

SECTION 8: STANDARDS FOR DETAILED DESIGN DRAWINGS

8.1 INTRODUCTION

The City requires that detailed design drawings be submitted with consistent information on each respective drawing within the plan set.

Drawing specific information pertaining to drawing formats (including line types and weights) is included within this section and shall be followed by Developers for the submission of hard copy drawings, to ensure consistency.

The legends are provided to assist the Developer in creating an accurate and consistent detailed design drawing, as well as accurate digital files that the City requires to be submitted.

Plans are to be prepared under the direction of authorized professionals such as Municipal Engineers, Landscape Architects, Legal Surveyors, Structural Engineers, RET's, etc.

8.2 DETAILED DESIGN DRAWINGS

The City requires that all detailed drawing submissions are complete; contain all requisite drawings and information. The following plans constitute a detailed design drawing set:

- **Cover Plans,**
 - Title Page
 - Index Plan
- **Detailed Municipal Engineering Plans,**
 - Grading and Erosion Control Plan
 - Overall Water and Sanitary Sewer Plan
 - Overall Storm Sewer Plan
 - Overland Storm Drainage Plan
 - Roadways Plan
 - Subdivision Lot Grading Plan
 - Plan/Profiles,
 - Details
- **Other Required Plans,**
 - Tentative Legal Plan(s)
 - Tentative Utility Right-of-way Plan(s)
 - City Gas Department Detail Design Plan
 - City Electric Department Detail Design Plan
 - Composite Utilities Plan
 - Landscape Plans
 - Traffic Management Plan (if required)

Examples of each drawing are included in within this document.

8.3 DRAWING REQUIREMENTS

At a minimum each type of plan will contain the information indicated below and be in conformance with the design standards.

8.3.1 COVER PLANS

8.3.1.1 TITLE PAGE

- City of Medicine Hat name,
- Name and phase of development area,
- Key Plan of City with development area identified,
- Developers name,

- Consultant name,
- Date,
- Revision status

8.3.1.2 INDEX PLAN

- Plan view of area showing profile drawing numbers,
- List of drawings,
- Street names as per Planning Services designation,
- Lot and Block numbers as per Planning Services designation
- Development Area and/or construction area boundaries,

8.3.2 ENGINEERING PLANS

8.3.2.1 GRADING AND EROSION CONTROL PLAN

- Existing ASCM locations and identification numbers,
- Geotechnical test hole locations and identification numbers,
- Predevelopment contours,
- Temporary construction access,
- Construction access control,
- Extent of stripping,
- All stock pile locations,
- Retaining walls
- Deep fills
- Temporary and permanent erosion control measures adequate to protect against major storm runoff event flows, complete with supporting calculations,
- Dust control plans for:
 - during construction;
 - interim; and
 - permanent.

8.3.2.2 OVERALL WATER AND SANITARY SEWER PLAN

- Deep utility lines (Storm, Sanitary, Water).
- Catch basins and leads.
- Lines sizes.
- Dimensions from property line and/or other utilities.
- Water valves and hydrant locations.
- Manholes and numbers.
- Duct crossing locations.
- Notes on special requirements (e.g. boring locations, PRV, lift stations, etc.).
- Parks water service including duct crossings
- Development Area and/or construction area boundaries.
- Lot restrictions with respect to common or shared services requiring the registration of caveats.

8.3.2.3 OVERALL STORM SEWER PLAN

- Storm line (size, type, slope), manholes, catchbasins, and leads,
- Minor drainage system catchment area boundaries, hydrologic characteristics, and numbering,
- Drainage directions along road surface and through park areas.
- Allowable release rates from multifamily and commercial/ industrial sites,
- Minor drainage system calculation table
- Development Area and/or construction area boundaries.
- Lot restrictions with respect to common drainage conveyances requiring the registration of caveats.

Figure 8.3.2.3 Typical Minor drainage system calculation table

Rainfall and Runoff										Conveyance					
Catchment	From Manhole	To Manhole	Area (ha)	C	Time (min)	I (mm/hr)	Q 2.78 CIA (l/s)	Q total (l/s)	Slope (%)	Pipe dia (mm)	Pipe type	Vel. full (m/s)	Pipe Length (m)	Time of Flow (min.)	Cap. full (l/s)
Lot 8		MH A	0.70	0.40	10.0	66.9	52.4								
Lot 7		MH A	0.47	0.40	10.0	66.9	35.0								
Road west		MH A	0.27	0.40	10.0	66.9	20.1	107.4	0.9	300	PVC	1.5	89.0	1.0	108.4
Lot 6		MH B	0.58	0.60	11.0	66.9	64.4								
Lot 5		MH B	0.41	0.40	11.0	66.9	30.1	202.0	1.1	375	PVC	2.0	95.0	0.8	217.3
Lot 9		MH C	1.16	0.40	10.0	66.9	86.2								
		MH D						86.2	0.6	300	PVC	1.3	89.0	1.2	88.5
Lot 4		MH D	0.43	0.40	11.2	62.9	30.0								
Lot 10		MH D	0.87	0.40	11.2	62.9	61.0								
Lot 11		MH D	0.18	0.80	11.2	62.9	25.2								
		MH E						202.4	0.5	525	PVC	1.7	50.0	0.5	359.4
		Outfall						404.4	0.5	600	Con	1.5	50.0	0.5	434.2

8.3.2.4 OVERLAND STORM DRAINAGE PLAN

- Major drainage system catchment area boundaries hydrologic characteristics, and numbering,
- Catch basin locations.
- Drainage directions along road surfaces.
- Major overland flow routes.
- Flow (Q), velocity, and depth along major overland flow routes.
- Ponding area (trap low) – max. and 1:100 yr. volume and depth, geodetic elevation of top of pond.
- Ponding extents
- Development Area and/or construction area boundaries.
- Major drainage system calculation table
- Lot restrictions with respect to ponding or overland drainage encroachments requiring the registration of caveats.

8.3.2.5 ROADWAYS PLAN

- Walkways, trails, sidewalks, curbs and gutters,
- Channelization elements,
- Temporary accesses,
- Emergency accesses,
- Shared or joint accesses,
- Access prohibitions and restrictions (i.e. right-in, right-out)
- Driveway restrictions,
- Lip of gutter (LOG) road grades.
- Catch basin rim type and elevation.
- Sidewalk or curb description (rolled vs. standard face), width, and distance from property line.
- Corner radii (lip-of-gutter or edge of pavement).
- Bulb radii.
- Concrete swales (if required).
- Roadway based retaining walls (if required)
- Access control, (Fencing, chain and bollards, special curbs etc.)
- Road and lane sections (if Details Plan not required).
- Road and RROW widths.

- Paved aprons in lanes abutting roads and surrounding catch basins.
- Paved walkways and UROW's.
- Traffic control devices,
- Pavement markings.
- Street name signs and locations,
- Mail box locations,
- Bus stop locations.
- Fencing,
- Survey Control Monuments,
- Development Area and/or construction area boundaries.

8.3.2.6 SUBDIVISION LOT GRADING PLAN

- Drawing to a scale of 1:1000,
- Lot numbers, block numbers, street names,
- Legend and definitions of any symbols, abbreviations and or table headings used,
- Limits of development/ construction,
- Trapped low or depression storage ponding area footprints and top of ponding elevation on streets, lanes, lots and parcels,
- Fully dimensioned extent of flow path of major event runoff along roadways and other overland conveyances where they abut lots and parcels. This flow path is required wherever the runoff depth exceeds the elevation at the abutting property line, and encroaches onto abutting property for the purposes of encumbrance registration.
- Original ground contours and elevations (0.5m intervals),
- Borehole locations and elevation of groundwater,
- Design details for any earth berms proposed within the development,
- Geotechnical report slope setback lines from steep slopes,
- Locations and heights of any retaining walls that may be required or proposed,
- Tabulation of Lot & Parcel information,
- The following Specific Lot & Parcel information that is to be provided for every lot & parcel:
 - Finished ground elevations at all lot corners and at proposed changes of surface slope along property boundaries,
 - Elevations at front and back setbacks on common boundary property lines between adjacent parcels or lots,
 - Lot classification by grading/ drainage type in conformance with Section **Error! Reference source not found.**,
 - Lot drainage direction arrows indicating the direction of surface drainage, particularly along lot flankages and at common boundaries between adjacent parcels or lots,
 - Retaining wall requirements due to grade differential between adjacent parcels or lots,
 - Symbolic designation (shading or hatching) showing the extent of steep slopes (in excess of 4:1) on lots and parcels, and top of slope and bottom of slope setbacks from these slopes,
 - Minimum Building Opening Elevation (MBOE, applies where lots abut trapped lows, depression storage and major event flow paths where the runoff depth exceeds the elevation at the abutting property line). The Minimum Building Opening Elevation shall be a minimum of 300 mm above the higher of:
 - the top of ponding elevation for trapped lows or depression storage, or
 - the elevation of the runoff at the highest property corner where runoff depth exceeds the elevation at the abutting property line,
 - Lowest Top of Footing elevation (LTF, based upon service inverts),
 - Sanitary invert at property line,

- Water pressure reducing valve (if required),
- Water service size (if other than minimum size),
- Water and sanitary sewer services location,
- Proposed driveway location,
- Building envelopes (shading of building envelope will suffice),
- Top of Footing elevation (TF-BC), based upon the lowest undisturbed ground contour within the building envelope, above which elevation a bearing certificate will be required,
- Top of footing elevation, (TF-DF) above which foundation requirements related to deep fills, shall apply. This top of footing elevation will be based upon the lowest undisturbed ground contour within the building envelope and the recommendations and requirements of the subdivision geotechnical report.
- Markings or symbols clearly identifying all lots and parcels that require restrictive covenants or encumbrances regarding:
 - drainage,
 - trapped lows (depression storage),
 - major event flood levels and overland flow pathways,
 - restrictions and prohibitions related to slope stability or
 - other such lot-related conditions requiring the registration of such instruments,
- Any other information that may be pertinent to the specific subdivision.

8.3.2.7 PLAN/PROFILES

Normally 2 plan views, one with surface features, the other with underground. A single plan view may be used where the right-of-way width is in excess of 30 metres.

- Grid profile at 0.2 m minor grids and 1.0 m major grids on vertical and 5.0 m minor grid and 20 m major grid on horizontal.
- Elevation and stations.
- Original ground profile.
- Road LOG profile.
- Road pavement structure,
- Vertical curve info (start and end station, length, m, k).
- Road alignment change stations (CT, CS, SC, TC).
- MH rim elevation, type, inverts, number.
- Street light locations dimensioned from property line.
- Duct crossing locations with reference to details.
- Shallow utility lines (Gas, Electric, and Telephone and Cable (where utility trenches differ from Electric). Indicate service point/s for each lot.
- Sanitary sewer - design Q, pipe capacity, velocity, slope, pipe type, pipe class, bedding, and backfill, length, pipe size.
- Storm pipe – design Q, pipe capacity, velocity, slope, pipe type, pipe class, bedding, and backfill, length, pipe size.
- Hydraulic grade line (where required).
- Water pipe – pipe size, pipe type, pipe class, bedding, and backfill, hydrants, valves, fittings and other related accessories.
- Special crossing details (i.e. concrete support saddle), drop structure.
- Existing utility lines when affected / crossed by new construction activities.
- All existing utilities within the scope of the project to be located and identified with depth and location above and below grade.
- Parks services (water and electric)
- Development Area and/or construction area boundaries.

8.3.2.8 DETAILS

- Road crossing (e.g. utility ducts) details.

- Typical road sections.
- Other details, as necessary.

8.3.3 SUPPLEMENTAL PLANS

8.3.3.1 TENTATIVE LEGAL PLAN

Plan is to be a copy of the tentative legal plan prepared by a legal surveyor that has been submitted to Planning for approval. The plan may be plotted to N.T.S. to fit on the required drawing size.

8.3.3.2 TENTATIVE UTILITY RIGHT-OF- WAY PLAN

Plan is to be a copy of the tentative UROW plan prepared by a legal surveyor. The plan may be plotted to N.T.S. to fit on the required drawing size.

8.3.3.3 CITY GAS DEPARTMENT DETAIL DESIGN PLAN

Plan is to be a copy of the Gas Departments Detail Design Plan

8.3.3.4 CITY ELECTRIC DEPARTMENT DETAIL DESIGN PLAN

Plan is to be a copy of the Electric Departments Detail Design Plan

8.3.3.5 COMPOSITE UNDERGROUND UTILITIES PLAN

This plan is not part of the engineering plans to be approved as the detail design plans. Its use is as a design tool to resolve conflicts.

- Deep utility lines (Storm, Sanitary, Water).
- Shallow utility lines (Gas, Electric, and Telephone and Cable (where utility trenches differ from Electric)).
- Catch basins and leads.
- Lines sizes.
- Dimensions from property line and/or other utilities.
- Street light locations.
- Street light cable alignments when not part of distribution trenching.
- Transformers and switchgears.
- Water valves and hydrant locations.
- Manholes and numbers.
- Duct crossing locations.
- Notes on special requirements (e.g. boring locations, PRV, lift stations, etc.).
- Parks water and electrical services including duct crossings,
- Development Area and/or construction area boundaries.

8.3.3.6 LANDSCAPE PLAN

Landscape plans are to be prepared by a qualified landscape architect.

- Irrigation details including:
 - Services (water meter, irrigation vault, blow out)
 - Mainline (type, size)
 - Laterals (type, size)
 - Irrigation heads (type and nozzle size)
 - Controller type
 - Conduit
 - Electric zone valve (type, size)
 - Each valve numbered in relation to the controller.
- Overall landscape details (e.g. vegetation, groundcover, etc.).
- Ground contours.
- Tree planting (Latin and common name, caliper, quantity, type of container).
- Other amenities (e.g. benches, trails, garbage containers, etc.)

- Development Area and/or construction area boundaries.

8.3.3.7 TRAFFIC MANAGEMENT PLAN

Traffic management plans are to be prepared by a traffic engineer.

8.4 DRAWING SPECIFICATIONS

8.4.1 UNIT OF MEASUREMENT

All plans to be drawn in the SI system (metric) of units to standard scales.

8.4.2 SHEET SIZE

Standard A1 Metric 841 mm x 594 mm.

8.4.3 ELECTRONIC FILES

Electronic files are to be submitted with the hard (paper) copies of the approved drawings and the as-built drawings in two different formats, AutoCAD 2000 readable files and PDF files. AutoCAD file are to be referenced in NAD 83 coordinates. It is preferable to have the electronic files submitted on a compact disk (CD).

8.4.4 TITLE BLOCK

The Title Block on all drawings shall include the following information:

- Drawing number,
- City of Medicine Hat name,
- Name and phase of development area,
- Developers name,
- Revision number,
- Revision record block,
- Permit to Practice and Engineering Seals signed and dated,
- Scale and scale bar
- Consultants name and or logo.

8.4.5 SHEET LAYOUT

Generally sheet layout shall conform to the following:

- Allow 26 mm binding edge along the left hand side. Plan or profile shall not be drawn in this area.
- Maintain a minimum of 10 mm clearance along the top, right, and bottom sides.
- Whenever possible, show the north arrow pointing upward on the top right hand side of the page.

8.4.6 TEXT AND DIMENSIONING

Text and Dimensioning of drawings are to be clear and readable. To this end the following guidelines should be applied:

- Overlapping of text and lines is to be avoided.
- The lettering is in a clear, clean font type that is easily readable.
- Lettering sizes are to be as indicated in Section 8.4.9.
- Preferred minimum-lettering height is 2.0 mm, Absolute minimum lettering height is 1.5 mm and should be used sparingly.
- All dimensions of utilities to be referenced to property lines.

8.4.7 EXISTING PROPOSED AND FUTURE

All symbols represent proposed utilities and appurtenances are to be solid shapes. All symbols representing existing appurtenances are to be hollow shapes.

8.4.8 SCALE

Drawing scale shall be appropriate to the level of detailed required to convey the information for the drawing and the overall size of the development. The typical scale of most plan submissions are:

- Overall plans, 1:1000, (1:500 or 1:1500, 1:2000 may be acceptable dependent on the size and complexity of the project. Projects too large to fit on a standard A1 size sheet at a scale of 1:1000 will need to be tiled into sections and a key plan provided showing the match lines.)
- Plan / Profiles, Horizontal: 1:500, Vertical: 1:50

8.4.9 DRAFTING STANDARDS

The following table details the line types, pen thickness and text sizes required for overall plans. For each item listed a separate layer should be utilized in the electronic files. Where there is a requirement for additional items that are not listed a new layer shall be created and line weight, line type Object Fill, and Text size are to be selected consistent with the type of item being shown and good drafting practices.

ITEM	LINE WEIGHT	LINE TYPE	Object Fill & Shading	TEXT SIZE
General				
Project Boundary	1.00 mm	Dashed	N/A	N/A
Project Boundary Label	0.25 mm	Continuous	N/A	2.5 mm
Plan and Profile Label	0.50 mm	Continuous	N/A	4.5 mm
Drawing List	0.35 mm	Continuous	N/A	3.5 mm
General Notes	0.25 mm	Continuous	N/A	2.0 mm
Proposed Dimensions	0.18 mm	Continuous	N/A	2.0 mm
Legal and Planning				
Lot and Block Lines	0.18 mm	Continuous	N/A	N/A
Street Names	0.50 mm	Continuous	N/A	3.5 mm
Block Numbers	0.25 mm	Continuous	N/A	5.0 mm
Lot Numbers	0.25 mm	Continuous	N/A	2.5 mm
UROW's	0.25 mm	Dashed	N/A	N/A
Zoning Numbers (Multifamily, commercial and industrial lots)	0.25 mm	Continuous	N/A	2.0 mm
Water				
Existing Water Lines and Appurtances	0.25 mm	Dashdot	none	N/A
Existing Water Lines and Appurtances Text, Dimensioning and Notation	0.18 mm	Continuous	N/A	2.0 mm
Proposed Water Lines and Appurtances	0.50 mm	Dashdot	solid	N/A
Proposed Water Text, Dimensioning and Notation	0.18 mm	Continuous	solid	2.0 mm
Sanitary Sewer				
Existing Sanitary Sewer Lines and Appurtances	0.25 mm	Continuous	N/A	N/A
Existing Sanitary Sewer Lines and	0.18 mm	Continuous	N/A	2.0 mm

ITEM	LINE WEIGHT	LINE TYPE	Object Fill & Shading	TEXT SIZE
Appurtenances Text, Dimensioning and Notation				
Proposed Sanitary Sewer Lines and Appurtenances	0.50 mm	Continuous	solid	N/A
Proposed Sanitary Sewer Text, Dimensioning and Notation	0.18 mm	Continuous	solid	2.0 mm
Storm Drainage				
Existing Storm Sewer Trunk Lines and Appurtenances	0.25 mm	Long Dash	none	N/A
Existing Storm Sewer Lines and Appurtenances	0.25 mm	Long Dash	none	N/A
Existing Catch Basin Leads	0.25 mm	Hidden2	N/A	N/A
Existing Catch Basins	0.25 mm	Long Dash	none	N/A
Proposed Storm Sewer Trunk Lines and Appurtenances	0.50 mm	Long Dash	solid	N/A
Proposed Storm Sewer Lines and Appurtenances	0.50 mm	Long Dash	solid	N/A
Proposed Catch Basin Leads	0.50 mm	Hidden2	N/A	N/A
Proposed Catch Basins	0.50 mm	Long Dash	solid	N/A
Drainage Calculation Table	0.18 mm	Continuous	N/A	2.0 mm
Storm Symbols	0.25 mm	Continuous	N/A	N/A
Proposed Storm Drainage Text, Dimensioning and Notation	0.18 mm	Continuous	N/A	N/A
Drainage Zone Boundary	1.00 mm	Continuous	70%	N/A
Zone Number and Area	0.70 mm	Continuous	N/A	5.0 mm
Drainage Arrows	0.35 mm	Continuous	N/A	N/A
Trap Low Boundary	0.35 mm	Continuous	N/A	N/A
Trap Low Hatch	0.18 mm	Hatch	50%	N/A
Trap Low Data	0.25 mm	Continuous	N/A	2.0 mm
Overland Flow Data	0.25 mm	Continuous	N/A	2.0 mm
Shallow Utilities				
Existing Gas	0.18 mm	Phantom	none	N/A
Proposed Gas	0.35 mm	Phantom	solid	N/A
Existing Electric	0.18 mm	Center	none	N/A
Proposed Electric	0.35 mm	Center	solid	N/A
Existing Telephone Cable	0.18 mm	Hidden	none	N/A
Proposed Telephone Cable	0.35 mm	Hidden	solid	N/A
Shallow Utility Line Labels	0.18 mm	Continuous	N/A	2.0 mm
Roads				
Existing Sidewalk and Curb	0.25 mm	Continuous	N/A	N/A
Proposed Sidewalk and Curb	0.50 mm	Continuous	N/A	N/A
Road Grade Labels	0.18 mm	Continuous	N/A	2.0 mm

ITEM	LINE WEIGHT	LINE TYPE	Object Fill & Shading	TEXT SIZE
Catch Basin Label and Rim Elevation	0.18 mm	Continuous	N/A	2.0 mm
Sidewalk and Curb Description	0.18 mm	Continuous	N/A	2.0 mm
Corner and Bulb Radius	0.18 mm	Continuous	N/A	2.0 mm
Road and RROW Widths	0.25 mm	Continuous	N/A	2.0 mm
Existing Bollards & Fencing	0.25 mm	Continuous	none	2.0 mm
Proposed Bollards & Fencing	0.25 mm	Continuous	solid	2.0 mm
Existing Mail Boxes	0.25 mm	Continuous	none	2.0 mm
Proposed Mail Boxes	0.25 mm	Continuous	solid	2.0 mm
Existing Bus Stop	0.25 mm	Continuous	N/A	2.0 mm
Proposed Bus Stop	0.25 mm	Continuous	N/A	2.0 mm
Existing Street and Traffic Control Signs, Markings and Devices	0.25 mm	Continuous	none	2.0 mm
Proposed Street and Traffic Control Signs, Markings and Devices	0.25 mm	Continuous	solid	2.0 mm
Survey Control Markers	0.25 mm	Continuous	N/A	2.0 mm
Proposed Spot Elevations	0.18 mm	Continuous	N/A	2.0 mm
Cross Sections				
Section Symbols	0.70 mm	Continuous	N/A	4.5 mm
Section Labels	0.50 mm	Continuous	N/A	3.5 mm
Section Line Weight	0.25 mm	Continuous	N/A	N/A
Section Hatch Line Weight	0.18 mm	Continuous	N/A	N/A
Section Dimensions	0.18 mm	Continuous	N/A	2.0 mm
Section Notes and Leaders	0.18 mm	Continuous	N/A	2.0 mm
Grading				
Pre-development Original Ground Contours 2.0 meter interval	0.50 mm	Continuous	50%	2.0 mm
Pre-development Original Ground Contours 0.5 meter interval	0.25 mm	Continuous	50%	N/A
Lot Corner and Boundary Elevations	0.18 mm	Continuous	N/A	N/A
Building Envelope	0.18 mm	Dashed	30%	N/A
Symbols	0.35 mm	Continuous	N/A	2.0 mm
Grading Text	0.18 mm	Continuous	N/A	2.0 mm
General Notes	0.25 mm	Continuous	N/A	2.0 mm
Lot Drainage Arrows	0.18 mm	Continuous	N/A	N/A
Existing Trail Alignments	0.25 mm	Continuous	N/A	2.0 mm
Proposed Trail Alignments	0.50 mm	Continuous	N/A	2.0 mm
Profiles				
Major Grid	0.35 mm	Continuous	50%	N/A
Minor Grid	0.18 mm	Continuous	50%	N/A
Elevation and Station Labels	0.50 mm	Continuous	N/A	3.5 mm

ITEM		LINE WEIGHT	LINE TYPE	Object Fill & Shading	TEXT SIZE
	Original Ground Profile	0.25 mm	Continuous	N/A	N/A
	Lip of Gutter Profile	0.35 mm	Dashed	N/A	N/A
	Vertical Curve Dimensioning and Notes	0.25 mm	Continuous	N/A	2.5 mm
	Road Alignment Stationing	0.25 mm	Continuous	N/A	2.5 mm
	Road Structure	0.25 mm	Continuous	N/A	2.5 mm
	Hydraulic Grade Line	0.25 mm	Hidden	N/A	N/A
Landscaping					
	Irrigation Services	0.50 mm	Continuous		N/A
	Irrigation Mainline	0.50 mm	Continuous		N/A
	Irrigation Laterals	0.50 mm	Continuous		N/A
	Irrigation Heads	0.25 mm	Continuous		N/A
	Irrigation Controllers	0.25 mm	Continuous		N/A
	Irrigation Conduits	0.25 mm	Continuous		N/A
	Irrigation Electric Zone Valves	0.25 mm	Continuous		N/A

8.5 SYMBOL LEGEND

ELECTRIC LEGEND

PROPOSED ELECTRICAL	---P---
EXISTING ELECTRICAL	---P---
EXISTING CABINET	△
PROPOSED CABINET	▲
EXISTING POLE	⊙
PROPOSED POLE	⊙
EXISTING SERVICE BOXES	⊙
PROPOSED SERVICE BOX	⊙
EXISTING ST. LTS.	⊙
PROPOSED ST. LTS.	⊙
EXISTING VAULT	⊙
PROPOSED VAULT	⊙

GAS LEGEND

PROPOSED GAS PIPELINE	—G—
EXISTING GAS PIPELINE	—G—
PROPOSED GAS VALVE	⋈
EXISTING GAS VALVE	⋈
CAP	⌋
STOPPER	●
REDUCER	▶
POLY STEEL TRANSITION	✕

WATER/SEWER LEGEND

EXISTING STORM LINE	○—SS—○
PROPOSED STORM LINE	●—SS—●
EXISTING WATER LINE	+—W—+
PROPOSED WATER LINE	+—W—+
EXISTING SEWER LINE	○—S—○
PROPOSED SEWER LINE	●—S—●
EXISTING VALVE	⋈
PROPOSED VALVE	⋈
EXISTING HYDRANT	⊙
PROPOSED HYDRANT	⊙
EXISTING REDUCER	▷
PROPOSED REDUCER	▷
EXISTING MANHOLE	○
PROPOSED MANHOLE	○
CATCH BASIN	⊙
CATCH BASIN ROUND TOP	⊙
DUPLEX DWELLING	R-2 = LOTS
FOURPLEX DWELLING	R-3 = LOTS
LANE OR WHEEL CHAIR RAMP	∇
DUCT CROSSING	—
PROJECT BOUNDARY	— — — — —