



SUBDIVISION REGULATIONS FOR

CITY OF BELLEVUE

STATE OF KENTUCKY

2023

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ARTICLE I - APPLICATION AND AUTHORITY OF REGULATIONS

REGULATIONS FOR ESTABLISHING SUBDIVISION PROCEDURES FOR THE SUBMISSION AND APPROVAL OF THE PRELIMINARY AND FINAL PLATS AND RECORDING OF FINAL PLATS: DESIGN STANDARDS AND PRINCIPLES FOR THE LAYOUT OF SUBDIVISIONS AND FOR THE SURVEYING AND PLATTING REQUIREMENTS THEREOF: REQUIRING THE INSTALLATION OF CERTAIN IMPROVEMENTS AND PROVIDING FOR THE NECESSARY CONSTRUCTION AGREEMENTS AND GUARANTEES THEREIN; PROVIDING FOR CERTAIN PRELIMINARY AND FINAL PLAT REQUIREMENTS; DEFINING CERTAIN TERMS USED HEREIN; PROVIDING FOR THE METHOD OF ADMINISTRATION, AND ENFORCEMENT, AND THE PENALTIES FOR VIOLATION THEREOF; PROVIDING FOR THE MEANS OF ADOPTION AND AMENDMENT; REPEAL ALL REGULATIONS, RESOLUTIONS, ORDERS, ORDINANCES AND/OR CODES IN CONFLICT HEREWITH.

SECTION 1.0 SHORT TITLE

These regulations shall be known and may be cited as the "Subdivision Regulations" of City of Bellevue, Commonwealth of Kentucky.

SECTION 1.1 PURPOSE AND AUTHORITY

- A. **PURPOSE:** These Subdivision Regulations as herein set forth, have been prepared in accordance with the adopted comprehensive plan for City of Bellevue to promote the public health, safety, morals and general welfare of the people; to provide for the proper arrangement of streets in relation to existing or proposed streets; to provide for adequate and convenient open spaces for vehicular and pedestrian traffic, utilities, access of firefighting apparatus, recreation, light and air, mitigate traffic congestion, and to facilitate efficient layout and appropriate use of the land. These regulations call for the accurate surveying of land preparing and recording of plats and the fair consideration of applications for subdivisions.
- B. **AUTHORITY:** These regulations are adopted in accordance with the Kentucky Revised Statutes- Chapter 100.111 - 100.991.

SECTION 1.2 SCHEDULE OF CONSTRUCTION AND SALE OF LOTS

No lot, tract, or parcel in a subdivision in which the property is located, may be sold or otherwise transferred unless a Final Plat has been approved by the Bellevue Planning and Zoning Commission (herein after "Planning Commission" or "Commission"), signed by the Chair, and recorded, in the land records of the Campbell County Clerk.



SECTION 1.3 SCHEDULE OF IMPROVEMENTS

The Subdivider of any tract or parcel of land shall not proceed with the construction of any improvements until he has obtained: (1) approval or conditional approval of the Preliminary Plat; or (2) approval or approval subject to conditions, of the improvement drawings and specifications; or (3) Final Plat approval. Preliminary grading of the site may proceed following approval or conditional approval of the Preliminary Plat, provided that plans for erosion and sedimentation are submitted to the Planning Commission's duly authorized representative, (herein after "Commission Representative" or "Representative"), for approval or approval subject to conditions.

SECTION 1.4 GENERAL RESPONSIBILITIES

- A. **SUBDIVIDER:** The Subdivider shall: use a registered professional land surveyor or registered professional engineer, as defined herein, to prepare plats and plans consistent with the design standards; accomplish improvements consistent with the improvement requirements; and submit said plats and plans in accordance with these regulations.
- B. **PLANNING COMMISSION:** The Planning Commission, or its Representative, are charged with the duty of making investigations and reports on the design and construction inspections of improvements of proposed subdivisions, and requiring conformance of such subdivisions with the Kentucky Revised Statutes, Chapter 100, and these regulations.
- C. **DELEGATION OF AUTHORITY BY PLANNING COMMISSION TO ITS REPRESENTATIVE:** Pursuant to KRS 100, the Planning Commission may delegate certain authority to its Representative. These delegations of authority are as provided in these regulations. However, the Planning Commission shall have final approval authority over all actions of its Representative as provided for in Article VIII of these regulations.



ARTICLE II - DEFINITIONS

SECTION 2.0 WORDS AND PHRASES

For the purpose of these regulations, certain terms, phrases, word, and their derivatives, are herewith defined as follows:

Words used in the future tense include the present;

Words used in the present tense include the future;

Words used in the singular form include the plural;

Words used in the plural form include the singular;

Words used in the masculine include the feminine;

Words used in the feminine include the masculine;

The word "shall" means mandatory;

The words "may" and "should" means permissive.

ACCESS POINT: An access point is:

- (1) A driveway, a local street, a collector street, or subcollector street, intersecting an arterial street;
- (2) A driveway or a local street intersecting a collector street or subcollector street; or
- (3) A driveway or a local street intersecting a local street.

AGRICULTURAL USE: The use of a tract of land consistent with KRS 100.111 for the production of agricultural crops, including but not limited to livestock, livestock products, poultry, poultry products, grain, hay, pastures, soybean, tobacco, timber, orchard fruits, vegetables, flowers or ornamental plants, but not including residential building development for sale or lease to the public.

ALLEY: Public right-of-way which normally affords a secondary means of access to abutting property.

BLOCK: A parcel of land within a subdivision that is bounded by streets or bounded by streets and the exterior boundary of the subdivision. For this definition, an alley is not considered a street, but part of the block.

BLOCK LENGTH: The distance between intersections of through streets, such distance being measured parallel to the longest street bounding the block and from right-of-way line to right-of-way line of the two intersecting streets.



CERTIFICATE OF OCCUPANCY: A certificate issued upon successful completion of a construction improvement, change of use of a structure or change of commercial occupancy.

CITY OR COUNTY INSPECTOR: A person employed or contracted by the City of Bellevue whose responsibility it is to inspect items required by these regulations. This includes the City Manager, the Commission's Representative, City Engineer, and Public Works Director.

COMMISSION (OR PLANNING COMMISSION, OR PLANNING AND ZONING COMMISSION): The City of Bellevue Planning and Zoning Commission, Commonwealth of Kentucky.

COMMISSION REPRESENTATIVE: An individual or group of individuals appointed by the Bellevue Planning and Zoning Commission authorized to check, review, and approve, where provided in these regulations, all submissions regarding their conformance to these regulations.

COMPREHENSIVE PLAN: The comprehensive plan for the city of Bellevue, Kentucky, adopted by the Planning Commission. It is a guide for public and private actions and decisions to assure the development of public and private property in the most appropriate relationships. It shall contain as a minimum, the following elements:

- A. A statement of goals and objectives, principles, policies and standards;
- B. A land use plan element;
- C. A transportation plan element;
- D. A community facilities plan element;
- E. May include any additional elements, such as, without being limited to: community renewal, housing, flood control, pollution, conservation, natural resources, and others.

DEVELOPER: Synonymous with the term "Subdivider".

EASEMENTS: A right, distinct from the fee ownership of the land, to cross property with facilities such as, but not limited to, location of sewer lines, water lines, and transmission lines, or the right, distinct from the ownership of the land, to reserve and hold an area for drainage or access purposes.

ENGINEER: A qualified registered professional engineer in good standing with the Kentucky Board of Registration for Professional Engineers and Land Surveyors.

FLOOD: A general and temporary condition of partial or complete inundation of normally dry land areas from: (a) the overflow of inland waters; (b) the unusual and rapid accumulation of runoff of surface waters from any source; and (c) mudslides (i.e., mudflows) which are caused or precipitated by accumulations of water on or under the ground.



FLOOD INSURANCE RATE MAP (FIRM): A map on which the Federal Emergency Management Agency (FEMA) has delineated special flood hazard areas and risk premium zones.

FLOOD, BASE: A flood which has a one percent chance of being equaled to or exceeded in any given year (also referred to as the “100-year flood”).

FLOOD PLAIN OR FLOOD PRONE AREA: Any land area that is susceptible to being inundated by water from any source.

FLOODWAY, REGULATORY: The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge Base Flood without cumulatively increasing the water surface elevation more than one foot at any point.

FRONTAGE: All the property abutting one side of the right-of-way of a street, measured along the right-of-way line of the street between the intersecting lot lines. In no case shall the line along an alley be considered as acceptable for frontage.

IMPROVEMENT PLANS: The engineering plans consisting of all items to be installed as identified in Article VII of these regulations consisting of drainage systems, sanitary and storm systems, water systems, streets, sidewalks, street lighting, utilities, etc., but excluding building plans which are reviewed in conformance with the zoning ordinance and building code.

LOT: A parcel of land or any combination of several lots of record, occupied or intended to be occupied by a principal building or a building group including accessory buildings or uses and such access, yards, and other open spaces required under as permitted under the City Zoning Ordinance.

LOT OF RECORD: Except as otherwise defined by Kentucky law, a lot, parcel or tract of land designated on a plat, survey, or deed, recorded with the Campbell County Clerk.

LOT AREA: The total area of a horizontal plane bounded by the front, side, and rear lot lines, but not including any area occupied by street, alley, or railroad rights-of-way, as opposed to an easement.

LOT, CORNER: A corner lot bound by two or more adjacent streets or by portions of such curved streets having an angle of intersection of one hundred thirty-five (135) degrees or less.

LOT, DEPTH OF: The distance measured in the mean direction of the side lot lines from the midpoint of the front lot lines to the midpoint of the rear lot lines.

LOT, DOUBLE FRONTAGE: A lot other than a corner lot that has frontage on more than one street.



LOT, FLAG: An irregularly shaped lot where unobstructed access is provided from a public street frontage through a strip of land narrower than the required minimum frontage.

LOT, INTERIOR: A lot other than a corner lot with only one frontage on a deeded and occupied public right-of-way.

LOT LINE, FRONT: The common boundary line of a lot and a street right-of-way line. In the case of a corner lot or a double frontage lot, the common boundary line and that street right-of-way line toward which the principal or usual entrance to the main building faces.

LOT LINE, REAR: The boundary line of a lot which is most nearly opposite the front lot line of such lot. In the case of a triangular or wedge-shaped lot, for measurement purposes only, a line ten (10) feet in length within the lot parallel to and at the maximum distance from the front lot line. In the case of a corner lot, providing that all requirements for yard space are complied with, the owner may choose either side not abutting a street as the rear lot line, even though it is not opposite the front lot line. Once the choice has been made, it cannot be changed unless all requirements for yard space can be complied with.

LOT LINE, SIDE: Any boundary line of a lot, other than a front lot line or rear lot line.

LOT WIDTH: The width of the lot as measured between the side lot lines along the building front setback line.

OFFICIAL MAP: The adopted official map of the city of Bellevue as provided for in the Kentucky Revised Statutes, Chapter 100.

PLAT, FINAL: A subdivision plat proposed in accordance with the provisions herein in which said plat is designated to be placed on record with the Campbell County Clerk after approval by the Planning Commission or its Representative.

PRELIMINARY PLAT: A tentative plat of a proposed subdivision prepared in accordance with the provisions herein for presentation to the Planning Commission for its action.

RESUBDIVISION: A subdivision of an existing subdivision by which the older lot lines are redrawn, but where no new improvements are to be constructed or extended.

RIGHT-OF-WAY: An area that allows for the passage of people or goods. Right-of-way includes passageways such as freeways, pedestrian connections, streets and alleys. A right-of-way may be dedicated or deeded to the public for public use and under the control of a public agency, or it may be privately owned. A right-of-way that is not dedicated or deeded to the public will be in a tract.

STREETS: A public vehicular way, except alleys, constructed within the boundaries of an officially deeded and accepted public right-of-way, which affords principal means of access to abutting property.



STREET, ARTERIAL: Public thoroughfares which serve the major movements of traffic primarily from subcollector to arterial streets.

STREET, CUL-DE-SAC OR COURT: A street having an outlet at one end only and having the other end permanently closed with facilities permitting vehicles to turn around.

STREET, DEAD-END: A street having an outlet at one end only and terminated at the other end by undeveloped property. It may or may not have facilities permitting vehicles to turn around.

STREET, EXPRESSWAY: A divided arterial highway for through traffic with full or partial control of access and generally with grade separations at major intersections.

STREET, FREEWAY: A divided multi-line highway for through traffic with all crossroads separated in grades and with full control of access.

STREET, FRONTAGE ROAD (SERVICE OR ACCESS ROAD): A street adjacent to a freeway, expressway, or arterial street separated therefrom by a dividing strip and providing access to abutting properties.

STREET, LOCAL: Roadways which are designed to be used primarily for direct access to abutting properties.

STREET, PRIVATE: A paved roadway which affords access to abutting property for private users of such property. For the purposes of density calculations, a private street shall constitute the areas of its paved surface and sidewalks or the private right-of-way if designated on the recorded plat.

STREET, PUBLIC: A public roadway, constructed within the boundaries of an officially dedicated public right-of-way, which affords principal means of access to abutting property. For purposes of density calculations, a public street shall constitute all of the area within the public right-of-way.

STREET, SUBCOLLECTOR: A street designed to provide a traffic route from local to collector or arterial streets.

SUBDIVIDER: Any individual, firm, association, syndicate, co-partnership, corporation, trust, governmental agency or any other legal entity commencing proceedings under these regulations, to create a subdivision of land as defined herein.

SUBDIVISION: The division of a parcel of land into two or more lots or parcels or tracts for the purpose, whether immediate or future, of sale, lease, or building development, or if a new street is involved, any division of a parcel of land; providing that a division of land for agricultural use and not involving a new street shall not be deemed a subdivision. The term includes resubdivision and when appropriate to the context shall relate to the process of subdivision or to the land subdivided.



SURVEYOR: A qualified registered land surveyor in good standing the Kentucky Board of Engineers & Land Surveyors.

TRACT: A parcel of land identified by letter or number, the boundaries of which are shown on the recorded subdivision plat.



ARTICLE III - SUBDIVISION PROCEDURE

Any person desiring to subdivide any lot, tract or parcel of land, or to change or rearrange any such lot, tract, or parcel of land within the jurisdiction of the city of Bellevue, shall comply with the procedures established in this article and other applicable articles and sections of these regulations and in the sequence specified.

SECTION 3.0 PRE-APPLICATION CONFERENCE

Subdivider shall notify the Commission's Representative of its the intention to subdivide property prior to submission of a Preliminary Plat. Such notification requires a pre-application conference, unless waived by the commission's representative, to discuss the proposed land development for conformance to the Comprehensive Plan, Zoning Ordinance and Subdivision Regulations. Additional coordination may be required with applicable regulatory agencies such as the Northern Kentucky Water District (NKWD), Sanitation District No. 1 (SD1), Northern Kentucky Health Department. Coordination with the Kentucky Transportation Cabinet's (KYTC) Department of Highways, Bellevue Public Works, Campbell County Public Works, and Fire Department of Bellevue-Dayton (FDBD) may also be required.

SECTION 3.1 SUBMISSION OF PRELIMINARY PLAT

The Subdivider shall submit an application, a copy of the preliminary plat and the fee prescribed in section 8.1 of these regulations with the Planning Commission's Representative, prepared in accordance with the requirements of Article IV of these regulations. The Representative shall review the application package for the Planning Commission for completeness and, if complete, place it on an upcoming agenda. The Subdivider shall also submit copies of the Preliminary Plat to the applicable public and private utilities, roadway department(s), Bellevue city administration, and the FDBD.

SECTION 3.2 PROCESSING OF THE PRELIMINARY PLAT

The Preliminary Plat, the application, and all other required information, shall be reviewed by the Commission's Representative for compliance with: (1) the requirements of the Preliminary Plat as per Article IV; (2) the requirements of the Zoning Ordinance; and (3) any other pertinent sections of applicable regulations. The Commission's Representative shall also contact the applicable local and state governmental agencies and other interested organizations for their comments concerning the Preliminary Plat.

SECTION 3.3 PLANNING COMMISSION ACTION

The Commission's Representative, shall review the Preliminary Plat to determine conformance to the requirements of these regulations, and the recommendations and comments of all applicable state and local regulatory agencies and other organizations, and shall forward such recommendations and comments to the Planning Commission along with its recommendations. The Planning Commission shall then review the



submittal, and take one of the following actions: (1) approve the plat; or (2) approve the plat, subject to conditions; or (3) disapprove the plat; within ninety (90) calendar days of the receipt of an administratively complete submittal per KRS 100.281, unless such time is extended by agreement between the planning commission and the Subdivider. Approval of the Preliminary Plat by the Planning Commission does not constitute final approval of the subdivision, but is merely an authorization to proceed with the preparation of the improvement drawings, specifications and the Final Plat.

In the event of conditional approval or disapproval of the Preliminary Plat, a statement, in writing, by the Planning Commission setting forth the conditions of approval, or reasons for disapproval, shall be provided to the Subdivider.

Approval or conditional approval of a Preliminary Plat shall be valid and not subject to additional requirements for a period of twenty-four (24) consecutive calendar months, except that if a portion of an approved Preliminary Plat is approved or conditionally approved as a Final Plat, said approval or conditional approval of the remainder of the Preliminary Plat shall be valid for twenty-four (24) consecutive calendar months after the date of approval or conditional approval of said Final Plat (as provided for in Section 3.7). The Planning Commission may, upon receipt of a request by the Subdivider, grant an extension to this twenty-four (24) month period.

SECTION 3.4 SUBMISSION AND PROCESSING OF PRELIMINARY GRADING PLANS

Following approval or conditional approval of the Preliminary Plat, the Subdivider may elect to proceed with preliminary grading of the area to be subdivided, provided that plans for erosion and sedimentation are submitted to the Commission's Representative who shall check the erosion and sedimentation plans for preliminary grading for their conformance with the approved or conditionally approved Preliminary Plat and that they meet the requirements established in Article VII and other pertinent sections of these regulations.

Following this review, the Commission's Representative shall take one of the following actions; (1) approve the erosion and sedimentation plans for preliminary grading; (2) approve the erosion and sedimentation plans for preliminary grading, subject to conditions; or (3) disapprove the erosion and sedimentation plans for preliminary grading. In the event of conditional approval or disapproval, a statement, in writing, by the Commission's Representative, setting forth the conditions of approval, or the reasons for disapproval, shall be submitted to the subdivider.

SECTION 3.5 SUBMISSION OF IMPROVEMENT DRAWINGS AND SPECIFICATIONS

Following approval or conditional approval of the Preliminary Plat by the Planning Commission, the Subdivider may elect to submit the improvement drawings and specifications to the Commission's Representative for review and approval, prior to the submission of the Final Plat. The Subdivider must submit copies of the improvement



drawings and specifications to the applicable local and state regulatory agencies. Said improvement drawings and specifications shall include at least the area intended for development on the Final Plat. The Subdivider shall then submit to the Planning Commission's Representative, the following:

1. Sanitary Sewer & Storm System Plans and Profiles;
2. Water System Plans;.
3. Street Plans and Profiles, including typical cross sections;.
4. Drainage Report, including computations;.
5. Plans for control of erosion and sedimentation;
6. The required fees as per Section 8.1 of these regulations.

SECTION 3.6 PROCESSING OF IMPROVEMENT DRAWINGS AND SPECIFICATIONS

The Commission's Representative shall check the improvement drawings for conformance with the approved or conditionally approved Preliminary Plat and that they meet the requirements established in Article VII and other pertinent sections of these regulations. The Commission's Representative shall also contact the applicable local and state regulatory agencies for their comments on the proposed improvement drawings and specifications. Following these reviews, the Commission's Representative shall take one of the following actions: (1) approve the improvement drawings and specifications; (2) approve the improvement drawings and specifications, subject to conditions; or (3) disapprove the improvement drawings and specifications. In the event of conditional approval or disapproval, a statement, in writing, by the Commission's Representative, setting forth the reasons for conditional approval or disapproval, shall be submitted to the Subdivider.

SECTION 3.7 SUBMISSION OF THE FINAL PLAT

- A. **GENERAL:** The Final Plat shall be submitted only after the Preliminary Plat has been approved, or conditionally approved. The Final Plat shall conform to the approved or conditionally approved Preliminary Plat and shall include all changes, additions, deletions, or approvals as may be required on conditional approval by the Planning Commission, and shall be prepared in accordance with Article V and other applicable sections of these regulations.
- B. **PREPARATION:** The Subdivider may cause, within twenty-four (24) consecutive calendar months after the approval or conditional approval of the Preliminary Plat, subdivision or any part thereof, to be surveyed and a Final Plat to be prepared. The Final Plat shall contain only that portion of the approved or conditionally approved Preliminary Plat which the Subdivider wishes to have approved, recorded, and developed. Final plats, which are a portion of the approved or conditionally approved Preliminary Plat, shall be named and listed as "Filing No. (assigned by Subdivider's engineer or surveyor) of (Name of Subdivision)". Final plats which are resubdivisions of approved and recorded Final Plats shall be labeled as "RESUBDIVISION OF (Appropriate listing Title)". The Final Plat must be prepared under the supervision of a Surveyor or Engineer.



- C. **FILING:** The subdivider shall submit, to the Commission's Representative, four (4) copies of the Final Plat drawing prepared in accordance with Article V of these regulations. The following material shall also be filed with the Commission's Representative, unless otherwise noted:
1. Application for Final Plat Approval: An application, provided by the Commission's Representative, shall be submitted;
 2. Traverse Sheets: A copy of the traverse calculations. The minimum traverse calculations required shall include a closed traverse of the subdivision boundaries;
 3. Improvement Drawings and Specifications: Improvement drawings and specifications;
 - a. A copy of the Sanitary Sewerage & Storm Systems Plans and Profiles;
 - b. A copy of the Water System Plans;
 - c. A copy of the Street Plans and Profiles, including typical cross sections;
 4. Drainage Plans Including Computations and Plans for Control of Erosion and Sedimentation: This report will be required, if not submitted previously for processing, as per Sections 3.4 & 3.5;
 - a. A copy of Drainage Report, including computations;
 - b. A copy of plans for control of erosion and sedimentation;
 5. As-Built Improvement Drawings: Where the improvement drawings and specifications were previously submitted and approved prior to the submission of the Final Plat, as per sections 3.5 and 3.6, and where improvements were constructed differently from the originally approved improvement drawings, the Subdivider shall submit one (1) copy of as-built Improvement Drawings for streets, sanitary sewerage and storm system and water system;
 6. Final Plat Fees: Final Plat fees shall be submitted in accordance with Section 8.1;
 7. Guarantee: A guarantee (if applicable) per Section 7.16 of these regulations.

SECTION 3.8 PROCESSING OF THE FINAL PLAT AND WHERE APPLICABLE, THE IMPROVEMENT DRAWINGS AND SPECIFICATIONS

The Planning Commission's Representative shall review the Final Plat for conformity with the approved, or conditionally approved, Preliminary Plat and all other aspects of the application as required in Article VI and other sections of these regulations. Where applicable, the Commission's Representative, shall also review the improvement drawings and specifications, drainage plans and plans for erosion and sedimentation control, for conformity with the Final Plat and that the submission meets the requirements established in Article VII and other pertinent sections of these regulations. In the event



the improvement drawings and specifications were previously submitted and approved, prior to the submission of the Final Plat, and where improvements were constructed differently from the originally approved improvement drawings, the Commission's Representative shall review the as-built drawings (if required as per Section 3.7, C, 5) for their conformity to the Final Plat. Where improvements were constructed in substantive compliance with the originally approved improvement drawings, the Subdivider's engineer shall certify, in writing to the Planning Commission that the improvements have been constructed and tested where applicable, in accordance with the approved improvement drawings including any condition(s) added by the Commission's Representative.

SECTION 3.9 PLANNING COMMISSION ACTION

Following the review of the Final Plat and when applicable, the improvement drawings and specifications, the Planning Commission shall take one of the following final actions:

- A. **FINAL APPROVAL:** final approval of a plat shall be given in one of two ways:
1. **After Construction of Improvements:** After the Subdivider has obtained approval or conditional approval, as described in Section 3.6 and has installed all required improvements in compliance with these regulations and has provided as-built drawings, (if such improvements were constructed differently from the originally approved improvement drawings), the Planning Commission shall then consider giving final approval. Where final approval is granted, the original drawing of the Final Plat shall then be signed and dated by the Chair;
 2. **Before Construction of Improvements:** The Planning Commission may give final approval before all required improvements are installed, provided that a construction agreement and a guarantee are provided for the purpose of assuring installation of such improvements. The amount of the guarantee for the improvements shall be based on an estimate made by the Subdivider and approved by the Commission's Representative (see Section 7.16). Upon determination that all requirements of these regulations have been met, the Planning Commission shall give final approval. The original drawing of the Final Plat shall then be signed and dated by the chair of the Planning Commission. The guarantee shall not be returned to the subdivider until all improvements are installed, and as-built drawings have been provided, according to these regulations.
- B. **DISAPPROVAL:** Should the Planning Commission decide to disapprove the Final Plat, written notice of such action, including the reasons for disapproval shall be provided to the Subdivider in writing by the Commission's Representative. The action shall be entered in the official records of the Planning Commission.



SECTION 3.10 EFFECT OF APPROVAL

After the Final Plat has been approved by the Planning Commission, and signed by the Chair, it shall then be submitted to the Bellevue City council for a determination of “acceptance for maintenance” (see Section 3.14) and be recorded by the Subdivider.

SECTION 3.11 DISPOSITION OF APPROVED FINAL PLAT

After approval of the Final Plat by the Planning Commission, or the Commission’s Representative, the subdivider will provide a copy of the Final Plat to be retained by the Planning Commission.

SECTION 3.12 RECORDING

After approval of the Final Plat, the original drawing of the approved Final Plat shall be filed in the Campbell County Clerk's office, after which lots may be sold, leased, or otherwise transferred. A certificate of occupancy, however, may not be issued until all required improvements have been installed. In the case where sidewalk improvements have not been completed, a conditional certificate of occupancy shall be given, provided either a guarantee is executed as per section 7.16, of these regulations, or a time period for completion is established, by contract with the City not to exceed six (6) months, signed by both the builder and owner of the premises, which the improvements will serve.

SECTION 3.13 SUBMISSION OF AS-BUILT IMPROVEMENT DRAWINGS

In the case where the Planning Commission has given Final Plat approval before construction of improvements as per Section 3.9, and after all water, sewer, and street improvements have been installed, the Subdivider shall submit to the Commission’s Representative, a copy of the as-built drawings for water, sanitary and storm sewer, and street improvements, if improvements were constructed differently from the previously submitted and approved improvement drawings.

SECTION 3.14 ACCEPTANCE OF IMPROVEMENTS FOR MAINTENANCE AND/OR LAND OFFERED FOR DEDICATION

After all improvements have been installed in accordance with the approved improvement drawings and specifications, the record copies of drawings shall be submitted. The Subdivider’s engineer shall certify in writing that the improvements have been installed per plan or submit signed as-built drawings. The City’s inspector shall indicate whether inspections were made and approved, as per Section 7.13 of these regulations.

The applicable regulatory and legislative bodies may accept the improvements for maintenance, or in the case of lands to be dedicated, may accept such lands in fee simple, by easement, or other such arrangement approved by the regulatory or legislative body, pursuant to applicable Kentucky law and regulations. Acceptance of any street, or other public ground, is regulated by KRS 100.277(4).



The Subdivider is responsible for recording the signed record plat with the Campbell County Clerk's office and shall provide evidence of the recording to the Commission's Representative.

SECTION 3.15 SUBMISSION AND PROCESSING OF IDENTIFICATION PLATS

- A. **GENERAL:** It is the purpose of the Identification Plat to provide a process whereby not more than two lots may be subdivided from tracts, without having to be processed through the preliminary and Final Plat procedures, as established in these regulations. Said Identification Plat process is also intended to provide for certain lot line adjustments that may be required (e.g., such as side and rear lot lines when involving no more than three contiguous lots. In order to be processed as an Identification Plat, the following requirements must be met in addition to other requirement of these regulations:
1. The parcel to be subdivided will not involve the construction of any public water lines, storm and sanitary sewers, and streets, which require review and processing through preliminary and final platting procedures;
 2. Not more than two lots may be subdivided from an original parent tract of land existing since January 1, 1982 via the Identification Plat process;
 3. Lot lines that are to be adjusted in already recorded subdivisions shall not involve more than three contiguous lots. If more than three lots are involved then said lots shall be evaluated as a resubdivision and processed according to the applicable requirements of the preliminary and Final Plats;
 4. Except as noted in item (3) above, the Identification Plat process shall not be permitted in areas already approved or conditionally approved as a Preliminary Plat.
- B. **SUBMISSION OF THE IDENTIFICATION PLAT:** The Subdivider shall submit to the Commission's Representative, an application, fee, and three originals of the Identification Plat at a size measuring 8-1/2 x 11" or 8-1/2 x 14" (suitable for attachment to a deed) and prepared in accordance with the applicable requirements of Article V and other pertinent sections of these regulations. In addition, the Identification Plat shall also contain the following information:
1. A statement by a registered land surveyor preparing the plat that the parcel represents the first or second parcel subdivided from the original parent tract of land since 1982;
 2. In the case of the second lot to be subdivided, sufficient information shall be provided to locate the parcel being subdivided in relation to the previous subdivided parcel, as well as its location within the original parent tract of land since 1982;
 3. A vicinity map drawn at a scale of one (1) inch to two thousand (2,000) feet or greater (e.g., one (1) inch to one thousand (1,000) feet) on the plat



showing, within one half (1/2) mile of the proposed subdivision, existing roads and other significant features such as streams and lakes;

4. One copy of the Surveyor's traverse calculations. The minimum traverse calculations required shall include a closed traverse of the subdivision boundaries.

- C. **PROCESSING OF IDENTIFICATION PLAT:** The Commission's Representative shall review the identification plat as per the applicable requirements of Article V, the requirements of this section, and other pertinent sections of these regulations. Once approved, the Subdivider or applicant may then proceed to record the conveyance plat in the Campbell County Clerk's office.

SECTION 3.16 SUBMISSION AND PROCESSING OF CONDOMINIUM PROPERTY REGIME PLATS

- A. **GENERAL:** In accord with the Horizontal Property Law (KRS 381.805 - 381.910), whenever a Subdivider, the sole owner, or the co-owners of a building or buildings constructed or to be constructed, expressly declare, through the recording of a master deed or lease, a condominium property regime may be established. Once the property is submitted to the condominium property regime, a unit in the building(s) may be the subject of ownership possession or sale and other acts as if it were independent of the other units in the building(s) of which they form a part and the corresponding individual titles and interest shall be recordable. It is the purpose of the condominium property regime platting to provide a process whereby two or more apartments, townhouses, rooms, office spaces, or other units existing or proposed buildings or structures may be subdivided and offered or proposed to be offered for sale in accordance with requirements of these regulations. In order to be processed as a condominium property regime plat, the following requirements must be met in addition to other requirements of these regulations and applicable sections of KRS 381.805 - 381.910:

1. For proposed condominium projects involving private or public improvements, a Preliminary Plat, and improvement drawings are required to be submitted for processing in accord with these regulations;
2. For existing building conversions not involving public improvements, submission and processing shall be in accord with Section 3.16, B. and C. of these regulations.

- B. **SUBMISSION OF CONDOMINIUM PROPERTY REGIME PLATS:** The Subdivider shall submit to the Commission's Representative, a copy of the Final Plat drawing prepared in accordance with Article V of these regulations. The Final Plat shall include the location of the building or buildings proposed for the condominium project. At this time, the following information shall be filed with the Commission's Representative:



1. Application for Condominium Property Regime Plat Approval: An application, provided by the Planning Commission's Representative, shall be submitted at the time of filing for Condominium Property Regime Plat approval;
 2. Traverse Sheets: A copy of the traverse calculations. The minimum calculations required shall include a closed traverse of the property;
 3. Master Deed or Lease: A copy of the master deed or lease, in accord with the requirements of KRS 381.835 and 381.837;
 4. Condominium Property Regime Plat Fees: Fees shall be submitted in accord with Section 8.1 of these regulations.
- C. **PROCESSING OF CONDOMINIUM PROPERTY REGIME PLATS**: The Commission's Representative shall review the condominium property regime plats for conformance to the applicable requirements of Article V of these regulations and KRS 381.805 to 381.910. Following the review, the planning commission shall take one of the following actions: (1) approve the condominium property regime plats; or (2) disapprove the condominium property regime plats. Should the Planning Commission disapprove the plats, written notice of such action, including the reasons for disapproval, shall be provided to the Subdivider by the Commission's Representative. The action shall be entered in the official records of the Planning Commission. If approved and signed by the Chair, the original condominium property regime plats shall be returned to the Subdivider to be recorded simultaneously with the master deed or lease in the Campbell County Clerk's office.



ARTICLE IV - PRELIMINARY PLAT REQUIREMENTS

SECTION 4.0 SPECIFICATIONS FOR AND CONTENT OF THE PRELIMINARY PLAT

The Subdivider shall file with the Commission's Representative, a copy of the Preliminary Plat for review. Such plat should be drawn at a scale of one (1) inch to two hundred (200) feet or greater (e.g., one (1) inch to one hundred (100) feet. Electronic submittals are preferred.

A. INFORMATION TO BE CONTAINED ON PRELIMINARY PLAT:

1. Proposed name of subdivision, which shall not duplicate or too closely approximate, phonetically, or in spelling, the name of any other subdivision in the Campbell County;
2. Name and address of record owner(s);
3. Name and address of Subdivider(s);.
4. Name, address and phone number of the persons, firm, or organization responsible for the preparation of the Preliminary Plat, with the seal and signature of the Engineer or Surveyor;
5. North point, written and graphic scale, and date;
6. A vicinity sketch map and identification of the original parent tract, deed book, page group, and remaining acreage;
7. The perimeter boundary lines of the tract to be subdivided showing all bearings and distances;
8. The existing use or uses of the property and, an outline of any existing buildings or improvements to be retained and their location in relation to existing or proposed streets and lot line locations (addresses and parcel identification numbers if available);
9. The right-of-way lines and names of all existing or platted streets, other public ways and easements adjacent to or in connection with the subdivision including right-of-way widths and other important features within one hundred (100) feet of the boundary lines, such as railroad lines, and watercourses;
10. Names of adjacent subdivisions and the property lines, at least within one hundred (100) feet of the subdivision boundary, and the names of owners of record of all adjacent parcels that are unsubdivided. For adjacent platted land, refer to subdivision plat by name, plat book, and page, or deed book, page, and group index;
11. Location and dimensions of all recorded easements and rights-of-way within the subdivision;
12. Existing utilities on and adjacent to the subdivision: location and size of water mains, sanitary sewers and storm sewers, storm and/or combined sewers;



13. Existing contours at five (5) foot intervals within the subdivision;
14. Subsurface conditions on the subdivision; any known conditions that are not typical, or which may cause problems, such as: soils and geological formations, old mine shafts, wells, and known mineral deposits;
15. Proposals:
 - a. Streets & alleys. Layout, names, right-of-way and pavement widths, approximate corner radii at the right-of-way line and the approximate proposed grades of all streets;
 - b. Other rights-of-way or easements: Location, width, and purpose;
 - c. Lots: Lots & blocks numbered;
 - d. Water and Sewer Systems: Plan view layout of water lines, storm and sanitary sewer lines, including sizes, to serve the subdivision;
16. Statement of the lot area of the smallest lot in the subdivision (reference shall be made to the lot and block number);
17. Parcels of land intended to be dedicated or temporarily reserved for public use, or to be encumbered by deed restriction or protective covenant for use of all property owners in the subdivision or parcels of land or lots to be used for any purpose other than private, shall be so designated;
18. Proposed uses for all land in the subdivision;
19. Approximate boundaries of areas within the Floodways or Base Flood area and the location, width, and direction of flow of all watercourses, lakes, and wetlands;
20. Total site data including acreage, number of lots, and, if applicable, approximate number of square feet or acres in parks and other public uses.

B. ADDITIONAL INFORMATION TO BE SUBMITTED AT TIME OF FILING OF PRELIMINARY PLAT:

1. An application for Preliminary Plat approval
2. A copy of any decisions(s) by the Board of Adjustment identifying pertinent dimensional variances;
3. In the event the Subdivider elects to proceed with preliminary grading following approval or conditional approval of the Preliminary Plat, but prior to submission and processing of the improvement drawings and specifications, a copy of plans for the control of erosion and sedimentation must also be submitted to the Commission's Representative, for review and approval.



ARTICLE V - FINAL PLAT REQUIREMENTS INCLUDING IMPROVEMENT DRAWINGS AND SPECIFICATIONS

SECTION 5.0 SPECIFICATIONS FOR AND CONTENT OF THE FINAL PLAT

The Subdivider shall file with the Commission's Representative, a copy of the Final Plat for review. The Final Plat shall be drawn at a scale of one (1) inch to fifty (50) feet or greater (e.g., one (1) inch to thirty (30) feet.) However, if the Final Plat will contain lots of one hundred (100) feet or greater, fronting along a street, then a scale of one (1) inch to one hundred (100) feet or greater may be used.

Where necessary, the Final Plat may be on several sheets accompanied by an index showing the entire subdivision. The particular number of the sheet, the total number of sheets, and the relation of each adjoining sheet shall be clearly shown by a small key map on each sheet. Each sheet of said plat shall show the north point, graphic scale, and the date. The Final Plat shall contain a vicinity map showing the location of the subdivision with relation to at least one (1) east/west and one (1) north/south major arterial or in the case when a subdivision is shown on several sheets, the vicinity map shall be shown on the index sheet. The Final Plat shall also conform to the requirements identified below, including all mathematical information and data necessary to locate and retrace any of the required data thereon.

A. INFORMATION TO BE CONTAINED ON FINAL PLAT:

1. The location and the widths of all existing or recorded streets, intersecting or paralleling the boundaries of the subdivision at least within one hundred (100) feet;
2. The location and the width of all abutting lot lines. Names of recorded owners of adjoining unplatted land and reference to subdivision plats of adjoining platted land by name, plat book, and page;
3. The boundary line of the proposed Final Plat shall be tied by bearings and distances to a selected point or points (described on the plat) on the nearest established centerline or right-of-way line of any street or highway or previously established monuments in which case the location of said monuments shall be identified and accurately described on the plat. In addition, the Final Plat shall be tied by bearings and distances to a point in the original parent tract;
4. Municipal and county boundary lines, if applicable;
5. The layout of the subdivision showing:
 - a. Street and alley centerlines and right-of-way lines shall be graphically shown; street names and bearings and distances along centerlines;
 - b. Sufficient linear, angular, and curve data (at least Delta, Tangent, Radius, and length of Curve) to readily determine the bearing and length



- of the boundary lines of every block, lot and tract which are a part of the subdivision;
- c. Recorded easements or other rights-of-way;
 - d. All lot lines with dimensions and bearings;
6. Identification of any waivers of the subdivision regulations granted by the Planning Commission, such as sidewalks on one side of the street, width of street pavement, and of the need for additional off-street parking spaces;
 7. All blocks and lots numbered or lettered in a consecutive manner with no omissions or duplications;
 8. All permanent survey monuments set or to be set shall be shown on the Final Plat (see Section 7.10, A and B):
 - a. The location of all monuments placed in making the survey, and if any points were reset, the reset shall be stated and attached to final plat for recording;
 - b. Monuments shall be set at intersections of street centerlines and curve points or offsets therefrom. The location of all such monuments shall be shown on the final plat before approval is requested.
 9. The outline of all property (if applicable) which is to be reserved by deed restriction or protective covenant for the common use of the property owners in the subdivision;
 10. Flood hazard information including elevation and flood profiles shall be shown on the Final Plat if required (as determined as per Section 6.4 (A) of these regulations);
 11. All recorded easements shall be shown by a fine dashed line and clearly labeled and identified on the plat. If an easement shown on the plat is already of record, its recorded reference must be given;
 12. Name of the subdivision and name or number of the larger subdivision or tract of which the tract now being subdivided is a part;
 13. North arrow, graphic scale, and date;
 14. Total site data: including original acreage, remaining acreage, deed book and page and group index, and, if applicable, number of square feet or acres in parks and other public uses;
 15. Certification, acknowledgements and descriptions: The following shall appear on the title sheet of the Final Plat (unless otherwise stated herein). Representative certificates, acknowledgements, and approvals that shall be used on the Final Plat appear in Appendix D of these regulations as follows:
 - a. Dedication Certificates: A notarized certificate shall be signed and acknowledged offering for dedication all parcels of land shown on the Final Plat which are intended for public dedication;



- b. Acceptance Certificates: A certificate shall be signed by the Mayor acknowledging that the offer of dedication (public ways or easements) is beneficial to the public interest and suitable for the immediate or future "acceptance for maintenance" by the City;
- c. Surveyor's Certificate: A certificate shall be signed by a surveyor stating that they are responsible for the survey and that the Final Plat accurately depicts subdivision and the survey.
- d. Property Reference: Each property reference in such description to any tract, development; or subdivision, shall show a complete reference to the records of Campbell County Clerk's office;
- e. Other References: The title sheet shall contain such other affidavits, certificates, acknowledgements endorsements, and notarial seals as are required by law and by these regulations. If such documents are recorded elsewhere, then reference to such documents should be included on the Final Plat;
- f. Certificate of approval by the Chair of the Planning Commission.
- g. Certificate of acceptance for recording by the Campbell County Clerk.

B. ADDITIONAL INFORMATION TO BE SUBMITTED AT TIME OF FILING OF FINAL PLAT:

- 1. One (1) copy of an application for Final Plat approval provided by the Commission's Representative,;
- 2. One (1) copy of traverse calculations, resulting from an accurate and complete boundary survey of the perimeter of the Final Plat. Traverse calculations when computed from field measurements, on the ground, shall close with an error of closure not to exceed one to five thousand (5,000) feet;
- 3. Improvement drawings and specifications (improvement drawings and specifications will be required if not submitted previously): Drawings, showing typical cross sections, profiles, construction details, and specifications for all required improvement shall be prepared by a registered engineer in conformance with the provisions in Article VII and any other pertinent sections of these regulations;
 - a. A copy of the Street, Sanitary Sewerage and Storm Water System Plans (as per Sections 7.0 & 7.1);
 - b. A copy of the Water System Plans (as per Section 7.2);
 - c. A copy of the Street Plans and Profiles, including typical cross sections (as per Section 7.3);
 - d. A copy of Drainage Report, including computations (as per Section 7.0);
 - e. A copy of plans for control of erosion and sedimentation (as per Section 7.12);



4. As-built improvement drawings: Where the improvement drawings and plans were previously submitted and approved prior to the submission of the Final Plat and where improvements were constructed differently from the originally approved improvement drawings, the Subdivider shall be required to submit one (1) copy each of as-built improvement drawings for: streets, sanitary sewer, stormwater system, and the water system;
5. One (1) copy of all deed restrictions or protective covenants. These may be either placed directly on the Final Plat, or if separately recorded, referred to on the Final Plat);
6. Final Plat fees shall be submitted in accordance with Section 8.1 of these regulations;
7. A guarantee (if applicable) per Section 7.18 of these regulations;
8. The Subdivider shall pay the Campbell County Clerk's recording fee.



ARTICLE VI - DESIGN STANDARDS FOR THE LAYOUT OF SUBDIVISIONS

SECTION 6.0 STREETS

- A. CONFORMITY TO COMPREHENSIVE PLAN: Whenever a tract of land to be subdivided or resubdivided includes any part of, or is adjacent to a proposed arterial or collector street as designated on the Comprehensive Plan and the Official Map, the Subdivider shall meet with the Planning Commission or the Commission's Representative to determine its compliance (e.g., right-of-way width for future widening and pavement widths) and resulting design requirements, of such locations; otherwise such street right-of-way shall be platted by the Subdivider in the location with the goal of compliance with these regulations.
- B. STREET EXTENSION:
1. Existing Streets: The arrangement of streets in new subdivisions shall make provision for the proper continuation of existing streets into adjoining areas, unless determined otherwise by the Planning Commission;
 2. Adjacent Property: Where adjoining areas are not subdivided and are appropriate for future subdivision, arrangement of streets in new subdivisions shall make provision for the proper projection of streets to those adjoining areas in a manner which shall provide for the practical development of the adjacent property;
 3. Half Streets: Dedication of one-half (1/2) of the rights-of-way (half streets) for streets proposed along the boundaries of land to be sub-divided, shall be prohibited.
- C. STREET CLASSIFICATION AND FUNCTION:
1. Arterial Streets: Arterial streets should be planned so as to provide for the smooth flow of traffic between points of heavy traffic generation and from one section of the community or communities to another. Such arterial streets should traverse the entire community or communities. Arterial streets should not bisect neighborhoods but should act as boundaries between such neighborhoods. Direct access onto the roadway from abutting properties is discouraged;
 2. Collector Streets: Collector streets should be designed to provide a traffic route from subcollector streets to arterial streets. These streets should be designed to carry traffic which has an origin or destination within the neighborhood and between arterial streets. Said streets shall be designed to discourage "short cuts" through the neighborhood. Direct access to abutting property is discouraged;



3. Subcollector Streets: Subcollector streets shall be designed to provide a traffic route from local streets to collector streets. Said streets will serve equally both traffic movement and abutting properties;
4. Local Streets: Local streets, including cul-de-sacs and courts, shall provide direct to each lot and direct traffic movement to another local street or to a subcollector street. Said street shall be laid out so that their use by through traffic will be discouraged. Local street intersections with arterial streets shall be discouraged, wherever practical;
5. Frontage Roads: Frontage roads may be required along an existing or proposed arterial street to provide access to lots along such streets;
6. Alleys: Where alleys are to be provided (e.g., In the case of certain commercial development), they shall be designed to provide only secondary access.

D. STREET RIGHTS-OF-WAY:

1. Widths and grades of new streets: Street right-of-way widths and grades shall conform to the following minimum requirements:

TYPE OF STREET	MINIMUM RIGHT-OF-WAY WIDTH (IN FEET)	GRADES BY PERCENT	
		MAXIMUM	MINIMUM
Arterial	Based upon KYTC design standards		
Collector	60	10	0.5
Subcollector	50	12	0.8
Local and Frontage Road			
Residential	50	12	0.8
Commercial and Industrial Areas	60	10	0.8
Courts and Cul-De-Sacs	40	12	0.8
Alleys	20	10	0.5

2. Existing Streets: Subdivisions platted along existing streets shall dedicate additional right-of-way, if necessary, to meet the minimum street width requirements set forth in Section 6.0, Subsection D (1) of these regulations. Such dedication shall be in accordance with the following:
 - a. At least the minimum right-of-way width shall be dedicated where the subdivision is on both sides of an existing street;
 - b. When the subdivision is located on only one side of an existing street, one-half (1/2) of the required right-of-way width, measured from the centerline of the right-of-way, shall be dedicated. However, the owner or owners of such property shall not be required to dedicate more than one-half (1/2) of the required rights-of-way width.



E. CURVES AND SIGHT DISTANCE CRITERIA:

1. Horizontal Curve: Where there is a change in the alignment of a street along the centerline, a curve with a radius adequate to insure safe sight distance shall be constructed. The minimum radii of curves shall be:

STREET TYPE	MINIMUM CURVE RADIUS
Arterial	Based upon KYTC design standards
Collector	400 feet
Local or Subcollector	100 feet

2. Sight Distance: All driveways and intersecting roadways shall be designed and located so that the minimum sign distances as shown in the following tables. The required sight distance must be unobstructed by horizontal and vertical road curves, embankments, structures, or vegetation. The presence of utility facilities must also be accounted for.

Left Turn Distance for Vehicles entering Access Points – Driver Left
(measured from a vehicle ten (10) feet back from pavement edge)

Vehicle Type	20 MPH		30 MPH		40 MPH		50 MPH	
	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane
Passenger Car	150	130	360	220	530	380	740	620
Truck	300	200	500	400	850		1600	

Left Turn Distance for Vehicles entering Access Points – Driver Right
(measured from a vehicle ten (10) feet back from pavement edge)

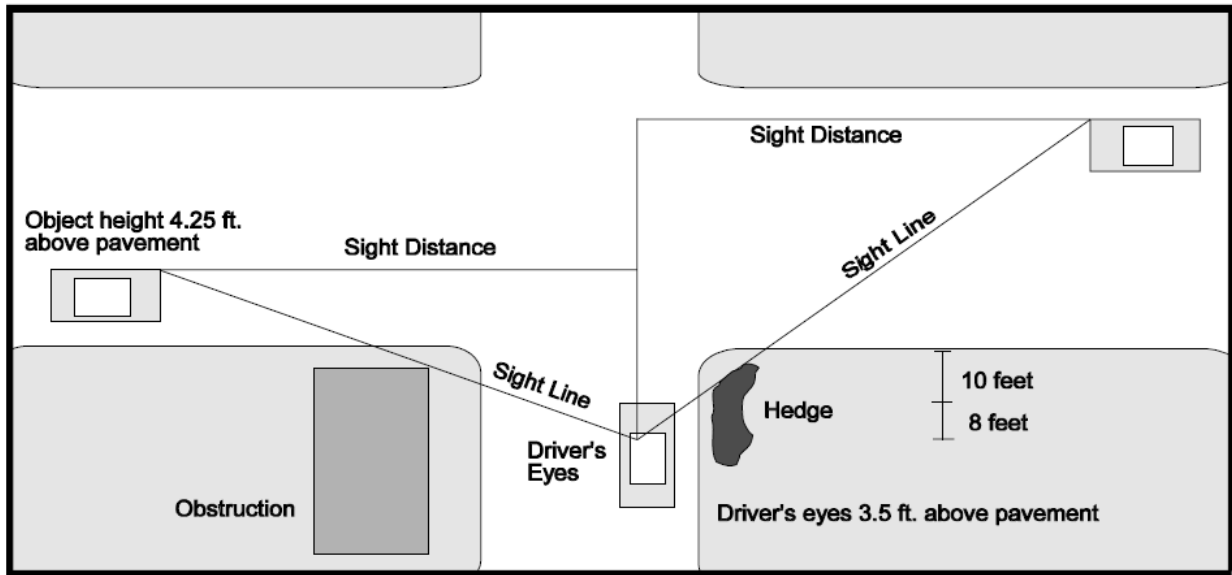
Vehicle Type	20 MPH		30 MPH		40 MPH		50 MPH	
	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane
Passenger Car	130		260	260	440	440	520	550
Truck	200	200	400	400	850	850	810	880

Sight Distance for Vehicles Exiting from Access Point onto Adjacent Roads
(measured from a vehicle ten (10) feet back from pavement edge)

Vehicle Type	20 MPH		30 MPH		40 MPH		50 MPH	
	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane	2 Lane	4 Lane
Passenger Car	150	160	230	250	370	390	520	550
Truck	260	260	400	440	570	620	810	880

To achieve the design and location of new access points with adequate sight distance, an adequate sight triangle shall also be maintained. Sight triangles are areas clear of visual obstruction to improve the safety of egress of vehicles from an access point, including an intersecting street, onto a roadway.





3. Reverse Curves: A tangent of at least two hundred (200) feet for collector streets shall be provided between reverse curves. No tangent shall be required for local and subcollector streets;
4. Vertical Curves: The minimum vertical curve length shall be calculated by multiplying the algebraic difference in grades time a K-factor. Rounded K-factors for local and subcollector and collector streets are as follows:

Street Type	K-Factor
Local and Subcollector:	K=15 for crest curves K=15 for sag curves
Collector:	K=30 for crest curves K=35 for crest curves

F. CUL-DE-SAC AND DEAD-END STREETS:

Streets ending in a cul-de-sac or dead-end shall not be longer than 1,200 feet unless local topographic or other physical conditions are such as to render this dimensional standard impracticable;

G. STREET NAMES AND HOUSE NUMBERS:

1. Duplication: The name of a new street shall not duplicate existing or platted street names in use in Campbell County, or approximate such names in spelling, or sound or pronunciation, or by the use of alternate prefixes such as "North", "South", or such suffixes as "Lane", "Way", "Drive", "Court", "Avenue", and "Street";
2. Continuation of Streets: New street names shall bear the same name of any continuation of an existing or platted street, when the two streets meet;



3. Approval of Street Names: All street names shall be approved by the Commission's Representative before approval of the Final Plat;
4. House Numbers: House numbers shall be assigned by the Commission's Representative, following approval of the Final Plat.

H. ALLEYS:

Adequate alleys shall be provided where the design requires. Alleys shall not serve as part of the required off-street parking, loading or unloading space required by the Zoning Ordinance;

I. PRIVATE STREETS:

New private streets or alleys shall not be created or extended, except as approved by the Planning Commission.

SECTION 6.1 INTERSECTIONS

A. ANGLE OF INTERSECTION: The centerline of all streets shall intersect as nearly at a ninety (90) degree angle as possible, but in no case shall the angle of intersection, be less than seventy-five (75) degrees or greater than one hundred five (105) degrees unless a special modification is granted by the Planning Commission due to exceptional conditions;

B. CENTERLINE OFFSET OF ADJACENT INTERSECTIONS: Where T-intersections are used, the following minimum centerline offsets of adjacent intersections shall be as follows:

TYPE OF STREET	MINIMUM CENTERLINE OFFSET OF ADJACENT INTERSECTIONS
Local – Local	150 feet
Local – Subcollector	150 feet
Subcollector – Collector	150 feet
Collector - Collector	200 feet

C. CORNER RADII: Property lines at street intersections shall be provided from the same radius point necessary to establish the pavement radius. If because of certain exceptional conditions, a modification is granted permitting an angle of intersection less than seventy-five (75) degrees, or greater than one hundred five (105) degrees, then the minimum radii shall be increased or decreased, respectively;

D. CENTERLINE GRADES WITHIN INTERSECTIONS: Maximum centerline grades within street intersections shall not exceed the grade for through streets, as identified in these regulations. The maximum grade of the centerline of the side streets intersecting with the gutter line of the through street shall not exceed four (4) percent for a distance of not less than 75 feet from the centerline for local and subcollector streets and 150 feet for collector streets;



- E. **DESIGN ADJACENT TO FREEWAYS, EXPRESSWAYS, ARTERIALS OR COLLECTORS:** The following principles shall be observed in the design of subdivisions adjacent to freeways, expressways, or arterials:
1. Street design shall have the purpose of making adjacent lots desirable by cushioning the impact of heavy traffic and minimizing the interference with traffic on such thoroughfares;
 2. Collector, Subcollector, and local streets shall not be permitted to intersect with freeways or expressways. The number of intersections with arterial streets shall be minimized. Wherever practicable, such intersections shall be spaced not less than 600 feet apart. In the case of collector streets, intersections with said streets shall be spaced not less than four hundred (400) feet apart and access to driveways shall be spaced at intervals of not less than 200 feet. At those access points, where turning vehicles to and from the arterial and collector streets will affect the roadway capacity or safety, reserved turn lanes shall be required, wherever practical. Frontage or service roads shall be used when these spacing requirements cannot be met;
 3. Where frontage roads are not required, lots adjacent to such thoroughfares shall, when practical, be served and be accessible only by a street generally parallel to said thoroughfare or by a series of cui-de-sacs or loop streets extending towards said thoroughfare from an internal street system;

SECTION 6.2 EASEMENTS

- A. **UTILITY EASEMENTS:** Public utility easements at least ten (10) feet in total width may be required along the front, rear and sides of lots where needed for the accommodation of a public utility, drainage, or sanitary structures, or any combination of the foregoing. Where deemed necessary by the Planning Commission, additional easement width shall be provided;
- B. **WATERCOURSES:** The Subdivider shall dedicate rights-of-way or provide easements for storm drainage purposes which conform substantially with the lines of any natural watercourses, channels, streams, or creeks which traverse the subdivision or for any new channel which is established to substitute for a natural watercourse, channel, stream or creek. Such rights-of-way or easements shall be of a width which will provide for the maintenance needs of the channel as reasonably determined by the Planning Commission.

SECTION 6.3 PHYSICAL CONSIDERATIONS

- A. **NATURAL LAND USE:** Wherever practicable, subdivisions shall be planned to take advantage of the natural topography of the land, to economize in the construction of drainage facilities, to minimize destruction of trees and topsoil, and to preserve such natural features as watercourses, unusual rock formations, large trees, sites of historical significance, and other assets which, if preserved, will add attractiveness and value to the subdivision and the community;



SECTION 6.4 FLOOD HAZARDS

- A. **PROHIBITION OF DEVELOPMENT IN AREAS SUSCEPTIBLE TO FLOODING:** Land subject to flooding or otherwise uninhabitable shall not be platted for residential, commercial, or industrial uses or for any other use which may increase the danger of health, life, property, or aggravate erosion or flood hazards. Such land within the subdivision shall be set aside on the plat for such uses as will not be harmed by inundation or will not impair the public welfare;

Areas of land adjacent to streams, rivers, or bodies of water which have a high degree of susceptibility to flooding shall be limited to development according to Bellevue's flood protection control regulations.

SECTION 6.5 BLOCKS

- A. **ARRANGEMENT:** The arrangement of blocks shall be such as to provide for convenient access, circulation, and the control and safety of street traffic. Blocks intended to be used for commercial or industrial purposes shall be designed specifically for such uses with space set aside for off-street parking and loading and/or unloading facilities as required by the Zoning Ordinance;
- B. **LENGTH:** Blocks should not exceed twelve hundred (1,200) feet, except where topographical or exceptional physical conditions exist;
- C. **WIDTH:** The width of blocks should ordinarily be sufficient to allow for two (2) tiers of lots except for double frontage lots, as permitted in Section 6.6 of these regulations.

SECTION 6.6 LOTS

- A. **CONFORMANCE TO ZONING:** All lots shall conform to or exceed the requirements of the Bellevue Zoning Ordinance. Each lot shall front at least 20 feet onto a publicly dedicated street, other than an alley, or in the case of two contiguous flag lots, the twenty (20) foot frontage requirement may be reduced to ten (10) feet of frontage per parcel, provided the contiguous lots share a common unobstructed easement of access to the publicly dedicated street of at least 20 feet in width further, said common easement shall be located within said twenty (20) foot strip. In no case shall more than two flag lots be contiguous to each other at the publicly dedicated street. Flag lots shall only be used in those locations where because of geometric, topographic and other physical features, it would be impractical to extend a publicly dedicated street to serve lots located in said areas, as determined by the Planning Commission.
- B. **LOT FRONTAGE AND WIDTH:**
1. **Arterial Street Frontage:** No access onto an arterial street shall be permitted from abutting properties except as provided for in these regulations;



2. Corner lots: Corner lots shall have extra width to permit conformance to the minimum setback from the side street. In no case shall a corner lot be so narrow that minimum zoning requirements cannot be met;
3. Double Frontage lots: Lots shall not be laid out so that they have frontage onto more than one (1) street except: (a) when the lots are adjacent to the intersection of two (2) streets; or (b) when the rear of the lot faces an arterial, freeway, expressway, collector street, railroad right-of-way, etc., and the front of the lot faces onto another street;

C. LOT DEPTH:

1. Conformance to Zoning: Each lot shall conform to all requirements of the Bellevue Zoning Ordinance;
2. Maximum Depth: The maximum depth of a lot shall not be greater than four (4) times the width of the lot, except lots which contain of more than five (5) acres. Exceptional individual site conditions may allow for variation from these requirements, as permitted by the Planning Commission;
3. Extra Depth and Width in Certain Cases: Additional side yard and lot depth as per the Zoning Ordinance may be required where a lot in a subdivision abuts an industrial or commercially zoned area.

D. USEABLE LOTS:

1. Building Lots: All subdivisions shall result in the creation of lots which are developable and capable of being built upon. No lots may be developed which create building sites which are impracticable to improve because of problems related to soil conditions and geological formations, and areas prone to flooding.
2. Strips or Parcels: No remnants of property shall remain which do not conform to minimum lot requirements of the zone in which the property is located, or that are not required for a private or public utility purpose, or which are not accepted by the City or any other appropriate public body for an appropriate use;
3. Side Lot Lines: The side lot lines of all lots, whenever practicable, shall be at right angles to the street which the lot faces or radial to the center of curvature, if such street is curved. In the case of a cul-de-sac on which the lot faces, side lot lines shall be as nearly radial to the center of curvature of the cul-de-sac as practicable;

SECTION 6.7 PEDESTRIAN WAYS

Where deemed necessary by the Planning Commission, pedestrian ways may be required, and if provided, they should not exceed a fifteen (15) percent grade, unless steps of an acceptable design; as determined by the Planning Commission, are to be constructed.



SECTION 6.8 PUBLIC SITES

Where a proposed park or other recreational area, school site, or other public ground identified in the adopted Comprehensive Plan is located in whole or in part within the proposed subdivision; the Planning Commission may require a reservation, as a condition precedent to Preliminary Plat approval, not to exceed two (2) years, for the purchase of such public ground by the applicable public entity.

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ARTICLE VII - IMPROVEMENTS

The improvements which are hereby required shall be designed by a registered professional engineer and installed in accordance with the provisions of these and other applicable regulations. Prior to the commencement of any project, a pre-construction meeting will be held with the City engineer, or their duly authorized representative, to discuss the project in regard to procedure, materials, inspections, etc.

SECTION 7.0 DRAINAGE

A drainage system shall be designed and constructed to provide for the proper drainage of the surface water of the subdivision and the drainage area of which it is a part. The following requirements and methods shall be followed:

A. STORM DRAINAGE REPORT:

The Subdivider shall submit to the Commission's Representative a report by a registered professional engineer, as to the capacity of existing watercourse channels, storm sewers, culverts, and other improvements pertaining to drainage or flood control within the subdivision, to handle the runoff to be generated by the development of the land within the subdivision, and the additional runoff to be anticipated from the upstream drainage area, according to the land use identified in the adopted comprehensive plan. Additional information shall be submitted to adequately indicate that provision has been made for disposal of surface water without any damage to the developed or undeveloped land downstream from the proposed subdivision. This report shall also include:

1. Estimate of the quantity of storm water entering the subdivision naturally from areas outside the subdivision;
2. Quantities of flow at each pickup point (inlet);
3. Location, size, and grade of required culverts, storm drainage sewers, and other required appurtenances.

B. DRAINAGE REQUIREMENTS (FINAL GRADING): No final grading or sidewalk or pavement construction or installation of utilities shall be permitted in any proposed street until the improvement drawings and specifications have been submitted and approved by the Commission's Representative.

The Subdivider shall grade each subdivision in order to establish street, block, and lot grades in proper relation to each other and to topography, as follows:

1. Street Grading Plan: A grading plan showing existing and proposed contours at five (5) foot intervals shall be prepared showing the streets along with street improvement details.
2. Block Grading: Block grading shall be accomplished in one or more of the following methods:
 - a. A ridge constructed along the rear lot lines providing for drainage into the streets;



- b. Lots or parts of lots draining to a swale or ditch along the rear lot lines; or
 - c. Draining across rear or side lot lines provided that drainage onto adjoining properties shall be controlled.
3. Lot Grading: Lot grading shall be accomplished as follows: Lots shall be graded so that water drains away from each building at a minimum grade of two (2) percent. Surface drainage swales shall have a minimum grade of two (2) percent and shall be designed so that the surface water will drain into a driveway, street gutter, storm sewer, drain inlet, or drainage way. The minimum grades of driveways shall be four-tenths of a percent (0.4) and the maximum grade shall be as specified in Section 7.4 of these regulations.
 4. Topsoil: If grading results in the stripping of top soil, top soil shall be uniformly spread over the lots as grading is finished.
 5. Trees: As many trees as can be reasonably included in the final development plan shall be retained and the grading adjusted to the existing grade of the trees where practicable.
- C. **DRAINAGE SYSTEM REQUIREMENTS**: Recognizing a regional approach to stormwater management, Bellevue partners with SD1. The design criteria for storm drainage systems shall be based on regulations as provided by SD1.
- D. **ROAD DRAINAGE SYSTEM**: All roadways shall be provided with an adequate storm drainage system. The road storm sewer system shall serve as the primary drainage system and shall be designed to carry drainage for roadways, adjacent land, and buildings. No storm sewer flow shall be permitted to run into the sanitary sewer system within the proposed subdivision.

Curb drainage inlets and catch basins shall be provided at intervals along roadways. Inlet spacing shall be adequate such that the flow of water should not encroach on the outside lane by more than six (6) feet for a storm of 20 minutes duration and of ten (10) year storm frequency. Actual inlet spacing shall be as required by the "Manual of Instruction for Drainage Design" based upon gutter capacity, street slope and the contributing drainage area. In general, inlet spacing shall be as follows for the following street slopes unless site conditions indicate otherwise:

AVERAGE STREET SLOPE	INLET SPACING
0.5 percent	250 feet
2.0 percent	400 feet
4.0 percent	600 feet
6.0 – 12.0 percent	750 feet (maximum)

- E. **OFF-ROAD DRAINAGE SYSTEMS**: The design of any off-road drainage shall include the watershed affecting the subdivision and shall be extended to a watercourse or drainage way adequate to receive the storm drainage.



1. When the drainage system is outside of the road right-of-way, the Subdivider shall dedicate an easement to applicable entity to provide for the future maintenance of said system;
 2. The size and location of all off-street watercourses or ditches running through the subdivision shall be enclosed or left open, subject to the approval of the Planning Commission;
 3. Drain pipes shall not be connected into or through the curb and gutter section of the public street, but rather directly connect with storm sewer system or discharged onto the same parcel of land from which the water is generated.
- F. **DRAINAGE EASEMENT:** Easements for drainage purposes shall be a minimum of ten (10) feet wide. Where the watercourse is large, easement widths shall be reasonably adjusted by the Planning Commission. Where watercourses cross platted lots diagonally, the Subdivider should straighten such courses where practicable and should generally follow lot lines. Easements shall be shown on the record plat and shall cover all existing or reconstructed watercourses.
- G. **PROTECTION OF DRAINAGE SYSTEMS:** The banks of newly created ditches and channels shall be stabilized with adequate material to prevent erosion. Newly created ditches and open channels shall be seeded, sodded, rip-rapped, paved, or be subject to other acceptable erosion control methods used depending upon grades, slopes, and type of soils. Wherever practical, existing ditches and channels shall be retained in their natural state.
- H. **MATERIAL SPECIFICATIONS:** Material and construction specifications for all drainage projects shall be designed in accordance with the requirements of Appendix C of these regulations.

SECTION 7.1 SANITARY SEWER SYSTEM

Recognizing a regional approach to sanitary sewer management, Bellevue partners with SD1. The design criteria for sanitary sewer systems shall be based on regulations as provided by SD1.

SECTION 7.2 WATER SYSTEM

Recognizing a regional approach to water, Bellevue partners with Northern Kentucky Water District (NKWD). In accord with these regulations, and those of the NKWD, the subdivider shall construct a water distribution system. The design of the system shall provide for adequate fire flow requirements, including amount and spacing of fire hydrants, the size of water lines according to the type of use proposed to be served, and such other information as may be reasonably be required by the Planning Commission.



SECTION 7.3 STREETS

- A. **PLANS REQUIRED:** The Subdivider shall submit plans and specifications prepared by a registered engineer showing the proposed street system. Said plans shall show the proposed right-of-way width, pavement width, location and the proposed alignment, grade, geometric details and typical cross sections of each proposed street, including curbs, gutters, and sidewalks, where applicable. Said plans and specifications shall show for each proposed street, design criteria such as street classification, pavement classification and thickness and classification and thickness of base and subbase materials.
- B. **PAVEMENT SPECIFICATIONS:** All streets shall be designed and constructed in accordance with the pavement specifications in Appendix A.
- C. **GEOTECHNICAL REQUIREMENTS:** The soils and geologic aspects of the design and construction of public and private improvements within the public street, right of way, or private street easements shall be designed to support requirements of their intended use. These systems shall be designed and constructed in accordance with the geotechnical requirements in Appendix B.
- D. **MINIMUM PAVEMENT WIDTHS AND CONSTRUCTION DETAILS:** Appendix C provides standard construction requirements and details for streets, sidewalks and driveways. Minimum pavement widths for each street are as follows:

TYPE OF STREET	MINIMUM PAVEMENT WIDTH
Arterial	Based upon KYTC design standards
Collector	30 feet
Subcollector	28 feet
Local and Frontage Road	
Residential	25 feet
Commercial and Industrial Areas	28 feet
Courts and Cul-De-Sacs	22 feet
Alleys	20 feet

- E. **CURBS AND GUTTERS:** The Subdivider shall construct vertical curbs for all streets. All curbs and gutters shall be constructed of Portland Cement concrete and in accordance with the specifications in Appendix A and typical cross sections in Appendix C.
- F. **CURB- RADII:** The minimum curb radius at intersections in residential areas shall be as follows:



Residential and Mixed-Use Areas	
TYPE OF STREET INTERSECTION	MINIMUM CURB RADIUS
Local to Local or Subcollector	25 feet
Subcollector to Subcollector	25 feet
Subcollector to Collector	30 feet
Collector to Collector	30 feet
Arterial to Arterial	Based upon KYTC design standards
Commercial and Industrial Areas	
TYPE OF STREET INTERSECTION	MINIMUM CURB RADIUS
Local to Local or Subcollector Subcollector to Subcollector Subcollector to Collector Collector to Collector	50 feet
Arterial to Arterial	Based upon KYTC design standards

- G. **SIDEWALKS:** Sidewalks shall be required along all streets over twenty-two (22) feet in width. Local, Subcollector and Collector streets shall have a second pedestrian way which may be along the street or other location serving the lots as approved by the Planning Commission. regulations. Sidewalks shall be constructed of Portland Cement concrete in accordance with the specifications of Appendix A and typical cross sections in Appendix C. All sidewalks shall be constructed with a minimum width of four (4) feet and this width increased to five (5) feet for streets in multi-family residential, commercial, and industrial areas, where pedestrian traffic volume indicates the need for this additional width. All sidewalks at street intersections with standard vertical curbs shall meet the provisions of the Americans with Disabilities Act.
- H. **PARKING:** Parking on any street where pavement width is less than thirty-six (36) feet, shall be limited to one side of the street. Parking lanes shall not be shifted from one side to the other from block to block or where the proposed street is the extension of an existing street the parking lane shall extend continuously on the same side of the street. If practicable, the parking lane shall be located on the opposite side of the street from the fire lane.
- I. **CUL-DE-SAC AND DEAD-END STREETS:** Cul-de-sac courts and dead-end streets shall be designed in accordance with the typical design details as per Appendix C of these regulations. However, if conditions warrant, other turn-around designs may be reasonably permitted by the Planning Commission. If such street is of a temporary nature and a further extension into adjacent land is anticipated, then said turn-around, beyond normal street width, shall be in the nature of an easement included in said turn-around, as per the typical design in Appendix C. Such easement may be vacated to abutting property owners when said dead-end street is legally extended into adjacent land. If such dead-end street serves four (4) units or less, no temporary turn-around will be required.



- J. **CONSTRUCTION OF REQUIRED PAVEMENT WIDTH ON EXISTING STREETS:** When a subdivision is located on only one side of an existing street, and where the right-of-way or pavement width of such existing street is less than that required by these regulations, the Subdivider shall be required to dedicate and construct one-half (1/2) the required pavement width, as per these regulations, along the side fronting their property on such street, unless waived by the Planning Commission.

SECTION 7.4 DRIVEWAY APPROACHES

Driveways for residential areas (single and two-family) shall be provided with a minimum of nine (9) feet in width with a minimum radius at the curb of five (5) feet, or a five (5) foot flare, for collector streets and a minimum radius to the curb of four (4) feet, or a four (4) foot flare, for local and subcollector streets. In areas of heavier traffic or where special conditions are encountered (Multi-family, industrial, commercial areas), increased driveway widths, plus increased minimum radii or flares may be required by the Planning Commission. All driveways within the right-of-way shall be constructed in accordance with the specifications of Appendix A. Within the street right-of-way area, driveway grades shall not exceed eight (8) percent. In upward sloping driveways beyond the street right-of-way area, the change in grade shall not exceed twelve (12) percent within ten (10) feet of distance. On downward sloping driveways beyond the street right-of-way area, (entering basement garages), the change in grade shall not exceed eight (8) percent within any ten (10) feet of distance (see design as per Appendix C).

SECTION 7.5 OFF-STREET PARKING AREAS

Off-street parking areas shall be constructed in accordance with the requirements of the Bellevue Zoning Ordinance, unless additional off-street parking is required as per these regulations.

SECTION 7.6 UTILITY LINES

All new utility lines servicing a new subdivision should be installed underground to the extent practical and be in conformance with the appropriate utility's policies.

SECTION 7.7 STREET SIGNS

- A. **STREET NAME SIGNS:** The City should arrange for installation of street signs at all street intersections. The signs shall conform to the specifications of the City and be mounted at a height of approximately seven (7) feet above the top of the curb or the crown of the pavement. They shall be located on diagonally opposite corners on the far right hand side of the intersection for traffic on the more important streets.
- B. **TRAFFIC CONTROL SIGNS AND DEVICES:** The City shall arrange for the installation of traffic control signs and devices which shall be in conformance with the "Manual on Uniform Traffic Control Devices" as prepared by the Joint



SECTION 7.8 STREET LIGHTS

When required by the City, the subdivider will provide street lighting poles, accessories, and the necessary easements, at the Subdivider's expense, in accordance with the specifications of the City and the appropriate utility company. The cost of the installation of the street lights shall be borne entirely by the Subdivider.

The ownership and maintenance of street lights may be given to the City only after inspection has occurred and such dedication has taken place through Final Plat approval by the City.

SECTION 7.9 PLANTING SCREEN OR FENCES

The Planning Commission may reasonably require and permit planting screens, fences, or masonry walls.

SECTION 7.10 MONUMENTATION

- A. **PERMANENT CONTROL MONUMENTS:** The Subdivider shall establish or confirm the prior establishment of permanent control monuments along the centerline of all streets not to exceed five hundred (500) feet in spacing. All such monuments shall be set in pavement. All permanent control monuments shall be clearly shown on the Final Plat.
- B. **OTHER MONUMENTS:** Other monuments set shall be metal pins of no less than one-half (1/2) inch diameter and no less than twenty-four (24) inches in length. Monuments of this type shall be set at all of the following locations:
 - 1. At every point of intersection of the outer boundary of the subdivision with an existing or created right-of-way line of any street, railroad, or other way and at all property corners.
 - 2. Appropriately identified curb cut markings shall also be located at each point along the street curb which intersects with the projected side lot lines of each lot.

In such cases where the placement of a required monument at its proper location is impractical, a reference monument may be set close by that point providing its location is properly shown on the Final Plat.

SECTION 7.11 PLANS FOR FUTURE EXPANSION - EXTRA SIZE AND OFF-SITE IMPROVEMENTS

All improvements shall be installed to satisfy the service requirements for the service or drainage area in which the subdivision is located. The improvements shall be of sufficient



capacity to handle the expected development of the overall service or drainage area involved.

- A. **EXTRA-SIZE IMPROVEMENTS:** Where the Planning Commission determines that improvements in excess of the size needed to serve just the proposed subdivision are required, the Subdivider shall be so notified and arrangements for construction shall be negotiated and agreed upon.

SECTION 7.12 PLANS REQUIRED FOR THE CONTROL OF EROSION AND SEDIMENTATION

A Subdivider who intends to make changes in the contour of any land proposed to be subdivided, developed, or changed in use by grading, excavating or removing the natural topsoil, trees, or other vegetative covering thereon, shall submit a plan for erosion and sedimentation control to the Commission's Representative, for review. Disturbances exceeding one acre in size must also be submitted to SD1 for a storm water management review and approval.

All plans, regardless of size shall contain adequate measures for control of erosion and siltation where necessary, in accord with the guidelines and policies of SD1.

SECTION 7.13 CONSTRUCTION INSPECTIONS

- A. **AUTHORITY AND DUTIES OF INSPECTORS:** Inspectors shall be employed by the City, County or utility agency. The Planning Commission may authorize its Representative to inspect work done and materials furnished. Such inspection, including final inspection, may extend to all or any part of the work and to the preparation, fabrication, or manufacture of the materials to be used. The inspector shall not be authorized to revoke, alter, or waive any requirements of the approved improvement drawings and specifications, but is authorized to call to the attention of the contractor, any failure of the work or materials to conform to the approved improvement drawings and specifications.

The contractor shall notify the inspector at least 24 hours prior to the time when the work is to begin on each phase of construction, such as sewer and water lines, storm sewers, and street paving. The inspector shall begin inspection at the time of construction and continue inspection as the work progresses on each phase of the project until all construction is complete. Further, and during the time of construction, any work determined by the inspector not to conform to the requirements of the approved improvement drawings and specifications shall be suspended and corrected before construction can resume. Disputes about whether construction process conforms with to the improvement drawings and specifications shall be referred to and decided upon by the Planning Commission. Following final inspections for improvements constructed, the inspector shall be required to certify in writing, to the Planning Commission that improvements



inspected have been constructed in accordance with the approved improvement drawings and specifications.

SECTION 7.14 CONSTRUCTION RESPONSIBILITIES

- A. **COOPERATION OF SUBDIVIDER AND CONTRACTOR:** The Subdivider or contractor shall have available on the project, at all times, a copy of all required plans and specifications. The Subdivider or contractor shall cooperate with the inspector and with other contractors. The Subdivider or contractor shall, during construction, have a competent superintendent acting as agent on the project. The superintendent shall be capable of reading and thoroughly understanding the plans and specifications and shall receive instructions from the inspector. The superintendent shall have full authority to execute the orders or directions of the inspector. A superintendent shall be furnished irrespective of the amount of work subcontracted.

SECTION 7.15 FINAL CLEANING UP

Upon completion of the work, the Subdivider or contractor shall clean up all ground occupied or affected by the work.

SECTION 7.16 AGREEMENTS AND GUARANTEES

- A. **GUARANTEES:** The Subdivider may execute and file guarantees with the Planning Commission and the City, in lieu of actual installation or completion of the required improvements, except sidewalks, when requesting approval of the Final Plat. Such guarantees shall be in an amount for the required improvements, as estimated by the Subdivider's engineer, and approved by the Commission's Representative. The cost estimate shall be based on the amount determined to be reasonably necessary to complete all of the improvements required to be constructed by the Subdivider, as specified in the approved improvement drawings and specifications, including plat fees and fees for field inspections and if not paid separately in a form satisfactory to the City attorney.

The guarantee shall be in the form of cash, surety bond, or an approved escrow agreement. The guarantee shall be executed by the Subdivider as principal, and if a surety bond, shall be executed by a corporation authorized to act as a surety under the laws of the commonwealth of Kentucky. The guarantee shall be an assurance of performance of any and all work and the construction and installation of all improvements required to be done by the Subdivider, as specified in the approved improvement drawings and specifications, together with all fees as required by Section 8.1 of these regulations if not paid separately.

Further the guarantee shall contain the condition that should the Subdivider fail to complete all work and improvements required within twenty-four (24) consecutive calendar months of the date of approval of the Final Plat, or within a mutually



agreed upon extension, but not to exceed twelve (12) consecutive calendar months, that the Planning Commission and the City, may at its option, cause all required work to be done and improvement constructed. The parties executing the guarantee shall be bound for the payment of all necessary costs guaranteed by the bond. Whenever the Subdivider elects to deposit cash, surety bond, or an approved escrow agreement, the Planning Commission and the City shall be authorized, in the event of any default on the part of the Subdivider or the performance of any work or construction of any improvements for which such guarantees have been deposited, to cause the required work to be done and to withdraw that amount required for payment of all costs therefore.

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ARTICLE VIII - ADMINISTRATION AND ENFORCEMENT

SECTION 8.0 ADMINISTRATION

It shall be the responsibility of the Commission's Representative to administer these regulations, except where specific authority is retained by the planning commission, as provided per these regulations.

SECTION 8.1 FEES FOR PRELIMINARY & FINAL PLATS; GRADING PLANS; IMPROVEMENT DRAWINGS AND SPECIFICATIONS INSPECTIONS & OTHER PLATS

Fee schedules shall be provided by the City Ordinance.

SECTION 8.2 PAYMENT OF FEES

The Subdivider shall pay all fees to the Commission's Representative at the time of submitting plats, improvement drawings and specifications, for approval.

SECTION 8.3 FEES FOR INSPECTING IMPROVEMENTS AS PER APPROVED IMPROVEMENT DRAWINGS AND SPECIFICATIONS

Inspection fees shall be provided to City Council or the applicable regulatory agency for improvements.

The fee shall be paid at the time of submission of the Final Plat to the Commission's Representative. Where improvements are to be installed prior to Final Plat approval, no Final Plat approval will be given nor shall such a plat be recorded until all inspection fees are paid in full. In the event Final Plat approval is given prior to installment of improvements, the guarantee posted by the Subdivider as per Section 7.16 of these regulations shall require the payment of all inspection fees and no guarantees shall be released until all inspection fees are paid in full. It shall be the responsibility of the Planning Commission or its Representative to require that the inspections will be made.

SECTION 8.4 FEES FOR RECORDING FINAL PLATS IN COUNTY CLERK'S OFFICE

The Subdivider shall pay the Campbell County Clerk's recording fee.

SECTION 8.5 MODIFICATIONS

The Planning Commission may grant a modification or waiver to these regulations, as specified herein, providing the planning commission shall find:

- A. That unusual topographical or exceptional physical conditions exist; or
- B. That strict compliance with these regulations would create a hardship; or
- C. That the modifications would provide for an innovative design of the subdivision.

In granting any modification or waiver to these regulations, the planning commission shall find that said modification or waiver will not be detrimental to the public interest nor be in conflict with the intent and purpose of these regulations.



The planning commission may require certain conditions to be met, as may be reasonably necessary, to accomplish the purpose of these regulations when modified.

SECTION 8.6 ENFORCEMENT

- A. **PLANNING COMMISSION APPROVAL REQUIRED FOR All SUBDIVISIONS:** No person or their agent shall subdivide any land, before securing the approval of the Planning Commission of a plat designating the areas to be subdivided, and no plat of a subdivision of land within the City shall be recorded with the Campbell County Clerk until the plat has been approved by the Planning Commission and the approval entered thereon in writing signed by the Chair.
- B. **SALE OF LAND IN SUBDIVISION:** No person owning land composing a subdivision, or their agent, shall transfer or sell or agree to sell any lot or parcel of land located within a subdivision by reference to, or by exhibition, or by any other use of a plat of such subdivision, before such plat has received final approval of the planning commission, signed by the Chair of the Planning Commission and has been recorded. Any such instrument of transfer, sale, or contract shall be void and shall not be subject to be recording..
- C. **REVISION OF PLAT AFTER APPROVAL:** No changes, erasures, modifications, or revisions shall be made in any plat of a subdivision after final approval has been given by the planning commission and an endorsement is made in writing on the plat, unless the plat is first resubmitted and the changes approved by the planning commission.
- D. **IMPROVEMENTS IN CONFLICT WITH OFFICIAL MAP:** After the City has adopted an official map, no board, public officer, or authority shall accept, layout, improve, or authorize any improvements to be constructed in any street, including rights-of-way, watercourses, park and playgrounds, public school or other public building sites shown on the official map, except as provided for in KRS 100.293-100.317.
- E. **ENFORCEMENT BY PLANNING COMMISSION OR ITS REPRESENTATIVE:** The Planning Commission or its Representative, shall have a cause of action for all appropriate relief including injunctions against any governmental bodies or any person who violates any of these regulations.

SECTION 8.7 PENALTIES

Pursuant to KRS 100.991, any person or entity who violates any of these regulations shall, upon conviction, be fined not less than ten dollars (\$10.00) but not more than five hundred dollars (\$500.00). Each day of violation shall constitute a separate offense.

SECTION 8.8 SEVERABILITY

If any article, section, sub-section, sentence, clause, or phrase of these regulations is, for any reason, held unconstitutional or invalid, such decision or holding shall not affect the



validity of the remaining portions hereof, it being the intent to enact each section and portion thereof, individually, and each such section shall stand alone, if necessary, be in force notwithstanding the validity of any other article, section, sub-section, sentence, clause or phrase of these regulations.

SECTION 8.9 APPEALS FROM PLANNING COMMISSION'S REPRESENTATIVE

Any Subdivider claiming to be aggrieved by any actions by the Commission's representative may appeal such actions to the Planning Commission.

SECTION 8.10 APPEALS FROM PLANNING COMMISSION

Any appeal from the Planning Commission's action may be taken in the following manner;

- A. Any person or entity claiming to be injured or aggrieved by any final action of the planning commission may appeal from the action to the circuit court of the county in which the land lies. Such appeal shall be taken within thirty (30) consecutive calendar days after the final action of the planning commission. Final action shall not include the planning commission's recommendation made to other governmental bodies.
- B. All appeals shall be taken in the appropriate circuit court within thirty (30) consecutive calendar days after the action or decision of the planning commission and all decisions which have not been appealed after thirty (30) consecutive calendar days shall become final.

SECTION 8.11 CONFLICT

All regulations, resolutions, orders, ordinances, or codes in conflict herewith are hereby repealed on the effective date of these regulations; providing, however, that such repeal shall not prevent the prosecution or punishment of any person for any action done or committed in violation of any such Subdivision Regulations, Order, Resolutions, or Amendments thereto, hereby repealed prior to the effective date of these regulations.



ARTICLE IX - ADOPTION, AMENDMENT AND EFFECTIVE DATE

SECTION 9.0 PUBLIC HEARING

Before adoption of these subdivision regulations or any amendments thereto, by the planning commission, a public hearing shall be held by the planning commission. A public notice of the time and place of the public hearing shall be made in accordance with Kentucky Revised Statutes Chapter 424.

SECTION 9.1 EFFECTIVE DATE

These subdivision regulations shall take effect and be in force upon their adoption as provided for in KRS Chapter 100.



APPENDIX A

PAVEMENT DESIGN

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SECTION A.1: PAVEMENT DESIGN METHOD AND REQUIRED THICKNESSES

A.1-1 Pavement Design Method

AASHTO Guide for Design of Pavement Structures (1986 and 1993), published by The American Association of State Highway and Transportation Officials is the design method used herein and is specified as the design method to be used for any alternate pavement designs that are allowed or required in this regulation. Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method sets out the design parameters used herein for Bellevue Subdivision pavements. For definition and explanation of the parameters shown here, see the above mentioned AASHTO guides. Project specific pavement designs are required for residential streets serving over 1,000 residences or commercial/industrial streets serving more than 3,500,000 ESALs or alternative pavement designs proposed under Section A.1-2: Required Thicknesses. Any project specific pavement designs are required to use the design parameters identified in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method.

Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method		
Parameter	Design Values	
	Concrete	Asphalt
Design Life	20 years	20 years
Life Cycle Analysis	50 years	50 years
Drainage Coefficient	1.0	--
Reliability	80%	80%
Deviation	0.35	0.45
Initial Serviceability	4.2	4.5
Terminal Serviceability	2.5	2.5
Modulus of Rupture	600 psi	--
Modulus of Elasticity	3,600,000psi	--
CBR, Minimum	2 (K=50 pci)	3 (MR=2700 psi)
Load Transfer	4.4 (no dowels)	--
Load Transfer	3.2 (dowels)	--
20 Year ESAL, Residential Local Street, ≤ 199 Residential Units served	81,000	81,000
20 Year ESAL, Residential Sub-collector Street, 200-500 Residential Units served	203,000	203,000
20 Year ESAL, Residential Collector Street, 501-1000 Residential Units served	406,000 ^[2]	406,000 ^[2]
20 Year ESAL, Light Commercial	1,000,000 ^[1]	1,000,000 ^[1]
20 Year ESAL, Heavy Commercial/Industrial Street	3,500,000 ^[1]	3,500,000 ^[1]
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, ≤ 199 Residential Units served	53,000	53,000
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, 200-500 Residential Units served	133,000	133,000



Year 17 to Year 34 and Year 34 to Year 50 ESAL, Residential Local Street, 501-1000 Residential Units served	265,000 ^[2]	265,000 ^[2]
Year 17 to Year 34 and Year 34 to Year 50 ESAL, Light Commercial	850,000 ^[1]	850,000 ^[1]
Year 17 to Year 34 ESAL, Heavy Commercial/Industrial	2,975,000 ^[1]	2,975,000 ^[1]
ESAL, Arterial	Per KYTC Specifications	
Asphalt Surface Layer Coefficient		0.44
Asphalt Base Layer Coefficient		0.40
Crushed Stone Base Layer Coefficient		0.14
Crushed Stone Base with Tensar TX5 Geogrid Layer Coefficient		0.25 for CBR ≥ 3
		0.21 for 2 ≤ BR < 3
Thickness conversion factor, 17 year old asphalt – Residential		0.70
Thickness conversion factor, 34 year old asphalt – Residential		0.60
Thickness conversion factor, 17 year old asphalt – Light Commercial		0.85
Thickness conversion factor, 34 year old asphalt – Light Commercial		0.75
Thickness conversion factor, 17 year old asphalt – Heavy Commercial/Industrial		0.90
Thickness conversion factor, 34 year old asphalt – Heavy Commercial/Industrial		0.80
NOTES: ^[1] Engineer shall submit a Traffic Impact Study (TIS) documenting project-specific design ESALs for each commercial/industrial Subdivision generating more than 100 vehicle trips per hour during the AM or PM peak period. If project-specific ESAL loading is greater than 3,500,000, a project-specific pavement design is required. ^[2] Project-specific pavement design required for residential streets serving more than 1,000 residential units.		

A.1-2 Required Thicknesses

- (A) Table A-2: Required Subdivision Street Thicknesses shows the required pavement thicknesses for various Street classifications for Asphalt and Concrete Streets where in situ Subgrade soils can meet the minimum required Subgrade CBR equal to 2 or greater for Concrete pavements or CBR of 3 or greater for Asphalt pavements. These thicknesses were determined using the AASHTO Guide for Design of Pavement Structures (1986 and 1993) and the design parameters identified in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method. These values meet requirements for a 50 year life cycle without replacement, assuming resurfacing at 17 and 34 years.



Table A-2: Required Subdivision Street Thicknesses								
Street Classification With Number of Residential Units Served ^{[5][6]}	Concrete Over Crushed Stone Base (CSB)		Asphalt Over Crushed Stone Base (CSB)			Asphalt Over Crushed Stone Base (CSB) + Geogrid ^[7]		
	Concrete	CSB	Surface	Base	CSB ^[1]	Surface	Base	CSB ^[1]
Residential Local ≤ 199 R.U.	7" ^[2]	4"	1.5"	5"	7" ^[4]	1.5"	3"	7" ^[4]
Residential Sub-collector 200-500 R.U.	8" ^[2]	4"	1.5"	6"	7" ^[4]	1.5"	4"	7" ^[4]
Residential Collector 501-1000 R.U.	9" ^[2]	4"	1.5"	7.75"	7" ^[4]	1.5"	5.75"	7" ^[4]
Light Commercial ≤ 1 Million ESALS	8.5" ^[3]	4"	1.5"	8"	7" ^[4]	1.5"	6"	7" ^[4]
Heavy Commercial/ Industrial ≤ 3.5 Million ESALS	10" ^[3]	4"	1.5"	9.5"	7" ^[4]	1.5"	7.5"	7" ^[4]
Arterial	Per KYTC Specifications							
<p>[1] Average thickness. Varies from 1 inch less at centerline to 1 inch greater at gutter apron.</p> <p>[2] Plain Concrete, tooled skewed transverse Contraction Joints without dowels (see Details C.16 & C.17).</p> <p>[3] Plain Concrete, with doweled and sawed (non-skewed) transverse Contraction Joints (see Detail C.15).</p> <p>[4] 6-8 inch KYTC crushed stone base for residential pavements to be installed in one lift (pug milled) and properly compacted (one lift). Any crushed stone base greater in thickness than the above noted 6-8 inches must be installed in two lifts.</p> <p>[5] Residential Unit means a residential dwelling unit and shall include single-family unattached homes, condominiums, town homes, duplex, triplex and fourplex units, and individual apartment units in a multi-family building.</p> <p>[6] Number of residential units served for a particular Street is defined as the number of residential units which that Street serves as the sole access or, where a number of residential units are served by more than one access, it is an approximation of the number of residential units served that is equivalent to one access.</p> <p>- Example 1: A particular section Street serves as the sole access to less than 200 residential units. That Street would then be a Local Street.</p> <p>- Example 2: An area of existing and future residential development of 450 residential units is served by more than one access Street. Only those Streets that will carry traffic and ESAL loading higher than a Subdivision Street that provides sole access to more than 200 residential units will be classified as a Subcollector Street.</p> <p>[7] Geogrid shall be Tensar TX5 triaxial geogrid.</p>								

(B) Wherever the minimum CBR values for Asphalt or Concrete pavements as defined in Table A-1: Subdivision Pavement Design Parameters Using AASHTO Method cannot be provided by the in situ Subgrade soils, the Engineer shall: 1) submit an engineered Subgrade improvement design that increases the CBR value of the in situ Subgrade soils to the required minimum CBR values for Asphalt and Concrete pavement in Subsection A.1-1: Pavement Design Method; or 2) submit an engineered alternate pavement design that takes into account the substandard CBR values.

(1) Engineered subgrade improvements may include:

- a) Undercutting the substandard Subgrade soils and replacing them with documented soils that provide the minimum CBR values, or greater.
- b) Providing a chemically stabilized Subgrade (usually lime stabilization) to effectively provide the minimum CBR values, or greater.



- c) Utilizing crushed stone base with geotextile and/or Tensor TX5 triaxial geogrid to effectively provide the minimum CBR values, or greater.
- (2) Alternative pavement designs may be proposed for Asphalt pavement on subgrades with a CBR value of 2, provided the pavement structure is shown to meet the structural number requirements identified in Table A-3: Structural Numbers for Alternative Asphalt Pavement Designs (CBR =2). Alternative pavement designs are not permitted for Subgrade soils with a CBR less than 2; rather, the subgrade soils shall be improved to CBR equal to 2 or greater, per Subsection A.1-2(B)(1).

Table A-3: Structural Numbers for Alternative Asphalt Pavement Designs (CBR=2)	
Street Classification	Structural Number
Local (≤ 199 Residential Units)	4.09
Sub-collector (200-500 Residential Units)	4.92
Collector (501-1000 Residential Units)	5.60
Light Commercial	5.15
Heavy Commercial/Industrial	6.31

- (3) When chemically stabilized Subgrade demonstrates a documented CBR value greater than 3, an alternative asphalt pavement design may be proposed to reduce pavement thickness, provided the pavement structure is shown to meet the structural number requirements identified in Table A-4: Structural Numbers for Alternative Asphalt Pavement Designs.

Table A-4: Structural Numbers for Alternative Asphalt Pavement Designs				
Street Classification	Structural Number			
	CBR 4	CBR 5	CBR 6	CBR 7
Local (≤ 199 Residential Units)	2.85	2.50	2.24	2.04
Sub-collector (200-500 Residential Units)	3.52	3.14	2.84	2.60
Collector (501-1000 Residential Units)	4.09	3.65	3.34	3.07
Light Commercial	4.05	3.75	3.55	3.35
Heavy Commercial/Industrial	4.87	4.55	4.26	4.05

- a) For Asphalt over Crushed Stone Base pavements, the crushed stone base may not be reduced below the thicknesses shown in Table A-2: Required Subdivision Street Thicknesses and minimum total Asphalt thickness of 4.5" (local streets), 5.5" (subcollector streets), 6.5" (residential collector streets), and 7.5" (commercial/industrial streets) shall be maintained.
- b) There shall be no reduction in thickness for Concrete pavements below those shown in Table A-2: Required Subdivision Street Thicknesses.



- c) Alternative pavement designs shall not be permitted for:
 - i) in situ soils with CBR values greater than 3;
 - ii) undercut and replaced subgrade soils; or
 - iii) crushed stone base and geotextile/geogrid subgrade improvements.

A.1-3 Pavement and Pavement Drainage Construction Details

Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways contains important construction details that are a part of these specifications for the pavement, pavement Drainage system, and other utility construction within the Right of Way that can impact pavement performance. Proper construction execution of the details in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways is important to good pavement performance.



SECTION A.2: USE OF AGGREGATES WITHIN THE RIGHT-OF-WAY

A.2-1 Aggregate Specifications

Table A-5 indicates the specifications for the various aggregate types and their uses in improvement construction within the Street Right-of-way. All aggregates must pass all KYTC aggregate requirements for their intended use as set out in Section 800 of the KYTC Road and Bridge Manual, latest edition.

Table A-5: Aggregate Specification Table	
KYTC Specification	Use Within Right-of-Way
Pipe Bedding Sand	Bed and cover for deep sanitary sewer and storm sewer
Concrete Sand	Concrete mix and bed and cover for waterline and power and communication utilities
DGA	Backfill for waterline and power and communication utilities under the Street
57's Crushed Limestone	Concrete pavement aggregate and catch basin crossover construction
57's Gravel	Allowable aggregate for all Concrete not used in Concrete Pavement and Concrete Curb and Gutter
No. 8's Gravel	Allowable aggregate for all Concrete
#4 Crushed Limestone	Required aggregate for Concrete Pavements
Crushed Stone Base	Base material all pavements
Asphalt Aggregates (see Table A-14)	Asphalt pavement aggregates must meet requirements in Section 400 of KYTC Road and Bridge Manual, latest edition, except where noted otherwise in this specification

All aggregates must pass all KYTC aggregate requirements for their intended use as set out in Section 800 of the KYTC Road and Bridge Manual, latest edition.



SECTION A.3: PORTLAND CEMENT CONCRETE (CONCRETE) INFRASTRUCTURE

A.3-1 General Requirement

- (A) Materials - Portland cement, water, aggregates, air entraining agents, and admixtures to reduce water, retard set, etc. shall satisfy the material specifications of, and be proportioned, batched, delivered, and cured in accordance with, the Portland Cement Association (PCA), Design and Control of Concrete Mixtures, latest edition, except as noted otherwise in these regulations.
- (B) Mix Design -Concrete mix design shall: (1) contain six bags of cement (564 pounds) per cubic yard; (2) be air entrained to an air content of six percent +2 percent using ASTM air entraining admixture; and (3) have a maximum water cement ratio of 0.45, and a maximum slump of four inches. Aggregate type, gradation and weight distribution will vary depending on the intended use, as spelled out in Subsections A.3-2(A), A.3-3(A), and A.3-4(A).
- (C) Fly Ash - No fly ash is allowed in the Concrete mix.
- (D) Strength -Finished Concrete shall attain a minimum compressive strength at 28 days of 4,000 pounds per square inch.
- (E) Ready Mix Suppliers - All Concrete Ready Mix must be provided by Ready Mix plants listed on the KYTC List of Approved Materials (LAM) as a qualified producer. In the alternative, the Ready Mix supplier must supply to the staff an executed original of KTC Form TC-64-764/09 2011 "Certification of Compliance for Freeze Thaw Resistant Concrete Aggregate" for the aggregate used in Concrete mixes prior to commencement of construction. All Ready Mix Concrete suppliers shall submit to the Staff in January of each year mix design verifications for all Concrete mixes that will be supplied during that year for use in Subdivision improvements.
- (F) Delivery and Discharge - Concrete shall be delivered and discharged from a truck mixer or agitator truck within the periods specified in Table A-6. Delivery tickets shall have this time clearly shown and be checked for conformance by the Staff. Delivery tickets shall also show the date of the delivery, the Concrete mix supplied, and the design compressive strength. All delivery tickets shall be delivered to Staff. Any Concrete which is not plastic and workable when placed shall be rejected.

Air Temperature	Maximum Discharge Time
Up to 85 degrees Fahrenheit	1.5 hours
More than 85 degrees Fahrenheit	1 hour

- (G) Curing - Concrete shall be cured in accordance with Section 601.03.17 of the KYTC specification.
- (H) Expansion and Isolation Joints - Expansion and Isolation Joint material used herein shall be pre-formed one-inch thick material, the full depth of the Concrete, and shall conform to KYTC specifications for use in Concrete pavements.



- (I) Cold Weather Placement - Concrete may be placed when the ambient air temperature in the shade and away from artificial heat is 40° F (and rising). No concrete shall be placed upon frozen subgrade. Concrete shall be protected from freezing for a period of up to seven days.
- (J) Hot Weather Placement - Maintain the temperature of the mixture at or below 90° F during placement. Cease concrete production when the mixture exceeds 90° F until adequate methods are in place to reduce or maintain the mixture temperature. Do not place concrete in areas where the ambient temperature is above 100° F.

A.3-2 Street Pavement Requirements

- (A) Aggregates
 - (1) Aggregates for Concrete Street pavement shall be a blend of No. 467 crushed limestone, No. 8 gravel and concrete sand.
 - (2) The No. 467 crushed limestone aggregate shall meet the gradation limits shown in Table A-7.

Table A-7: No. 467 Gradation Limits	
Sieve Size	Percent Passing
2"	100
1 ½"	93-98*
1"	- -
¾"	35-70
½"	- -
⅜"	10-30
#4	0-5
#8	- -
<p>*Note that the specified percent passing the 1 ½" sieve differs from Section 800 of the KYTC Road and Bridge Manual, latest edition, for No. 467 gradation. The No. 467 crushed limestone for Street pavement in the Regulation must have 2% to 7% retained on the 1 ½" sieve.</p>	

- (3) Gradation of the No. 8 gravel and the concrete sand shall meet the requirements of Section 800 of the KYTC Road and Bridge Manual, latest edition.
- (4) Minimum cement factor shall be 564 pounds per cubic yard.
- (5) Minimum compressive strength at 28 days shall be 4,000 psi.
- (6) Maximum water / cement ratio shall be 0.45.
- (7) Air entrainment shall be 6% ± 2%.
- (8) Maximum slump without mid-range water reducer shall be 4-inches.
- (9) Maximum slump with mid-range water reducer shall be 7-inches.



- (10) Workability factor shall be between 38 high to 33 low.
 - (11) Coarseness factor shall be between 73 high to 68 low.
- (B) Thickness Requirements - Pavement thicknesses for various classifications of Streets shall be as shown in Table A-2: Required Subdivision Street Thicknesses. Various critical Concrete pavement design and construction details that shall be used in Concrete Subdivision pavements are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.
- (C) Testing Requirements
- (1) One set of three test cylinders shall be made for each day's placement of Street. An additional set of three test cylinders shall be made for each additional 100 cubic yards of placement. One slump, air entrainment and temperature test shall be performed for each set of Concrete test cylinders.
 - (2) One cylinder shall be tested for compressive strength at no later than seven days and two cylinders at 28 days.
 - (3) Part of the plastic Concrete sample used for the test cylinders shall be washed to visually confirm that crushed limestone coarse aggregate was used in the Concrete mix.
 - (4) All Concrete testing shall be performed by a Qualified Materials Testing firm in accord with applicable ASTM specifications, latest editions. The results of all Concrete testing are required to be provided to Staff by the Developer prior to the approval of a Final Plat.
- (D) Reinforcing Steel - The use of continuous reinforced concrete pavements is not required but can be considered for streets serving commercial/industrial uses.
- (1) Bent bars are not considered reinforcing steel in the contents of this section.
 - (2) The use of wire mesh in concrete pavements is prohibited.
- (E) Placement
- (1) Formwork
 - a) Fixed forms shall have a depth equal to or greater than the thickness of the pavement.
 - b) Forms shall be of such cross-sections and strength and so secured as to resist the pressure of the Concrete when placed, and the impact and vibration of any equipment which they support, without springing or settlement.
 - (2) Setting - The Subgrade under the forms shall be compacted and shaped so that the form set shall provide the specified elevation.



- (3) Grade and Alignment - The alignment and grade elevation of the forms shall be checked by the Contractor immediately ahead of Concrete placement and corrections made when necessary.
- (4) Placement Method
 - a) All Concrete placement shall conform to ACI Specifications, latest edition.
 - b) The Concrete shall be mixed in quantities required for immediate use and shall be deposited on the Subgrade to the required depth and width of the construction lane in successive batches and in a continuous operation. The terminus of a continuous pour shall be a Construction Joint per Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.
 - c) The Concrete shall be placed as uniformly as possible in order to minimize the amount of additional spreading necessary.
 - d) The Concrete shall be vibrated and consolidated with suitable tools while being placed so that the formation of voids or honeycomb pockets is prevented.
 - e) Concrete shall not be placed around manholes or other structures until they have been brought to the required grade and alignment.
 - f) Additional tamping and compaction of surrounding fill material may be required after raising manholes.
- (5) Consolidating and Finishing
 - a) Concrete pavement shall be struck off and consolidated with a mechanical finishing machine, vibrating screed, slipform paver, or by hand-finishing methods such that, after consolidation and final finishing, it shall be at the elevation shown on the approved plans.
 - b) The finishing method shall incorporate a screed, which will consolidate the Concrete by pressure, vibration, or both.
 - c) The Concrete shall be brought to a true and even surface, free from rock pockets.
 - d) Hand-finishing tools shall be kept available for use in case the mechanical finishing machine breaks down.
 - e) When hand finishing, the pavement shall be struck off and consolidated by a vibrating screed to the elevation as shown on the plans. When the forward motion of the vibrating screen is stopped, the vibrator shall be shut off and not be allowed to idle on the Concrete.
- (6) Scraping and Straight Edging



- a) The Inspector may require that the pavement be scraped with a straightedge with a minimum width of six feet, equipped with handles long enough to permit it to be operated from the edge of the pavement.
 - b) When irregularities with the surface elevation are discovered, they shall be corrected by adding or removing Concrete. All disturbed areas shall be floated with a wooden or metal float not less than four feet long and not less than six inches wide and straight edged.
- (7) Edging - Before final finishing is completed and before the Concrete has taken its initial set, the edges of the slab and Curb shall be carefully finished with an edger.

(8) Final Surface Finish

- a) The final surface of the Concrete pavement and Curb shall have a uniform gritty texture at the grades and cross-sections shown on the plans.
- b) A burlap drag or medium broom shall be used as the final finishing method for Concrete pavement.
- c) A burlap drag finish shall have a minimum width of at least three feet and have a length that is long enough to cover the entire pavement width.
- d) The burlap drag shall be pulled forward across the pavement in the direction in which the pavement is being placed.
- e) A broom finish shall be drawn transversely across the pavement using overlapping strokes to produce surface corrugations of uniform appearance approximately 1/16th inch in depth.
- f) Curbs shall be finished using the same method as the pavement.

(9) Integral Curb

- a) Curbs shall be constructed monolithically with pavement extrusion equipment or hand formed prior to the finishing operation.
- b) The integral barrier and sloped Curb shall be constructed with or prior to the finished paving operation. Special care shall be taken so that the Curb construction does not create a “cold joint.”
- c) Curbs placed immediately following the paving operation shall be sufficiently consolidated with the paving slab and shall not contain voids within or along the back face of the Curb.
- d) Integral barrier Curbs along the edges of Street pavement shall contain depressed Curbs not less than 1-3/4 inches above the gutter line at all Driveway entrances and at such other locations as designed on the approved plans.



- e) When barrier Curb is used, the Curb may be sawed horizontally to facilitate residential Driveways, approaches, and Sidewalks.

(F) Concrete Street Pavement Joints

(1) Contraction Joints

- a) All Contraction Joints shall be placed a maximum of 15 feet on center. Commercial/Industrial Subdivision pavements shall have sawed transverse Contraction Joints with steel dowels that are cut perpendicular across the pavement. All residential pavements shall have tooled or sawed Contraction Joints without dowels. Residential pavement transverse Contraction Joints shall be skewed (except at intersections, paired catch basins and in Cul-de-sacs). See Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.
- b) Sawed joints shall be equal to a depth of one-fourth (1/4) of the pavement thickness continuous across the slab.
- c) The timing of the installation of joints shall conform to ACI specifications, latest edition.
- d) Contraction Joints cut into fresh Concrete with a jointing tool shall be a minimum 1½ inches deep.

- (2) Expansion Joints - There shall be no Expansion Joints in any pavements except at bridge abutments and where required by construction details in Appendix C.

(3) Longitudinal Joints

- a) All pavements wider than 15 feet require Longitudinal Joints. Longitudinal Joints may be Construction Joints or tooled/sawed joints.
- b) Longitudinal Construction Joints will require 18 inches long #4 deformed bars embedded into each slab at the mid-slab height, no more than four feet on center and no closer than 18 inches to each Contraction Joint.
- c) Bent bars may be inserted into fresh Concrete before its initial set.
- d) Bent bars shall not be straightened until the Concrete has cured sufficiently to enable bending without fracture of the Concrete slab.

- (4) Other Pavement Joints - Other Contraction Joints and Isolation Joints shall be constructed per Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

- (G) Manholes and On-Street Inlets - Manholes, on-Street inlets, and water valves encountered in the areas to be paved shall be raised or lowered to the surface of the new pavement. On-Street inlets may be separated from the pavement and Curb by boxing out around the inlet. Details for Joint construction at manholes and catch basins



are in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.

(H) Protection and Opening to Traffic

- (1) Traffic shall be prohibited from the pavement until the Concrete has attained a compressive strength of 3,500 pounds per square inch.
- (2) Prohibited traffic shall include Contractor's vehicles.
- (3) Prior to opening to public traffic, the Developer is responsible for completing, curing and sealing the pavement, including box outs, backfilling the Street, sealing the joints and cleaning the pavement of all debris.

(I) Concrete Pavement Lugs - The purpose of pavement lugs in Subdivision pavements is to provide some additional resistance to Contraction Joints separating during repeated expansion and contraction cycles over the life of the pavement in certain open ended and relatively steep downhill pavement conditions. In these open ended and downhill conditions, resistance to pavement lengthening at contraction joints is substantially reduced as compared to Contraction Joints in long stretches relatively straight pavement. In the long, relatively straight streets, the repetitive adjacent slabs help keep the contraction joints from separating during repeated expansion and contraction cycles. Those conditions which shall require lugs are related to the geometry of the Streets and are as follows (see Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways).

- (1) The ends of Cul-de-sacs where the Street grade approaching the Cul-de-sac decreases more than 20 feet vertically, at an average grade of more than six percent, before there is a change in direction of Street Drainage. In this condition, install a lug near the end of the Cul-de-sac across the extension of the two lanes of pavement.
- (2) At T-intersections, place a lug on the intersecting street near the intersection, where grade on the intersecting Street is going up from the intersection more than 20 feet vertically, at an average grade of more than six percent, before there is a change in the Drainage direction.
- (3) On the main line of a Street pavement where the pavement is going straight and downhill more than 20 feet vertically, at an average grade of more than six percent and the direction of centerline deflects horizontally by more than 30 degrees, place a lug just uphill of the start of the horizontal curve.
 - a) Lugs shall be placed at least 20 feet uphill from any shallow utility excavation transverse to the pavement.
- (4) The Design Engineer may add other lugs in conditions he considers critical to Contraction Joint integrity.
- (5) Lug locations are to be shown on construction design and as-built drawings.

(J) Joint Sealing Compound



- (1) Joint sealing compound shall conform to the following standard designations:
 - a) Hot-poured elastic type, as specified by AASHTO, latest edition; or
 - b) Silicone rubber sealant type (non-sag, self-leveling, or rapid cure) conforming to the KYTC Department of Highways Standard Specifications for Road and Bridge Construction, latest edition; or
 - c) An approved equal, as determined and approved by Staff.
- (2) The application of joint sealant is prohibited at temperatures below 40 degrees Fahrenheit.

A.3-3 Concrete Curb and Gutter Requirements

(A) Aggregates

- (1) Aggregates for Concrete Curb and Gutter shall consist of KYTC aggregates approved for use in pavements.
- (2) The following quantities and aggregate types shall be provided for one cubic yard of concrete:
 - a) 1,500 pounds of #57 crushed limestone.
 - b) 300 pounds #8 gravel.
 - c) 1,320 pounds of Concrete sand.

(B) Curb Design

- (1) 24-inch wide Concrete Curb and gutter shall be used for all Streets Types with Asphalt pavements.
- (2) All Streets serving residential developments shall use the sloped curb as shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.
- (3) All Streets serving industrial/commercial developments shall use the six inch barrier Curb.

(C) Concrete Curb over Crushed Stone Base shall be a minimum of seven inches thick at the Curb apron.

(D) Expansion Joints

- (1) Expansion Joints shall be placed in Concrete Curbs at each side of Curb inlet catch basins.



- (2) Two 3/4-inch diameter, 18-inch long smooth dowels with expansion caps shall be placed in each Expansion Joint location.
 - (3) Expansion material must go completely through the Curb cross section, preventing Concrete to Concrete contact.
- (E) Contraction Joints shall be installed in the Curb at a spacing of no more than 10 feet on center.
- (F) Standard Details for Concrete Curb and gutter are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways.
- (G) Testing Requirements
- (1) One set of three test cylinders shall be made for each day's placement of Street. An additional set of three test cylinders shall be made for each additional 100 cubic yards of placement. One slump, air entrainment and temperature test shall be performed for each set of Concrete test cylinders.
 - (2) One cylinder shall be tested for compressive strength at no later than seven days and two cylinders at 28 days.
 - (3) Part of the plastic Concrete sample used for the test cylinders shall be washed to visually confirm that crushed limestone coarse aggregate was used in the Concrete mix.
 - (4) All Concrete testing shall be performed by a Qualified Materials Testing firm in accord with applicable ASTM specifications, latest editions. The results of all Concrete testing are required to be provided to Staff by the materials testing firm prior to the approval of a Final Plat.

A.3-4 Concrete Public Sidewalks, Pathways, Driveway Aprons and Other Infrastructure

- (A) Concrete Mix Design Requirements
- (1) Aggregates shall be a blend of No. 57 gravel or crushed limestone, No. 8 gravel and concrete sand.
 - (2) Gradation of the No. 57 gravel or crushed limestone, the No. 8 gravel and the concrete sand shall meet the requirements of Section 800 of the KYTC Road and Bridge Manual, latest edition.
 - (3) Minimum cement factor shall be 564 pounds per cubic yard.
 - (4) Minimum compressive strength at 28 days shall be 4,000 psi.
 - (5) Maximum water / cement ratio shall be 0.45.
 - (6) Air entrainment shall be 6% \pm 2%.



- (7) Maximum slump without mid-range water reducer shall be 4-inches.
- (8) Maximum slump with mid-range water reducer shall be 7-inches.
- (9) Workability factor shall be between 40 high to 35 low.
- (10) Coarseness factor shall be between 63 high to 58 low.

(B) Subgrade

- (1) Subgrade for Sidewalks, pathways, and Driveway aprons shall be non-organic and consist of natural clay or sand soils.
- (2) Clay soils must be knit together without any loose clay soils. Any material used to finish grade Subgrade shall be bank run sand, KYTC crushed limestone DGA, or crushed recycled Concrete.
- (3) Any granular material in excess of two inches thick shall be compacted with a vibrating plate compactor or equivalent.
- (4) No gravel and no other crushed limestone gradation will be used for finish grade fill material.

(C) Thickness Requirements

- (1) Concrete for public Sidewalks and pathways shall be a minimum of four inches thick.
- (2) Residential Driveway aprons shall be a minimum of five inches thick.
- (3) Commercial and industrial Driveway aprons shall be a minimum of seven inches thick.

(D) Drive/Apron Requirements - Required Driveway apron layouts and construction details, including required Expansion Joint thickness and location, are shown in Appendix C: Standard Construction Requirements and Details for Streets, Sidewalks, Driveways. Special care must be taken during construction to make sure there is no Concrete-to-Concrete contact under all Expansion Joints.

(E) Edge Drain Installation - When installing Driveway aprons, special care must be taken not to damage the edge drain installed on the outside of the Curb. If the edge drain is damaged, the damaged section must be properly replaced to assure water flow through the edge drain.

(F) Contraction Joint Spacing - For Sidewalks, the maximum spacing of Contraction Joints shall not exceed five feet, except when the Sidewalk or pathway is wider than five feet when the spacing shall not exceed the width of the slab.



SECTION A.4: ASPHALT CONCRETE (ASPHALT) INFRASTRUCTURE

A.4-1 General Requirement

- (A) All Subdivision Streets in Bellevue Subdivisions shall be constructed in accordance with the latest edition of the KYTC Roadway Manual, Division 400, except where noted otherwise in this specification.
- (B) All Contractors, suppliers and producers must be prequalified by KYTC or demonstrate experience and success on similar projects in order to perform this work.
- (C) All construction materials incorporated into the work shall conform to the requirements set forth in the KYTC Roadway Manual.
- (D) The Contractor shall notify Staff of the intent to start the project within 24 hours of beginning production.

A.4-2 Mixture Designation and Design

- (A) Volumetric Mix Design - The Contractor shall perform the volumetric mix design according to AASHTO R35 and conforming to AASHTO M323 and utilize 50 gyrations.
- (B) Mix Design Submittal - At least 72 hours prior to the start of production, the Contractor shall submit the mix design to the Staff and the Applicant's Qualified Material Testing Lab for review.
- (C) Aggregate Gradation - Aggregate gradations for base, intermediate and surface mixtures shall conform to KYTC Roadway Manual Division 400 and Table A-8.

Table A-8: Aggregate Gradations			
Sieve Size	1.0 Base Mixture	0.75 Intermediate Mixture	Surface Mixture
1-1/2"	100	--	--
1"	90-100	100	--
3/4"	<90	90-100	--
1/2"	--	<90	100
3/8"	--	--	90-100
#4	--	--	<70
#8	19-45	23-49	25-55
#16	--	--	--
#200	1-7	2-8	2-10

- (D) Voids in Mineral Aggregate (VMA), Asphalt Content (AC) and Air Voids (AV) VMA, AC and AV for residential streets shall be as specified in Table A-9 and for commercial/industrial streets as specified in Table A-10.



Table A-9: VMA, AC, and AV for Residential Streets			
	Minimum VMA	Minimum AC	AV
Base Mixture	12%	4%	4%
Intermediate Mixture	13%	4.3%	4%
Surface Mixture	14%	5.4%	3%

Table A-10: VMA, AC, and AV for Commercial/Industrial Streets			
	Minimum VMA	Minimum AC	AV
Base Mixture	12%	4%	4%
Intermediate Mixture	13%	4.3%	4%
Surface Mixture	14%	5.4%	4%

- (E) Remaining Mix Design - The remaining mix design shall conform to the applicable KYTC mix designations Class 2 BASE 0.75D PG64-22 or Class 2 BASE 1.0D PG64-22 “Base and Intermediate Mixture” and Class 2 SURF 0.38D PG64-22 “Surface Mixture”.
- (F) Recycled Asphalt Pavement and Recycled Asphalt Shingles - Recycled Asphalt Pavement (RAP) may be used but is limited to 25 percent of the mixture by weight in the surface and 30 percent of the mixture by weight in the base. Recycled Asphalt Shingles (RAS) may be used but is limited to 3.0 percent of the mixture by weight. However, when combined, the total amount of RAP and RAS may not exceed 25 percent in the surface and 30 percent in the base with no more than three percent RAS. Warm mix Asphalt technology is allowed on a permissive base similar to the KYTC Standard Specifications. See Table A-11.

Table A-11: Maximum Recycled RAP and RAS in Asphalt Pavement			
	Maximum RAP	Maximum RAS	Maximum RAP and RAS
Base Mixture	30%	3%	30%
Intermediate Mixture	30%	3%	30%
Surface Mixture	25%	3%	25%

A.4-3 Plant Mix Operation

- (A) Plant Requirements
- (1) Maximum asphalt temperature during plant operations is 330° F.
 - (2) Minimum asphalt temperature in the truck at the plant is 220° F.
- (B) Plant Testing Requirements
- (1) The Contractor shall monitor the plant production and perform quality control testing at the Asphalt mixing plant.
 - (2) Staff shall be provided access to the facility during production and may be present to observe sampling and testing by the Contractor personnel.
 - (3) A minimum of one test shall be performed per day of paving and additional tests shall be performed for each 1,000 tons produced.



- a) The Contractor may perform additional testing as desired to control mix properties.
- b) When multiple test samples are obtained, the average value of those results shall be used for acceptance.
- c) At the start of production on the project, the first sample shall be obtained after a minimum of 50 tons have been loaded.
- d) Samples shall be tested for conformance to gradation and Asphalt content requirements (AASHTO T164 & AASHTO T30).
- e) Testing results from any offsite laboratory testing shall be reported to Staff, the applicant and the Qualified Material Testing Lab within 24 hours.

A.4-4 Minimum and Maximum Lift Thicknesses

Minimum and maximum thicknesses for asphalt lifts are indicated in Table A-12.

Table A-12: Minimum and Maximum Lift Thickness		
	Minimum Lift	Maximum Lift
Base	3"	5"
Intermediate	2-1/4"	4-1/4"
Surface	1-1/4"	1-3/4"

A.4-5 Placement Procedures

(A) General

- (1) All Contractors must be prequalified by KYTC or demonstrate experience and success on similar projects in order to perform this work.
- (2) Immediately before placing Asphalt materials, remove loose and deleterious materials using a power broom or street sweeping equipment.

(B) Subgrade

- (1) Asphalt placement is prohibited on subgrade with free water on the surface.
- (2) Pavement Subgrade cross slopes shall vary from 3.7 percent to 5 percent depending on the applicable Street cross section.

(C) Overlay

- (1) A tack coat shall be evenly applied across the width of the lane at a rate of 0.10 gallons per square yard. Adjust spray bars as necessary to avoid streaks.
- (2) A tack coat is not required when placing Asphalt base mixtures on granular base layers.



- (3) When Asphalt surface abuts a barrier Curb or similar vertical surface, the abutting surface shall be tack coated prior to construction of the Asphalt course.

(D) Equipment

- (1) The Contractor shall furnish dump trucks with clean, smooth metal beds to transport materials and shall use approved and environmentally friendly release agents.
- (2) Use of diesel fuel is strictly prohibited in truck beds.
- (3) Sufficient trucks should be scheduled to allow for a continuous paving operation without significant delays between trucks.
- (4) The Contractor shall furnish a self-propelled paver with the capacity of spreading and finishing all courses to the indicated widths, depths, line, grade and cross section, with a smooth finish, uniform in density and texture.
- (5) Rollers must also be self-propelled and capable of reversing smoothly. Steel wheel rollers must be equipped with adjustable scrapers, spray bars, and/or wetting pads to keep wheels clean at all times.
- (6) Hand tampers may also be used in tight areas inaccessible by rollers.

(E) Temperatures for Asphalt, Ambient Air and Subgrade

- (1) Do not place Asphalt mixtures when the ambient air temperature and existing surface temperatures on the project are less than those specified below or when weather conditions otherwise prevent the proper handling or finishing of the Asphalt mixtures.
 - a) Minimum ambient air and existing surface temperature shall be 40° F (and rising) prior to placement of Asphalt Base Mixture.
 - b) Minimum ambient air and existing surface temperature shall be 40° F (and rising) prior to placement of Asphalt Surface Mixture:
- (2) The maximum temperature of the mixture shall not exceed 330° F at any time, and the minimum temperature (measured in the truck at the project site) shall not fall below 200° F for all mixtures.
- (3) Compaction efforts shall be completed before the Roadway mix temperature falls below 150° F.

(F) Application of Asphalt Mixes

- (1) All courses shall be placed and spread as continuously as possible, keeping the number of joints to a minimum.



- (2) The longitudinal joint in the final surface course shall be placed along the dividing line between the lanes.
- (3) Best paving practices shall be utilized to ensure the proper amount of material at the joint and to make the same number of passes over the joint as the middle of the mat.
- (4) The finished Joint shall be smooth and tight and free from voids or coarse material.

(G) Surface Course Application

- (1) The surface course application shall be provided no later than 12 months from the date the base Asphalt was placed.
- (2) Prior to the surface course application, Staff shall inspect the Asphalt base course. Damage to the Asphalt base course that will affect the structural integrity or future maintainability of the pavement section shall be repaired prior to placement of the surface course.
- (3) Damage to Curb and gutter sections identified by Staff that will affect the structural integrity and/or future maintainability of the Curb and gutter shall be removed and replaced prior to the placement of surface Asphalt course.
- (4) The surface course shall be compacted to between 1/8" and 1/2" above adjacent Concrete Curb apron.
- (5) The pavement surface cross slope shall be three percent.
- (6) The joint between Curb and gutter and Asphalt pavements shall be sealed in accord with Subsection A.4-7: Joint Sealing.

A.4-6 Density Testing Requirements

- (A) Sampling - All base and surface Asphalt and aggregate materials shall be sampled, tested, and reported by a Qualified Material Testing Lab in accordance with the KYTC Roadway Manual Division 400.
- (B) Testing Frequency and Results
 - (1) Density tests shall be performed at least every 150 feet along each lane of asphalt placed.
 - (2) At the discretion of Staff, a quality assurance check (including cores) of the sampling and testing may be required if deficiencies are suspected.
 - (3) Asphalt base and surface courses shall be compacted to an average density of between 90 and 97 percent of solid volume.
 - (4) Density testing shall be per ASTM D2950 "Density of Bituminous Concrete In Place by Nuclear Density Methods" or ASTM D7113 "Density of Bituminous Mixtures In Place by Electromagnetic Surface Contact Methods".



A.4-7 Joint Sealing

- (A) Compound Material - The Joint Sealing Compound shall conform to the following standard designations:
- (1) Hot-Poured Elastic Type, as specified by AASHTO, latest edition; or
 - (2) Silicone Rubber Sealant Type (Non-Sag, Self-Leveling, or Rapid Cure) conforming to the KYTC Roadway Manual, latest edition; or
 - (3) An approved equal, as determined and approved by Staff.
 - (4) The use of AC-20 as joint sealant is prohibited.
- (B) Air Temperature - The application of joint sealant is prohibited at air temperatures below 40° F.
- (C) Application
- (1) Joint Sealant shall be applied to all Joints abutting the Asphalt, which includes the Joint between the base Asphalt and the Curb if the surface course is not going to be applied immediately.
 - (2) Joint sealant shall be applied to the Curb line immediately upon placement of the surface Asphalt.



A.4-8 Acceptance

- (A) All Asphalt pavement materials shall be evaluated by the Staff, per the requirements set forth in this specification and the KYTC Roadway Manual. Asphalt mixtures will be considered acceptable if the test results determine the materials are within the acceptable limits, as shown in Table A-13 and Table A-14. Any materials deemed to be outside of these ranges shall be retested for compliance.

Table A-13: Acceptable Ranges for AC and Density	
Asphalt Content	Density
±0.6%	90%-97%

Table A-14 : Acceptable Gradation Ranges			
Sieve Size	Acceptable Ranges Percent Passing		
	1.0 Base Mixture	0.75 Intermediate Mixture	0.38 Surface Mixture
1-1/2"	94-100	--	--
1"	84-100	94-100	--
3/4"	<90	84-100	--
1/2"	--	<90	94-100
3/8"	--	--	84-100
#4	--	--	<90
#8	14-50	18-54	32-73
#16	--	--	--
#200	1-10	1-10	1-10

- (B) When test results are in the "Acceptable Ranges," the material will be accepted. Staff shall require the Applicant to "Remove and Replace" the materials when the test results indicate they are outside the limits of the "Acceptable Ranges".
- (C) The surface of each course shall be inspected for uniformity and adequate thickness. Base courses shall be placed within a ½ inch tolerance and surface courses within ¼ inch tolerance. All irregularities exceeding the allowable tolerances must be repaired as directed by the Staff.



APPENDIX B
GEOTECHNICAL EXPLORATION AND EARTHWORK
CONSTRUCTION REQUIREMENTS

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SECTION B.1: GEOTECHNICAL EXPLORATIONS

B.1-1 Purpose

This section fulfills the infrastructure requirements of Kentucky Revised Statutes (KRS) 100.273 through 100.292 by determining that: (1) important in situ Subdivision soils and geologic features that will impact the functional use of public and private improvements have been identified; and (2) that soils and geologic aspects of the design and construction of public and private improvements within the Public Street Right of way or Private Street easements meet the support requirements of their intended use.

- (A) All earthwork and geotechnical exploration requirements within Appendix B shall apply to areas within the Public Street Right-of-way and Private Street easements, and areas structurally supporting the Public Street Right-of-way and Private Street easements;
- (B) All Geotechnical Engineering and Geotechnical Technician work and reporting required under Appendix B shall be provided by the Applicant of the proposed Subdivision. The Geotechnical Technician must be under the direction and control of the Geotechnical Engineer who has been employed by the Applicant for the proposed Subdivision. The proposed Subdivision's Geotechnical Engineer shall have substantial professional engineering discretion to determine when the Geotechnical Engineering intent of the requirements of this Appendix is being met.
- (C) The Applicant shall submit all Geotechnical Engineering and Geotechnical Technician reports and testing results to staff at the appropriate submittal time, as noted in Appendix B.

B.1-2 Geotechnical Explorations Outside of Right-of-Way

- (A) Prior to the approval of the preliminary plat, a geotechnical engineer shall complete a preliminary report that addresses the soil and bedrock types and any existing slope stability issues that are expected in the proposed Subdivision.
 - (1) The Geotechnical Engineer's preliminary report will render a preliminary engineering opinion about the suitability of those soil and bedrock types and existing slopes to provide the necessary support for the intended private property use of the Subdivision.
 - (2) The opinion of expected soil and bedrock types and opinion of soil support suitability can be based on the Geotechnical Engineer's local soil and bedrock knowledge, USGS maps, and a visual field reconnaissance.
- (B) The requirement for preliminary and final geotechnical explorations outside of the Public Right-of-way may be further regulated by the applicable legislative body's zoning ordinance.

B.1-3 Geotechnical Explorations Within Right-of-Way

- (A) Preliminary Geotechnical Exploration



- (1) Prior to the approval of the preliminary plat a geotechnical engineer shall complete a preliminary geotechnical exploration report. The report will address the soil and bedrock types that are expected on the project site, and present an engineering opinion about the suitability of the soil and bedrock types (when properly prepared and constructed) to provide adequate proposed Public Street Right-of-way structural support, including the minimum required CBR (subgrade support) values for asphalt and/or concrete pavements described herein.
- (2) The opinion of expected soil and bedrock types and opinion of Subgrade support suitability can be based on the Geotechnical Engineer's local soil and bedrock knowledge, USGS maps, and a visual field reconnaissance.
- (3) Campbell County soil types that may require replacement or other form of remediation during Subgrade construction in order to provide the minimum required CBR values for Concrete and Asphalt pavement designs shown in Table A-1 are non-plastic silts (soils that classify ML according to the Unified Soil Classification System (USCS)) and highly plastic silts and clays (MH and CH soils) with standard Proctor maximum dry densities less than 100 pounds per cubic foot and plasticity indices greater than 30 percent.

(B) Final Geotechnical Exploration

Prior to approval of the Improvement Plans or Grading Plans a Geotechnical Engineer shall complete a final geotechnical exploration report that identifies the soil and bedrock types present on the project site covered by the Improvement Plans or Grading Plans and presents a written engineering opinion about the suitability of the soils and bedrock to provide stable Right-of-way earthwork construction, and to provide the minimum CBR values for Asphalt and Concrete pavement.

- (1) This written report shall be submitted to staff and be based on the results of soil borings, test pits, field and laboratory soil testing, etc. that are sufficient for the Geotechnical Engineer to render his/her engineering opinion.
- (2) If the soils are not suitable to provide the minimum CBR values, the Geotechnical Engineer shall include recommendations in the written report for subgrade improvement or alternate pavement designs.

SECTION B.2: EARTHWORK SPECIFICATIONS

B.2-1 Purpose

The purpose of this section is to establish the appropriate earthwork specifications and material testing requirements so that the Public Street Right-of-way and Private Street easements have adequate earthwork structural support and the required pavement subgrade support.

B.2-2 Earthwork Excavations

The following shall apply to earthwork excavations other than trenches or temporary excavations:



- (A) All topsoil shall be stripped from proposed cut, fill and pavement areas.
- (B) Excavations shall be made to approximate grade or Subgrade elevations consistent with approved plans.
- (C) Final cut slopes shall not be steeper than a slope of 3.0 horizontal to 1.0 vertical unless otherwise designed by a Geotechnical Engineer, but in no case shall be steeper than 2.0 horizontal to 1.0 vertical.
- (D) Any spongy, unstable, or organic material that is exposed at the finished Subgrade level must be removed to expose stiff, non-yielding, non-organic soils and the excavated material replaced with soils capable of producing the required Subgrade CBR for the pavement design being used for the project (see Section A.1: Pavement Design Method and Required Thicknesses of these regulations).
- (E) When excavating at the cut/fill transition during earthwork, remove spongy or unstable material, organic matter, or other unsuitable materials that are exposed. The Contractor shall remove same to expose stiff, non-yielding, non-organic soils and shall replace with approved materials, placed and compacted in accordance with these regulations and the recommendations of the geotechnical engineer.
- (F) Excavations can be backfilled with the same soils that were removed, provided they meet the requirements of Subsection B.2-3: Controlled Fill, Subsection B.2-4: Trench Backfill, Subsection B.2-5: Shallow Trench Backfill, and Subsection B.2-6: Deep Trench Backfill.

B.2-3 Controlled Fill Other than Trench Backfill

- (A) Construction of controlled fills shall be observed and tested by a Geotechnical Technician. Density testing and reporting is required at a minimum frequency of one density test per 500 cubic yards.
- (B) Organic or vegetative soils shall not be used in the construction of the controlled fill.
- (C) Controlled fills shall be constructed of natural soils or bedrock to approximate Subgrade elevation in level lift thicknesses that are approved by the Geotechnical Engineer. All shale used in controlled fills shall be pulverized to a soil-like consistency and moisture-conditioned the same as a soil. Limestone shall be laid flat and shall be broken up and dispersed in the fill so that it does not nest or impede compaction. The incorporation of limestone floaters in the fill shall be in accordance with the recommendations of the Geotechnical Engineer.
- (D) Except for the top one foot of earthwork finished grades, which is the pavement subgrade, controlled fills shall be constructed with soils that are within two percent below to three percent above their optimum moisture content and



compacted to a firm, non-yielding condition and to dry densities at least 95 percent of the maximum dry density, as determined by the standard Proctor moisture-density test (ASTM D698, latest edition), or 87 percent of maximum dry density as determined by the modified Proctor moisture-density test (ASTM D1557, latest edition).

- (E) Clean granular soils that do not exhibit a well-defined moisture-density curve shall be compacted to a firm, non-yielding condition and to at least 75 percent relative density as determined by the testing methods contained in ASTM D4253 and D4254, latest edition.
- (F) Controlled fill slopes shall not be steeper than 3.0 horizontal to 1.0 vertical unless otherwise designed by a Geotechnical Engineer. In no case shall unreinforced fill slopes be steeper than 2.5 horizontal to 1.0 vertical.
- (G) Lime stabilization in controlled fills is prohibited unless designed and approved by a Geotechnical Engineer.
 - (1) Prior to using lime stabilization, staff shall approve the recommended lime stabilization specifications from a Geotechnical Engineer.
 - (2) The Geotechnical Engineer shall be required to monitor the lime stabilization process in the field to determine that it is consistent with their recommended specifications.
 - (3) A letter from the Geotechnical Engineer shall be submitted to staff confirming that the lime stabilization process used in the field was consistent with their written recommendations.
- (H) Heavy equipment used for compaction shall be capable of producing the required controlled fill densities without lamination.
 - (1) Cohesive soils shall be compacted with kneading type compaction equipment.
 - (2) Cohesionless soils shall be compacted with smooth face vibratory equipment.

B.2-4 Trench Backfill

The following general information shall apply to all trench backfill:

- (A) Trench backfill is defined as the backfill material used to refill the trench excavation above the initial utility conduit bedding and cover that is a part of underground utility installation.



- (B) Natural non-organic soils, bedrock, approved aggregates, and Controlled Low Strength Material shall be used to backfill utility trenches as defined herein.
- (C) Backfill shall not be flushed with water to obtain compaction.
- (D) A Geotechnical Technician shall observe, test and report on the trench backfill compaction at least once per day when said trench backfill operations are occurring.

B.2-5 Shallow Trench Backfill

The following shall apply to shallow trench backfill:

- (A) Shallow trenches are defined as the utility trenches where the backfill material (the material above the granular utility conduit bedding and cover material) is less than three feet deep to finish earthwork grade.
- (B) Shallow trench backfill under the pavement and within a 1 horizontal to 1 vertical projection downward from the bottom edge of curb shall be dense graded aggregate (DGA), No. 57 crushed limestone (only when connected to a Drainage structure) or controlled low strength material (CLSM) as set out in Appendix C: Details C.2 and C.3. Aggregates shall be compacted as shown in the above noted details.
- (C) Shallow trench backfill within the Right of Way but outside of the pavement and beyond a 1.0 horizontal to 1.0 vertical projection downward from the bottom edge of curb shall be natural, nonorganic soil or bedrock (no pieces of limestone thicker than six inches or more than 12 inches long/wide or specified aggregates as set in Appendix C: Details C.2 and C.3.
 - (1) All shale shall be pulverized to a soil-like consistency and moisture-conditioned as a soil.
 - (2) All limestone shall be laid flat, broken up, and dispersed so it does not nest or impede compaction.
 - (3) All backfill shall be moisture-conditioned to within two percent below to three percent above the optimum moisture content for compaction, shall be placed in layers of 8 to 10 inches in thickness, and each lift shall be thoroughly compacted to densities not less than 90 percent of the standard Proctor maximum dry density, or 82 percent of the modified Proctor maximum dry density for that soil.
 - (4) Backfill method shall be either a sheepsfoot roller attachment on a track mounted excavator or a self-propelled kneading-type compactor operating longitudinally in the trench excavation.



B.2-6 Deep Trench Backfill

The following shall apply to deep trench backfill:

- (A) Deep trench backfill is defined as any trench with backfill deeper than shallow trench backfill.
- (B) Deep trench backfill shall consist of natural non-organic soil or bedrock (no pieces of limestone thicker than six inches or more than 12 inches long/wide) or specified aggregates as set out in Appendix C: Details C.2 and C.3.
 - (1) All shale shall be pulverized to a soil-like consistency and moisture-conditioned as a soil.
 - (2) All limestone shall be laid flat, broken up and dispersed so that it does not nest or impede compaction.
 - (3) All backfill shall be moisture-conditioned to within two percent below to three percent above the optimum moisture content for compaction.
 - (4) Backfill lifts shall be 10 inches thick or less (unless otherwise specified by the Geotechnical Engineer), and compacted to not less than 95 percent of the standard Proctor maximum dry density for that soil.
 - (5) Backfill method shall be either a sheepsfoot roller attachment on a track mounted excavator or a self-propelled kneading-type compactor operating longitudinally in the trench excavation.
- (C) Where depths of trenches are more than four feet and worker safety is at risk, the technician shall observe the compaction process in layers with an appropriate type of compaction equipment and document observations until worker safety is assured when compaction testing, as required, is resumed.

B.2-7 Street Pavement Subgrade

- (A) Subgrade Preparation During Excavation
Subgrade is defined as the top one foot of the soils under the pavement. The pavement Subgrade must provide adequate support for the pavement structure as defined in these regulations.
 - (1) During earthwork and initial pavement subgrade preparation, the Geotechnical Engineer or Geotechnical Technician shall evaluate in situ pavement subgrade materials on the site and develop an opinion about their suitability to provide the minimum CBR values when compacted to the required densities at the specified moisture contents.



- (2) Any soils identified as unsuitable to prove the minimum CBR values will be removed from the subgrade and replaced with suitable soils, or otherwise improved as recommended by the Geotechnical Engineer.

(B) Final Subgrade Preparations and Testing

- (1) At the time of final Subgrade preparation, density testing and proofrolling before paving, the Subgrade shall be within two percent of its optimum moisture content and compacted to a firm, non-yielding condition and to dry densities at least 98 percent of the maximum dry density, determined by the standard Proctor moisture-density test (ASTM D698, latest edition) or 89 percent of the maximum dry density as determined by the modified Proctor moisture-density test (ASTM D1557, latest edition). Cohesive Subgrade material shall be properly knit together and free of loose, dry, crumbly, baked or crusted soil material.
- (2) The Subgrade shall consist of cohesive soils, clean #57 crushed limestone, crushed stone base, or Controlled Low Strength Material (CLSM). Any aggregate material used to replace part of the cohesive Subgrade soil must be drained, so that no standing water can collect and be held in the aggregate Subgrade.
- (3) Clean granular soils that do not exhibit a well-defined moisture-density curve shall be compacted to a firm, non-yielding condition and to at least 80 percent relative density as determined by the testing methods contained in ASTM D4253 and D4254, latest edition.
- (4) The Subgrade shall be shaped to plan elevation and cross-section and checked by the Staff inspector for conformity with the cross section shown on the approved Improvement Drawings immediately prior to placing the pavement. Pavement shall not be placed on any part of the Subgrade which does not conform to the cross section shown on the approved Improvement Drawings.

(C) Final Subgrade Proofrolling

- (1) Subgrade Proofrolling is the final test to be performed immediately prior to beginning the paving operations.
- (2) Prior to the placement of pavement materials and after confirming proper density and moisture content of the Subgrade soils, all Street Subgrades shall be proofrolled to test the stability and uniformity of Subgrade materials.
- (3) Subgrade Proofrolling shall be performed with a dual axle dump truck fully loaded with clayey soils or aggregate.



- (4) Subgrade Proofrolling shall be performed at walking speed with at least two passes made in each drive lane direction with the outside wheel generally traveling along the inside line of the future Curb during one pass, and the wheel-paths offset one-half of the truck width during the second pass to maximize subgrade coverage. Extra proofroll passes shall be made at the discretion of the Staff inspector.
- a) Where proofrolling indicates areas of soft or unsuitable Subgrade soils or areas of non-uniform Subgrade stability, the area shall be delineated and repaired.
 - b) Areas of soft or unsuitable Subgrade soils or areas of non-uniform Subgrade stability shall be identified by observing Pumping and/or Rutting. Pumping is defined as movement or deflection of the Subgrade soil that extends beyond the limits of the direct wheel load. Unless accompanied by Rutting (which is common), the pumping Subgrade soil may rebound back to its original position after the wheel load passes. Pumping failures are typically caused by Subgrade soils with higher than optimum moisture content located within a zone up to several feet below the Subgrade surface. Rutting is defined as imprints or depressions in the Subgrade caused by direct wheel loads. Rutting failures are typically caused by inadequate compaction of near surface soils.
 - c) Rutting in excess of one inch in depth shall be deemed a Subgrade failure requiring Subgrade repair.
 - d) Pumping or deflection of less than one inch is acceptable so long as the Subgrade soil rebounds back to its original position after the wheel load passes. Pumping or deflection greater than one inch or areas of permanent deflections shall be deemed a Subgrade failure requiring Subgrade repair.
 - e) For larger areas of subgrade proofroll failure, the alternative pavement design procedures in Subsection A.1-2(B) can be implemented by the Applicant.
- (5) Subgrade repairs shall be performed by scarifying, aerating and recompacting the Subgrade soils. As an alternative, the failed Subgrade soils can be removed and replaced with properly compacted soils capable of producing the required CBR value.
- (6) In all cases, repaired areas shall be retested for compaction and proofrolled again before proceeding with the placement of pavement materials. Rutting can typically be repaired by scarifying, aerating, and recompacting, while areas of pumping will more likely require a more significant repair with depth



often including the removal and replacement of unsuitable Subgrade materials.

(D) Final Subgrade Inspection Testing and Reporting Requirements

- (1) Both the Staff inspector and the Geotechnical Technician have final Subgrade review, testing, and reporting responsibilities.
- (2) The Geotechnical Engineer shall provide soil testing to develop an opinion of adequate bearing characteristics of the final Subgrade soils. Those tests will include, but are not limited to, moisture content testing, density testing, and verification of soil types being adequate to produce the required CBR values for the pavement. Moisture content testing, density testing, and verification of soil types being adequate to produce the required CBR values for the pavement shall be performed by the Geotechnical Engineer at intervals no less than one test per 100 lineal feet of Street for Streets of 500 lineal feet or less, or one test per 200 lineal feet for Streets over 500 lineal feet.
- (3) The Geotechnical Technician and the Staff Inspector shall review the proofrolling described in Subsection B.2-7(C): Final Subgrade Proofrolling and determine whether the Subgrade passes the proofroll.
- (4) Paving operations shall only be permitted to begin after passing inspection results are achieved from Subsection B.2-7: Street Pavement Subgrade, Subsection B.2-7(C): Final Subgrade Proofrolling, and Clause B.2-7(D)(2). Inspection reports referenced in Clause B.2-7(D)(1) and Clause B.2-7(D)(2) shall be placed in the Staff project file and Staff shall make their inspection records available to the Developer.
- (5) Street paving shall occur within 30 hours after passing inspection results are achieved from Clause B.2-7(D)(1) and Clause B.2-7(D)(2). A ¼ inch rain event or sub-freezing temperature occurrence between a passing proofroll and Street paving shall void the proofroll and geotechnical testing and shall require re-evaluation.
- (6) For concrete pavements, small pours of up to one hundred square yards to complete intersections, cul-de-sacs, etc. do not require subgrade re-proofrolling after initially passing a proofroll as part of a large subgrade preparations and testing. Moisture conditioning and reolling may be required.

B.2-8 Controlled Low Strength Material

- (A) CLSM may be used in place of compacted clayey soils to uniformly backfill utility trenches, manholes, etc.



- (B) CLSM shall not be used in place of clean, free-draining #57 crushed limestone specified for and intended as Drainage backfill around catch basins and manholes or in trench drains, such as between catch basin pairs.
- (C) CLSM shall be transported by mixing truck to ensure proper suspension when placed. Constant agitation is required.
- (D) Flotation of pipes should be avoided by backfilling in 8 to 12 inch lifts until fluid head subsides.
- (E) Adequate separation from aluminum pipe, such as a bituminous coating, is required.
- (F) CLSM shall extend from the top of compacted bedding or other backfill to bottom of pavement structure.
 - (1) CLSM placement shall begin no greater than six inches above the top of the pipe.
- (G) CLSM shall have a minimum excavatable strength of 20 pounds per square inch at three days and 30 pounds per square inch at 28 days. CLSM shall have a maximum excavatable strength of 100 pounds per square inch at 28 days for potential future excavatability.

B.2-9 Construction Equipment on Paved Surfaces

Only rubber tired or rubber tracked equipment shall be used on paved surfaces.

B.2-10 Work Adjacent to Plastic Concrete

Grading operations adjacent to Concrete Curb are prohibited for a minimum of 24 hours after Concrete placement has been completed.

B.2-11 Final Geotechnical Reporting

After the completion of all earthwork covered under this Appendix, for each Subdivision section that is constructed and is to be recorded, the Geotechnical Engineer shall complete a final written report for that Subdivision section. The report will include the following:

- (1) All relevant construction inspection results; and
- (2) A statement from the project Geotechnical Engineer that, to the best of his/her knowledge and belief, all earthwork operations within the Public Street Right-of-way, Private Street easements and areas structurally supporting the Public



Street Right-of-way and Private Street easements were performed in general conformance with the requirements of this Appendix and the recommendations for the areas within the Public Street Right-of-way, Private Street easements and areas structurally supporting the Public Street Right-of-way and Private Street easements contained in the associated geotechnical exploration report.



APPENDIX C

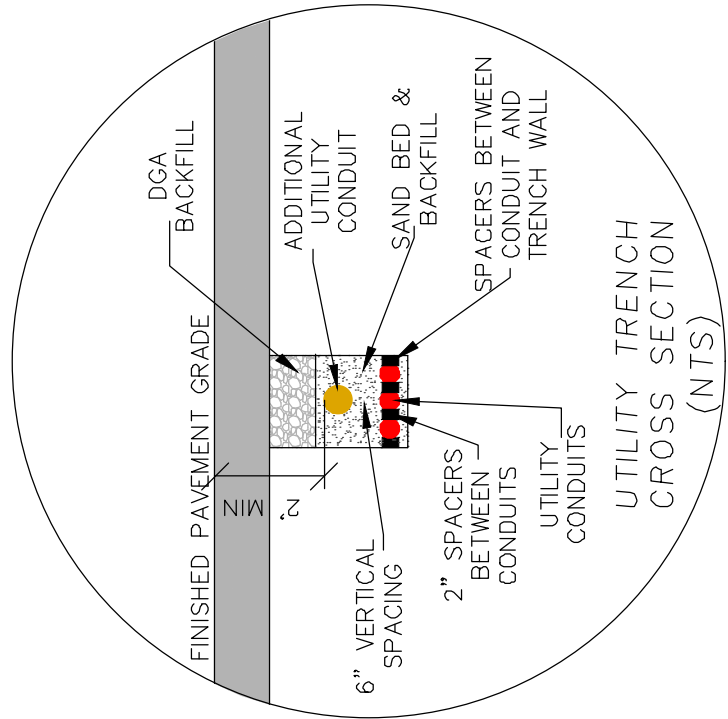
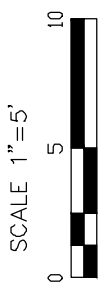
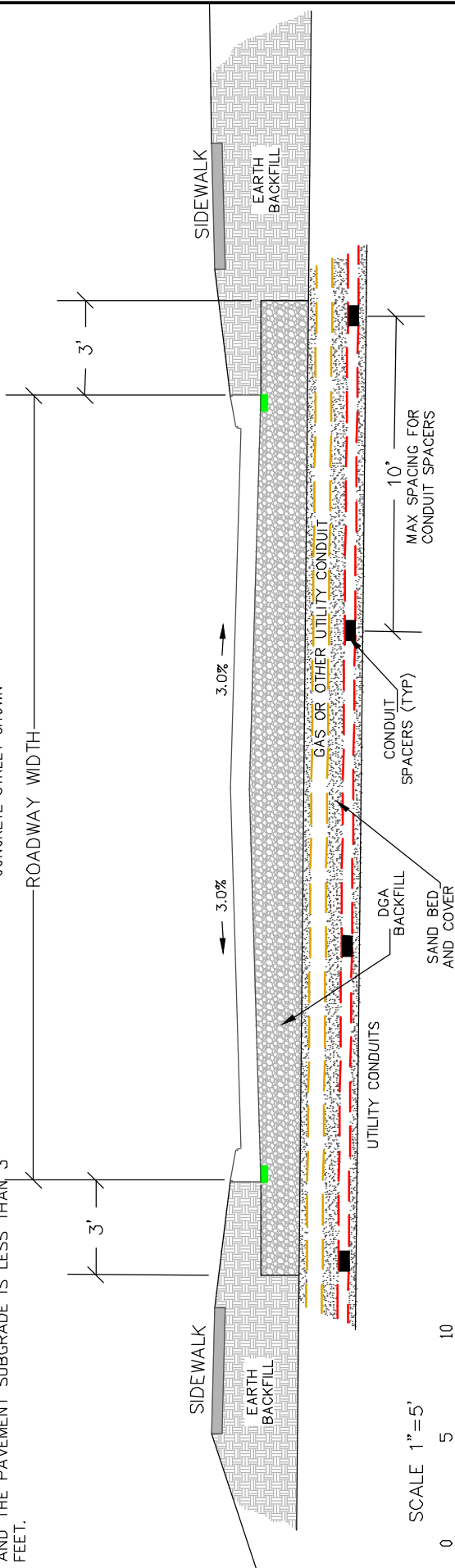
**STANDARD CONSTRUCTION REQUIREMENTS AND
DETAILS FOR STREETS, SIDEWALKS, DRIVEWAYS**



THIS DETAIL SHALL APPLY TO ALL SHALLOW UTILITY CROSSINGS UNDER THE STREET. SHALLOW IS DEFINED AS WHEN THE DISTANCE BETWEEN THE TOP OF THE INITIAL GRANULAR COVER & BEDDING AND THE PAVEMENT SUBGRADE IS LESS THAN 3 FEET.

STREET CROSS SECTION AT SHALLOW UTILITY CROSS OVER

CONCRETE STREET SHOWN

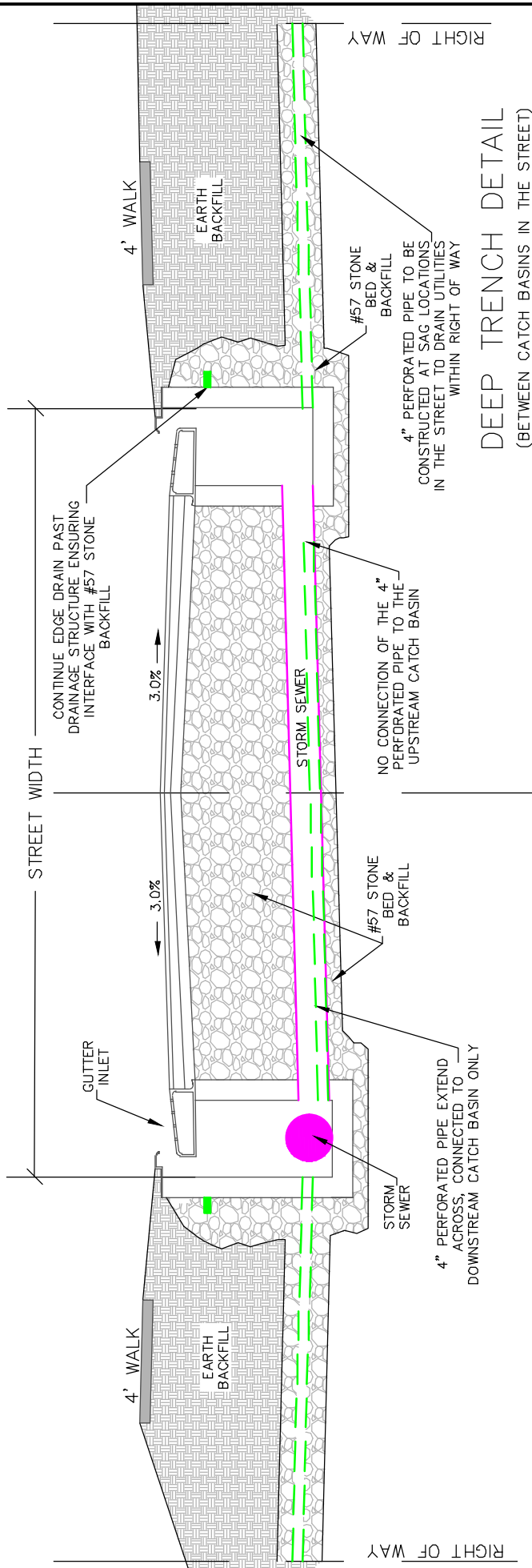


SHALLOW UTILITY CROSSOVER INSTALLATION PROCEDURE

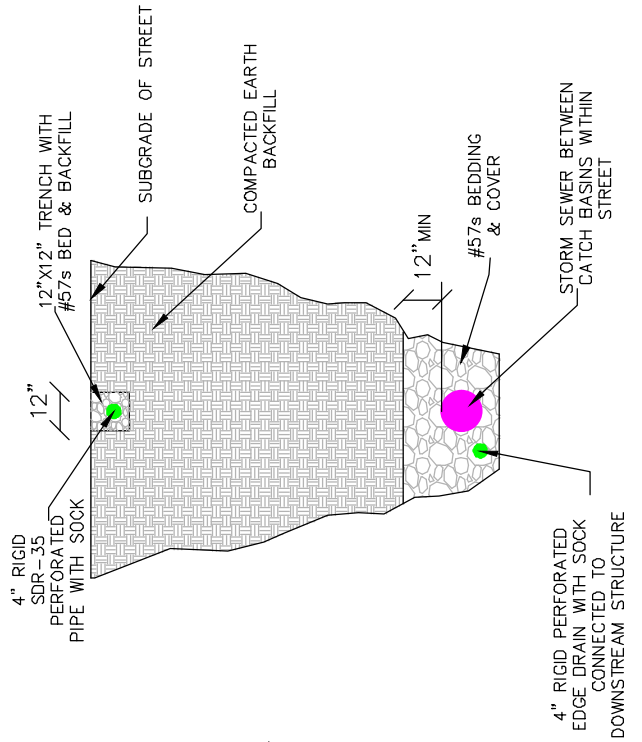
1. ALL UTILITY CONDUITS SHALL BE SDR-35 OR EQUAL.
2. A MINIMUM OF 4" BETWEEN EACH OUTSIDE CONDUIT AND THE WALL OF THE TRENCH. (EACH CONDUIT MUST HAVE A MINIMUM SPACING OF 2" BETWEEN THE OUTSIDE EDGE OF EACH CONDUIT)
3. INSTALL A MINIMUM SAND BEDDING OF 3" IN THE BOTTOM OF THE TRENCH.
4. INSTALL UTILITY CONDUITS IN ONE SINGLE ROW (DO NOT STACK CONDUITS DIRECTLY ON TOP OF EACH OTHER) WITH A MINIMUM SPACING OF 2" BETWEEN THE OUTSIDE EDGE OF EACH CONDUIT AND A MINIMUM OF 4" BETWEEN THE LAST CONDUIT AND THE TRENCH WALL. THE MINIMUM 2" SPACING BETWEEN CONDUITS MUST BE ACCOMPLISHED USING SPACERS SUCH AS MANUFACTURED SPACERS, BRICKS, BLOCKS, ETC. THERE SHALL BE BLOCKS / SPACERS BETWEEN THE TRENCH WALL AND EACH OUTSIDE CONDUIT. SPACERS SHALL BE INSTALLED AT THE BEGINNING AND THE END OF EACH UTILITY TRENCH AND AT MINIMUM OF EVERY 10 FEET ALONG THE CONDUIT IN THE TRENCH.
5. BACKFILL CONDUITS WITH SAND TO A MINIMUM COVER OF 6" AND COMPACT WITH VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
6. INSTALL NEXT ROW OF CONDUITS (IF NECESSARY) A MINIMUM OF 6" VERTICAL ABOVE THE FIRST ROW OF CONDUITS (MEASURED FROM THE TOP OF THE LOWER CONDUIT TO THE BOTTOM OF THE UPPER CONDUIT)
7. BACKFILL CONDUITS WITH SAND TO A MINIMUM COVER OF 6" AND COMPACT WITH VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
8. INSTALL DGA BACKFILL (PUG MILLED) UP TO SUBGRADE OF STREET USING MAXIMUM LIFTS OF 8" AND COMPACTING WITH A VIBRATORY PLATE COMPACTOR MAKING A MINIMUM OF 2 PASSES.
9. THIS METHOD SHALL APPLY TO ALL SHALLOW UTILITY CROSSINGS (WATER MAIN, WATER SERVICES, ELECTRIC, TELEPHONE, CABLE, ETC.).

STREET CROSS SECTION AT PAIRED CATCH BASIN CROSSING

(FULL-DEPTH ASPHALT STREET SHOWN)

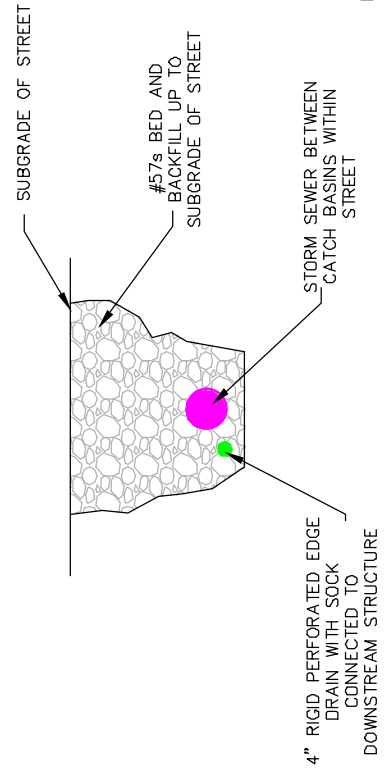


DEEP TRENCH DETAIL (BETWEEN CATCH BASINS IN THE STREET)

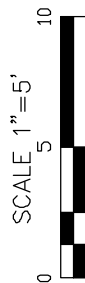
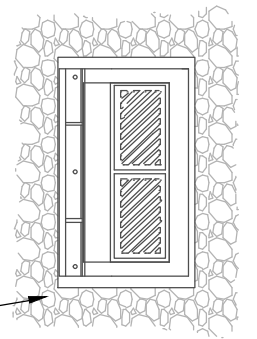


NOTE: DEEP TRENCH DETAIL CAN BE USED WHEN THE DISTANCE BETWEEN THE TOP OF THE GRANULAR COVER & BEDDING AND THE SUBGRADE OF THE STREET IS 3 FEET OR GREATER.

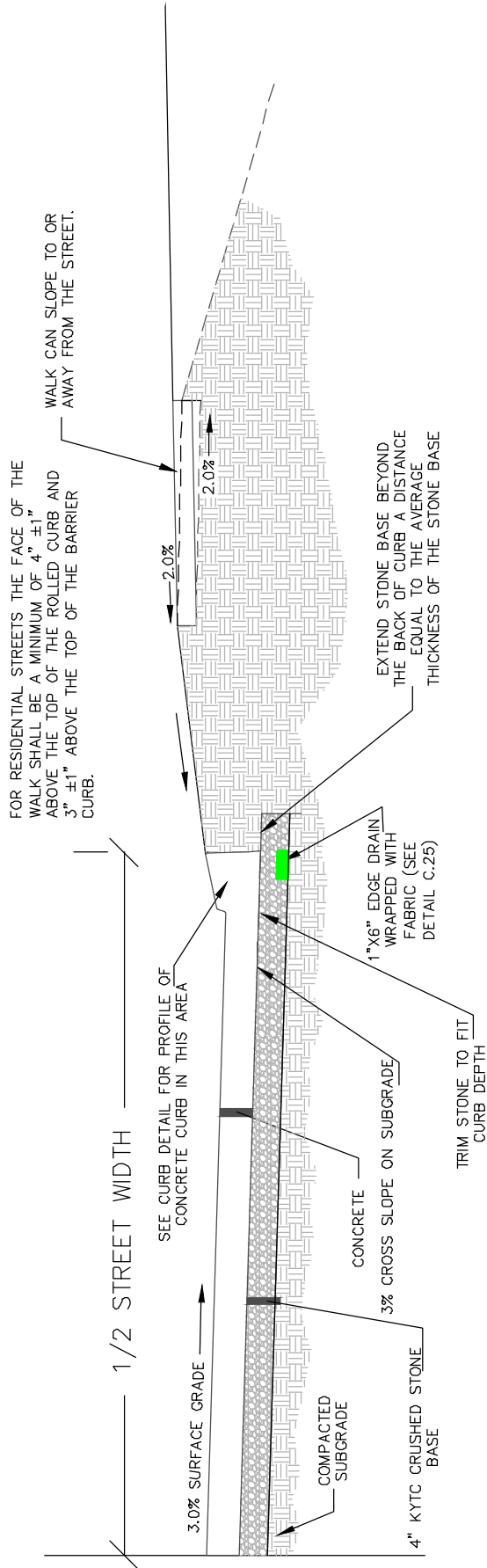
SHALLOW TRENCH DETAIL (BETWEEN CATCH BASINS IN THE STREET)



BACKFILL ALL SIDES OF CATCH BASIN FROM BOTTOM TO SUBGRADE WITH #57 STONE FOR BOTH SHALLOW AND DEEP TRENCH APPLICATIONS



SUBURBAN & URBAN PAVEMENT SECTIONS



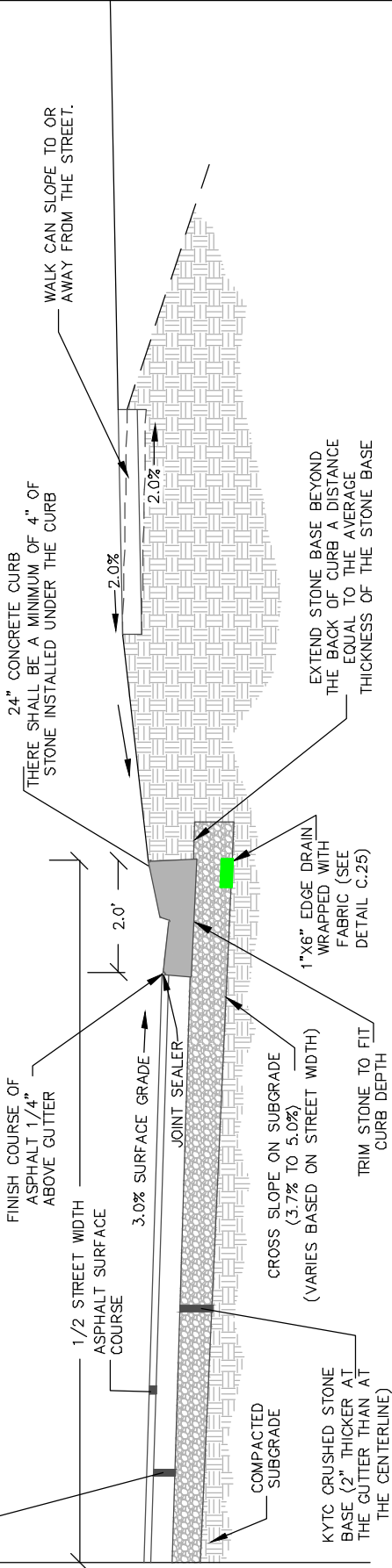
SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

CONCRETE

SUBURBAN & URBAN PAVEMENT SECTIONS

ASPHALT INTERMEDIATE COURSE

1. IF SURFACE IS INSTALLED IMMEDIATELY THIS COURSE CAN BE INSTALLED AS AN ASPHALT BASE COURSE
2. IF SURFACE IS NOT INSTALLED IMMEDIATELY THIS COURSE SHALL BE INSTALLED USING AN INTERMEDIATE ASPHALT COURSE. IF THIS COURSE IS INSTALLED IN TWO LIFTS THEN ONLY THE SECOND LIFT SHALL BE REQUIRED TO BE AN INTERMEDIATE ASPHALT COURSE.



FOR RESIDENTIAL STREETS THE FACE OF THE WALK SHALL BE A MINIMUM OF 4" ±1" ABOVE THE TOP OF THE ROLLED CURB AND 3" ±1" ABOVE THE TOP OF THE BARRIER CURB.

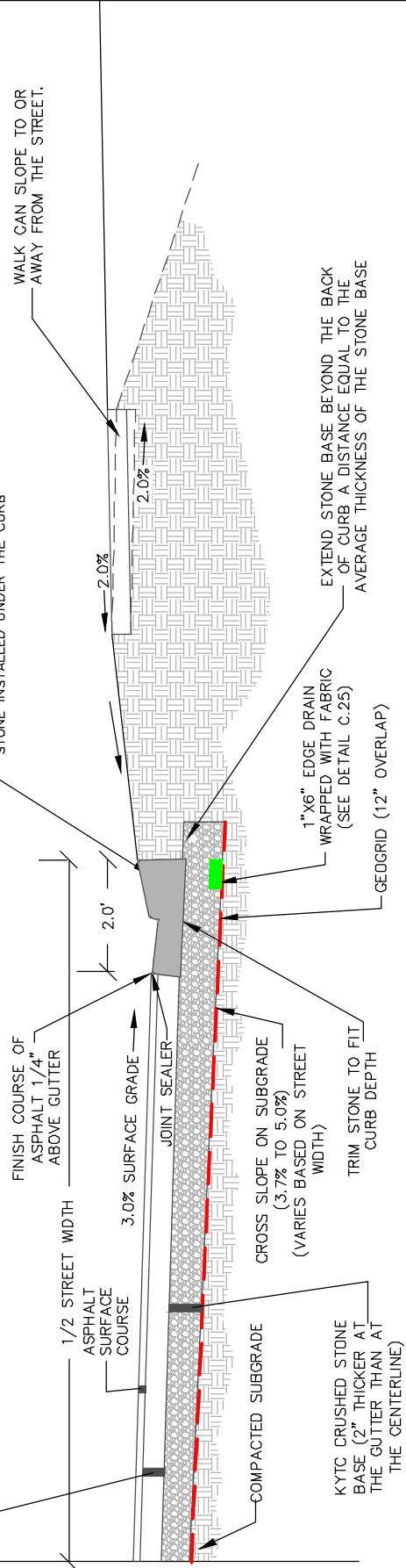
WALK CAN SLOPE TO OR AWAY FROM THE STREET.

EXTEND STONE BASE BEYOND THE BACK OF CURB A DISTANCE EQUAL TO THE AVERAGE THICKNESS OF THE STONE BASE

ASPHALT WITH STONE BASE

ASPHALT INTERMEDIATE COURSE

1. IF SURFACE IS INSTALLED IMMEDIATELY THIS COURSE CAN BE INSTALLED AS AN ASPHALT BASE COURSE
2. IF SURFACE IS NOT INSTALLED IMMEDIATELY THIS COURSE SHALL BE INSTALLED USING AN INTERMEDIATE ASPHALT COURSE. IF THIS COURSE IS INSTALLED IN TWO LIFTS THEN ONLY THE SECOND LIFT SHALL BE REQUIRED TO BE AN INTERMEDIATE ASPHALT COURSE.



SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

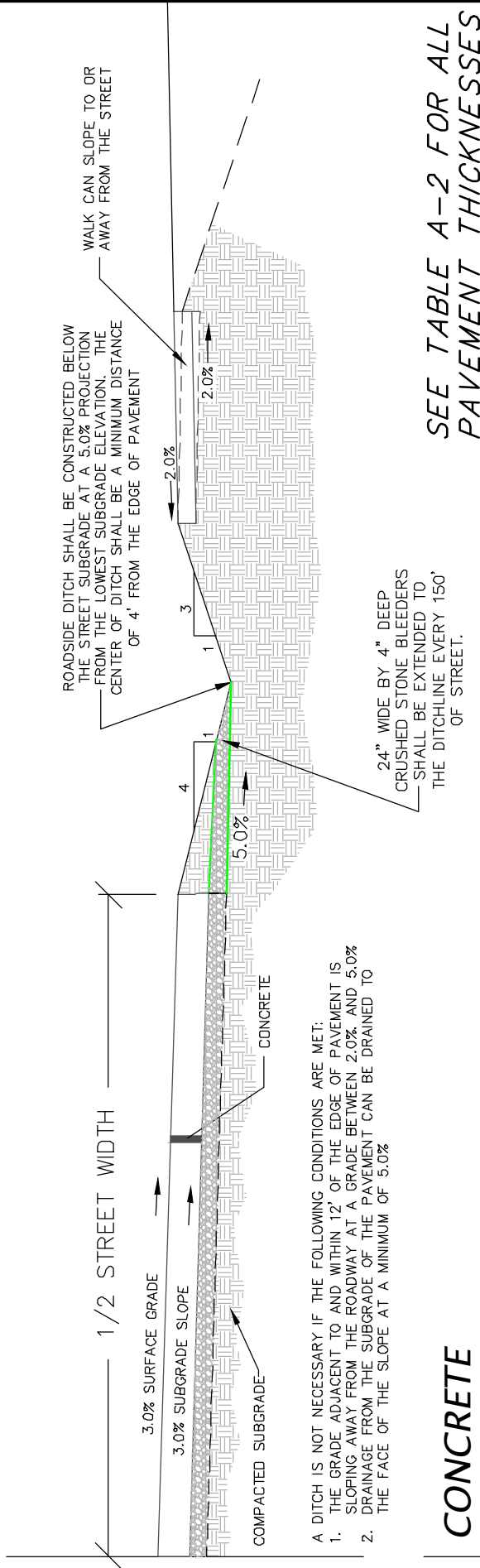
FOR RESIDENTIAL STREETS THE FACE OF THE WALK SHALL BE A MINIMUM OF 4" ±1" ABOVE THE TOP OF THE ROLLED CURB AND 3" ±1" ABOVE THE TOP OF THE BARRIER CURB.

WALK CAN SLOPE TO OR AWAY FROM THE STREET.

EXTEND STONE BASE BEYOND THE BACK OF CURB A DISTANCE EQUAL TO THE AVERAGE THICKNESS OF THE STONE BASE

ASPHALT WITH STONE BASE & GEOGRID

RURAL PAVEMENT SECTIONS

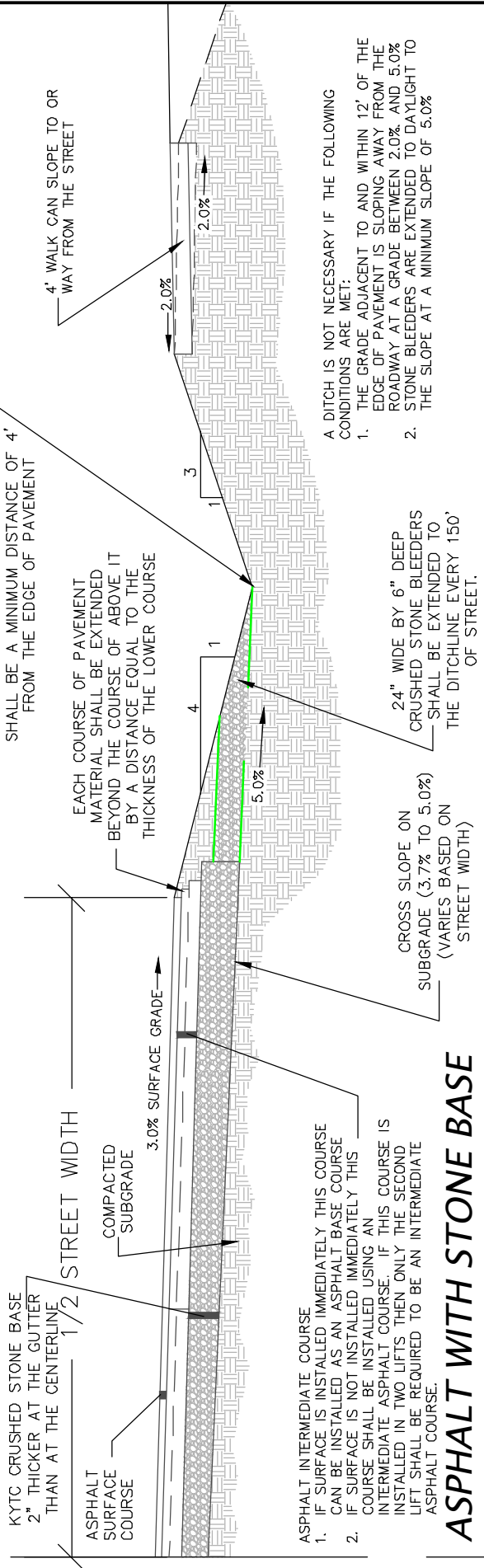


SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

CONCRETE

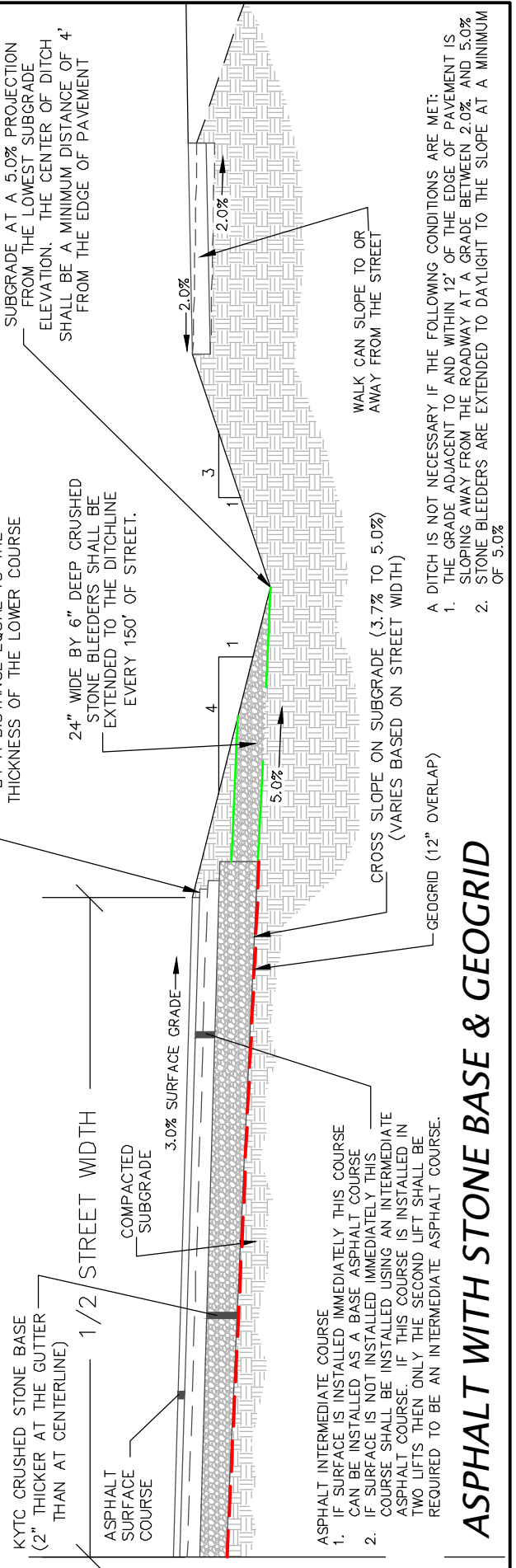
- A DITCH IS NOT NECESSARY IF THE FOLLOWING CONDITIONS ARE MET:
1. THE GRADE ADJACENT TO AND WITHIN 12' OF THE EDGE OF PAVEMENT IS SLOPING AWAY FROM THE ROADWAY AT A GRADE BETWEEN 2.0% AND 5.0%
 2. DRAINAGE FROM THE SUBGRADE OF THE PAVEMENT CAN BE DRAINED TO THE FACE OF THE SLOPE AT A MINIMUM OF 5.0%

RURAL PAVEMENT SECTIONS



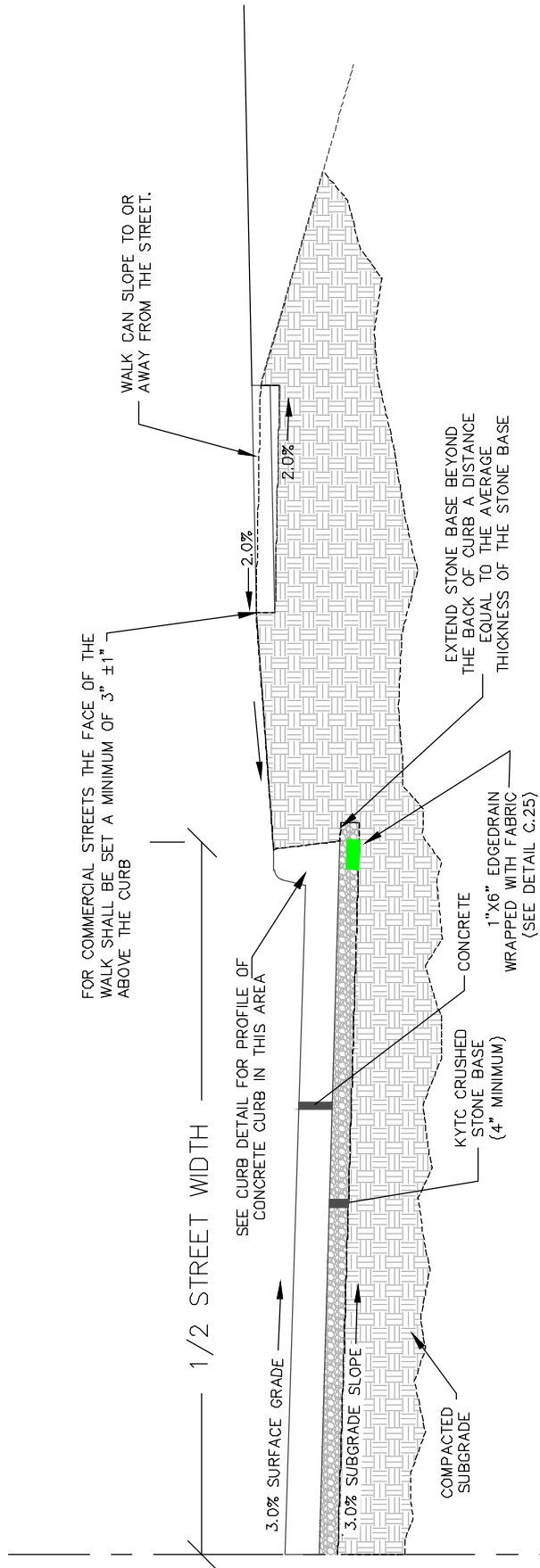
ASPHALT WITH STONE BASE

SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES



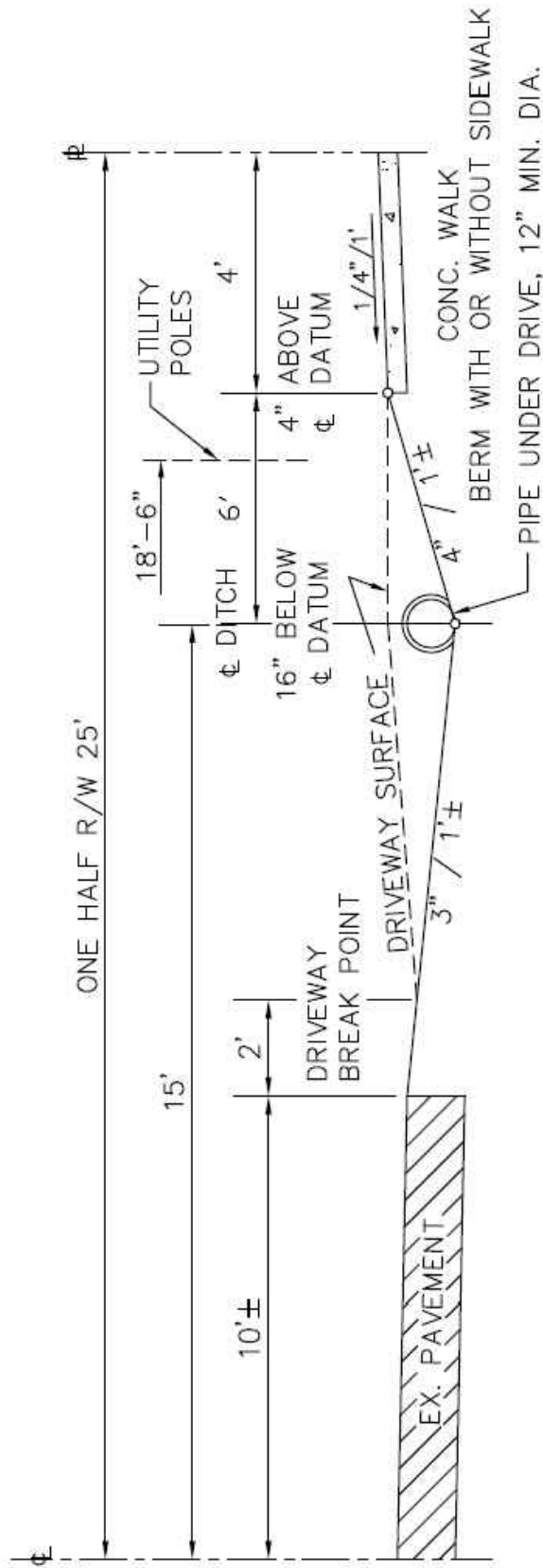
ASPHALT WITH STONE BASE & GEOGRID

COMMERCIAL/INDUSTRIAL PAVEMENT SECTION

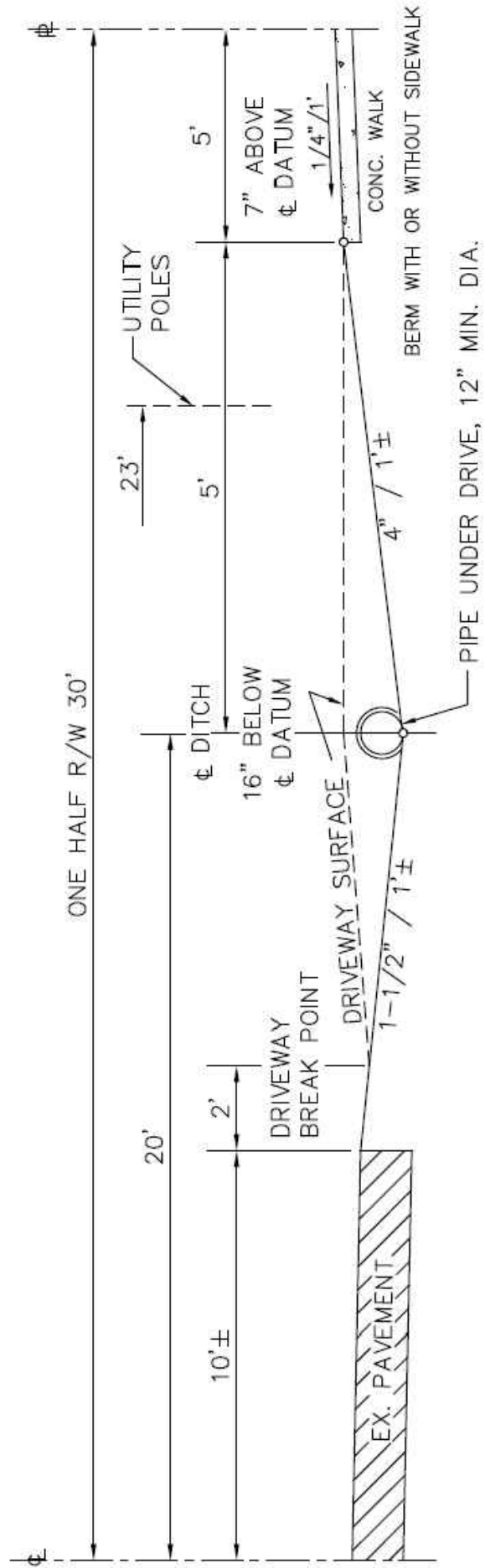


SEE TABLE A-2 FOR ALL PAVEMENT THICKNESSES

TYPICAL SECTION - SIDE DITCH DRAINAGE AT DRIVEWAY

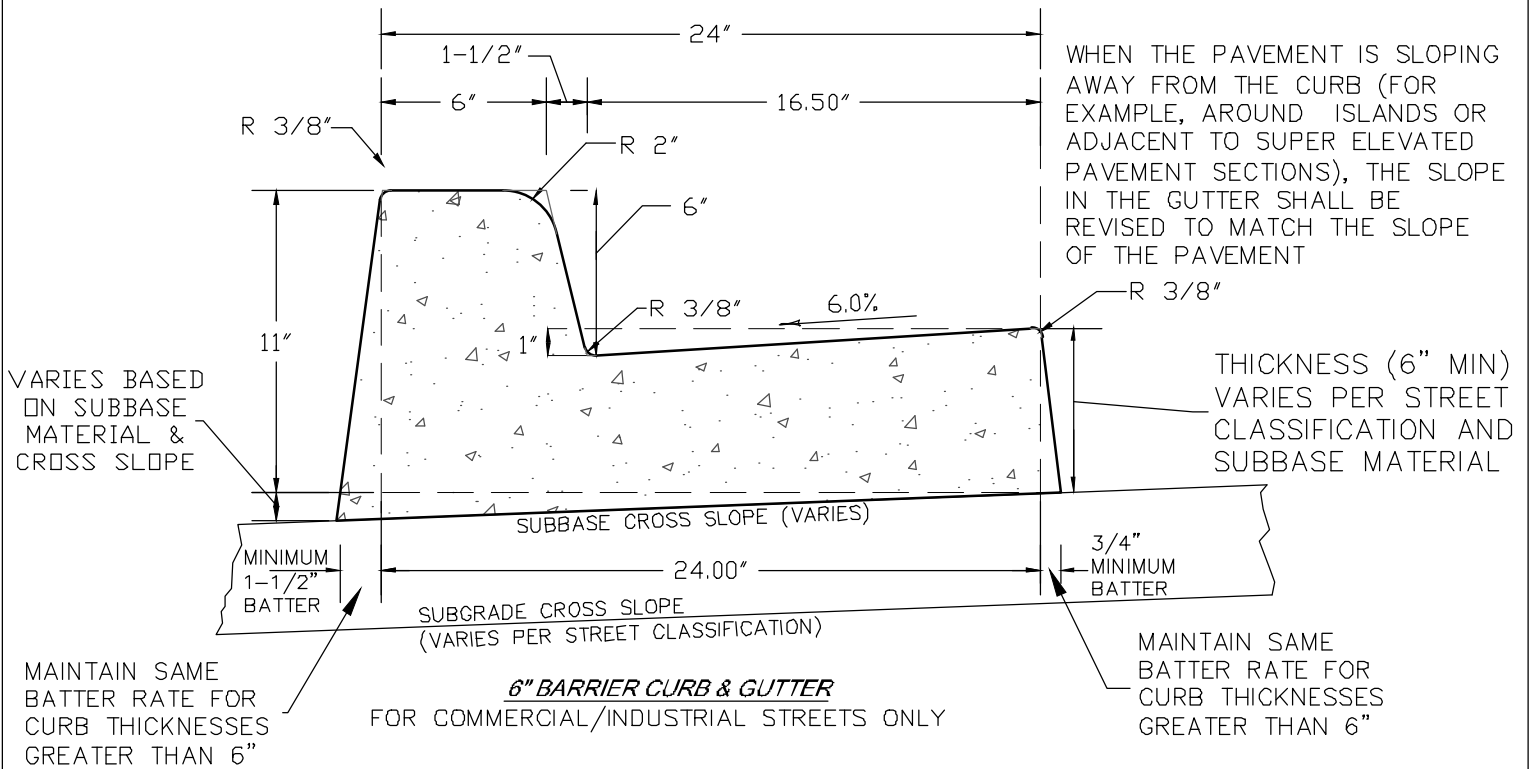


50 FOOT RIGHT-OF-WAYS

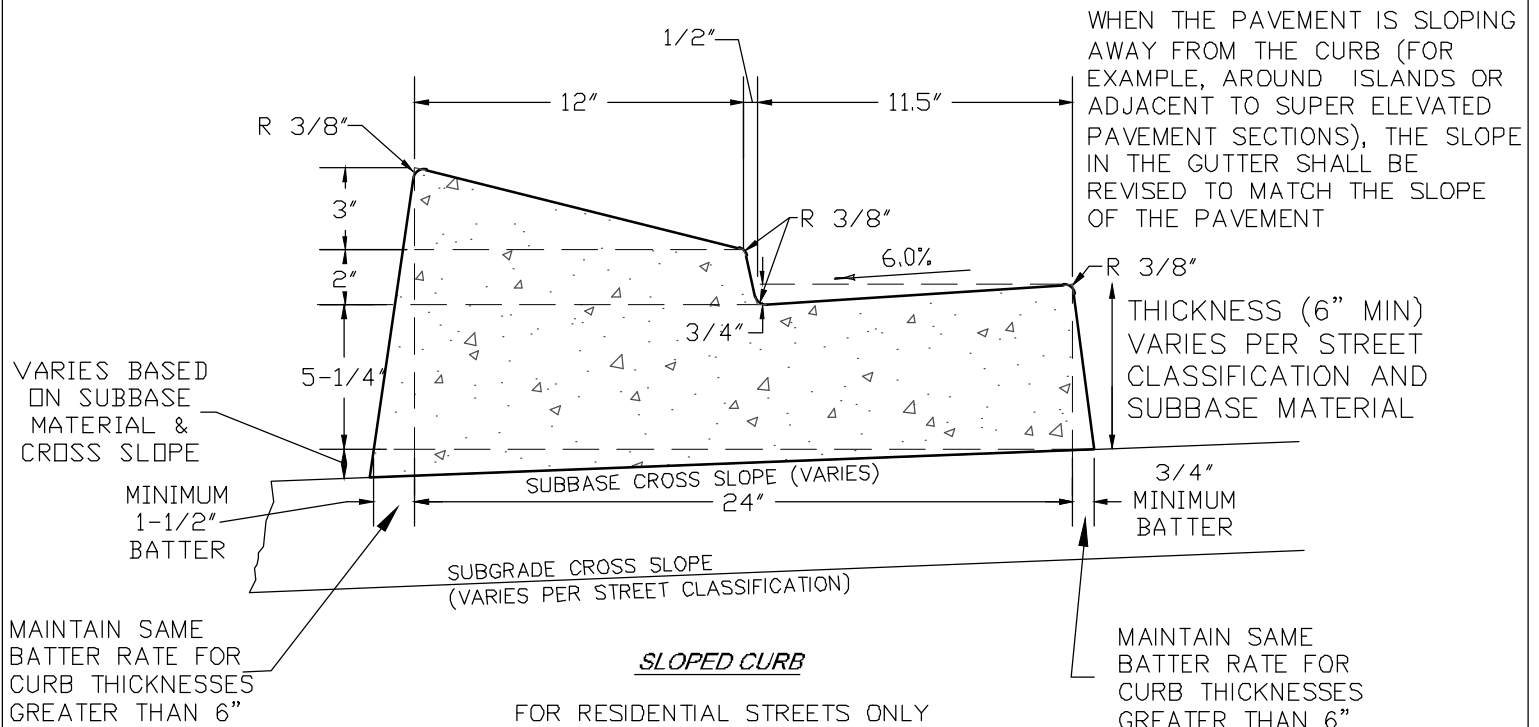


60 FOOT RIGHT-OF-WAYS

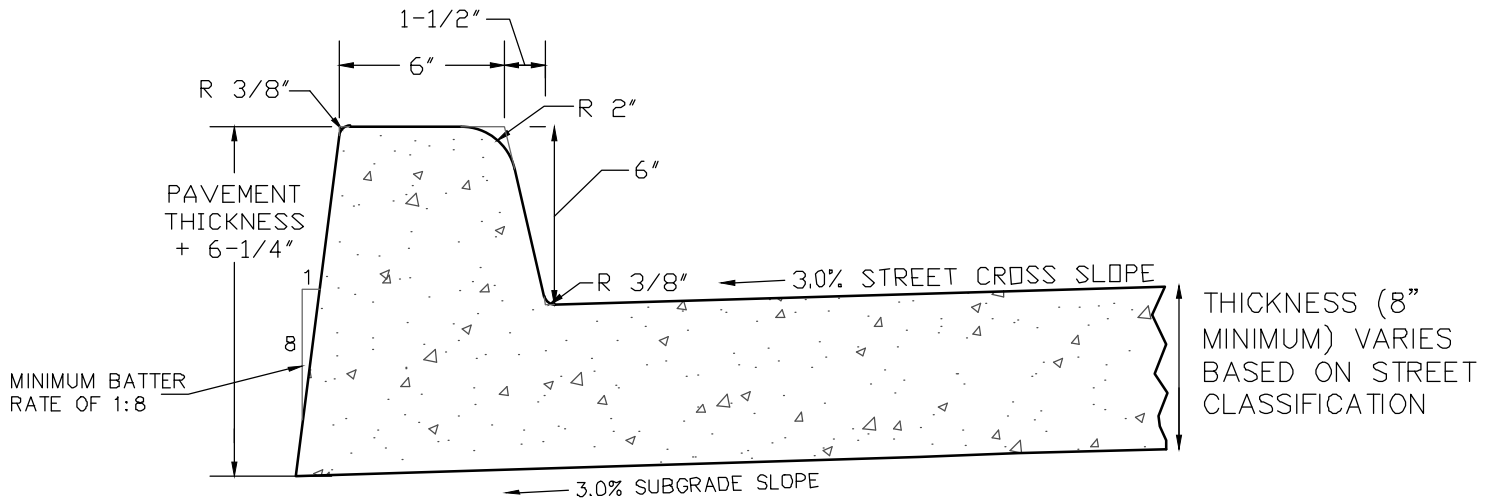
MACHINE PLACED CURB DETAILS ASPHALT STREETS



BATTER SHOWN ON THESE DETAILS ARE THE MINIMUM FOR MACHINE FORMED CURBS. HAND FORMED AND PLACED CURBS DO NOT REQUIRE THE BATTER SHOWN

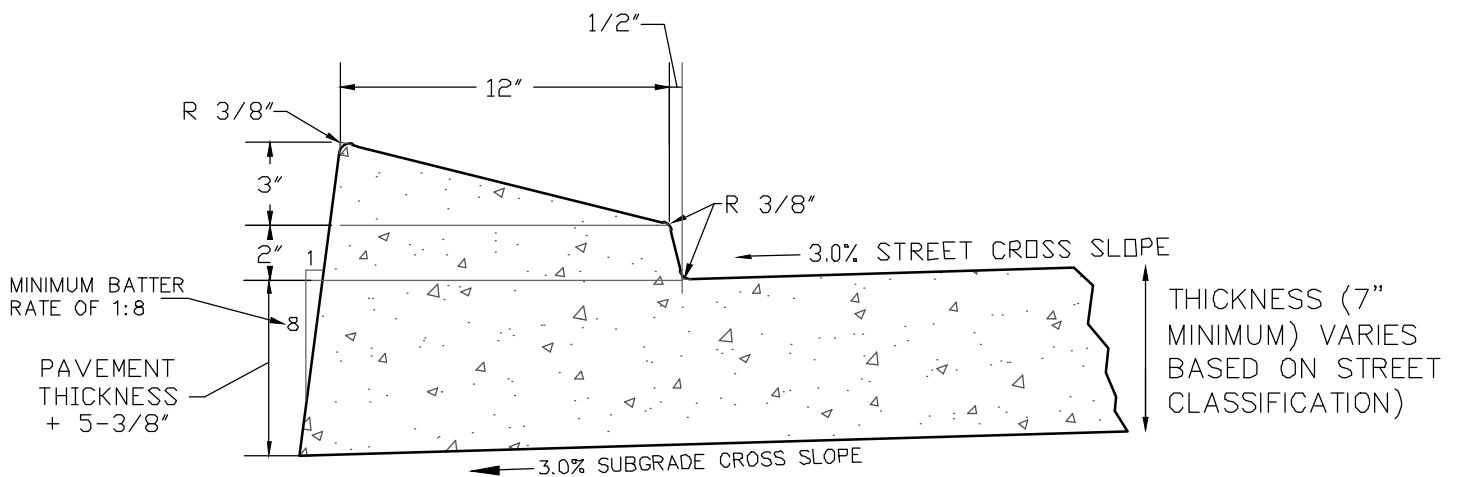


MACHINE PLACED CURB DETAILS CONCRETE STREETS



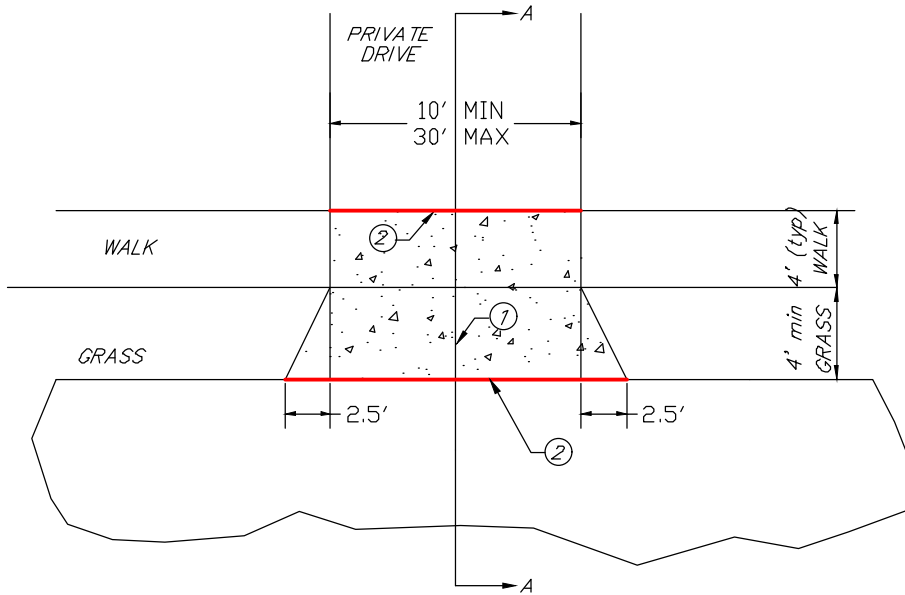
6" BARRIER INTEGRAL CURB
FOR COMMERCIAL/INDUSTRIAL STREETS ONLY

BATTER SHOWN ON THESE DETAILS ARE THE MINIMUM FOR MACHINE FORMED CURBS. HAND FORMED AND PLACED CURBS DO NOT REQUIRE THE BATTER SHOWN

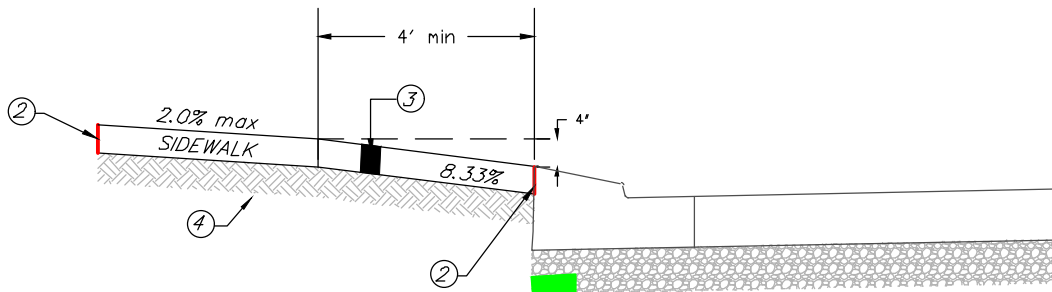


SLOPED INTEGRAL CURB
FOR RESIDENTIAL STREETS ONLY

RESIDENTIAL DRIVEWAY APRON SLOPED CURB



PLAN

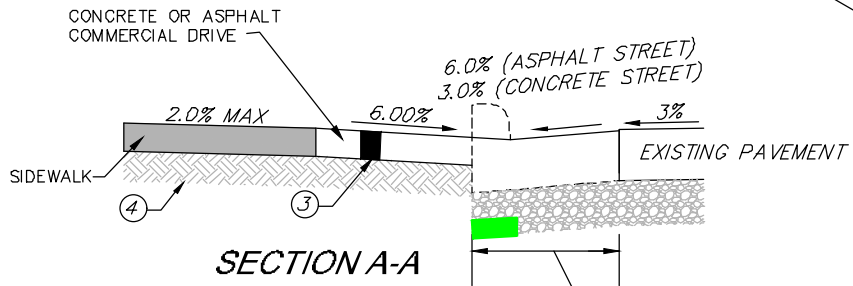
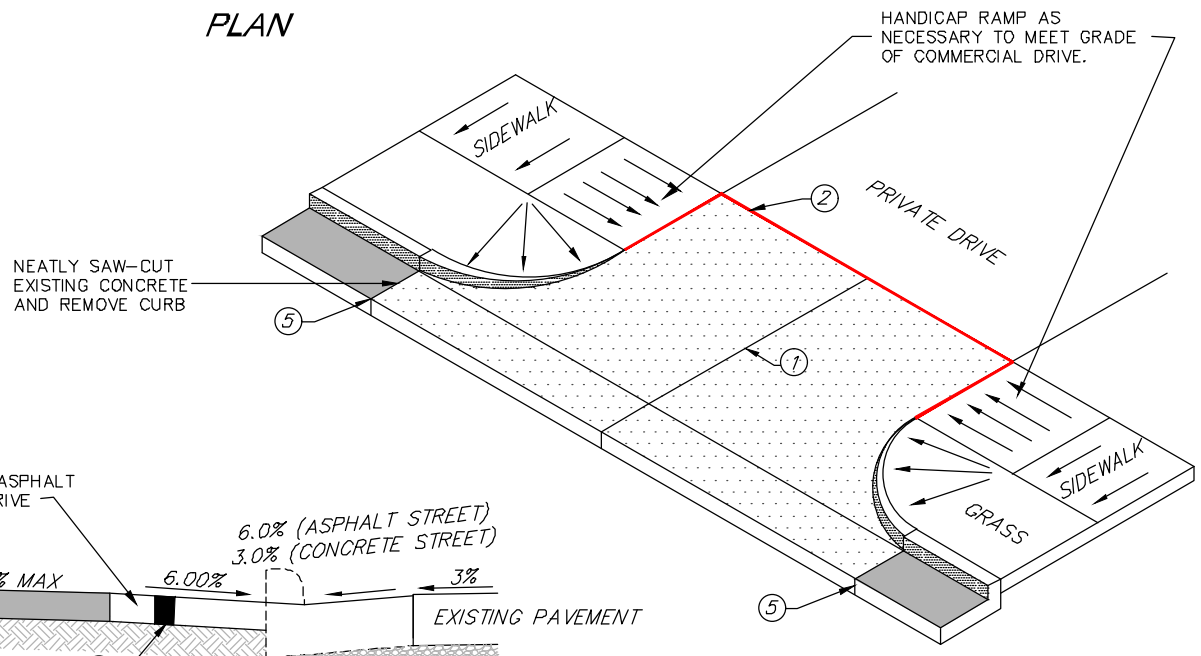
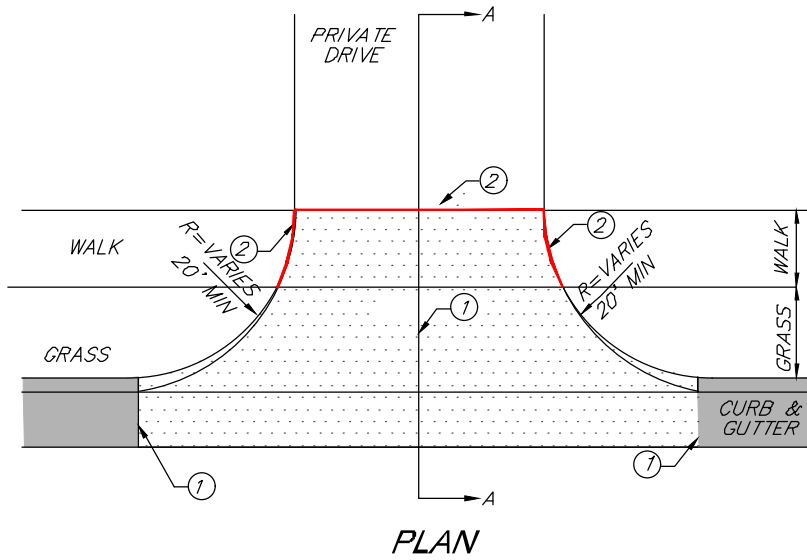


SECTION A-A

- ① CONTRACTION JOINT
- ② 1" EXPANSION JOINT
- ③ 5" CONCRETE RESIDENTIAL DRIVE
- ④ PREPARED SUBGRADE

EXPANSION JOINTS MUST EXCEED THE DEPTH OF THE DRIVEWAY PAVEMENT

COMMERCIAL DRIVEWAY APRON VERTICAL CURB & GUTTER



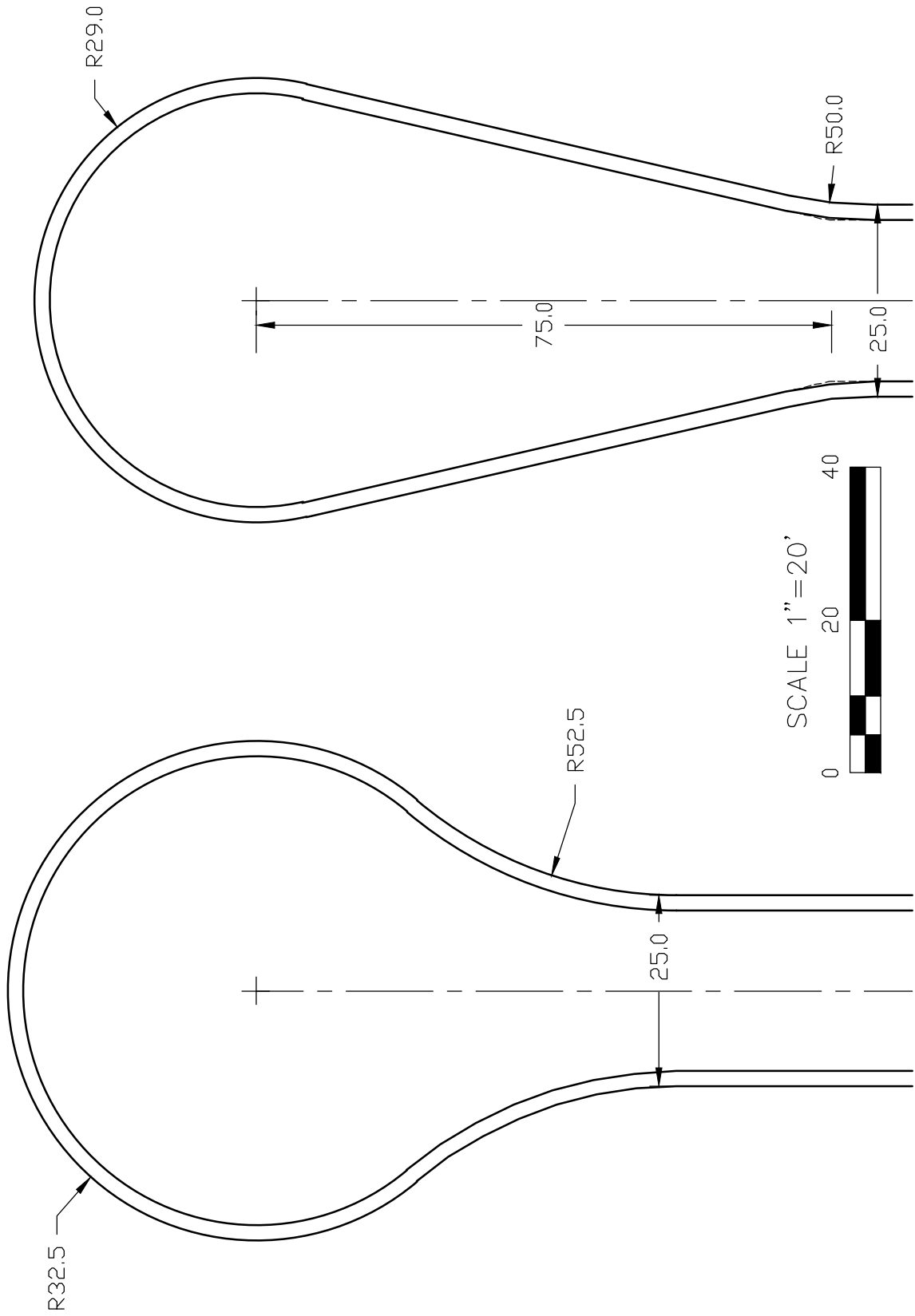
COMMERCIAL ASPHALT DRIVE IN THIS AREA TO MATCH THE DEPTH OF THE ASPHALT STREET. COMMERCIAL CONCRETE DRIVE SHALL MATCH CURB THICKNESS

CONCRETE COMMERCIAL DRIVE NOTES

- ① CONTRACTION JOINT
- ② 1" EXPANSION JOINT
- ③ 7" COMMERCIAL DRIVE
- ④ PREPARED SUBGRADE
- ⑤ CONSTRUCTION JOINT

EXPANSION JOINTS MUST EXCEED THE DEPTH OF THE DRIVEWAY PAVEMENT

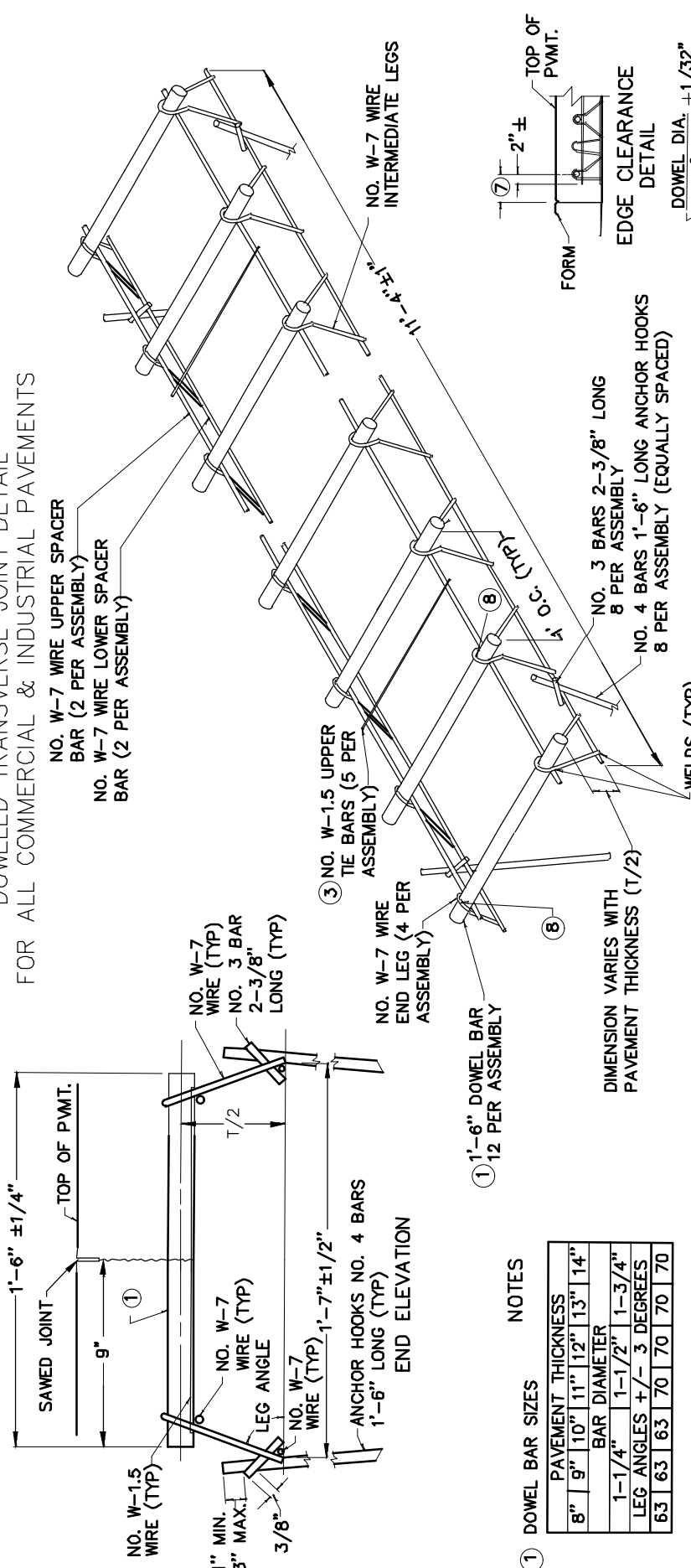
CUL-DE-SAC DETAILS



STANDARD CUL-DE-SAC

OPTIONAL TEAR DROP CUL-DE-SAC

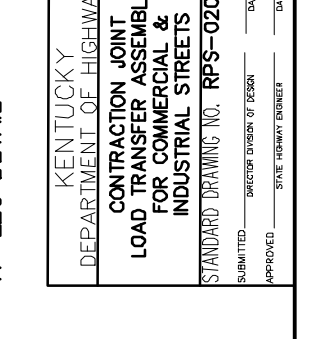
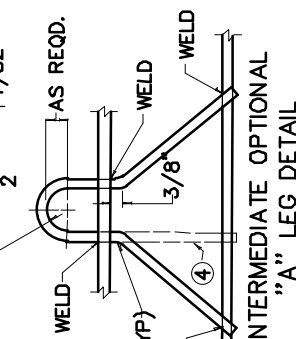
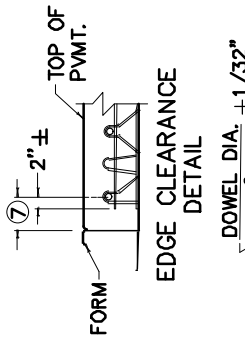
DOWELED TRANSVERSE JOINT DETAIL
FOR ALL COMMERCIAL & INDUSTRIAL PAVEMENTS



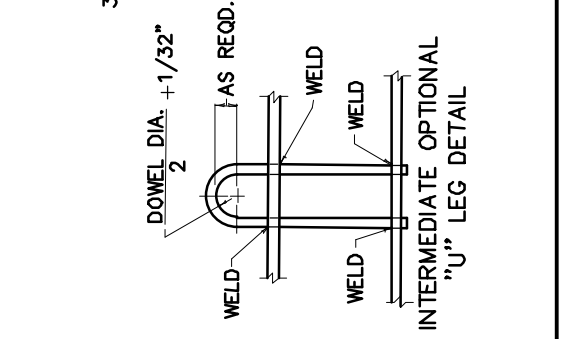
NOTES

DOWEL BAR SIZES	
PAVEMENT THICKNESS	BAR DIAMETER
8"	1 1/4"
9"	1 1/2"
10"	1 3/4"
11"	1 3/4"
12"	1 3/4"
13"	1 3/4"
14"	1 3/4"
LEG ANGLES + / - 3 DEGREES	
63	70
63	70
70	70
70	70

- ① NOT USED
- ② NOT USED
- ③ NO. W-1.5 UPPER TIE BARS WELDED TO UPPER SPACER BARS CUT AFTER FIRST CONCRETE PLACEMENT.
- ④ FOR END LEGS, BEND WIRE AS SHOWN BY PHANTOM LINES IN INTERMEDIATE LEG DETAIL.
- ⑤ REFERENCE POINTS SHALL BE REQUIRED ON EACH SIDE OF THE LOAD TRANSFER ASSEMBLY, IN ORDER TO LOCATE THE INTENDED SAWED JOINT AFTER PAVING. ALL SAWING SHALL BE ACCURATELY CONTROLLED TO THE CENTERLINE OF THE LOAD TRANSFER ASSEMBLIES. LONGITUDINAL ORIENTATION OF DOWEL BARS SHALL BE SUCH THAT ALL DOWEL BARS ARE PARALLEL WITH THE CENTERLINE OF EACH PAVING LANE.
- ⑥ NOT USED
- ⑦ 4-1/2" MIN. AND 10-1/2" MAX. FOR VARIABLE SLAB WIDTH. 6" FOR UNIFORM OR STD. SLAB WIDTH. LOCATION AND SPACING SEE APPLICABLE PAVEMENT STANDARD DRAWINGS.
- ⑧ WELD EITHER NO. W-7 UPPER SPACER BAR OR LEG SUPPORT TO ALTERNATE ENDS OF DOWEL BARS AS TYPICALLY SHOWN.
- ⑨ DOWEL ENDS SHALL NOT VARY MORE THAN 1/4" FROM A STRAIGHT LINE.
- ⑩ DOWELS SHALL BE PARALLEL WITH BASE, WITH A TOLERANCE OF 1/4".
- ⑪ EPOXY SHALL BE CLEANED OFF TO BARE METAL BEFORE WELDING DOWEL TO WIRE.
- ⑫ "U" LEG OR "A" LEG ARE ACCEPTABLE ALTERNATES PROVIDING MATCHED LEGS ARE SUPPLIED.



ISOMETRIC VIEW



KENTUCKY
DEPARTMENT OF HIGHWAYS
CONTRACTION JOINT
LOAD TRANSFER ASSEMBLIES
FOR COMMERCIAL &
INDUSTRIAL STREETS
STANDARD DRAWING NO. RPS-020-13

SUBMITTED _____ DATE _____
APPROVED _____ STATE HIGHWAY ENGINEER _____

CONCRETE JOINT DETAILS

FILL WITH JOINT SEALER PER APPENDIX A SAWED AND/OR TOOLED JOINT PER APPENDIX A



TRANSVERSE CONTRACTION
JOINT
(SAWED OR TOOLED JOINT)

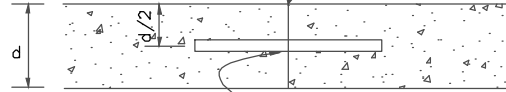
NOTE: TRAVERSE JOINTS FOR COMMERCIAL AND INDUSTRIAL PAVEMENTS SHALL USE LOAD TRANSFER ASSEMBLIES PER DETAIL C.16.

FILL WITH JOINT SEALER PER APPENDIX A TOOLED JOINT PER APPENDIX A



TRANSVERSE CONSTRUCTION
JOINT
(PLANNED OR EMERGENCY)
COINCIDE WITH CONTRACTION JOINT

FILL WITH JOINT SEALER PER APPENDIX A SAWED OR TOOLED JOINT PER APPENDIX A



LONGITUDINAL SAWED OR
TOOLED JOINT
(PLANNED)
COINCIDE WITH CONTRACTION JOINT

1/2" DIAMETER REBAR
18" LONG @ 5' O.C.
HELD IN PLACE WITH
METAL CHAIRS

FILL WITH JOINT SEALER PER APPENDIX A EDGED JOINT PER APPENDIX A



1/2" DIAMETER REBAR 18"
LONG @ 4' O.C., 9" DEEP
DRILLED AT 30 DEGREE
ANGLE OR INJECTED INTO
FRESH CONCRETE

LONGITUDINAL CONSTRUCTION
JOINT
(DRILLED OR INJECTED)

CONCRETE PAVEMENT JOINT PLAN

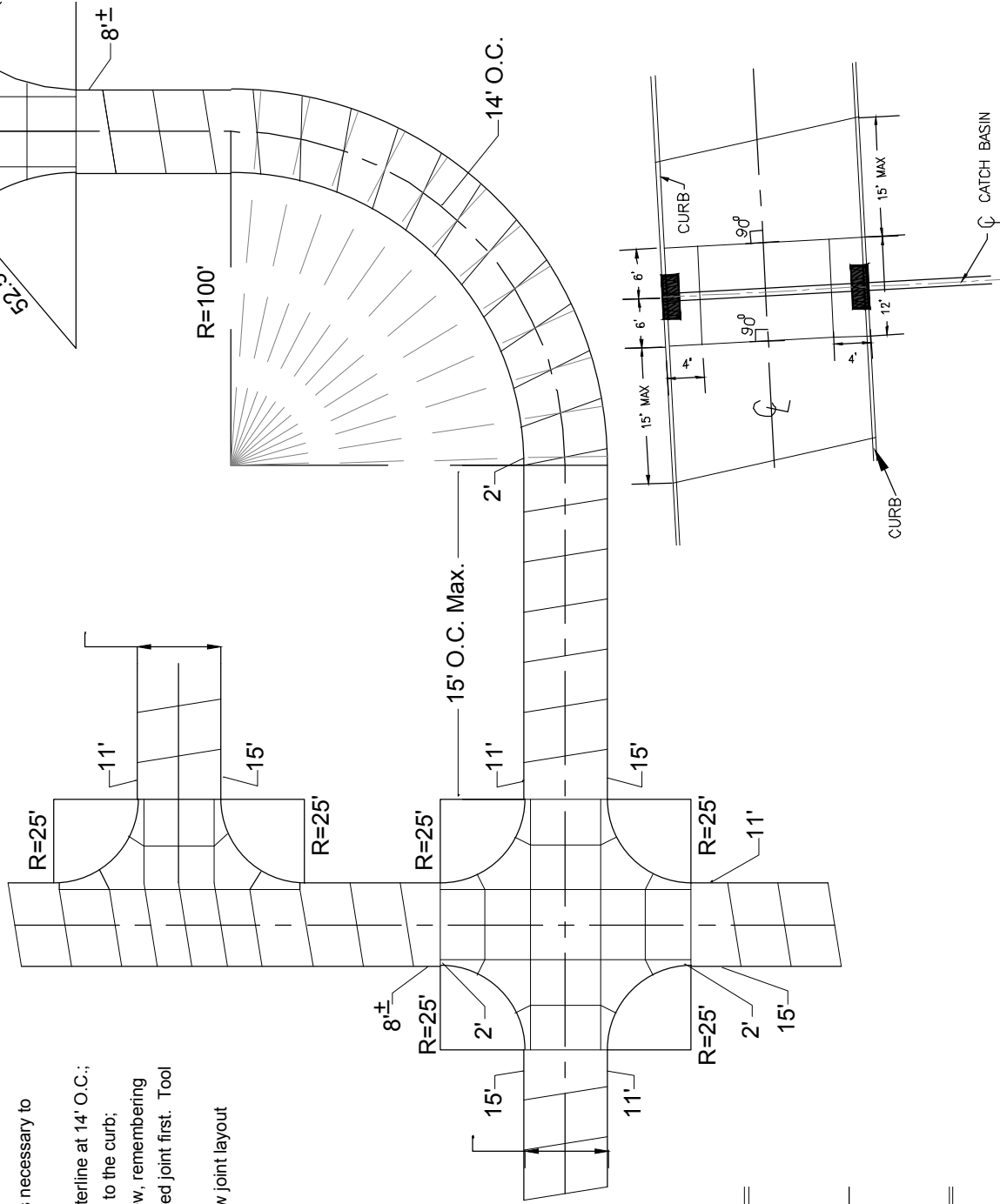
GENERAL RULES OF TOOLED CONTRACTION

JOINT LAYOUT

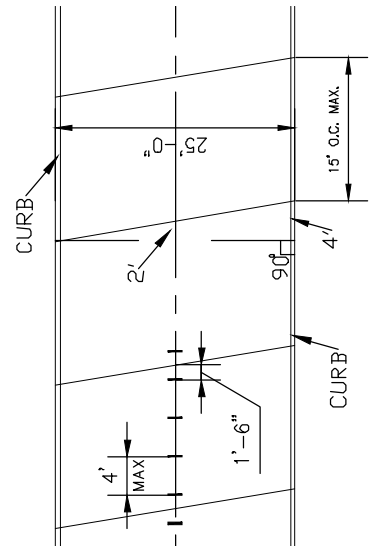
- 1.) Skew joints 2' in each 12.5' lane; 2'-4" skew in each 14' lane.
- 2.) Always have the driver's side front wheel of the vehicle hit the skewed joint first.
- 3.) Maximum joint spacing = 15'; adjust joint spacing as necessary to keep spacing above a 8' minimum.
- 4.) On horizontal curves, layout joint spacing along centerline at 14' O.C.; visually determine a radial line from the centerline back to the curb; measure back (forward) from that point 2' to set the skew, remembering the driver's side front wheel of the vehicle hits the skewed joint first. Tool the joint at the skewed line.
- 5.) At intersections, catch basins and cul-de-sacs, follow joint layout shown.

NOTE:

ALL CONSTRUCTION JOINTS ARE DOWELED JOINTS.

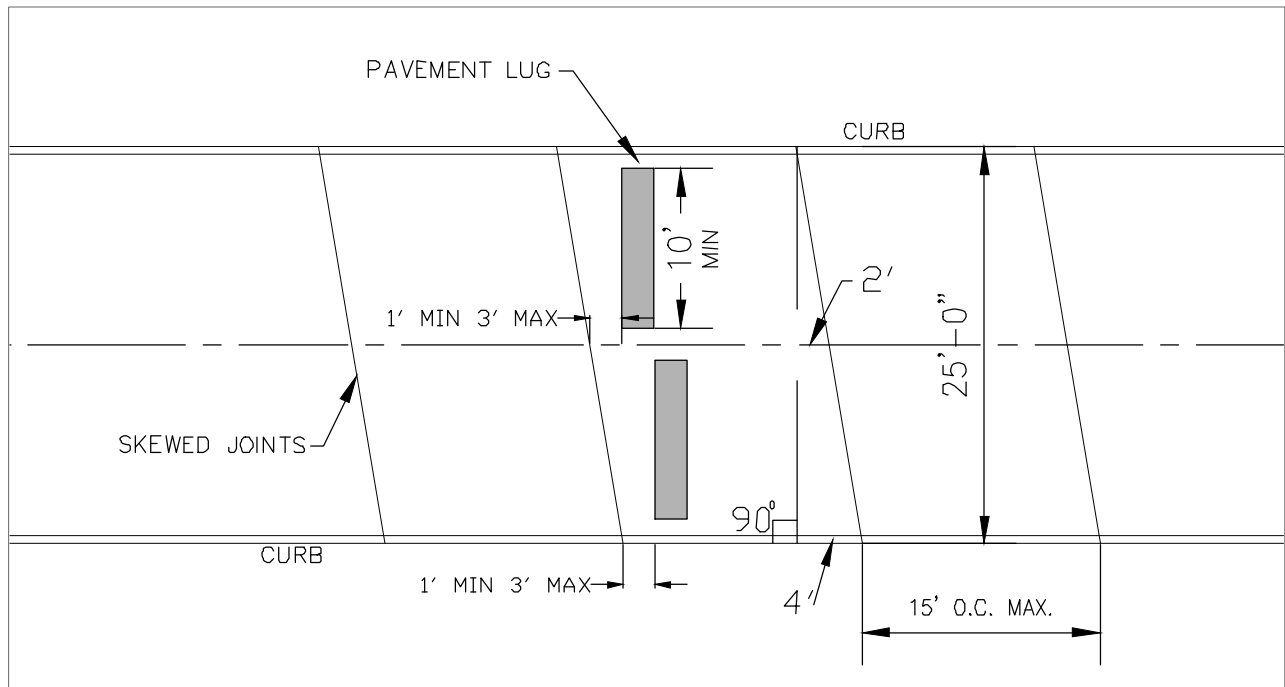
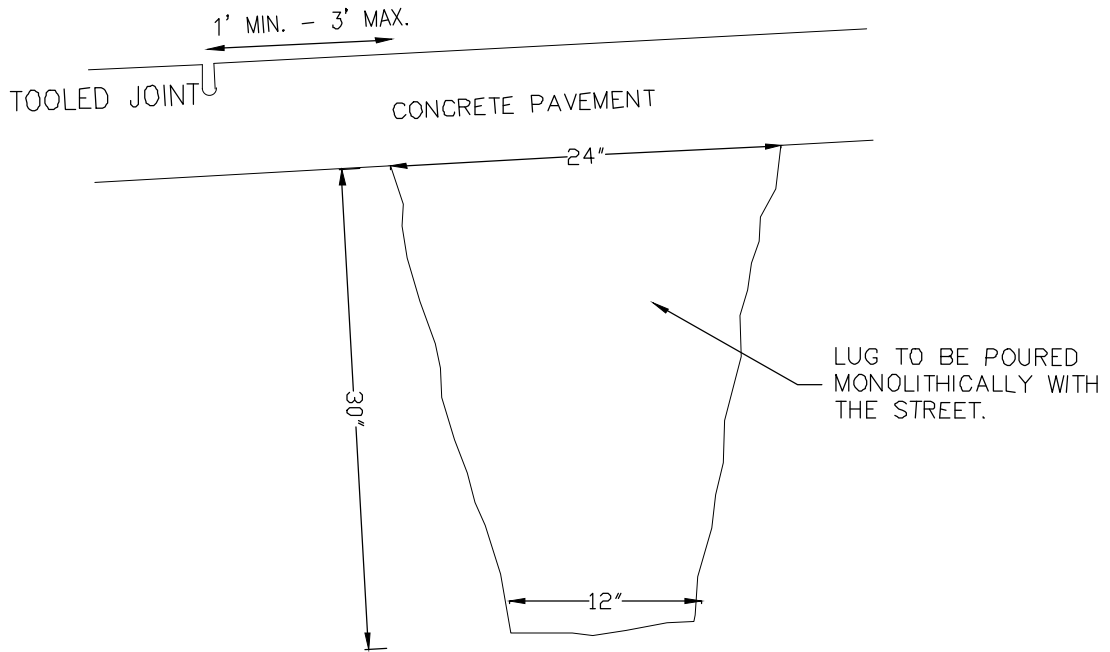


TYPICAL SKEWED JOINT AND ϕ BENT BAR LAYOUT
SCALE: N.T.S.

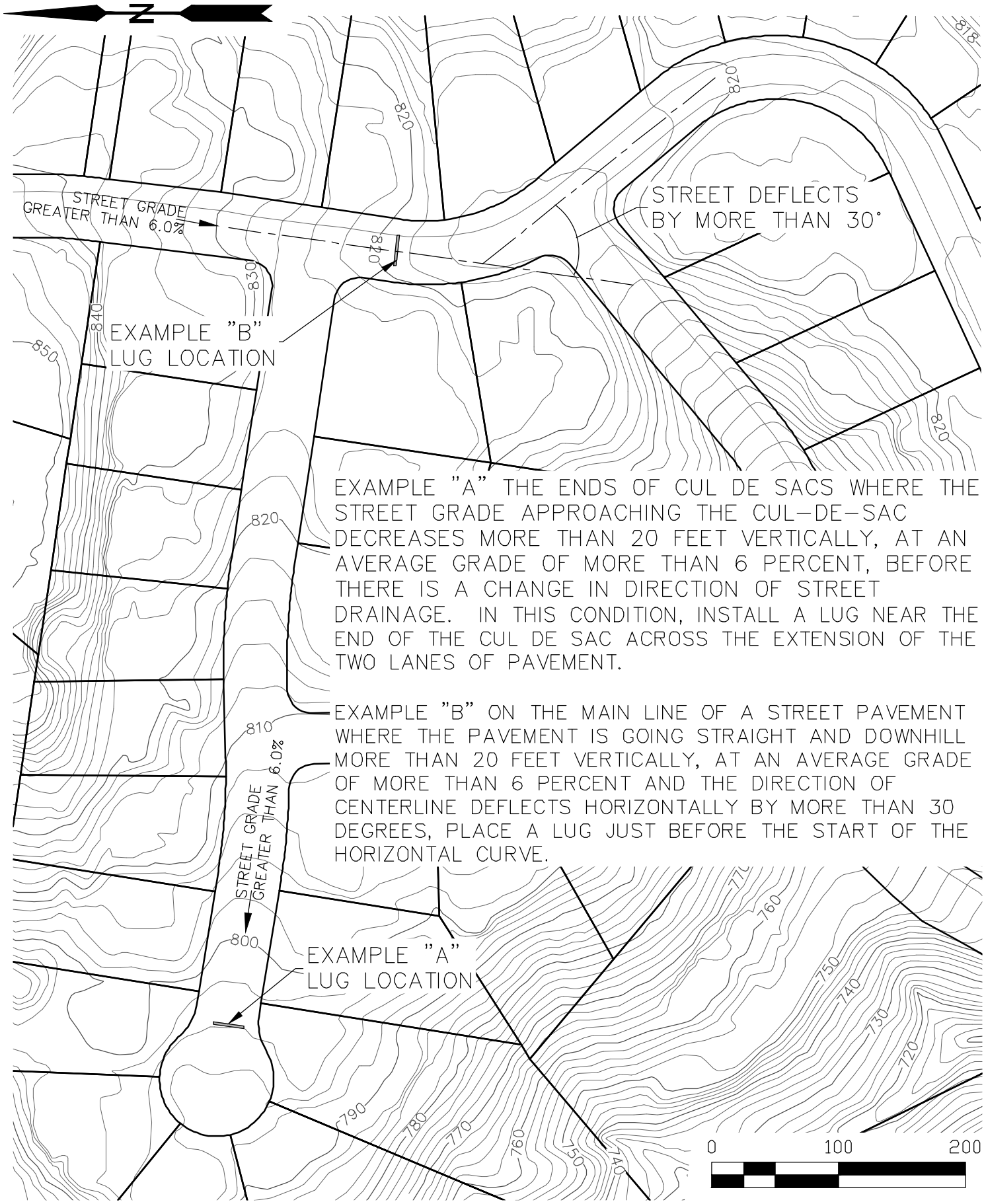


JOINT LAYOUT FOR PAIRED CATCH BASINS

PAVEMENT LUG DETAIL



EXAMPLE PAVEMENT LUG LOCATION

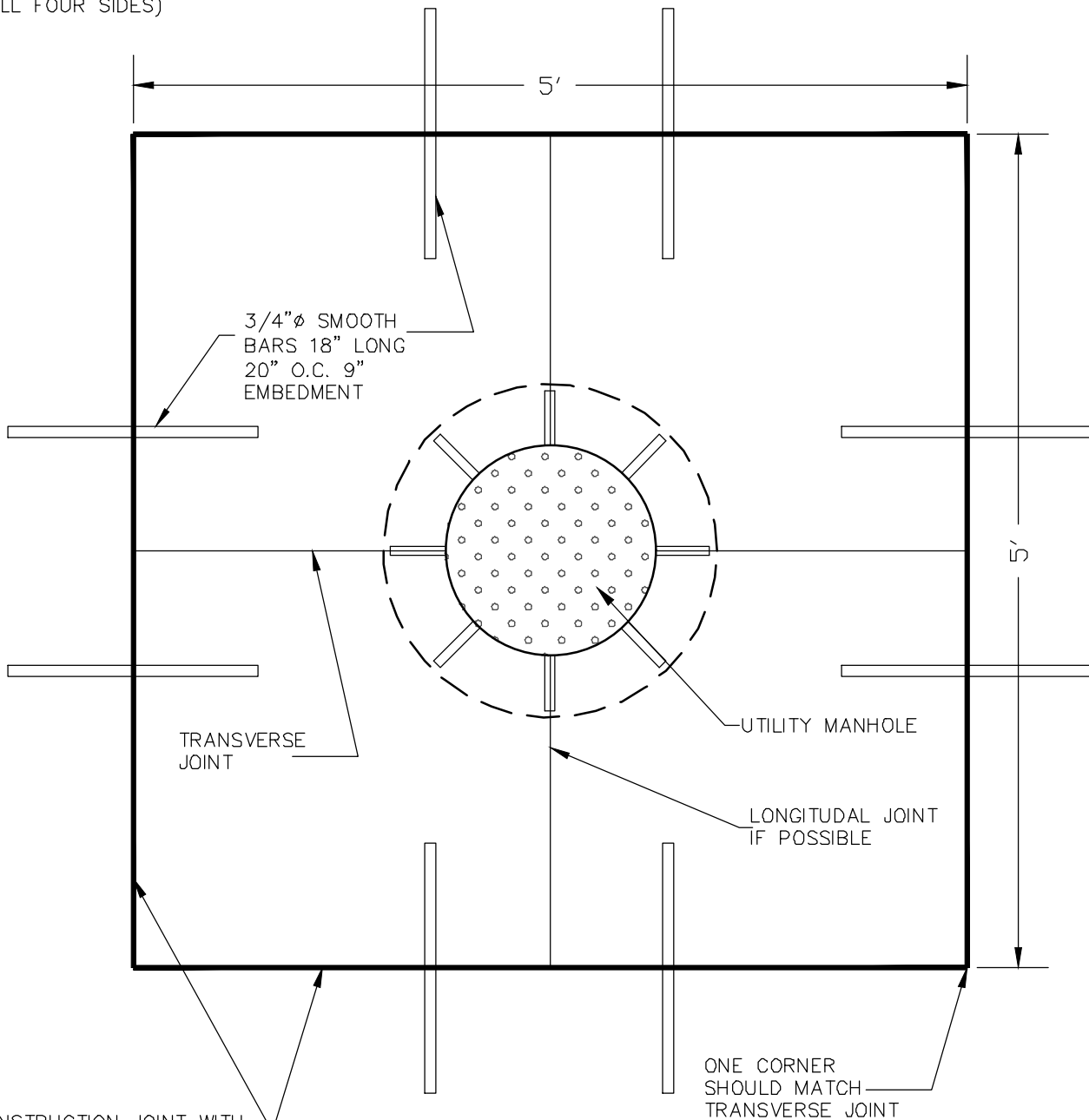


EXAMPLE "A" THE ENDS OF CUL DE SACS WHERE THE STREET GRADE APPROACHING THE CUL-DE-SAC DECREASES MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT, BEFORE THERE IS A CHANGE IN DIRECTION OF STREET DRAINAGE. IN THIS CONDITION, INSTALL A LUG NEAR THE END OF THE CUL DE SAC ACROSS THE EXTENSION OF THE TWO LANES OF PAVEMENT.

EXAMPLE "B" ON THE MAIN LINE OF A STREET PAVEMENT WHERE THE PAVEMENT IS GOING STRAIGHT AND DOWNHILL MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT AND THE DIRECTION OF CENTERLINE DEFLECTS HORIZONTALLY BY MORE THAN 30 DEGREES, PLACE A LUG JUST BEFORE THE START OF THE HORIZONTAL CURVE.

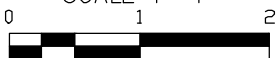
**MANHOLE BLOCK-OUT DETAIL
(CONCRETE PAVEMENT)
THIS DETAIL DOES NOT APPLY FOR UTILITIES
ALREADY BROUGHT TO GRADE**

1" EXPANSION MATERIAL
(ALL FOUR SIDES)

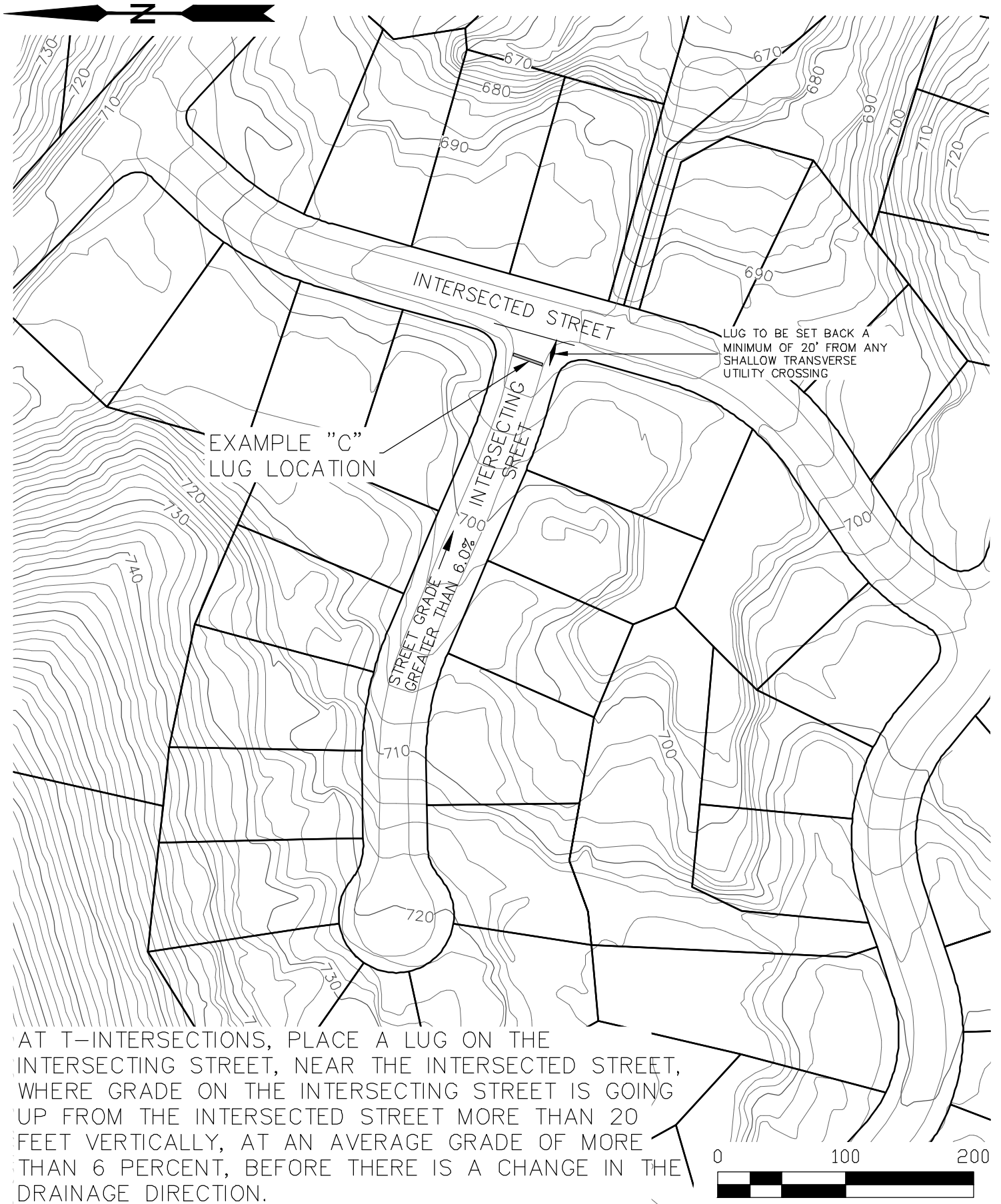


CONSTRUCTION JOINT WITH
1" EXPANSION MATERIAL
(ALL FOUR SIDES)

SCALE 1"=1'

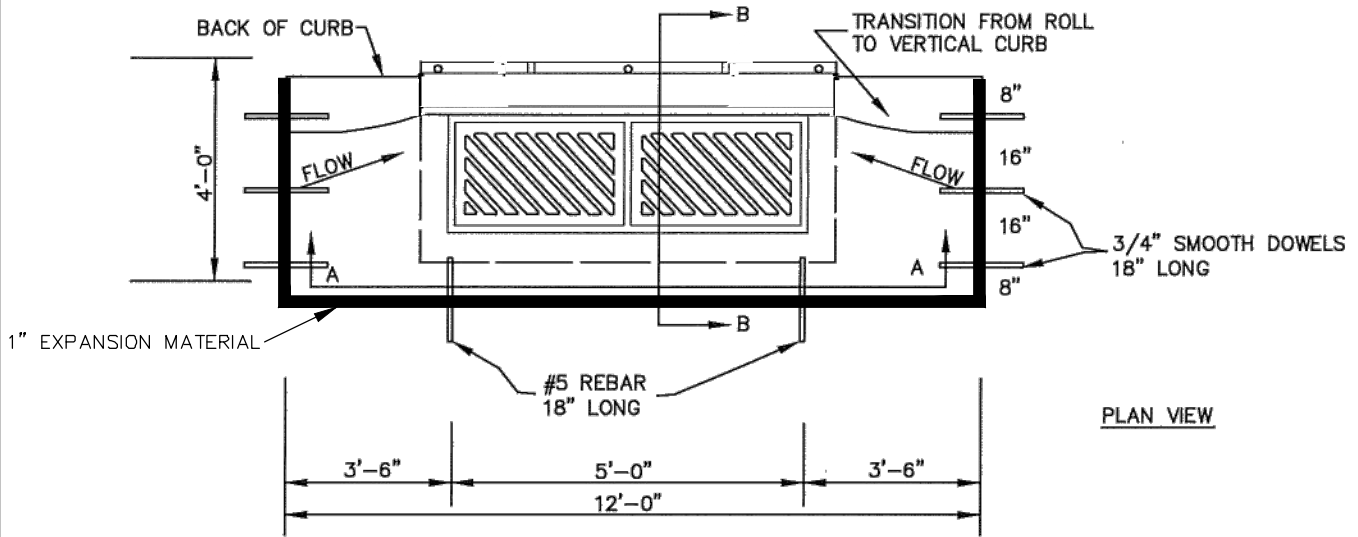


EXAMPLE PAVEMENT LUG LOCATION

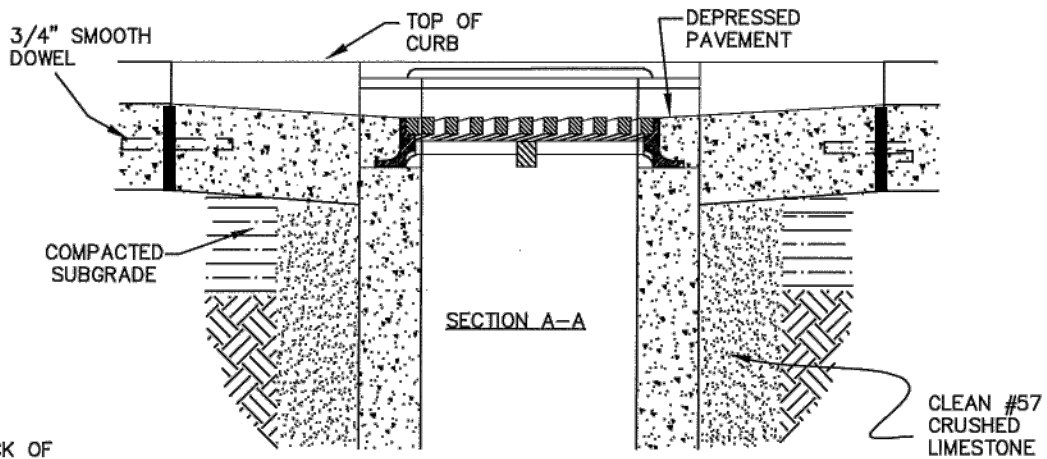


AT T-INTERSECTIONS, PLACE A LUG ON THE INTERSECTING STREET, NEAR THE INTERSECTED STREET, WHERE GRADE ON THE INTERSECTING STREET IS GOING UP FROM THE INTERSECTED STREET MORE THAN 20 FEET VERTICALLY, AT AN AVERAGE GRADE OF MORE THAN 6 PERCENT, BEFORE THERE IS A CHANGE IN THE DRAINAGE DIRECTION.

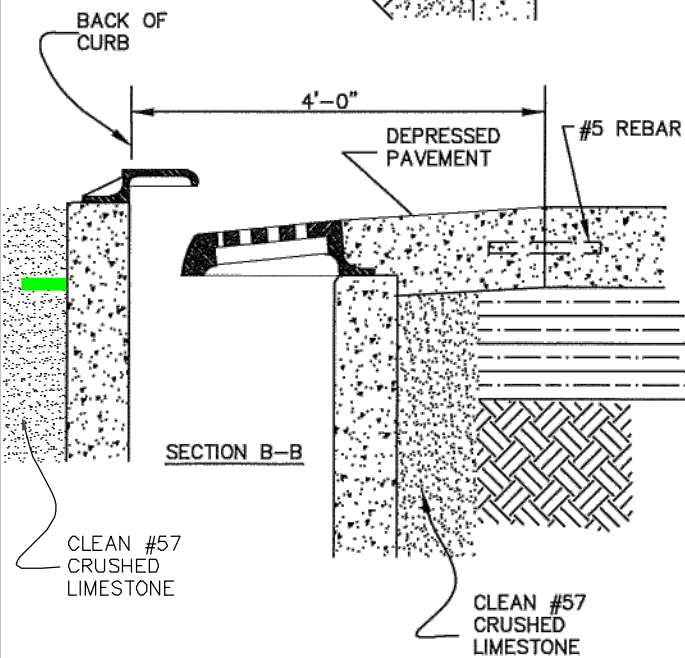
**STANDARD CURB INLET
(CONCRETE PAVEMENT BLOCKOUT DETAIL)**



PLAN VIEW



SECTION A-A



SECTION B-B

NOTES:

CONCRETE PAVEMENT FOR THE BLOCKOUTS SHALL MEET THE SAME REQUIREMENTS AS THE CONCRETE PAVEMENT.

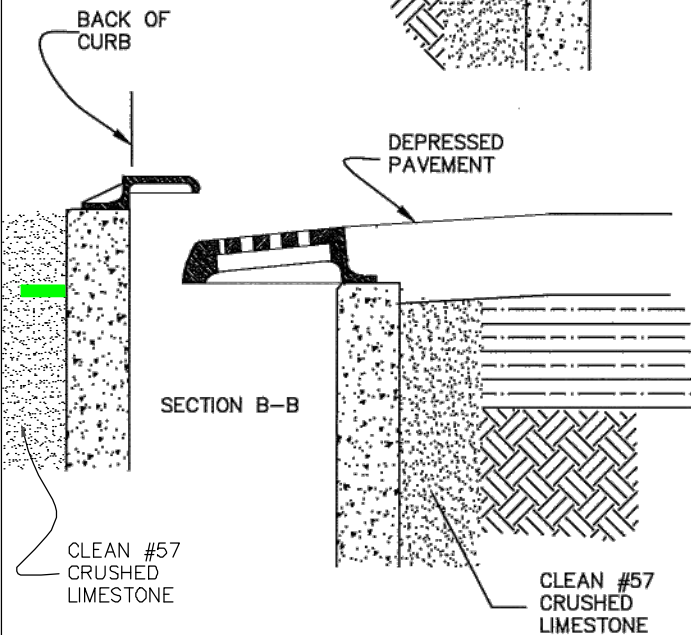
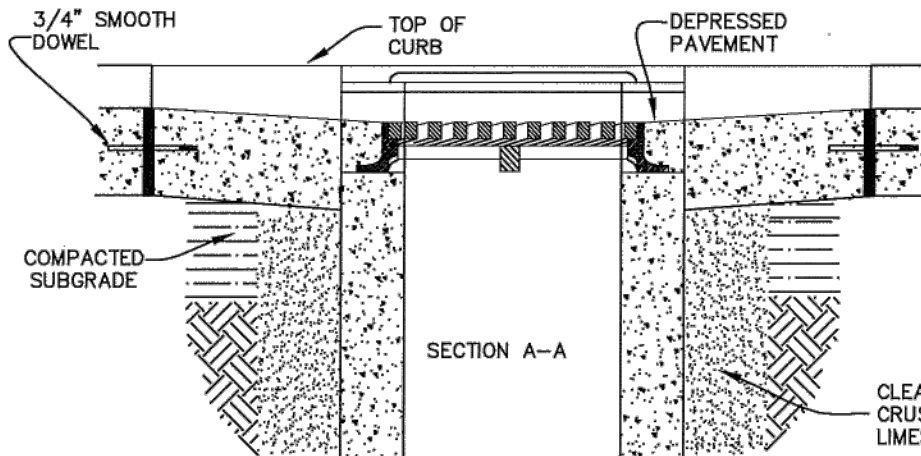
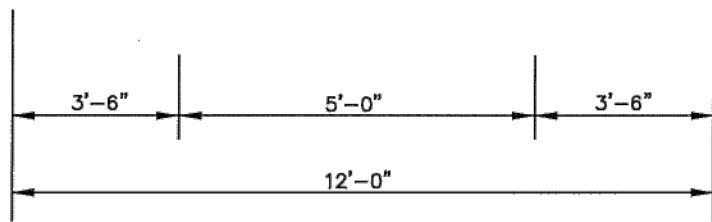
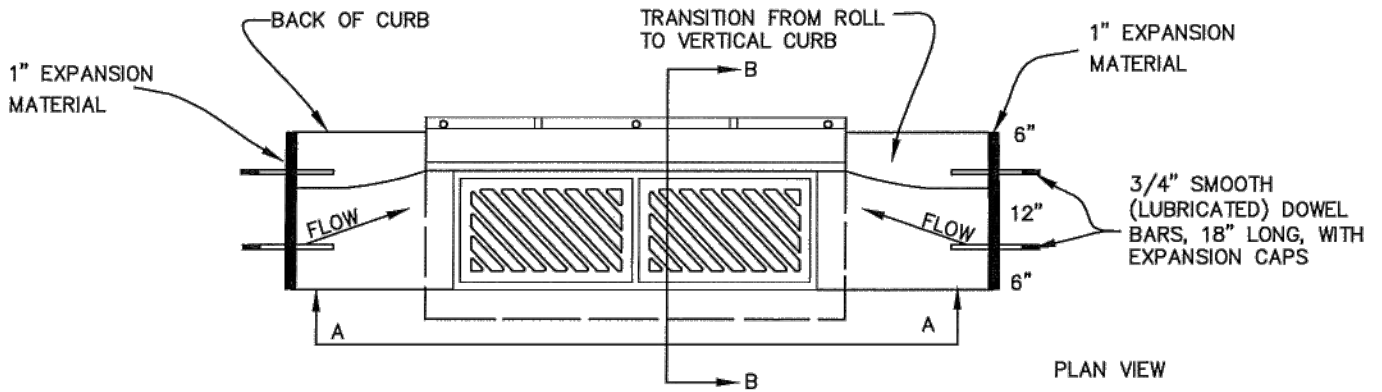
BLOCKOUTS FOR SINGLE INLET CATCH BASINS SHALL BEAR THE SAME DIMENSIONS AS THE DOUBLE INLET CATCH BASIN.

3/4"x18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT.

TWO #5 BARS, 18" LONG ARE REQUIRED ALONG BUTT JOINT OF ISOLATION AREA.

ALL GRATES SHALL BE VANE GRATES

**STANDARD CURB INLET
(ASPHALT PAVEMENT BLOCKOUT DETAIL)**



NOTES:

CONCRETE PAVEMENT FOR THE BLOCKOUTS SHALL MEET THE SAME REQUIREMENTS AS THE CONCRETE PAVEMENT.

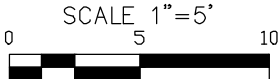
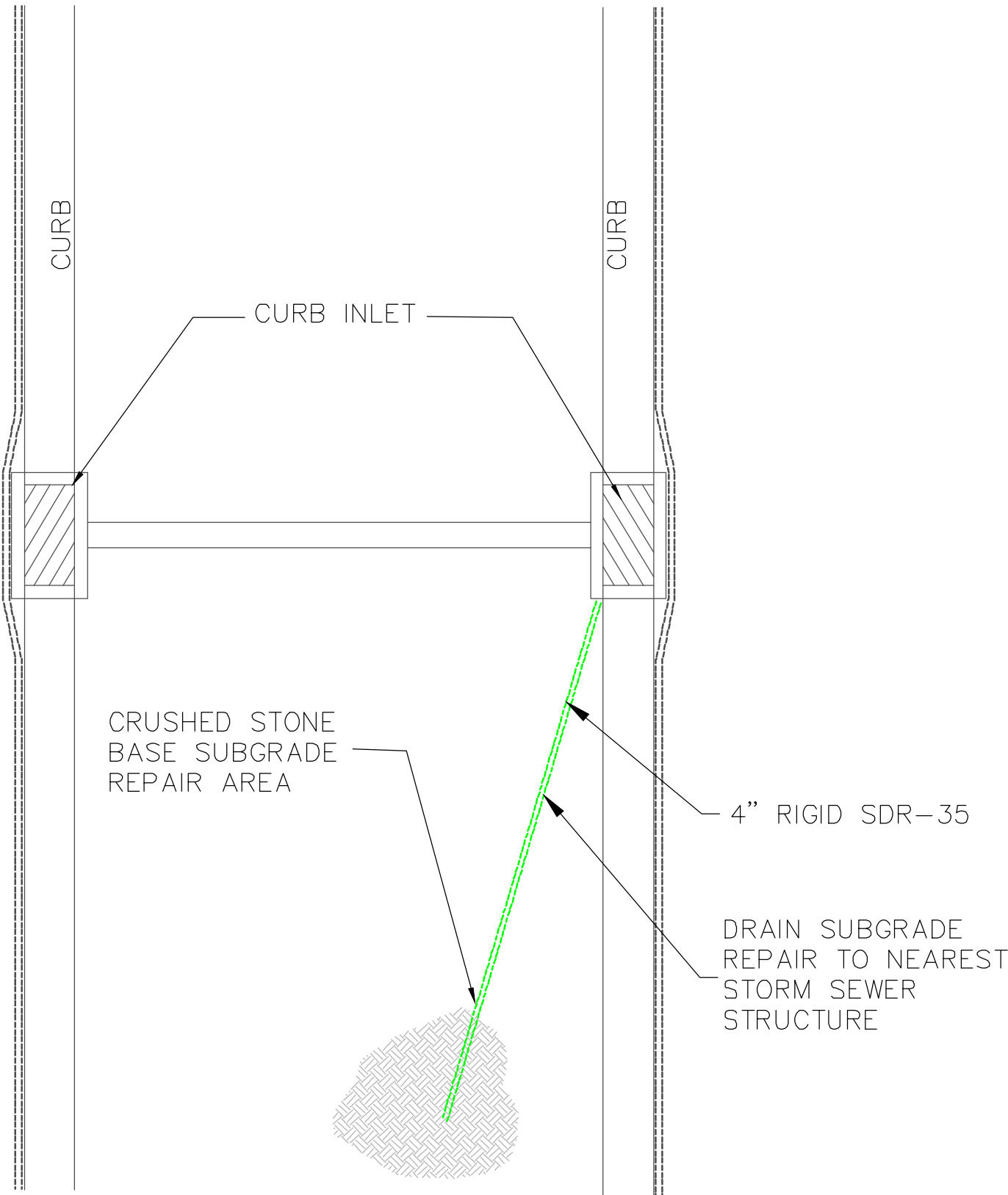
BLOCKOUTS FOR SINGLE INLET CATCH BASINS SHALL BEAR THE SAME DIMENSIONS AS THE DOUBLE INLET CATCH BASIN.

3/4"x18" DOWELS ARE REQUIRED FOR CONCRETE PAVEMENT OR GUTTER BLOCKOUT.

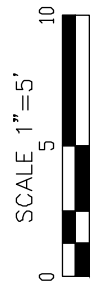
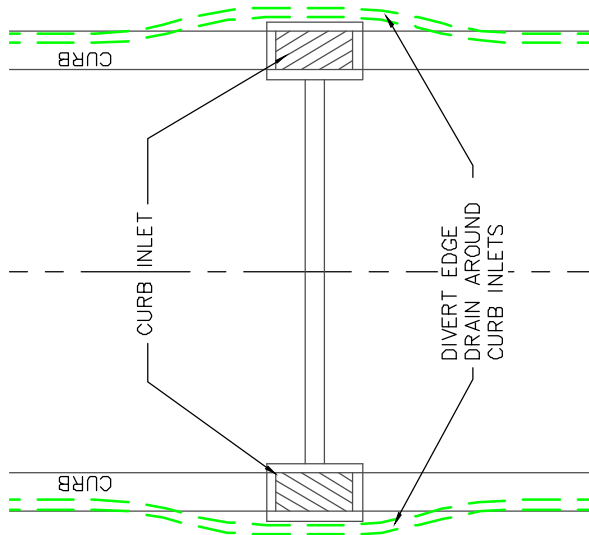
PAVEMENT THICKNESS SHALL CONFORM TO THE RELATED STREET CLASSIFICATION.

ALL GRATES SHALL BE VANE GRATES

DRAINAGE FOR SUBGRADE REPAIR



EDGE DRAIN INSTALLATION WITH STONE BASE STREETS

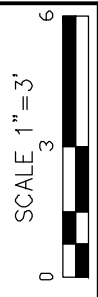
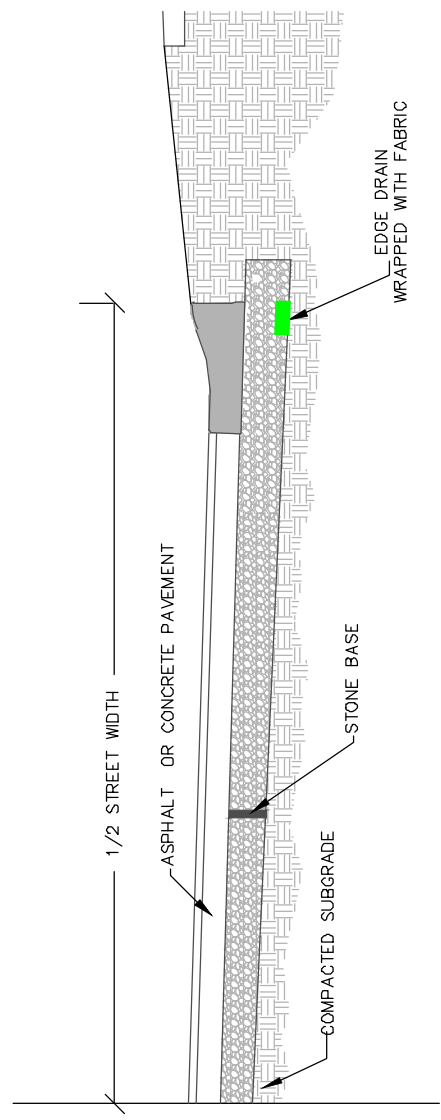


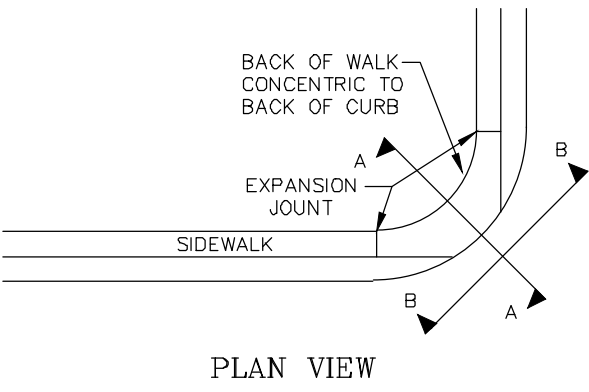
EDGE DRAIN MATERIAL SPECIFICATIONS:

- A. CORE
- MATERIAL: POLYETHYLENE OR POLYPROPYLENE. POLYSTYRENE WILL NOT BE ACCEPTED.
 - MINIMUM THICKNESS: 1.0"
 - WIDTH = 6" (MINIMUM)
 - MINIMUM COMPRESSIVE STRENGTH: ONE-SIDED (OPEN-CORE) NOT ACCEPTED
CLOSED CORE CONDUIT = 6,000 PSF (ASTM D-1621) OR = 4,000 PSF (ASTM D-6364)
- B. GEOTEXTILE FILTER FABRIC:
- MATERIAL: NON-WOVEN NEEDLE PUNCH GEOTEXTILE FABRIC THAT MEETS AASHTO CLASS 3.
 - ATTACHMENT: THE GEOTEXTILE FILTER FABRIC SHALL BE WRAPPED AROUND THE DRAINAGE COMPOSITE CORE AND SECURED IN PLACE.
- C. CERTIFICATIONS
- CONTRACTOR SHALL SUPPLY MANUFACTURER'S CERTIFICATION THAT THE EDGE DRAIN INSTALLED MEETS PERFORMANCE SPECIFICATION AND THE INTENDED USE SHOWN ON THIS DETAIL.
- D. APPROVED PRODUCTS: ADS ADVANEDGE, MULTI-FLOW OR EQUAL

EDGE DRAIN INSTALLATION PROCEDURE FOR STONE BASE STREETS

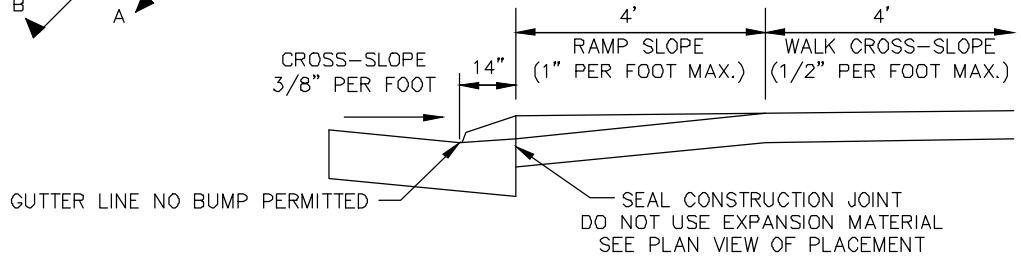
- ROLL OUT EDGE DRAIN FLAT (HORIZONTAL) SO THAT OUTSIDE FACE OF EDGE DRAIN ALIGNS WITH THE OUTSIDE EDGE OF CURB.
- TACK EDGE DRAIN EVERY 5 FEET TO THE SUBGRADE USING 16 PENNY NAILS OR EQUAL.
- DO NOT DRIVE CONSTRUCTION EQUIPMENT DIRECTLY ON EDGE DRAIN.
- INSTALL STONE BASE TO A MINIMUM THICKNESS OF 4" OVER EDGE DRAIN.
- COMPACT STONE BASE AS NECESSARY AND PROCEED WITH REMAINING PAVEMENT INSTALLATION.
- AT CATCH BASINS CONTINUE EDGE DRAIN ALONG THE BACK SIDE OF CATCH BASIN.
- EDGE DRAIN SHALL BE CONTINUOUS ALONG BOTH SIDES OF CURB.
- EDGE DRAIN SHALL BE IN DIRECT CONTACT WITH #57 STONE BACKFILL AT ALL CATCH BASINS.
- SPLICES IN EDGE DRAIN SHALL BE MADE WITH MANUFACTURER'S COUPLERS OR OTHER APPROVED CONNECTION BY MANUFACTURER.



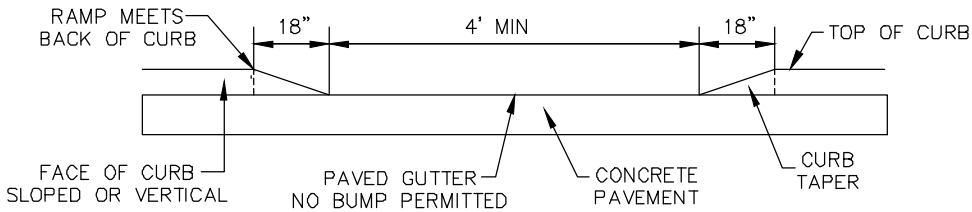


NOTES

1. SIDEWALK RAMP SHALL BE CONSTRUCTED OF MINIMUM 4000 PSI AIR-ENTRAINED CONCRETE. A BROOM FINISH OR EQUAL NON-SKID FINISH IS REQUIRED.
2. NORMAL GUTTER LINE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP FOR DRAINAGE.
3. MINIMUM THICKNESS FOR RAMP, SHALL BE 4 INCHES, SAME AS SIDEWALKS
4. NO FREE DRAINING GRANULAR FILL PERMITTED UNDER RAMP.
5. HANDICAP RAMP SHALL MEET ADA REQUIREMENTS AND CONTAIN DETECTABLE WARNINGS CONSISTING OF RAISED TRUNCATED DOMES. ONLY COMPOSITE INLAYS WILL BE PERMITTED.



SECTION A-A

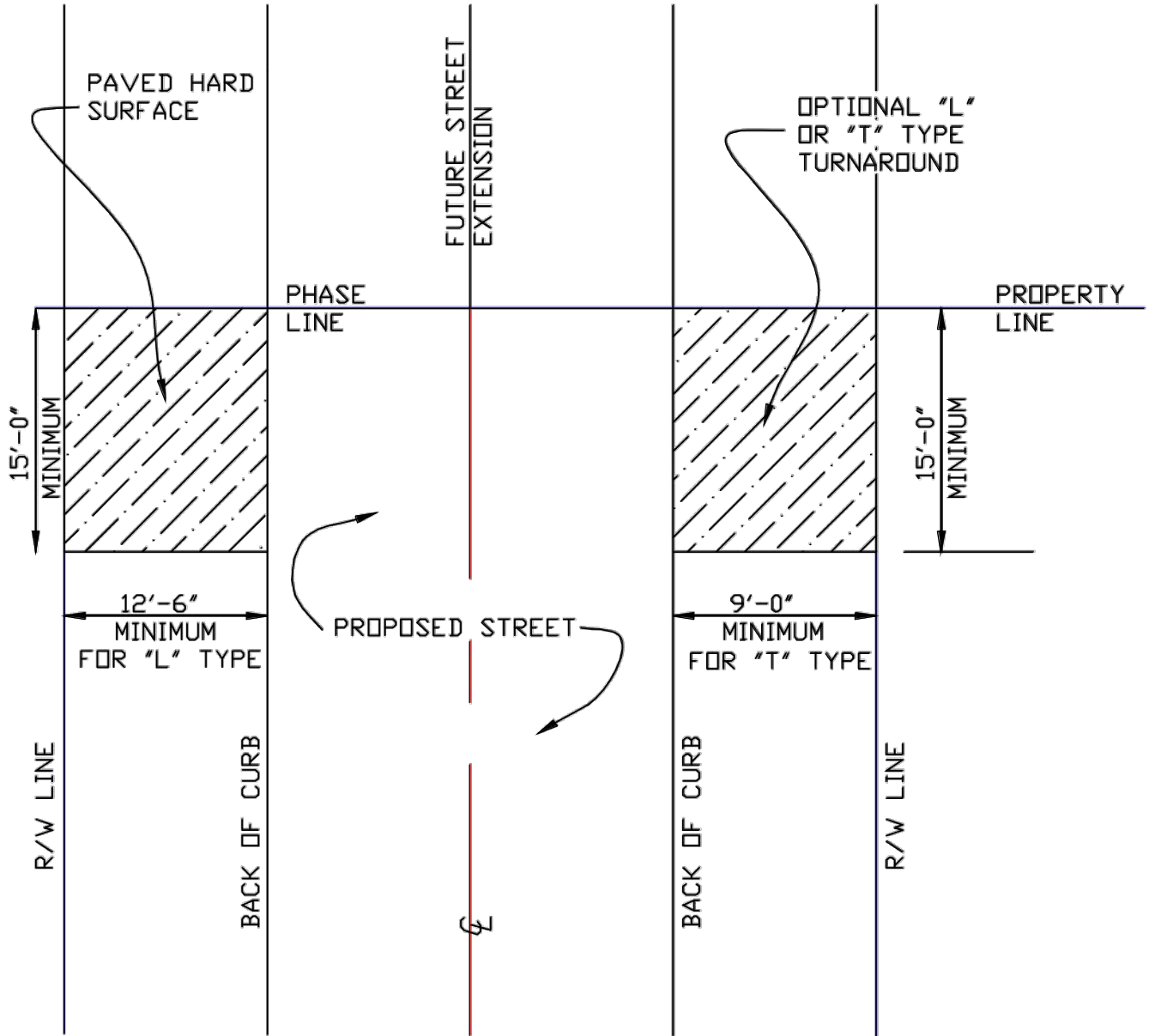


SECTION B-B

SIDEWALK RAMP AT INTERSECTION

N.T.S.

TEMPORARY TURN-AROUND DETAIL



APPENDIX D - STORM DRAINAGE SYSTEMS, EROSION CONTROL

ITEM 1.0 GENERAL

- 1.01 GENERAL: Each applicant or developer shall follow the storm sewer specifications and erosion control measure adopted by the appropriate sanitary sewer district:

Sanitation District #1
1045 Eaton Drive
Ft. Wright, KY 41017
(859) 578-7450

- 1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).

APPENDIX E - WATER LINE SPECIFICATIONS

ITEM 1.0 GENERAL

- 1.01 GENERAL: Each applicant or developer shall follow the water specifications adopted by the appropriate water district. The water district(s) serving Campbell County include the following:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018
(859) 578-9898

- 1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).
- 1.03 Water Mains on Private Property - Water mains installed on private property, which are going to be maintained by the Northern Kentucky Water District (the District), shall have a twenty foot (20') wide easement with the water main centered in the easement area and shall have a justifiable benefit to the District (serving more than one property owner, hydraulic benefits, etc.) A four foot (4') area over the water main shall be a non-paved strip totally unobstructed with the exceptions outlined in DESIGN GUIDELINES, water mains. With appropriate justification, paving may be approved within the four foot (4') area over cross-country water mains. Outside the ten foot (10') area over the water main, five feet (5') either side but within the overall easement area, other utilities may be placed in this area. Proper documentation shall be provided for all easement areas. For areas that are on recorded subdivision plats, the following statement may be used in lieu of the grant of easement forms:

WATER MAIN EASEMENT(S)

The Water Main Easement(s) as shown on this plat are subject to the DECLARATION OF MASTER WATER FACILITY EASEMENT AGREEMENT as set forth in _____ (Select One of the following: In Alexandria - Easement Book 129, Page 145 OR In Newport - Easement Book 304, Page 466) of the Campbell County Clerk's records at _____ select the appropriate city location either Alexandria OR Newport), KY.

For other areas, the Design Engineer shall prepare an easement document suitable for recording with the County Clerk. Documents shall consist of a sketch (8½" by 14"), a legal description of the twenty foot (20') easement with back references to the Deed Book and Page Number, and a signed Grant of Easement Form (Restoration Agreement) provided by the District prior to filling the main for sterilization.



APPENDIX F - SANITARY SEWER SPECIFICATIONS

ITEM 1.0 GENERAL

- 1.01 GENERAL: Each applicant or developer shall follow the sanitary sewer specifications adopted by the appropriate sanitary sewer district.

Sanitation District #1
1045 Eaton Drive
Ft. Wright, KY 41017
(859) 578-7450

- 1.02 All trenches within the Public Right of Way shall be backfilled with controlled low strength material (CLSM) (flowable fill).