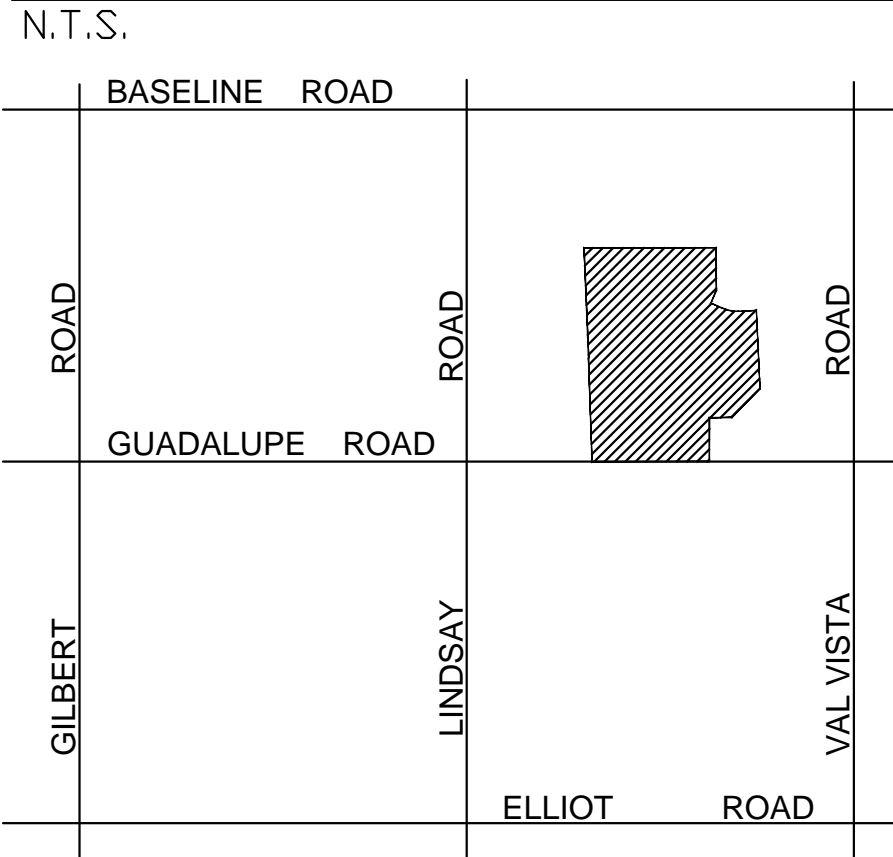


VICINITY MAP



GENERAL NOTES

- 1. ALL LANDSCAPE WORK TO CONFORM TO THE MOST CURRENT VERSION OF THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) "UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION" AND DETAILS AND CURRENT REVISIONS THERETO, TOGETHER WITH THE TOWN OF GILBERT LAND DEVELOPMENT CODE, STANDARD DETAILS AND SUPPLEMENT TO M.A.G., AND THE SPECIAL PROVISIONS. IF ANY DISCREPANCIES EXIST BETWEEN THE DRAWINGS AND THE DOCUMENTS LISTED ABOVE, THE DRAWINGS SHALL PREVAIL OR SHALL BE AS DETERMINED BY THE OWNER'S REPRESENTATIVE (OWNER REFERS TO TOWN OF GILBERT).

LANDSCAPE NOTES

- 1. VERIFY ALL LAYOUT AND GRADING WITH THE OWNER'S REPRESENTATIVE PRIOR TO STARTING CONSTRUCTION.
- 2. LANDSCAPE AREAS ARE DEFINED AS ALL NON-PAVED AREAS SHOWN ON THE PLANS WHICH ARE BOUNDED BY THE FENCE/WALLS OR PROPERTY LINES ADJACENT TO THE ROADWAYS INCLUDING ALL ADJACENT PUBLIC RIGHT-OF-WAY, COMMON OPEN SPACE TRACTS, AND ANY ADJACENT PROPERTIES OUTSIDE THESE LIMITS WHICH ARE DISTURBED BY ANY CONSTRUCTION ACTIVITY UNDER THIS CONTRACT.

LANDSCAPE MATERIALS LIST

Table with columns: SYM., BOTANICAL NAME, COMMON NAME, SIZE, BASE QTY., ALT. QTY., REMARKS. Lists various trees, shrubs, ground covers, and rock materials.

EXISTING TREE LEGEND

- ⊕ EXISTING TREE TO REMAIN
A=ASH TREE EU=EUCALYPTUS
B=BOTTLE TREE J=JACARANDA
E=ELM TREE P=PINE TREE

WALL LEGEND NOTES

- ⊙ EXISTING STUCCO AND PAINTED WITH SPLIT FACE BLOCK BAND THEME WALL MAINTAINED BY THE TOWN OF GILBERT

IRRIGATION MATERIALS LIST

Table with columns: SYMBOL, DESCRIPTION. Lists various irrigation components like water meters, backflow preventers, valves, emitters, and controllers.

PROTECTION / RESTORATION NOTES

- 1. RESTORATION OF LANDSCAPE AREAS WILL BE BASED ON THE LIMIT OF DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LIMITS OF RESTORATION AND PROVIDE ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE REQUIRED REPAIR WORK AS NOTED AND IN ACCORDANCE WITH M.A.G. SECTION 107.9.

MAINTENANCE

- 1. CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ALL LANDSCAPE AREAS INCLUDED IN THE CONTRACT INCLUDING BASE BID AREAS + N. PARK VILLAGE DR. & E. RALIEGH BAY DR. FRONTAGES TO PROJECT LIMITS; E. SCOTT AVE., N. ROCK ST., E. ENCINAS AVE., N. PEBBLE BEACH DR., AND N. QUARTZ ST. ENTRY MEDIANS AND FRONTAGES TO PROJECT LIMITS, AND ALTERNATE 1 AREA IF ACCEPTED - N. SIDE E FORD AVE. FRONTAGE TO PROJECT LIMITS.

TRENCHING ADJACENT TO EXISTING TREES:

WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE ROOTS TWO INCHES (2") AND LARGER OCCUR SHALL BE DONE BY HAND.

DRAWING SHEET INDEX

Table with columns: DESCRIPTION, SHEET NUMBER. Lists drawing sheets including Landscape General Notes, Planting Plans, Irrigation Plans, and Detail Sheets.

KEYMAP

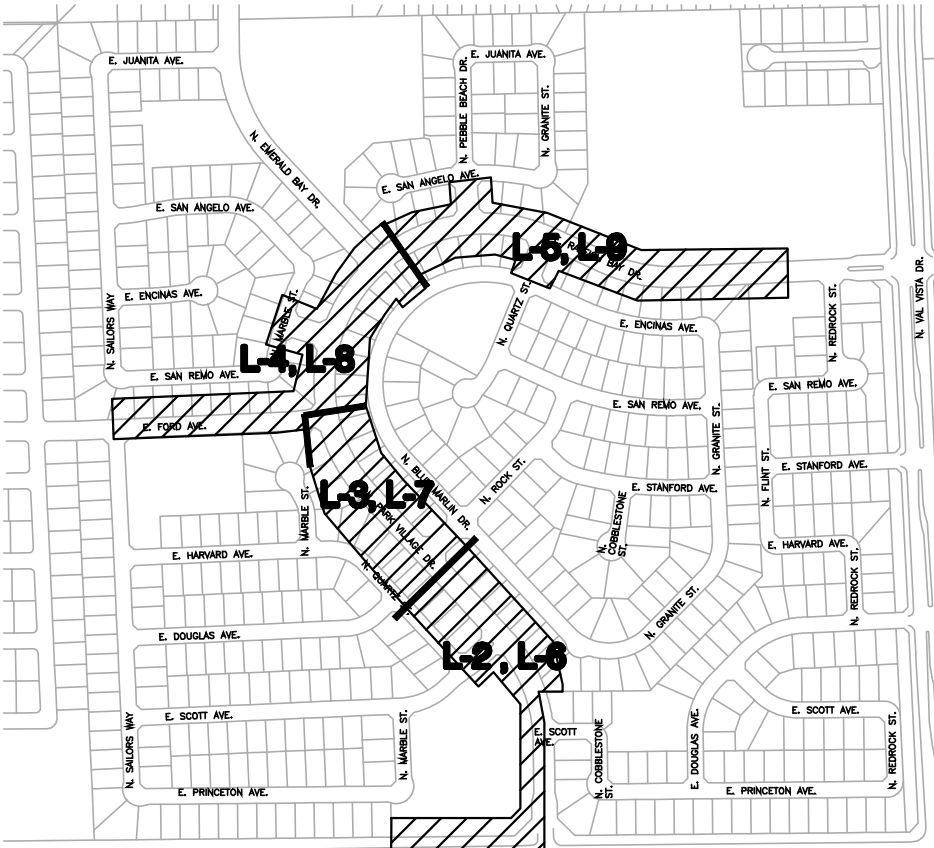
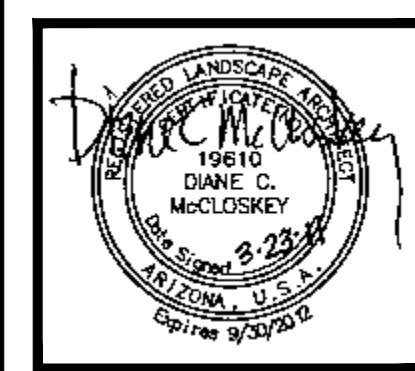


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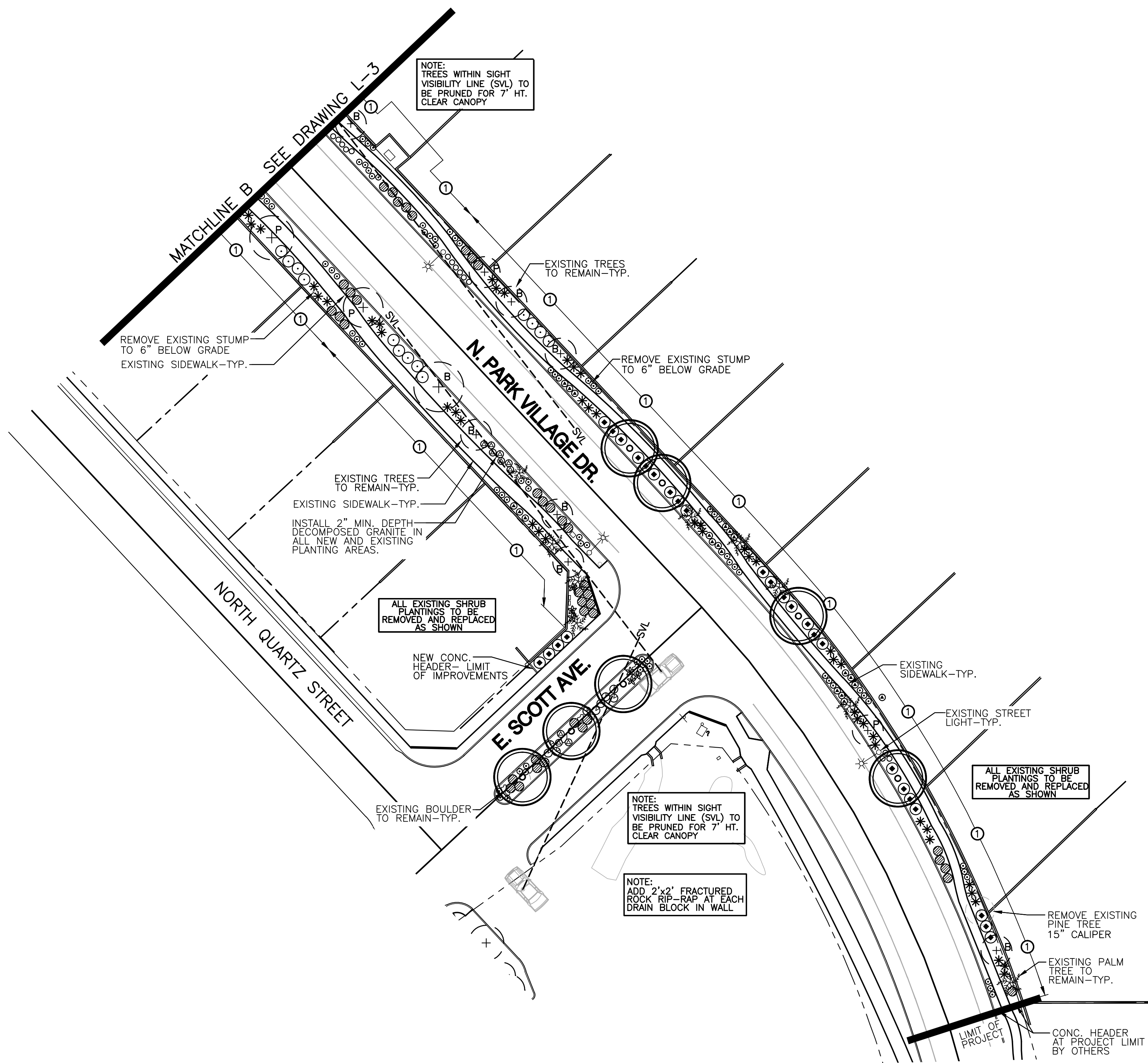
McCloskey + Peltz, Inc. LANDSCAPE ARCHITECTS. One West Elliot Road Suite 110, Tempe, Arizona 85284. Phone: (480) 838-4777.

General Notes Sheet Parkway Improvement District 07-3 PARK VILLAGE

PREPARED FOR: Town of Gilbert

Table with design and check information: DESIGNED BY: MPI, DRAWN BY: MPI, CHECKED BY: DCM, PROJECT NO: 06422, DATE: 3/2011.





**LANDSCAPE MATERIALS LIST**

SYM.	BOTANICAL NAME COMMON NAME	SIZE
<b>TREES</b>		
●	ULMUS PARVIFOLIA EVERGREEN ELM	24" BOX
○	QUERCUS VIRGINIANA SOUTHERN LIVE OAK	24" BOX
<b>SHRUBS, GROUND COVERS, AND ACCENTS</b>		
*	AGAVE DESMETTIANA	5 GAL.
⊕	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE	15 GAL.
⊖	CALLIANDRA CALIFORNICA BAJA FAIRY DUSTER	5 GAL.
⊗	CHRYSACTINIA MEXICANA DAMIANITA	1 GAL.
⊕	EREMOPHILA HYGROPHANA EREMOPHILA	5 GAL.
*	HESPERALOE PARVIFLORA RED YUCCA	5 GAL.
⊗	LANTANA 'NEW GOLD' NEW GOLD LANTANA	1 GAL.
⊖	LEUCOPHYLLUM CANDIDUM 'THUNDER CLOUD'	5 GAL.
⊖	LEUCOPHYLLUM LANGMANIAE 'RIO BRAVO' SAGE	5 GAL.
⊖	NERIUM OLEANDER 'PETITE PINK' OLEANDER	5 GAL.
⊖	ROSMARINUS OFFICINALIS 'HUNTINGTON CARPET' DWARF ROSEMARY	1 GAL.
⊖	RUELLIA BRITTONIANA 'KATIE' KATIE RUELLIA	1 GAL.
⊖	RUELLIA PENINSULARIS DESERT 'RUELLIA	5 GAL.
⊕	SOPHORA SECUNDIFLORA TEXAS MOUNTAIN LAUREL	15 GAL.
○	TETRANEURIS ACAULIS ANGELITA DAISY	1 GAL.

CONC. HEADER

**ROCK GROUND COVER**

NEW LOOSE ROCK 3"-6"  
FRACTURED ROCK LOCATED AS SHOWN ON PLAN 'MADISON GOLD'

DECOMPOSED GRANITE, INSTALL 2" MIN. DEPTH IN ALL LANDSCAPE PLANTING AREAS. 1/2" SCREENED COLOR: 'MADISON GOLD'  
SUBMIT REPRESENTATIVE SAMPLE OF ALL ROCK GROUND COVER FOR APPROVAL PRIOR TO ORDERING.

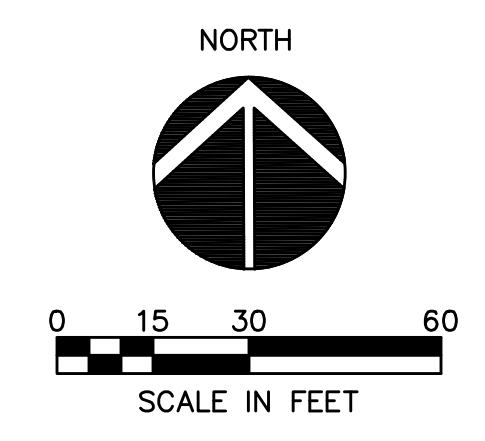
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**WALL LEGEND NOTES**

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**KEYMAP**



NO.	DATE	DESCRIPTION

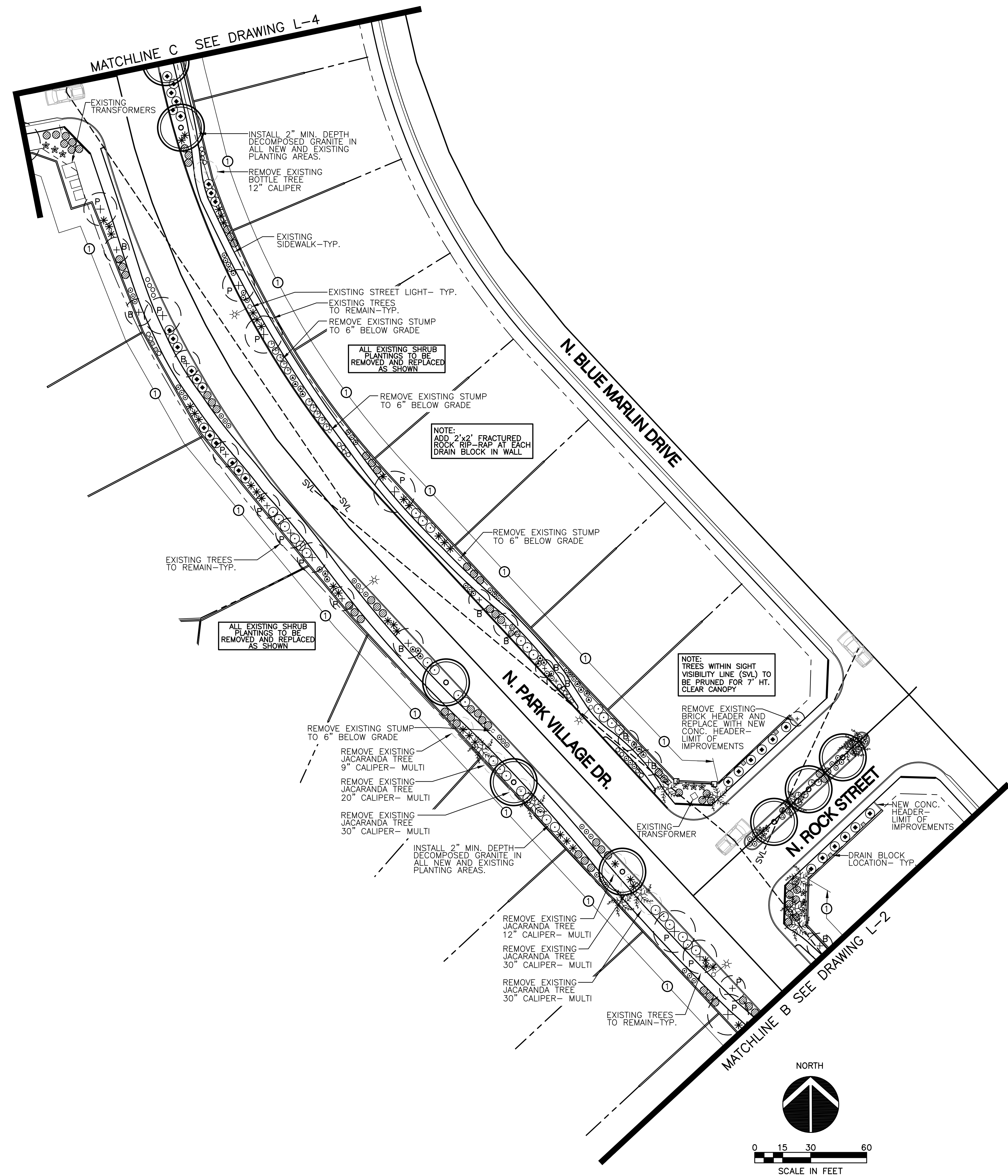


**McCloskey + Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777

Landscape Plan  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert  
FY 11-12

DESIGNED BY: MPI
DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.  
**L-2**  
SHEET 2 OF 13



**LANDSCAPE MATERIALS LIST**

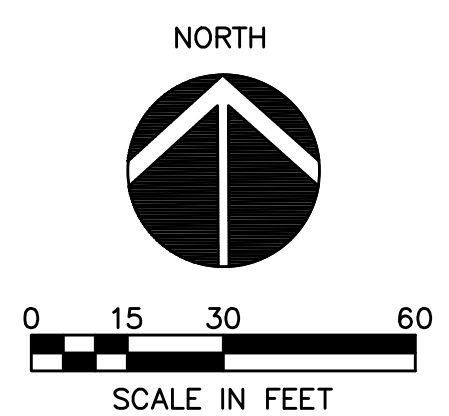
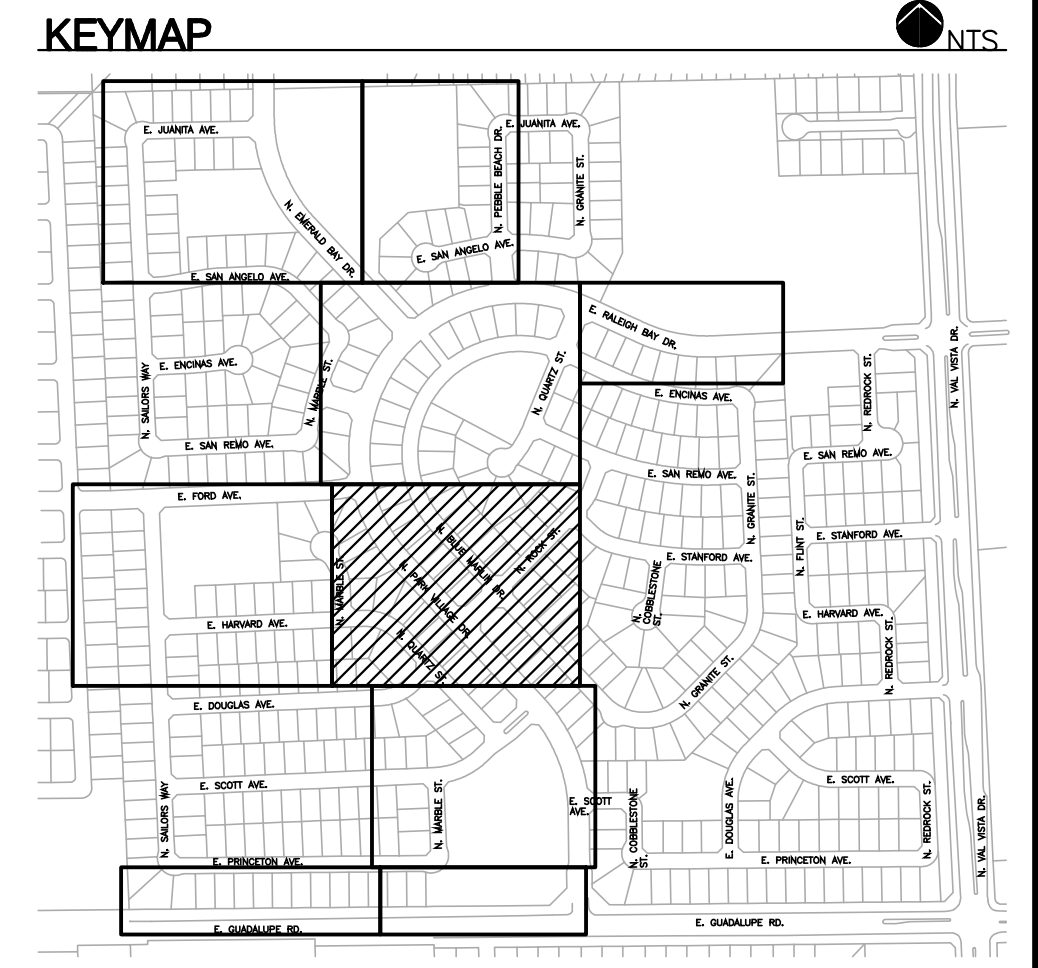
SYM.	BOTANICAL NAME COMMON NAME	SIZE
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★	AGAVE DESMETTIANA	5 GAL.
⊕	AGAVE	
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⊕	NEW GOLD LANTANA	
⊕	LEUCOPHYLLUM CANDIDUM	5 GAL.
⊕	'THUNDER CLOUD'	
⊕	LEUCOPHYLLUM LANGMANIAE	5 GAL.
⊕	'RIO BRAVO' SAGE	
⊕	NERIUM OLEANDER	5 GAL.
⊕	'PETITE PINK' OLEANDER	
⊕	ROSMARINUS OFFICINALIS	1 GAL.
⊕	'HUNTINGTON CARPET'	
⊕	DWARF ROSEMARY	
⊕	RUPELLIA BRITTONIANA 'KATIE'	1 GAL.
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<b>CONC. HEADER</b>		

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**WALL LEGEND NOTES**  
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NO.	DATE	DESCRIPTION



**McCloskey + Peltz, Inc.**  
 LANDSCAPE ARCHITECTS  
 One West Elliot Road Suite 110 Tempe, Arizona 85284  
 Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Plan  
 Parkway Improvement District 07-3  
**PARK VILLAGE**  
 PREPARED FOR: Town of Gilbert

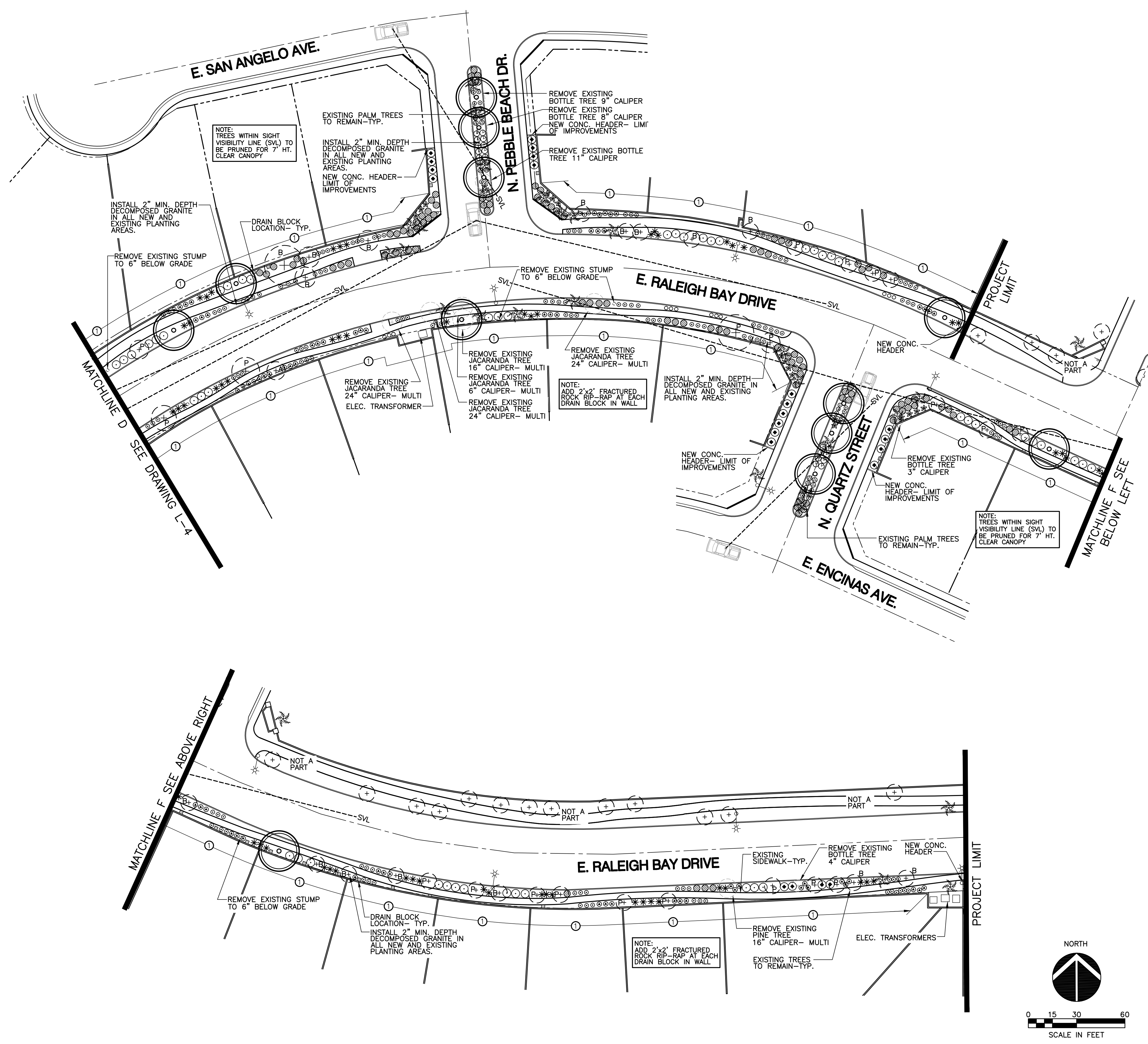
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DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

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**L-3**  
 SHEET 3 OF 13

FY 11-12



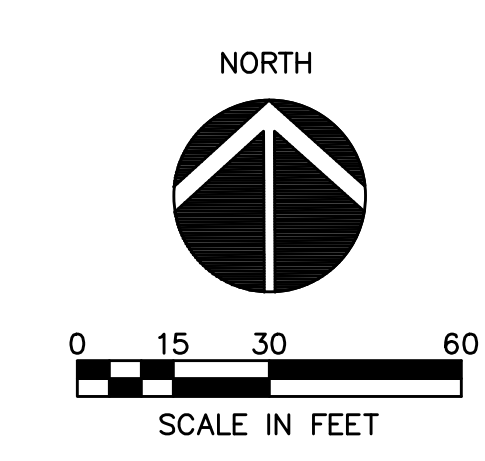
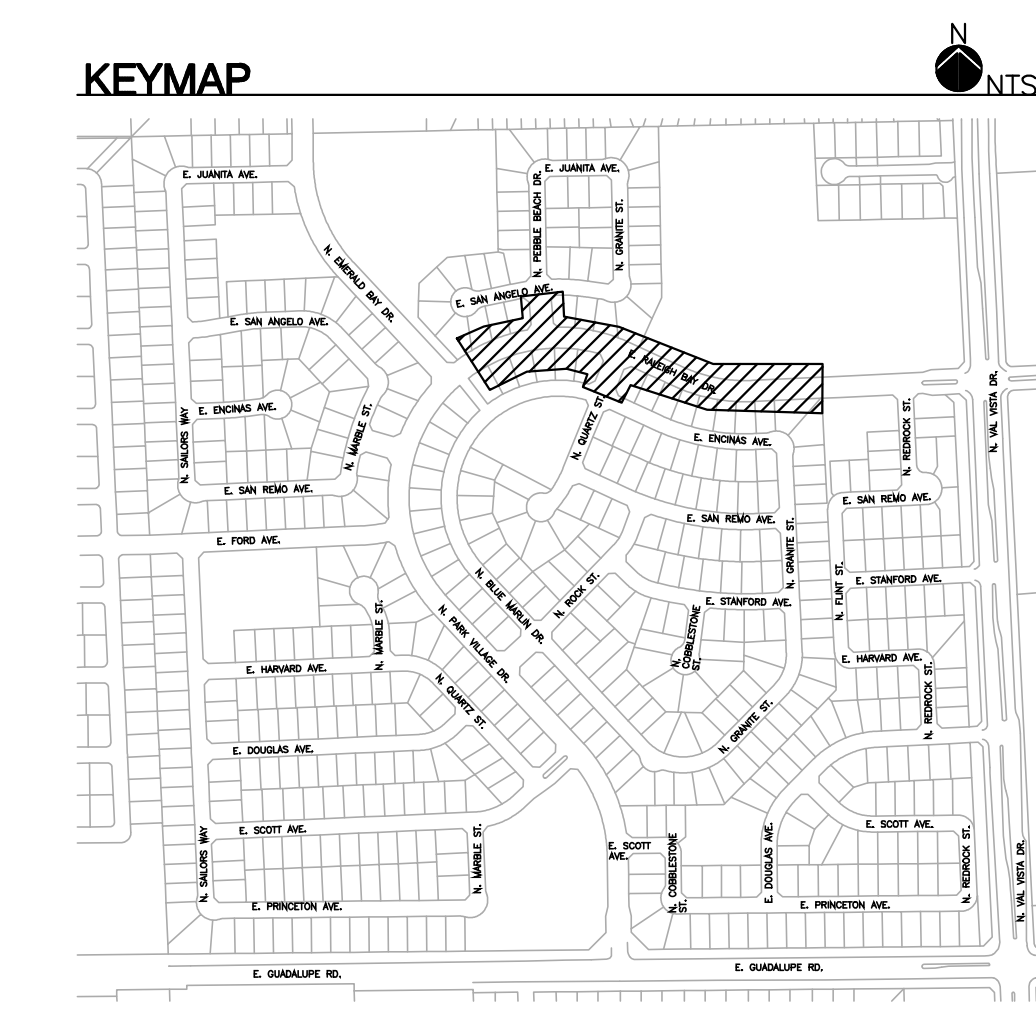




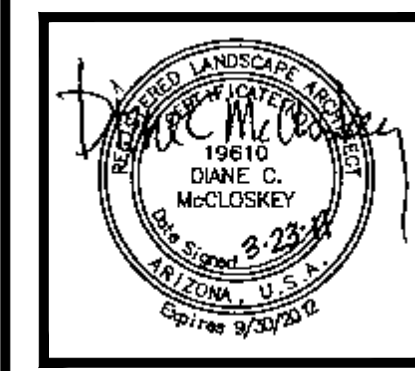
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- CONC. HEADER
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**McCloskey • Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
1910  
DIANE C. McCloskey  
Landscape Architect  
No. 10000  
Arizona State License No. 10000  
Expire 3/31/2012

One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777 Fax: (480) 831-1774

Landscape Plan  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

DESIGNED BY: MPI
DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.  
**L-5**  
SHEET 5 OF 13



**TRENCHING ADJACENT TO EXISTING TREES:**

WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE ROOTS TWO INCHES (2") AND LARGER OCCUR SHALL BE DONE BY HAND. ALL ROOTS TWO INCHES (2") AND LARGER IN DIAMETER, EXCEPT DIRECTLY IN THE PATH OF PIPE CONDUIT, SHALL BE TUNNELED UNDER AND SHALL BE HEAVILY WRAPPED WITH BURLAP TO PREVENT SCARRING OR EXCESSIVE DRYING. WHERE A TRENCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN TWO INCHES (2") IN DIAMETER, THE WALL OF THE TRENCH ADJACENT TO THE TREE SHALL BE HAND TRIMMED, MAKING CLEAN CUTS THROUGH. REPORT ALL CUT ROOTS TO OWNERS REPRESENTATIVE. TRENCHES ADJACENT TO TREES SHOULD BE CLOSED WITHIN 24 HOURS, AND WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

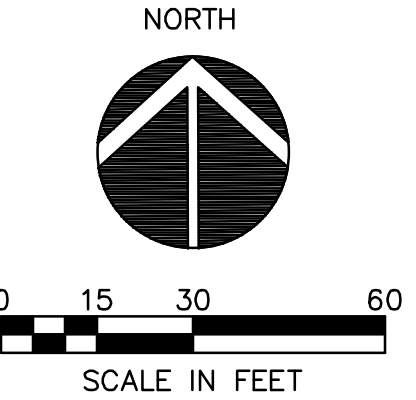
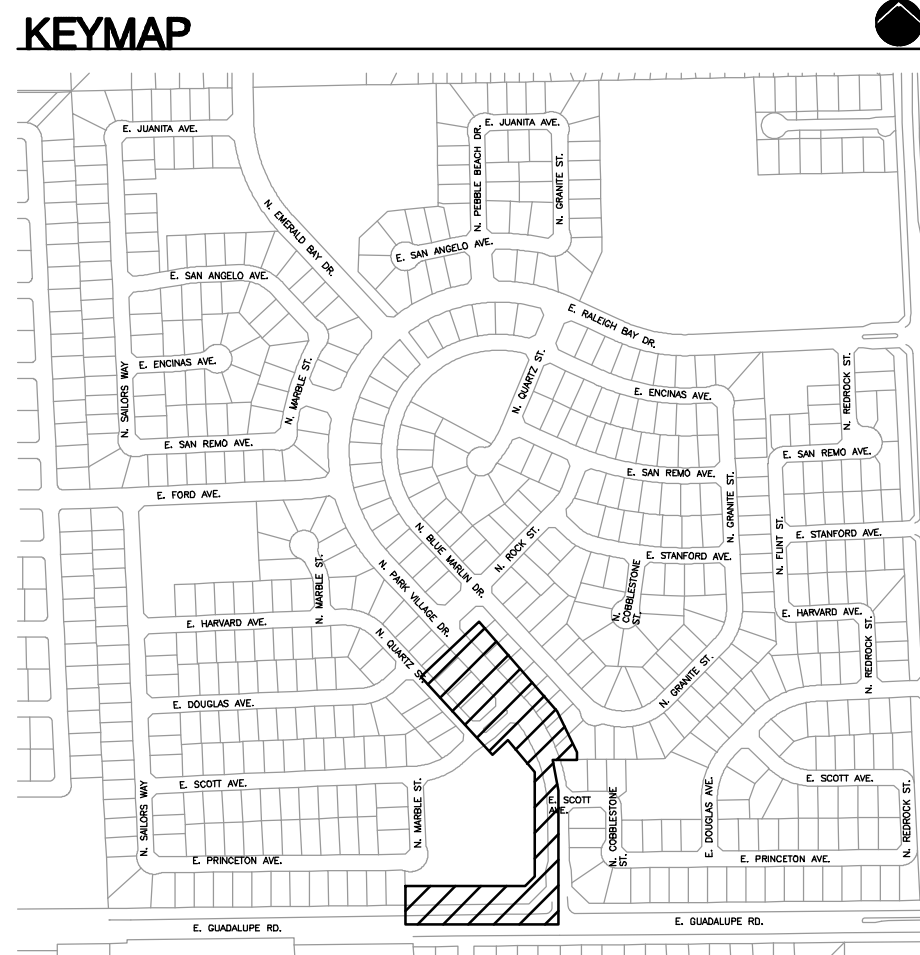
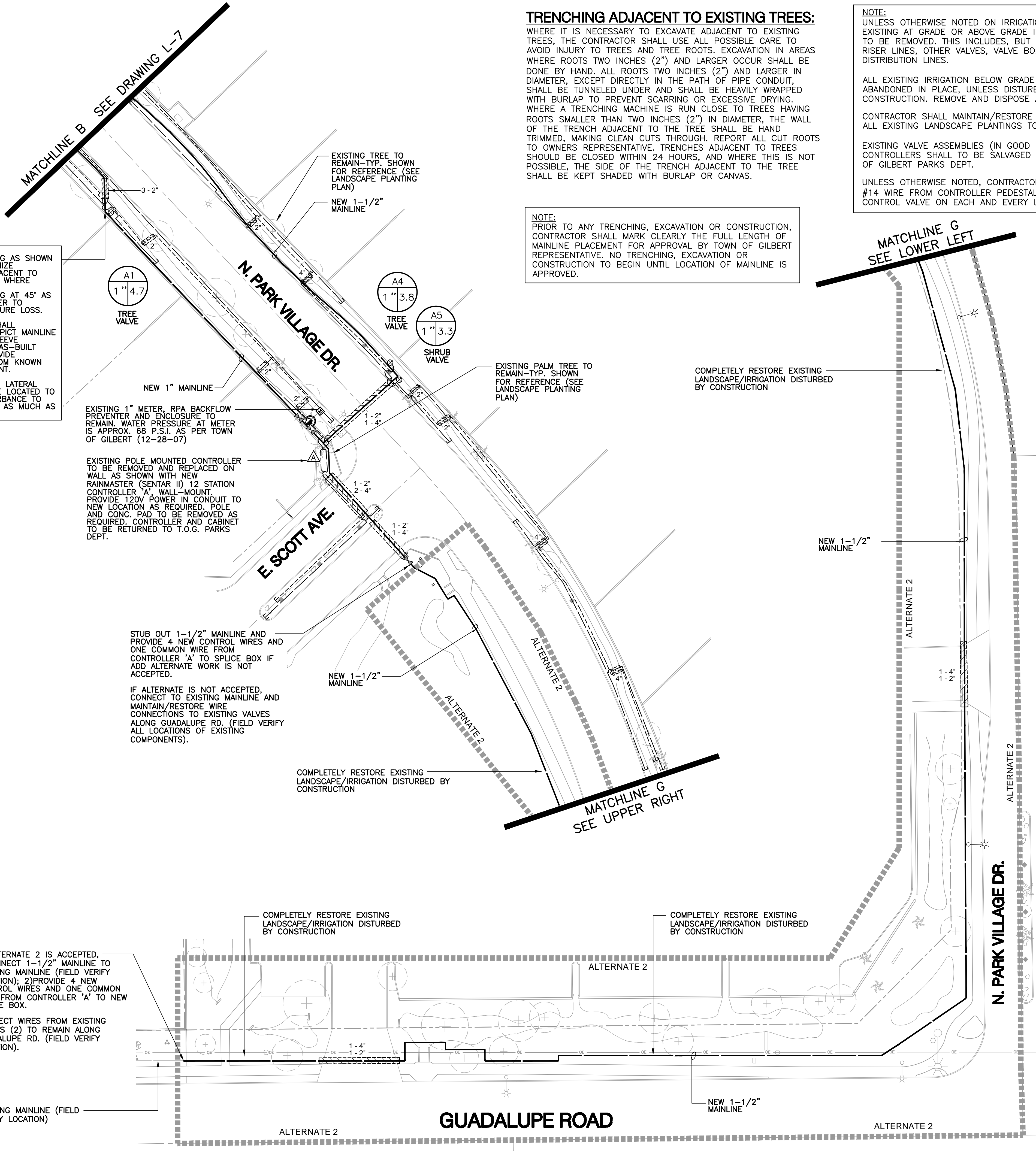
**NOTE:**  
PRIOR TO ANY TRENCHING, EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL MARK CLEARLY THE FULL LENGTH OF MAINLINE PLACEMENT FOR APPROVAL BY TOWN OF GILBERT REPRESENTATIVE. NO TRENCHING, EXCAVATION OR CONSTRUCTION TO BEGIN UNTIL LOCATION OF MAINLINE IS APPROVED.

**NOTE:**  
UNLESS OTHERWISE NOTED ON IRRIGATION PLANS, ALL OTHER EXISTING AT GRADE OR ABOVE GRADE IRRIGATION COMPONENTS TO BE REMOVED. THIS INCLUDES, BUT IS NOT LIMITED TO HEADS, RISER LINES, OTHER VALVES, VALVE BOXES, AND EMITTER DISTRIBUTION LINES.  
  
ALL EXISTING IRRIGATION BELOW GRADE (PVC PIPING) TO BE ABANDONED IN PLACE, UNLESS DISTURBED DURING NEW CONSTRUCTION. REMOVE AND DISPOSE AS NECESSARY.  
  
CONTRACTOR SHALL MAINTAIN/RESTORE IRRIGATION SERVICE TO ALL EXISTING LANDSCAPE PLANTINGS TO REMAIN.  
  
EXISTING VALVE ASSEMBLIES (IN GOOD CONDITION) AND CONTROLLERS SHALL TO BE SALVAGED AND RETURNED TO TOWN OF GILBERT PARKS DEPT.  
  
UNLESS OTHERWISE NOTED, CONTRACTOR TO RUN ONE(1) SPARE #14 WIRE FROM CONTROLLER PEDESTAL TO LAST ELECTRIC CONTROL VALVE ON EACH AND EVERY LEG OF MAINLINE.

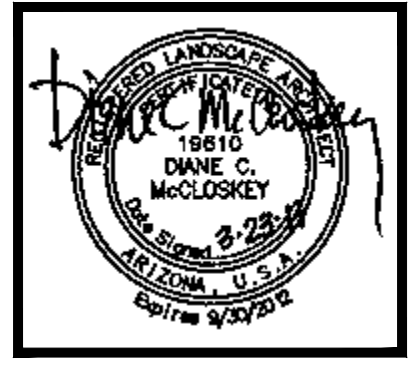
**IRRIGATION MATERIALS LEGEND**

SYMBOL	DESCRIPTION
◻	EXISTING WATER METER TO REMAIN (SIZE AND LOCATION AS SHOWN ON PLANS)
●	EXISTING BACKFLOW PREVENTER AND ENCLOSURE TO REMAIN (SEE PLANS FOR LOCATION)
	NEW SCHEDULE 40 PVC SLEEVE (ALL PIPING AND WIRING UNDER PAVEMENT TO BE SLEEVED) (SIZE AS NOTED)
---	NEW MAINLINE SCHEDULE 40 PVC - 2-1/2" AND SMALLER (SIZE AS NOTED)
⊗	NEW ISOLATION VALVE-ASAHI TYPE 21 TRUE UNION BALL VALVE - 2-1/2" AND SMALLER (LINE SIZE) (SEE DETAIL).
⊕	NEW EMITTER VALVE MANIFOLD ASSEMBLY INCLUDES: RAINBIRD PEB ELECTRIC REMOTE CONTROL VALVE WITH ASAHI TYPE 21 TRUE UNION BALL VALVE ON INLET; AG PRODUCTS 4E PLASTIC SPIN CLEAN FILTER WITH 150 MESH SCREEN; AND SENNINGER LOW FLOW PRESSURE REDUCING VALVE (FOR FLOWS 1-8 GPM) (PRL) OR MEDIUM FLOW PRESSURE REDUCING VALVE (FOR FLOWS 2-20 GPM) (PMR-MF) - 3/4" PRESET AT 30 PSI (SEE DETAIL).
---	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
---	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
---	1/2" DRIP SUBLATERAL (NOT SHOWN), CLASS 315 PVC PIPE. ALL SUBLATERAL PIPE SHALL BE PVC CLASS 315. PROVIDE AND INSTALL ALL SUBLATERAL PIPE LENGTHS AND FITTINGS AS NECESSARY FROM LATERAL PIPE TO EMITTER INSTALLATION AT EACH PLANT (SEE DETAILS)
PER EMITTER SCHEDULE	NEW MULTI OUTLET EMITTER - BOWSMITH ML200 SERIES - (1.0 AND 2.0 GPH @ 20 PSI) (TREES) WITH SWIVEL OUTLET 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
PER EMITTER SCHEDULE	NEW SINGLE OUTLET EMITTER - BOWSMITH SL200 SERIES - (0.6 AND 1.0 GPH @ 20 PSI) (SHRUBS) (SEE DETAIL AND SCHEDULE)
---	DRIP SYSTEM FLUSH PLUG OUTLET (SEE DETAIL)
⚠	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II-SIZE AS NOTED ON PLANS, WALL-MOUNT. PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION. PAINT EXPOSED CONDUIT TO MATCH ADJACENT WALL.
	WIRING AND ELECTRICAL CONDUIT (SCHEDULE 80, GRAY) FOR CONTROLLER POWER SERVICE CONNECTION.
	ALL IRRIGATION VALVE BOXES TO BE CARSON/BROOKS AMETEK OR EQUAL BOLT DOWN LID MODELS (TAN COLOR IN GRANITE AREAS, GREEN IN TURF AREAS) (SEE DETAILS AND NOTES). PROVIDE STAINLESS STEEL BOLTS.
⊕	CONTROL VALVE KEY - CONTROLLER STATION ASSIGNMENT
⊕	GPM SIZE
	ALL WIRING TO BE UL APPROVED #14 MIN. FOR DIRECT BURIAL, SOLID COPPER. INCREASE SIZE AS NECESSARY TO CONDUCT VOLTAGE REQUIRED TO PROVIDE AUTOMATIC OPERATION OF ALL VALVES.
	WHERE PIPING AND WIRING INSTALLATIONS ARE TO BE SLEEVED, INSTALL IN SEPARATE SLEEVES.
	CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 68 P.S.I. AT WATER SOURCE.

**NOTE:**  
MAINLINE TO JOG AS SHOWN IN ORDER MINIMIZE TRENCHING ADJACENT TO EXISTING TREES WHERE POSSIBLE.  
MAINLINE TO JOG AT 45° AS SHOWN IN ORDER TO MINIMIZE PRESSURE LOSS.  
  
CONTRACTOR SHALL ACCURATELY DEPICT MAINLINE LAYOUT AND SLEEVE LOCATIONS ON AS-BUILT DRAWINGS. PROVIDE DIMENSIONS FROM KNOWN REFERENCE POINT.  
  
TRENCHING FOR LATERAL LINES SHALL BE LOCATED TO MINIMIZE DISTURBANCE TO EXISTING TREES AS MUCH AS POSSIBLE.



NO.	DATE	DESCRIPTION

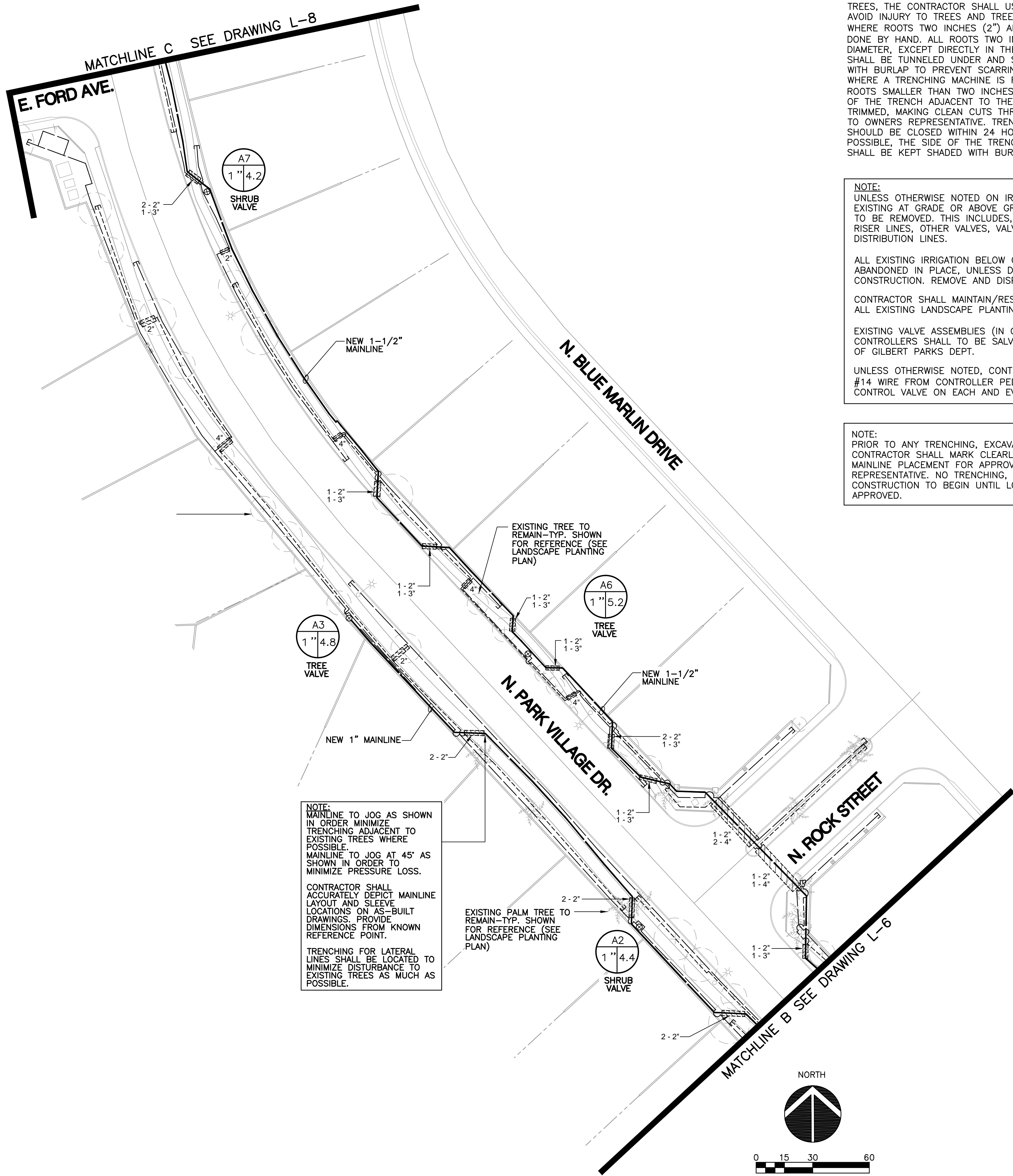


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LANDSCAPE ARCHITECTS  
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Phone: (480) 838-4777

Irrigation Plan  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

DESIGNED BY: MPI
DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011
DRAWING NO. L-6
SHEET 6 OF 13

FY 11-12



**TRENCHING ADJACENT TO EXISTING TREES:**

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ALL EXISTING IRRIGATION BELOW GRADE (PVC PIPING) TO BE ABANDONED IN PLACE, UNLESS DISTURBED DURING NEW CONSTRUCTION. REMOVE AND DISPOSE AS NECESSARY.

CONTRACTOR SHALL MAINTAIN/RESTORE IRRIGATION SERVICE TO ALL EXISTING LANDSCAPE PLANTINGS TO REMAIN.

EXISTING VALVE ASSEMBLIES (IN GOOD CONDITION) AND CONTROLLERS SHALL TO BE SALVAGED AND RETURNED TO TOWN OF GILBERT PARKS DEPT.

UNLESS OTHERWISE NOTED, CONTRACTOR TO RUN ONE(1) SPARE #14 WIRE FROM CONTROLLER PEDESTAL TO LAST ELECTRIC CONTROL VALVE ON EACH AND EVERY LEG OF MAINLINE.

**NOTE:**  
PRIOR TO ANY TRENCHING, EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL MARK CLEARLY THE FULL LENGTH OF MAINLINE PLACEMENT FOR APPROVAL BY TOWN OF GILBERT REPRESENTATIVE. NO TRENCHING, EXCAVATION OR CONSTRUCTION TO BEGIN UNTIL LOCATION OF MAINLINE IS APPROVED.

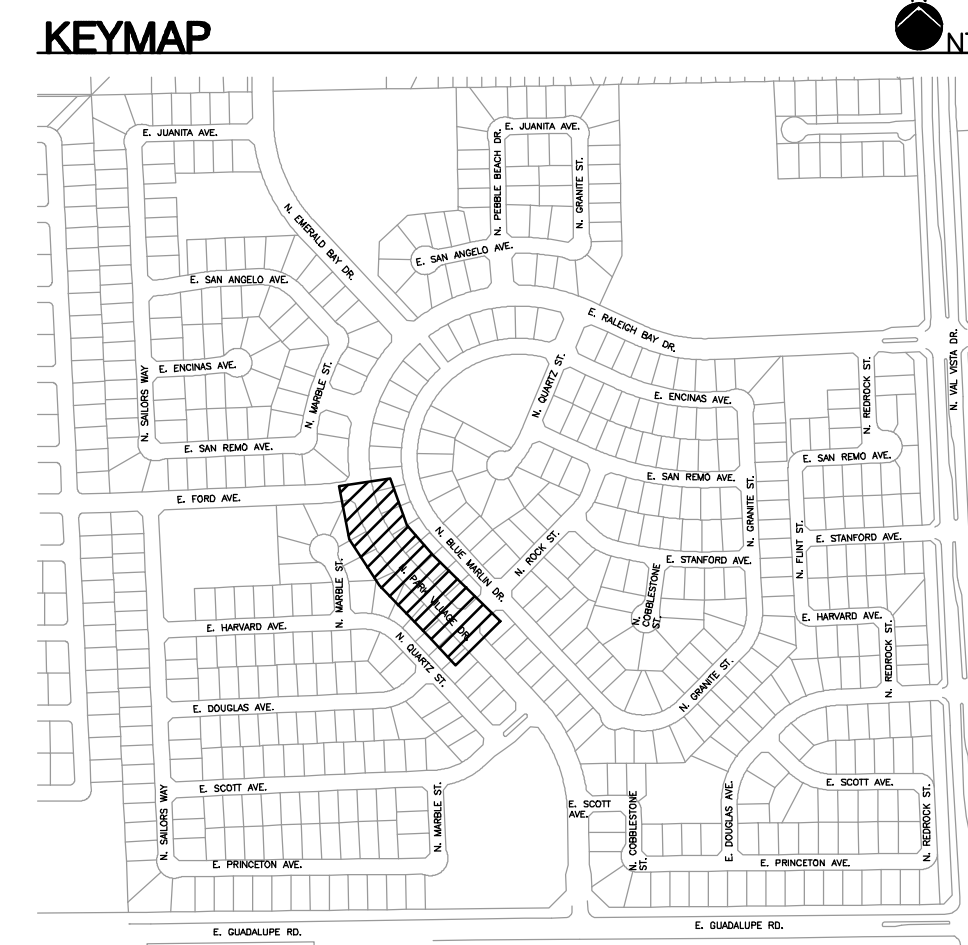
**NOTE:**  
MAINLINE TO JOG AS SHOWN IN ORDER MINIMIZE TRENCHING ADJACENT TO EXISTING TREES WHERE POSSIBLE.  
MAINLINE TO JOG AT 45° AS SHOWN IN ORDER TO MINIMIZE PRESSURE LOSS.  
CONTRACTOR SHALL ACCURATELY DEPICT MAINLINE LAYOUT AND SLEEVE LOCATIONS ON AS-BUILT DRAWINGS. PROVIDE DIMENSIONS FROM KNOWN REFERENCE POINT.  
TRENCHING FOR LATERAL LINES SHALL BE LOCATED TO MINIMIZE DISTURBANCE TO EXISTING TREES AS MUCH AS POSSIBLE.

EXISTING PALM TREE TO REMAIN-TYP. SHOWN FOR REFERENCE (SEE LANDSCAPE PLANTING PLAN)

EXISTING TREE TO REMAIN-TYP. SHOWN FOR REFERENCE (SEE LANDSCAPE PLANTING PLAN)

**IRRIGATION MATERIALS LEGEND**

SYMBOL	DESCRIPTION
◻	EXISTING WATER METER TO REMAIN (SIZE AND LOCATION AS SHOWN ON PLANS)
●	EXISTING BACKFLOW PREVENTER AND ENCLOSURE TO REMAIN (SEE PLANS FOR LOCATION)
ZZZZZ	NEW SCHEDULE 40 PVC SLEEVE (ALL PIPING AND WIRING UNDER PAVEMENT TO BE SLEEVED) (SIZE AS NOTED)
—	NEW MAINLINE SCHEDULE 40 PVC - 2-1/2" AND SMALLER (SIZE AS NOTED)
⊗	NEW ISOLATION VALVE-ASAHI TYPE 21 TRUE UNION BALL VALVE - 2-1/2" AND SMALLER (LINE SIZE) (SEE DETAIL).
⊕	NEW EMITTER VALVE MANIFOLD ASSEMBLY INCLUDES: RAINBIRD PEB ELECTRIC REMOTE CONTROL VALVE WITH ASAHI TYPE 21 TRUE UNION BALL VALVE ON INLET; AG PRODUCTS 4E PLASTIC SPIN CLEAN FILTER WITH 150 MESH SCREEN; AND SENNINGER LOW FLOW PRESSURE REDUCING VALVE (FOR FLOWS 1-8 GPM) (PRL) OR MEDIUM FLOW PRESSURE REDUCING VALVE (FOR FLOWS 2-20 GPM) (PMR-MF) - 3/4" PRESET AT 30 PSI (SEE DETAIL).
---	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
---	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
---	1/2" DRIP SUBLATERAL (NOT SHOWN), CLASS 315 PVC PIPE. ALL SUBLATERAL PIPE SHALL BE PVC CLASS 315. PROVIDE AND INSTALL ALL SUBLATERAL PIPE LENGTHS AND FITTINGS AS NECESSARY FROM LATERAL PIPE TO EMITTER INSTALLATION AT EACH PLANT (SEE DETAILS)
PER EMITTER SCHEDULE	NEW MULTI OUTLET EMITTER - BOWSMITH ML200 SERIES - (1.0 AND 2.0 GPH OUTLETS @ 20 PSI) (TREES) WITH SWIVEL OUTLET 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
PER EMITTER SCHEDULE	NEW SINGLE OUTLET EMITTER - BOWSMITH SL200 SERIES - (0.6 AND 1.0 GPH OUTLETS @ 20 PSI) (SHRUBS) (SEE DETAIL AND SCHEDULE)
---	DRIP SYSTEM FLUSH PLUG OUTLET (SEE DETAIL)
⚠	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II-SIZE AS NOTED ON PLANS, WALL-MOUNT. PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION. PAINT EXPOSED CONDUIT TO MATCH ADJACENT WALL.
	WIRING AND ELECTRICAL CONDUIT (SCHEDULE 80, GRAY) FOR CONTROLLER POWER SERVICE CONNECTION.
	ALL IRRIGATION VALVE BOXES TO BE CARSON/BROOKS AMETEK OR EQUAL BOLT DOWN LID MODELS (TAN COLOR IN GRANITE AREAS, GREEN IN TURF AREAS) (SEE DETAILS AND NOTES), PROVIDE STAINLESS STEEL BOLTS.
⊕	CONTROL VALVE KEY - CONTROLLER STATION ASSIGNMENT GPM SIZE
	ALL WIRING TO BE UL APPROVED #14 MIN. FOR DIRECT BURIAL, SOLID COPPER. INCREASE SIZE AS NECESSARY TO CONDUCT VOLTAGE REQUIRED TO PROVIDE AUTOMATIC OPERATION OF ALL VALVES.
	WHERE PIPING AND WIRING INSTALLATIONS ARE TO BE SLEEVED, INSTALL IN SEPARATE SLEEVES.
	CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 68 P.S.I. AT WATER SOURCE.



NO.	DATE	DESCRIPTION



**McCloskey • Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777

Irrigation Plan  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert  
FY 11-12

DESIGNED BY: MPI
DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.  
**L-7**  
SHEET 7 OF 13



NOTE:  
PRIOR TO ANY TRENCHING, EXCAVATION OR CONSTRUCTION, CONTRACTOR SHALL MARK CLEARLY THE FULL LENGTH OF MAINLINE PLACEMENT FOR APPROVAL BY TOWN OF GILBERT REPRESENTATIVE. NO TRENCHING, EXCAVATION OR CONSTRUCTION TO BEGIN UNTIL LOCATION OF MAINLINE IS APPROVED.

MAINTAIN EXISTING MAINLINE CONNECTION FOR SERVING PARK AREA TO WEST

**IRRIGATION MATERIALS LEGEND**

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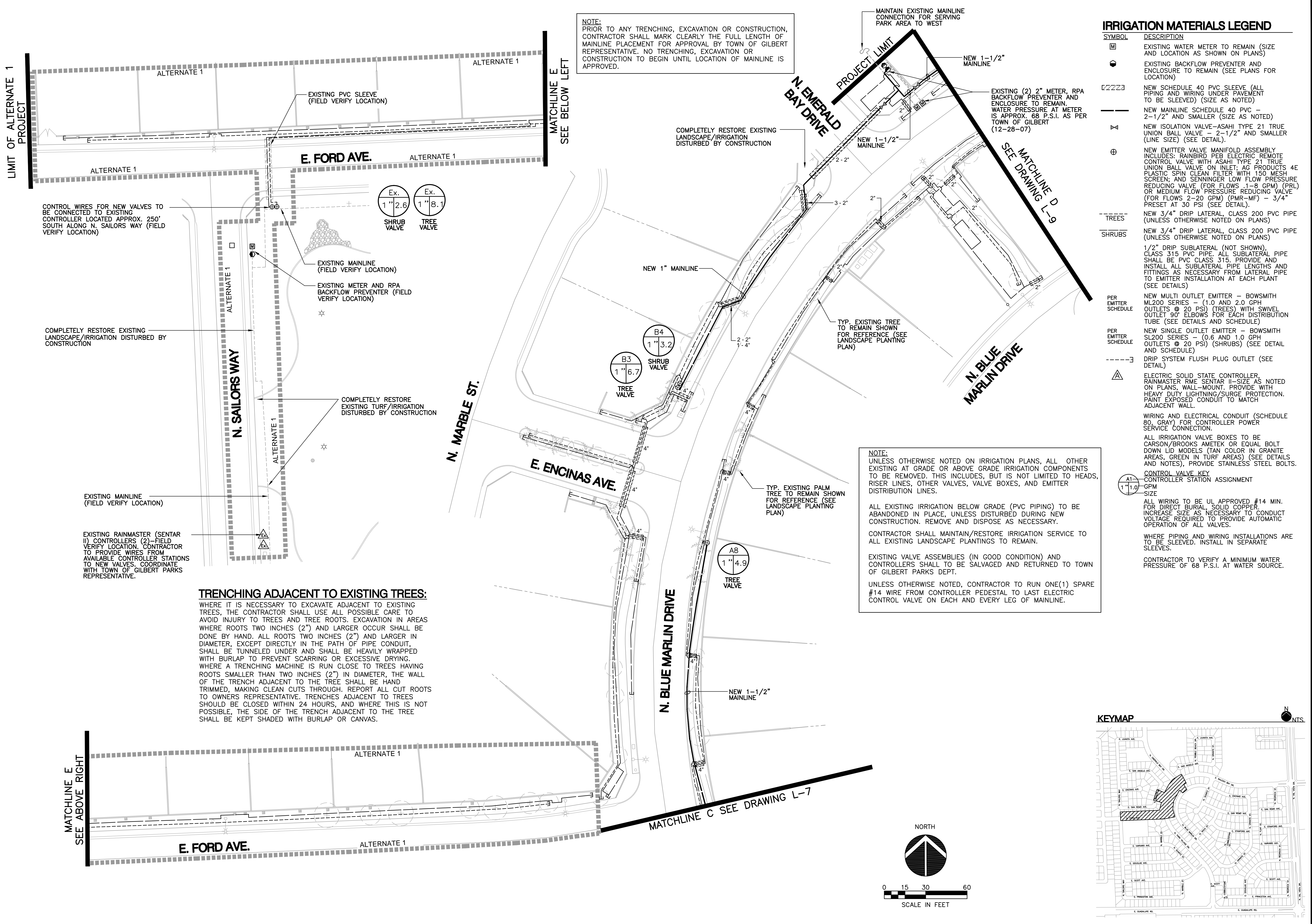
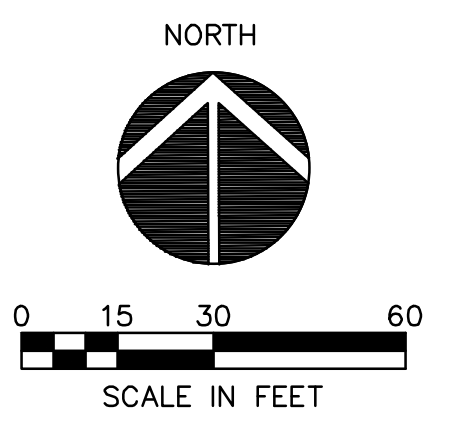
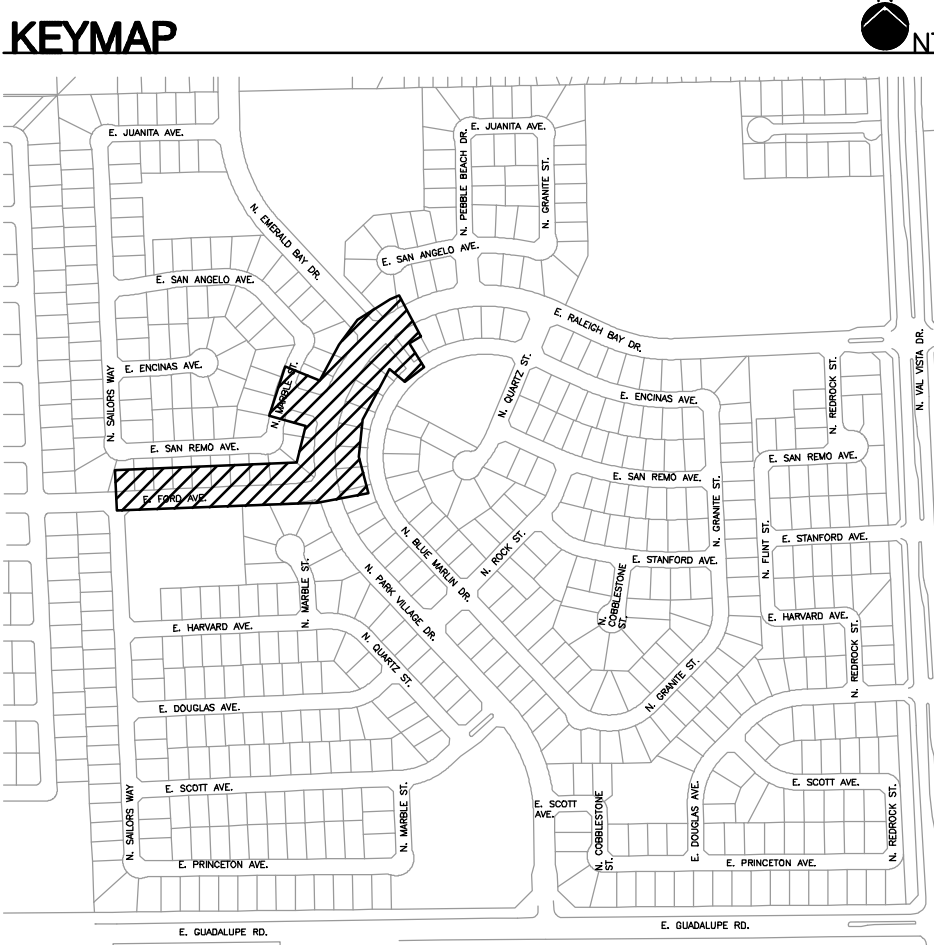
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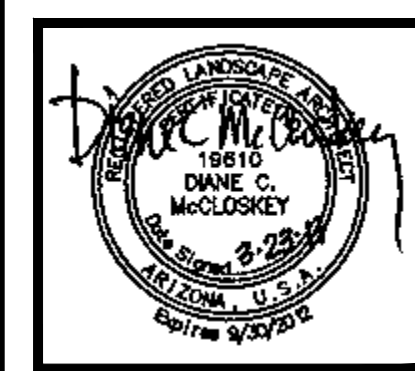
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**TRENCHING ADJACENT TO EXISTING TREES:**  
WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE ROOTS TWO INCHES (2") AND LARGER OCCUR SHALL BE DONE BY HAND. ALL ROOTS TWO INCHES (2") AND LARGER IN DIAMETER, EXCEPT DIRECTLY IN THE PATH OF PIPE CONDUIT, SHALL BE TUNNELED UNDER AND SHALL BE HEAVILY WRAPPED WITH BURLAP TO PREVENT SCARRING OR EXCESSIVE DRYING. WHERE A TRENCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN TWO INCHES (2") IN DIAMETER, THE WALL OF THE TRENCH ADJACENT TO THE TREE SHALL BE HAND TRIMMED, MAKING CLEAN CUTS THROUGH. REPORT ALL CUT ROOTS TO OWNERS REPRESENTATIVE. TRENCHES ADJACENT TO TREES SHOULD BE CLOSED WITHIN 24 HOURS, AND WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

NO.	DATE	DESCRIPTION



**McCloskey • Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777

Irrigation Plan  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

DESIGNED BY: MPI  
DRAWN BY: MPI  
CHECKED BY: DCM  
PROJECT NO: 06422  
DATE: 3/2011

DRAWING NO.  
**L-8**  
SHEET 8 OF 13



NOTE:  
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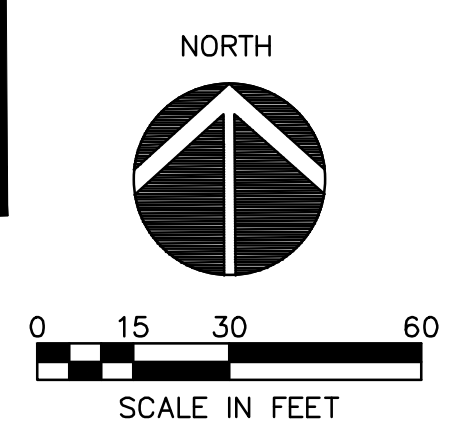
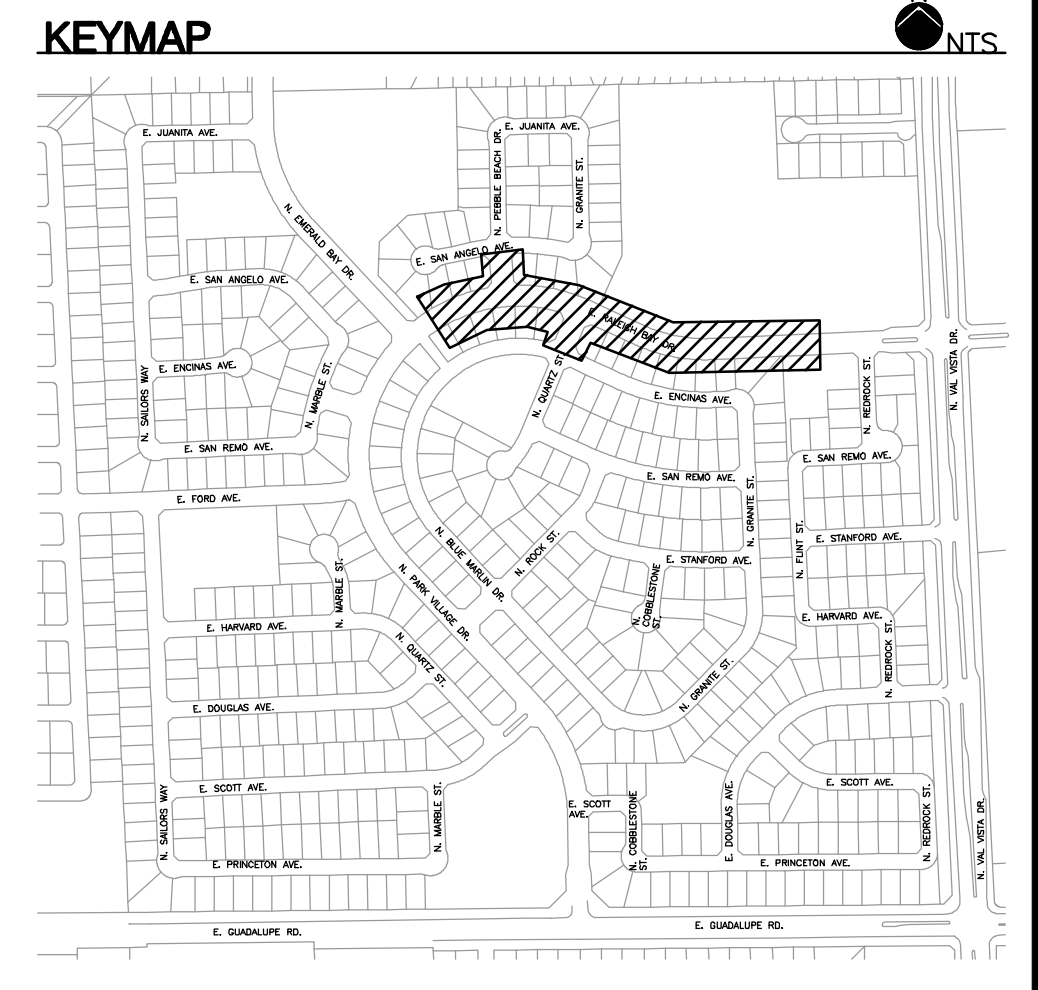
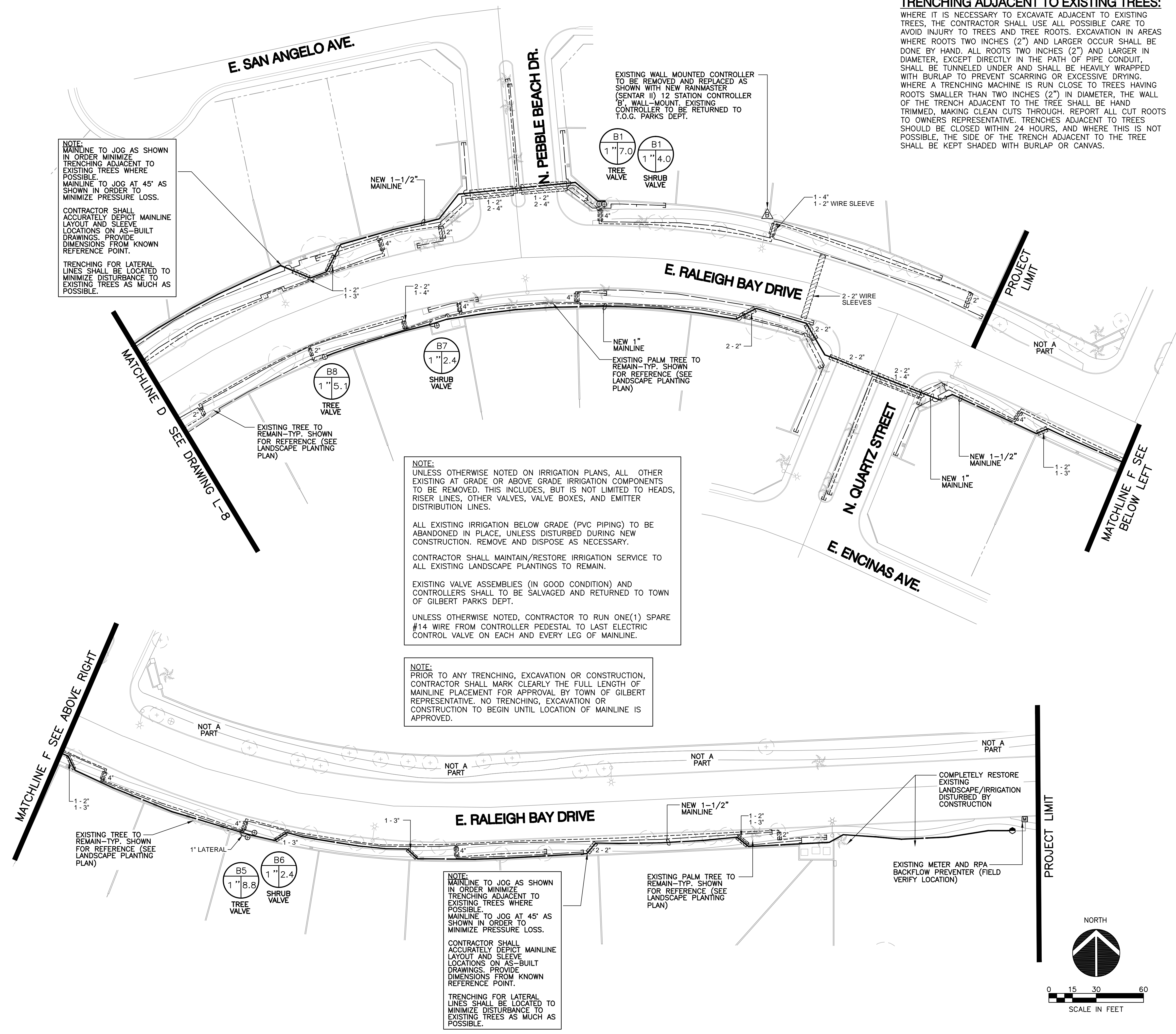
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	NEW 3/4" DRIP LATERAL, CLASS 200 PVC PIPE (UNLESS OTHERWISE NOTED ON PLANS)
	TREES
	SHRUBS
	NEW MULTI OUTLET EMITTER - BOWSMITH ML200 SERIES - (1.0 AND 2.0 GPH OUTLETS @ 20 PSI) (TREES) WITH SWIVEL JOINT 90° ELBOWS FOR EACH DISTRIBUTION TUBE (SEE DETAILS AND SCHEDULE)
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	ELECTRIC SOLID STATE CONTROLLER, RAINMASTER RME SENTAR II-SIZE AS NOTED ON PLANS, WALL-MOUNT. PROVIDE WITH HEAVY DUTY LIGHTNING/SURGE PROTECTION. PAINT EXPOSED CONDUIT TO MATCH ADJACENT WALL.
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	CONTRACTOR TO VERIFY A MINIMUM WATER PRESSURE OF 68 P.S.I. AT WATER SOURCE.



NO.	DATE	DESCRIPTION



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 LANDSCAPE ARCHITECTS  
 One West Elliot Road Suite 110 Tempe, Arizona 85284  
 Phone: (480) 838-4777

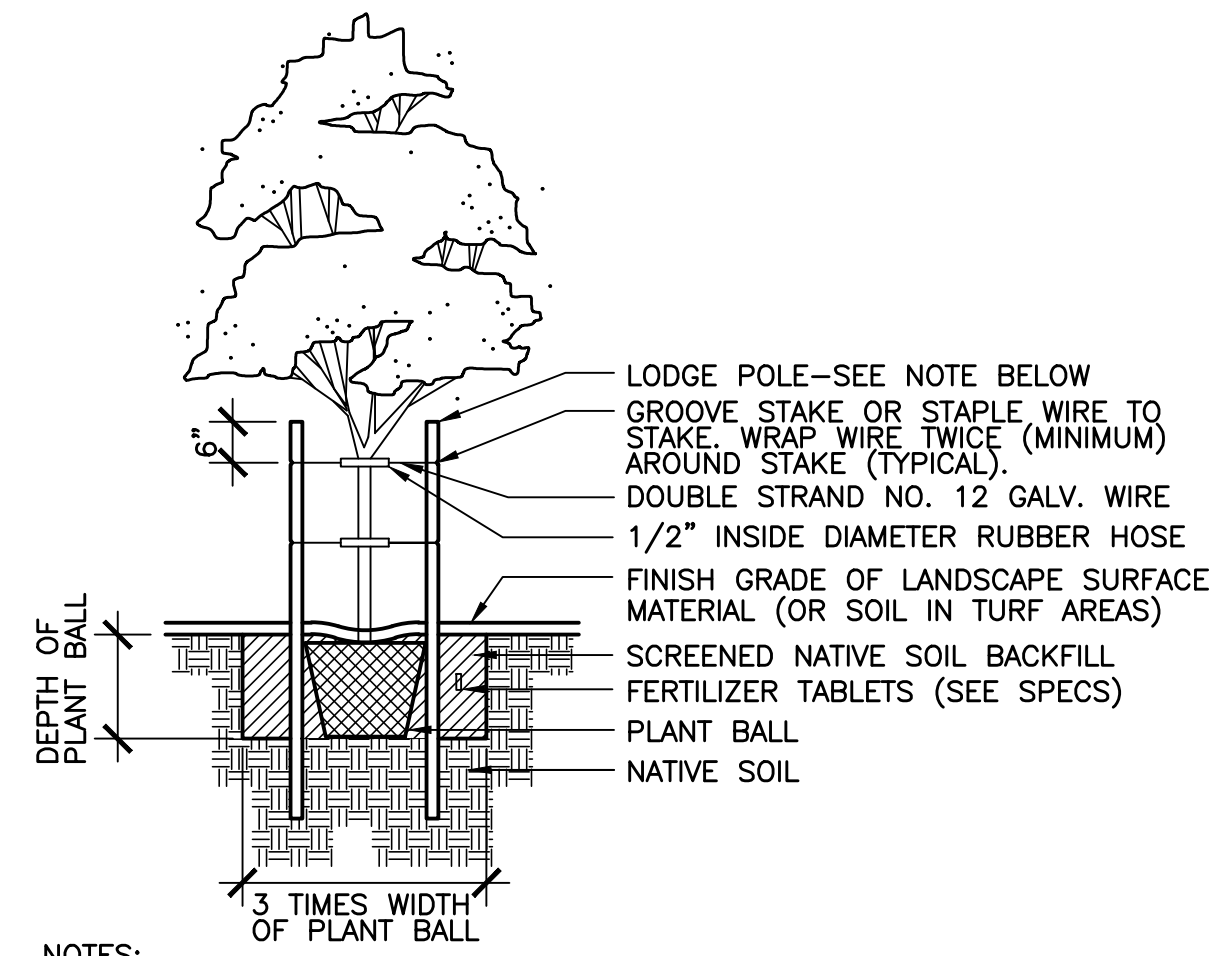
Prepared for: **Town of Gilbert**  
 Project: **Park Village**  
 District: **07-3**  
 Title: **IRRIGATION Plan**

DESIGNED BY: **MPI**  
 DRAWN BY: **MPI**  
 CHECKED BY: **DCM**  
 PROJECT NO: **06422**  
 DATE: **3/2011**

DRAWING NO. **L-9**  
 SHEET **9** OF **13**



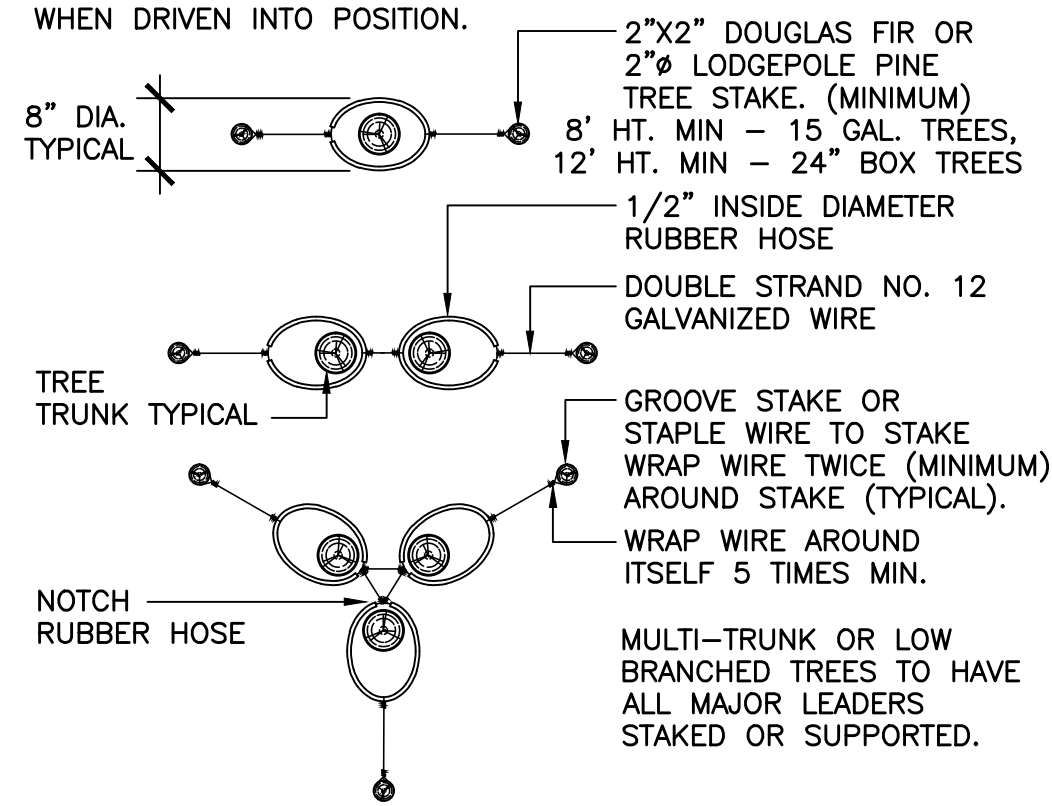
**PLANTING DETAILS**



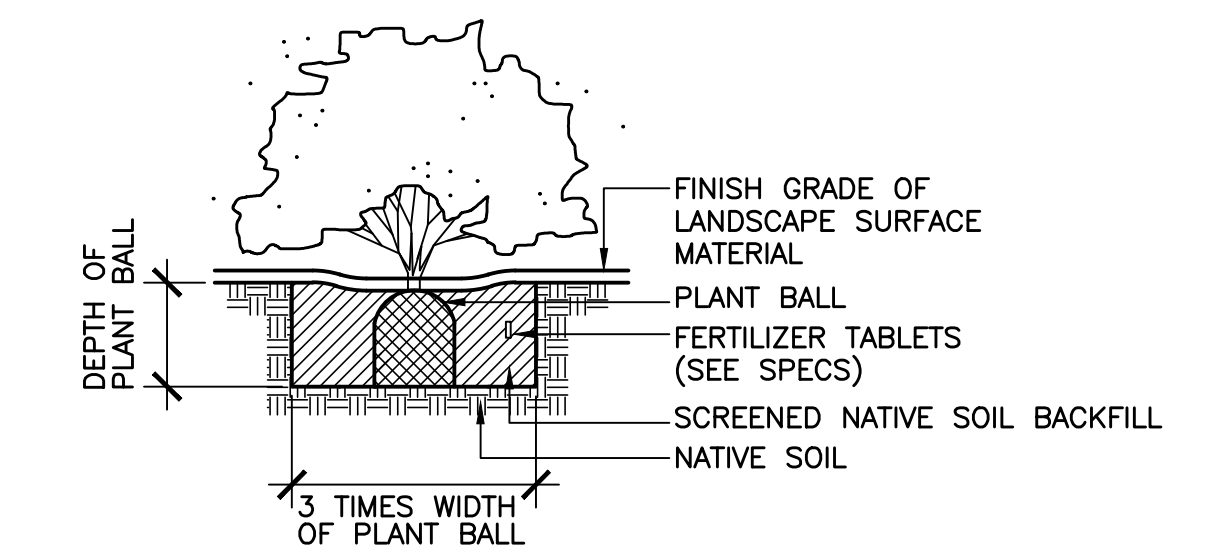
- NOTES:**
- HEIGHT OF STAKE VARIES. TOP TIE PLACED FOR MAX. SUPPORT. BOTTOM TIE PLACED HALFWAY BETWEEN TOP TIE AND GRADE. SEE TREE STAKING DETAIL. ONLY STAKE TREES THAT HAVE PREVIOUSLY BEEN STAKED IN THE NURSERY.
  - STAKES SHALL BE LOCATED AND INSTALLED SO AS TO NOT CONTACT THE ROOT BALL OR DAMAGE IRRIGATION SYSTEM WHEN DRIVEN INTO POSITION.

**1 TREE PLANTING**  
N.T.S.

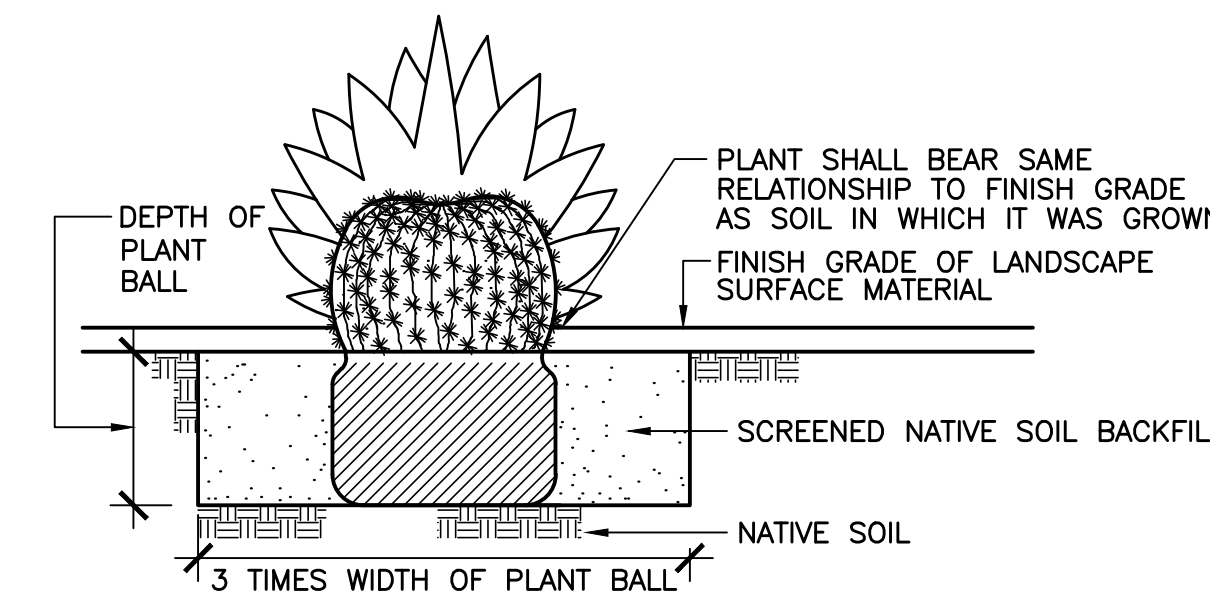
**NOTE:**  
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE NEED TO INCREASE THE QUANTITY, HEIGHT AND DIAMETER OF TREE STAKES TO PROVIDE MAXIMUM SUPPORT AND INSURE STABILITY OF ALL TREES.  
STAKES SHALL BE LOCATED AND INSTALLED SO AS TO NOT CONTACT THE ROOT BALL OR DAMAGE IRRIGATION SYSTEM WHEN DRIVEN INTO POSITION.



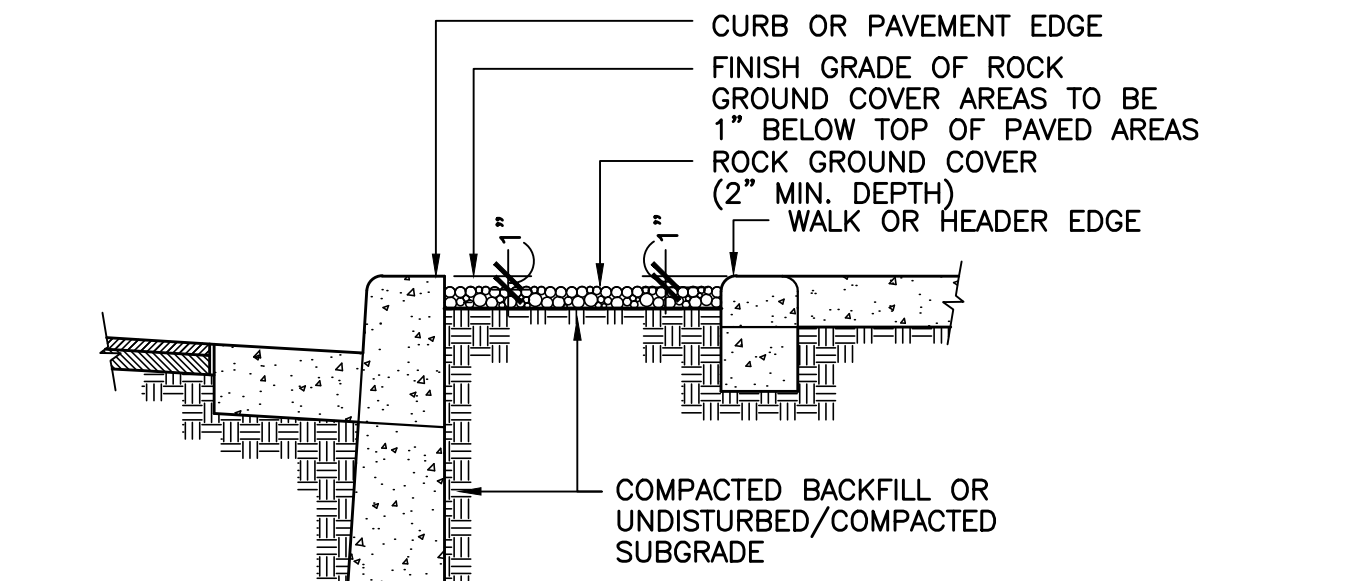
**2 TREE STAKING DETAIL**  
N.T.S.



**3 SHRUB PLANTING**  
N.T.S.

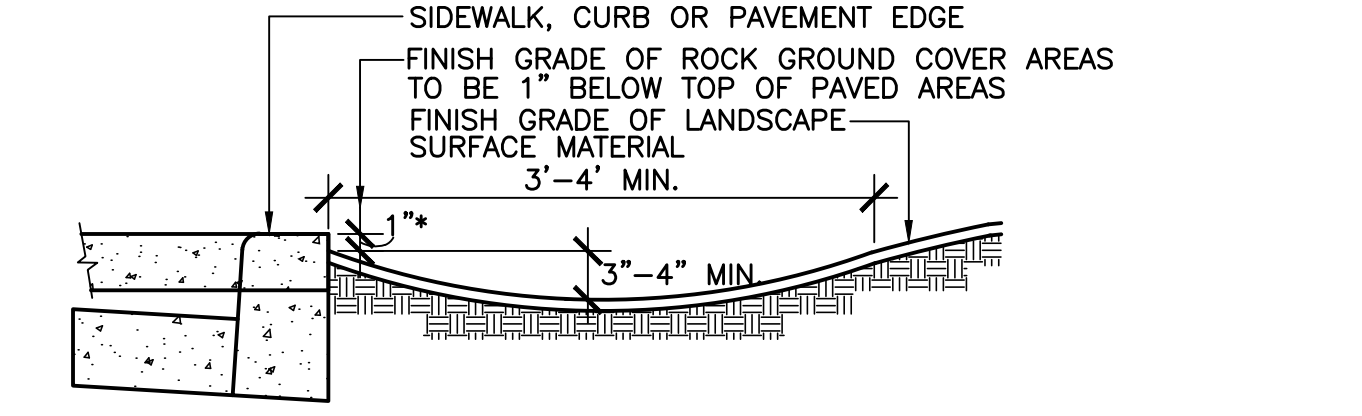


**4 SUCCULENT AND CACTI PLANTING**  
N.T.S.



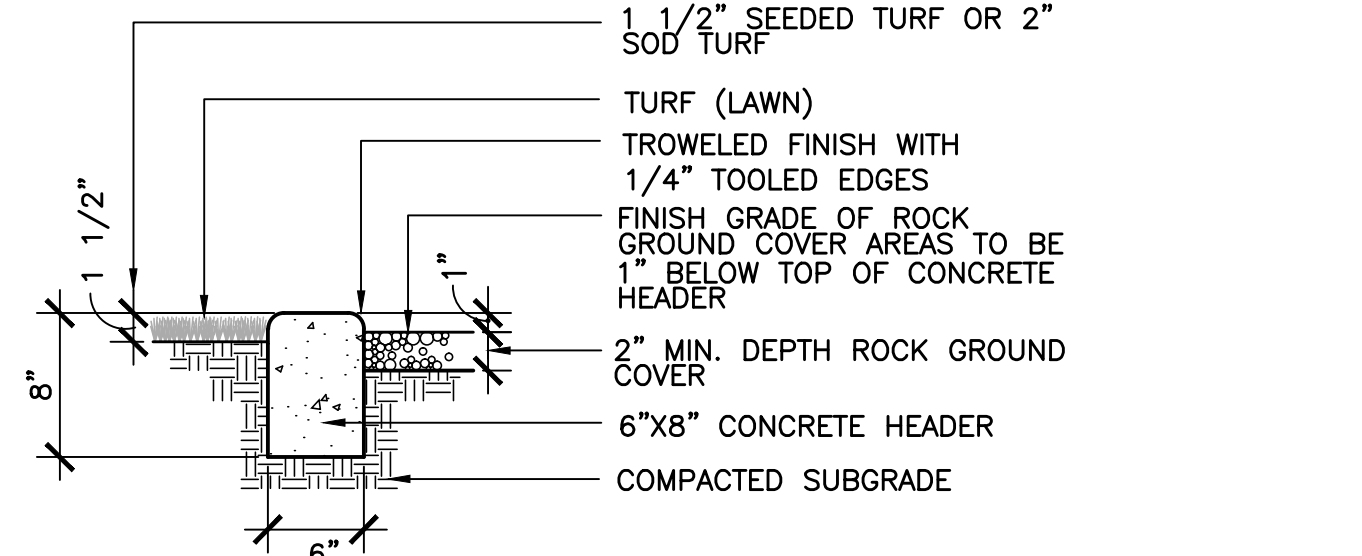
- NOTES:**
- FINISH GRADES SHALL BE UNIFORM THROUGHOUT ALL PLANTING AREAS. ALL ROCK GROUND COVER DEPTH SHALL BE AFTER FINISH GRADING, WATER WASHING, AND SETTLEMENT.
  - CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OTHER FORCES AS NECESSARY TO PROVIDE ALL FILL AND ROUGH GRADING REQUIRED TO ACHIEVE FINISH GRADE OF ROCK GROUND COVER AS INDICATED HEREIN
  - WATER WASH ALL ROCK GROUND COVER SURFACES TO REMOVE FINES AND DUST.

**5 FINISH GRADE ROCK GROUND COVER**  
N.T.S.



- GENERAL NOTES:**
- NUISANCE SWALES SHALL BE LOCATED BETWEEN ALL PAVEMENT EDGES AND ANY ADJACENT ELEVATED LANDSCAPE SURFACES.
  - FINISH GRADING (PRIOR TO PLACEMENT OF PLANTS AND ROCK GROUND COVER) SHALL INCLUDE GRADING/CONSTRUCTING NUISANCE SWALES.
  - 1 1/2\"/>

**6 NUISANCE WATER SWALE**  
N.T.S.

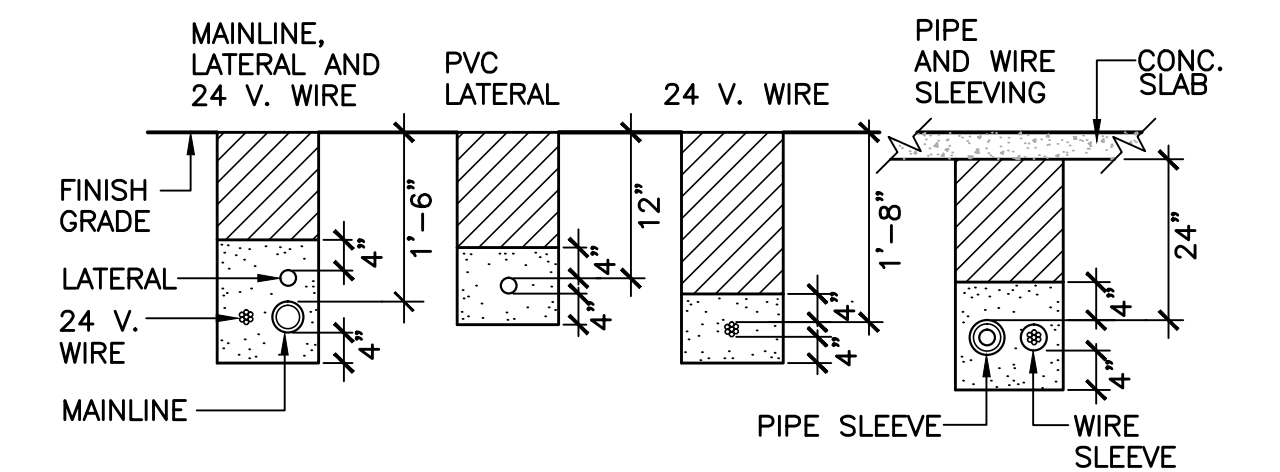


**7 6\"/>**

IF IMPERVIOUS SUBSURFACE CALICHE, ROCK OR HARDPAN EXISTS BENEATH EXCAVATED PLANT PIT, CONTRACTOR SHALL COMPLETE NECESSARY REMOVAL OR PENETRATION OF IMPERVIOUS MATERIAL TO PROVIDE NECESSARY PLANT PIT DRAINAGE AT A MINIMUM RATE OF 1 INCH PER HOUR. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ADEQUATE PLANT PIT DRAINAGE PRIOR TO PLANT INSTALLATION.

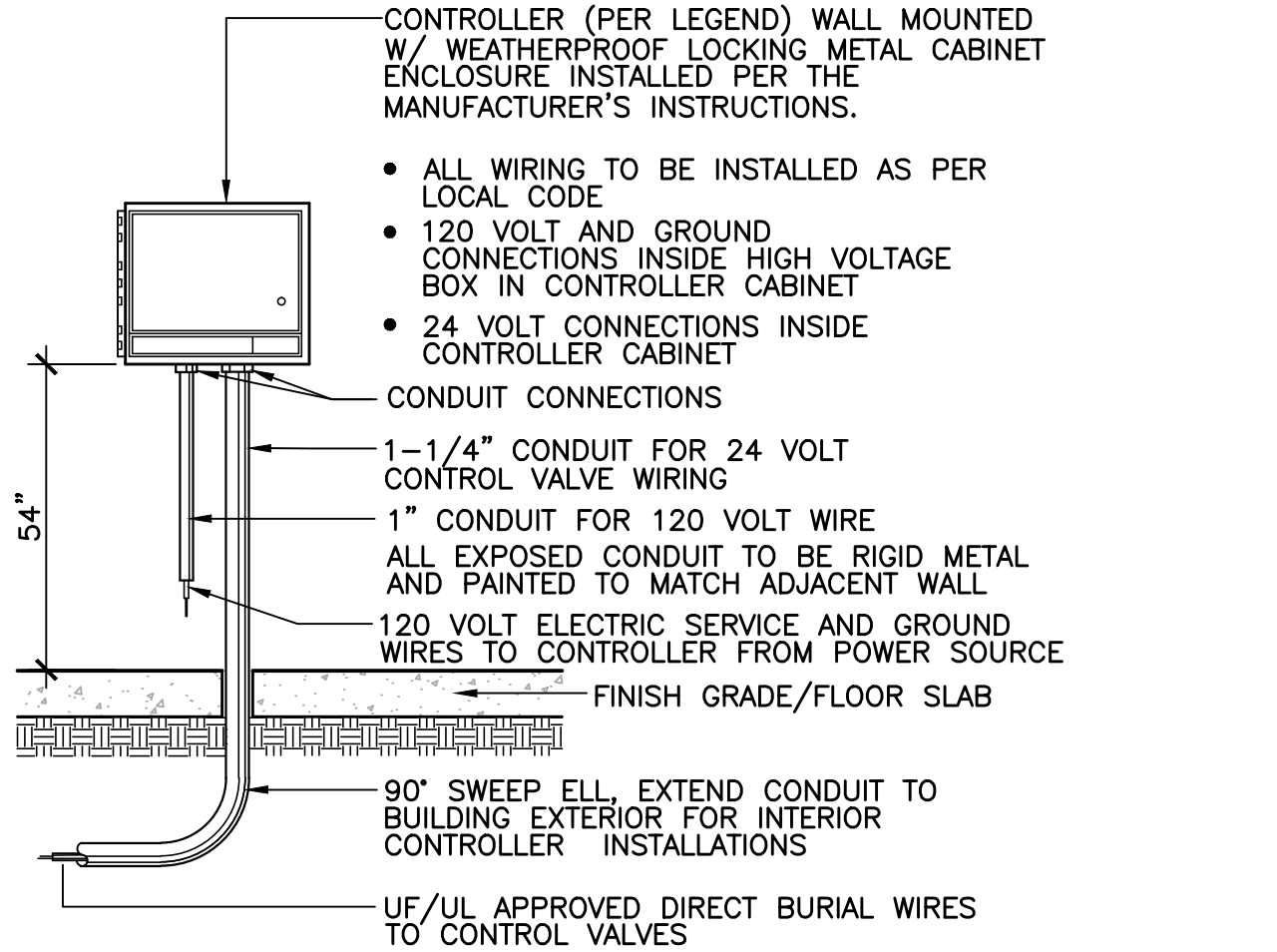
ALL NATIVE SOIL BACKFILL WITHIN 18\"/>

**IRRIGATION DETAILS**



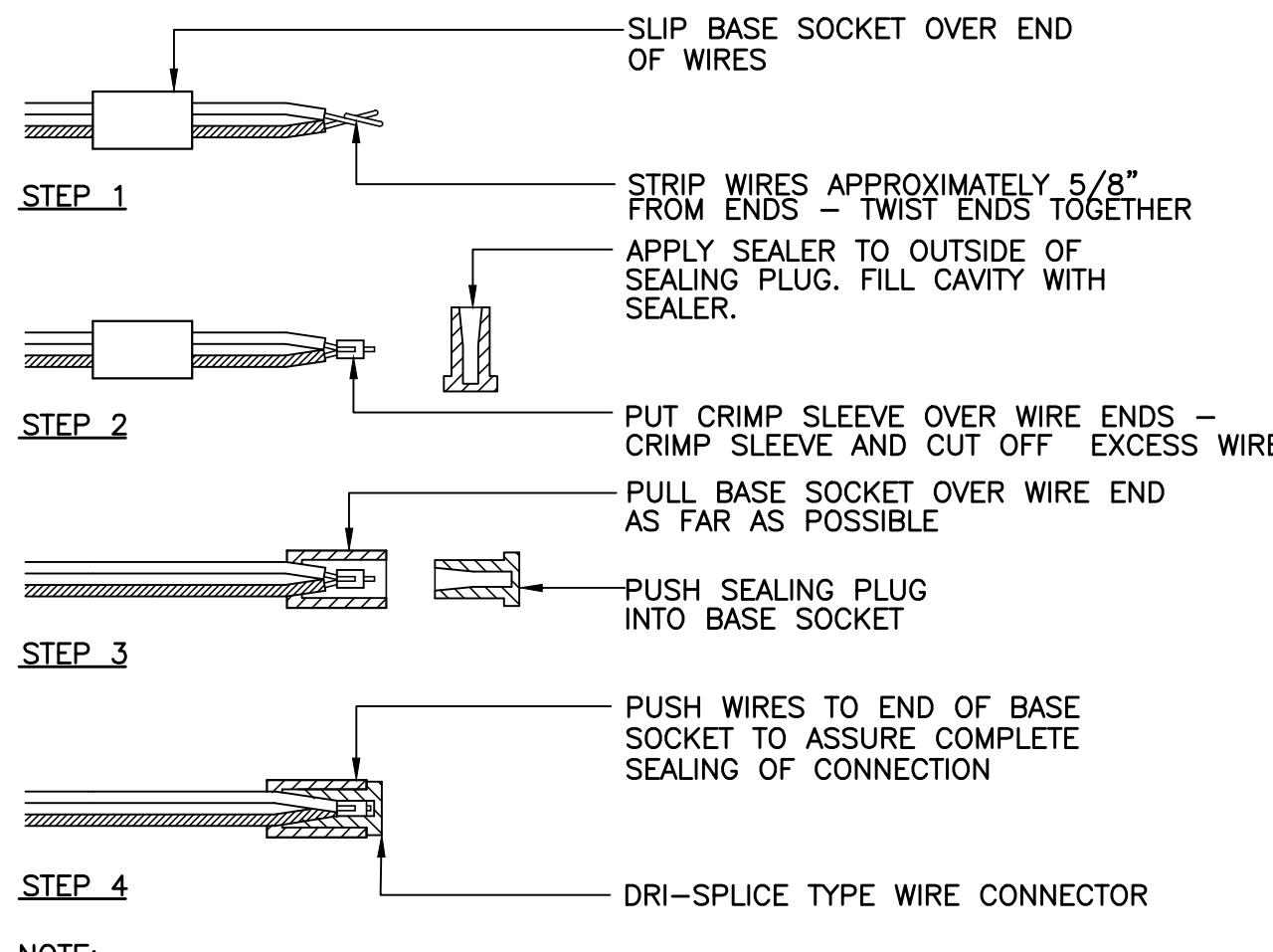
- NOTES:**
- SLEEVE ALL PIPE AND WIRE SEPARATELY
  - ALL PIPE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS. PLASTIC PIPE TO BE "SNAKED" IN TRENCHES. PROVIDE A MIN. OF 2" CLEARANCE TO SIDE OF TRENCH AND BETWEEN PIPES.
  - ALL 120 V. WIRING SHALL BE INSTALLED IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS. TAPE AND BUNDLE WIRES EVERY 10', PROVIDE LOOSE 20" LOOP AT ALL CHANGES OF DIRECTION OVER 30'.

**8 IRRIGATION TRENCHING**  
N.T.S.



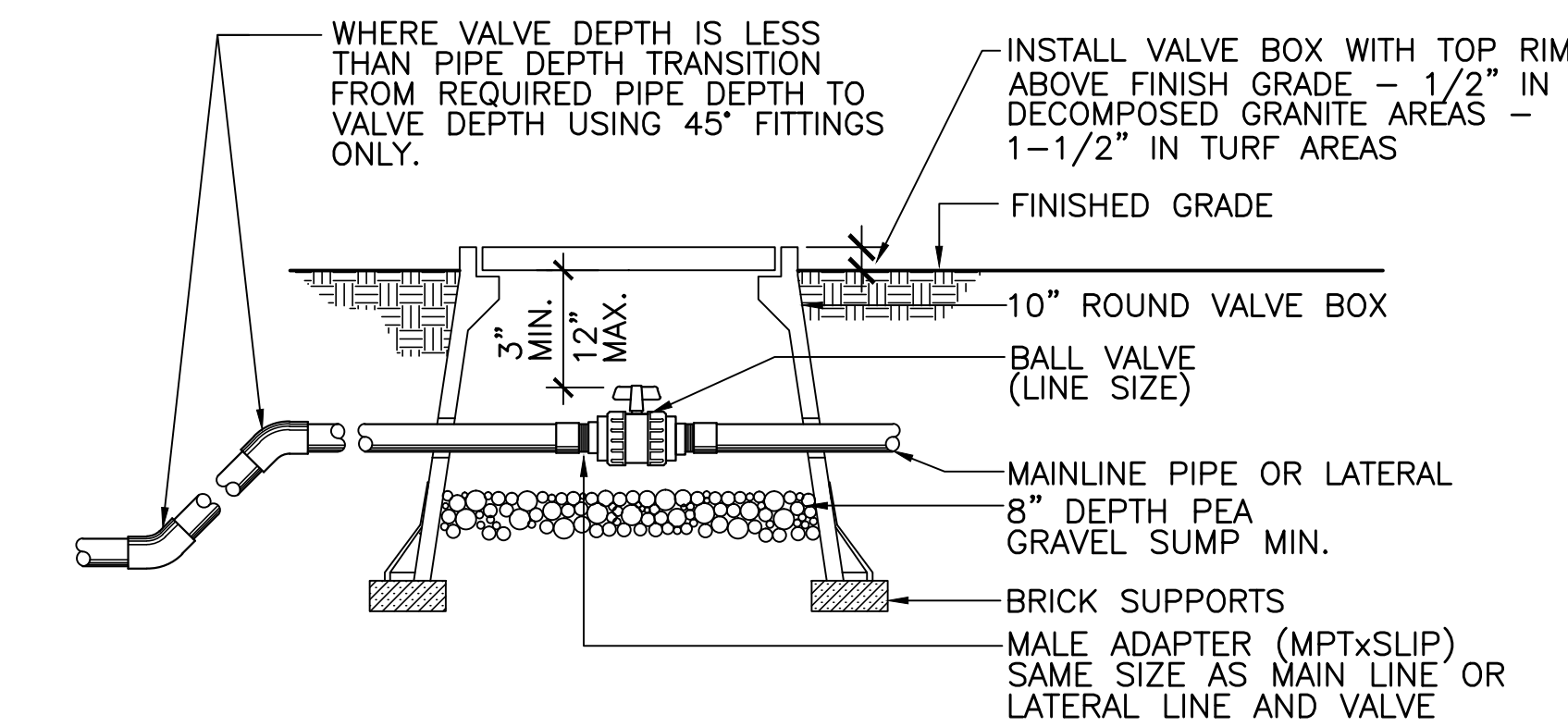
**NOTE:**  
LANDSCAPE IRRIGATION INSTALLER IS RESPONSIBLE FOR COORDINATING AND MAKING ALL SERVICE ACCESS AND INSTALLATION CONNECTIONS. 5/8\"/>

**9 WALL MOUNTED CONTROLLER**  
N.T.S.

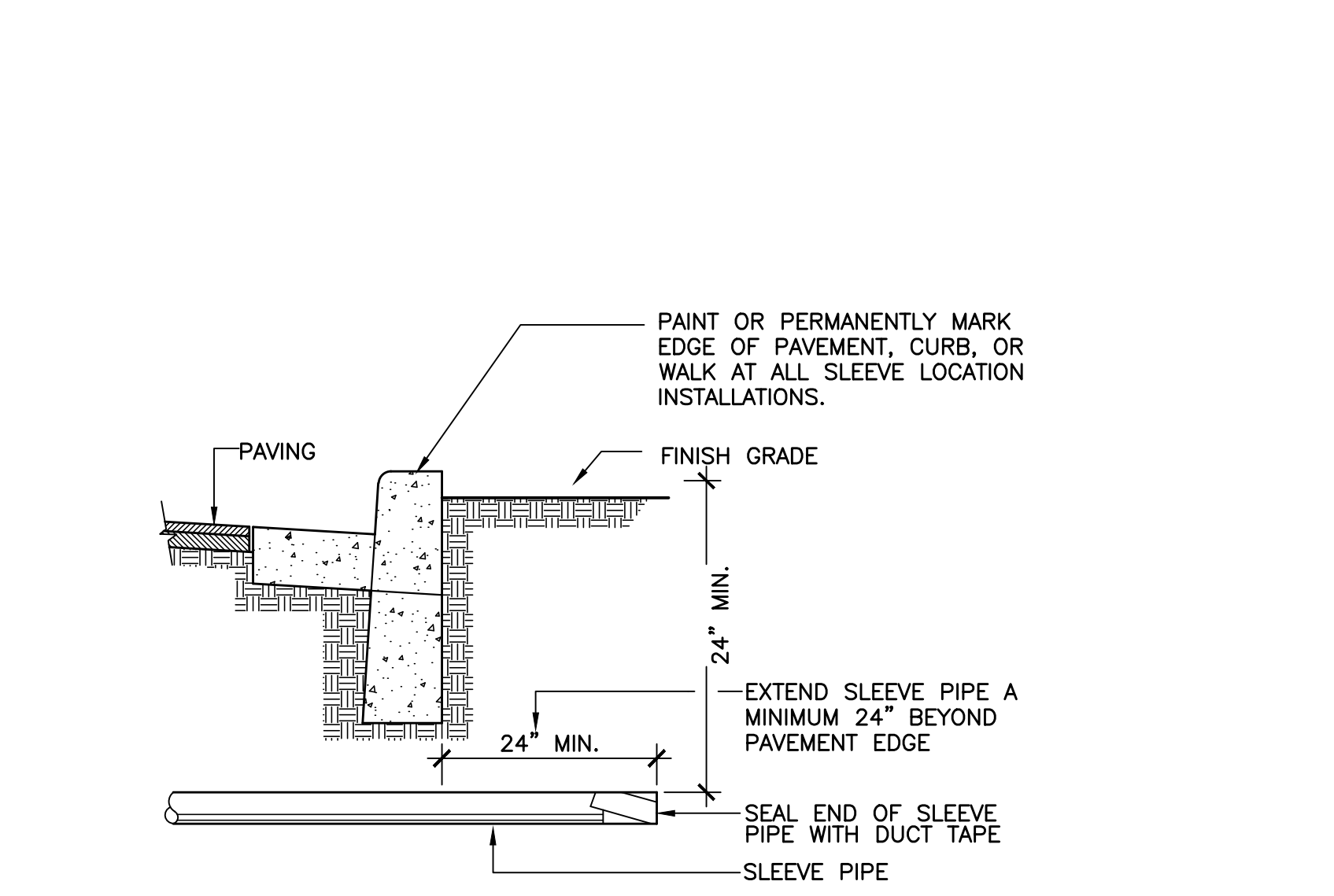


**NOTE:**  
FOR WIRE SIZES NO. 14, 12, AND 10 - ALL CONNECTIONS IN VALVE BOXES ONLY

**10 TYPICAL WIRE CONNECTION**  
N.T.S.

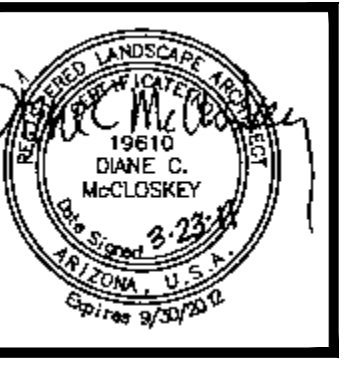


**11 BALL VALVE/ISOLATION VALVE**  
N.T.S.



**12 IRRIGATION SLEEVE**  
N.T.S.

NO.	DATE	DESCRIPTION



**McCloskey + Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777

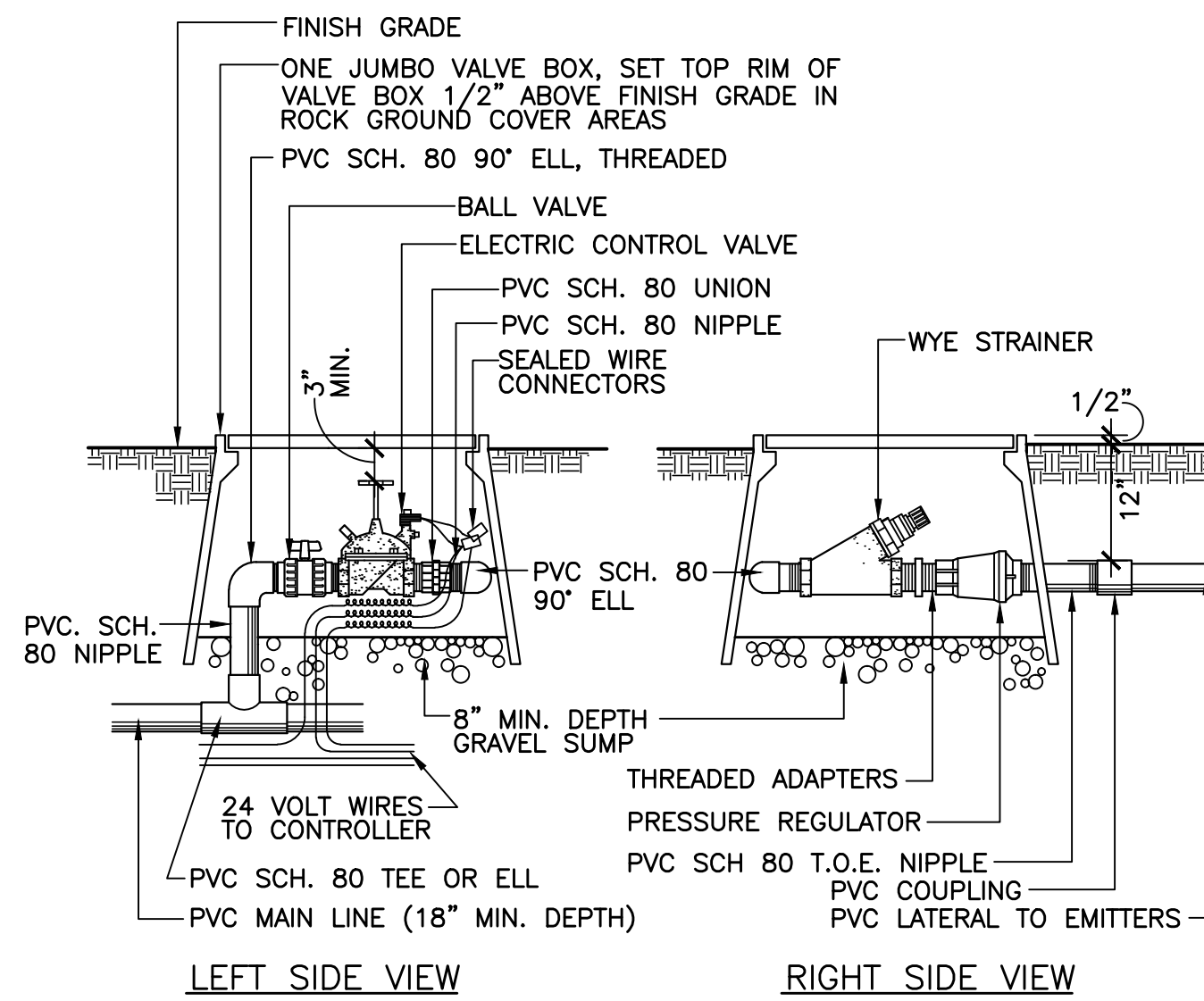
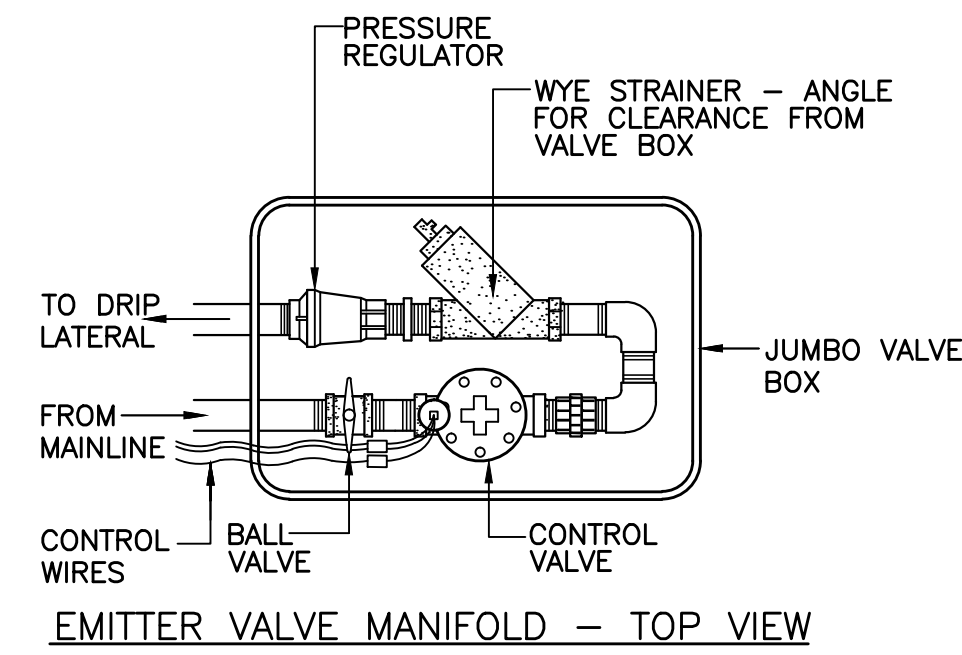
FY 11-12

Landscape/Irrigation Details  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

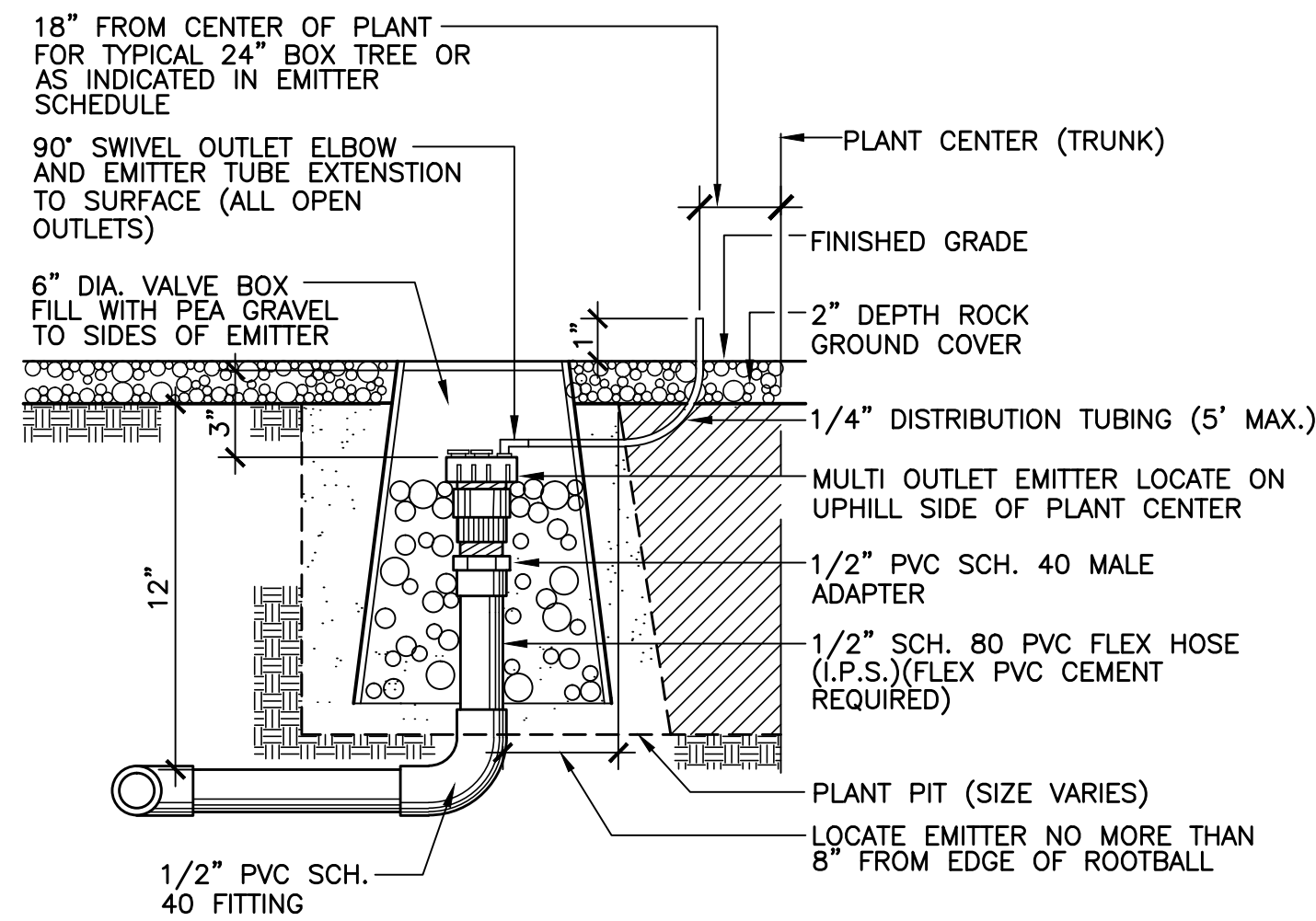
DESIGNED BY: MPI
DRAWN BY: MPI
CHECKED BY: DCM
PROJECT NO: 06422
DATE: 3/2011

DRAWING NO.  
**L-10**  
SHEET 10 OF 13

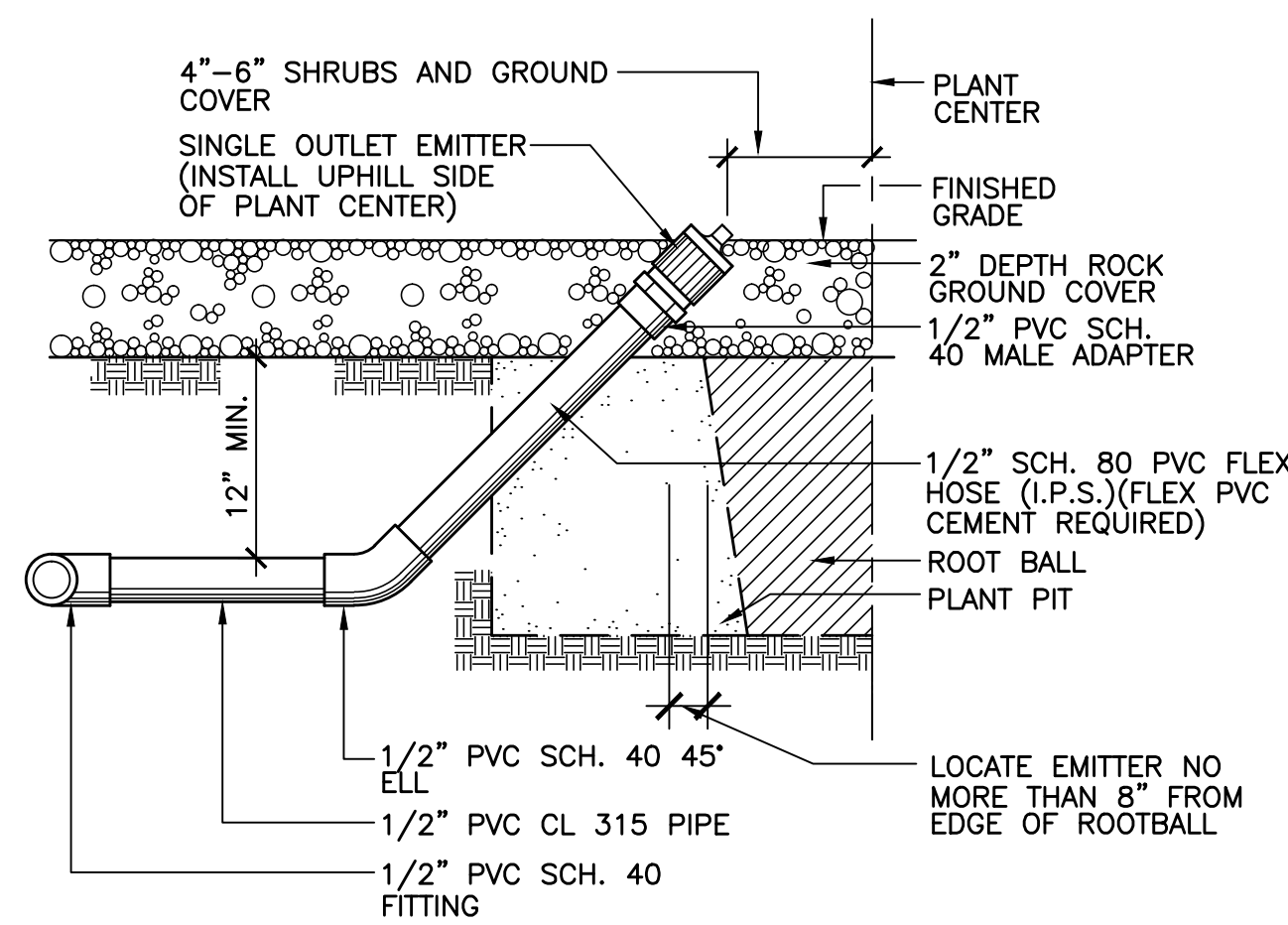




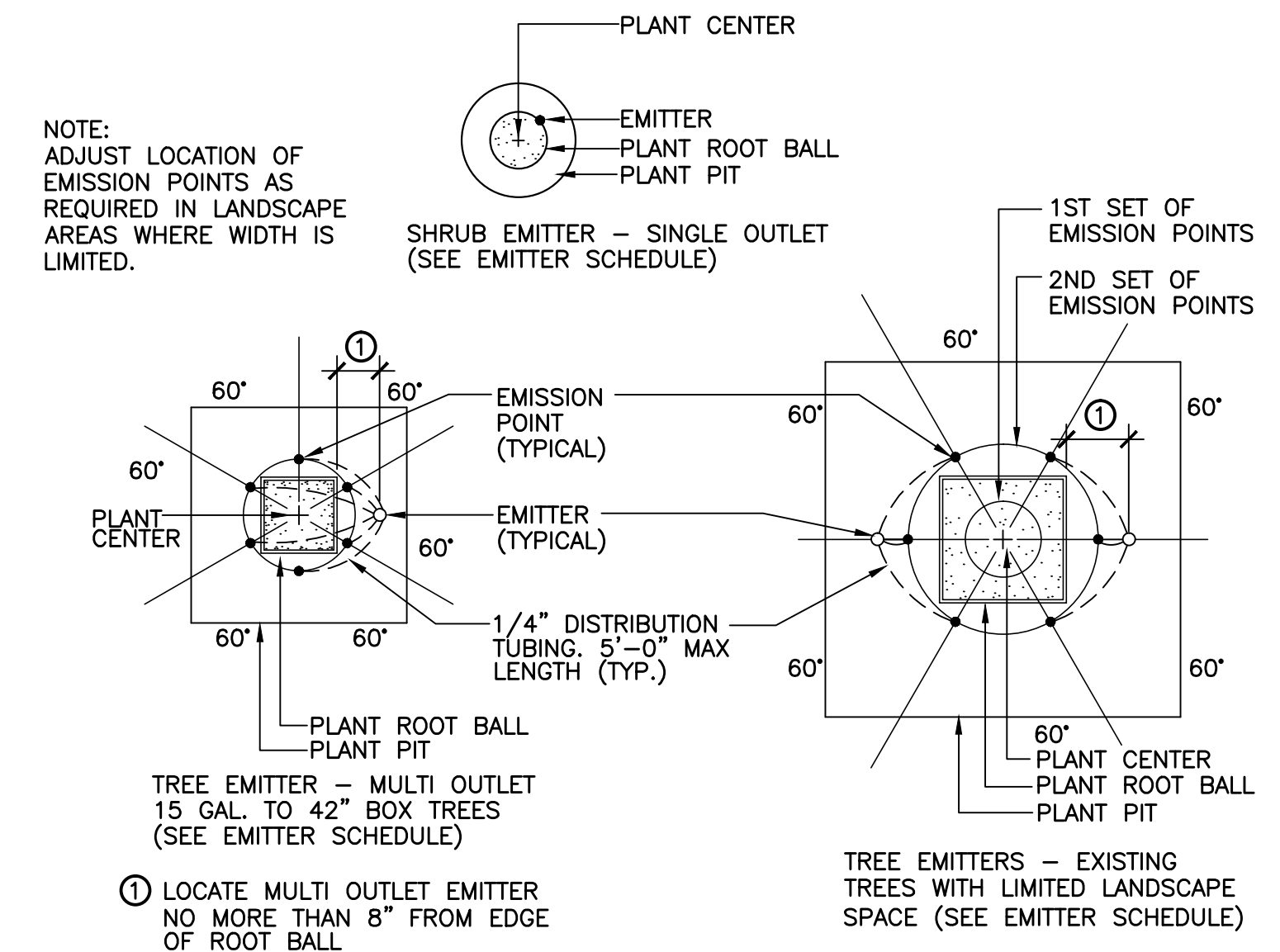
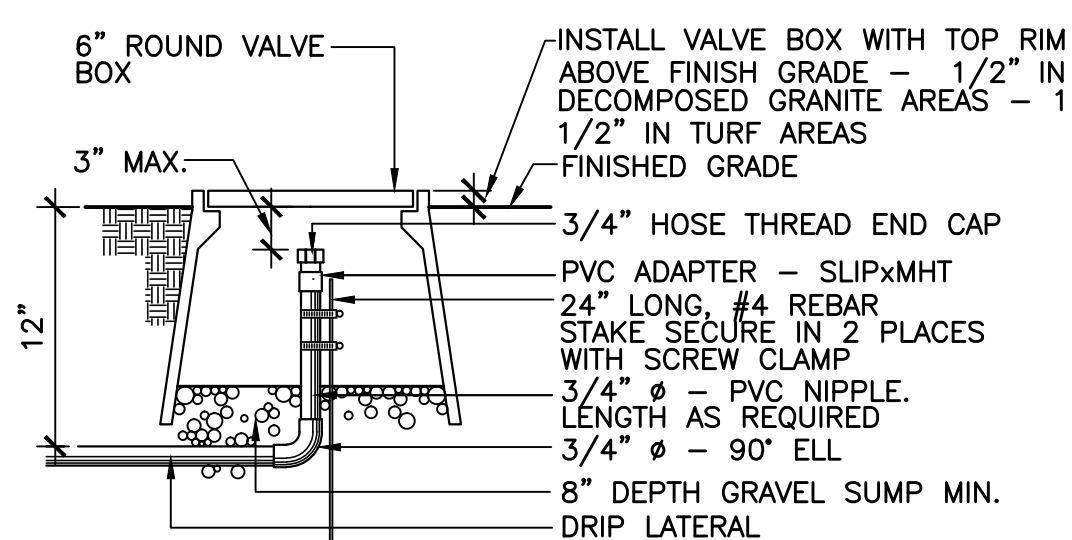
**1** EMITTER VALVE MANIFOLD  
N.T.S.



- NOTES:**
- PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR FLEXIBLE AND RIGID PIPE CONNECTIONS.
  - EMITTER TUBING EMISSION POINTS SHALL BE EQUALLY SPACED AND LOCATED TO DIRECT WATER FLOW TO PLANT ROOT BALL.
  - A MINIMUM OF THREE EMITTERS OPEN INITIALLY. ADDITIONAL OPENINGS AND EMISSION POINTS SHALL BE BASED ON PLANT SIZE (SEE EMITTER LAYOUT AND SCHEDULE).
  - EMITTER VALVE BOX SIZE: 6" DIA. RAINBIRD MODEL SEB-6X OR APPROVED EQUAL.



- NOTES:**
- 90° ELL MAY BE USED IN LIEU OF 45° IF PLANTER WIDTH IS LESS THAN REQUIRED FOR 45°
  - PIPE CEMENT SHALL BE AS SPECIFIED BY MANUFACTURER FOR ALL PIPE CONNECTIONS.



- NOTES:**
- EMITTER SHALL BE LOCATED ON UPHILL SIDE OF PLANT ROOT BALL.
  - EMISSION POINTS SHALL BE EQUALLY DISTRIBUTED AROUND PLANT PIT PERIMETER PER SCHEDULE.
  - EMITTER SHALL BE 8" MAXIMUM FROM EDGE OF TREE ROOT BALL TYPICAL. DISTRIBUTION TUBING SHALL NOT EXCEED 5'-0" MAXIMUM IN LENGTH.

**TREES**

TREE SIZE	NUMBER OF MULTI OUTLET EMITTERS = OUTLET QUANTITY = EMITTER GPH TOTAL	DISTANCE FROM TRUNK	
		1ST SET OF EMISSION POINTS	2ND SET OF EMISSION POINTS
15 GAL.	1 - 1 GPH = 6 GPH	3 @ 12"	
24" BOX	1 - 1 GPH = 6 GPH	4 @ 18"	
30" BOX	1 - 1 GPH = 6 GPH	6 @ 21"	
36" BOX	1 - 2 GPH = 12 GPH	6 @ 24"	
42" BOX	1 - 2 GPH = 12 GPH	6 @ 27"	
48" BOX	2 - 2 GPH = 24 GPH	6 @ 12"	4 @ 42"
54" BOX	2 - 2 GPH = 24 GPH	6 @ 15"	5 @ 45"
EXISTING TREES	2 - 2 GPH = 24 GPH	3 @ 48"	3 @ 48"
EX. FAN PALMS	1 - 2 GPH = 12 GPH	6 @ 24"	

**SHRUBS**

PLANT	SIZE	EMITTER TYPE (G.P.H.)
ANGELITA DAISY	ALL	.6 G.P.H. SINGLE OUTLET
ALL OTHER SHRUBS, GROUND COVER, AND ACCENTS	1 OR 5 GAL.	1 G.P.H. SINGLE OUTLET

**6** EMITTER SCHEDULE  
N.T.S.

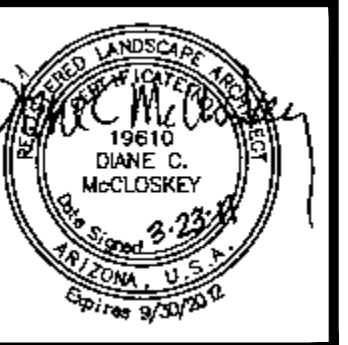
FOR CL. 315 (1/2" SIZE) AND CL. 200 PVC (3/4" AND LARGER)

PIPE SIZE	FOR SCH. 40 PVC	FOR CL. 315 (1/2" SIZE) AND CL. 200 PVC (3/4" AND LARGER)
1/2"	0-4	0-5
3/4"	4-8	5-10
1"	8-13	10-15
1-1/4"	13-22	15-25
1-1/2"	22-30	25-35
2"	30-50	35-55
2-1/2"	50-70	55-80
3"	70-120	80-120
4"	120-200	120-200

- ALL VALVE BOXES TO BE CARSON/BROOKS, AMETEK, OR EQUAL
- ALL LATERAL PIPE TO BE CLASS 200 PVC, 1/2" DRIP SUBLATERAL - CL. 315 PVC
- MAINLINE PIPE TO BE SCHEDULE 40 PVC (SOLVENT WELD)- LESS THAN 3" AND CLASS 200 PVC (RING-TITE) - 3" AND GREATER

**7** PIPE SCHEDULE  
N.T.S.

NO.	DATE	DESCRIPTION



**McCloskey + Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777 Fax: (480) 831-1774

FY 11-12

Irrigation Details  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

DESIGNED BY: MPI  
DRAWN BY: MPI  
CHECKED BY: DCM  
PROJECT NO: 06422  
DATE: 3/2011

DRAWING NO.  
**L-11**  
SHEET 11 OF 13







# IRRIGATION SPECIFICATIONS

## PART 1 - GENERAL

- A. Work Specified Herein – The work of this Section shall include all labor, materials, equipment and services necessary to furnish and install a complete landscape irrigation system including:
1. Trenching, stockpiling excavation materials, and refilling trenches.
  2. Complete system including but not limited to piping, backflow preventer assemblies, valves, fittings, heads, controller and wiring, and final adjustments to insure complete coverage.
  3. Water and electrical service connections.
  4. Replacement of unsatisfactory materials.
  5. Clean up, inspection and approval.
  6. Tests
- B. Substitutions
1. No change from the design shall be made without written authorization from the Owner's Representative and Town of Gilbert.
  2. Equipment specified is to establish performance and quality standard and shall be understood to include the words, "or approved equal". Any proposed equivalent materials shall be reviewed for approval by Owner's Representative prior to bidding.
- C. Quality Assurance
1. Perform all work in accordance with requirements of this Contract, MAG Standard Specifications, Town of Gilbert standards, as well as provisions of all applicable laws, codes, ordinances, rules, and regulations.
  2. Conform to requirements of reference information listed below except where more stringent requirements are shown or specified in the Contract Documents.
    - a. American Society for Testing and Materials (ASTM) – Specifications and Test Methods specifically referenced in this Section.
    - b. Underwriters Laboratories (UL) – UL Wires and Cables
  3. Special Requirements:
    - a. Tolerances – Specified depths of mains and laterals and pitch of pipes are minimums. Settlement of trenches is cause for removal of finish grade treatment, refilling, recompaction, and repair of finish grade treatment.
    - b. Protect, maintain, and coordinate work with other trades.
    - c. Contractor shall replace or repair damage to paving, grading, soil preparation, sodding, or planting during work associated with irrigation system installation at no additional cost to Owner.
    - d. Work involving substantial plumbing for installation of backflow preventers, copper service, and related work shall be executed by licensed and bonded plumbers.
- D. Pre-Construction Conference – The Owner's Representative may schedule a pre-construction conference with Contractor at least 7 days before beginning work under this Section. Purpose of this conference is to review questions Contractor may have regarding the work, administrative procedures during construction and project work schedule.
- E. Submittals – Prepare and make submittal of the following:
1. Submit 5 sets Shop Drawings and complete materials list indicating manufacturer, model number(s), size(s), and description of all materials and equipment to be used on the project. Show appropriate dimensions and adequate detail to accurately portray intent of construction.
  2. As Built Record Drawings. Contractor is responsible for recording and dimensioning all deviations from approved plans.
  3. Controller Charts indicating areas of coverage for each station on each Controller. Do not prepare Controller charts until As Built Record Drawings have been approved by Owner's Representative.
  4. Operation manual – in 3 ring binder include instructions for operation and maintenance of all equipment and components of irrigation system.
- F. Delivery, Storage, and Handling – Deliver, unload, store, and handle materials by packaging, bundling products in dry, weatherproof, waterproof condition in manner to prevent damage, breaking, deterioration, intrusion, ignition, and vandalism. Deliver original, unopened packaging with containers prominently displaying manufacturer name, volume, quantity, contents, instructions, and conformance to local, state, and federal law. Remove and replace cracked, broken, or contaminated items or elements prematurely exposed to moisture, inclement weather, temperature extremes, fire, or job site damage. Exercise care in handling and loading of PVC pipe.
- G. Job Site Conditions
1. Protection of Property – Preserve and protect all trees, plants, monuments, buildings, walls, structures, paved areas, curbs and other property from damage due to work of this Section. In the event damage does occur, all damage to items shall be completely repaired or replaced to original condition or better to the satisfaction of the Owner. All costs for such repairs shall be paid by Contractor.
  2. Flare and barricade open ditches.
  3. Protection and Repair of Underground Lines
    - a. Contractor is responsible for verifying location (including depth) of all underground utility lines by BLUE STAKE ((602) 283-1100) or other means prior to starting excavation. Take all precautions necessary to protect these underground lines from damage. In the event damage does occur, all damage shall be repaired by Contractor to the approval of the Owner. All costs for such repairs shall be paid by Contractor.
- H. Warranty / Guarantee – Manufacturer shall warranty materials against defects for a period of one year from date of Substantial Completion. Contractor shall guarantee workmanship for similar period. Contractor shall be responsible for coordinating material warranty items with manufacturer / distributor.
1. Setting of backfilled trenches that may occur during guarantee period shall be repaired by Contractor at no expense to Owner, including complete restoration of damaged property.
  2. Expenses due to vandalism before Substantial Completion shall be borne by Contractor.
  3. Check site at least once every two (2) weeks during warranty period for proper maintenance and operation of irrigation system, and notify Owner, in writing of any advised changes.
- I. Maintenance – Continuously maintain the irrigation system included in the contract during the progress of the work, until final acceptance of the work. Maintenance shall consist of making any necessary repairs, replacements, or adjustments regardless of cause to assure a complete and operational system and complete 100% coverage for all plant material and lawn areas.
- J. Extra Stock – In addition to the installed system furnish the following items to the Owner:
1. 2 pop up spray heads of each type used
  2. 5 drip emitters and or bubblers of each type used
  3. Two wrenches for disassembly and adjusting of each type of sprinkler head and valve supplied.
  4. Two keys to each of the Controllers.

## PART 2 - PRODUCTS

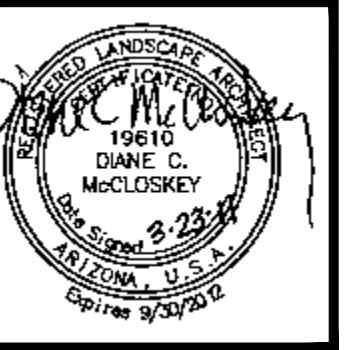
- A. Copper Pipe and Fittings – Copper pipe shall meet applicable specifications of ASTM B-88 hard tempered copper tubing. Copper pipe fittings shall be 150 pound working water pressure standard, solder end type, constructed of wrought copper, bronze, or brass. Joints shall be made with tin lead solder approximately 95-5 composition.
- B. Plastic Pipe and Fittings – The pipe shall be homogeneous throughout and free from cracks, holes, foreign materials, blisters, deleterious wrinkles, and dents.
1. Pressure Supply Lines downstream from backflow prevention units – Schedule 40 PVC (2-1/2" and smaller: solvent weld), Class 200 PVC (3" and larger: Ring-Tite), size as noted on drawings.
  2. Non pressure lines – Class 200 PVC minimum 3/4" or larger, size as noted on drawings; Class 315 PVC, 1/2" size.
  3. All pipe to be identified with the following indelible markings: Manufacturer's name, Nominal Pipe Size, Schedule or class, working pressure at 73 degrees F., NSF (National Sanitation Foundation) seal of approval, and Date of extrusion
  4. Solvent Weld Pipe – Manufactured from virgin polyvinyl chloride (PVC) compound in accordance with ASTM D2241 and ASTM D1784; cell classification 12454 B, Type 1, Grade 1.
  5. Fittings–All main line and control valve assembly fittings and nipples shall be PVC Schedule 80 suitable for installation on I.P.S. sized PVC pipe as noted on plans. Other fittings shall be Standard weight, Schedule 40, injection molded PVC, complying with ASTM D1784 and D2466, cell classification 12454 B.
    - a. Threads – injection molded type (where required)
    - b. Tees and ells – side gated
  6. Threaded Nipples – ASTM D2464, Schedule 80 with molded threads
  7. Joint Cement and Primer – PVC solvent cement shall meet the applicable specifications of ASTM D-2564. PVC cleaner and primer shall be type as recommended by manufacturer of pipe and fittings.
- C. Reduced Pressure Vacuum Breaker – Size and type as shown on drawings.
- D. Drip System
1. All irrigation emitter heads shall be installed on Schedule 80 flex risers with minimum Schedule 40 adapters and fittings length as required.
  2. All emitter heads of a particular type and for a particular function in the system shall be of the same manufacture and shall be marked with the manufacturer's name and identification, in such a position that they can be identified without being removed from the system. Type of emitter shall be as indicated on drawings. Both single and multi outlet emitters shall be installed at each plant as detailed and in relation to the finish grade and plant root zone as shown. The multi outlet emitters shall be installed with distribution tubing providing a minimum of three (3) emission points equally spaced around the root zone of the tree.
  3. Emitter Distribution Tubing – 1/4" flexible vinyl tubing appropriate for use with multi emitters.
  4. Drip Valve Assembly – Size and type as shown on drawings.
    - a. Wye Strainer – Plastic as manufactured by Ag. Products Inc. with min. 150 mesh stainless steel screen. Model type as shown on drawings
    - b. Pressure Regulator – Preset type manufactured by Senninger, model type and size as shown on drawings
    - c. Control Valve – Type, size as shown on drawings. The automatic remote control valves shall be slow acting diaphragm type electric solenoid operated valves. The valves shall be solenoid actuated, hydraulic operating valves of the globe screwed pattern type. The solenoid shall be for 24-volt, 60-cycle operation with running current of 2 watts. The solenoid shall be completely epoxy encapsulated for positive waterproofing. The valve shall be slow opening and closing with opening and closing speed not less than 5 sec. Flow range shall be .1 gpm – 200 gpm
    - d. Ball Valve / Isolation Valve – As shown on drawings.
  5. Drip line flush cap – As shown and detailed on drawings

12. Piping and wiring under paving to be installed in separate sleeves. Locations, sizes, and condition of existing on site sleeving is not known. Contractor will be required to provide all sleeving required to complete work under this contract and cut, repair, replace, and seal pavement as required for installation of new sleeving to the approval of the Town of Gilbert.
13. Water Supply and Point of Connection – Water supply points of connection (existing) are shown on plans. Field verify location, size, condition, and proper operation prior to start of construction. Notify Owner's Representative of existing conditions detrimental to performing work under this contract.
- D. Field Quality Control
1. Flushing – after piping, risers, and valves are in place and connected but prior to installation of sprinkler heads, emitters, quick coupler assemblies, and air relief valves thoroughly flush piping system under full head of water pressure from dead end fittings. Maintain flushing for 5 minutes through furthestmost valves. Cap risers after flushing.
  2. Testing – Conduct test in the presence of the Owner's Representative. Arrange for presence of Owner's Representative 48 hours in advance of testing. Supply force pump and all other test equipment.
    - a. Prior to backfilling, and after installation of all control valves, fill pressure supply line with water, and pressurize to 40 PSI over the designated static pressure or 150 PSI whichever is greater, for a period of 2 hours.
    - b. Test is acceptable if no leakage or loss of pressure is evident during test period
    - c. Detect and repair all leaks
    - d. Retest system until test pressure can be maintained for duration of test.
    - e. Pressure supply line may be backfilled after acceptable pressure test.
    - f. Before final acceptance, pressure supply line shall remain under pressure for a minimum period of 48 hours.
  3. Adjusting – Upon completion of installation, "fine tune" entire system by regulating valves, adjusting patterns and break up arms / screws, and setting pressure reducing valves of proper pressure to provide optimum and efficient coverage. Flush and adjust all sprinkler heads for optimum performance and to prevent over spray onto walks, roadways, buildings, and walls as much as possible. Heads of same type shall be operating at same pressure +/- 7%.
    - a. If it is determined that irrigation adjustments will provide proper and more adequate coverage, make such adjustments prior to final maintenance inspection as directed at no additional cost to Owner. Adjustments may also include changes in nozzle sizes, degrees of arc, and control valve throttling.
    - b. All sprinkler heads shall be set perpendicular to finish grade unless otherwise designated.
    - c. Areas that do not conform to designated operation requirements due to unauthorized changes or poor installation practices shall be immediately corrected at no additional cost to the Owner.
  4. Cleanup – Maintain continuous cleaning operation throughout duration of work. Legally dispose of, off-site, at no additional cost to Owner all trash or debris generated by installation of irrigation system.
  5. Substantial Completion Walkthrough
    - a. Arrange for presence of Owner's Representative 48 hours in advance of walkthrough.
    - b. Entire system shall be completely installed and operational prior to scheduling of walkthrough.
    - c. Operate each zone, in its entirety for Owner's Representative at time of walk through to insure correction of all incomplete items.
    - d. Expose all drip emitters and micro spray devices under operation for observation by Owner's Representative to demonstrate that they are performing and installed as designed.
    - e. Submit As Built record drawings for review at time of Substantial Completion Walkthrough.
    - f. Owner's Representative shall generate punch list of items to be completed before granting substantial completion and initiating 90 day maintenance period.
    - g. Contractor shall furnish all materials and perform all work required to correct all inadequacies of coverage due to deviations from the Contract Documents and as directed by the Owner's Representative.
  6. Final Maintenance Inspection
    - a. One week prior to the end of the 90 day maintenance period a final inspection will be performed. Contractor shall show evidence that Owner has received all As Built Record drawings, accessories, charts, and equipment as required prior to scheduling final maintenance inspection. The same process will be followed as specified for the Substantial Completion Walkthrough. If, after this inspection, the Owner agrees that the irrigation system installation is acceptable, written Notice of Acceptance will be given to the Contractor, and Owner maintenance will commence. If, after this inspection, remedial work is required by the Contractor, Notice of Acceptance and the commencement of Owner maintenance will be delayed until all remedial work items are completed by the Contractor in a manner acceptable to the Owner's Representative.

## PART 3 - EXECUTION

- A. Inspection
1. Examine areas and conditions under which work of this section is to be performed. Do not proceed with work until unsatisfactory conditions have been corrected.
  2. Grading operations with the exception of final grading shall be completed and approved by Owner's Representative before staking or installation of any irrigation system begins.
- B. Preparation
1. Staking – mark with powdered line or marking point, routing of pressure supply line and flag heads and control valve locations as directed by Owner's Representative. Owner's Representative will review staking and direct changes if required. Staking review does not relieve installer from coverage problems due to improper placement of heads after staking.
  2. Install sleeving under paving prior to paving operation to accommodate piping and wiring. Compact backfill around sleeves to 95% Modified Proctor Density within 2% of optimum moisture content in accordance with ASTM D1557.
  3. Trenching – Trench excavation shall follow as much as possible layout shown on drawing. Dig trenches straight and support pipe continuously on bottom of trench. Trench bottom shall be clean and smooth with all rock and organic debris 1" and greater in size removed. Pressure supply line trenches shall be over excavated as required to allow for bedding material.
    - a. Clearances
      1. Piping smaller than 3 inches – trenches shall have a minimum width of 7 inches.
      2. Provide not less than 6 inches of clearance between each line, and not less than 12 inches of clearance between lines of other trades
      3. Pipe and wire depth as shown on detail on drawings
  4. Existing Irrigation Removal–Unless otherwise noted on irrigation plans, all existing at grade or above grade irrigation components to be removed. This includes, but is not limited to electric valves, valve boxes, spray heads, bubblers, emitters, emitter distribution lines, backflow preventers, and controllers. All existing irrigation system components below grade (piping) to be abandoned in place, unless disturbed during new construction. Remove and dispose as necessary.  
Note: At the discretion of Town of Gilbert Parks Department–valves, rotor heads, controllers, enclosures and backflow preventers shall be salvaged and returned to the Town of Gilbert.
- C. Installation
- Locate all other equipment as near as possible to locations designated on drawings. Deviations shall be approved by Owner's Representative prior to installation.
1. PVC Piping – Snake pipe in trench as much as possible to allow for expansion and contraction. Do not install pipe when air temperature is below 40 degrees (F). When pipe laying is not in progress, at end of each day, close pipe ends with tight plug or cap. Perform work in accordance with good practices prevailing in piping trades. Coordinate pressure supply line installation with required bedding operations.
    - a. Solvent weld PVC Pipe – Lay pipe and make all plastic to plastic joints in accordance with manufacturer's recommendations. All solvent welded PVC pipe and fittings shall be primed.
  2. Reduced Pressure Vacuum Breaker – Install as detailed in locations shown on drawings. Comply with manufacturer's recommendations, backflow prevention units shall be tested in accordance with the requirements as specified in the manual of Cross Connection Control Recommended Practice as published by the foundation for Cross Connection Control Research, University of Southern California and local codes. The testing of the backflow prevention unit shall be performed by authorized service-test personnel. The test shall be performed at no additional cost to the Owner.
  3. Drip System
    - a. Make all fitting connections per manufacturer recommendations and as detailed and shown on drawings.
    - b. Install drip line flush caps at all dead ends of drip laterals.
  4. Automatic Controller
    - a. Electrical service point of connection. Existing controller locations and electrical supply shall be used where possible. Where not possible, electrical supply shall be extended from the point of service to the controller location shown on plan. Field verify locations, condition, and operation of existing electric service. Notify Owner's Representative immediately of existing conditions detrimental to performing work under this contract.
    - b. Connect remote control valves to controller in numerical sequence as shown on the drawings. to the controller location shown on plan. Field verify location and coordinate with electrical contractor.
  5. Control Wiring
    - a. Bury control wiring between controller and electric valves in pressure supply line trenches, strung as close as possible to pressure supply lines with wires consistently located below and to one side of pipe on top of initial pipe bedding, or in separate trenches.
    - b. Bundle 24 volt wires at 10 foot intervals
    - c. Provide an expansion loop by wrapping wire at least 8 times around a 3/4 inch pipe and withdrawing pipe.
    - d. Make all splices and E.C.V. connections using Penlite connectors or similar dry splice method.
    - e. Install all control wire splices not occurring at control valve in a separate splice valve box.
    - f. Install one control wire for each control valve.
    - g. Run 1 spare #14 – 1 wire from controller pedestal to last electric control valve on each and every leg of mainline.
    - h. Label spare wires at controller and wire stub box. Wire color for extra wire to be green.
  6. Electric Control Valves – Install cross handle 3" min, below finish grade where shown on drawings and as detailed. When grouped together, allow at least 12" between valve box sides. Install each remote control valve in a separate valve box. Install top of valve box 1/2" above finish grade.
  7. Drip Valve Assemblies – Install drip valve assembly as detailed.
  8. Drip Emitters – Install all emitters as detailed
  9. Valve Boxes
    - a. Install one valve box for each type of valve installed as detailed.
    - b. Valve box extensions are not acceptable.
    - c. Install gravel sump after compaction of all trenches. Valve box to rest on gravel sump. Place final portion of gravel inside valve box after valve box is backfilled and compacted.
    - d. All valve boxes to be bolt down lid models. Provide with stainless steel bolts and washers as required.
    - e. Provide sufficient clearances inside valve boxes to properly operate and maintain irrigation system component housed within.
  10. Sprinkler Heads
    - a. Install sprinkler heads where designated on drawings or where staked. Spacing of heads shall not exceed the maximum indicated on drawings unless restaked as directed by Owner's Representative. In no case shall the spacing exceed that recommended by the manufacturer. Contractor is responsible for providing complete 100% head to head coverage.
    - b. Set plumb to finish grade as detailed. Install heads on risers as detailed. Adjust heads to correct height after seed is established.
    - c. Adjust port circle heads for proper coverage. Plant placement shall not interfere with intended sprinkler head coverage, piping, or other equipment. Owner's Representative may request nozzle changes or adjustments without additional cost to the Owner.
  11. Backfilling – Do not begin backfilling operations until required system tests have been completed. Backfill shall not be done in freezing weather except with review of Owner's Representative. Leave trenches slightly mounded to allow for settlement after backfilling is completed. Trenches shall be finish graded prior to walk through of system by Owner's Representative.
    - a. All pressure supply lines shall be bedded with construction grade sand 4" below invert of pipe to 6" above top of pipe and width of trench.
    - b. Excavated material is generally considered satisfactory for backfill purposes after completing bedding requirements. Backfill material shall be free of rubbish, vegetable matter, frozen materials, and stones larger than 2 inches in maximum dimension. Do not mix subsoil with topsoil. Material is not suitable for backfill if excavated material is not sufficient to meet backfill, compaction, and final grade requirements.
    - c. Do not leave trenches open for a period of more than 48 hours. Open excavations shall be protected in accordance with OSHA regulations.
    - d. Compact backfill to 90% maximum density determined in accordance with ASTM D155-7 utilizing mechanical or hand tamping method.

REVISIONS	
NO.	DATE



**McCloskey • Peltz, Inc.**  
LANDSCAPE ARCHITECTS  
One West Elliot Road Suite 110 Tempe, Arizona 85284  
Phone: (480) 838-4777 Fax: (480) 831-1774

FY 11-12

Irrigation Specifications  
Parkway Improvement District 07-3  
**PARK VILLAGE**  
PREPARED FOR: Town of Gilbert

DESIGNED BY: <b>MPI</b>
DRAWN BY: <b>MPI</b>
CHECKED BY: <b>DCM</b>
PROJECT NO: <b>06422</b>
DATE: <b>3/2011</b>

DRAWING NO.
<b>L-13</b>
SHEET <b>13</b> OF <b>13</b>