

9.2 STORAGE AND TAPER LENGTHS

For each of these case study corridors, the most recent turning movement traffic volumes were obtained from the Region. This data was supplemented with additional inbound/outbound turning movement counts at the existing driveways abutting the study corridors. Opportunities to consolidate some of these existing driveways or to transform some full-moves driveways into right-in/right-out driveways where other access/egress points are available onto side streets, were also examined. Synchro analyses were undertaken to estimate the storage lengths related to left turn lanes at intersections, or at median openings.

Given the spacing constraints between intersections, the length of taper for left turn lanes would generally need to be reduced as compared to that which is typically provided for a design speed of 60 km/h. This is required in order to achieve a reasonable length and width of median which can be landscaped, rather than simply being used to provide a buffer between opposing traffic lanes. Accordingly, a taper length of 35 metres is used in the design. This is within the range (lower end) of the taper length for roadways assuming a design speed of 60 km/h.

9.3 BASIC CROSS-SECTIONS AND VARIATIONS

As discussed in the previous sections, a basic 36 metre right-of-way requires compromises in order to accommodate all of the competing cross-sectional requirements, as well as a landscaped median. Essentially in order to accommodate a 6.0 metre wide landscaped median in a mid-block location, plus three travel lanes in each direction, 3.4 metre wide boulevards are all that can be achieved within this R.O.W. These can only accommodate utilities and a sidewalk. In the case of commercial, employment campus, industrial and urban mixed use typologies, landscaping typically is required of adjacent uses (e.g. in conjunction with applications for site plan approval) and opportunities exist to place trees along the property line, such that the trees effectively straddle the lot line.

However, in the case of residential uses where reverse frontage development abuts the street, typically a fence or noise wall precludes any opportunity to locate trees along the lot line. It is also particularly important to have landscaping in the boulevard. Also, it is desirable to introduce a landscaped median. In order to achieve this all within the 36 metre ROW, the median width needs to be reduced and the space added to the boulevards for this one typology. Although it would be desirable to retain a 6.0 metre median width through the residential areas as well, this represents the best compromise within the 36 metre right-of-way.

It should also be noted that in four out of the five sections the on-street bike lanes along both sides of the street have been included and illustrated. As previously discussed, the design provides flexibility to designate these from the onset, or alternatively to simply provide a wider curb lane (e.g. to more easily accommodate trucks in the industrial typology, or as a convertible lane which would allow for HOV and bike lanes at some point in the future). As noted, inclusion of on-street bike lanes will depend on network continuity with respect to bike lanes.

9.4 LANDSCAPED STREETScape TREATMENT

The treatment of landscaping in the boulevards and medians is proposed to vary in accordance with the land use typology through which the street passes. For example, in an Urban Mixed Use area the expectation is that the landscaping and streetscape features would be 'harder' than they would in a single family residential area.

Potential streetscape treatments in the medians are for illustrative purposes only, and they should be treated as such. The approach to the various typologies is described in the following sections:

9.4.1 Residential Typology Example

The design intent is to provide a pedestrian friendly streetscape character, with streetscape initiatives which will assist in creating a comfortable sense of human scale in residential neighbourhoods.

The boulevards accommodate a continuous rhythm of high branching deciduous trees in a sodded apron. These trees will create canopy and shade for pedestrians, as well as cyclists adjacent to the curb.

The new median will be instrumental in visually "breaking up" the expanse of the cross-section. At the mid-block locations deciduous trees are proposed, with an underplanting of low hardy deciduous shrubs to add year round interest, colour and texture. A salt apron and raised edges are introduced to minimize damage from salt spray. Occasional breaks are introduced into the median to allow pedestrians to cross the median; however pedestrian crossings at mid-blocks are not specifically designed nor encouraged, as previously discussed under the safety considerations.

The proposed streetscape plan for the residential case study corridor (Case A – McCowan Road near Denison Street) is illustrated in **Figure 9-6**. The perspectives for the existing condition and the future condition with widening and the recommended features, are illustrated in **Figure 9-7**.

9.4.2 Commercial Typology Example

This typology relates to existing commercial uses fronting onto or flanking Regional streets. The context assumes that these areas will continue to urbanize in the future, with a greater emphasis on development defining a new "street wall" of mixed retail uses and greater pedestrian activity.

Boulevards which are currently proposed to be 3.4 metres in width, will become a component of a broader public environment, with an enriched streetscape and pedestrian environment. Street trees are proposed at the street line, with a variety of possible ground plane treatments including planting beds, seating, markers, bicycle racks, pedestrian lighting, waste receptacles, pedestrian lighting and public art initiatives.

The introduction of medians with a mid-block width up to 6.0 metres will significantly "break down" the expanse of the street cross-section and provide unique opportunities to

explore design expressions of the personality of the street, complementing the adjacent land use. Opportunities include public art installations, combined with lighting and hardy urban tree allees, or clusters.

The cross-sections and perspectives employ precedent examples of street furnishings and public art installations from successful urban streetscapes to illustrate unique opportunities to animate and achieve streets with a new urban look and feel. From a pedestrian perspective this would be of significant benefit where the streets would achieve a new “sense of place” and social context.

The proposed streetscape plan for the commercial case study corridor (Case B – McCowan Road near Highway 7) is illustrated in **Figure 9-8**. The perspectives for the existing condition and the future condition with widening and the recommended features, are illustrated in **Figure 9-9**.

9.4.3 Urban Mixed Use Typology Example

The mixed use application shares many of the characteristics of the commercial application, that is an urban context with a need to define the streets with highly animated boulevards and with appropriate paved pedestrian widths suitable to accommodate anticipated future pedestrian uses as new urban forms evolve, (i.e. shops, offices, institutional uses, urban spaces, parks and squares).

An opportunity exists to introduce a rich mixture of soft and hard urban furnishings, including tree canopy, seating, lighting, public art and wayfinding icons, in the boulevards to fulfil a desired healthy urban environment and provide a functional and safe Regional street.

The medians as defined by their length, width and outline are real places to add a new layer of streetscape initiatives to link the boulevards, define scale and animation to the broader street. The urban context will dictate the appropriate material palate relative to durability, cost, safety and maintenance.

The proposed streetscape plan for the urban mixed use case study corridor (Case C – Leslie Street near Highway 7) is illustrated in **Figure 9-10**. The perspectives for the existing condition and the future condition with widening and the recommended features are illustrated in **Figure 9-11**.

9.4.4 Employment Campus Typology Example

The design opportunity is to successfully integrate the expanded street into an employment campus landscape. The concept of creating a “landscape parkway” is achievable through strategic application and positioning of tree plantings in the boulevards and mid-block medians. A double row of deciduous trees in the medians, coupled with corresponding trees positioned along the streetline in the boulevard, will provide a continuous canopy along the street. This initial planting framework will encourage the planting of a second tree on the adjacent corporate block to further strengthen the concept and visually knit the street with the adjacent building sites.

The medians at intersection locations provide the unique opportunity to introduce “corporate” i.d. markers as public art initiatives and encourage the corporate neighbours along the street to engage with the language of the streetscape.

Emphasis on a highly developed pedestrian and cyclist agenda is designed into the street cross-section.

The proposed streetscape plan for the employment campus case study corridor (Case D – 16th Avenue near Highway 404) is illustrated in **Figure 9-12**. The perspectives for the existing condition and the future condition with widening and the recommended features are illustrated in **Figure 9-13**.

9.4.5 Industrial Typology Example

A Regional street in an industrial context possesses its own design rationale. The broader landscape is generally more open, with buildings of significant scale.

The intent is to provide a streetscape which visually provides uniformity and a calming sense of scale to the driver and pedestrian.

The boulevard and median work together to accommodate a placement for hardy deciduous tree planting as a continuous canopy along the street. In this way the street will evolve over time, with the maturity, canopy and scale of the trees, a desired character.

Additional streetscape elements, such as wayfinding markers and banners, would be positive elements to further characterize and animate the streetscape.

Bicycle lanes have been excluded to allow for the additional width in the curb lane to accommodate a higher proportion of truck traffic in this setting. This extra wide lane (5.0 wide) would be used for HOV/transit vehicles, as well as trucks, which are turning to and from this lane. Alternatively, if no HOV lane is planned for this roadway, then the curb lane can be used for mixed traffic, including trucks.

The proposed streetscape plan for the industrial case study corridor (Case E – Weston Road near Steeles Avenue) is illustrated in **Figure 9-14**. The perspectives for the existing condition and the future condition with widening and the recommended features, are illustrated in **Figure 9-15**.

9.5 SAFETY CONSIDERATIONS

It is recognized that the placement of landscape features, any street art, street furniture and light standards should be such that these elements do not pose safety concerns.

Based on the proposed cross-sections, these elements will be set a minimum of 1.4 metres (residential) and 1.0 metre (other cross-sections) offset from the edge of pavement. This is acceptable according to the MTO Roadside Safety Manual, provided that the roadway design speed is 60 km/h or less, and a barrier curb is located a

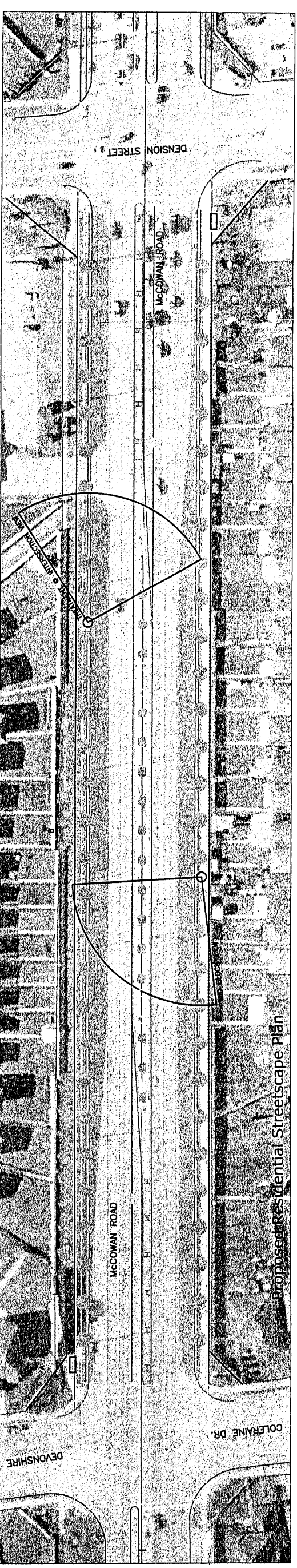
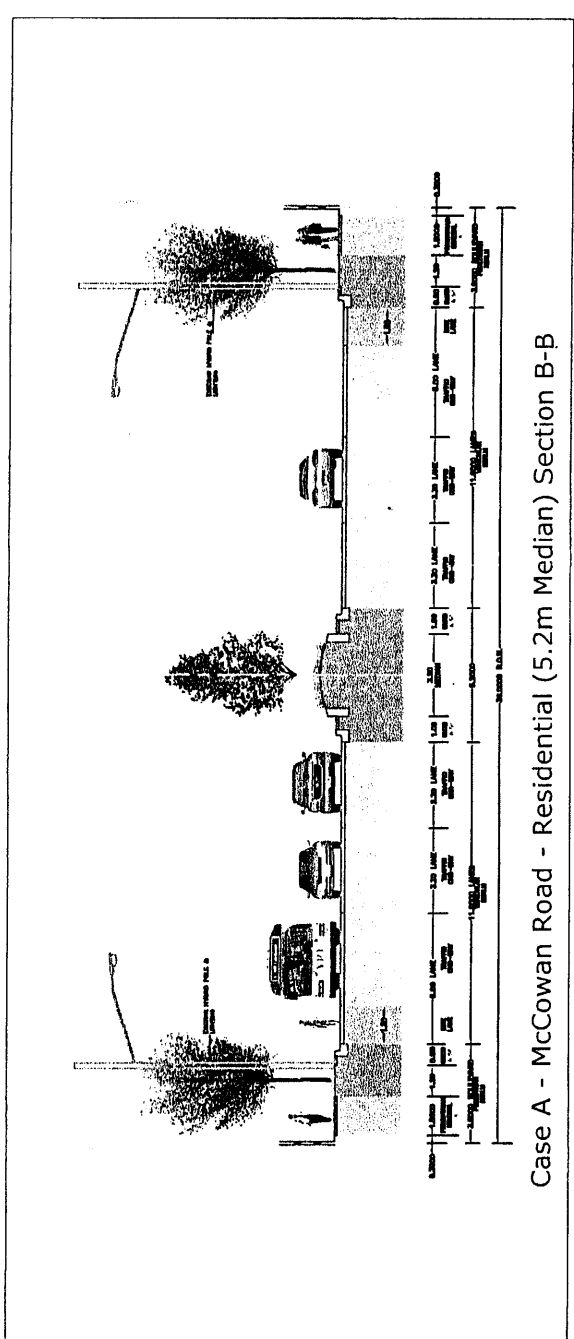
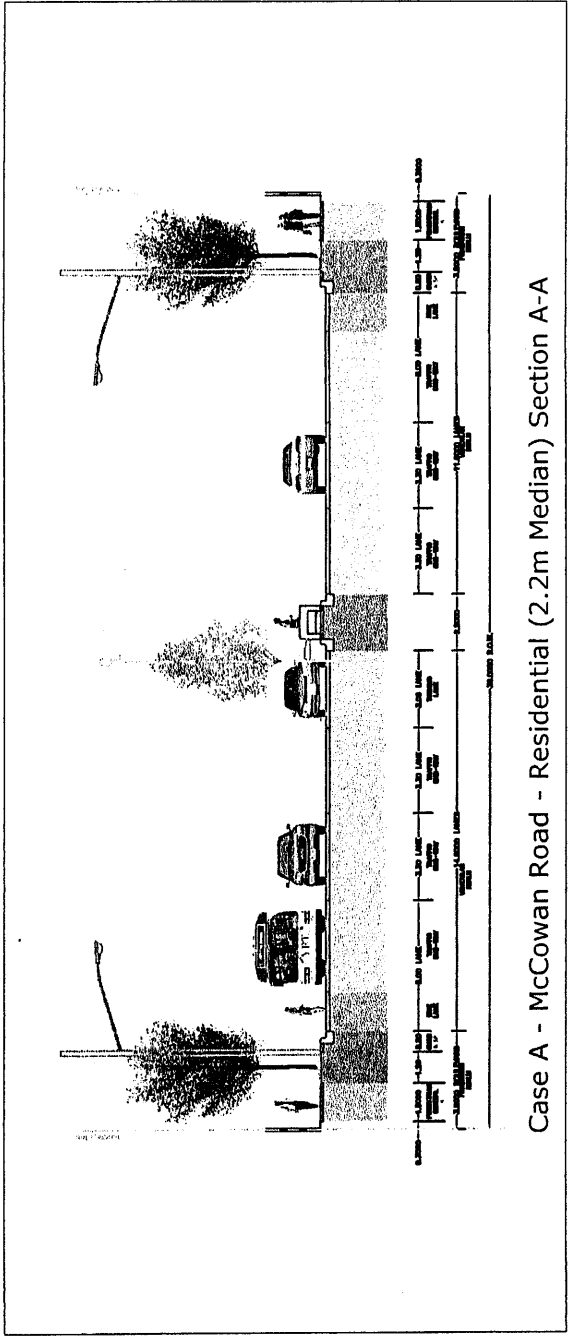
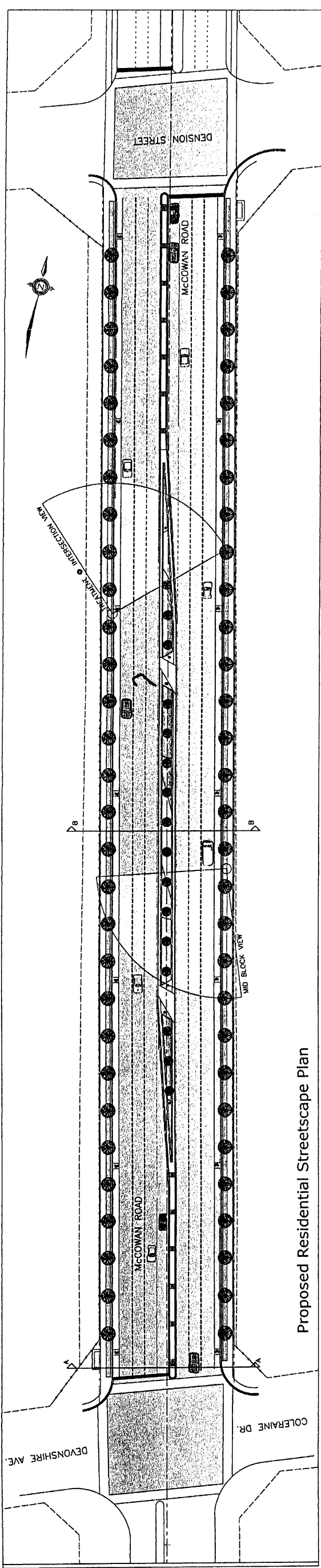
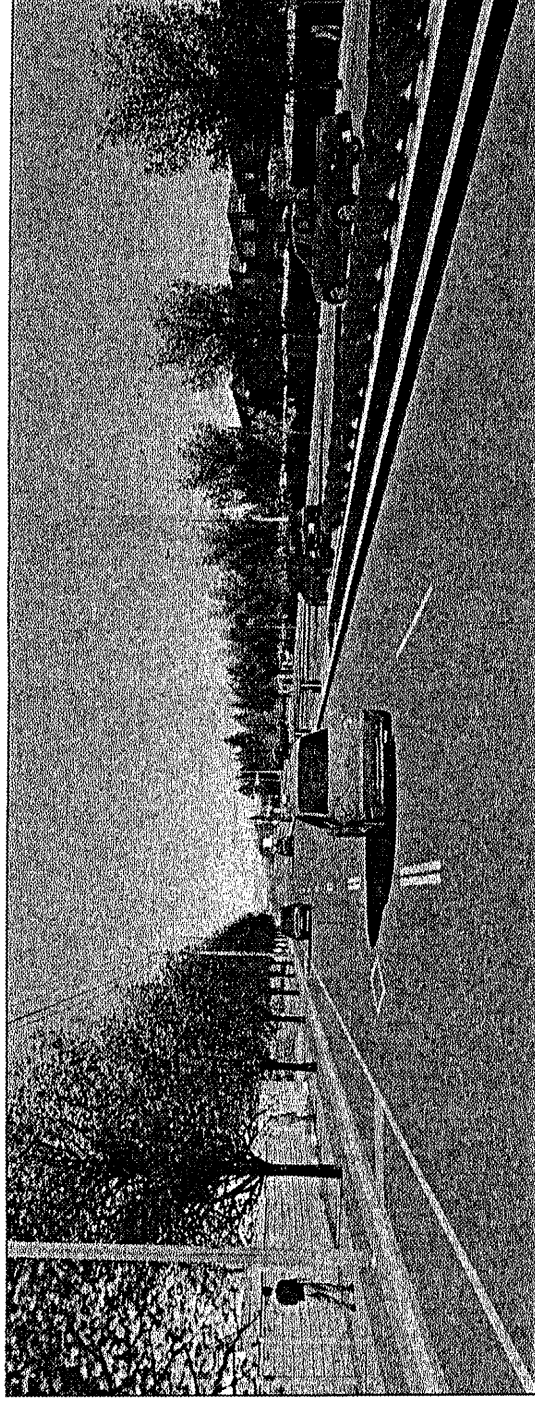


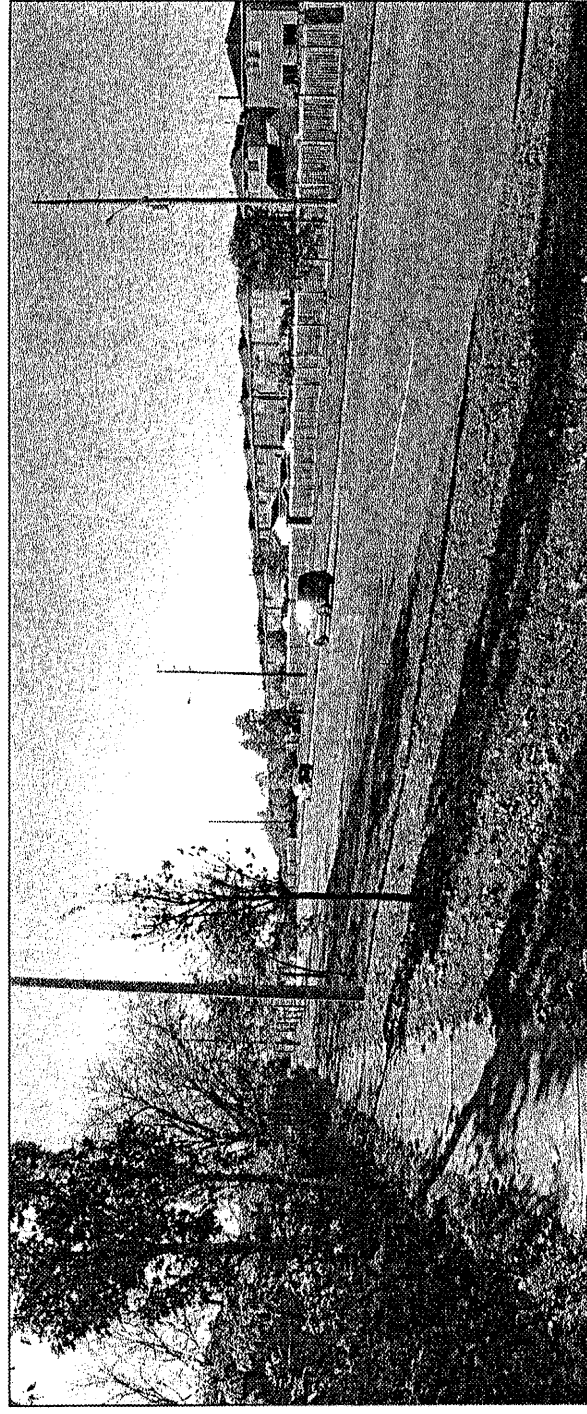
FIGURE 9-6
PROPOSED STREETSCAPE PLAN
CASE A: RESIDENTIAL TYPOLOGY
(McCowan Road Near Denison Street)



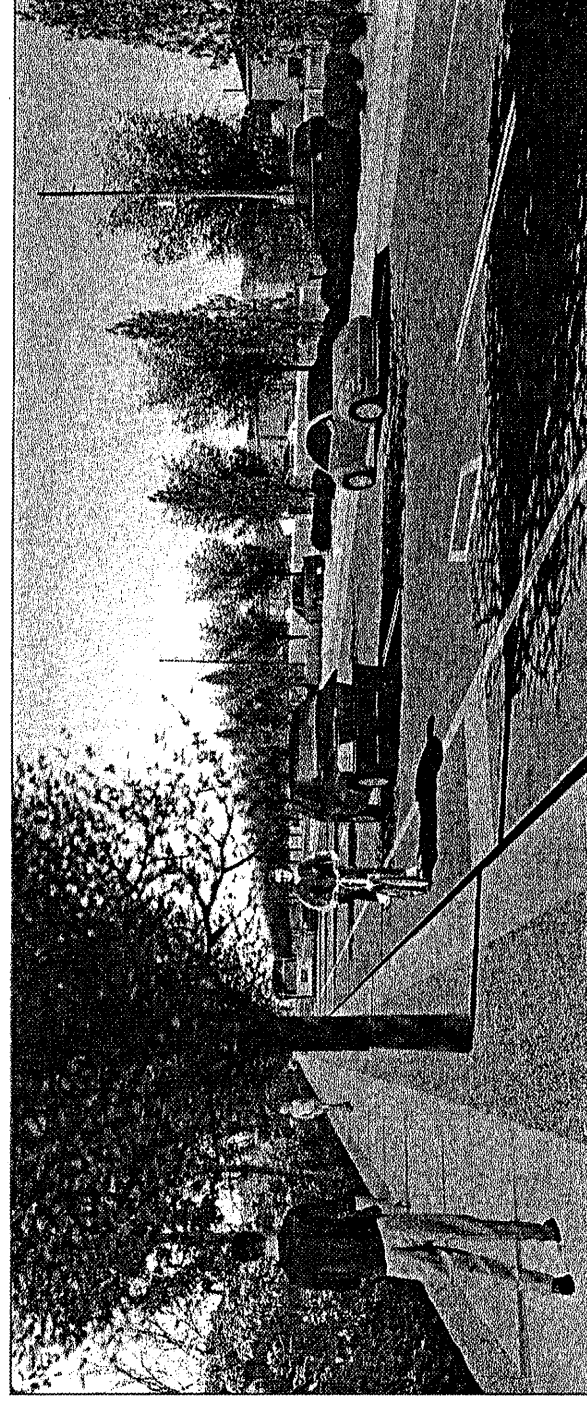
West Side of McCowan Rd. Looking North - Existing



West Side of McCowan Rd. Looking North - Treatment @ Intersection - Proposed



East Side of McCowan Rd. Looking South - Existing



East Side of McCowan Rd. Looking South - Mid Block - Proposed