2217 Parkburg Road 211											
1038 Medon-Malesus Road 187											
1072/1068 Medon-Malesus Road 188											
1093 Medon-Malesus Road 188A											
1102 Medon-Malesus Road 188B											
1120 Medon-Malesus Road 68											
1695 Hwy 18 Backyard											
1691 Hwy 18 Backyard											
1671 Hwy 18 Backyard											
1669 Hwy 18 Backyard											
1665 Hwy 18 Backyard											
1661 Hwy 18 Backyard											
1659 Hwy 18 Backyard											
1655 Hwy 18 Backyard											
1651 Hwy 18 Backyard											
1647 Hwy 18 Backyard											
1641 Hwy 18 Backyard											
1637 Hwy 18 Backyard											



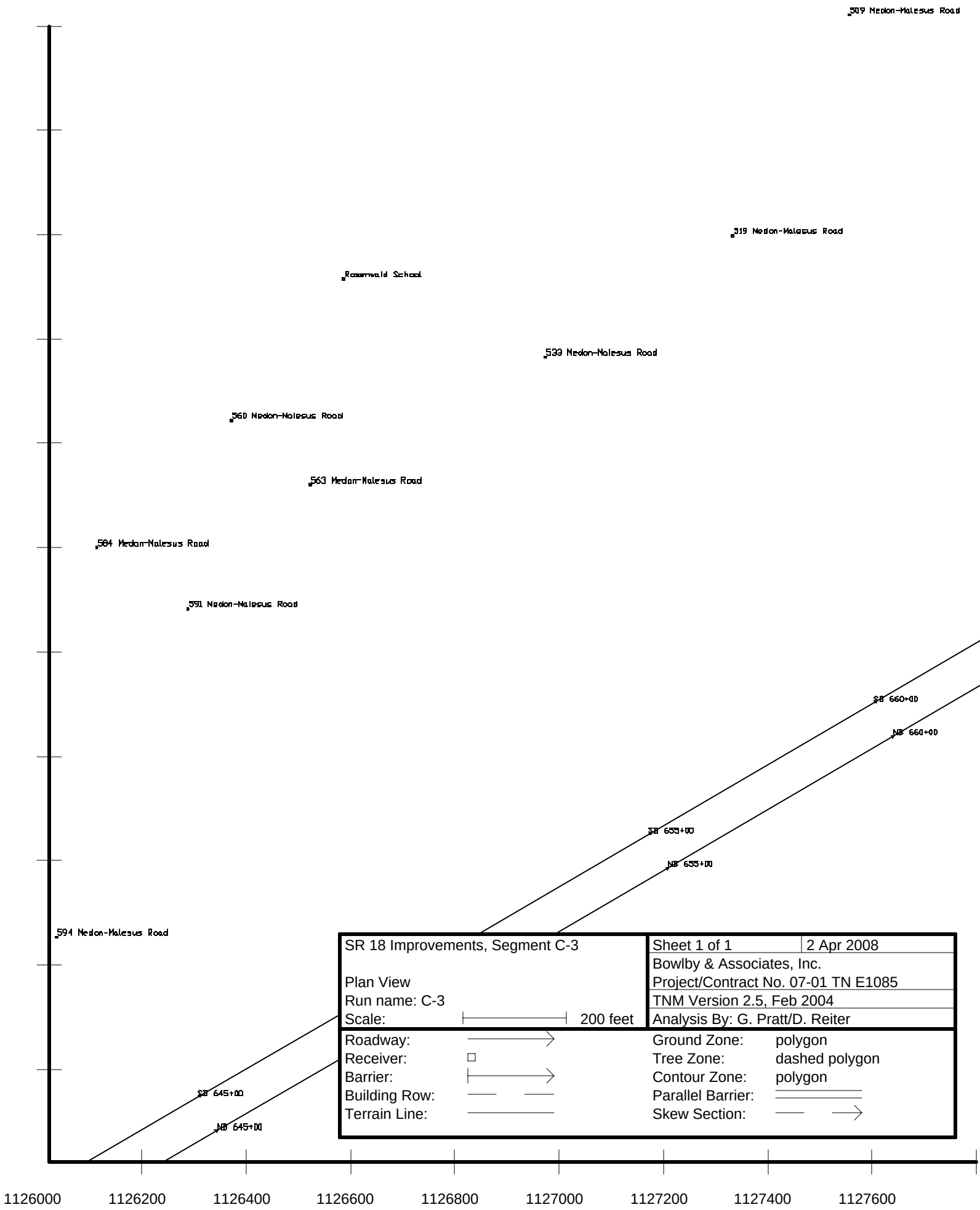
SR 18 Improvements, Segment C-3	Sheet 1 of 1	2 Apr 2008
	Bowlby & Associates, Inc.	
Plan View	Project/Contract No. 07-01 TN E1085	
Run name: C-3	TNM Version 2.5, Feb 2004	
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter	

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



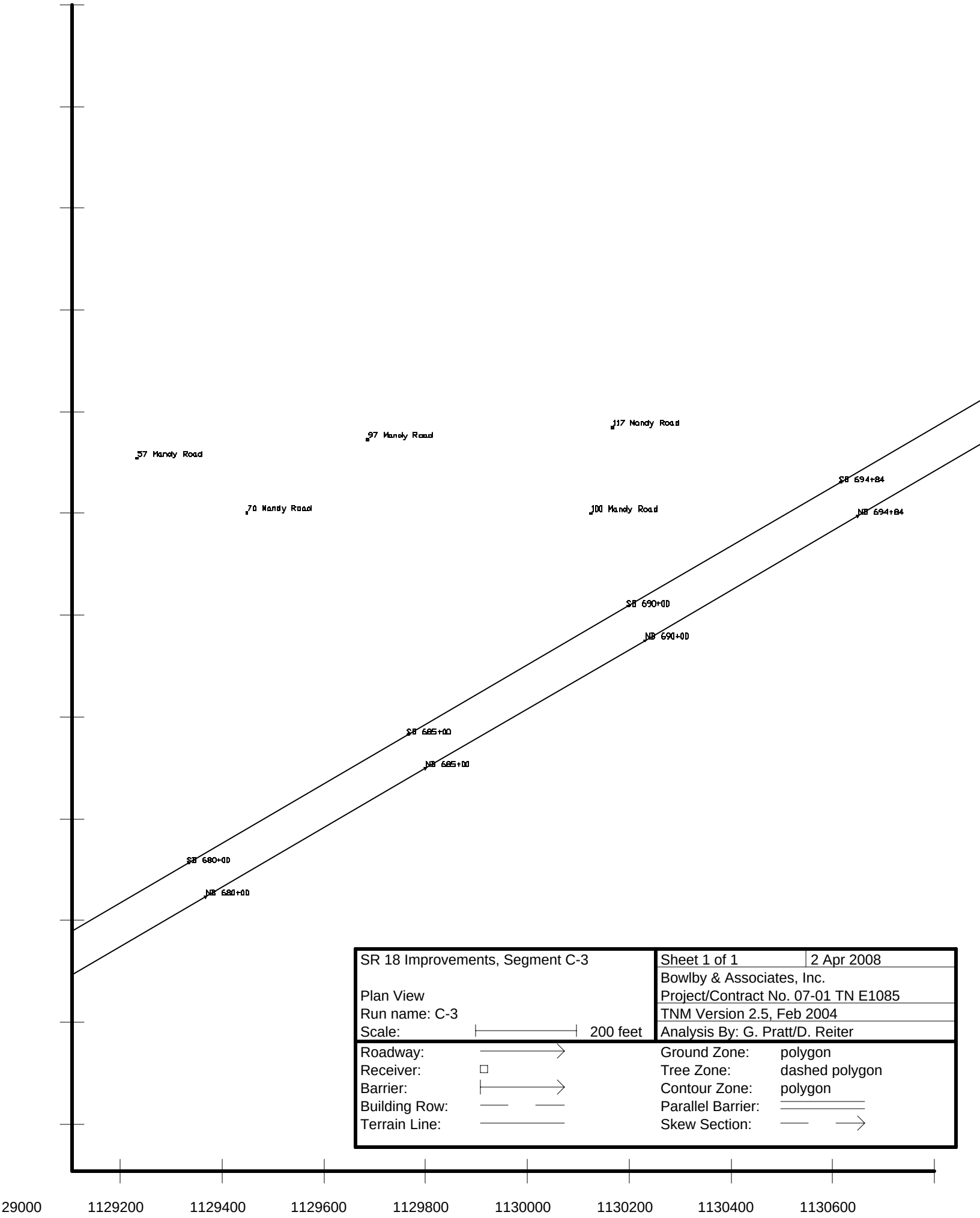
SR 18 Improvements, Segment C-3	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-3	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment C-3	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-3	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	



SR 18 Improvements, Segment C-3	Sheet 1 of 1 — 2 Apr 2008
	Bowlby & Associates, Inc.
Plan View	Project/Contract No. 07-01 TN E1085
Run name: C-3	TNM Version 2.5, Feb 2004
Scale: 200 feet	Analysis By: G. Pratt/D. Reiter

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

Bowlby & Associates, Inc. 2 April 2008
G. Pratt/D. Reiter TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: 07-01 TN E1085
RUN: SR 18 Improvements, Segment C-3

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway Name	Width	Points Name	No.	Coordinates (pavement) X	Y	Z	Flow Control Control Device	Speed Constraint	Percent Vehicles Affected	Segment Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
NB SR 18	48.0	NB 570+0	1	1,120,060.0	430,973.2	500.00				Average	
		NB 572+0	2	1,120,105.6	431,168.4	500.00				Average	
		NB 575+0	3	1,120,218.8	431,446.9	476.00				Average	
		NB 577+0	4	1,120,326.1	431,605.4	475.00				Average	
		NB 580+0	5	1,120,541.4	431,811.3	475.00				Average	
		NB 582+0	6	1,120,701.2	431,912.5	480.00				Average	
		NB 585+0	7	1,120,959.9	432,062.8	480.00				Average	
		NB 590+0	10	1,121,391.8	432,314.8	460.00				Average	
		NB 595+0	11	1,121,823.6	432,566.8	460.00				Average	
		NB 600+0	12	1,122,255.5	432,818.7	440.00				Average	
		NB 605+0	13	1,122,687.4	433,070.7	440.00				Average	
		NB 610+0	14	1,123,119.2	433,322.7	445.00				Average	
		NB 615+0	15	1,123,551.1	433,574.7	460.00				Average	
		NB 620+0	16	1,123,983.0	433,826.6	460.00				Average	
		NB 625+0	17	1,124,414.8	434,078.6	475.00				Average	
		NB 630+0	18	1,124,846.6	434,330.6	440.00				Average	
		NB 635+0	19	1,125,278.5	434,582.6	440.00				Average	
		NB 640+0	20	1,125,710.4	434,834.5	450.00				Average	
		NB 645+0	21	1,126,142.2	435,086.5	460.00				Average	
		NB 650+0	22	1,126,574.1	435,338.5	460.00				Average	
		NB 655+0	23	1,127,006.0	435,590.4	460.00				Average	
		NB 660+0	24	1,127,437.9	435,842.4	460.00				Average	
		NB 665+0	25	1,127,869.8	436,094.4	460.00				Average	
		NB 670+0	26	1,128,301.6	436,346.4	460.00				Average	
		NB 675+0	27	1,128,733.5	436,598.3	440.00				Average	

		NB 680+0	28	1,129,165.4	436,850.3	440.00				Average	
		NB 685+0	29	1,129,597.2	437,102.3	430.00				Average	
		NB 690+0	30	1,130,029.1	437,354.2	430.00				Average	
		NB 694+8	9	1,130,447.0	437,598.1	420.00				Average	
		NB 680+0	61	1,130,840.2	437,827.4	420.00				Average	
		NB 685+0	62	1,131,272.2	438,079.5	430.00				Average	
		NB 690+0	63	1,131,705.1	438,332.0	445.00					
SB SR 18	48.0	SB 690+0	66	1,131,665.6	438,394.6	445.00				Average	
		SB 685+0	65	1,131,234.4	438,143.1	430.00				Average	
		SB 680+0	64	1,130,801.6	437,890.6	420.00				Average	
		SB 694+8	31	1,130,409.8	437,662.0	420.00				Average	
		SB 690+0	39	1,129,991.8	437,418.1	430.00				Average	
		SB 685+0	40	1,129,559.9	437,166.1	430.00				Average	
		SB 680+0	41	1,129,128.0	436,914.2	440.00				Average	
		SB 675+0	42	1,128,696.1	436,662.2	440.00				Average	
		SB 670+0	43	1,128,264.2	436,410.2	460.00				Average	
		SB 665+0	44	1,127,832.4	436,158.3	460.00				Average	
		SB 660+0	45	1,127,400.5	435,906.3	460.00				Average	
		SB 655+0	46	1,126,968.6	435,654.4	460.00				Average	
		SB 650+0	47	1,126,536.8	435,402.4	460.00				Average	
		SB 645+0	48	1,126,104.9	435,150.4	460.00				Average	
		SB 640+0	49	1,125,673.0	434,898.5	450.00				Average	
		SB 635+0	50	1,125,241.1	434,646.5	440.00				Average	
		SB 630+0	51	1,124,809.2	434,394.6	440.00				Average	
		SB 625+0	52	1,124,377.4	434,142.6	475.00				Average	
		SB 620+0	53	1,123,945.5	433,890.6	460.00				Average	
		SB 615+0	54	1,123,513.6	433,638.7	460.00				Average	
		Sb 610+0	55	1,123,081.8	433,386.7	445.00				Average	
		SB 605+0	56	1,122,649.9	433,134.8	440.00				Average	
		SB 600+0	57	1,122,218.0	432,882.8	440.00				Average	
		SB 595+0	58	1,121,786.1	432,630.8	460.00				Average	
		SB 590+0	59	1,121,354.2	432,378.9	460.00				Average	
		SB 585+0	60	1,120,922.4	432,126.9	480.00				Average	
		SB 582+0	32	1,120,660.2	431,974.2	480.00				Average	
		SB 580+0	33	1,120,483.9	431,860.7	475.00				Average	
		SB 577+0	34	1,120,262.2	431,643.4	475.00				Average	
		SB 575+0	35	1,120,148.1	431,472.3	476.00				Average	
		SB 572+0	36	1,120,034.2	431,187.6	500.00				Average	
		SB 570+0	37	1,119,988.5	430,992.6	500.00					

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: TRAFFIC FOR LAeq1h Volumes
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment C-3**

Roadway	Points											
Name	Name	No.	Segment									
			Autos		MTrucks		HTrucks		Buses		Motorcycles	
			V	S	V	S	V	S	V	S	V	S
			veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph	veh/hr	mph
NB SR 18	NB 570+00	1	529	55	9	55	17	55	0	0	0	0
	NB 572+00	2	529	55	9	55	17	55	0	0	0	0
	NB 575+00	3	529	55	9	55	17	55	0	0	0	0
	NB 577+00	4	529	55	9	55	17	55	0	0	0	0
	NB 580+00	5	529	55	9	55	17	55	0	0	0	0
	NB 582+00	6	529	55	9	55	17	55	0	0	0	0
	NB 585+00	7	529	55	9	55	17	55	0	0	0	0
	NB 590+00	10	529	55	9	55	17	55	0	0	0	0
	NB 595+00	11	529	55	9	55	17	55	0	0	0	0
	NB 600+00	12	529	55	9	55	17	55	0	0	0	0
	NB 605+00	13	529	55	9	55	17	55	0	0	0	0
	NB 610+00	14	529	55	9	55	17	55	0	0	0	0
	NB 615+00	15	529	55	9	55	17	55	0	0	0	0
	NB 620+00	16	529	55	9	55	17	55	0	0	0	0
	NB 625+00	17	529	55	9	55	17	55	0	0	0	0
	NB 630+00	18	529	55	9	55	17	55	0	0	0	0
	NB 635+00	19	529	55	9	55	17	55	0	0	0	0
	NB 640+00	20	529	55	9	55	17	55	0	0	0	0
	NB 645+00	21	529	55	9	55	17	55	0	0	0	0
	NB 650+00	22	529	55	9	55	17	55	0	0	0	0
	NB 655+00	23	529	55	9	55	17	55	0	0	0	0
	NB 660+00	24	529	55	9	55	17	55	0	0	0	0
	NB 665+00	25	529	55	9	55	17	55	0	0	0	0

	NB 670+00	26	529	55	9	55	17	55	0	0	0	0
	NB 675+00	27	529	55	9	55	17	55	0	0	0	0
	NB 680+00	28	529	55	9	55	17	55	0	0	0	0
	NB 685+00	29	529	55	9	55	17	55	0	0	0	0
	NB 690+00	30	529	55	9	55	17	55	0	0	0	0
	NB 694+84	9	529	55	9	55	17	55	0	0	0	0
	NB 680+00	61	529	55	9	55	17	55	0	0	0	0
	NB 685+00	62	529	55	9	55	17	55	0	0	0	0
	NB 690+00	63										
SB SR 18	SB 690+00	66	529	55	9	55	17	55	0	0	0	0
	SB 685+00	65	529	55	9	55	17	55	0	0	0	0
	SB 680+00	64	529	55	9	55	17	55	0	0	0	0
	SB 694+84	31	529	55	9	55	17	55	0	0	0	0
	SB 690+00	39	529	55	9	55	17	55	0	0	0	0
	SB 685+00	40	529	55	9	55	17	55	0	0	0	0
	SB 680+00	41	529	55	9	55	17	55	0	0	0	0
	SB 675+00	42	529	55	9	55	17	55	0	0	0	0
	SB 670+00	43	529	55	9	55	17	55	0	0	0	0
	SB 665+00	44	529	55	9	55	17	55	0	0	0	0
	SB 660+00	45	529	55	9	55	17	55	0	0	0	0
	SB 655+00	46	529	55	9	55	17	55	0	0	0	0
	SB 650+00	47	529	55	9	55	17	55	0	0	0	0
	SB 645+00	48	529	55	9	55	17	55	0	0	0	0
	SB 640+00	49	529	55	9	55	17	55	0	0	0	0
	SB 635+00	50	529	55	9	55	17	55	0	0	0	0
	SB 630+00	51	529	55	9	55	17	55	0	0	0	0
	SB 625+00	52	529	55	9	55	17	55	0	0	0	0
	SB 620+00	53	529	55	9	55	17	55	0	0	0	0
	SB 615+00	54	529	55	9	55	17	55	0	0	0	0
	Sb 610+00	55	529	55	9	55	17	55	0	0	0	0
	SB 605+00	56	529	55	9	55	17	55	0	0	0	0
	SB 600+00	57	529	55	9	55	17	55	0	0	0	0
	SB 595+00	58	529	55	9	55	17	55	0	0	0	0
	SB 590+00	59	529	55	9	55	17	55	0	0	0	0
	SB 585+00	60	529	55	9	55	17	55	0	0	0	0
	SB 582+00	32	529	55	9	55	17	55	0	0	0	0

	SB 580+00	33	529	55	9	55	17	55	0	0	0	0
	SB 577+00	34	529	55	9	55	17	55	0	0	0	0
	SB 575+00	35	529	55	9	55	17	55	0	0	0	0
	SB 572+00	36	529	55	9	55	17	55	0	0	0	0
	SB 570+00	37										

Bowlby & Associates, Inc. **2 April 2008**
G. Pratt/D. Reiter **TNM 2.5**

INPUT: RECEIVERS
PROJECT/CONTRACT: **07-01 TN E1085**
RUN: **SR 18 Improvements, Segment C-3**

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing LAeq1h	Impact Criteria LAeq1h	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
1525 Bolivar Hwy	1	1	1,121,391.0	432,688.6	460.00	5.00	0.00	66	10.0	10.0	Y
1519 Bolivar Hwy	2	1	1,121,470.5	432,819.2	455.00	5.00	0.00	66	10.0	10.0	Y
1515 Bolivar Hwy	3	1	1,121,546.0	432,942.8	450.00	5.00	0.00	66	10.0	10.0	Y
Medon Malesus Road	6	2	1,123,768.2	433,490.0	480.00	5.00	0.00	66	10.0	10.0	Y
John Anderson Road	8	1	1,125,425.8	434,461.6	455.00	5.00	0.00	66	10.0	10.0	Y
594 Medon-Malesus Road	9	1	1,125,833.8	435,456.9	460.00	5.00	0.00	66	10.0	10.0	Y
591 Medon-Malesus Road	10	2	1,126,085.6	436,086.2	480.00	5.00	0.00	66	10.0	10.0	Y
584 Medon-Malesus Road	11	1	1,125,910.9	436,202.9	480.00	5.00	0.00	66	10.0	10.0	Y
563 Medon-Malesus Road	12	1	1,126,319.5	436,323.2	480.00	5.00	0.00	66	10.0	10.0	Y
560 Medon-Malesus Road	13	1	1,126,169.0	436,447.2	480.00	5.00	0.00	66	10.0	10.0	Y
Rosenwald School	14	1	1,126,384.5	436,717.8	480.00	5.00	42.00	66	10.0	10.0	Y
533 Medon-Malesus Road	16	1	1,126,771.4	436,568.4	480.00	5.00	0.00	66	10.0	10.0	Y
519 Medon-Malesus Road	22	1	1,127,130.2	436,800.9	460.00	5.00	0.00	66	10.0	10.0	Y
509 Medon-Malesus Road	24	1	1,127,353.1	437,224.1	460.00	5.00	0.00	66	10.0	10.0	Y
24 Mandy Road	25	1	1,128,607.0	435,186.1	460.00	5.00	0.00	66	10.0	10.0	Y
57 Mandy Road	27	1	1,129,029.2	437,710.7	460.00	5.00	0.00	66	10.0	10.0	Y
70 Mandy Road	28	1	1,129,244.9	437,603.4	460.00	5.00	0.00	66	10.0	10.0	Y
97 Mandy Road	30	1	1,129,481.8	437,746.8	460.00	5.00	0.00	66	10.0	10.0	Y
100 Mandy Road	31	1	1,129,920.5	437,602.3	440.00	5.00	0.00	66	10.0	10.0	Y
117 Mandy Road	32	1	1,129,963.2	437,771.1	430.00	5.00	0.00	66	10.0	10.0	Y
1525 Bolivar Hwy 69											
1519 Bolivar Hwy 71											

1515 Bolivar Hwy 72											
Medon Malesus Road 197											
John Anderson Road 201											
594 Medon-Malesus Road 202											
591 Medon-Malesus Road 202A											
584 Medon-Malesus Road 203											
563 Medon-Malesus Road 202B											
560 Medon-Malesus Road 204											
Rosenwald School 204A											
533 Medon-Malesus Road 207											
519 Medon-Malesus Road 255											
509 Medon-Malesus Road 257											
24 Mandy Road 202A											

Appendix C
Design Year Equivalent Sound Levels and Impacts by Segment

Noise Impact Analysis, SR 18 Improvements

Year: ***2031***

Segment: ***A-1***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
135/140 Pulliam Road	2	52	55	3	No	No	No	
855 Eighteen Loop	1	52	56	4	No	No	No	
935 Eighteen Loop	1	49	53	4	No	No	No	
955 Eighteen Loop	1	49	53	4	No	No	No	
35 Ran Road	1	52	55	3	No	No	No	
1320 Eighteen Loop	2	52	57	5	No	No	No	
25 New Union Loop	1	61	65	4	No	No	No	
60 New Union Loop	1	57	62	5	No	No	No	
105 New Union Loop	1	52	55	3	No	No	No	
150 New Union Loop	1	54	57	3	No	No	No	
180 New Union Loop	1	52	55	3	No	No	No	
27585 Hwy 18 N	1	63	66	3	No	***Yes***	***Yes***	***1***
27870 Hwy 18 N	1	64	69	5	No	***Yes***	***Yes***	***1***
27920 Hwy 18 N	1	62	65	3	No	No	No	
27940 Hwy 18 N	1	62	66	4	No	***Yes***	***Yes***	***1***
105 Jody Road	1	55	59	4	No	No	No	
155 Jody Road	1	51	54	3	No	No	No	
30 Big Springs Road	1	62	66	4	No	***Yes***	***Yes***	***1***
110 Big Spring Road	1	53	56	3	No	No	No	
1420/1430 New Union Loop	2	50	53	3	No	No	No	
28410 Hwy 18 N	1	64	67	3	No	***Yes***	***Yes***	***1***
1640 New Union Loop	1	51	55	4	No	No	No	
New Union Baptist Church	0	46	51	5	No	No	No	
28625 Hwy 18	3	62	65	3	No	No	No	
140 Union Way	1	55	60	5	No	No	No	
28725 Hwy 18 N	1	59	65	6	No	No	No	
28770 Hwy 18 N	1	63	68	5	No	***Yes***	***Yes***	***1***
28785 Hwy 18 N	1	62	68	6	No	***Yes***	***Yes***	***1***
28855 Hwy 18 N	2	57	64	7	No	No	No	
28970 Hwy 18 N	1	57	60	3	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***7***

Noise Impact Analysis, SR 18 Improvements

Year: ***2028***

Section: ***A-2***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
29720 Hwy 18 N	1	59	63	4	No	***No***	***No***	
9470 Teague Road	1	57	61	4	No	No	No	
9320 Teague Road	1	48	51	3	No	No	No	
9315 Teague Road	1	46	49	3	No	No	No	
30090 Hwy 18 N	1	48	51	3	No	No	No	
165 Dacus Road	1	51	53	2	No	No	No	
30525 Hwy 18 N	1	51	54	3	No	No	No	
30685 Hwy 18 N	1	54	57	3	No	No	No	
45 Jared Lane	1	57	58	1	No	No	No	
30930 Hwy 18 N	1	50	54	4	No	No	No	
30950 Hwy 18 N	1	51	54	3	No	No	No	
2484 Hwy 18	1	64	64	0	No	No	No	
2480 Hwy 18	1	58	58	0	No	No	No	
2470 Hwy 18	1	64	64	0	No	No	No	
2460 Hwy 18	1	59	59	0	No	No	No	
2448 Hwy 18	1	61	61	0	No	No	No	
2444 Hwy 18	1	61	61	0	No	No	No	
2440 Hwy 18	1	61	61	0	No	No	No	
2410 Hwy 18	1	53	54	1	No	No	No	
2382 Hwy 18	1	62	62	0	No	No	No	
2364 Hwy 18	4	69	66	-3	No	***Yes***	***Yes***	***4***
2348 Hwy 18	1	66	65	-1	No	No	No	
2338 Hwy 18	1	66	65	-1	No	No	No	
2292 Hwy 18	1	64	63	-1	No	No	No	
2264 Hwy 18	1	66	65	-1	No	No	No	
2228 Hwy 18	1	67	66	-1	No	***Yes***	***Yes***	***1***
127 Agins Road	1	51	51	0	No	No	No	
2197 Hwy 18	1	66	66	0	No	***Yes***	***Yes***	***1***
2183 Hwy 18	1	61	61	0	No	No	No	
2164 Hwy 18	1	67	67	0	No	***Yes***	***Yes***	***1***
11 Lowery Road	1	61	67	6	No	***Yes***	***Yes***	***1***
Lowery Road North	2	53	59	6	No	No	No	
Lowery Road South	2	53	59	6	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***8***

Noise Impact Analysis, SR 18 Improvements

Year: ***2031***

Segment: ***A-3***

Receiver	*Number of Residences*	*Existing Leq (dBA)*	*With Project Leq (dBA)*	*Sound Level Increase (dB)*	*Substantial Increase? **	*Approach/ Exceed NAC?*	*Impacted?*	*Number of Impacts*
Clover Creek Church	0	68	66	-2	No	No**	No**	
16 Bowman-Collins Road	1	64	65	1	No	No	No	
2076 Hwy 18	1	68	68	0	No	***Yes***	***Yes***	***1***
2052 Hwy 18	1	68	67	-1	No	***Yes***	***Yes***	***1***
2034 Hwy 18 (Swink Stage House)	1	54	55	1	No	No	No	
2024 Hwy 18	1	62	62	0	No	No	No	
2331 Parkburg Road	1	59	67	8	No	***Yes***	***Yes***	***1***
2323 Parkburg Road	1	56	62	6	No	No	No	
2320 Parkburg Road	1	59	67	8	No	***Yes***	***Yes***	***1***
14 College Street	1	56	63	7	No	No	No	
19/23 College Street	2	53	59	6	No	No	No	
5062/5072 Riverside Drive	2	56	56	0	No	No	No	
1981 Hwy 18	1	53	57	4	No	No	No	
1950 Hwy 18	1	64	66	2	No	***Yes***	***Yes***	***1***
1936 Hwy 18	1	64	66	2	No	***Yes***	***Yes***	***1***
1924 Hwy 18	1	64	65	1	No	No	No	
1920 Hwy 18	1	66	67	1	No	***Yes***	***Yes***	***1***
1900 Hwy 18	1	56	56	0	No	No	No	
Faith Tabernacle Worship Center	0	59	66	7	No	No**	No**	
1870 Hwy 18	1	61	62	1	No	No	No	
1862 Hwy 18	1	56	57	1	No	No	No	
1861 Hwy 18	1	61	67	6	No	***Yes***	***Yes***	***1***
1821 Hwy 18	1	63	67	4	No	***Yes***	***Yes***	***1***
1163 Medon-Malesus Road	1	47	53	6	No	No	No	
1695 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1691 Hwy 18	1	58	59	1	No	No	No	
1671 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1669 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1665 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1661 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1659 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1655 Hwy 18	1	63	67	4	No	***Yes***	***Yes***	***1***
1651 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1647 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1641 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1637 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1633 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1629 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1625 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1621 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1619 Hwy 18	1	63	66	3	No	***Yes***	***Yes***	***1***
1611 Hwy 18	1	63	67	4	No	***Yes***	***Yes***	***1***
							Total	***26***

* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.

** Interior.

Noise Impact Analysis, SR 18 Improvements

Year: ***2031***

Segment: ***A-4***

Receiver	*Number of Residences*	*Existing Leq (dBA)*	*With Project Leq (dBA)*	*Sound Level Increase (dB)*	*Substantial Increase? **	*Approach/ Exceed NAC?*	*Impacted?*	*Number of Impacts*
1545 Hwy 18	1	57	61	4	No	No	No	
1543 Hwy 18	1	57	61	4	No	No	No	
Church of God	0	59	61	2	No	No	No	
1525 Bolivar Hwy	1	59	61	2	No	No	No	
1519 Bolivar Hwy	1	59	61	2	No	No	No	
1515 Bolivar Hwy	1	59	61	2	No	No	No	
1387 Bolivar Hwy	1	59	62	3	No	No	No	
1285 Bolivar Hwy	1	68	67	-1	No	***Yes***	***Yes***	***1***
1279-1265 Bolivar Hwy	2	68	67	-1	No	***Yes***	***Yes***	***2***
1259 Bolivar Hwy	1	68	67	-1	No	***Yes***	***Yes***	***1***
1251-1249 Bolivar Hwy	2	66	66	0	No	***Yes***	***Yes***	***2***
1245 Bolivar Hwy	1	62	62	0	No	No	No	
1239-1237 Bolivar Hwy	2	56	56	0	No	No	No	
1228 Bolivar Hwy	1	53	57	4	No	No	No	
1221 Bolivar Hwy	1	63	63	0	No	No	No	
1145 Bolivar Hwy	1	58	58	-1	No	No	No	
1130 Bolivar Hwy	1	61	67	6	No	***Yes***	***Yes***	***1***
3-7 Country Run Drive	2	57	58	1	No	No	No	
8-40 Country Run Drive	3	54	53	-1	No	No	No	
15-27 Country Run Drive	2	62	63	1	No	No	No	
1033-1013 Bolivar Hwy	3	61	63	2	No	No	No	
10 Louis Lane	1	61	63	2	No	No	No	
19 Louis Lane	1	59	61	2	No	No	No	
26 Louis Lane	1	57	57	0	No	No	No	
11 Jennalee Lane	1	66	66	0	No	***Yes***	***Yes***	***1***
24 Jennalee Lane	1	59	59	0	No	No	No	
931 Bolivar Hwy	1	59	58	-1	No	No	No	
925-917 Bolivar Hwy	2	56	56	-1	No	No	No	
911 Bolivar Hwy	1	67	66	-1	No	***Yes***	***Yes***	***1***
901-879 Bolivar Hwy	4	67	64	-3	No	No	No	
873-865 Bolivar Hwy	2	67	64	-3	No	No	No	
853 Bolivar Hwy	1	61	60	-1	No	No	No	
844 Bolivar Hwy	1	61	61	0	No	No	No	
76-66 Medon-Malesus Rd	3	55	55	0	No	No	No	
54-46 Medon-Malesus Rd	3	55	55	0	No	No	No	
11 Chip Oak Dr	1	64	70	6	No	***Yes***	***Yes***	***1***
23 Chip Oak Dr	1	58	65	7	No	No	No	
46-78 Chip Oak Dr	3	56	63	7	No	No	No	
10-55 Chipman Dr	2	49	54	5	No	No	No	
South Jackson Church of Christ	0	61	65	4	No	No	No	
40 Gobelett Road	1	54	58	4	No	No	No	
787 Bolivar Hwy	3	66	70	4	No	***Yes***	***Yes***	***3***
Bemis Pentacostal Church	0	60	62	2	No	No	No	
728/716 Bolivar Hwy	2	66	69	3	No	***Yes***	***Yes***	***2***
15 Benson Lane	1	66	69	3	No	***Yes***	***Yes***	***1***
14 Southwood Drive	1	59	63	4	No	No	No	
9-25 Southwood Drive	2	54	58	4	No	No	No	
28-36 Southwood Drive	2	49	53	4	No	No	No	
673-663 Bolivar Hwy	2	65	69	4	No	***Yes***	***Yes***	***2***
651 Bolivar Hwy	1	59	63	4	No	No	No	

Noise Impact Analysis, SR 18 Improvements

Year: ***2031***

Segment: ***A-4***

Receiver	*Number of Residences*	*Existing Leq (dBA)*	*With Project Leq (dBA)*	*Sound Level Increase (dB)*	*Substantial Increase? **	*Approach/ Exceed NAC?*	*Impacted?*	*Number of Impacts*
637-633 Bolivar Hwy	3	66	70	4	No	***Yes***	***Yes***	***3***
603 Bolivar Hwy	1	61	64	3	No	No	No	
Malesus Elementary School	0	65	68	3	No	***Yes***	***Yes***	***1***
Fitzgerlad Road (West End)	3	59	62	3	No	No	No	
Malesus Baptist Church	0	59	59	0	No	No	No	
480 Bolivar Hwy	1	67	67	0	No	***Yes***	***Yes***	***1***
Malesus Civic Park	0	57	58	1	No	No	No	
Caldwell Lane	3	59	63	4	No	No	No	
411-391 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
404-386 Bolivar Hwy	3	62	68	6	No	***Yes***	***Yes***	***3***
385-361 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
380-362 Bolivar Hwy	3	62	68	6	No	***Yes***	***Yes***	***3***
358-348 Bolivar Hwy	2	62	67	5	No	***Yes***	***Yes***	***2***
355-333 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
334-314 Bolivar Hwy	3	62	69	7	No	***Yes***	***Yes***	***3***
327-309 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
308-294 Bolivar Hwy	3	62	69	7	No	***Yes***	***Yes***	***3***
301-291 Bolivar Hwy	2	62	67	5	No	***Yes***	***Yes***	***2***
286-278 Bolivar Hwy	2	62	69	7	No	***Yes***	***Yes***	***2***
283-275 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
270-252 Bolivar Hwy	2	62	69	7	No	***Yes***	***Yes***	***2***
253-247 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
246-228 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
237-231 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
224-212 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
223-209 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
205-193 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
204-198 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
188-174 Bolivar Hwy	3	62	69	7	No	***Yes***	***Yes***	***3***
183-175 Bolivar Hwy	2	62	70	8	No	***Yes***	***Yes***	***2***
167-153 Bolivar Hwy	3	62	70	8	No	***Yes***	***Yes***	***3***
158-146 Bolivar Hwy	2	64	69	5	No	***Yes***	***Yes***	***2***
147 Bolivar Hwy	1	62	70	8	No	***Yes***	***Yes***	***1***
135-125 Bolivar Hwy	2	64	70	6	No	***Yes***	***Yes***	***2***
130 Bolivar Hwy	1	66	70	4	No	***Yes***	***Yes***	***1***
103 Bolivar Hwy	1	66	70	4	No	***Yes***	***Yes***	***1***
83 Bolivar Hwy	1	66	71	5	No	***Yes***	***Yes***	***1***
53-67 Bolivar Hwy	2	63	66	3	No	***Yes***	***Yes***	***2***
2-10 Old Malesus Road	2	66	69	3	No	***Yes***	***Yes***	***2***
20 Old Malesus Road	1	62	63	1	No	No	No	
23-39 Old Malesus Road	2	62	65	3	No	No	No	
49-85 Old Malesus Road	2	60	60	0	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***94***

Noise Impact Analysis, SR 18 Improvements
Year: ***2031***
Segment: ***B-1***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
29625 Hwy 18 N	1	64	57	-7	No	No	No	
29720 Hwy 18 N	1	59	56	-3	No	No	No	
30090 Hwy 18 N	1	44	58	14	***Yes***	No	***Yes***	***1***
165 Dacus Road	1	44	55	11	No	No	No	
30930 Hwy 18 N	1	44	49	5	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***1***

Noise Impact Analysis, SR 18 Improvements
Year: ***2031***
Segment: ***B-2***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
110 Swink Road	1	43	55	12	No	No	No	
139 Lowery Road	1	44	54	10	No	No	No	
105 Lowery Road	1	44	62	18	***Yes***	No	***Yes***	***1***
85 Lowery Road	1	44	55	11	No	No	No	
80 Lowery Road	2	44	52	8	No	No	No	
133 Lowery Road	1	44	62	18	***Yes***	No	***Yes***	***1***
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***2***

Noise Impact Analysis, SR 18 Improvements
Year: ***2301***
Segment: ***B-3***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
2211 Parkburg Road	1	42	51	9	No	No	No	
903 Medon Malesus	1	42	64	22	***Yes***	No	***Yes***	***1***
45 John Anderson Road	1	42	49	7	No	No	No	
81 John Anderson Road	1	42	57	15	***Yes***	No	***Yes***	***1***
93 John Anderson Road	1	42	53	11	No	No	No	
24 Mandy Road	1	42	56	14	No	No	No	
57 Mandy Road	1	42	49	7	No	No	No	
70 Mandy Road	1	42	52	10	No	No	No	
97 Mandy Road	1	42	52	10	No	No	No	
100 Mandy Road	1	42	61	19	***Yes***	No	***Yes***	***1***
117 Mandy Road	1	42	56	14	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***3***

Noise Impact Analysis, SR 18 Improvements
Year: ***2028***
Section: ***B-4***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
175 Mandy Road	1	40	57	17	***Yes***	No	***Yes***	***1***
195 Mandy Road	1	40	51	11	No	No	No	
205 Mandy Road	1	40	49	9	No	No	No	
213 Mandy Road	1	40	45	5	No	No	No	
482 Seavers Road	1	40	50	10	No	No	No	
570 Seavers Road	1	40	65	25	***Yes***	No	***Yes***	***1***
189 Parkburg Road	1	40	58	18	***Yes***	No	***Yes***	***1***
209 Parkburg Road	1	40	51	11	No	No	No	
210 Parkburg Road	1	40	49	9	No	No	No	
212 Parkburg Road	1	40	52	12	No	No	No	
214 Parkburg Road	1	40	54	14	No	No	No	
219 Parkburg Road	1	40	58	18	***Yes***	No	***Yes***	***1***
225 Parkburg Road	1	40	67	27	No	***Yes***	***Yes***	***1***
239 Parkburg Road	1	40	66	26	No	***Yes***	***Yes***	***1***
240 Parkburg Road	1	40	65	25	***Yes***	No	***Yes***	***1***
241 Parkburg Road	1	40	55	15	No	No	No	
245 Parkburg Road	1	40	55	15	No	No	No	
252 Parkburg Road	1	40	57	17	***Yes***	No	***Yes***	***1***
253 Parkburg Road	1	40	53	13	No	No	No	
54 Seavers Road	1	40	53	13	No	No	No	
Wellington Drive	2	40	52	12	No	No	No	
2387 Hwy 45 S	1	67	68	1	No	***Yes***	***Yes***	***1***
2406 Hwy 45 S	1	67	70	3	No	***Yes***	***Yes***	***1***
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***10***

Noise Impact Analysis, SR 18 Improvements
Year: ***2028***
Section: ***C-1***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
110 Swink Road	1	44	53	9	No	No	No	
11 Lowery Road	1	44	68	24	No	***Yes***	***Yes***	***1***
Lowery Road North	2	44	59	15	***Yes***	No	***Yes***	***2***
Lowery Road South	2	44	60	16	***Yes***	No	***Yes***	***2***
2164 Hwy 18	1	44	60	16	***Yes***	No	***Yes***	***1***
2183 Hwy 18	1	44	61	17	***Yes***	No	***Yes***	***1***
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***7***

Noise Impact Analysis, SR 18 Improvements
Year: ***2028***
Section: ***C-2***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
2210 Parkburg Road	1	43	54	11	No	No	***No***	
2211 Parkburg Road	1	43	60	17	***Yes***	No	***Yes***	***1***
2217 Parkburg Road	1	43	54	11	No	No	No	
1038 Medon-Malesus Road	1	43	65	22	***Yes***	No	***Yes***	***1***
1072/1068 Medon-Malesus Road	2	43	58	15	***Yes***	No	***Yes***	***2***
1093 Medon-Malesus Road	1	43	54	11	No	No	No	
1102 Medon-Malesus Road	1	43	51	8	No	No	No	
1120 Medon-Malesus Road	1	43	51	8	No	No	No	
1695 Hwy 18	1	57	52	-5	No	No	No	
1691 Hwy 18	1	57	55	-2	No	No	No	
1671 Hwy 18	1	57	55	-2	No	No	No	
1669 Hwy 18	1	57	56	-1	No	No	No	
1665 Hwy 18	1	57	57	-1	No	No	No	
1661 Hwy 18	1	57	58	1	No	No	No	
1659 Hwy 18	1	57	59	2	No	No	No	
1655 Hwy 18	1	57	60	3	No	No	No	
1651 Hwy 18	1	57	62	5	No	No	No	
1647 Hwy 18	1	57	63	6	No	No	No	
1641 Hwy 18	1	57	64	7	No	No	No	
1637 Hwy 18	1	57	64	7	No	No	No	
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***4***

Noise Impact Analysis, SR 18 Improvements
Year: ***2031***
Segment: ***C-3***

Receiver	***Number of Residences***	***Existing Leq (dBA)***	***With Project Leq (dBA)***	***Sound Level Increase (dB)***	***Substantial Increase? ****	***Approach/ Exceed NAC?***	***Impacted?***	***Number of Impacts***
1525 Bolivar Hwy	1	59	60	1	No	No	No	
1519 Bolivar Hwy	1	59	57	-2	No	No	No	
1515 Bolivar Hwy	1	59	55	-4	No	No	No	
Medon Malesus Road	2	42	64	22	***Yes***	No	***Yes***	***2***
John Anderson Road	1	42	64	22	***Yes***	No	***Yes***	***1***
594 Medon-Malesus Road	1	42	55	13	No	No	No	
591 Medon-Malesus Road	2	42	50	8	No	No	No	
584 Medon-Malesus Road	1	42	48	6	No	No	No	
563 Medon-Malesus Road	1	42	49	7	No	No	No	
560 Medon-Malesus Road	1	42	47	5	No	No	No	
533 Medon-Malesus Road	1	42	49	7	No	No	No	
519 Medon-Malesus Road	1	42	49	7	No	No	No	
509 Medon-Malesus Road	1	42	46	4	No	No	No	
24 Mandy Road	1	42	46	4	No	No	No	
57 Mandy Road	1	42	51	9	No	No	No	
70 Mandy Road	1	42	53	11	No	No	No	
97 Mandy Road	1	42	53	11	No	No	No	
100 Mandy Road	1	42	63	21	***Yes***	No	***Yes***	***1***
117 Mandy Road	1	42	57	15	***Yes***	No	***Yes***	***1***
* Sound level increase of 10 dB or more and sound level between 57 dBA and 67 dBA.							***Total***	***5***

Appendix D
Parkburg Road Area Noise Barrier Analysis Results

Project: ***SR 18 Improvements***
Description: ***Parkburg Road Area***
Scenario: ***Barrier at Edge-of-Pavement (EOP)***
Background Noise Level (dBA): ***40***

	No Barrier Leq (dBA)		**With Barrier Leq (dBA)**		**IL (dBA)**		
Receiver	**w/o background**	**w/ background**	**w/o background**	**w/ background**	**w/o background**	**w/ background**	**Benefitted?**
East Side Residences							
240 Parkburg Road	65	65	53	53	11	11	Yes
241 Parkburg Road	55	55	52	52	3	3	No
245 Parkburg Road	55	55	50	50	6	5	Yes
252 Parkburg Road	57	57	50	50	7	6	Yes
253 Parkburg Road	53	53	48	49	5	5	Yes
West Side Residences							
189 Parkburg Road	58	58	58	58	0	0	No
209 Parkburg Road	51	51	47	47	4	4	No
210 Parkburg Road	48	49	46	47	3	2	No
212 Parkburg Road	52	52	48	48	4	4	No
214 Parkburg Road	53	54	48	49	5	5	Yes
219 Parkburg Road	58	58	50	51	8	8	Yes
225 Parkburg Road	67	67	54	54	13	13	Yes
239 Parkburg Road	66	66	58	58	8	8	Yes

Project: ***SR 18 Improvements***
Description: ***Parkburg Road Area***
Scenario ***Barrier at Edge-of-Pavement (EOP)***

From	To	Segment Length (ft.)	Wall Type (1)	Barrier Base Elevation (ft.) (2)	Barrier Top Elevation (ft.)(2)	Barrier Height (ft.)	Barrier Area (sq. ft.)
East Side Barrier							
777+00	778+00	100	F	439	449	10	1,000
778+00	779+00	100	F	436	448	12	1,200
779+00	780+00	100	F	433	447	14	1,400
780+00	781+00	100	F	430	444	14	1,400
781+00	782+00	100	F	431	445	14	1,400
782+00	783+00	100	F	432	446	14	1,400
783+00	784+00	100	F	433	447	14	1,400
784+00	785+00	100	F	434	450	16	1,600
785+00	786+00	100	F	435	451	16	1,600
786+00	787+00	100	F	435	451	16	1,600
787+00	788+00	100	F	435	451	16	1,600
788+00	789+00	100	F	435	451	16	1,600
789+00	790+00	100	F	433	447	14	1,400
790+00	791+00	100	F	430	444	14	1,400
791+00	792+00	100	F	431	441	10	1,000
792+00	793+00	100	F	431	441	10	1,000
793+00	***Barrier End***	---	F	432	442	10	---
West Side Barrier							
799+00	798+00	100	F	415	425	10	1,000
798+00	797+00	100	F	419	429	10	1,000
797+00	796+00	100	F	424	434	10	1,000
796+00	795+00	100	F	428	438	10	1,000
795+00	794+00	100	F	433	443	10	1,000
794+00	793+00	100	F	433	443	10	1,000
793+00	792+00	100	F	432	442	10	1,000
792+00	791+00	100	F	431	441	10	1,000
791+00	790+00	100	F	431	441	10	1,000
790+00	789+00	100	F	430	440	10	1,000
789+00	788+00	100	F	433	443	10	1,000
788+00	787+00	100	F	435	445	10	1,000
787+00	786+00	100	F	435	445	10	1,000
786+00	785+00	100	F	435	445	10	1,000
785+00	784+00	100	F	435	445	10	1,000
784+00	783+00	100	F	434	444	10	1,000
783+00	782+00	100	F	433	443	10	1,000
782+00	***Barrier End***	---	F	432	442	10	---
	Length (ft.):	***3,300***				***Barrier Area (sq. ft.):***	***39,000***
						Average Height:	***11.8***
						Area on Retaining Wall:	***0***
						Free Standing Barrier Area:	***39,000***
						Barrier Area on Structure:	***0***
						Barrier Cost (3):	***$780,000***
						Number of Benefitted Residences:	***8***
						Cost Per Benefitted Residence:	***$97,500***
						Allowable Cost per Benefitted Residence:	***$38,000***
						Reasonable?	***No***

(1) F = free standing barrier; S = barrier on bridge structure.
(2) At beginning station.
(3) $20 per square foot for free-standing Type I barriers and $50 per square foot for barriers on structure.