HIDEOUT
UTAH

Adopted:
January 9, 2025

Hideout Town
Engineering Department

STANDARD SPECIFICATIONS AND DRAWINGS MANUAL

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1.0 GENERAL

1.1 DEFINITIONS

ACCESS: Any driveway or other point of entry or exit, such as a street, road, or highway that connects to the general street system. Where two public streets intersect, the secondary street is considered the access.

ACKNOWLEDGEMENT: Recognition by the Town that the Engineer of Record, has certified his or her construction Plans and supporting information to be in compliance with the Hideout Town Code and Standard Specifications and Drawings.

APPLICANT: Any person, corporation, entity, designee, or agency applying for a permit.

APPROVED EQUAL: Equipment or material which, in the opinion of the Town's Representative, is equal in quality, durability, appearance, strength, design, performance, physical dimensions, and arrangement to the equipment or material specified, and will function adequately in accordance with the general design.

AS-BUILT DRAWINGS: Drawings which show the Project as actually-constructed, and which include any and all changes made to the construction Plans before and during construction.

BEST MANAGEMENT PRACTICE (BMP): Schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of Waters of the State.

TOWN INSPECTOR: The authorized representative of the Town or Engineer assigned to make detailed inspections of the Work performed, or of materials furnished by the Contractor.

TOWN/OWNER: Wherever, in the Contract Documents the word "Town", "Town", or "Owner" appears, it shall be interpreted to mean "Hideout Town", unless otherwise denoted.

CONSTRUCTION ACTIVITIES: Clearing, dredging, excavating, and grading of land and other activities associated with buildings, structures or other types of real property such as utilities, bridges, dams, and roads. Includes mobilization/demobilization and any other activity that occurs on site.

DRIVEWAY: A grade-separated access constructed within the right-of-way connecting the public street with adjacent property.

EASEMENT: An interest in real property that conveys use, but not ownership, of a portion of an owner's property.

EIGHTIETH PERCENTILE STORM EVENT: The depth of rainfall which is not exceeded in 80 percent of all runoff-producing rainfall events within the time period analyzed. In other words, 80 percent of the rainfall storm events that produce runoff are less than or equal to this depth. In Hideout Town, this depth is 0.50 inches.

ENGINEER: The Town Engineer, or his or her representative.

ENGINEER-OF-RECORD: The professional engineer, licensed in the State of Utah, who prepared, or directly supervised the preparation of the engineering Plans and documents presented to the Town for acknowledgement, and who shall accept sole responsibility for the completeness and accuracy of the Plans and documents presented to the Town.

ESSENTIAL INFRASTRUCTURE: Essential infrastructure during construction includes temporary all weather surface roads, fire hydrants, and street signs for emergency wayfinding. The access requirements of IFC Chapter 5 and Appendix D must be installed and approved prior to final inspection and the issuance of a Certificate of Occupancy. Temporary roads are required to be capable of supporting vehicle loading under all weather conditions, and must meet the following criteria:

A. The surface of the road should be capable of carrying the load of the anticipated emergency response vehicles and be drivable in all kinds of weather.
B. Compacted road base to APWA Standards at least 8 inches thick.
C. Access roads shall be maintained for emergency and fire access throughout the duration of the project.
D. Fire hydrants must be installed and functional prior to combustible materials arrival on the site.

FINAL ACCEPTANCE OF PUBLIC INFRASTRUCTURE: The date specified in writing by the Engineer when all work, including all punch list work designated by the Engineer, is complete and accepted by the Town after the completion of the warranty period following the Project Acceptance for Maintenance.

INSPECTED AND ACCEPTED or ACCEPTANCE: Town recognition of infrastructure conformance to all applicable Town Standards.

INTERSECTION: The general area where two or more streets join or cross at grade.

LAW: Any applicable Town, County, State, or Federal statutes or regulations governing anything relating to the Work embodied in the Agreement.

PARTIAL STREET: A street that has full frontage improvements on one side and has at least 25 feet of pavement.

PAVEMENT: The uppermost layer of bituminous or Portland-cement concrete material placed on the traveled way or shoulders for a riding surface, whether rigid or flexible in composition. This term is used interchangeably with "surfacing."

PEER REVIEW: A process through which professional engineers, with expertise and experience in the appropriate fields of engineering equal to or greater than the Engineer-of-Record, evaluate, maintain, or monitor the quality and utilization of engineering services, prepare internal lessons learned, or exercise any combination of such responsibilities.

PROFESSIONAL ENGINEER: An engineer who is licensed to practice in the State of Utah.

PROFESSIONAL LAND SURVEYOR: A land surveyor who is licensed to practice in the State of Utah.

PUBLIC UTILITY EASEMENT (PUE): A property right provided for "dry" utilities (gas, power, telecom) that are regulated by the Public Service Commission. Town utilities are not public utilities.

RECOGNIZED-AND-GENERALLY-ACCEPTED GOOD ENGINEERING PRACTICES (RAGAGEPs): Practices that are based on established codes, standards, published technical reports or recommended practices or similar documents. RAGAGEPs are not practices from other cities or practices promoted by individuals based on their individual professional judgement.

RIGHT-OF-WAY (ROW): All public rights-of-way and easements, public footpaths, walkways and sidewalks, streets, roads, highways, alleys, and water or drainage ways. It does not, however, include Public Utility easements not within Public Ways of the Town.

STANDARD SPECIFICATIONS AND DRAWINGS: The Hideout Town Standard Specifications and Drawings and other specifications and drawings adopted by reference.

STREET: A general term for denoting a public way or private way for the purpose of transporting people, materials, and goods.

SUBGRADE: That portion of the roadbed surface which has been prepared, as specified, and upon which a layer of specified roadbed material or base, or sub-surfacing, or pavement is to be placed.

SUBSTANTIVE REVIEW: A general evaluation of the overall design and general compliance with the Town Code and engineering standards. It is not an exhaustive review for compliance with each specific provision of the Town Code, other applicable standards or regulations, or RAGAGEPs. Substantive review shall not shift the responsibility and liability for the completeness and accuracy of the Plans and related designs from the Engineer-of-Record to the Town.

SURFACE OR SURFACING: The uppermost layer of material placed on the traveled way or shoulders, and is usually of asphalt or concrete. This term is used interchangeably with "pavement."

WORK: The construction services performed including materials on Town infrastructure and includes all labor, materials, equipment and services provided or to be provided by the Contractor to fulfill the Contractor's obligations to construct a project. The term also includes the supervision, inspection, and other on-site functions incidental to the actual construction.

1.2 ADOPTION OF THE HIDEOUT TOWN STANDARD SPECIFICATIONS AND DRAWINGS

Hideout Town has adopted the following as the basis for the Hideout Town Standard Specifications and Drawings, in the following hierarchy. The latest edition of each shall apply. In the event of a discrepancy, the strictest standard shall apply:

A. Hideout Town Standard Specifications and Drawings Manual as included herein.
B. Jordanelle Special Service District Design Standards, Construction Specifications, and Standard Drawings (JSSD)
C. American Public Works Association (APWA Manual of Standard Specifications, Utah Chapter, and the Associated General Contractors (AGC) of America.
D. APWA Manual of Standard Plans, Utah Chapter, and the Associated General Contractors of America.
E. All storm-drainage-related work not specifically described in these Standards shall conform to Mile High Flood District Urban Storm Drainage Manual (MHFD Manual).
F. Washington Department of Ecology, Technology Assessment Protocol Technology – Ecology (TAPE) Program, Storm Water Pre-Treatment Technologies, General Use Level Designations (GULD).
G. Federal Highway Administration (FHWA) Hydraulic Engineering Circulars (HEC).
H. International Fire Code (IFC), current edition, Appendix D.
I. All transportation-related work not specifically described in these Standards shall conform to: Policies and Practices published by the American Association of State Highway Transportation Officials (AASHTO), or the Institute of Transportation Engineers (ITE), or the Utah Department of Transportation (UDOT) Roadway Design Manual, the selection of which shall be at the sole discretion of the Town Engineer.
J. FHWA and Utah Manual on Uniform Traffic Control Devices for Highways and Streets (MUTCD).
K. All work not specifically described in these Standards, JSSD, APWA, MHFD, AASHTO, ITE, IFC Appendix D, and MUTCD shall conform to RAGAGEPs.

The Hideout Town Standard Specifications and Drawings Manual is available for download at www.hideoututah.gov The APWA Manual of Standard Specifications and Manual of Standard Plans are available for purchase at select cities within the State of Utah (see http://utah.apwa.net/ for more information).

Contract Documents and Conditions of the Contract as found in the Current APWA Manual of Standard Specifications and Plans Manual are to be used as the basis for Town contracts. Modifications to these specifications may apply to specific projects.

1.3 AMENDMENTS TO THE APWA STANDARDS

A. APWA Specifications

B. APWA Plans
    1. Storm drain boxes shall have no dead volume. Pipe flow lines shall be flush with the floors of the boxes.

1.4 TOWN ENGINEER'S AUTHORITY

A. The Town Engineer has the authority to provide substantive review of submitted construction Plans, studies, and supporting documentation.
B. The Town Engineer shall provide feedback pursuant to his/her substantive review of the construction Plans, studies, and supporting documentation.
C. Changes to address the Town Engineer's feedback shall be made to the construction Plans and returned to the Town Engineer for Town acknowledgement of the Construction Plans for construction.
D. The Town Engineer has authority to issue Stop Work Orders when construction is progressing contrary to the Town Code, the Town's Standard Specifications and Drawings, or an acknowledged set of construction Plans.
E. The Town Engineer has additional authority, such as stated in these Specifications and the Town Code.

1.5 CONSTRUCTION NOTES

A. TYPICAL

1. Contractor assumes all responsibility for job site conditions during construction of this project, including the safety and well-being of all persons and property. This responsibility shall apply continuously and not be limited to normal working hours.
2. Contractor shall obtain all applicable permits and/or written agreements necessary to complete the work.
3. Contractor shall schedule a pre-construction meeting with the Town's Engineering Department at least 5 business days prior to the start of construction. Contractor must attend and bring one set of the acknowledged construction Plans and a copy of the current Hideout Town Standard Specifications and Drawings Manual (available at hideoututah.gov).
4. Contractor shall have in possession and on-site at all times one copy of the current acknowledged construction Plans stamped, signed, and dated by the Engineer of Record, the Applicant, and the Town.
5. Developer's Engineers (Civil and Geotechnical) shall perform sufficient inspections and surveys during grading and construction to render an opinion in writing as to adherence to the accepted Plans and compliance with the Town Standard Specifications and Drawings Manual.
6. Survey monuments must be installed in accordance with the current Wasatch County Surveyor's Office requirements.
7. All disturbed property survey markers shall be reset in their original locations upon completion of all construction activities.
8. Contractor shall provide all traffic control which must conform to the current MUTCD. Provide a site-specific Traffic Control Plan prepared by a Certified Traffic Control Design Specialist prior to installation of any traffic control device.

B. TRENCHES AND UTILITIES

1. Contractor is responsible to locate, avoid, protect, and repair all utilities encountered during construction, whether or not they are shown on the Plans. Locations of underground utilities shown on Plans are approximate and require field verification by Contractor.
2. All trenches within public right-of-way must be backfilled or securely plated per JSSD during non-working hours. Trenches outside these areas shall be back-filled or protected by approved temporary fencing and/or barricades during non-working hours. Trenches in roadway must be backfilled, compacted and asphalted per JSSD within 48 hours of road-cut. Paint striping shall be replaced in accordance with Town Standards within 48-hours of restoration of pavement.

C. ROADWAY CONSTRUCTION AND RESTORATION

1. Subgrade must be approved prior to construction of asphalt and untreated base course pavement sections. Subgrade approval requires that all utilities be installed, connections to main lines completed, inspected, and accepted by the Town.
2. Asphalt patching to roads between October 15 and April 15 will be considered temporary only, and must be replaced according to APWA Standards and Specifications between the following April 16 and June 1.
3. Material submittals are required for all items placed within the Town Right of Way. All submittals must be dated within 90 days of Construction Date (unless specified otherwise) and be submitted prior to the start of construction activities.
4. Moratorium Standard (New, Reconstructed, and Overlaid Streets): No cuts permitted for two (2) years from the time of construction/ reconstruction/overlay)
5. Special Restoration Standard: This standard applies to new, reconstructed, overlaid, and slurried streets:
    a. *New, Reconstructed, and Overlaid Streets (for 5 years after end of moratorium)*: The asphalt surface shall be milled a minimum depth of two (2) inches, and fifteen (15) feet each way from

the edge of the cut. Milling shall be done in widths equivalent to existing striped traffic lanes. The Town Engineer reserves the right to require additional area and/or depth if deemed appropriate to restore roadway to original condition. Approved fabric is required when existing pavement included a fabric prior to the permitted cut.

b. *Slurried Streets (for one year after slurry application):* The asphalt surface shall be re- slurried a minimum of fifteen (15) feet each way from the edge of the cut, in widths equivalent to existing striped traffic lanes.

6. Roads shall be opened for traffic during peak hours. Lane closures may only be in effect from 9am-3pm, and 7pm-7am.
7. Paint striping shall be replaced in accordance with Town Standards within 48-hours of restoration of pavement.

1.6 SUBMITTALS

A. ENGINEERING PLAN REVIEW CHECKLIST – The Town provides an Engineering Plan Review Checklist with the permit application to assist developers and their professionals in the preparation of the engineering submittals for the acceptance of a development project. The Engineering Checklist does not replace the Town Code or Engineering Standards and Specifications. The Engineering Checklist must be completed and signed by the Applicant and the Engineer-of-Record.

B. SUPPLEMENTAL ENGINEERING REPORTS – All engineering reports submitted for final acceptance shall be stamped, signed, and dated by a professional engineer ON THE FIRST SUBMITTAL.

1. Drainage Report – Drainage reports must be prepared in accordance with the design criteria and methodologies specified in these Standards. Drainage reports shall include an Infiltration Feasibility Determination in accordance with Utah Rule 317-4-4. In addition to the required engineer's stamp, signature, and date, drainage reports must include a certification from the engineer stating:

   > I hereby certify that this report/design for the management of storm water and snow of this development was prepared by me, or under my direct supervision, according to applicable engineering standards. I understand that the Town assumes no responsibility or liability whatsoever for the feasibility and long-term viability of the facilities addressed herein.

2. Geotechnical Report – Geotechnical reports shall include pavement designs that comply with the Town Standards. Geotechnical reports shall include percolation tests performed in accordance with Utah Rule 317-4-14, Appendix D, and shall be submitted on a signed "Percolation Test Certificate". The Percolation Test Certificate shall report the median measured percolation rate.
3. Traffic Impact Study (TIS) – A traffic study is necessary to identify, review, and make recommendations for mitigation of the potential impacts a development may have on the roadway system. Identification of impacts and appropriate mitigation measures allows the Town to assess the existing and future system safety, performance, maintenance, and Town needs. TISs shall follow the Utah Department of Transportation's TIS Requirements, including the Levels of Study and associated Thresholds. Additional requirements and investigation may be imposed upon the applicant as necessary. Likely information presented in a TIS may include, but is not limited to, site location and proposed access point(s), phased and/or full development trip generation, connection point design elements, adjacent and relevant development, existing and future traffic volumes, assessment of the system impacts, and mitigation measures as appropriate.
4. Reimbursement Agreement Exhibits – Reimbursements for all infrastructure upsizing (system improvements) beyond the project improvement needs must be presented to the Town Council at the plat or site plan step for authorization to have staff work on a reimbursement agreement with the applicant. Reimbursement agreements must be accepted by the Town Council and executed by both parties **before** construction can begin on the project. If the applicant wishes to begin construction before there is an agreement in place with the Town, they must sign a waiver stating they accept the risk that they may not be reimbursed for any improvements installed, even if they are system improvements. The following exhibits are required to initiate a reimbursement agreement:

   a. Exhibit A -- Itemized Schedule of Values – Include quantities and unit prices of reimbursable items. Correlate it with an accompanying map. It shall be stamped, signed, and dated by the Engineer-of-

Record.

b. Exhibit B – Contractor bids or engineer estimates that support the prices shown in the Itemized Schedule of Values.

c. Exhibit C -- Map of Reimbursable Items – Show the locations of all of the reimbursable items. Correlate it with the accompanying Itemized Schedule of Values.

C. BOUNDARY SURVEY – Boundary surveys, also known as record of survey, shall be stamped, signed, and dated by a professional land surveyor. If performed within the last 90 days, the survey shall have been filed in the Office of the County Surveyor and include evidence of filing.

D. EASEMENT AGREEMENT – All easement agreements shall be submitted to the Town Engineer on the Town's Standard Easement template (available upon request from the Town Engineer) for Town acceptance. Easements in the name of the Town shall not be recorded by anyone except the Town. After Town acceptance, the recordation at the County Recorder's Office of which shall be referenced on the subject plat. Right-of-Discharge easements (available upon request from the Town Engineer) shall be granted to and indemnify the Town whenever storm water drainage, or snow, from Town ROW discharges, or is placed, onto private property.

E. SUBDIVISION PLAT – Subdivision plats submitted for final acceptance shall be stamped, signed, and dated by a professional land surveyor ON THE FIRST SUBMITTAL.

F. LEGAL DESCRIPTION – Legal descriptions submitted for final acceptance shall be accompanied by an illustration of the legal description, both of which shall be stamped, signed, and dated by a professional land surveyor ON THE FIRST SUBMITTAL.

G. STORM WATER POLLUTION PREVENTION PLAN for Construction Activities (SWPPP) – SWPPPs shall NOT be part of the engineering design Plans. They shall be submitted by the general contractor prior to a pre-construction meeting. SWPPPs shall follow the Utah Division of Water Quality Template, and shall be prepared by a Utah-Registered SWPPP Writer.

H. ENGINEERING DESIGN PLANS – Engineering Design Plans, including but not limited to:

1. Reference to the Town's Construction Notes (Section 1.4)
2. Boundary Survey or ALTA Survey
3. Topographical (existing conditions) Survey
4. Subdivision Plat
5. Demolition Plan (as necessary)
6. Site Plan
7. Grading, Drainage, and Snow Management Plan
8. Utility Plan
9. Signing and Striping Plan
10. Plan/Profile Sheets
11. Detail Sheets (not including copies of Town, JSSD, and APWA Standard Drawings). Standard Drawings shall be referenced in ONE place for all applicable infrastructure.

The Grading, Drainage, and Snow Management Plan shall include a certification from the Engineer-of-Record stating:

> I hereby certify that this design for the management of storm water and snow from this development was prepared by me, or under my direct supervision, according to applicable engineering standards. I understand that the Town assumes no responsibility or liability whatsoever for the feasibility and long-term viability of the facilities addressed herein.

Certification of Peer Review

The Engineering Design Plans shall be peer reviewed and shall be certified by the Peer Reviewer with the following language.

> The undersigned hereby certifies and verify that a thorough professional peer review of these plans and the required designs was conducted by me, a professional engineer with expertise and experience in the appropriate fields of engineering equal to or greater than the Engineer-of-Record, and that all appropriate corrections have been made to comply with the Hideout Town Code and Standard Specifications and Drawings.

The Engineering Design Plans, simultaneously with the acknowledgement by the Applicant and Town Engineer, shall be certified by the Engineer-of-Record with the following language.

Engineer's Certification

> As the Engineer-of-Record, I hereby certify that these construction Plans and supporting information ("Plans") comply with the Hideout Town Code and Standard Specifications and Drawings ("Standards"). I understand and agree that:

1. The Town's acknowledgment of these Plans shall not be construed to be a permit for, or an approval of, any variance from any of the provisions of the Standards.
2. Any communication from the Town giving feedback on the Plans shall be construed as feedback only and shall not be interpreted as authorization to vary from or cancel the provisions of the Standards.
3. The Town's acknowledgement of these Plans or feedback from the Town on whether the Plans meet the Standards shall not prevent the Town from requiring the correction of errors in the Plans at any time, including after construction of improvements.
4. The Town's acknowledgement of these Plans does not constitute a permit from the Federal or State Government or permission to deviate from Federal or State Laws or Regulations.
5. The Town's acknowledgement of these Plans does not grant permission to work on the properties of others.

2.0 STORM DRAIN SYSTEM

2.1 HYDROLOGY

A. TABLE 1 – PRECIPITATION FOR USE WITH THE RATIONAL METHOD (inches)

	Recurrence Interval (years)		
Duration	**2**	**10**	**100**
5-min	0.16	0.27	0.54
10-min	0.24	0.42	0.82
15-min	0.31	0.52	1.02
30-min	0.41	0.70	1.37
60-min	0.50	0.86	1.69
2-hr	0.63	1.00	1.92
3-hr	0.72	1.10	1.97
6-hr	0.95	1.36	2.15
12-hr	1.21	1.68	2.57
24-hr	1.51	2.08	3.08

B. TABLE 2 – PRECIPITATION FOR USE WITH THE TR-55 METHOD (inches)

Duration	Precipitation (inches)		
	2-yr	10-yr	100-yr
5	0.004	0.005	0.006
10	0.006	0.006	0.006
15	0.007	0.007	0.008
20	0.008	0.008	0.008
25	0.008	0.008	0.011
30	0.009	0.010	0.011
35	0.009	0.010	0.011
40	0.010	0.011	0.011
45	0.011	0.012	0.014
50	0.012	0.013	0.017
55	0.013	0.014	0.017
60	0.014	0.016	0.020
65	0.140	0.241	0.473
70	0.114	0.195	0.384
75	0.078	0.133	0.262
80	0.049	0.084	0.165
85	0.033	0.057	0.112
90	0.023	0.040	0.079
95	0.016	0.028	0.055

Duration	Precipitation (inches)		
	2-yr	10-yr	100-yr
100	0.012	0.021	0.042
105	0.010	0.016	0.032
110	0.008	0.014	0.028
115	0.008	0.014	0.027
120	0.009	0.016	0.031
125	0.014	0.016	0.012
130	0.013	0.014	0.017
135	0.012	0.013	0.017
140	0.011	0.012	0.014
145	0.010	0.011	0.011
150	0.009	0.010	0.011
155	0.009	0.010	0.011
160	0.008	0.008	0.011
165	0.008	0.008	0.008
170	0.007	0.007	0.008
175	0.006	0.006	0.006
180	0.004	0.005	0.006
Total	**0.72**	**1.10**	**1.96**

*These design storms capture the critical elements of shorter-duration storms that often control in subbasins with short times of concentration.

C. TABLE 3 – DESIGN STORM FREQUENCIES

Type of Structure	Minimum Design Storm Frequency
Water Quality Treatment Devices	2-Year Storm – Peak Flow
Water Quality Capture Volume	0.50 inches using 2-yr Rational Coefficients
Storm Drain (gutters, street, inlets, MHs, pipes, etc.)	10-Year Storm – Peak Flow
Streets, channels, swales, creeks, bridges, culverts, and other surface routes	100-Year Storm – Peak Flow 10-Year Storm – Peak Flow for Erosion Protection
Flood Control Detention Systems	100-Year Storm – Critical intensity within 24 hours
Flood Control Retention Systems	100-Year 24-hour Storm Depth

D. TABLE 4 – RUNOFF COEFFICIENTS FOR USE WITH THE RATIONAL METHOD

Surface Type	2-Year Storm	10-Year Storm	100-Year Storm
Paved and Roof	0.79	0.83	0.87
Landscaped	0.14	0.28	0.57
Native Open Space	0.03	0.17	0.50
Retention Pond	0.84	0.87	0.89
Other	As Determined by the Town Engineer per MHFCD.		

E. REQUIRED MEHODOLOGIES

1. Runoff for areas less than 90 acres – Rational Method.
2. Runoff for areas 90 acres and greater – NRCS Technical Release 55 (TR-55) within Autodesk Storm and Sanitary Analysis (SSA) with a precipitation distribution and duration from Table 2. The NRCS Unit Hydrograph Transform Method shall be used with the lag time assumed to be equal to the time of concentration. The Muskingum-Cunge Routing Method shall be used for routing hydrographs. Pervious and directly-connected impervious areas must be modeled using separate subbasins. Composite Curve Numbers of these dissimilar areas is not allowed. Mapped Hydrologic Soil Groups (HSG) shall not be used on areas where soil has been or will be disturbed. In areas of disturbed soils, a site-specific soil study shall be conducted to determine its HSG. The applicant must provide the Town with pdf copies of all input and output computer files in sufficient detail and format to perform a design review.
3. Flood control detention for less than 90 acres – Federal Aviation Administration (FAA) Method modified with the Guo "Averaging Parameter" Method in Appendix A. Multi-stage control facilities shall be modeled using TR-55 per Section 2 above.
4. Flood control detention for greater than 90 acres – Regional flood control detention facilities shall be modeled using TR-55 per Section 2 above.
5. Water Quality Volume – WQV = 0.50 in. x $C_{2\text{-yr}}$ x DCIA, where:

   $C_{2\text{-yr}}$ is the Rational Runoff Coefficient for the 2-year return period. See Table 4.

6. The water quality pond should have sufficient additional storage below the lowest outlet to accommodate sediment accumulation. The minimum volume of provided sediment storage shall be equal to or greater than 20 percent of the WQV.
7. DCIA is the directly-connected (to the outfall) impervious area. For single-family residential (SFR) developments, this area shall be: the area of all of the streets between the backs of curbs; the area of all of the driveways, assuming 30-feet-wide driveway the depth of the setback plus 10 feet; and one-fourth of the roof areas. Developments other than SFR shall be calculated individually. The Water Quality Volume can be included as part of the flood control volume.

2.2 DESIGN REQUIRMENTS

A. GENERAL

1. The impact of any proposed storm drainage system on the existing storm drainage system will be reviewed by the Town Engineer. The developer may be required to add off-site storm drain project improvements to provide adequate drainage control for their development.
2. The peak flow from the 2-year storm must be treated for water quality using a water quality detention volume or a GULD water quality treatment device approved by the Washington Department of Ecology.
3. Areas that will be drained through the proposed development will be considered and the method of drainage for those areas will be determined by the Town Engineer. Accommodations for pre-existing pass-through drainage are project improvements.
4. Public storm drainage shall not flow onto private property and public and private storm drainage shall not be comingled unless the private property owner chooses to accept public storm drainage onto their property, grant an easement to the Town accepting the drainage as theirs, and release and indemnify the Town from potential liabilities associated with it.
5. Snow from public rights-of-way shall be stored on adjacent private properties. Private properties on which snow from public rights-of-way is stored shall grant an easement to the Town accepting the snow as theirs, and release and indemnify the Town from potential liabilities associated with it.

B. COLLECTION AND CONVEYANCE

1. The piped and surface drainage system together shall be capable of passing the storm runoff from a 100-year event without flooding buildings, with 1 foot of freeboard.
2. The piped system shall be sized for the 10-year event without pressurizing. If the developer desires, the piped system can be used to convey the 100-year event if it is sized from the top of the catchment to receive the 100-year event.
3. Except for when the piped system is sized for the 100-year event, the 100-year system shall remain on the surface, be directed to the street ROW, and shall terminate at a 100-year flood control pond.

4. Natural drainage channels shall be:
    a. left in their natural state whenever possible. Street crossings are acceptable if sized with the 1 foot of freeboard AND debris flow is accounted for.
    b. remediated as a project improvement with adjacent land development
    c. modeled using HEC-RAS, if directed by the Town Engineer
    d. protected from erosion pursuant to HEC-15 and North American Green methodologies. Drop structures shall be employed where possible.
    e. configured with side slopes not exceeding 3:1.
5. Buildings shall not be located within 50 feet of one foot above the 100-year water surface elevation of open channels.
6. Inlet boxes shall be placed:
    f. on lot lines.
    g. at sags.
    h. at curb returns, preferably on the upstream side.
    i. a maximum spacing based on gutter-spread, not exceeding ½ of the drive lane, calculations using HEC-22, Appendix A, Chart 1B.
    j. to eliminate the need for street intersection waterways.
7. Street sags shall have an overland runoff route to a flood control pond or to another street.
8. Downhill cul-de-sacs shall have an overland runoff route sized for the 100-year event along a lot line with an easement in the name of the Town, but maintained by the property owner(s), with the required channel cross section recorded on the plat.
9. Cleanout boxes shall be:
    a. placed at junctions and changes in alignment and slope.
    b. placed a maximum of 400 feet apart.
    c. self-cleaning. Storm drain boxes shall have no dead volume. Pipe flow lines shall be flush with the floors of the boxes.
    d. labeled with “Storm Drain” on the manhole cover.
    e. labeled with “[water quality message]” on hooded inlets.
10. Pipelines shall be placed within Town ROW and shall:
    a. be located pursuant to the Town’s Standard Drawings.
    b. be reinforced concrete (RCP) or dual-wall high-performance corrugated polypropylene piper per ASTM F 2881.
    c. have a minimum diameter of 15 inches, or as shown in the Capital Facilities Plan.
    d. have a minimum slope in accordance with HEC-22 Table 7-7 (3.0 fps flowing full).
    e. have a maximum velocity of 20 feet per second.
    f. have a minimum cover pursuant to the manufacture’s recommendations, or below the roadbase, whichever is greater.
    g. come together in cleanout boxes with crown elevations matching.
    h. extend to property lines to accommodate future development.
    i. Install fabricated galvanized steel trash grates over the ends of all exposed pipes 15 inches in diameter and larger.
    j. include energy dissipation at enclosed-to-open-channel and open-channel-to-enclosed transitions pursuant to the MHFD Manual.
    f. be inspected by video at the expense of the developer prior to acceptance.
11. Open channels shall:
    k. have at least one foot of freeboard
    l. be designed to protect from erosion pursuant to HEC 15

C. DETENTION, RETENTION, AND SNOW STORAGE

Detention and retention facilities shall be privately-owned-and-maintained unless specifically agreed to by the Town Council. Private surface ponds shall be designed the same as public ponds.

1. The maximum release rate from detention facilities shall be historical or based on the capacity of the downstream system, whichever is less, as calculated using the methods required above.
2. The WQV can be counted as part of the flood control volume.
3. Infiltration may be considered in detention and retention system volume calculations.
4. Flood control detention is not required when there is a surface runoff route directly to Jordanelle Reservoir, excluding all tributary channels that might receive flow downstream of the subject area.

5. Retention facilities must:
    a. be assumed to be half of the full depth for infiltration calculations.
    b. be designed using the median measured percolation rate divided by 2.
    c. drain within 48 hours.
    d. provide a means for inspecting water levels in underground retention systems.
    e. , if underground, be protected on the upstream side with a water quality treatment device approved by Washington Department of Ecology, TAPE Program, Pre-treatment General-Use Level Designation.

6. Surface ponds shall:
    a. have at least 1 foot of freeboard above the water surface elevation of the 100-year flow through the emergency spillway, assuming the primary outlets are plugged. Above ground detention ponds in parking lots shall have 1 foot of freeboard to the finished-floor elevation of adjacent structures.
    b. have a maximum depth of 4 feet. In parking lots, the maximum depth is 8 inches in parking stalls.
    c. have side slopes not exceeding 3h:1v,
    d. have a bottom slope of at least 1.5 percent.
    e. have a pipeline under the pond, or a concrete-lined low-flow channel through the bottom of the pond, to convey flows that are less than the capacity of the outlet.
    f. have inside corner radii of at least 10 feet.
    g. spill to a street or other safe discharge point approved by the Town Engineer.
    h. have a structural BMP upstream of the orifice to catch trash and debris.
    i. , if they are used, locate orifice plates such that they can be cleaned off when the pond is full. The minimum size of an orifice shall be 3.14 square inches. Every effort shall be made by the Engineer-of-Record to minimize the head over the orifice.
    j. be landscaped pursuant to Town Standards, except for above-ground detention in private parking lots.
    k. have inlet and outlet structures that match the side slope and top-of-bank of the pond, with the following two options:
        i. Grated: Grates shall be made of galvanized steel with the bars oriented parallel to the side slope of the pond, spaced a maximum of 2 inches apart, with sufficient supporting cross bars.
        ii. Fenced: Fenced structures shall be surrounded by an 8-feet simulated wrought-iron aluminum fence, with a gate with a 3/8-inch padlock mechanism, and a 6-inch concrete mow strip.
    l. have a maintenance access road and ramp into the bottom of the pond. Maintenance access roads shall:
        i. be at least 15-feet wide.
        ii. have an all-weather surface, such as reinforced sod, traversable architectural rock, or other traversable pervious surface, with a punch bearing capacity of at least 40,000 pounds.
        iii. Have a maximum slope of 15 percent.
        iv. Have breakover angles pursuant to APWA Plan 225 for service truck access.
        v. Provide a jet truck work zone that: does not block a street lane, is not more than 7 feet from the front of the truck to the farthest inside wall of the box, and is not more than 15 feet from the side of the truck to the farthest inside wall of the box.
7. A detention pond is permitted to be located within a single residential lot, but only in a single-phase subdivision. The property owner of the residential lot on which a detention pond is located shall be responsible to maintain the pond and its underground infrastructure. This responsibility shall be noted on the subject lot on the plat.
8. Provide pervious, landscaped, and readily-accessible snow storage areas that are equivalent to at least fifteen percent of the total adjacent impervious areas, including public rights-of-way. Snow storage areas shall accommodate snow removal. Snow storage areas shall be shown on the subdivision plat. Easements and easement agreements, as necessary, shall be granted and shown on the subdivision plat. Easement agreements shall obligate the property owner for snow management and include a detailed description of snow removal methods and annual management.

3.0 DRINKING WATER SYSTEM

Private systems shall be designed the same as public systems. Private systems shall be inspected for cross connections the same as public systems. Systems that serve private development shall be master-metered and privately-owned-and-maintained.

3.1 DESIGN REQUIREMENTS

A. PIPELINES

1. Pipelines shall be as shown in the Capital Facilities Plan, or at least 8 inches in diameter unless the Town Engineer allows a smaller diameter down to 4 inches to improve water quality in dead-end lines. Pipelines that supply fire hydrants shall be at least 8 inches in diameter.
2. Pipelines in private streets shall be on the same sides as in public streets.
3. The minimum fire flow shall be pursuant to State Standards, or more if determined by the Fire Marshall.
4. The minimum operating pressure in all parts of the system shall be 40 pounds per square inch during peak day demand.
5. The minimum operating pressure in all parts of the system shall be 30 pounds per square inch during peak instantaneous demand.
6. The maximum operating pressure in all parts of the system shall be 120 pounds per square inch.
7. Systems shall be designed so that pressures conform to the pressure zones shown in the Town's Capital Facilities Plan.
8. The maximum flow velocity shall be 6 feet per second.
9. The impact of any proposed system on the existing system will be reviewed by the Town Engineer. The developer may be required to add infrastructure to mitigate impacts to the existing system and provide adequate water supply to their development.
10. If required by the Town Engineer, the Engineer-of-Record shall provide a computer network model, for the Town Engineer's review, of the proposed system showing compliance with this Standard. The Town will provide boundary conditions, based on the system, for the model.
11. Individual booster pumps are not allowed.
12. Permanent dead-ends shall not be longer than 600 feet unless the Town Engineer determines with an accurate water model that water quality will remain in a longer line.
13. The maximum allowable deflection of pipe joints shall be less than or equal to half of the manufacturer recommended maximum deflection.
14. Pipelines shall extend to property lines to accommodate future development.
15. Public pipelines through private property shall be in dedicated home-owner-association or business-owner-association open space centered in a 20-feet-wide easement in favor of the Town.

B. VALVES

1. Valves smaller than 10 inches shall be gate valves. Valves 10 inches and larger shall be butterfly valves.
2. Valves shall be placed at intervals not exceeding 800 feet.
3. At junctions, valves shall be placed on all legs, minus one, as directed by the Town Engineer.
4. Valves shall be placed within 5 feet to 10 feet of the ends of casings.
5. Valves shall be placed at connections to the existing system.
6. Blow-offs shall be placed at the ends of and low points in pipelines. Fire hydrants may be used as blow-offs.
7. Air vacuum valve stations shall be placed at high points of the system and other locations as required for proper system operation.

C. FIRE HYDRANTS

1. Fire hydrants shall be placed at the ends of cul-de-sacs, the ends of dead-end streets, and every 1000 feet of off-site pipelines.
2. Fire hydrants shall be placed as directed by the Fire Marshall.
3. The minimum fire flow shall be pursuant to State Standards, or more if required by the Fire Marshall.

D. JSSD

4.0 SANITARY SEWER SYSTEM

JSSD

5.0 STREET SYSTEM

Private Streets -- Private streets shall be privately-owned-and-maintained. The pavement design (subbase, roadbase, and asphalt) for private streets shall be at least the same as public streets. The pavement width of private streets shall be at least as wide as required by the latest edition of Appendix D of the International Fire Code.

5.1 DESIGN REQUIREMENTS

A. Because preference is given to pedestrians, a driveway approach is required for all private accesses (APWA Plan 225 for non-single-family residential accesses and private streets, and APWA Plan 221 for single-family residential accesses) unless recommended otherwise by the Town Engineer, based on site-specific considerations, such as:
   1. speed, slope, and functional classifications of the adjacent street
   2. width of the proposed access
   3. volume of the proposed access
   4. drainage

B. Curb returns adjacent to ADA ramps shall have a maximum slope of 2 percent where possible. Where the base of the curb ramp, or the edge of the flush landing must join an intersection of two streets with running grades greater than 2 percent, the base of the curb ramp or the edge of the flush landing may be warped to meet the street running grade. Every effort shall be made to minimize this grade by warping the street cross slope plus or minus 4 percent on both legs of the intersection.

C. The following Table 5 serves as a guide to design professionals by providing a summary of the Town's Street Design Standards. These Standards are required unless specifically accepted otherwise by the Town Council. In the absence of standards specified by the Town, street design shall conform to the latest edition of the American Association of State Highway and Transportation Officials (AASHTO) "A Policy on Geometric Design of Highways and Streets." Selections from other published professional standards, i.e. ITE, ASCE, may be considered at the sole discretion of the Town Engineer.

D. A physical traffic calming measure is required on street segments longer than 800 feet without at least a 45-degree turn.

E. Partial streets are allowed when developing a street along a property line and the other property owner is unwilling to participate in the development. But, storm drainage must still be managed according to these Standards, which might require additional right-of-way and infrastructure.

F. School crosswalks and associated STOP bars shall be placed along Safe Routes to School routes. Other crosswalks shall be placed as directed by the Town Engineer.

G. Street Names -- New street names shall not duplicate those names already existing. A street that is obviously a continuation of another street shall bear the same name. All street names shall be approved by the Planning Commission and the Wasatch County Information Systems Department.

H. Relation to Adjoining Street System – The arrangement of roads in new subdivisions shall provide for the continuation of existing streets to adjacent areas at the same (or at least the minimum) or greater width. Where the Planning Commission determines that it is necessary, for orderly development and the health and safety of the community, to provide street access to adjacent properties, proposed streets shall be extended by dedication to the boundaries of adjacent properties.

I. Cuts in Pavement – No cuts shall be made in street pavement for at least five years without approval by the Mayor with the advice of the Town Engineer, except to protect public health and safety.

TABLE 5 – GEOMETRIC DESIGN OF STREETS

DESIGN ELEMENT	LOCAL (Class II)	MINOR COLLECTOR (Class III)	MAJOR COLLECTOR (Class IV)
Average Daily Traffic Maximum	3,000	6,000	15,000
Design Speed (mph)	25	30	
Posted Speed (mph)	20	30	
Typical Section Elements			
Right-of-Way Width	54'	64’	73'
Pavement Width (excluding C&G)	30'	40’	54'
Number of Lanes	2	2	3
Side Cut/Fill Slopes (outside ROW)	3:1 up to 5 feet high and 2:1 above 5 feet high		
20 Year ESAL Requirement	60,000	150,000	250,000
Vertical Design Elements			
Vehicle Design	Passenger, School Buses, Delivery trucks, Dump Trucks		
Minimum Centerline Grade	0.5%		
Maximum Centerline Grade	10%*	8%	
Maximum Centerline Grade Across Designated Crosswalks	5%	4%	
Maximum Grade in Cul-de-Sacs	5%	Cul-de-Sacs Not Allowed	
Maximum Centerline Grade Break w/o Vertical Curve	1%	0.5%	
Maximum TBC Grade Break w/o a Vertical Curve**	2%	2%	
Minimum Crest Vertical Curve "K" Value	12	19	
Minimum Sag Vertical Curve "K" Value	26	37	
Minimum Length of Vertical Curve	75’	90	
Horizontal Design Elements			
Minimum Mid-Block Centerline Curve Radius	198’	333’	
Superelevation	Not Allowed		
Intersections			
Intersection Sight Distance	AASHTO “A Policy on Geometric Design”, Latest Edition		
Corner Curb Radius	See Standard Drawing ST-5.		
Minimum Angle of Intersection	60°	80°	
Maximum Centerline Offset	5'	2’	
Maximum Centerline Grade***	5%	4%	
Vertical Tie-In	Lower streets shall match the centerline crowns in an intersection. Higher streets shall tie in 10’ off the centerline of local streets and at the edge of the outside travel lane of other streets.		

* 12% for lengths not exceeding 500 feet.
** Maximum grade break of 2% along TBC with Minimum length of 25 feet between breaks.
*** Grade must extend to the PC/PT of the intersecting street.

TABLE 6 – ACCESS MANAGEMENT

Hideout Town Access Management Standards

Functional Classification	Minimum Driveway Spacing (feet)[1,2,3,4]			Cross Street Unsignalized Intersection Spacing (feet)	Geometric Design of Driveway Access[6]					Minimum Signal Spacing (feet)
					Single-Family Residential Driveways			Other Driveways		
	Upstream and Downstream (feet)	Opposing Upstream (feet)	Opposing Downstream (feet)		Approach Width (feet)[6]	Edge Clearance (feet)[7]	Curb Return Radius (feet)	Approach Width (feet)[6]	Edge Clearance (feet)[7]	
Major Arterial w/o Median Barrier	350	175	160	660	12 min	6 min	10 min	Two Way 25 min 40 max	20 min	2640
Major Arterial w/ Median Barrier	200	130	160	400						2640
Minor Arterial w/o Median Barrier	200	115	105	660						1320
Minor Arterial w/ Median Barrier	150	65	105	400						1320
Collector w/o Median Barrier	150	105	90	250						1320
Collector w/ Median Barrier	85	50	70	150				One Way 16 min 30 max		1320
Minor Collector w/o Median Barrier	85	105	90	250	30 max		15 max			1320
Minor Collector w/ Median Barrier	50	50	70	150						1320
Local w/ or w/o Median Barrier	-	-	-	150						N/A

1. Driveway spacing is measured as shown in Figure 1.
2. Corner clearance requirements for access points should meet or exceed the minimum driveway spacing requirements. Curb cuts on major arterials should be spaced at distances greater than 230 feet apart, measured from face-of-curb to face-of-curb, with the preferred distance being 300 feet.
3. For corner properties, access to public streets should be provided from the lesser (lowest functional classification) street.
4. Driveways in right-turn lane transition areas are prohibited.
5. For the benefit of traffic safety and flow, access points may be required to be designed to prohibit certain types of turning movements.
6. Wider driveway widths may be permitted to accommodate additional turning and/or acceptance lanes.
7. Distance between side property line and edge nearest drive as measured along traveled way.

Figure 1: Measurements for Minimum Access Spacing Standards

J. STREET LIGHTING

When private street lighting is required by Town ordinance, the location and spacing of private street lighting shall be the same as public street lighting. Other aspects of private street lighting shall be at the discretion of the developer.

All public street lighting shall be installed in accordance with the most current Town Standards, Utah APWA, Rocky Mountain Power Standards and N.E.C. (National Electric Code). A streetlight plan showing wiring location, wiring type, voltage, power source location, conduit size and location shall be submitted to the Town and be approved prior to construction. No deviation to location of streetlight, pull boxes, conduits, etc., shall be permitted without prior written approval from the Town Engineer or his/her representative.

1. Location and Spacing
   a. Every intersection and access that has a street name sign, corner, and bend in road, shall have a street light.
   b. Shall be installed along property lines where attainable.
   c. Shall not be installed within 5 feet of a fire hydrant. The location shall be such that it does not hinder the operation of the fire hydrant and water line operation valves.
   d. Shall be a minimum of 5 feet from any tree, unless written approval is received from the Town Engineer. Branches may need to be pruned as determined by the Engineering Inspector in the field at the time of installation.
   e. Shall not be installed within 5 feet from the edge of any driveway.
   f. Any structure such as block walls, chain link fences, retaining walls, etc., shall leave a minimum of eighteen (18) inches to the face of the street light pole on all sides.
   g. Wherever there is an overhead utility that may conflict with the installation of the street light circuits and/or street light poles, those conflicts must be resolved between the developer and the utilities involved before the street light bases are constructed at no expense to the Town or Rocky Mountain Power. The resolution must be approved by the Town and Rocky Mountain Power.
2. Voltage – All street lights shall have 120 (nominal) volt input voltage.
3. Conductors
   a. The minimum wire size shall be #6 AWG RHW-2 copper lines from power source to the ground boxes.
   b. From the pole base or (hand hole) to the fixture head #10 or #12 THHN copper will be only allowed.
   c. No aluminum wire allowed.
   d. Wire to be black, white, green or phased taped at both ends.
   e. Run conduit to the lock side of transformer. Leave 8 feet excess wire to transformer or 6 feet excess wire to secondary box as per Rocky Mountain Power (“RMP”) requirements, so that RMP will make the connection. Contractor is able to use HDPE conduit so long as it is schedule 40, grey in color, the wire is the correct size and listed for this use. All installations of HDPE shall be installed according to the current edition of the NEC Section 353 and UL labeled and listed.
   f. Multiple Pole Installation: Wire size shall be designed by an electrical engineer with no more than a 3% of a drop in the nominal voltage at the base of each pole. The minimum wire size shall be a #6 AWG RHW copper wire suitable for wet conditions. Electrical engineer to submit design drawings to the Town for review.
   g. It shall be required that in the absence of an existing workable circuit to attach to, that all installations shall require new service for operation of the circuits in this case developer and/or his engineer shall contact Rocky Mountain Power. The new service shall be located within the utility right of way and shall be provided at the developers cost.
   h. All electrical work must be performed by a licensed electrician.
   i. All service point(s) shall be coordinated with Rocky Mountain Power and whenever possible be located near the center of the circuit. Service point(s) shall be shown on the Plans.
   j. Photo cells must face north.
4. Conduit
   a. All conduits shall be a minimum of 1-1/2 inch PVC, Schedule 40 and grey in color. Contractor is able to use HDPE conduit so long as it is 1-1/2 inch, schedule 40, grey in color, and the wire

is the correct size and listed for this use. All installations of HDPE shall be installed according to the current edition of the NEC Section 353 and UL labeled and listed.
   b. 90° sweeps/bends shall have a maximum of 24 inch radius and a minimum of 18 inch radius.
   c. Conduit shall have a minimum of 18 inches of cover in a utility trench and a maximum of 30 inches of cover (refer to details – diagram sheet.)*
   d. All conduits shall have an approve cap or duct seal on ends to prevent debris from entering conduit during construction.
   e. All empty conduits shall have a pull string.
   f. Conduit shall extend a maximum of 3 inches and a minimum of 1 inch above the finished streetlight concrete base.
   g. Multiple Pole Installations: Conduits will be allowed to be of a larger size as required to accommodate the larger wire sizes.
   h. Mark all buried conduits by placing plastic marker tape (minimum 6" wide) along the entire length of run 12-inches below grade.
   i. Inspection: Prior to backfilling, buried conduit shall be inspected and recorded by a Town GIS Technician.
5. Bases
   a. All bases shall be a maximum of 2 inches above sidewalk or top back of curb grade or whichever is higher.
   b. Bases shall be located in the park strip as indicated on Town Standard Plan ST-6.
   c. Allow the concrete pole base to cure for at least 7-days prior to installing the street light.
6. Ground Box
   a. Known as box, vault, flush mount, pull box, enclosure, and junction box.
   b. Box and cover shall be Oldcastle Precast, Carson H Series #H1118-12 (11"W X 18" L 12" D) or approved equivalent with the words "Street Lighting" on the cover.
   c. Lid must be secured with the proper stainless steel bolts.
   d. 6" of gravel (3/4 minus) shall be placed prior to setting the ground box.
   e. Top of ground box shall be placed at finished grade.
   f. Conduit shall extend a maximum of 3 inches above the gravel in the base of the ground box and a minimum of 2 inches above gravel in the base of the ground box.
   g. One ground box shall be installed within 4 to 10 feet of the power sources (as per Rocky Mountain Power specifications).
   h. One ground box shall be installed within 2 feet of street light pole base. This item may be modified or deleted as determined by the Engineering Inspector in the field during construction, with input from the Town Street Light Manager.
   i. Wire must extend 18 inches above grade to splice in ground box.
7. Connections
   a. Wire nuts are allowed in the pole base assembly.
   b. Mechanical lugs NSi ESSLK – 2/0 Gel packs or equivalent may only be used in the ground box and shall meet NEC specifications, be UL labeled & listed and be designed for this purpose.
   c. A Littelfuse LEBJJ fuse holder (or equivalent) with weatherproof rubber boots, mechanical connection, 600 volt rated and 30 AMP rated shall be used.
   d. Fuse shall be 10 AMP BLF, 20 AMP BLN and 30 AMP BLN or equivalent one time fuse.
   e. Fuse holder shall be placed on all hot leads.
   f. Crimp connections not are allowed.
8. Grounding
   a. All grounding shall be installed according to the current Edition of the NEC Section 250 and UL labeled and listed.
   b. The ground rod shall be a minimum of 2 inches above finished concrete grade for the street light base and a maximum of 3 inches above finished concrete grade for street light base. See detail sheet.
   c. When non-metered street lights are installed, article 250.24 shall be applied for bonding & grounding applications for service supplied AC systems.
   d. Conductor: Solid, cu, bare, soft drawn.
   e. Ground Rod or Ground Ring:
      i. Ground Rod – 8 feet x 5/8 inch diameter Copper weld/bonded, cu.
      ii. Ground Ring – #6 AWG copper clad per NEC Section 250.
      iii. At any time the Town may require third party testing at the expense of contractor in addition to any costs to remedy deficiency.
9. Clam: 5/8-inch copper-clad.
10. Burndy KA24U 14 – 1/10 AWG AL/CU mechanical lugs or equivalent shall be used to connect the ground wire to the group clip inside the street light pole.

Appendix A

Guo “Averaging Parameter” Method

Guo, James C.Y. (1999). "*Detention Basin Sizing for Small Urban Catchments*," ASCE J. of Water Resources Planning and Management, Vol 125, No.6, Nov.

DETENTION BASIN SIZING FOR SMALL URBAN CATCHMENTS

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Abstract
The Federal Aviation Administration (FAA) method for sizing small detention and retention basins is a volume-based approach that is sensitive to the release rate. In practice, such a release rate is often approximated by open channel hydraulics or culvert hydraulics. Without a consistent guideline, this practice of approximation can result in significant discrepancy or violation of the volume balance between the inflow and outflow hydrographs. In this study, a consistent procedure was developed to derive the average release from the allowable peak outflow. The required parameters for this method include peak inflow, design storm duration, and the time of concentration of the watershed. With this modification, the detention storage volume maximized by the FAA method can satisfy the volume conservation between hydrographs.

Key Words: Detention, Rational, FAA

INTRODUCTION

Urban stormwater facilities are designed to pass the peak flow through conveyance systems or to store a portion of the runoff volume in detention systems. For a small urban catchment with a tributary area less than 100 acres, the rational method is suitable for peak runoff predictions and the Federal Aviation Administration (FAA) method is recommended for detention storage volume predictions. The FAA's procedure is to maximize the required storage volume by the volume difference between the inflow and outflow volumes produced by a series of rain storms on the watershed. During the optimization process, the outflow volumes are calculated by an approximate average release from the detention basin. In current practice, there is not any guidance as to how to estimate the average release.

As a volume-based method, the FAA procedure has been widely used for small urban catchments in spite of its ambiguity in estimating the average release from the basin. For instance, the average release may be calculated by open channel flow, orifice formula, or culvert hydraulics. These hydraulic approaches result in violation of the hydrologic principle of volume conservation between the inflow and outflow hydrographs and inaccurate calculations on the required detention storage volume. To improve the current practice, this study suggests that the average release be a fraction of the allowable release rate. This fraction can be further derived by the volume conservation principle between inflow and outflow hydrographs during the maximization process. In this study, this ratio was found to vary with respect to storm duration, and is not a constant as recommended in many design criteria such as the Denver Design Criteria Manuals, and FAA Airfield and Heliports Design Criteria. The revised procedure can also be applied to other volume-based methods such as the capture runoff volume method (Guo and Urbonas, 1996) for sizing storm water quality control ponds. It provides a

consistent guideline to the estimation of the average release from a basin, and warrants volume conservation between the inflow and outflow hydrographs.

DETENTION STORAGE VOLUME BY THE FAA METHOD

The volume-based approach such as the FAA method is applicable to urban catchments with a tributary area less than 150 acres. To predict the peak runoff from such a small urban watershed, the Rational method states:

$$Q_d = \alpha C I_d A \tag{1}$$

The rainfall intensity in Eq 1 can be described as:

$$I_d = \frac{aP}{(b + T_d)^n} \tag{2}$$

in which α = unit conversion factor, equal to 1 for English units, and 1/360 for SI units, C = runoff coefficient, A= watershed area in acres (hectare), I_d = rainfall intensity in inch/hr (mm/hr), T_d = rainfall duration in minutes, Q_d= peak runoff rate in cfs (cms) and a, b, and n= constants on the Intensity- Duration- Frequency (IDF) formula.

Storm water detention process is to reduce the peak runoff and to delay the time to peak as well. In practice, the allowable release rate from a basin is defined by the downstream critical capacity, or the pre-development condition.
In this study, the average release is suggested to be a fraction of the allowable peak runoff, Q_a. Therefore, we have:

$$Q_m = mQ_a \tag{4}$$

in which Q_a = the allowable release which occurs at time T_a in Figure 1, Q_m = average release rate, and m = ratio of the average release to the allowable peak runoff rate. For a storm event, the detention storage volume is equal to the volume difference of the inflow and outflow as:

$$V_i = \alpha C I_d A T_d \tag{5}$$

$$V_o = Q_m T_d = mQ_a T_d \tag{6}$$

$$V_d = 60\left[\alpha C I_d A T_d - Q_m T_d\right] = 60\left[Q_d T_d - Q_m T_d\right] \tag{7}$$

in which V_i = inflow volume, V_o = outflow volume, and V_d = the required storage volume in cubic feet or cubic meter. The factor of 60 is to convert seconds to minutes. The reliability of Eq 7 depends on the specified average outflow in Eq 4. Without an adequate guidance, Eq 7 may lead to any result based on engineer's best estimation. Although an adjustment factor have been recommended to avoid underestimation of the detention volume by Urbonas and Stahle (1991) and Guo (1990), it is necessary to develop a consistent guideline for Eq 4.

MAXIMIZATION OF DETENTION STORAGE VOLUME

The peak runoff flow that occurs at the time of concentration, T_c is recommended for conveyance designs. It is well understood that the design storm duration for a detention basin is usually longer that T_c. As illustrated in Figure 1, the peak flow, Q_d, is produced by the design storm for the detention design. To estimate the required storage volume with no prior knowledge of the outlet hydraulics, it is suggested that the storage volume be calculated using the linear rising outflow hydrograph, i.e. line OB in Figure 1 (Malcom 1982) (Guo 1997). Based on the volume difference between the inflow and outflow hydrographs in Figure 1, the detention storage volume, i.e. the shaded area, is:

$$V_d = 60\left[Q_d T_d - \frac{Q_a}{2}(T_d + T_c) \right] \tag{8}$$

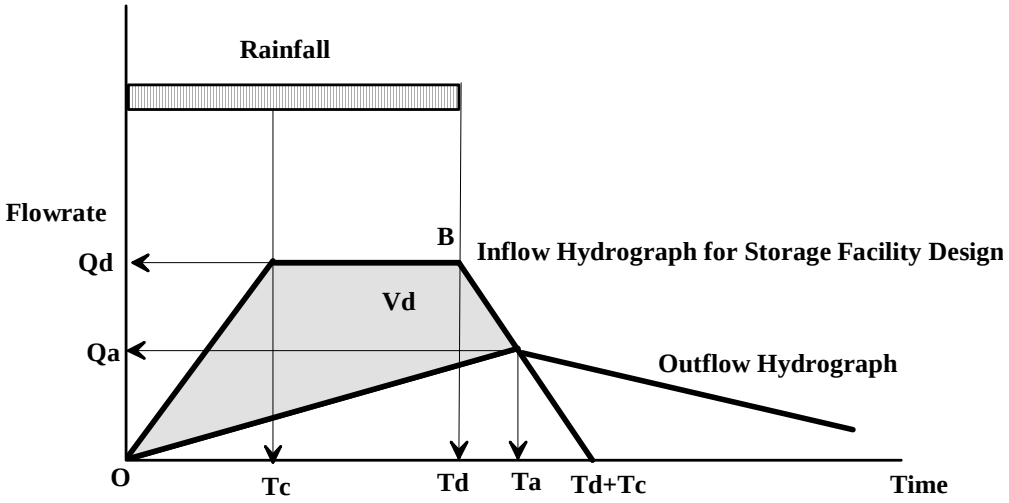


Figure 1. Detention Storage Volume Estimated by Hydrographs

Equating Eq 7 to Eq 8, the value of m is derived as:

$$m = \frac{1}{2}(1 + \frac{T_c}{T_d}) \quad \text{for } 0.5<m<1 \text{ and } T_d > T_c \tag{9}$$

Often the value of m is recommended to be a constant between 0.80 and 0.90 for all storm events (Urbanos and Stahre in 1991). Eq 19 indicates that the value of m varies with respect to the rain storm duration and can not be applied to a storm with duration less than T_c because the maximized operation of a detention basin requires the entire catchment to be tributary. The current practice does not have any limitation on storm duration and results in a maximization procedure starting from 5-minute rainfall. Eq. 9 begins with a value equal to unity when the storm duration is equal to T_c and then reduces to 0.5 when T_d is much longer than T_c. In comparison, the current practice of applying a constant value of m to all storm events can lead

to significant mistake. Substituting Eq 9 into Eq. 5 with the aid of Eq 3, the FAA method is modified to:

$$V_d = 60\left[\alpha C I_d A - \frac{Q_a}{2}(1+\frac{T_c}{T_d})\right]T_d \qquad (10)$$

The basic concept in the FAA method is to find the maximum volume difference between the inflow and outflow volumes under a series of storm events with different durations. Eq 10 shall be tested for a range of T_d until Eq 10 is maximized as:

$$V_m = 60\left[\alpha C I_m A - \frac{Q_a}{2}(1+\frac{T_c}{T_m})\right]T_m \quad \text{at } T_d = T_m \qquad (11)$$

where the subscript m represents the maximized solution.

DESIGN SCHEMATICS AND EXAMPLES

The example watershed used in this study is located in the City of Denver, Colorado. The 100-year IDF in Denver is specified by a = 74.1, b = 10, and n = 0.786. The developed watershed of 100 acres has a time of concentration of 25 minutes and runoff coefficient of 0.65. It produces a 100-year developed peak runoff of 296.86 cfs. The allowable release is 33% of the developed peak runoff. As a result, the allowable release rate is

$$Q_a = 0.33 Q_p = 97.96 \quad cfs \qquad (12)$$

The detention volumes for various periods of storm duration are calculated in Table 1. The maximized volume is found to be 8.52 acre-ft for this example.

Duration	Rainfall Intensity	Inflow Volume	Average Parameter	Average Outflow	Outflow Volume	Storage Volume
minutes	inch/hr	acre-ft	M	cfs	acre-ft	acre-ft
		Eq5	Eq 9	Eq 4	Eq 6	Eq 10
50.00	2.97	13.28	0.75	72.36	4.98	8.30
60.00	2.63	14.12	0.71	68.34	5.65	8.47
70.00	**2.37**	**14.83**	**0.68**	**65.47**	**6.31**	**8.52**
80.00	2.16	15.45	0.66	63.32	6.98	8.47
90.00	1.99	16.00	0.64	61.64	7.64	8.36

Table 1. Example for Maximization of Detention Volume.

CONCLUSIONS

Different hydrologic methods were developed for different hydrologic conditions. In the development of technical design criteria, it is a continual effort to maintain consistency among various design methods. The FAA method intends to be a simplified volume-based approach.

However, the current practice falls short in the estimation of the average outflow. This study presents a modification to the volume-based approach such as the FAA method so that the estimated detention volume can be consistent with the hydrograph method. Modifications to the FAA procedures shall not change its original intention as a simplified approach. As a result, this study applies the volume conservation principle between the simplified hydrographs to relate the average outflow as a fraction of the allowable release rate.

In this study, it was found that the average outflow can be determined by the allowable release from the basin, design storm duration, and the time of concentration of the watershed. In practice, the average release was often considered to be the average flow rate over the base time of the outflow hydrograph. This study indicates that this average outflow in fact is the equivalent average release rate that drains the basin storage volume over the storm duration time. Secondly, the ratio of average release to allowable release was not so constant as recommended by the current practice. Instead, it varies between one and 0.5, depending on storm duration. Applying a constant ratio to all storm events may result in a significant discrepancy against the volume conservation between the inflow and outflow hydrographs. Eq 9 provides a consistent guideline that modifies the current FAA procedures to satisfy the hydrograph volume balance.

APPENDIX I. REFERENCES

1. Adams County, Colorado. (1990) "*Storm Drainage Design and Technical Criteria*."

2. Department of the army and the Air Force. (1977) "*Surface Drainage Facilities for Airfields and Heliports*." Technical Manual No 5-820-1, Washington DC.

3. Federal Aviation Administration, Department of Transportation. (1970) "*Airport Drainage"*, AC No. 150/5320-5B.

4. Guo, James C.Y. (1977). "*Detention Basin Design and Sizing*. " Research Report, Department of Civil Engineering, University of Colorado at Denver, to be published by the Water Resources Publication, Inc. Littleton, Colorado.

5. Guo, James C.Y. and Urbona, Ben. (1996) "*Maximized Detention Volume Determined by Runoff Capture Ratio*." ASCE J. of Water Resources Planning and Management, Vol. 122, No. 1.

6. Malcom, H. Rooney. (1982) "*Some Detention Design Ideals.* " ASCE Proceedings of the Conference on Stormwater Detention Facilities, held in New England College, Hanniker, New Hampshire, edited by William DeGroot.

7. Shueler, Thomas R., and Helfrich, Mike. (1989) "*Design of Extended Detention Wet Pond System.* " Design of Urban Runoff Quality Controls, Edited by Larry A. Roesner, Ben Urbonas, and Michael B. Sonnen, American Society of Civil Engineers, New York, New York.

8. Urbonas, Ben and Stahre, Peter. (1991) "*Storm Water Detention.* " Prentice Hall, Englewood Cliffs, New Jersey.

Appendix B

Subdivision Plat Template

STANDARD PLAT FORMAT

PLAT REQUIREMENTS

- FINAL PLAT SHALL BE PREPARED ON A SHEET OF APPROVED REPRODUCIBLE D-SIZE MYLAR AND MADE WITH TEXT NOT LESS THAN ONE-TENTH INCH IN SIZE, SHALL BE SO DRAWN THAT THE TOP OF THE SHEET FACES EITHER NORTH OR EAST, WHICHEVER ACCOMMODATES THE DRAWING BEST.
- ACCURATE LINES MUST BE DRAWN FOR ALL LINES, ANGLES AND CURVES USED TO DESCRIBE BOUNDARIES, BLOCKS, LOTS, STREETS, ALLEYS, EASEMENTS, AREAS TO BE RESERVED FOR PUBLIC USE AND OTHER IMPORTANT FEATURES.
- BOUNDARY LINES SHALL BE DRAWN HEAVIER THAN STREET AND LOT LINES.
- MONUMENTS SHALL BE INSTALLED BY THE SUBDIVIDER'S ENGINEER OR LAND SURVEYOR AT SUCH POINTS DESIGNATED ON THE FINAL PLAT AS ARE APPROVED BY THE PLANNING DEPARTMENT.
- MONUMENTS MUST BE PLACED PRIOR TO FINAL BOND RELEASE.
- THE WASATCH COUNTY RECORDER'S OFFICE MAY HAVE ADDITIONAL REQUIREMENTS FOR THIS PLAT

ITEMS REQUIRED FOR PRELIMINARY PLAT:

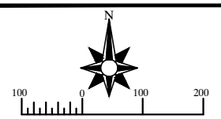
- SECTION INFORMATION - TWO OR MORE CORNERS IF POSSIBLE
- BASIS OF BEARING CLEARLY LABELED
- BOUNDARY CLEARLY SHOWN AND DIMENSIONED WITH LEGAL DESCRIPTION
- POINT OF BEGINNING CLEARLY LABELED
- BENCHMARK FOR PROJECT HORIZONTAL AND VERTICAL CONTROLS
- BOUNDARY LINES OF ADJACENT TRACTS OF UN-SUBSIDIZED LAND
- THE 100-YR FLOOD LEVEL OF ALL WATERCOURSES INDICATED WITH VERTICAL DATUM
- SURROUNDING PROPERTY OWNERSHIP
- LOCATION OF AND DIMENSIONS TO THE NEAREST BENCH MARK OR MONUMENT ON TWO OPPOSITE SIDES OF THE PLAT
- PROPERTIES LOCATED IN THE SENSITIVE LANDS OVERLAY ZONE
- LOT SIZE CLEARLY LABELED IN SQ. FT. & ACRES WITH LENGTH & WIDTH
- NORTH ARROW
- DRAWING SCALE CLEARLY MARKED AND NOT LESS THAN 1" = 100'
- AREAS WITH SLOPES LESS THAN 30%, 30-40%, 40-50% AND > 50%
- IDENTIFIED NATURAL HAZARDS AND MITIGATION MEASURES FOR AREAS, SUBJECT TO AVALANCHE, LANDSLIDE, ROCK FALL, LIQUEFACTION, DEBRIS FLOWS, SURFACE FAULT RUPTURE, COLLAPSIBLE SOILS, SHRINK-SWELL SOILS, SHALLOW GROUNDWATER (WITHIN 3 FEET OF THE SURFACE), SURFACE WATER, STREAM BEDS (INCLUDING INTERMITTENT), SPRINGS, 100-YEAR FLOOD ZONES, AND DRINKING WATER SOURCE PROTECTION ZONES.

ITEMS REQUIRED FOR FINAL PLAT:

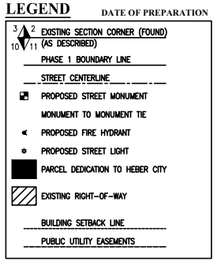
- INCLUDE ALL ITEMS REQUIRED ON PRELIMINARY PLAT (EXCEPT CONTOURS)
- STREET MONUMENTS
- BUILDING SETBACKS
- PUBLIC UTILITY EASEMENTS, ACCESS EASEMENTS, EXISTING EASEMENTS
- PROPOSED STREET NAMES
- INTERSECTION ADDRESSES
- LOT ADDRESSES
- TYPICAL LOT DETAILS SHOWING BOTH CORNER AND INTERIOR LOTS
- VICINITY MAP
- PLAT NOTES
- PHYSICAL MARKERS SHALL BE PLACED AT EACH LOT CORNER
- IF PROPERTY CONTROLLED BY PUBLIC AGENT OR UTILITY COMPANY, APPROVAL FOR LOCATION, IMPROVEMENT, AND MAINTENANCE MUST BE SHOWN
- ELECTRONIC COPY THAT IS COMPATIBLE WITH CITY'S AUTOCAD MAPPING SYSTEM SHALL BE SUBMITTED
- OPEN SPACE AREAS ARE COVNEYED TO (INSERT NAME OF ENTITY).

PLAT NAME AND PHASE

LOCATED IN A PORTION OF THE _____QUARTER OF SECTION__,
TOWNSHIP __ SOUTH, RANGE __ EAST,
SALT LAKE BASE AND MERIDIAN
HIDEOUT TOWN, WASATCH COUNTY, UTAH



LEGEND DATE OF PREPARATION



CENTERLINE CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
CL1	200.00	202.46	57°59'57"	110.86	193.92	N29°16'01"E
CL2	200.00	111.64	31°58'58"	57.32	110.20	S15°43'26"E
CL3	345.00	191.93	31°52'30"	98.52	189.47	S15°47'45"E

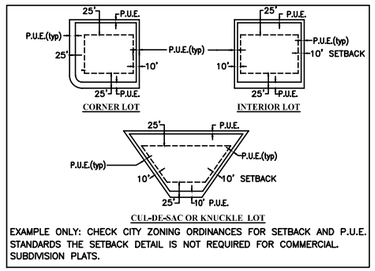
CURVE TABLE

CURVE	RADIUS	LENGTH	DELTA	TANGENT	CHORD	CHORD BEARING
C6	225.00	59.81	15°13'53"	30.08	59.64	N50°39'03"E
C7	15.00	13.62	52°01'12"	7.32	13.16	S32°15'24"W
C8	50.00	5.12	05°51'42"	2.56	5.11	N09°10'38"E

DATA TABLE

INFORMATION	AC	SQ FT.	%TOTAL	#	NOTES
TOTAL PROJECT AREA	13.9	607182	100%		
SENSITIVE LANDS	0.2	7503	1%		7% OF OPEN SPACE
OPEN SPACE	2.3	101750	17%		
BUILDABLE LAND	8.1	354478	58%		
ROW AREA	3.5	153954	25%		
LANDSCAPING AREA	4.5	197518	33%		
LOTS				61	
NET DENSITY DWELLINGS BY ACRE				4.4	

TYPICAL SETBACK & P.U.E. DETAILS



EXAMPLE ONLY: CHECK CITY ZONING ORDINANCES FOR SETBACK AND P.U.E. STANDARDS THE SETBACK DETAIL IS NOT REQUIRED FOR COMMERCIAL SUBDIVISION PLATS.

STANDARD PLAT NOTES

1-FINAL PLATS NOT RECORDED WITHIN SIX MONTHS FROM THE DATE RECEIVING FINAL APPROVAL SHALL BE NULL AND VOID UNLESS PHYSICAL CONSTRUCTION HAS STARTED OR AN EXTENSION HAS BEEN REQUESTED AND GRANTED PRIOR TO THE ORIGINAL PLAT EXPIRATION DATE. IN CASES WHERE CONSTRUCTION HAS STARTED, PLAT APPROVAL SHALL AUTOMATICALLY BE EXTENDED FOR ANOTHER SIX MONTHS FROM THE DATE OF THE FINAL APPROVAL. IF PHYSICAL CONSTRUCTION HAS NOT STARTED, APPLICANTS MAY REQUEST AND BE GRANTED A SIX MONTH EXTENSION. HOWEVER, IF AN EXTENSION IS GRANTED, THE REQUIREMENT TO INCORPORATE UPDATED TOWN STANDARDS, OR REEVALUATE BONDS OR OTHER ASSURANCES MAY BE ENFORCED AS A CONDITION OF APPROVAL FOR THE EXTENSION.
2-PRIOR TO BUILDING PERMITS BEING ISSUED, SOIL AND/OR GEOTECHNICAL TESTING STUDIES MAY BE REQUIRED ON EACH LOT AS DETERMINED BY THE BUILDING OFFICIAL.
3-THIS PLAT MAY BE SUBJECT TO A DEVELOPMENT AGREEMENT THAT SPECIFIES THE CONDITIONS FOR DEVELOPING, BUILDING, AND USING PROPERTY WITHIN THIS PLAT. SEE CITY RECORDER FOR DETAILS.
4-PLAT IS SUBJECT TO "INSTALLATION OF IMPROVEMENTS AND BOND AGREEMENT NO._____." WHICH REQUIRES THE CONSTRUCTION AND WARRANTY OF IMPROVEMENTS IN THIS SUBDIVISION. THESE OBLIGATIONS RUN WITH THE LAND AND ARE BINDING ON SUCCESSORS, AGENTS, AND ASSIGNS OF DEVELOPER. THERE ARE NO THIRD-PARTY RIGHTS OR BENEFICIARIES UNDER THIS AGREEMENT.
5-BUILDING PERMITS WILL NOT BE ISSUED UNTIL ALL REQUIRED IMPROVEMENTS HAVE BEEN INSTALLED PER TOWN STANDARDS AND ALL FEES INCLUDING IMPACT AND CONNECTION FEES ARE PAID.
6-REFERENCES HEREIN TO DEVELOPER OR OWNER SHALL APPLY TO BOTH, AND ANY SUCH REFERENCE SHALL ALSO APPLY TO SUCCESSORS, AGENTS, AND ASSIGNS.
7-NO TOWN MAINTENANCE SHALL BE PROVIDED FOR STREETS AND IMPROVEMENTS DESIGNATED AS "PRIVATE" ON THIS PLAT.
8-ALL PRIVATE STREETS, PARKING AREAS, AND COMMON AREA ARE DEDICATED AS TOWN UTILITY EASEMENTS. HIDEOUT TOWN HAS THE RIGHT OF ACCESS THROUGH THESE EASEMENTS TO ACCESS, MAINTAIN, AND REPAIR CITY UTILITIES. NO CHANGES TO TOPOGRAPHY, STRUCTURES, ABOVE OR BELOW GROUND ARE ALLOWED IN EASEMENTS WITHIN 10 FEET OF TOWN UTILITIES WITHOUT WRITTEN PERMISSION FROM THE HIDEOUT TOWN ENGINEER. ANY OBSTACLES ERECTED WITHIN THESE EASEMENTS WITHOUT WRITTEN PERMISSION WILL BE REMOVED AT THE CURRENT PROPERTY OWNER'S EXPENSE. ALL STORM DRAIN UTILITIES AND THEIR MAINTENANCE WITHIN PRIVATE PROPERTY SHALL BE THE RESPONSIBILITY OF PROPERTY OWNER. ALL SEWER LATERALS AND THEIR MAINTENANCE TO THE PUBLIC RIGHT-OF-WAY SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. ALL DRINKING WATER AND PRESSURIZED IRRIGATION SERVICES AND THEIR MAINTENANCE FROM THE WATER METER OR SERVICE VAULT SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER.
9-A GEOTECHNICAL REPORT HAS BEEN COMPLETED BY [GEOTECHNICAL ENGINEER], WHICH ADDRESSES SOIL AND GROUNDWATER CONDITIONS, PROVIDES ENGINEERING DESIGN CRITERIA, AND RECOMMENDS MITIGATION MEASURES IF PROBLEMATIC CONDITIONS WERE ENCOUNTERED. THE TOWN ASSUMES NO LIABILITY OR RESPONSIBILITY FOR ANY RELIANCE ON THE INFORMATION OR LACK THEREOF IN THE REPORT.
10- DRAINAGE ACROSS PROPERTY LINES SHALL NOT EXCEED THAT WHICH EXISTED PRIOR TO GRADING. EXCESS OR CONCENTRATED DRAINAGE SHALL BE CONTAINED ON SITE OR DIRECTED TO AN APPROVED DRAINAGE FACILITY. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS, ACCORDING TO THE BUILDING CODE.

NOTES FOR PLATS WITH COMMON AREA

11-ALL OPEN SPACE, COMMON SPACE, AND TRAIL IMPROVEMENTS LOCATED HEREIN ARE TO BE INSTALLED BY OWNER AND MAINTAINED BY A HOMEOWNERS ASSOCIATION UNLESS SPECIFIED OTHERWISE ON EACH IMPROVEMENT.
12-LOTS/UNITS MAY BE SUBJECT TO ASSOCIATION BYLAWS, ARTICLES OF INCORPORATION AND CC&R'S."
13-COMMON AREAS ARE CONVEYED TO (INSERT NAME OF HOA).

VICINITY MAP

VICINITY MAP

SURVEYOR'S CERTIFICATE

I, the undersigned surveyor, do hereby certify that I am a professional Land Surveyor and that I hold a license (number shown below) in accordance with Utah Code Title 58, Chapter 22 of the Professional Engineers and Land Surveyors Licensing Act. I further certify that, by authority of the owners, I have completed a survey of the property described on this subdivision plat in accordance with Section 17-23-17, have verified all measurements, have subdivided said tract of land into lots, streets, together with easements, and have placed monuments on the ground as represented on the plat. I also certify that I have filed with the Wasatch County Surveyor, pursuant to State Law, a map of the survey I completed.

BOUNDARY DESCRIPTION

A parcel of land situated in the _____Quarter of Section ___, Township __ South, Range East, Salt Lake Base and Meridian, said parcel being more particularly described as follows:

Beginning at a point....

Acres: _____ , # of lots ____, # of parcels _____.

SURVEYOR'S SEAL

OWNER'S DEDICATION

The undersigned owner(s) of the above-described tract of land has/have caused the same to be subdivided into lots, parcels, and streets, together with easements and rights-of-way, to be hereafter known as:

XXXXX

and do hereby dedicate for the perpetual use of the public and Town all parcels, lots, streets, easements, rights-of-way, and public amenities shown on this plat as intended for public or Town use. The undersigned owner(s), agents, successors, and assigns shall voluntarily defend, indemnify, and save harmless the Town against any easements or other encumbrance on a dedicated street, easement, or right-of-way that will interfere with the Town's use, maintenance, and operation of the street or utilities. The undersigned owner(s), agents, successors, and assigns also hereby convey any other easements, as shown and/or noted on this plat, to the parties indicated and for the purposes shown and/or noted hereon. The Town assumes no liability with respect to the creation of this subdivision, the alteration of the ground surface, vegetation, drainage, or surface or sub-surface water flows within this subdivision, and the development activity within this subdivision. The owners(s) hereby convey(s) the Common Area, as indicated hereon, to the (insert name of HOA), a Utah Nonprofit Corporation, with a registered address of (insert address).

For Plats with an HOA

In witness whereof I have set forth my hand this___ day of _____ , 20__.

Signature | Print Name | Title & Entity

Signature | Print Name | Title & Entity

OWNER'S ACKNOWLEDGMENT

STATE OF UTAH) S.S.
County of Utah)

On this___day of _____ 20__, personally appeared before me _____, who being by me duly sworn, did prove to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument, and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies).

I certify under PENALTY OF PERJURY under the laws of the State of Utah that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Notary Public Full Name:_____

Commission Number:_____ My commission expires:_____
A Notary Public Commissioned in Utah

Each owner's signature must be notarized separately if multiple owners sign in front of different notaries. Please add an owner's acknowledgment signature block for each owner who signs the plat.

ENGINEERING FIRM NAME:_____
ENGINEERING FIRM ADDRESS:_____
DEVELOPER'S FIRM NAME:_____
DEVELOPER'S FIRM ADDRESS:_____

APPROVAL BY LEGISLATIVE BODY

The City Council of Heber City, County of Wasatch, approves this subdivision subject to the conditions and restrictions stated hereon, and hereby accepts the dedication of all streets, easements, and other parcels of land intended for the public purpose of the perpetual use of the public.

Mayor | Date

Attest: City Recorder | Date

RECORDER'S SEAL

PLANNING COMMISSION CHAIR	TOWN ENGINEER	WASATCH CO. FIRE DISTRICT	TOWN ATTORNEY	COUNTY SURVEYOR
Approved on this _____ day of _____, 20____	Approved on this _____ day of _____, 20____	Approved on this _____ day of _____, 20____	Approved on this _____ day of _____, 20____	Approved on this _____ day of _____, 20____
_____ PLANNING COMMISSION CHAIR	_____ TOWN ENGINEER	_____ FIRE CHIEF	_____ TOWN ATTORNEY	_____ COUNTY SURVEYOR

PLAT NAME AND PHASE

LOCATED IN A PORTION OF THE _____ QUARTER OF SECTION__,
TOWNSHIP __ SOUTH, RANGE __ EAST,
SALT LAKE BASE AND MERIDIAN
HIDEOUT TOWN, WASATCH COUNTY, UTAH

Appendix C

As-Built Drawing Checklist

AS-BUILT DRAWINGS REQUIREMENT CHECKLIST

Project Name**:** _____

Submittal #_____Date:_____Submitted by: _____

Received by: _____

As-Built (not record) Drawings, sealed by a Professional Engineer, shall include only the following information on at least two sheets in plan view, as indicated at a clearly readable scale (maximum 1"=60'). Multiple sheets of each type may be necessary to provide clearly readable drawings. Do not submit plan/profile sheets. Remove all unnecessary information from the drawings. Drawings must be field checked for completeness and accuracy.

AutoCad record electronic drawing files must be submitted and approved following approval of drawings.

As-built Drawing Plan Sheets: GENERAL REQUIRMENTS	**TOWN USE ONLY**	
	ACCEPTED	
The following must be shown on each sheet:	YES	NO
Title block including project/subdivision name, drawing title and sheet number, date, engineering firm's name and address	☐	☐
Developer and Contractor signature blocks stating "I have field verified that these record drawings are complete and accurately represent what was constructed for this project".	☐	☐
North arrow and drawing scale	☐	☐
Legend of symbols and abbreviations	☐	☐
Benchmark location and elevation	☐	☐
Subdivision boundary and lots (labeled)	☐	☐
Roadway improvements (curb & gutter, sidewalk, driveways). Label streets names.	☐	☐

As-built Drawing Plan Sheet 1: OVERALL	**TOWN USE ONLY**	
	ACCEPTED	
The following must be shown: (when applicable)	YES	NO
Street lights Indicate type: LP-1, LP-4 Show wiring to power source	☐	☐
Signage Indicate type ST-1, ST-2 or description	☐	☐
Asphalt striping and markings	☐	☐
Fencing Indicate size and type	☐	☐

Traffic calming devices	☐	☐
Pedestrian sidewalk ramps Indicate ADA truncated dome material type	☐	☐
Removal of unnecessary information	☐	☐

As-built Drawing Plan Sheet 2: <u>GRADING AND DRAINAGE</u>	**TOWN USE ONLY** ACCEPTED	
	YES	NO
Finish contours – One foot intervals (labeled) and including all related flood and low impact infrastructure grades. Including but not limited to grades and measurements for Detention-retention storage, swales, channels, storage capaTown, spillway, high-water levels, free -board, flood route, etc.	☐	☐
Drain Structures: Provide all drainage structure elevations and dimensions for, including but limited to: Pipes, inlets, outlets, manholes, water quality devices, etc.	☐	☐
Storm Drain Ponds, swales, spillways channels, etc - show contours, high-water mark, overflow and/or outfall structures, and as-built storage capaTown.	☐	☐
Field Survey Drawing: The project engineer shall review as-built survey points and verify conformity to the constructed flood and water quality requirements. Provide a PDF copy of the site survey points and any linework.	☐	☐
Project As-built Drawing: Provide 11x17 PDF of project engineer's as-built, stamped and signed. Project engineer shall oversee and insure correction of all design plan non-conforming items prior to as-built submission. All minor constructed differences must be justified by project engineer. Justifications shall be explained in a stamped and signed PDF letter.	☐	☐
Removal of unnecessary information.	☐	☐

As-built Drawing Plan Sheet 3: DRINKING WATER **All valves, meters, air-vacs and drains must show measured dimensions from two stationary locations. Acceptable locations are: top back of curb @ property line, subdivision monument, manhole (sewer or storm drain), catch basin, street light, fire hydrant or corner of permanent building or structure.**	**TOWN USE ONLY** ACCEPTED	
	YES	NO
Main drinking water lines. Label size and type.	☐	☐
Fire hydrants, Tees, crosses, bends and elbows.	☐	☐
Valves (gate, butterfly, blow-off, stop & waste, check).	☐	☐
Service lines and water meters.	☐	☐
Pressure reducing stations.	☐	☐
Air-vacs. Label size and type.	☐	☐
Removal of unnecessary information.	☐	☐

As-built Drawing Plan Sheet 4: SANITARY SEWER	**TOWN USE ONLY** ACCEPTED	
The following must be shown: (when applicable)	YES	NO
Main secondary sewer lines. Label size and type.	☐	☐
Manholes. Label size.	☐	☐
Service laterals.	☐	☐
Removal of unnecessary information.	☐	☐

Comments:

_____

_____

Drawings Approved By: _____

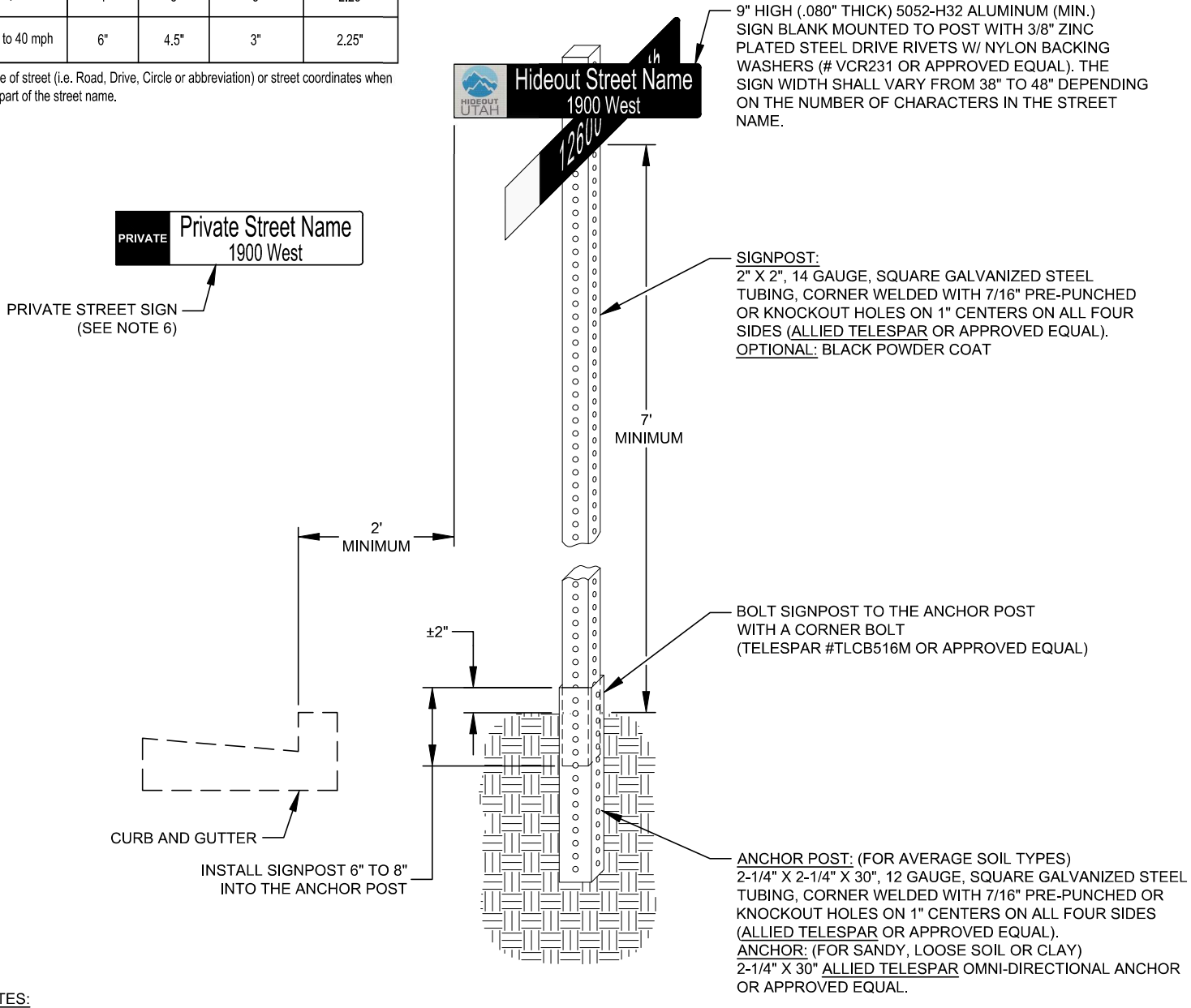
Date: _____

Appendix D

Town Standard Plans

Minimum Letter and Number Heights				
Speed Limit	Upper Case	Lower Case	Supplemental Letters and Numbers* Upper Case	Lower Case
25 mph or less	4"	3"	3"	2.25"
30 to 40 mph	6"	4.5"	3"	2.25"

* Type of street (i.e. Road, Drive, Circle or abbreviation) or street coordinates when not part of the street name.



NOTES:

1. SECURE CITY'S APPROVAL OF SIGN FORMAT AND INSTALLATION.
2. ALL MOUNTING HARDWARE, POST, AND ANCHOR MAY BE POWDER COATED BLACK (OPTIONAL).
3. INSTALL THE EDGE OF THE SIGN TWO FEET FROM THE VERTICAL EXTENSION OF THE FACE OF THE CURB AS NEAR AS POSSIBLE TO THE APPROACH CURB POINT OF CURVATURE. SIGNS SHOULD NOT OVERHANG SIDEWALK OR CURB & GUTTER.
4. ALL SIGNS SHALL BE 7' MINIMUM FROM GROUND TO BOTTOM OF SIGN.
5. LETTERING AND NUMBERING SHALL BE WHITE ON GREEN BACKGROUND AND MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING, ASTM TYPE III, IV, X. FONT SHALL BE ARIAL. UPPER AND LOWER CASE LETTERS SHALL BE USED. NAMED STREETS ALSO REQUIRE COORDINATES ON THE SIGN. SEE TABLE ABOVE FOR REQUIRED MINIMUM LETTER AND NUMBER HEIGHTS. SIGN SHALL HAVE A 9"X9" HIDEOUT TOWN LOGO ON THE LEFT SIDE MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING ASTM TYPE III, IV, X.
6. PRIVATE STREET SIGN LETTERING SHALL BE BLUE ON A WHITE BACKGROUND, MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING, ASTM TYPE III, IV, X, AND SHALL **NOT** INCLUDE THE HIDEOUT TOWN LOGO. THE LEFT SIDE OF THE SIGN SHALL HAVE THE WORD "PRIVATE" IN WHITE LETTERING (1" MINIMUM, UPPER CASE ARIAL FONT) ON A 9"X9" BLUE BACKGROUND MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING ASTM TYPE III, IV, X.

HIDEOUT TOWN
ENGINEERING DEPT.
10860 N HIDEOUT TRAIL
HIDEOUT, UTAH 84036
(435) 659-4739

STREET SIGN

SEPTEMBER 2024

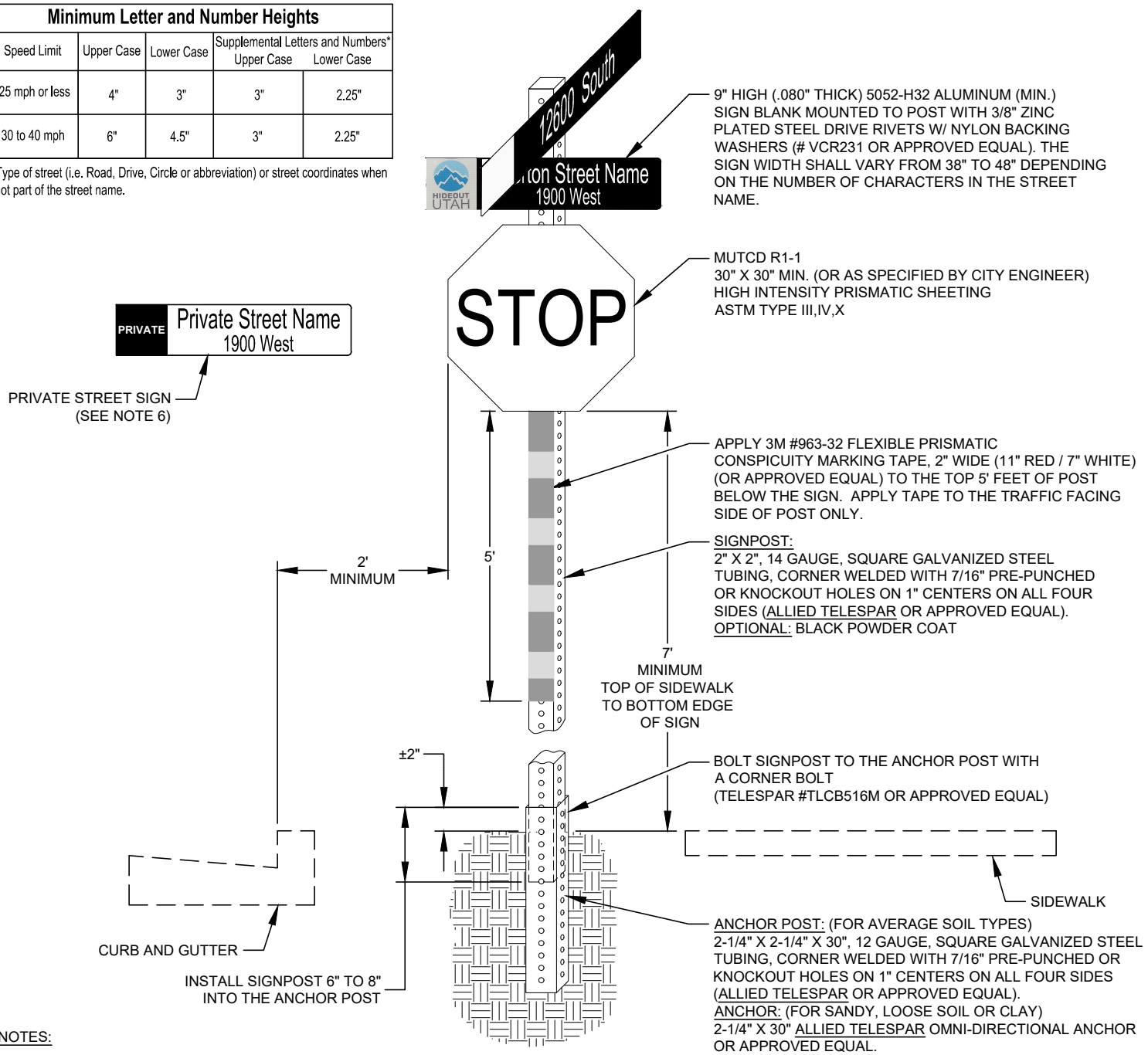
REVISIONS		
#	BY	DATE

PLAN

ST-1

Minimum Letter and Number Heights				
Speed Limit	Upper Case	Lower Case	Supplemental Letters and Numbers* Upper Case	Lower Case
25 mph or less	4"	3"	3"	2.25"
30 to 40 mph	6"	4.5"	3"	2.25"

* Type of street (i.e. Road, Drive, Circle or abbreviation) or street coordinates when not part of the street name.



NOTES:

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3. INSTALL THE EDGE OF THE SIGN TWO FEET FROM THE VERTICAL EXTENSION OF THE FACE OF THE CURB AS NEAR AS POSSIBLE TO THE APPROACH CURB POINT OF CURVATURE. SIGNS SHOULD NOT OVERHANG SIDEWALK OR CURB & GUTTER.
4. ALL SIGNS SHALL BE 7' MINIMUM FROM GROUND TO BOTTOM OF SIGN.
5. LETTERING AND NUMBERING SHALL BE WHITE ON GREEN BACKGROUND AND MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING, ASTM TYPE III, IV, X. FONT SHALL BE ARIAL. UPPER AND LOWER CASE LETTERS SHALL BE USED. NAMED STREETS ALSO REQUIRE COORDINATES ON THE SIGN. SEE TABLE ABOVE FOR REQUIRED MINIMUM LETTER AND NUMBER HEIGHTS. SIGN SHALL HAVE A 9"X9" HIDEOUT TOWN LOGO ON THE LEFT SIDE MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING ASTM TYPE III, IV, X.
6. PRIVATE STREET SIGN LETTERING SHALL BE BLUE ON A WHITE BACKGROUND, MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING, ASTM TYPE III, IV, X, AND SHALL **NOT** INCLUDE THE HIDEOUT TOWN LOGO. THE LEFT SIDE OF THE SIGN SHALL HAVE THE WORD "PRIVATE" IN WHITE LETTERING (1" MINIMUM, UPPER CASE ARIAL FONT) ON A 9"X9" BLUE BACKGROUND MADE OF HIGH INTENSITY PRISMATIC (HIP) SHEETING ASTM TYPE III, IV, X.

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COMBINATION STREET AND REGULATORY SIGN

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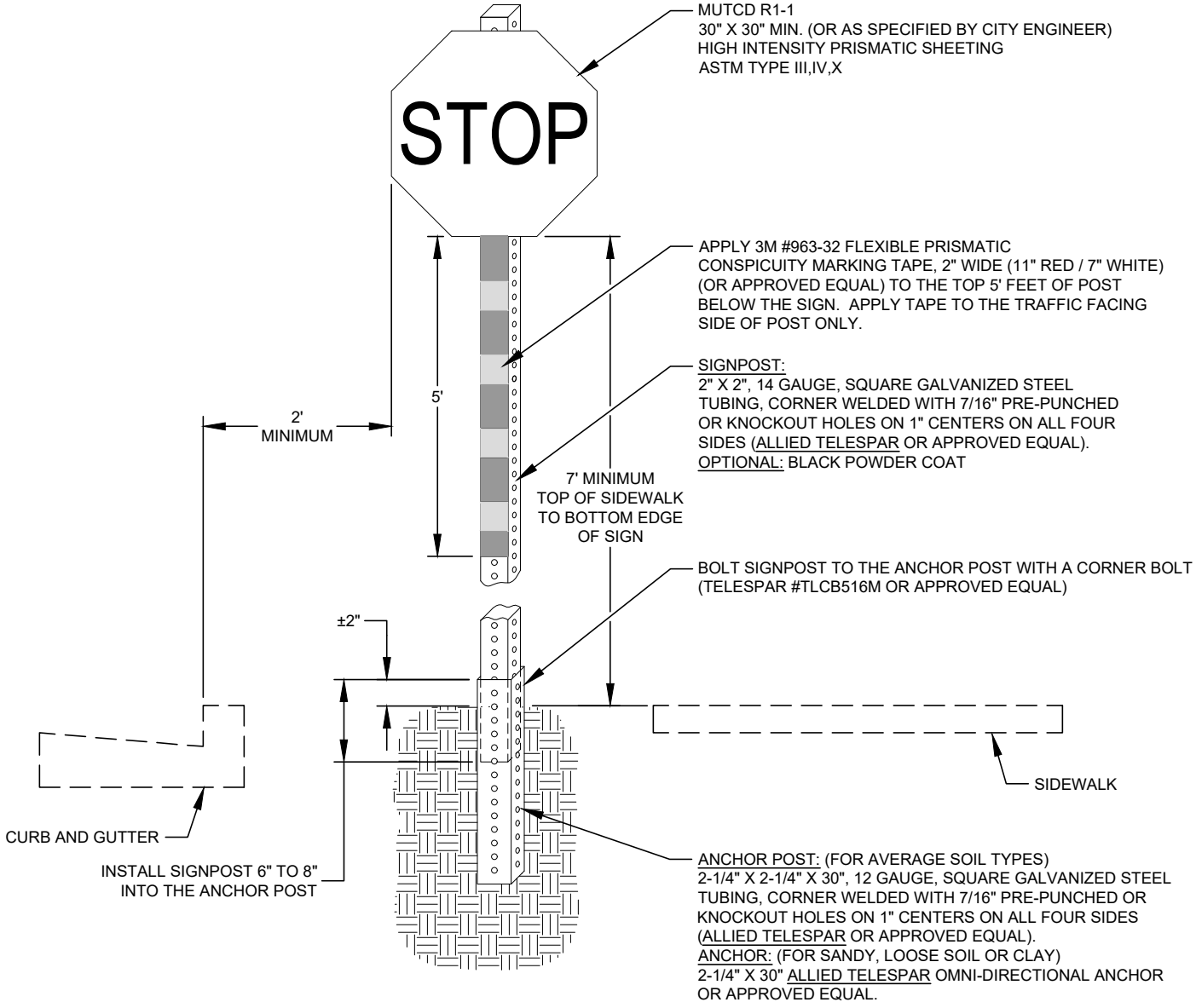
PLAN

ST-2



NOTES:

1. SECURE CITY'S APPROVAL OF SIGN FORMAT AND INSTALLATION.
2. ALL MOUNTING HARDWARE, POST, AND ANCHOR MAY BE POWDER COATED BLACK (OPTIONAL).
3. INSTALL THE EDGE OF THE SIGN TWO FEET FROM THE VERTICAL EXTENSION OF THE FACE OF THE CURB AS NEAR AS
4. POSSIBLE TO THE APPROACH CURB POINT OF CURVATURE. SIGNS SHOULD NOT OVERHANG SIDEWALK OR CURB & GUTTER. ALL SIGNS SHALL BE 7' MINIMUM FROM GROUND TO BOTTOM OF SIGN.

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REGULATORY SIGN

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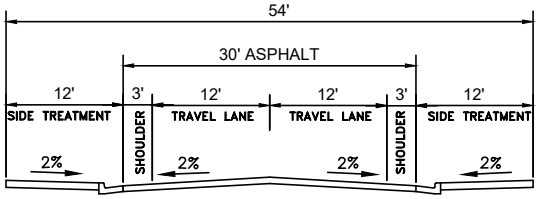
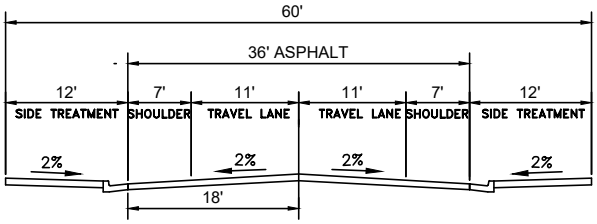
ST-3

LOCAL ACCESS ROAD



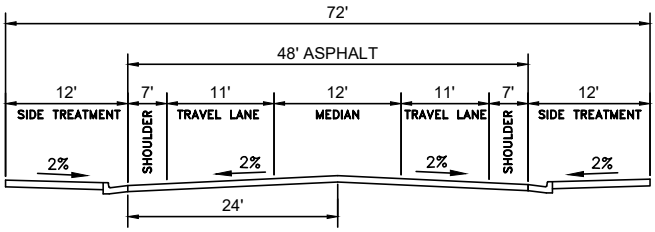
54-FOOT RIGHT-OF-WAY (TYPICAL)

MINOR COLLECTOR



60-FOOT RIGHT-OF-WAY (TYPICAL)

MAJOR COLLECTOR



72-FOOT RIGHT-OF-WAY (TYPICAL)

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FUNCTIONAL CLASSIFICATION DIMENSIONS

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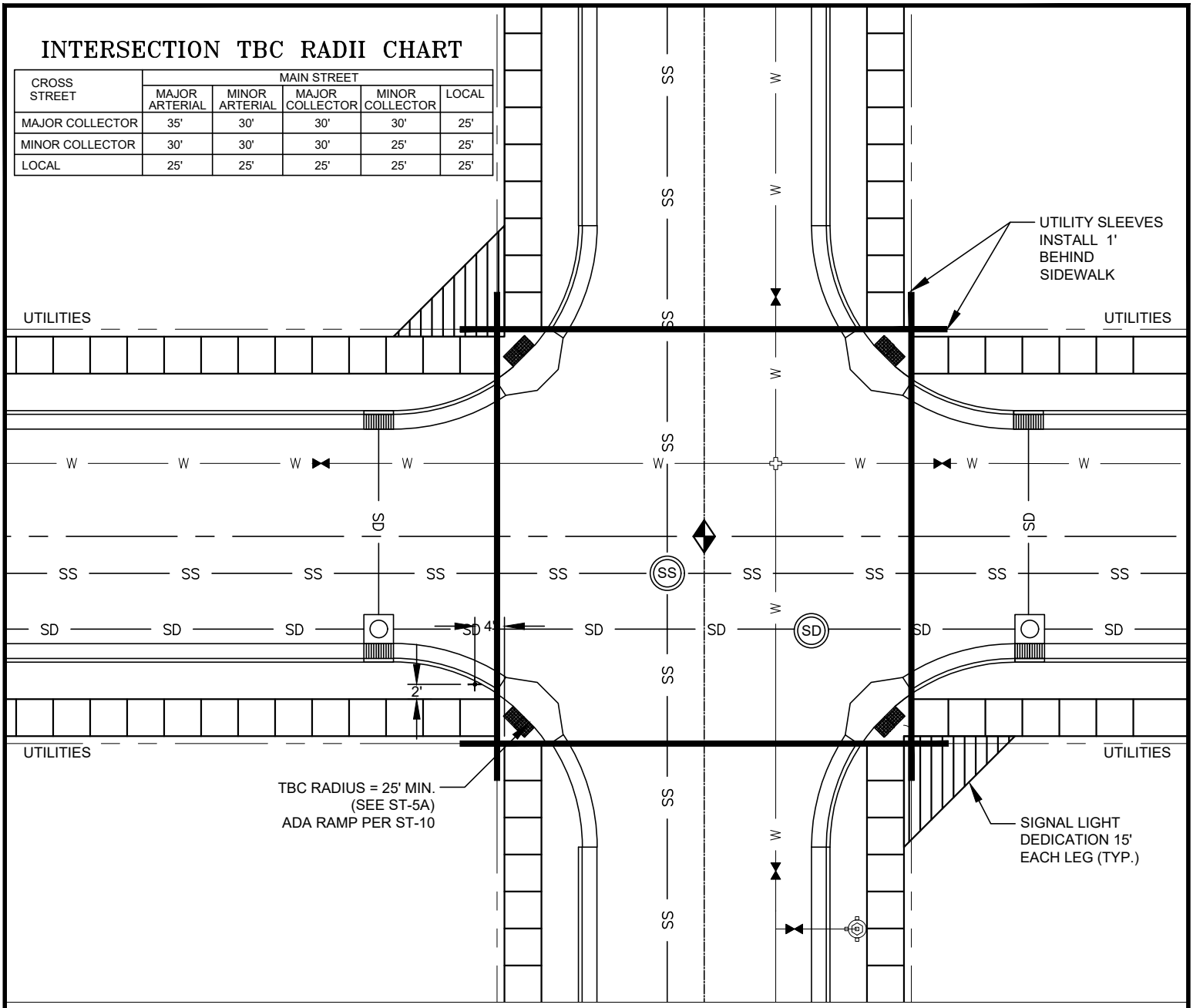
PLAN

ST-4

INTERSECTION TBC RADII CHART

CROSS STREET	MAIN STREET				
	MAJOR ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	MINOR COLLECTOR	LOCAL
MAJOR COLLECTOR	35'	30'	30'	30'	25'
MINOR COLLECTOR	30'	30'	30'	25'	25'
LOCAL	25'	25'	25'	25'	25'



LEGEND

- SURVEY MONUMENT PER WASATCH CO. REQUIREMENTS
- W — DRINKING WATER LINE TO BE INSTALLED ON NORTH AND EAST SIDES OF STREET
- SS — SANITARY SEWER
- SS — SEWER MANHOLE
- SD — STORM DRAIN MANHOLE PER APWA #331B, 341
- COMBO BOX PER APWA #316
- CURB INLET PER PWA #315
- STREET/STOP SIGN LOCATION TYPICAL PLACEMENT (ST-1, ST-2, ST-3)
- FIRE HYDRANT
- DRINKING WATER VALVE. ALL VALVES TO BE PLACED ON CURB AND GUTTER PC (POINT OF CURVATURE)

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UTILITY LOCATIONS AND INTERSECTION CURB RADII

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PLAN

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HIDEOUT TOWN
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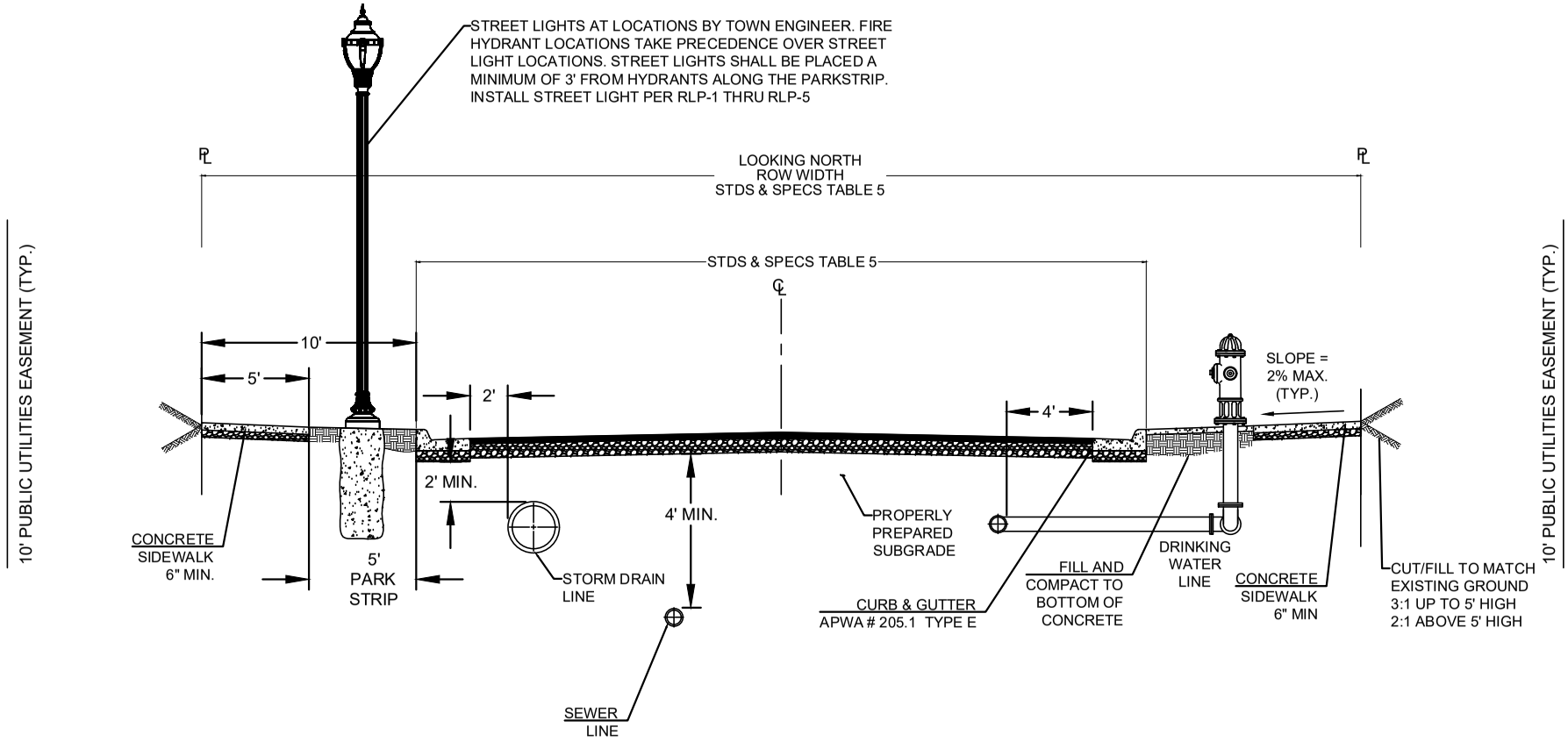
TYPICAL SECTION



STANDARD URBAN	STANDARD URBAN ROADWAY SECTION	STANDARD URBAN ROADWAY SECTION
LOCAL	PG 58-28 DM-1/2"	3" / 8" (SEE NOTE 2)
MINOR COLLECTOR	PG 58-28 DM-1/2"	4" / 9" COMMERCIAL (SEE NOTE 2)
MAJOR COLLECTOR	PG 64-34 DM-3/4"	5" / 10" (SEE NOTE 2)
MOUNTAIN	PG 58-28 DM-3/4"	3" / 8" (SEE NOTE 2)
ARTERIAL	PG 64-34 DM-3/4"	6" / 10" (SEE NOTE 2)

NOTES:

1. PAVEMENT DESIGN SHALL BE BASED ON THE MAXIMUM DAILY TRAFFIC CAPACITY AND AS RECOMMENDED BY A SOILS REPORT. LOCATION OF SIDEWALK AND CURB AND GUTTER & GUTTER MAY VARY ON INDIVIDUAL STREETS PER DIRECTION OF TOWN ENGINEER. SEE APWA SECTION 32 12 05 (ASPHALT CONCRETE) FOR SPECIFICATIONS.
2. A TYPE II SLURRY SEAL (OR APPROVED EQUAL) SHALL BE PLACED PER APWA 32 01 13.61 AT THE CONCLUSION OF THE WARRANTY PERIOD AND PRIOR TO WARRANTY RELEASE.
3. SEE APWA 32 12 05 2.3.D FOR RAP

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PLAN ST-6

REQUIREMENTS FOR DEAD-END ACCESSWAYS

WASATCH FIRE DISTRICT

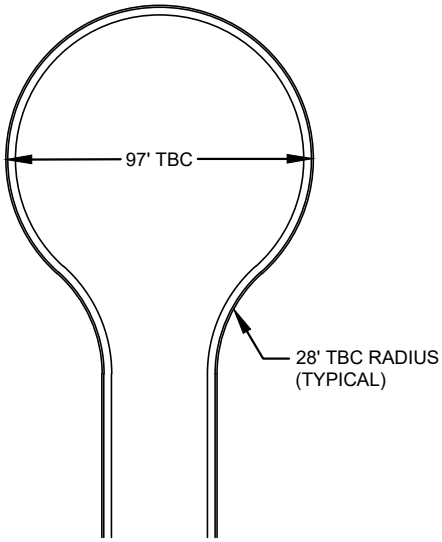
LENGTH	MINIMUM CLEAR WIDTH**	*GRADE****	*TURNAROUND REQUIREMENTS*
0' - 150' *	20'	10% MAX.	NONE REQUIRED
151' - 500' *	20'	10% MAX.	120' HAMMERHEAD 80' DIA. CUL-DE-SAC
501' - 750'	26'	10% MAX.	120' HAMMERHEAD 97' DIA. CUL-DE-SAC
751' & LARGER	SPECIAL APPROVAL REQUIRED		

* CURVES AND TOPOGRAPHICAL CONDITIONS COULD ALTER THE REQUIREMENTS FOR TURNAROUNDS AND THE WIDTH OF ACCESSWAYS.

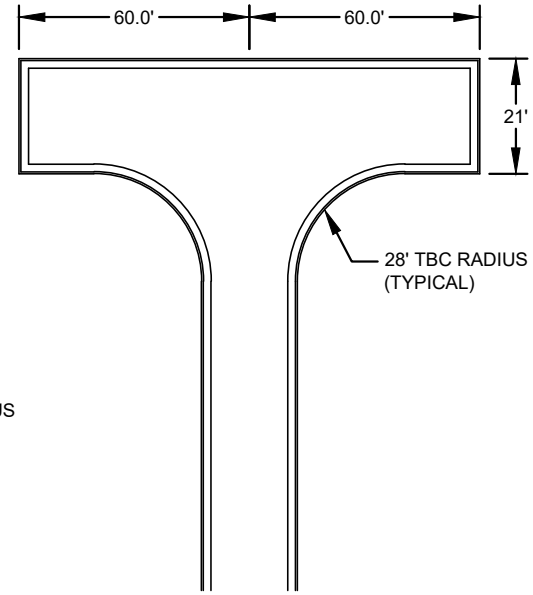
** PARKING RESTRICTIONS MAY APPLY.

*** 5% MAXIMUM IN TURNAROUND

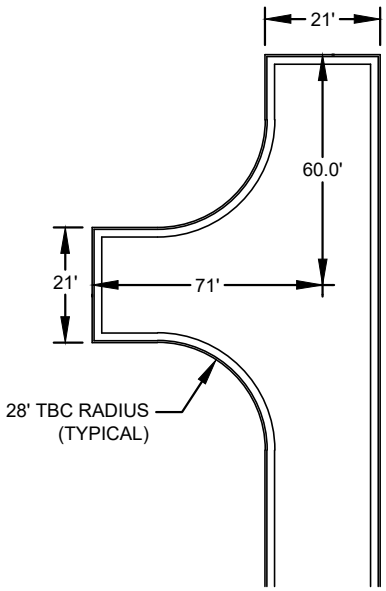
TBC=TOP BACK OF CURB



97' DIA. CUL-DE-SAC



120' HAMMERHEAD



120' HAMMERHEAD ALTERNATIVE

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CUL-DE-SACS

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PLAN

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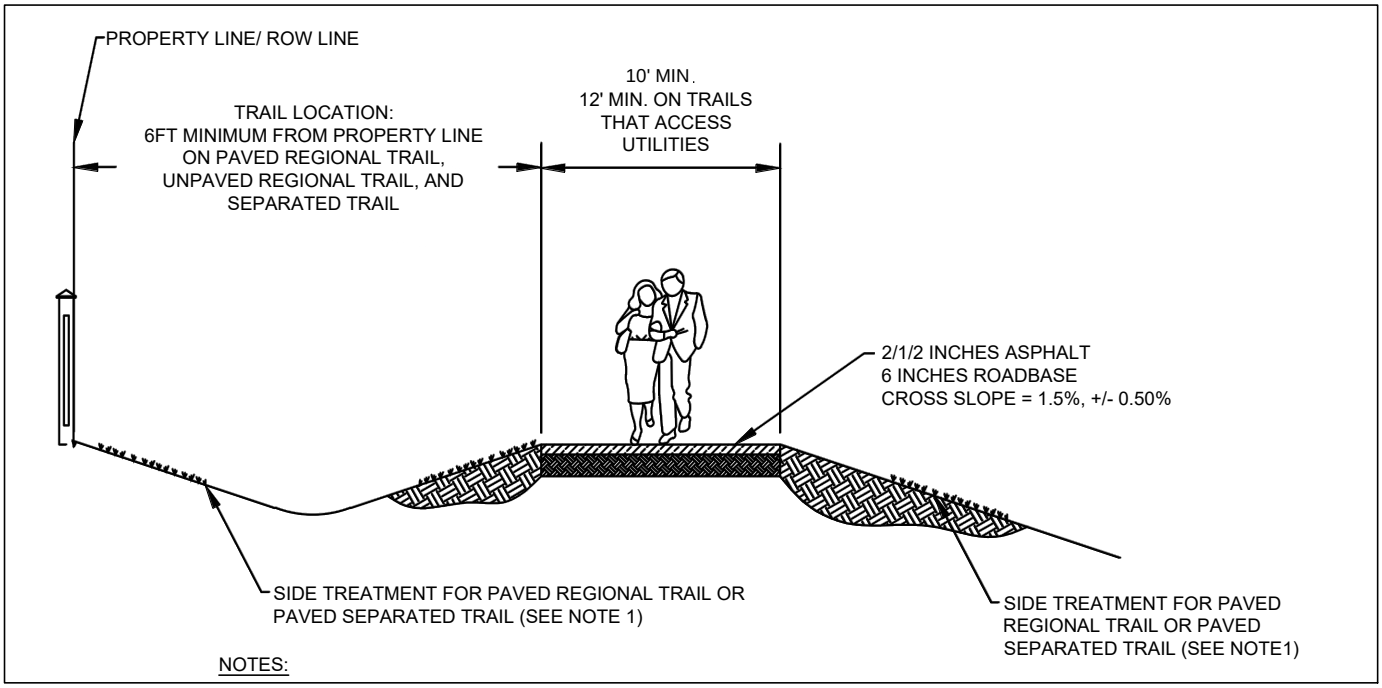

NOTES:

1. SIDE TREATMENTS OF PAVED REGIONAL TRAILS AND PAVED SEPARATED TRAILS SHALL BE 3:1 LANDSCAPED V-DITCH ON THE UPHILL SIDE OF TRAIL WITH 6FT MINIMUM WIDTH OF V-DITCH AND ON THE DOWNHILL SIDE OF TRAIL A 3:1 LANDSCAPED SLOPE FOR 4 FT MINIMUM. PROVIDE DRAINS UNDER THE TRAIL AT APPROPRIATE LOCATIONS.
2. RUNNING SLOPE - PREFERRED = 5 PERCENT. MAXIMUM = 12 PERCENT. NO MORE THAN 30 PERCENT OF THE TOTAL LENGTH OF A TRAIL SHALL EXCEED 8.33 PERCENT.

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TRAILS

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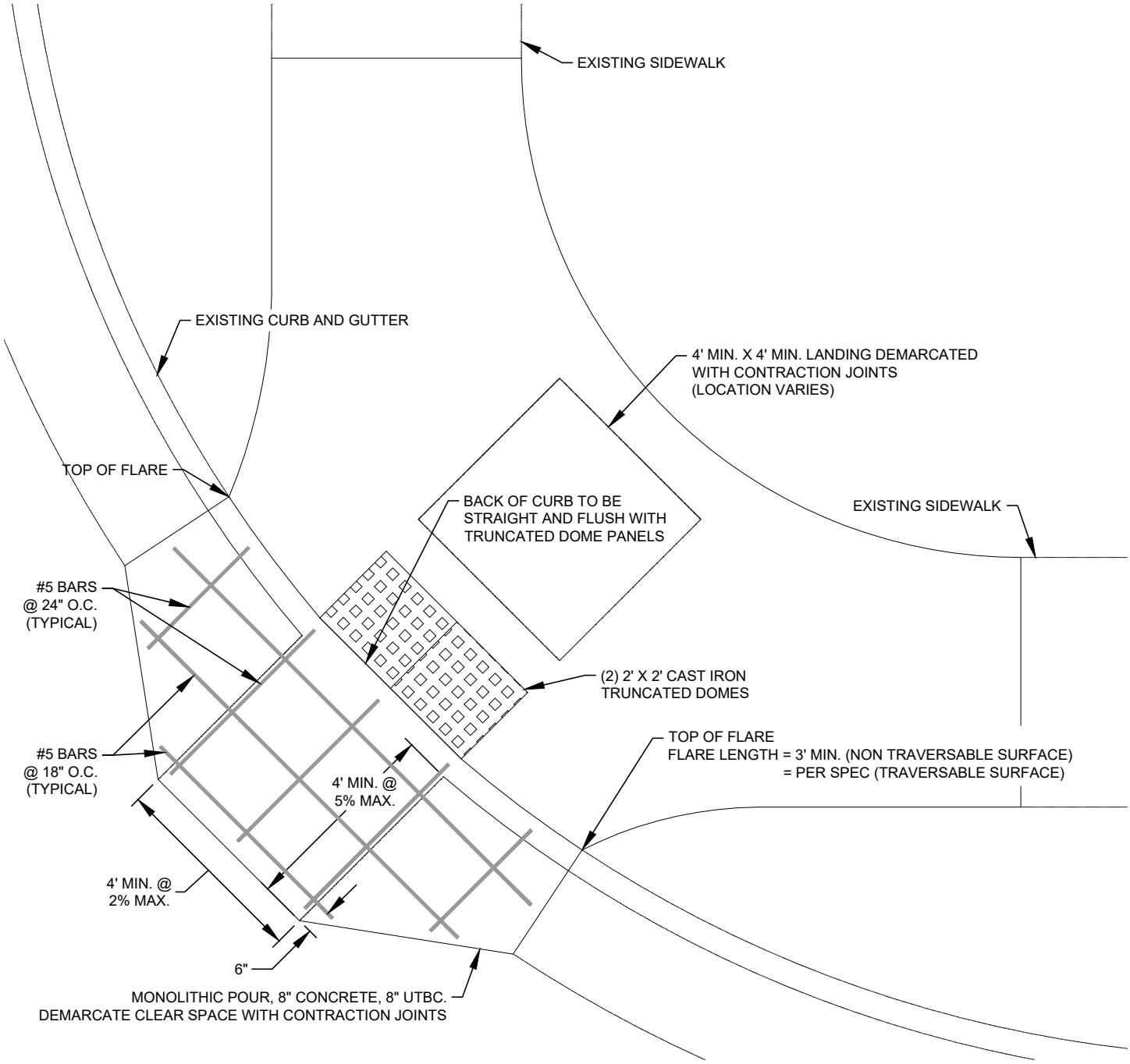
PLAN

ST-8



NOT TO SCALE

NOTES:

1. THIS STANDARD PLAN SUPPLEMENTS APWA PLAN NUMBERS 235 AND 236. APWA MATERIAL SPECIFICATIONS APPLY EXCEPT FOR THE DETECTABLE WARNING SURFACE.

2. RAMP CONSTRUCTION MUST COMPLY WITH CURRENT ADA STANDARDS FOR ACCESSIBLE DESIGN.

3. MATERIALS -
   TRUNCATED DOMES: ADA COMPLIANT, CAST IRON PLATES, W/ NON-SLIP SURFACE AND NATURAL FINISH. SET TWO (2) 24"X24" PLATES TOGETHER IN WET CONCRETE WITH SMOOTH, EVEN SEAM IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

   REBAR: GALVANIZED OR EPOXY COATED, DEFORMED, 60 KSI YIELD GRADE STEEL, ASTM A 615, WITH 2" MIN. COVER.

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ADA RAMP CLEAR SPACE

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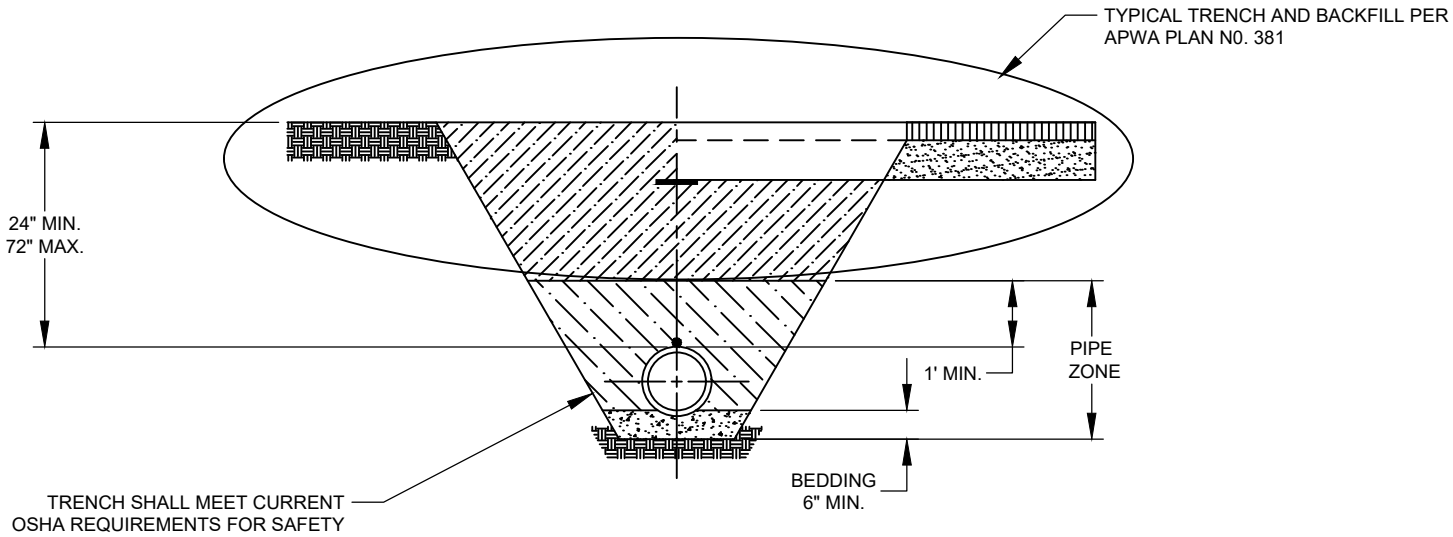
PLAN

ST-9



CROSS-SECTION: TYPICAL TRENCH

NOT TO SCALE

NOTES:

1. COVER DEPTHS ARE FOR STORM DRAIN ONLY. FOLLOW THE JSSD STANDARDS FOR DEPTHS OF OTHER UTILITIES

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TRENCH

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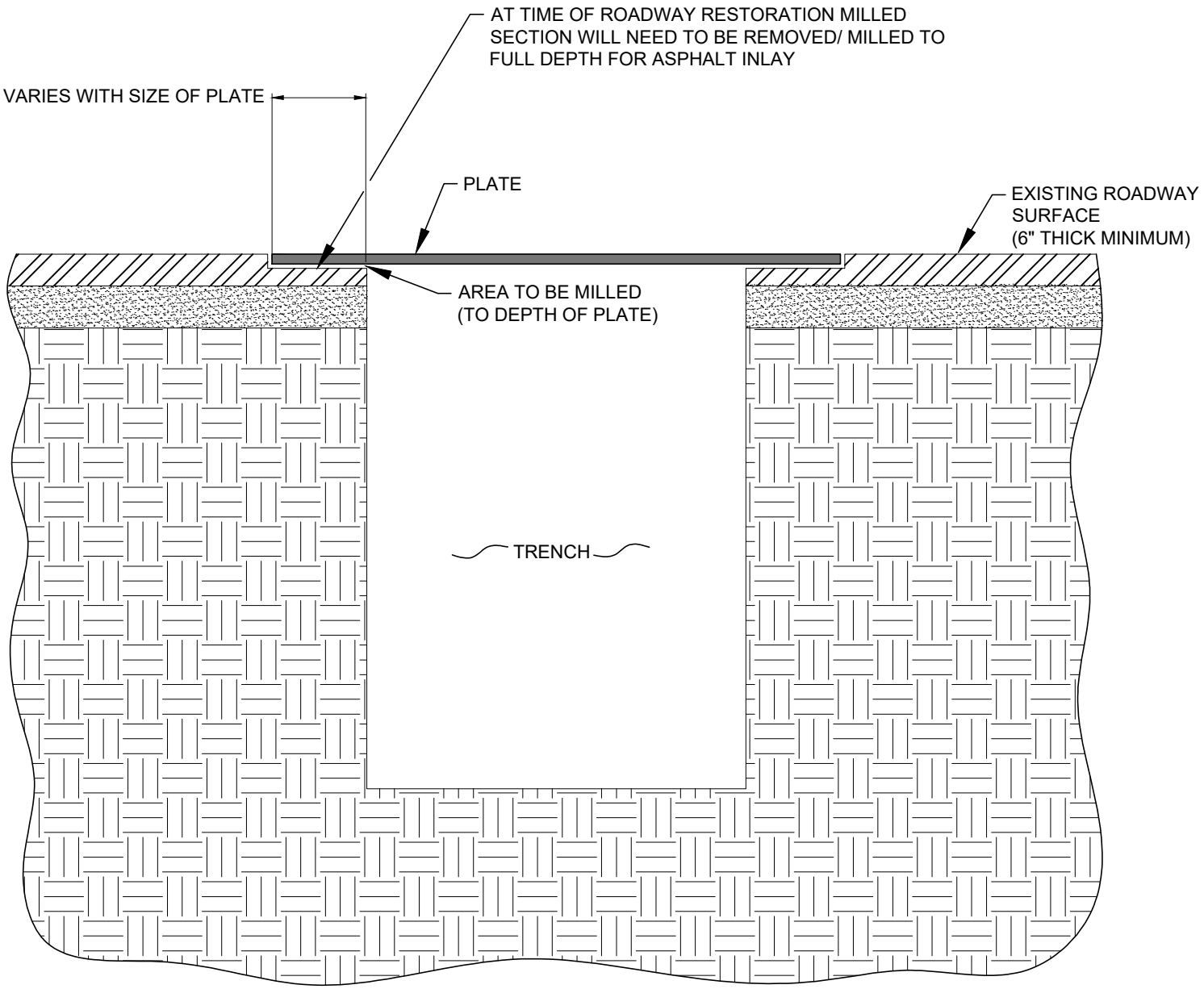
PLAN

ST-10



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TRENCH PLATING

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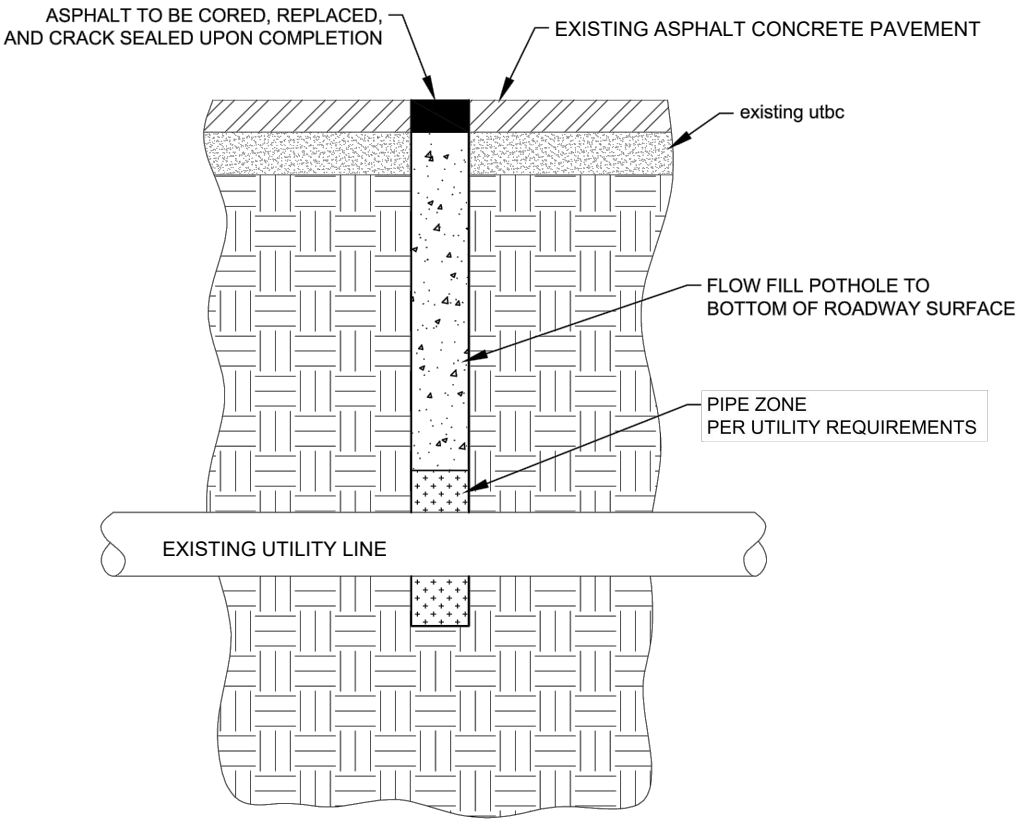
PLAN

ST-11



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POT HOLE

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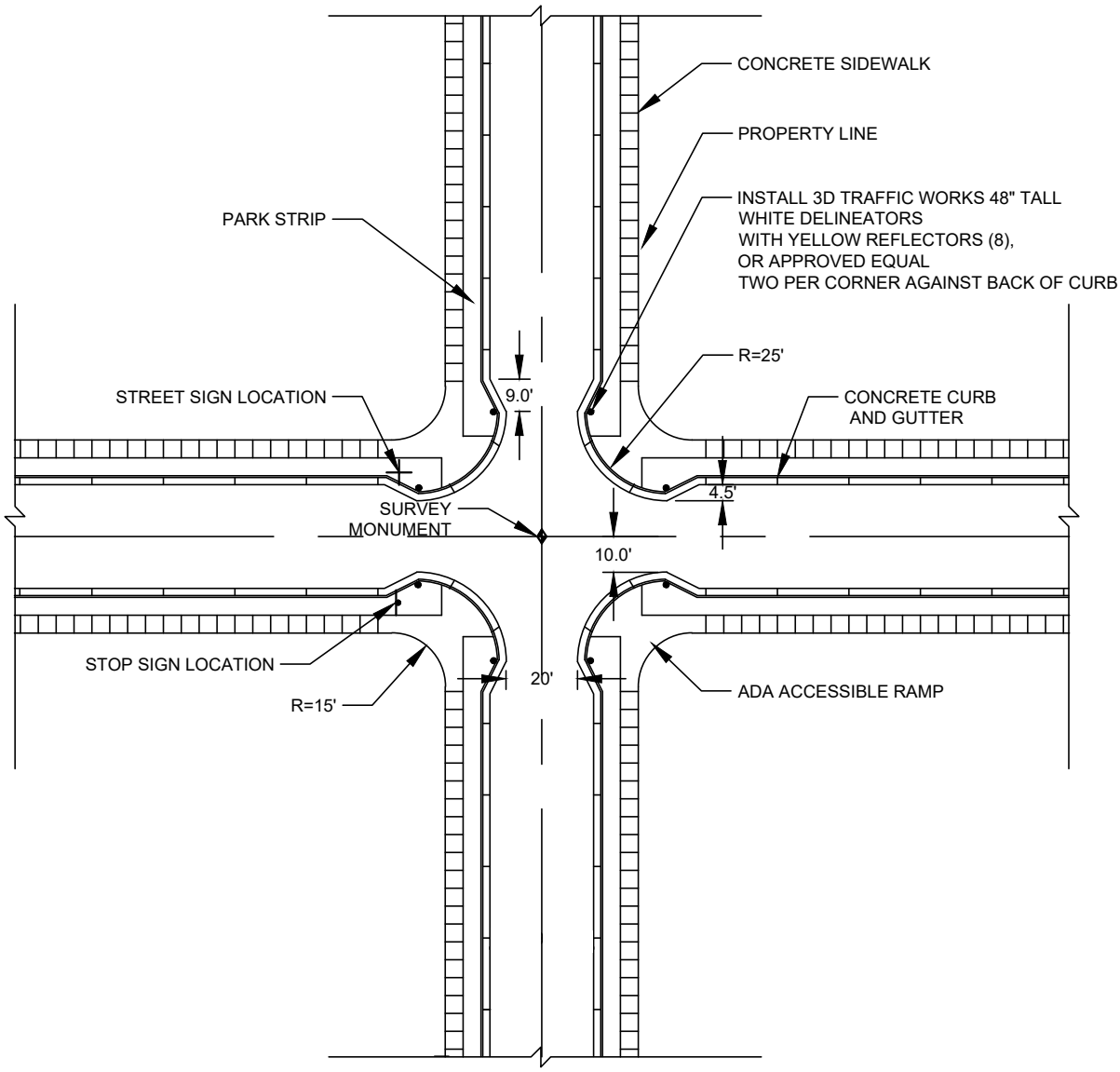
PLAN

ST-12



NOT TO SCALE

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LOCAL STREET TRAFFIC CALMING INTERSECTION

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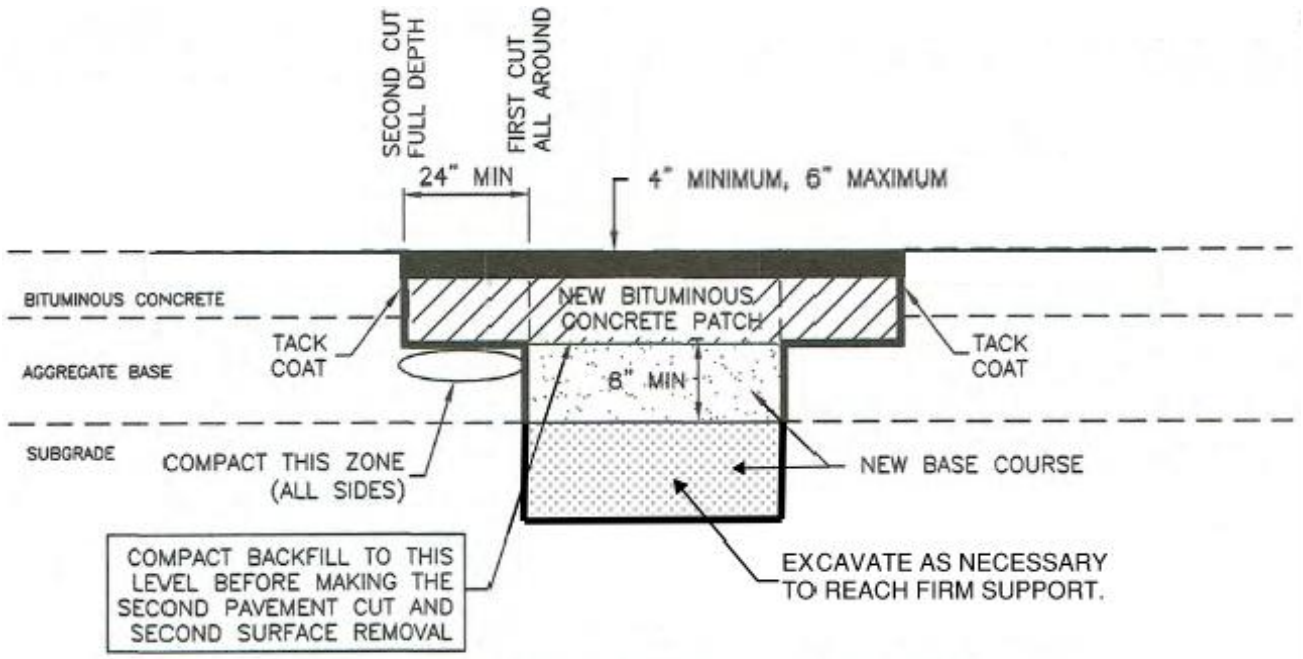
PLAN

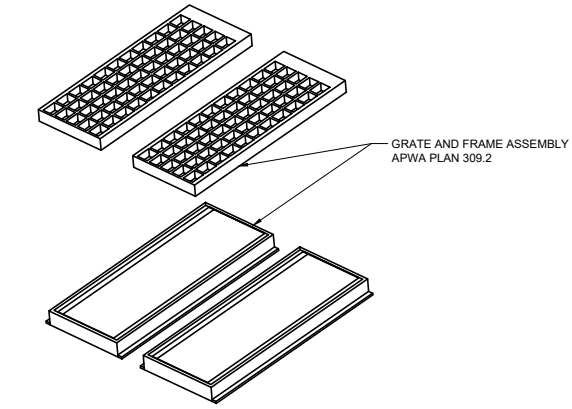
ST-13

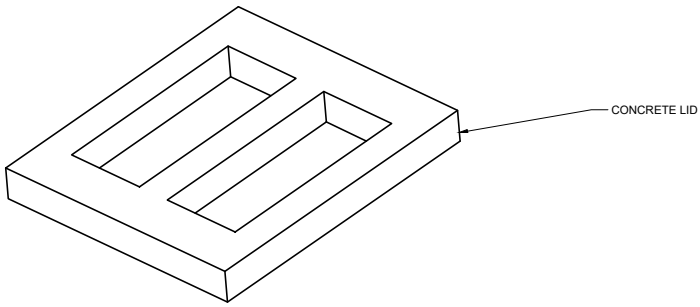


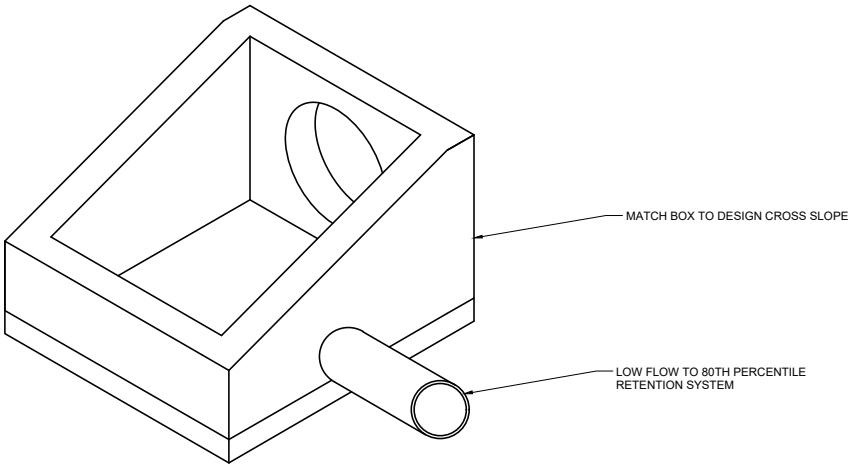
* INSTALLATION SHALL BE PURSUANT TO APWA SPECIFICATION 33 05 25 PAVEMENT RESTORATION.

NOT TO SCALE

	HIDEOUT TOWN ENGINEERING DEPT. 10860 N HIDEOUT TRAIL HIDEOUT, UTAH 84036 (435) 659-4739	BITUMINOUS CONCRETE PATCH	SEPTEMBER 2024 REVISIONS # / BY / DATE	PLAN ST-14







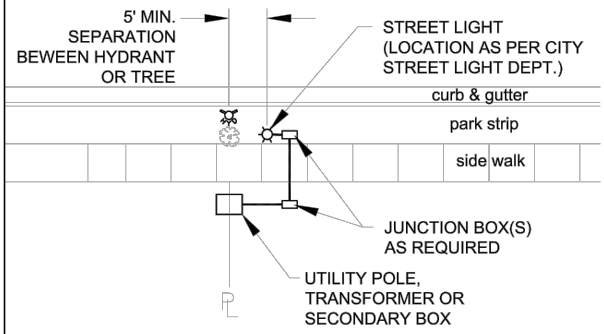
NOTES:

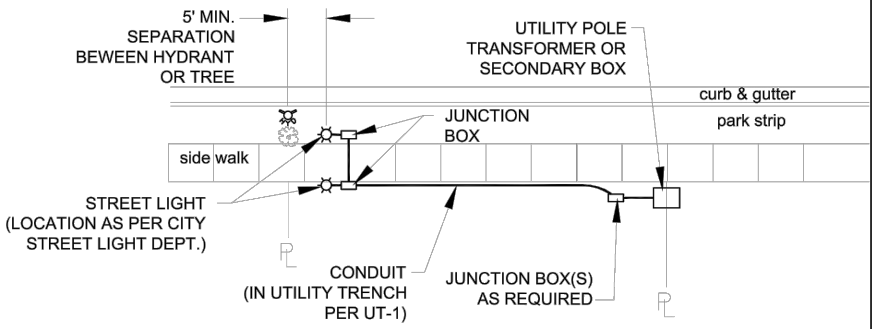
1. DESIGN SLOPE STRUCTURE REINFORCEMENT PER APWA PLAN 331.3 TYPE C.

2. SUBMIT SHOP DRAWINGS

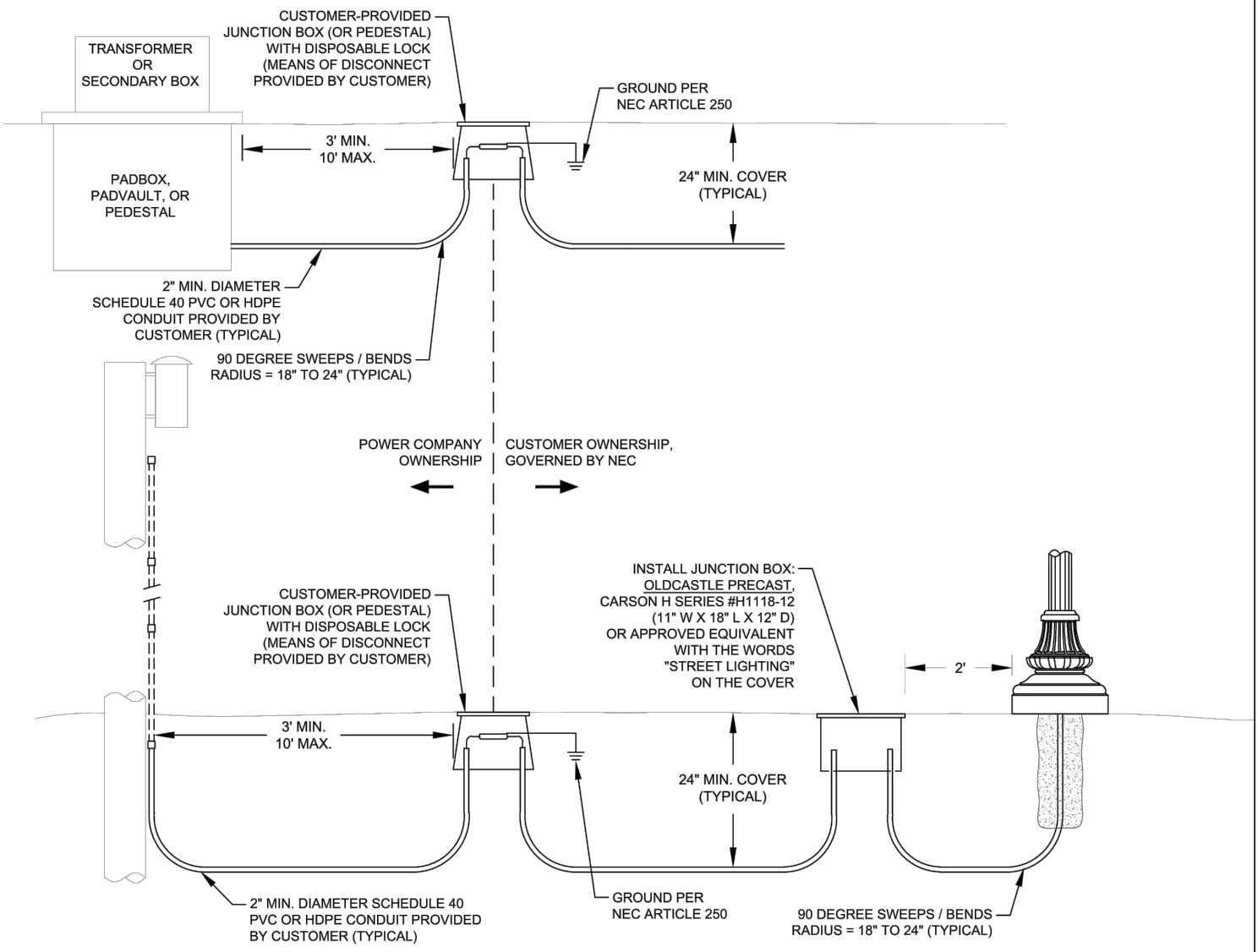
	HIDEOUT TOWN ENGINEERING DEPT. 10860 N HIDEOUT TRAIL HIDEOUT, UTAH 84036 (435) 659-4739	DETENTION POND INLET/OUTLET	SEPTEMBER 2024 REVISIONS # BY DATE	PLAN SD-1

TYPICAL 2





TYPICAL CONNECTION FROM POWER SOURCE



NOTES:

1. The customer shall consult the Power Company on the junction box location, pedestal location, conduit location and digging prior to installation.
2. The customer shall provide and install a junction box or pedestal, conduit, disconnect (fusing), a disposable lock, and customer-owned wire.
3. Any customer-owned metallic equipment within 72 inches (72") of the Power Company's metallic equipment shall be bonded.
4. The minimum dimensions of the junction box are 11-3/4" wide (at the top), 17" long, and 12" high and must be strong enough for incidental traffic areas.
5. Streetlight facilities with associated electrical outlets shall be metered.
6. The customer shall provide all conduit from the Power Company source to the customer-provided junction box or pedestal.
7. The customer's junction box or pedestal shall be located as shown.

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STREET LIGHT WIRING & INSTALLATION

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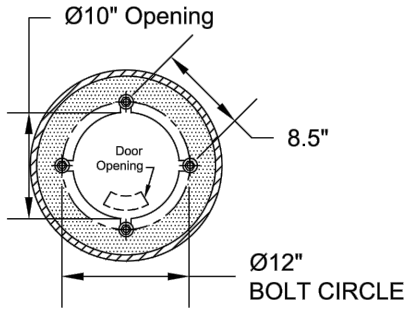
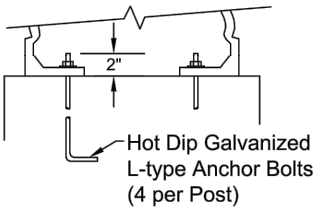
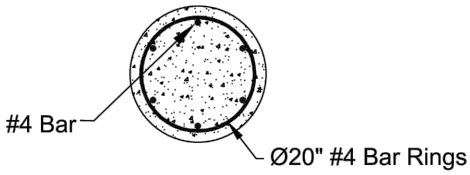
PLAN

LP-A

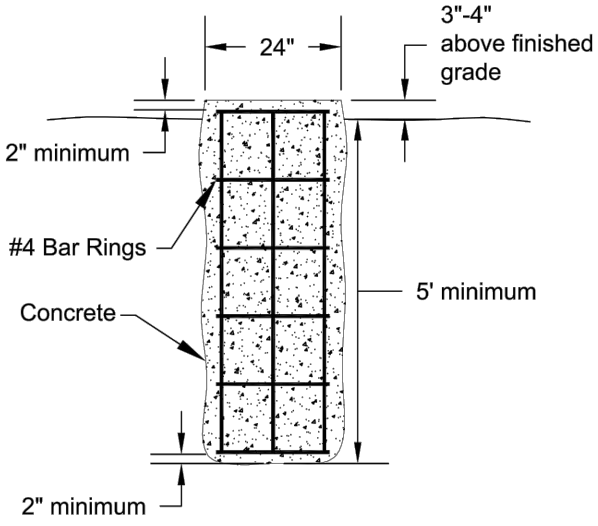




ANCHOR DETAIL



TOP VIEW



SIDE VIEW

BASE DETAIL

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STREET LIGHT
CONCRETE POLE BASE

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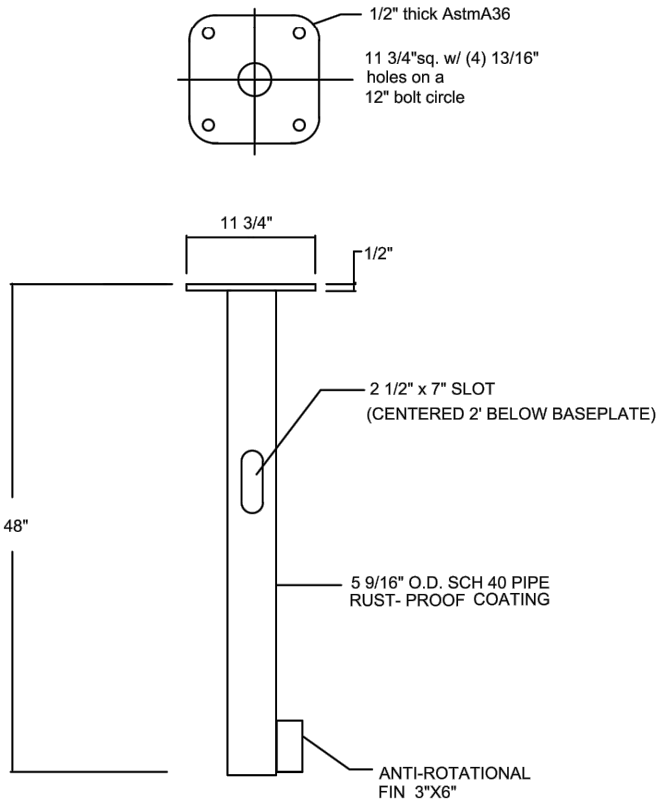
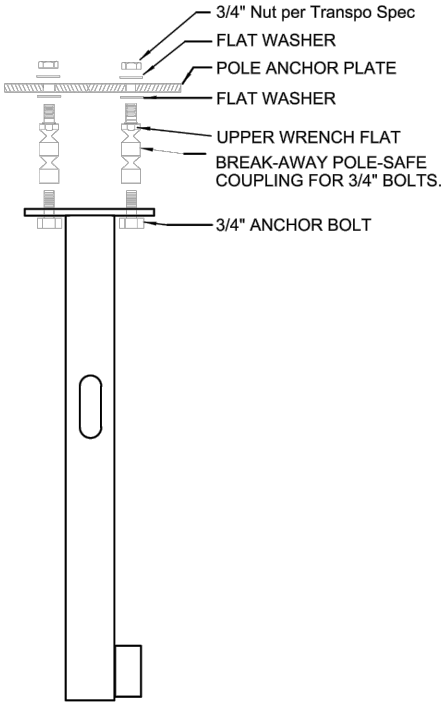
PLAN

LP-B





BREAK-AWAY POLE-SAFE
COUPLING DETAIL 1

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STINGER BASE WITH OPTIONAL BREAK-AWAY

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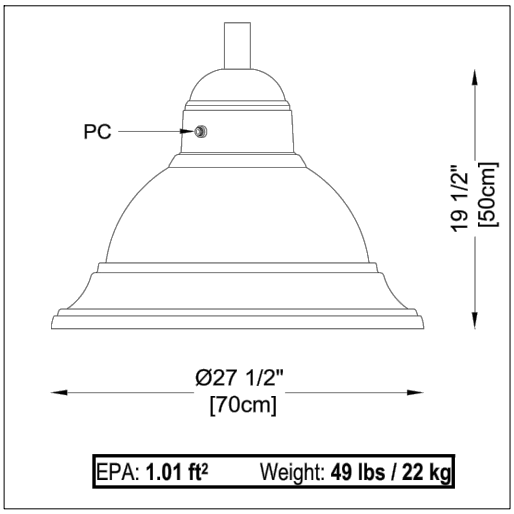
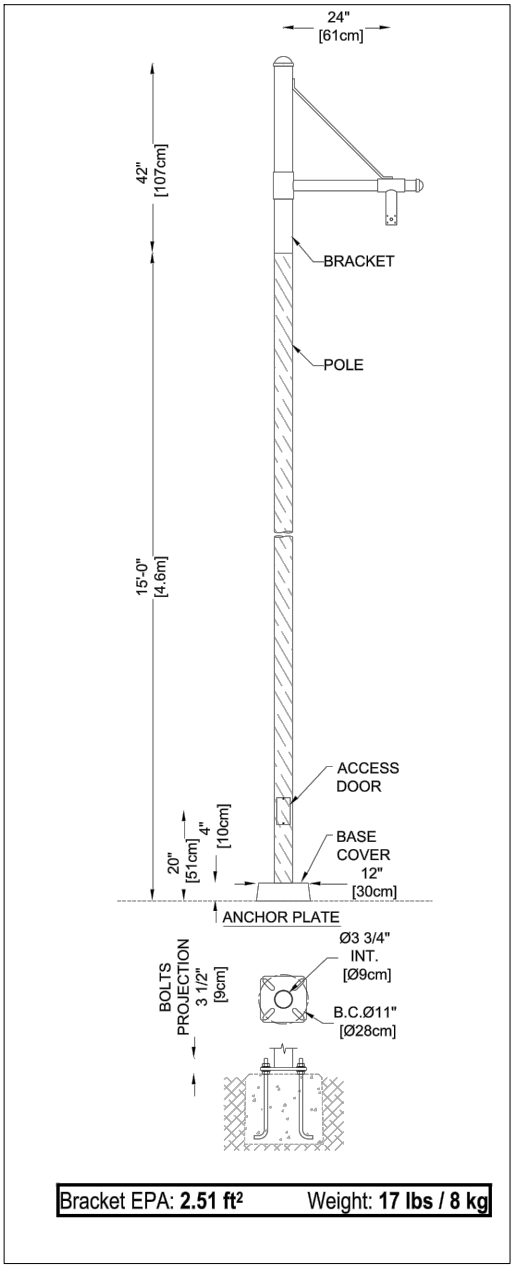
PLAN

LP-C



EPA: **1.01 ft²** Weight: **49 lbs / 22 kg**



Bracket EPA: **2.51 ft²** Weight: **17 lbs / 8 kg**

COMPONENTS

THE BASE SHALL BE A SQUARE SHAPED TWO-PIECE BASE COVER, MADE FROM ALUMINUM (BS15) MECHANICALLY SECURED TOGETHER.

THE BRACKET SHALL BE A ROUND SHAPED CENTRAL TUBE MADE FROM 4" DIAMETER ROUND DECORATIVE ELEMENT AND A TENON FOR LUMINAIRE SUSPENSION (M203), WELDED TOGETHER IN A SINGLE CONFIGURATION. SLIP FITS INSIDE THE POLE WITH A 12" LONG X 3 3/4" DIAMETER TENON.

THE POLE SHALL BE ROUND SHAPED, MADE FROM 4" DIAMETER HIGH TENSILE STRENGTH ASTM A500 GRADE C TUBE, WITH A WALL THICKNESS OF 1/8" (PS40). THE POLE IS WELDED TO BOTH THE TOP AND THE BOTTOM OF AN ANCHOR PLATE. INCLUDES HARDWARE TO SECURE THE BRACKET'S PENETRATING TENON (INS).

THE ACCESS DOOR, COVERING 2" X 5" OPENING, WITH A SEALING JOINT GIVING ACCESS TO THE COPPER GROUND LUG.

THE BASE COVER SHALL BE SQUARED SHAPED TWO-PIECES BASE COVER, MADE FORMED ALUMINUM (BS15), MECHANICALLY SECURED TOGETHER.

THE HEAD MODULE SHALL BE ROUND, BELL SHAPED CASE A356 ALUMINUM HOOD WITH AN ASSEMBLED CAST ALUMINUM LENS FRAME FOR OPTIC MODULE. TOPPED WITH A WELDED TENON, FOR LUMINAIRE SUSPENSION, TO BE LOCKED WITH A LOCKING BOLT AND SEC SCREWS. INCLUDES A "STREET SIDE" STICKER. FOR A BRACKET HAVING A 2 3/8" DIAMETER TENON WITH 0.154" OF WALL THICKNESS.

DIMENSIONS

THE POST SHALL BE 18'-7 3/4" IN HEIGHT WITH A 12" DIAMETER BASE. THE SHAFT DIAMETER SHALL BE 3 3/4". INSTALLATION

THE POST SHALL BE PROVIDED WITH FOUR, GALVANIZED ANCHOR BOLTS TO BE INSTALLED ON A SLOTTED 12" DIAMETER BOLT CIRCLE.

FINISH

BLACK RAL9005 (BK) TEXTURED FINISH FOR THE BRACKET AND BASE COVER. THE POLE SHALL HAVE A SMOOTH FINISH WITH A DURABLE POLYESTER POWDER COATING TO BE APPLIED AND MEETS THE AAMA 2604 REQUIREMENTS. THE FINISH SHALL MEET THE ASTM G7, B117, D1654 AND D2247 REQUIREMENTS RELATIVE TO SALT SPRAY AND HUMIDITY RESISTANCE.

OR APPROVED EQUAL

HIDEOUT TOWN
ENGINEERING DEPT.
10860 N HIDEOUT TRAIL
HIDEOUT, UTAH 84036
(435) 659-4739

LOCAL STREET LIGHT AND POLE

SEPTEMBER 2024

REVISIONS		
#	BY	DATE

PLAN

LP-1