

MARCH 26, 1987

REVISED 12/1/87

**BERRIEN COUNTY ROAD COMMISSION**

**STANDARDS AND SPECIFICATIONS**

**FOR**

**PLAT DEVELOPMENT**

**AND STREET CONSTRUCTION**

**BOARD OF COUNTY ROAD COMMISSIONERS  
BERRIEN COUNTY, MICHIGAN**

**EFFECTIVE APRIL 24, 1987**

MARCH 26, 1987

## **BERRIEN COUNTY ROAD COMMISSION**

Commissioner Broderick offered the following resolution and moved its adoption:

**WHEREAS**, Act 288 of the Public Acts of 1967, known as the Subdivision Control Act of, requires the publication of rules and specifications for construction of roads and streets in subdivisions, lying outside the corporate boundaries of any incorporated City or Village, within jurisdiction of the Berrien County Road Commission; now

**THEREFORE, BE IT RESOLVED**, that the Board of County Road Commissioners of the County of Berrien hereby adopts "Standard and Specifications for Plat Development and Street Construction", dated March 26, 1987 and rescinds all previous requirements in contravention thereof; and

**BE IT FURTHER RESOLVED**, that roads and street to be dedicated as private as well as roads and streets to be dedicated as public be subject to these rules and specifications, and

**BE IT FURTHER RESOLVED**, that these Standards and Specifications become effective April 24, 1987.

The motion was seconded by Commissioner Forker.

The Vice-Chairman called for a "Yea" and "Nay" vote with the following results:

YEAS: Broderick and Forker

NAYS: None

The Vice-Chairman declared the motion carried and resolution adopted.

## **BERRIEN COUNTY ROAD COMMISSION**

### **I. PURPOSE**

The Board of County Road Commissioners of the County of Berrien reserves the right to reject any plat which does not comply with the requirements of Act 288 of the Public Acts of 1967, as amended, known as the Subdivision Control Act.

The Owner of the platted land, or his agent, shall be required to grade, drain and surface the streets shown on the plat. He shall also be required to pay the Board for erecting street signs and traffic signs as required by the Board.

The grading, draining and surfacing shall be done in accordance with the Board's Standards and Specifications for the improvement of platted streets.

Local roads to be constructed privately for takeover by the Road Commission shall conform to Berrien County Road Commission standards. Fees for engineering review and construction inspection will be required.

These published minimum requirements and specifications are subject to revision, without notice, by the Board of County Road Commissioners of the County of Berrien. The Board reserves the right to require higher standards where warranted by special conditions. Developers should be cautioned that certain townships within the county may have higher standards than this publication.

### **II. DEFINITIONS**

**BOARD** – The Board of County Road Commissioners of the County of Berrien, State of Michigan.

**ENGINEER** – The County Highway Engineer of the Board or any employee designated to act for him in implementing these platting requirements of the Board.

**PROPRIETOR** – Any person, firm, association, partnership, corporation, or combination of any of them, who submits a plat for processing under the Subdivision Control Act.

**LABORATORY** – The testing laboratory of the Board, or such other laboratory as may be approved the Engineer.

**MDOT SPECIFICATIONS** – The current Standard Specifications for Construction issued by the Michigan Department of Transportation.

## **BERRIEN COUNTY ROAD COMMISSION**

### **III. PRELIMINARY PLAT REQUIREMENTS**

#### **A. PRELIMINARY PLAN**

##### **(1) Preparation of Plans**

In order that subdivision plats may be prepared in conformity with the general highway and street plans of the Board and the Township in which the proposed plat is located, the Proprietor shall have prepared a preliminary or tentative plan of the entire area intended to be platted. That part which is proposed to be subdivided first shall be clearly shown and each subsequent submission shall follow the same procedure until the entire area is subdivided.

The Preliminary or tentative plan of the area to be platted shall be prepared under the direction of a Registered Professional Engineer or Land Surveyor. All street construction plans as well as construction supervision and inspection shall be done under the direction of a Registered Professional Engineer.

The Preliminary Plan shall be drawn to a convenient scale not smaller than 1" = 200'. The plans should give the location of the proposed subdivision with reference to the section and part of section in which the parcel is situated and the name of the township. The plan shall show the name of the plat and the names of proposed streets within the plat, the proposed division of the land, the name and address of the Proprietor and the name and address and seal of the Surveyor who prepared it. The plan shall show the proposed street layout, lot or plat dimensions (dimensions difficult to calculate need not be given exactly on the tentative plan), governing factors such as adjoining subdivisions, connecting streets, other roads and streets in the area, rivers, railroads, cemeteries, parks, natural water courses, county drains, sewers, outlets for subdivision drainage, elevations of the water table at various locations and the date obtained, the toe and top of large slopes, or any other feature, the location of which, or the knowledge of its existence, might be an influencing factor.

A topographic map with contour intervals of every two foot change in elevation must be submitted with the preliminary plan. United States Coastal and Geodetic Survey bench marks must be used on all plats and the particular bench mark used will be clearly labeled and witnessed. Any deviation from the two foot contour intervals must be approved in writing by the Engineer.

## **BERRIEN COUNTY ROAD COMMISSION**

### **III. PRELIMINARY PLAT REQUIREMENTS (Cont'd)**

#### **(2) STREET NAMES**

A street name shall not be adopted which may be confused with a similarly named street within the county. New streets which are an extension of or obviously in alignment with existing streets shall bear the name of the existing street.

#### **(3) SUBMISSION OF PRELIMINARY PLANS**

Three blueprint copies of the preliminary plat plan prepared as noted above and one copy of the Michigan Department of Public Health Subdivision site report shall be forwarded to the Engineer requesting the Board's approval of the plat plan. Final approval of the preliminary plat by the governing body is required before proceeding with the preparation of the road and drainage plans.

#### **(4) PUBLIC UTILITIES**

The preliminary plans should be coordinated with the public utilities involved.

#### **(5) APPROVAL OF PRELIMINARY PLANS**

Approval of the preliminary plans by the Board shall be given within 30 days of receipt of said plat and one copy returned to the Proprietor. If rejected, the reasons for rejection and requirements for approval shall be given to the Proprietor in writing.

If, after one year a plat has not proceeded further than preliminary approval a new preliminary plan must be submitted for engineering approval.

### **B. RIGHT OF WAY REQUIREMENTS**

#### **(1) GENERAL REQUIREMENTS**

All platted streets whether public or private shall be built to the Board's minimum standards.

All plats must have access to a public highway. In general, all streets located along section and quarter section lines shall be centered on said lines. Any exceptions to this practice must be approved by the Board.

## **BERRIEN COUNTY ROAD COMMISSION**

### **III. PRELIMINARY PLAT REQUIREMENTS (Cont'd)**

#### **(2) WIDTH REQUIREMENTS**

- (a) Highway or state highways shall be of such a width as current plans of the highway authorities require.
- (b) Primary County Road shall be not less than one hundred (100) feet in width, or 50' either side of centerline.
- (c) Local commercial industrial streets shall be not less than 80 feet in width.
- (d) All other streets or roads shall be not less than sixty-six (66) feet in width.
- (e) Dead end streets shall be provided with a turn-around having a minimum radius of sixty seven (67) feet on residential streets and eighty-two (82) feet on commercial or industrial streets. Turnarounds may not be required on dead-end streets whose length is not greater than a normal lot depth and is being provided for access to adjoining property.
- (f) The right of way widths required in this section shall be considered minimum and shall be considered minimum and shall generally govern. However if the Board determines that additional right of way is required because of special circumstances which shall include, but not be limited to, requirements for horizontal or vertical sight distances, grading operations, such facts will be noted on the preliminary plat plan when returned to the Proprietor's Engineer.

#### **C. CONFORMITY**

The proposed subdivision shall take into consideration the surrounding conditions in the immediate area bordering on the Proprietor's property. No subdivision will be approved if it is laid out in such a way as to place unreasonable restrictions on the future development of adjoining properties.

The layout of streets in the proposed plat shall provide a continuous circuit of travel except, when in the opinion of the Board, the lands to be sub-divided are limited in area or are subject to a natural barrier.

Short street segments which are required in order to provide access to adjoining property shall be constructed and dedicated to the public in the same way as other streets in the subdivision.

## **BERRIEN COUNTY ROAD COMMISSION**

### **III. PRELIMINARY PLAT REQUIREMENTS (Cont'd)**

#### **C. CONFORMITY (Cont'd)**

Streets being constructed with permanent turnarounds (cul-de-sac) shall be designed in accordance with the Board's specifications (See Page 19).

Turnaround street sections having a length of more than 600 feet are considered undesirable. Temporary turnarounds may be constructed if a highway easement is granted to the Board. This highway easement will revert to the proprietor when and if the road is extended to provide for a continuous circuit of travel.

In contemplating the street layout in the subdivision, the Proprietor is reminded that it is of prime importance that subdivision streets which intersect with existing through streets must be so located as to allow adequate and safe sight distances. Minimum horizontal sight distances at such locations shall be 500 feet.

Intersections shall not be permitted less than 250' apart. Intersections of platted streets entering primary roads shall not be permitted less than 600' apart. Lots bordering on a primary road with an Average Daily Traffic (ADT) in excess of 3000 shall have access to a platted street and the plat shall contain a restriction allowing driveways to connect to the platted street only.

It is suggested by the Board that all houses be constructed twenty-four (24) inches above the proposed street elevation where at all possible.

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS**

#### **GENERAL**

All work and materials shall conform with Michigan Department of Transportation Specifications.

The Proprietor and contractors shall comply with the requirements of Act 347, PA 1972 as amended controlling soil erosion and sedimentation.

## **BERRIEN COUNTY ROAD COMMISSION**

### **III. PRELIMINARY PLAT REQUIREMENTS (Cont'd)**

#### **A. STREET AND DRAINAGE PLANS**

After the preliminary plan of the proposed subdivision has been approved by the governing body and proof of approval submitted to the Board, the Proprietor's Engineer (Sec. III.A-1) may proceed with the preparation of the street and drainage plans for the improvement of the streets in the subdivision. These plans shall show plan, profile, cross-sections, locations of drainage facilities and structures, special details and such other information as may be necessary to complete the work as intended. Three sets of prints of such street and drainage plans shall be submitted to the Engineer for review. After the plans have been reviewed by the Engineer, one set of prints will be returned to the Proprietor's Engineer and one set forwarded to the County Drain Commissioner marked with either an approval or with changes required by the Engineer to be made before approval will be given. If, after two years, construction is not substantially complete, new approvals must be obtained.

#### **B. DRAINAGE EASEMENTS**

The Proprietor shall provide adequate means to take care of the surface drainage in the plat. Leaching basins or ponding within the road right of way will not be allowed.

Whenever drainage cannot be obtained within the right of way of proposed or existing streets, an easement shall be given by the Proprietor to provide access to an adequate outlet for the drainage system which shall be approved by the Engineer. The location and width of drainage easement shall be shown on the plat to be recorded and shall be marked " \_\_\_\_\_ feet wide.

The Proprietor should be cautioned, that where excess runoff of surface waters caused by new plat development may give adjacent property owners cause to claim damages, an easement from said property owner to provide for the passage of this runoff may be required.

Where ditches, other than standard roadside ditches, or under drainage is provided they should be made a part of the county drain system, by proper legal procedures through the Berrien County Drain Commissioner, and meet all necessary requirements as to right of way, easements, and permits for the land.

All drainage easements as required beyond the limits of the subdivision will be acquired by the Proprietor in the name of the County of Berrien as required by the County Drain Commissioner.



## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **C. DRAINAGE STRUCTURES**

Drainage Structures shall be designed for a maximum rainfall as required by the County Drain Commissioner.

Open ditches along lot lines will not be permitted unless it's an established county drain, river or stream prior to subdividing.

#### **(1) CROSSROAD CULVERTS AND BRIDGES**

Crossroad culverts and bridges shall be of the size and type approved by the Engineer. Culverts shall have a minimum diameter of 15 inches. In the case of structures over county drains approval must also be obtained from the County Drain Commissioner. Where culverts are required for an established waterway such as county drain, river or stream the entire width of the subdivision street right of way shall be enclosed.

#### **(2) STORM SEWERS**

Where storm sewers are to be constructed, the Construction plans and profiles shall show the location, type and size along with elevations and proposed grades. A drainage study and the design computations for the proposed storm sewer will be submitted with the construction plans.

The minimum allowable diameter shall be 12 inches. Either concrete pipe or C.S.P. with continuously formed helical seam will be permitted. When concrete pipe is used at depths less than 5 feet or more than 14 feet, reinforced pipe will be required.

Standard four foot diameter manholes will be required at all changes in alignment, size or grade and will be spaced not greater than 300 feet apart. The main trunk of the storm sewer shall be located on the centerline of the right of way. For curvilinear streets, additional manholes will be required in order to locate the storm sewer within practical limits of centerline.

A maximum of 300 feet of surface drainage will be allowed prior to being picked up by standard catchbasins. Frames and grates shall conform to the road section in which they are being placed. They shall be located on lot lines to avoid interference with future driveways.

## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **(2) STORM SEWERS (Cont'd)**

The storm sewer system shall have a positive outlet into a natural body of water, stream or established county drain if available. If none of these outlets are available and if approved by the Drain Commissioner, the outlet may be into an area provided and prepared by the Proprietor to serve as impoundment area. The extreme high water elevation of the impoundment area as determined by the Drain Commissioner shall be at least 2 feet below the roadway drainage system outlet.

#### **D. UTILITIES, WHEN LOCATED WITHIN STREET RIGHT OF WAY**

Water mains will be located at 22 feet from centerline on the south and west side of the roadway. Sanitary sewers will be located at 22 feet from centerline on the north and east side of the roadway. Storm sewers will be located on centerline. All underground utilities should be stubbed to the right of way line.

#### **E. GUARD POSTS, GUARD RAIL AND BARRICADES**

Treated guard posts shall be placed as directed by the Engineer at ends of stub streets which are provided for future access to adjacent unplatted lands. The Engineer may also require guardrail and/or barricades if deemed necessary.

#### **F. GRADING, CLEARING, REMOVAL OF TREES, BRUSH, ROOTS & TOPSOIL**

Streets shall be graded and cleared to the full right of way width providing for future sidewalk construction. All brush, shrubs, trees and roots thereof shall be entirely removed from within the right of way of all streets in the proposed plat.

Trees which do not interfere with the construction and maintenance of the street and are classified valuable by the Engineer may remain with his approval.

All topsoil shall be removed before grading.. This topsoil, if classified as fertile, may be used for stabilization where needed after the gravel surface is constructed.

## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **G. STREET IMPROVEMENTS**

##### **(1) TYPICAL STREET SECTIONS**

For typical commercial, residential, industrial street section, intersection details and turnarounds see Pages 16 thru 20.

##### **(2) GRADES & SIGHT DISTANCES**

The maximum grade permitted will be six (6) percent. The minimum grade will be 0.4 percent for concrete curb sections and 0.6 percent for bituminous valley gutter sections. The minimum length of the vertical non-passing sight distance shall be 260 feet. Permanent turnarounds shall be constructed on a sufficient grade to insure a minimum of 0.6 percent along the flow line of the gutter while maintaining approximately ¼ inch per foot crown.

##### **(3) EXISTING ROAD CLEANUP**

If deemed necessary by the Engineer, ditches along existing county roads shown on the plat shall be cleaned out by the Proprietor to provide adequate drainage before placing driveway culverts.

Any work to be performed in existing road rights of way requires a written permit from the Board. Requirements for obtaining a permit are (1) A Certificate showing evidence of insurance covering the contractor with a minimum coverage of \$250,000.00 for property damage and \$500,000.00 public liability; (B) \$10,000.00 cash or surety bond guaranteeing performance in accordance with the Board's Rules and Regulations.

The Board and any affected utility shall be notified a minimum of 48 hours prior to beginning construction. Contractor's One Number Alert (MISS DIG) may be used for this notification (1-800-482-7171). The Contractor should be advised that some municipal utilities are not members of MISS DIG.

##### **(4) MATERIAL REQUIREMENTS**

###### **(a) SUBBASE MATERIAL**

A minimum of 12 inches sand lift will be required on all subgrades of heavy soils or frost heave material or in areas having a high water table.

Sand Lift Specifications: MDOT Granular Material Class II

## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **(4) MATERIAL REQUIREMENTS**

##### **(b) AGGREGATE SURFACE COURSE**

The aggregate surface course shall consist of a compacted thickness and width as shown on the typical cross-section being used.

Aggregate Base Course Specifications: MDOT Dense graded aggregate 22A.

##### **c) BITUMINOUS SURFACE**

The aggregate surface course shall not be primed until it has been prepared in a manner approved by the Engineer.

Bituminous Surface Course Specifications:

Prime Coat – MSOP (or approved equal) at 0.25 gallon per square yard.

Mixture – The mixture shall be in accordance with MDOT Specification No. 12.

#### **(5) COMPACTION REQUIREMENTS**

The following densities shall be obtained on street construction by standard methods of compaction.

Subbase 90% of maximum density.

Aggregate Base 95% of maximum density.

Bituminous Surface 96% of maximum density.

The "Michigan Cone Test" will be used in determining maximum density of granular soils and aggregates. Field test of density in place shall be made by the nuclear gauge or rubber balloon method. Compaction test results are to be submitted with the Engineer's Certificate.

#### **(6) TOPSOIL, SEEDING, AND MULCHING**

All graded areas within the right of way shall be seeded, fertilized and mulched.

The methods and time of seeding and mulching shall meet the requirements of the MDOT Specifications. All disturbed areas shall be covered with 3 inches of fertile topsoil. No plat will be accepted by the Board where erosion or sedimentation is evident.

## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **(6) TOPSOIL, SEEDING AND MULCHING (Cont'd)**

In cases where the time of the year or other conditions prohibit stabilization a cash bond will be required prior to acceptance to assure stabilization.

#### **(7) TESTING OF MATERIALS**

Before construction of the street has begun, the Proprietor shall notify the Engineer of the source of all materials to be used.

Testing of materials shall be performed by the Laboratory at the expenses of the Proprietor. Materials may also be used which are obtained from approved stock piles which have been tested by either the Board or MDOT. Certification showing that bituminous materials and the mixture meets the specifications required shall be submitted with Engineer's Certificate.

#### **(8) INSPECTION**

Periodic inspection during construction by the Engineer shall not relieve the proprietor's engineer of any of his obligations. These periodic inspections are to verify the proper construction of the streets in their various stages of construction.

#### **(9) SIGNS**

All street signs and traffic control signs shall be paid for by the Proprietor upon presentation of the Plat for final approval.

#### **(10) INSPECTION & ADMINISTRATION FEE**

The developer shall submit to the Board a fee to cover the costs of administration, engineering reviews and periodic inspections which the Road Commission performs with each preliminary plat and construction plan.

Schedule of payment shall be as follows:

- (1) Prior to preliminary plat approval, a fee as listed in the current Berrien County Road Commission schedule of fees.
- (2) Prior to approval of construction plans, a fee as listed in the current Berrien County Road Commission schedule of fees.

## **BERRIEN COUNTY ROAD COMMISSION**

### **IV. CONSTRUCTION PLANS AND IMPROVEMENTS (Cont'd)**

#### **V. FINAL PLAT APPROVAL**

The final plat shall not be accepted until all streets within the plat have been completed according to final plans as approved or a satisfactory escrow arranged. All requests for final approval must be accompanied by a written statement (see Page 15) bearing the signature of a Registered Engineer certifying that all details of construction have been completed as approved in the final plans.

A set of reproducible "As Built" plans of all improvements constructed within the right of way must be submitted on stable material before final approval will be given.

### **VI. SEVERABILITY CLAUSE**

If any part of these standards shall be found to be invalid, such invalidity shall not affect the remaining portions of the standards which can be given effect without the invalid portion, and to this end the standards are declared to be severable.

MARCH 26, 1987

# BERRIEN COUNTY ROAD COMMISSION

## ENGINEERS CERTIFICATE

DATE \_\_\_\_\_

SUBDIVISION NAME \_\_\_\_\_

TOWNSHIP OF \_\_\_\_\_ SEC. \_\_\_\_\_

BERRIEN COUNTY, MICHIGAN

I hereby certify that the construction of all improvements are completed.

Exception \_\_\_\_\_

\_\_\_\_\_ and that;

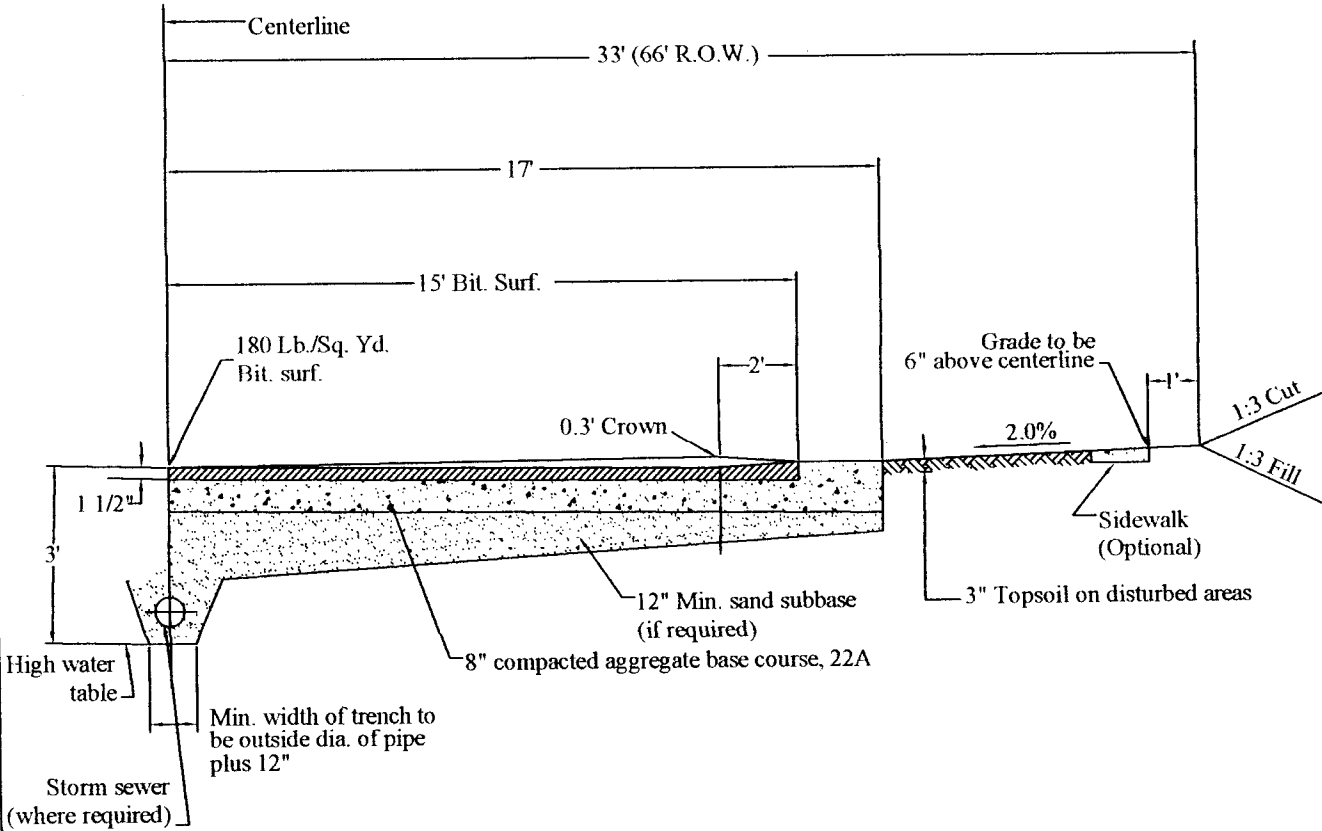
- (1) I have personally directed the supervision and inspection of the construction.
- (2) All improvements to date have been installed in accordance with the approved construction plans and the current standards and specifications of the Berrien County Road Commission.
- (3) The construction materials meet the aforementioned specifications.

Signed \_\_\_\_\_  
Registered Professional Engineer

\_\_\_\_\_  
Registration No.

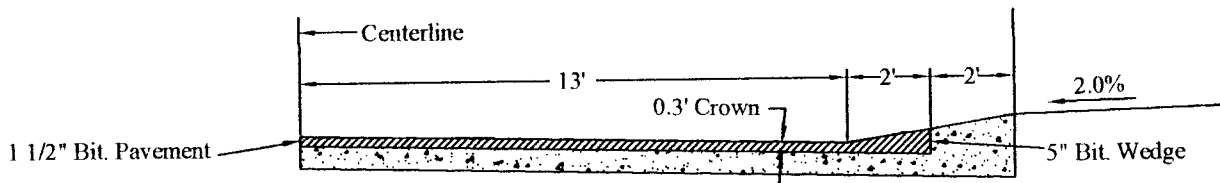
ILLUSTRATION NO. 1

**RESIDENTIAL  
TYPICAL HALF-SECTION WITH BIT. GUTTERS**  
No Scale



NOTE: The back of the casting will be set at 14.5' from centerline. Where basins are being placed in the radius at intersections, the back of the casting will be placed 6' from the outside edge of the blacktop. Set the top of the casting at gravel grade and reshape the gravel surface 10' either way of the casting to allow for placement of the bituminous course.

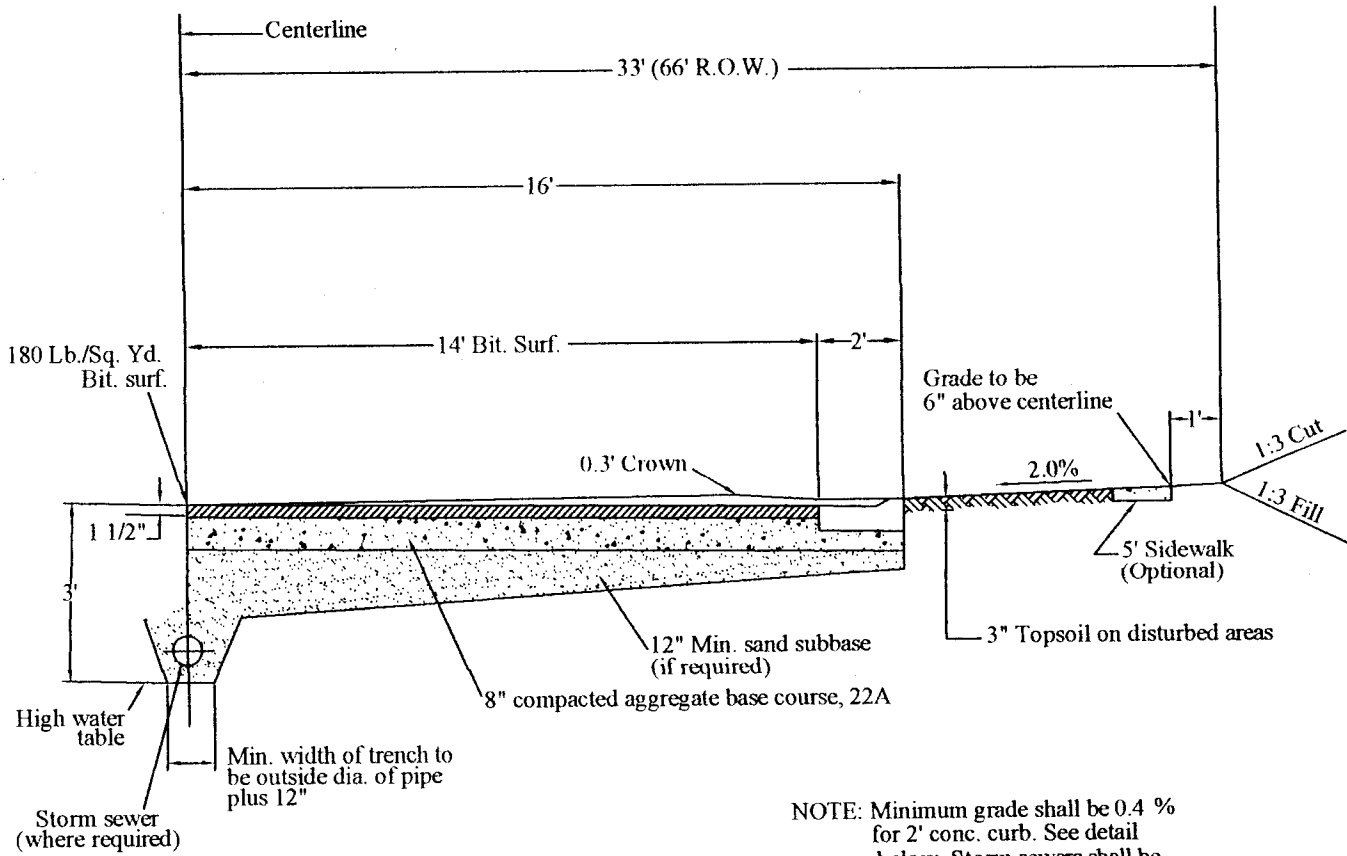
NOTE: Minimum Grade shall be 0.6 %. Storm Sewers shall be constructed along centerline. This street section will have a spring weight reduction of 35 %.



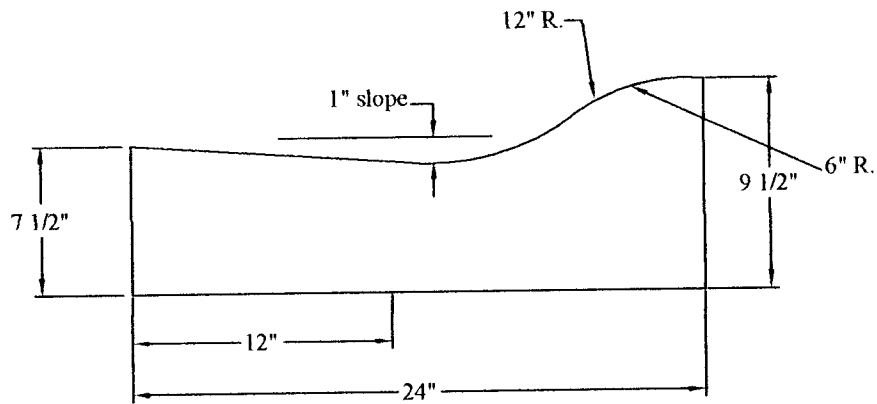
**DETAIL BIT. GUTTER**  
No Scale



**RESIDENTIAL  
TYPICAL HALF-SECTION WITH CONCRETE CURB**  
No Scale



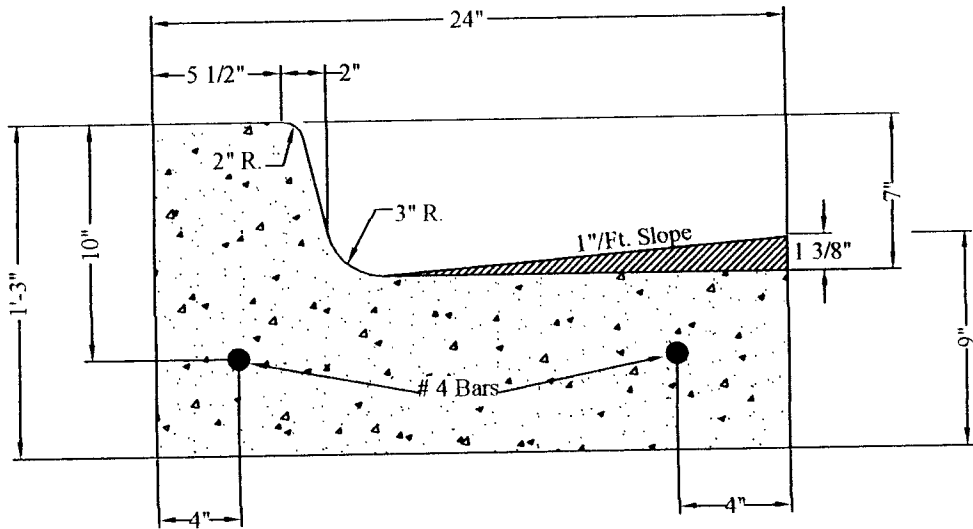
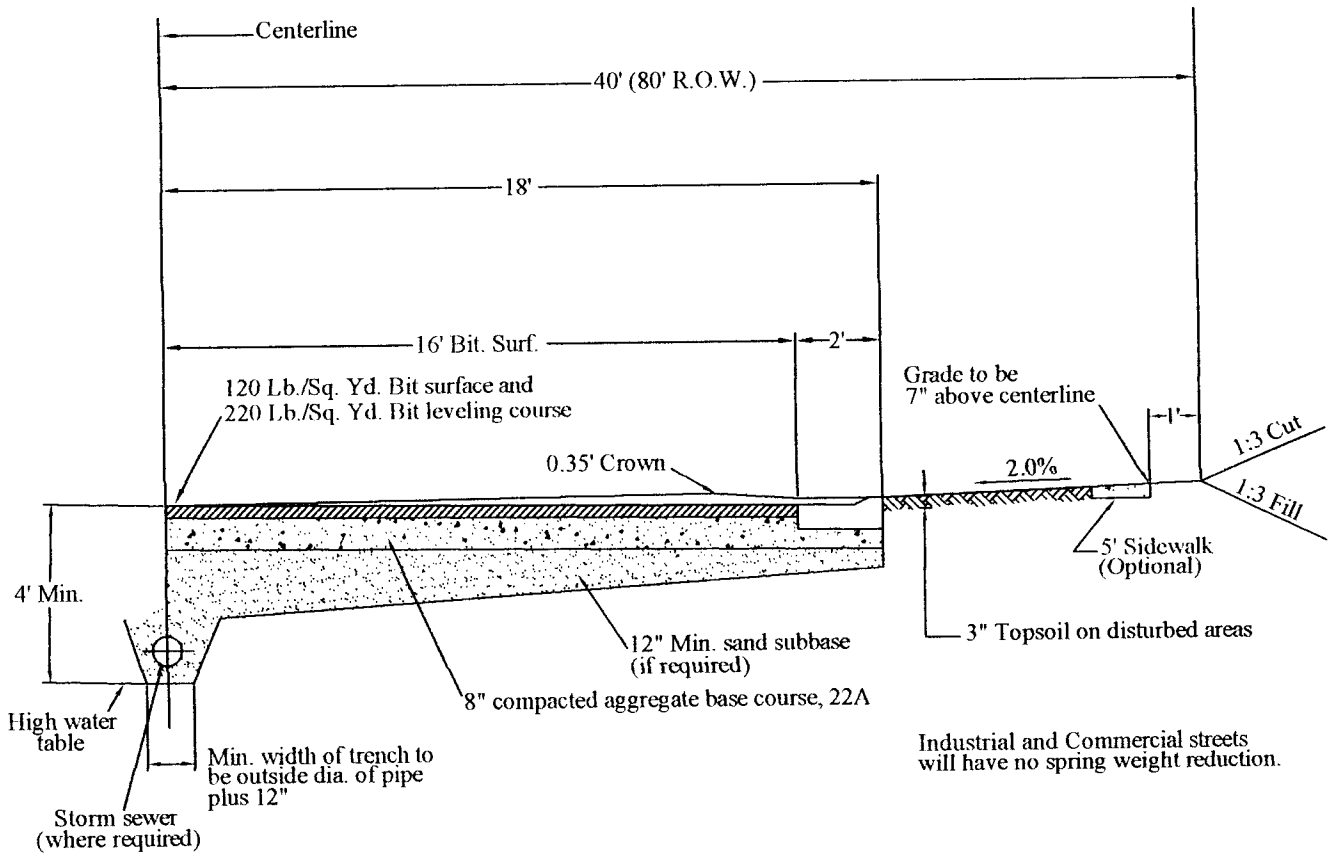
NOTE: Minimum grade shall be 0.4 % for 2' conc. curb. See detail below. Storm sewers shall be constructed along centerline. This street section will have a spring weight reduction of 35 %.



**24" CONCRETE CURB DETAIL "A"**  
No Scale

Contraction joints must be placed every 10' and expansion joints to be placed a minimum of 350 feet apart and at all radius points on curves.  
Use grade A concrete and 6A stone.

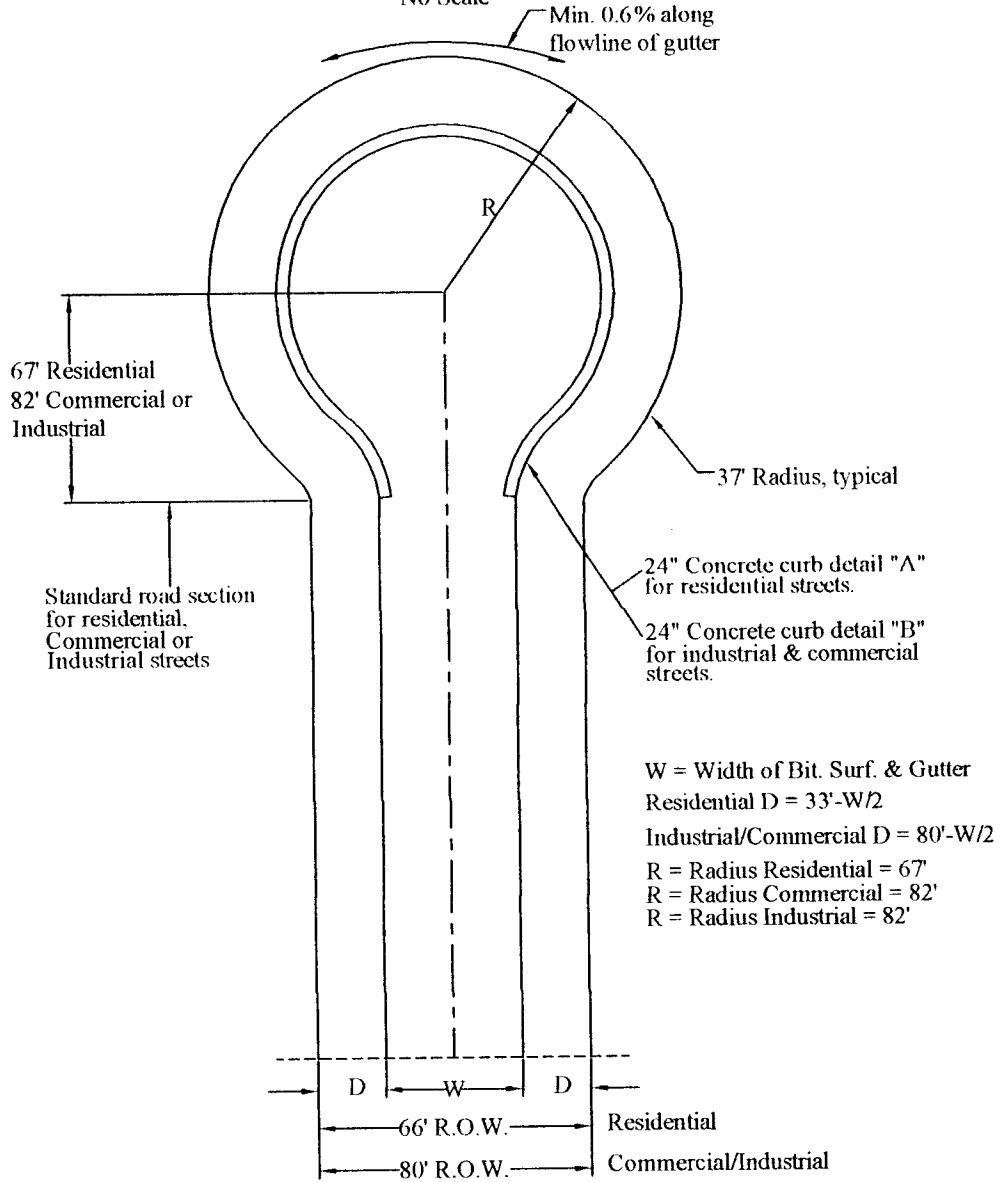
TYPICAL HALF-SECTION FOR  
INDUSTRIAL & COMMERCIAL STREETS  
No Scale



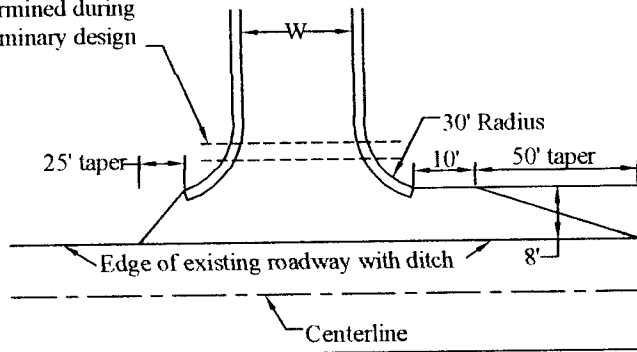
24" CONCRETE CURB DETAIL "B"  
(M.D.O.T. Detail C-4) No Scale

TYPICAL CUL-DE-SAC

No Scale



Length and size of culvert to be determined during preliminary design

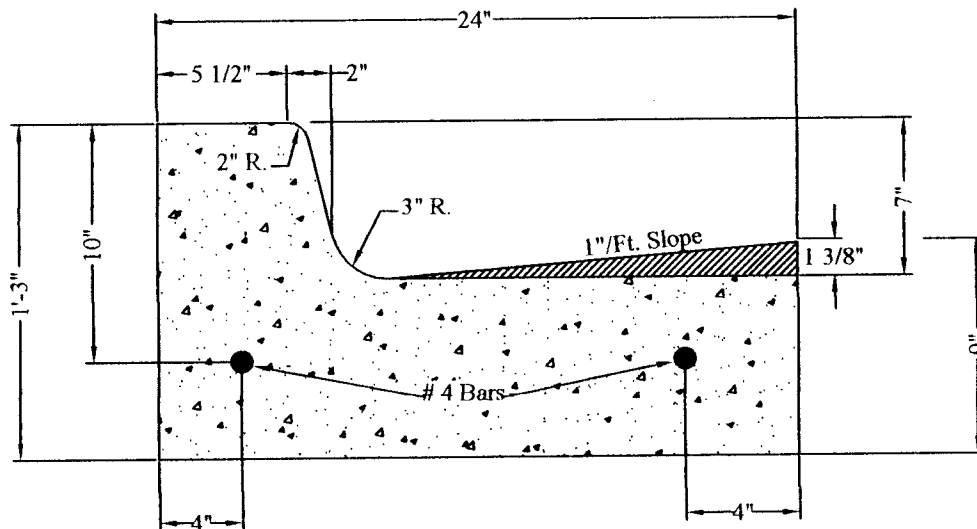
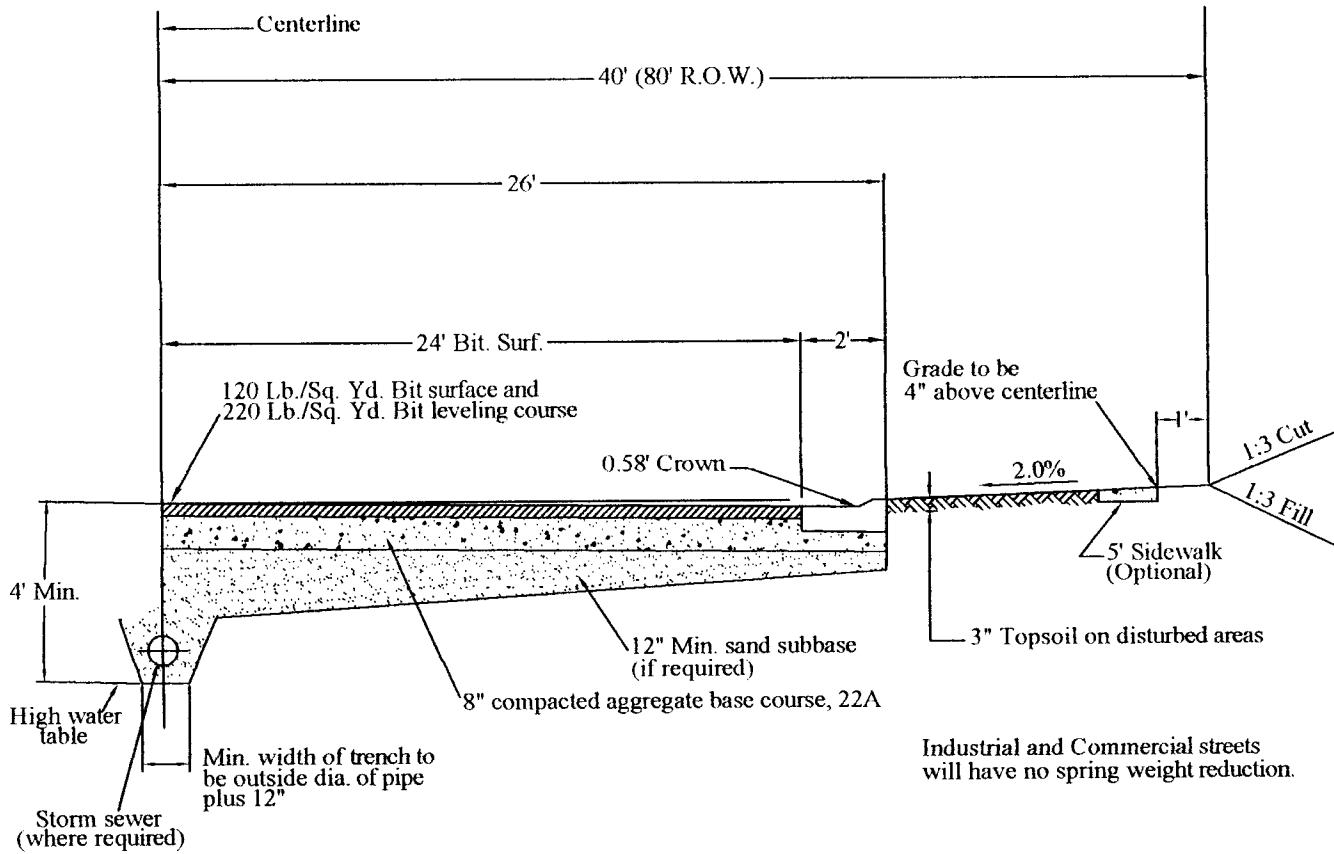


TYPICAL INTERSECTION DETAIL

No Scale

TYPICAL HALF-SECTION FOR INDUSTRIAL & COMMERCIAL  
STREETS FOR A.D.T. VOLUMES OF 5,000 OR MORE

No Scale



24" CONCRETE CURB DETAIL "B"  
(M.D.O.T. Detail C-4) No Scale