

WILLOWBROOK HEIGHTS SUBDIVISION

SAM'S Estates

GENERAL UTILITY IMPROVEMENT NOTES:

LEGEND:

General

- All work shall be completed in accordance with the 1990 Idaho Standards for Public Works Construction (ISPMC) City of Kuna Supplemental Specifications Standards, and the City of Kuna Inspection Policy or current revisions thereto. Each Contractor shall have a copy of the ISPMC & City of Kuna Supplemental Specifications on the job site at all times. Construction on all streets shall also comply with the Ada County Highway District's (ACHD) Development Manual, Approved Feb. 14, 1996. Drawings referenced in these standards which begin with SD are shown in the ISPMC.
- All underground utilities shown hereon are approximate locations.
- It shall be the Contractor's responsibility to contact the appropriate utility company to determine exact locations of all existing utilities prior to beginning work.
- The Contractor shall be fully responsible for any and all damages to existing or constructed utilities, and shall repair damages in accordance with utility owner's requirements or at additional cost to the Project Owner. Call Dig Lms at 208-342-1585.
- All utilities, including service lines within street travel ways, shall be in place prior to curb, gutter, sidewalk, and street construction.
- It shall be the Contractor's responsibility to coordinate and notify all affected utility owners. The Owner or Engineer will not make notifications.
- Each Contractor shall be responsible for protecting all work constructed by them until the subdivision is accepted by the City of Kuna for continuous operation and maintenance.
- All miscellaneous structures such as fences, mailboxes, signs, irrigation and drainage facilities, utility poles, lines and appurtenances when necessary to be removed or disturbed, shall be replaced or reconstructed to better than or equal their condition.
- Each Contractor shall be responsible for acquiring any necessary NPDES permits, filing any NCRs, and preparing a Pollution Prevention Plan (PPP) in accordance with the Environmental Protection Agency. Contact the EPA for the required information. Said permit shall be presented to the Engineer at least 48 hours prior to the beginning of construction.
- Any disruption of traffic on Boise Street during construction shall require a Traffic Control Plan to be submitted by the Contractor to the City of Kuna for approval. Traffic control devices shall be in accordance with the current M.I.T.C.D.
- All construction and lot staking will be provided one time only by Leavitt & Associates Engineers. All additional staking for lost or damaged stakes will be at the Contractor's or Owner's expense.
- All Contractors shall provide one (1) set of as-built drawings to City of Kuna and Leavitt & Associates Engineers upon completion of their work.
- All Contractors shall provide all material test reports and certifications as required by the governing agencies to the Engineer prior to leaving site or next phase of construction.
- A right-of-way permit from ACHD may be required to perform the work and it shall be the Contractor's responsibility to obtain all permits prior to construction.
- It shall be the Contractor's responsibility to coordinate and notify all affected utility owners and provide all utility locations until the project is accepted by the appropriate agency.
- All valve box material shall be in accordance with the City of Kuna Standards and installed to finish grade by the Pipe Contractor and adjusted to final grade by the Paving Contractor prior to final inspection.

Roadway

- The Concrete Contractor is responsible for installation of curbside mailboxes and wood mounts per City of Kuna.
- All underground utilities shall be installed and tested to assure a passing result prior to paving.
- All top of curb radii shall be 29.5 feet unless otherwise noted.
- The requirements of the American Disabilities Act shall be met by all types of construction on this contract with special attention by the Concrete Contractor.
- The Paving Contractor shall adjust new and existing manhole rims and covers to finished pavement elevation and install concrete collars in accordance with ISPMC Standard Drawing SD-506B.

Utilities

- All pavement repairs shall be made within seven calendar days from the time the pavement and concrete is removed. Utility Contractors shall be responsible for trench repairs.
- All construction required for retention and detention ponds and drainage swales is an integral part of the storm drain construction and therefore is the responsibility of the Storm Drain Contractor.
- All sewer and storm drains shall be tested in accordance with ISPMC Section 506.08 unless otherwise approved by the Engineer or utility agency.
- Top of curb elevations shown hereon at catch basins are for roll type curb. Contractor shall transition to 6 inch vertical curb through catch basin areas. Installation of inlet catch basins shall be in accordance with Standard Drawing SD-601.
- The Pipe Contractor shall maintain a 10' minimum horizontal separation between water lines and all of the following storm drains, irrigation and sewer lines. See Sewer Note No. 1.
- Storm drain manholes shall be per ISPMC Section 605, Standard Drawing No. SD-606 standard manhole Type A with concentric cones unless otherwise noted or revised.

Sewer

- Where it is necessary for sewer, storm drain and irrigation to cross water and the sewer, storm drain or irrigation line is less than 18 inches below, or the sewer, storm drain or irrigation line is above the water main, the sewer, storm drain or irrigation line shall be PVC pressure pipe conforming to AWWA C-900 or ASTM D-2241, Class 150, and watertight joints for a distance of 10 feet on both sides of the water main, in accordance with the Idaho Public Drinking Water Standards. One full length of both water main and sewer, storm drain or irrigation line shall be centered over the crossing point so that both joints will be as far from the crossing point as possible. In lieu of constructing or reconstructing the sewer, storm drain or irrigation line to conform to water main standards, the water main or sewer/storm drain/irrigation line or all may be encased in 4 (four) inches of concrete measured at the bell. For a distance of 10 feet on both sides of the water main.
- All sanitary sewer mains may be subject to T.V. inspection by the City of Kuna prior to paving. The Sewer Contractor shall contact and coordinate with City for inspection.
- Manhole cones shall be set by the Pipe Contractor to a minimum of 1 foot below finished grade of all roadways or otherwise Pipe Contractor shall complete all manhole construction including rings, dust pans and covers to grade.
- Manhole cones shall be set by the Pipe Contractor. All remaining manhole materials necessary to construct manholes to finished grade shall be furnished by the Pipe Contractor for placement at finished grade by the Street Paving Contractor.
- Sewer service lines shall be constructed as shown on the plans. Service lines shall extend a minimum of 15 feet beyond the right-of-way on all streets having a right-of-way width of 80 feet or less. Service lines must be tested. Sewer service lines shall be type "A" per Standard Drawing SD-311A.
- All sewer manholes shall be per ISPMC Standard Drawing No. SD-501 or SD-503 type A or type B. Concentric cones will be used on manholes 4-foot or shallower in depth. All other manholes shall have eccentric cones and shall be equipped with steps.
- All sewer mains with 3' or less of cover shall be constructed with ductile iron pipe.
- All sewer pipe fittings shall be Poly-vinyl-chloride (PVC) conforming to the provision of ASTM D-3034, SDR-35 for sizes 4 inch through 15 inch; ASTM F-679, SDR-35, T-1 wall for sizes 18 inch through 27 inch; or ASTM F-794 T-46 for sizes 15" through 36".
- All installed sewer lines shall be tested for leaking in accordance with Section 506 of the ISPMC Specifications following installation of all utilities and prior to paving.
- The Developer shall guarantee all work for a period of one year following acceptance by the City.

Storm Drain

- All Storm Drain main lines shall be constructed with ASSHTO M-294 TYPE S, except as noted in Sewer Note 1.
- Refer to the Sewer Notes 3, 4 & 6 for storm drain manhole information.

Irrigation

- All material must be in accordance with current City of Kuna Standards.
- Pressure irrigation service line risers shall be constructed at the midpoint of the rear lot line unless otherwise shown.
- All tees, plugs, caps, and bends of 11-1/4 unbalanced forces will exist shall be secured and anchored by suitable thrust blocks as shown in the ISPMC Standard Drawing No. SD-403.
- All irrigation and water line crossings are subject to minimum separations. See Sewer Note #1.
- Concrete for thrust blocks shall conform to ISPMC CL-3000 and shall have a minimum 28 day strength of 3,000 psi. Concrete thrust blocks are to be placed against undisturbed earth. Thrust blocks shall have the following bearing areas: 4" fitting size or smaller shall have 1.3 square feet; 6" fitting size shall have 2.0 square feet. Place 6 mil polyethylene sheet between thrust block and fitting.
- Valve boxes located in unpaved areas shall be provided with a six (6) inch thick concrete collar twenty-four (24) inches square. Lid shall say "IRR".
- The pressure main shall be tested in accordance with the ISPMC Section 404, Hydrostatic Testing for Water Mains. Min. 100 psi.
- All work shall be guaranteed by the Contractor for a period of one year from and after the date that the substantial completion is issued.
- All back flow prevention devices shall conform to the requirements of AWWA C511 and requirements of the Idaho Department of Health and Welfare, Division of Environmental Quality.
- All water rights shall remain with the land and be dedicated for use by the City pressure irrigation system.
- Pressure irrigation main line piping shall be constructed of Poly-vinyl-chloride (PVC), 200 psi, sdr 21, conforming to ASTM D2241, for pipes 3" and larger, and Schedule 40, conforming to ASTM D2466 for pipes 2.5" and smaller. Minimum burial depth for all irrigation mains shall be 2'-6" from finish grade to the top of pipe if the pipe is free-draining except within roadways. Under roadways or in areas where the pipe is free-draining, a minimum 3-1/2 feet of cover shall be required from finish grade.
- All fittings shall be cast iron, ductile iron, PVC, brass or stainless steel, and shall have a minimum pressure rating equal to or greater than the main line pressure rating. All fittings 4 inches and larger shall be ductile iron with flanged or mechanical joints. All fittings 4 inches and larger shall be ductile iron with flanged or mechanical joints.
- Valves for sizes up to 3 inch shall be rising stem, solid double wedge disc, screw bonnet, with hand wheels. The valve body, bonnet, disc and stem shall be bronze. Valve boxes for sizes up to 3 inch shall be 4 inch diameter PVC or ABS pipe with a female adapter, and threaded plug with square nut. Valves 3 inch and larger shall be resilient wedge valves conforming to the requirements of AWWA C509, with mechanical or flanged joints and 2 inch square operating nut. Valve boxes for valves 3 inch and larger shall be a standard cast iron 5-1/4 inch diameter adjustable valve box.
- All irrigation shall be installed with fender tape. Tape shall be 2 inches wide, metallic red or purple in color, with the words DANGER UNSAFE WATER or NON-POTABLE WATER clearly marked along the length of the tape. Tape shall be placed between 6 inches below the surface and 18 inches above the top of the pipe.
- All irrigation construction shall conform to the latest edition of the Idaho Standard for Public Works construction (ISPMC), Uniform Plumbing Code, and laws of the State of Idaho.
- Individual irrigation services shall be installed for each lot as outlined above. Each service shall be equipped with a metal or plastic tag with "NON-POTABLE WATER DO NOT DRINK".
- All installed irrigation system shall be tested for leaking in accordance with Section 404 of the ISPMC Specifications following installation of all utilities and prior to paving.
- All pipe, mains and services, shall be bedded with type 1 bedding. Type 1 pipe bedding shall be reject sand. In areas of rock excavation bedding shall be a minimum of 6" below the bottom of the pipe.
- All water distribution lines, services, and appurtenances shall be constructed in accordance with City of Kuna Supplemental Standards. The pipe shall be installed in a workmanship like manner by persons properly qualified to perform the work and shall be in conformance with the manufacturer's recommendations and as approved by the City of Kuna.
- All water mains shall be disinfected in accordance with the "Standards for Disinfecting Water Mains" prepared by the American Water Works Association. The water system shall conform with the standards set forth in "The Idaho Regulations for Public Drinking Water Systems", prepared by the Idaho Department of Health and Welfare. The water system shall be tested in accordance with ISPMC Section 404, Min. 150 psi.
- All tees, plugs, caps, and bends of 11-1/4 unbalanced forces will exist shall be secured and anchored by suitable thrust blocks as shown in the ISPMC Standard Drawing No. SD-403.
- It is the responsibility of the Water Line Contractor to have all fire hydrants in service upon completion of construction and acceptance by the City of Kuna.
- For water and sewer separation requirements see Sewer Note No. 1.
- Type 1 pipe bedding shall be reject sand. Type 1 pipe bedding is required in all waterline installation. In areas where rock excavation is encountered bedding shall be a minimum of 6" below the bottom of the pipe.
- All water and sewer construction shall conform to the latest edition of the Idaho Standards for Public Works construction (ISPMC), Uniform Plumbing Code, and laws of the State of Idaho.
- All water mains shall be Poly-vinyl-chloride (PVC) conforming to the provisions of AWWA C-900, Class 150, SDR 18, or Class 150 Cement Mortar Lined Ductile Iron conforming to AWWA C-104 and AWWA C-151. All fittings shall be mechanical joint ductile iron conforming to AWWA C-110. Minimum burial depth for all water mains shall be 4 feet from finish grade to the top of pipe.
- All main line water valves shall be resilient-coated gate valves conforming to AWWA C-509. All water valves shall be furnished with a standard cast iron 5-1/4 inch diameter adjustable valve box. The cast iron cover shall be marked with the word "WATER" as an integral part of the cover.
- All fire hydrants shall be dry parallel fire hydrants conforming to AWWA C-502. Hydrants shall have a 5 foot setting; minimum 5-1/4 inch valve opening; 150 psi working pressure; one 4-1/2 inch diameter National Standard purifier nozzle; one 2-1/2 inch diameter National Standard Thread fire hose nozzles.
- Individual water services shall be installed for each connection. The water services shall consist of a pipe saddle with 1 inch corporation stop; 1 inch class 200, SDR 7.3 polyethylene pipe conforming to AWWA C-901; 18 inch tall 5/8"x3/4" copper meter setter with lockable shutoff valve; and 18 inch diameter by 30 inch tall insulated meter box as manufactured by "Mid-State Plastic Inc." or approved equal; and a cast iron frame and cover topped with a 1 inch diameter hole for the city auto read; approved by the City.
- All installed water lines shall be tested for leaking in accordance with Section 4404 of the ISPMC Specifications following installation of all utilities and prior to paving. All installed water lines shall be disinfected in accordance with Section 405 of the ISPMC Specification and satisfactorily pass a bacteriological test conducted by the City prior to being put into service.
- All pipe, mains and services, shall be bedded with Type 1 bedding. In areas of rock excavation bedding shall be 6 inches below the pipe.
- The separation requirements as outlined in Section 406, Separations of Water Mains and Sewers of the ISPMC Specifications shall apply to both mainlines and service lines. Where sewer mains and services do not conform to the separation requirements water class pipe is required.
- The Developer shall guarantee all work for a period of one year following acceptance by the City.

Water

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SYMBOLS:

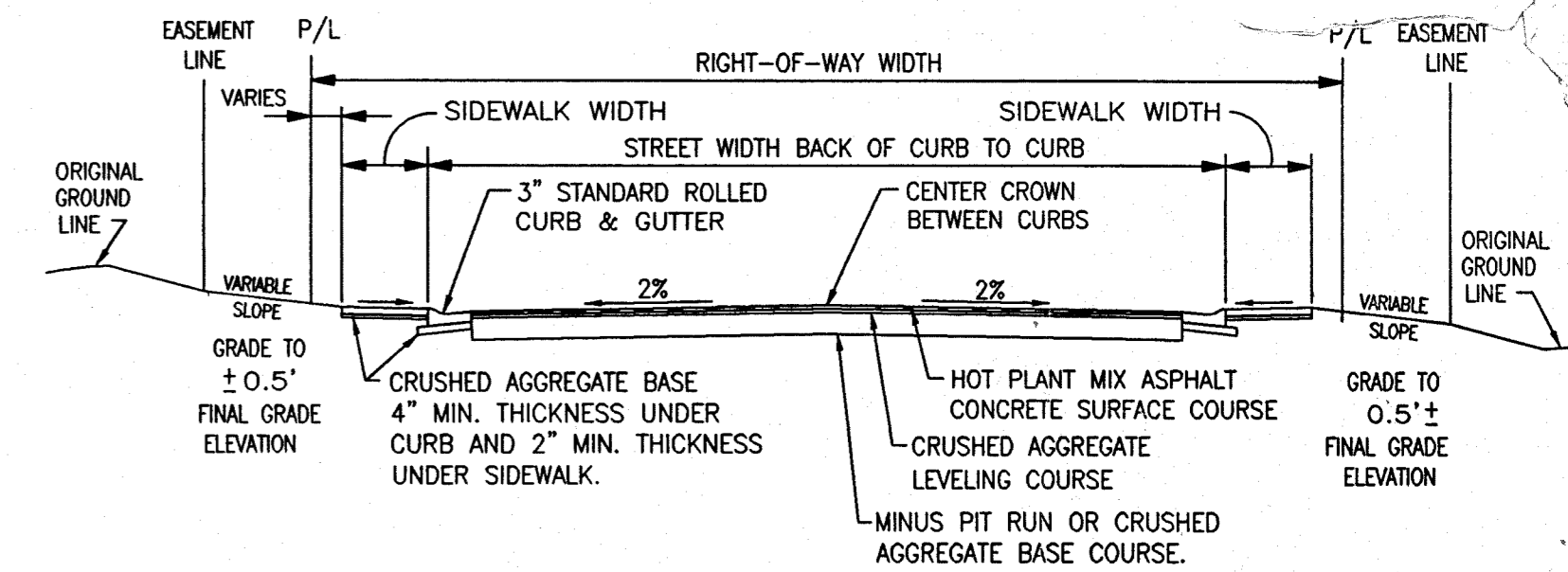
- — CONSTRUCT MANHOLE
- — EXISTING MANHOLE
- ⊕ — CONSTRUCT GATE VALVE
- ⊕ — EXISTING GATE VALVE
- ⊕ — CONSTRUCT FIRE HYDRANT
- ⊕ — EXISTING FIRE HYDRANT
- ⊕ — CONSTRUCT STREET LIGHT
- ⊕ — EXISTING STREET LIGHT
- ⊕ — CONSTRUCT WATER METER
- ⊕ — EXISTING WATER METER
- ⊕ — CONSTRUCT BLOW-OFF VALVE
- ⊕ — EXISTING BLOW-OFF VALVE
- ⊕ — CONSTRUCT THRUST BLOCK
- ⊕ — CONSTRUCT 2-PARTY MAILBOX CLUSTER
- ⊕ — CONSTRUCT PUMP-OUT
- ⊕ — CONSTRUCT CATCH BASIN
- ⊕ — CONSTRUCT PEDESTRIAN RAMP
- ⊕ #1 — TEST HOLE WITH PERCOLATION TEST
- ⊕ #1 — TEST HOLE
- ⊕ #1 — STATION
- ⊕ #1 — TBC ELEVATION
- ⊕ #1 — CROSS DRAIN W/ FILLETS

LINETYPES:

- — EXISTING CURB & WALK
- — CONSTRUCT CURB & WALK
- x" S — EXISTING SEWER
- x" S — CONSTRUCT SEWER
- x" SD — EXISTING STORM DRAIN
- x" SD — CONSTRUCT STORM DRAIN
- x" W — EXISTING WATER
- x" W — CONSTRUCT WATER
- — CONSTRUCT WATER SERVICE LINE
- — PHASE BOUNDARY
- — STREET CENTER LINE
- — LOT LINE
- x" PI — EXISTING IRRIGATION LINE
- x" PI — CONSTRUCT PRESSURE IRRIGATION LINE
- — CONSTRUCT PRESSURE IRRIGATION SERVICE LINE
- x" GI — CONSTRUCT GRAVITY IRRIGATION LINE

ABBREVIATIONS:

- G.B. — GRADE BREAK
- TBC — TOP BACK CURB
- PC — POINT OF CURVE
- PT — POINT OF TANGENT
- STA. — STATION
- L — LENGTH
- TYP. — TYPICAL
- EP — EDGE OF PAVEMENT
- INV. — INVERT
- C.B. — CATCH BASIN
- S. — SOUTH
- N. — NORTH
- CULD. — CULDESAC
- CL — CENTER LINE
- P/L — PROPERTY LINE
- MJ — MECHANICAL JOINT



STREET NAME	BASE COURSE	3/4" OR 2"	3/4" LEVELING COURSE	PMX	CURB TYPE	STREET WIDTH BACK OF CURB	SIDEWALK WIDTH	RIGHT OF WAY WIDTH
WILLOW ROAD	12"	8"	4"	2.5"	ROLLED	36'-0"	5'-0"	50'

NO.	DATE	BY	DESCRIPTION
3	4/18/00	KS	REVISED PER ACHD APPROVAL COMMENTS
2	1/10/00	KS	REVISED PER ACHD & KUNA APPROVAL COMMENTS
1	12/13/99	KS	REVISED PER ACHD & KUNA APPROVAL COMMENTS
0	10/05/99	KS	ISSUED FOR APPROVAL

WILLOWBROOK HEIGHTS SUBDIVISION

DEVELOPER:
LAWRENCE T. HAYES
4493 DYE LANE
KUNA, IDAHO 83634
PHONE (208) 870-4489

SEP 01 2000
IDAHO CITY CLERK

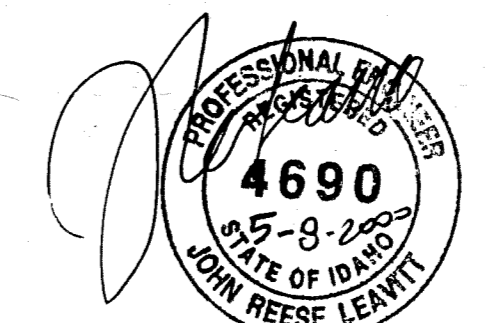
LEAVITT & ASSOCIATES ENGINEERS, INC.
STRUCTURAL & CIVIL SURVEYING

11 THIRTEENTH AVENUE SOUTH, SUITE A, NAMPA, IDAHO 83651
PHONE (208)463-0333/463-7870 FAX (208)463-9040

COVER SHEET

Client: LAWRENCE HAYS
Job Number: 99203
Designed by: SLG
Drawn by: SLG
Checked by: JRL
Delivery Date: 10/5/99

Sheet number: 1
Revision: 3



DRAWING INDEX

COVER SHEET	01
STREET, WATER AND SEWER PLAN & PROFILE FOR WILLOW ROAD	02
SEWER PLAN & PROFILE FOR BOISE STREET, STORM DRAINAGE PLAN	03
PRESSURE IRRIGATION PIPING SYSTEM PLAN	04
STORM DRAINAGE & POND PLAN	05
GRAVITY IRRIGATION PIPING PLAN & PROFILE	06

NOTE: OFF SITE PAVING OF DRIVEWAY IS LOCATED ON THE IRRIGATION PLAN SHEET

