

# CITY OF PHOENIX

## STREET TRANSPORTATION DEPARTMENT

### DESIGN & CONSTRUCTION MANAGEMENT DIVISION

#### RIVERVIEW DRIVE 18TH PLACE TO 22ND STREET

ST85110072



2017

PROJECT NO.	ST85110072	SHEET NO.	1	TOTAL SHEETS	68
DATE	08/17	STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
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MAYOR  
GREG STANTON

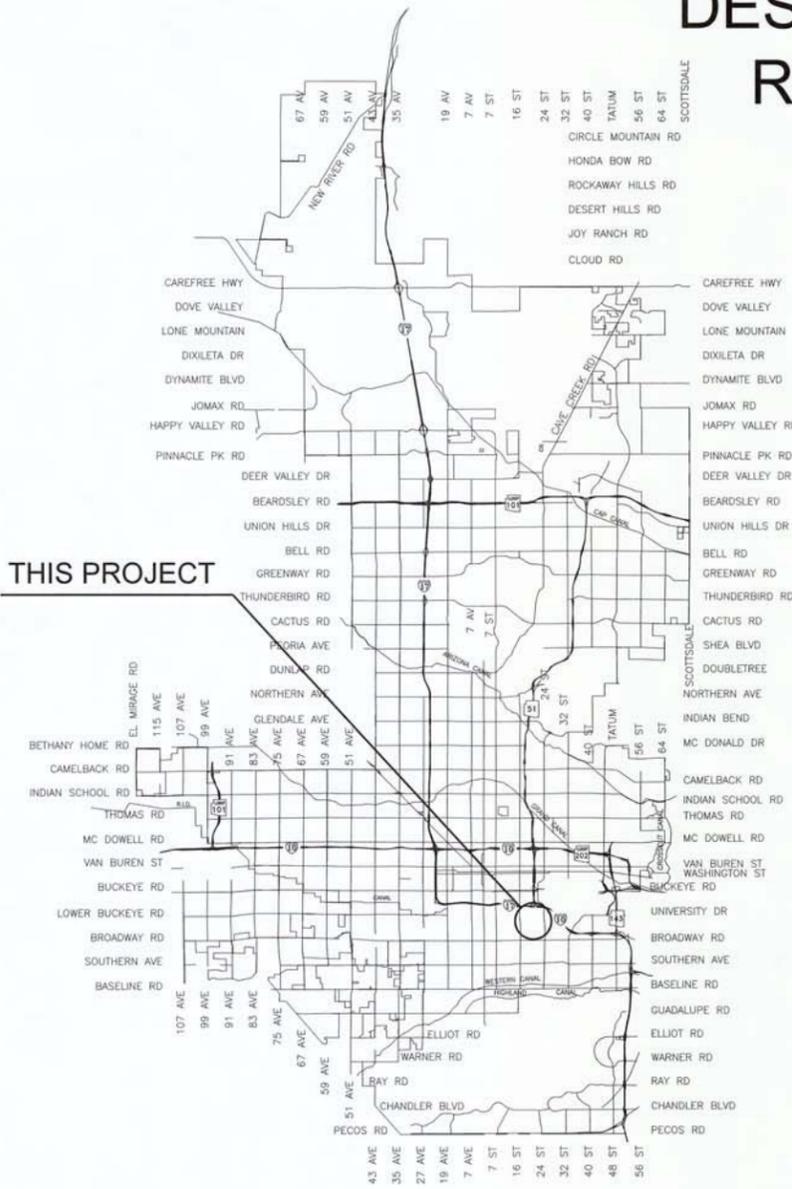
CITY MANAGER  
ED ZUERCHER

CITY COUNCIL

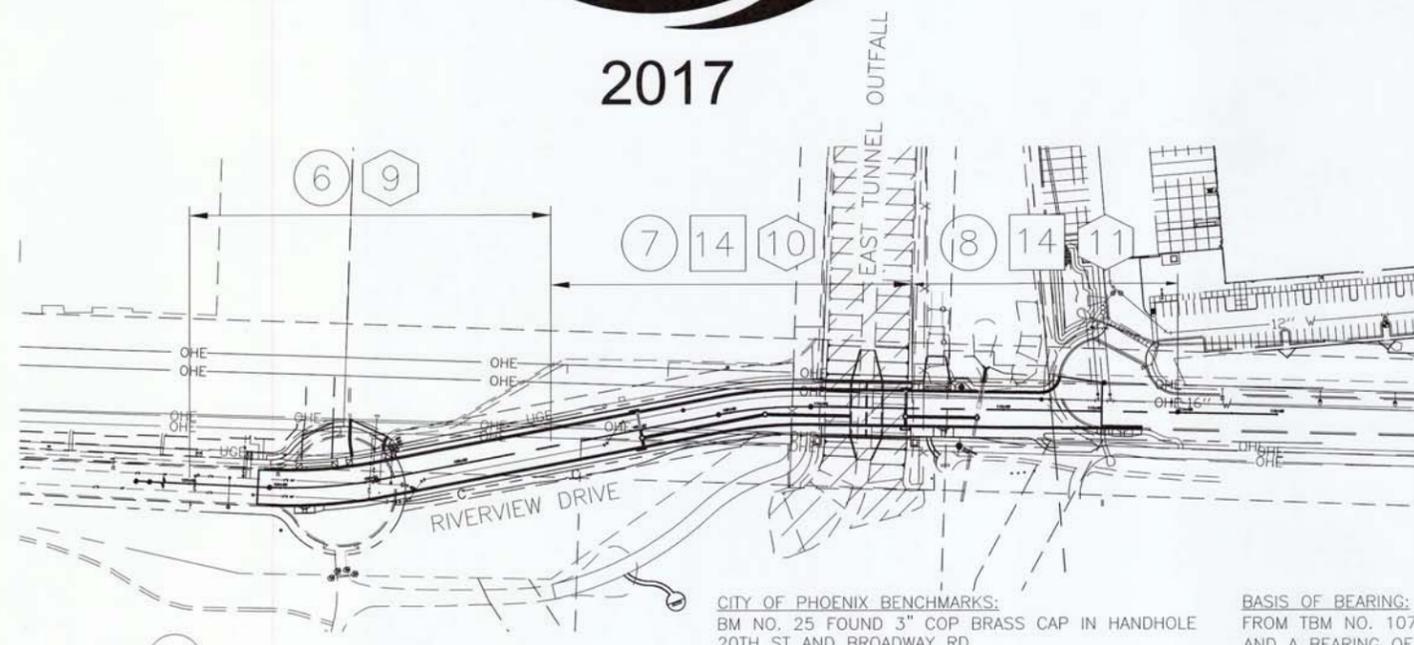
DISTRICT NO 1.	THELDA WILLIAMS
DISTRICT NO 2.	JIM WARING
DISTRICT NO 3.	DEBRA STARK
DISTRICT NO 4.	LAURA PASTOR
DISTRICT NO 5.	DANIEL VALENZUELA
DISTRICT NO 6.	SAL DICICCIO
DISTRICT NO 7.	MICHAEL NOWAKOWSKI
DISTRICT NO 8.	KATE GALLEG0

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VICINITY MAP  
NTS



- PAVING PLAN/PROFILE SHEETS
- STORM DRAIN PLAN/PROFILE SHEET
- WATERLINE PLAN/PROFILE SHEETS

LENGTH OF PROJECT = 977 LF = 0.19 MILES  
AREA OF DISTURBANCE = 2.0 ACRES

KEY MAP  
NTS

**CITY OF PHOENIX BENCHMARKS:**  
 BM NO. 25 FOUND 3" COP BRASS CAP IN HANDHOLE  
 20TH ST AND BROADWAY RD  
 N=875,697.241' E=662,945.999' (NAD 83)  
 ELEV=1094.437' (NGVD 29)

BM NO. 34 FOUND 3" COP BRASS CAP IN HANDHOLE  
 16TH ST AND ELWOOD ST  
 N=878,322.735' E=660,320.344' (NAD 83)  
 ELEV=1086.519' (NGVD 29)

TBM NO. 107 FOUND 3" COP BRASS CAP FLUSH  
 WEST OF 18TH PL AND C OF RIVERVIEW DR,  
 N=879,838.413' E=661,577.269' (NAD 83)  
 ELEV=1086.70' (NGVD 29)

TBM NO. 108 FOUND 3" COP BRASS CAP FLUSH  
 18TH PL AND C OF RIVERVIEW DR,  
 N=879,837.634' E=661,592.190' (NAD 83)  
 ELEV=1086.72' (NGVD 29)

**BASIS OF BEARING:**  
 FROM TBM NO. 107 TO TBM NO. 108 IS A DISTANCE OF 14.94'  
 AND A BEARING OF SOUTH 87°00'37" EAST.

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE "RECORD DRAWING" MEASUREMENTS AS SHOWN HEREON WERE MADE UNDER MY SUPERVISION OR AS NOTED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED ENGINEER \_\_\_\_\_ DATE \_\_\_\_\_  
 REGISTRATION NUMBER \_\_\_\_\_

APPROVED ASSISTANT STREET TRANSPORTATION DIRECTOR  
 DATE 8/25/2017

APPROVED DEPUTY STREET TRANSPORTATION DIRECTOR  
 DATE 8-22-17

APPROVED WATER SERVICES DEPARTMENT  
 DATE 8/16/17

APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT  
 DATE 8/16/17



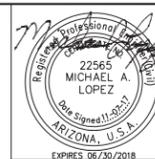
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# LEGEND AND NOTES

RIVERVIEW DRIVE  
PHOENIX STREET – MARICOPA CO.  
18TH PLACE – 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	2	65	
11/17 DATE			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
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REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
		NO.		
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		NO.		
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		NO.		
REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
		NO.		

## LEGEND

- ▲ BENCHMARK
- NEW SURVEY MONUMENT – M.A.G. DETAIL 120-1 TYPE "B"
- NEW SURVEY MONUMENT – M.A.G. DETAIL 120-1 TYPE "A"
- ===== COMBINED CURB & GUTTER – M.A.G. DETAIL 220 TYPE "A"
- ▣ BACKFILL TYPE & SQ. YD. PVMT. REPLACEMENT – C.O.P. DETAIL P1200
- ||||| EXISTING CONCRETE PAVEMENT OR SIDEWALK
- ▨ NEW CONCRETE SIDEWALK – STD. DETAIL P1230
- ▩ NEW CONCRETE DRIVEWAY OR ALLEY ENT. PER DETAIL NO. ON PLANS
- ▲ NEW CONCRETE SIDEWALK RAMP PER DETAIL ON PLANS
- ▽ AVERAGE GROUND ELEVATION AT R/W LINE
- ◇ BACKFILL COMPACTION TYPE
- EXISTING DITCH
- 24" BR (SP) EXISTING IRRIGATION LINE W/SIZE (NOTE PRIVATE, SALT RIVER OR R.I.D.)
- EXISTING IRRIGATION STRUCTURE
- ⊙ EXISTING IRRIGATION STANDPIPE
- NEW IRRIGATION STANDPIPE – M.A.G. DETAIL 503
- NEW IRRIGATION VALVE – M.A.G. DETAIL 506 W/ CONC. SCOURING BASIN
- IRRIGATION BERM
- NEW IRRIGATION STRUCTURE PER DETAIL ON PLANS
- 12" DIP W--- EXISTING WATER LINE W/SIZE & TYPE (12" AND SMALLER)
- 36" DIP W--- EXISTING WATER LINE W/SIZE & TYPE (GREATER THAN 12")
- ADJUST EXIST. WATER VALVE BOX – C.O.P. DETAIL P1391
- 3/4" W --- WATER SERVICE W/SIZE AND WATER METER BOX
- ⊙ EXISTING FIRE HYDRANT
- ⊙ NEW OR RELOCATED FIRE HYDRANT BY CONTRACTOR
- T.N. --- EXISTING WATER VALVE W/TOP OF OPERATING NUT ELEVATION
- 8" VCP S--- EXISTING SANITARY SEWER LINE W/SIZE & TYPE (12" AND SMALLER)
- 30" VCP S--- EXISTING SANITARY SEWER LINE W/SIZE & TYPE (GREATER THAN 12")
- EXISTING MANHOLE
- M --- NEW MANHOLE
- CATCH BASIN, GUTTER INLET (LENGTH TO SCALE)
- CATCH BASIN, CURB INLET (LENGTH TO SCALE)
- CATCH BASIN, CURB & GUTTER INLET (LENGTH TO SCALE)
- 30" SD (RCP) --- EXISTING STORM DRAIN LINE W/SIZE & TYPE (GREATER THAN 12")
- NEW PIPE FOR STORM DRAIN OR IRRIGATION LINE
- 4"--- EXISTING GAS LINE W/SIZE
- E--- EXISTING UNDERGROUND ELECTRIC CABLE OR SINGLE CONDUIT
- E-40--- EXISTING UNDERGROUND ELECTRIC DUCT (SPECIFY NUMBER)
- T--- EXISTING TELEPHONE BURIED CABLE OR SINGLE CONDUIT
- T-40--- EXISTING UNDERGROUND TELEPHONE DUCT (SPECIFY NUMBER)
- CATV--- EXISTING UNDERGROUND CABLE TV
- FO--- EXISTING UNDERGROUND FIBER OPTIC LINE
- EXISTING TRAFFIC SIGNAL POLE W/MAST ARM & SIGNAL INDICATIONS
- EXISTING STREET OR TRAFFIC SIGN
- EXISTING UTILITY POLE W/LINE INDICATING WIRE DIRECTION
- EXISTING WIRE FENCE
- EXISTING BLOCK FENCE
- EXISTING WOOD FENCE
- MB --- MAIL BOX
- EXISTING POWER POLE DOWN GUY ANCHOR
- EXISTING STREET LIGHT & POLE
- PROPOSED STREET LIGHT
- ⊙ EXISTING TREE OR STUMP TO BE REMOVED – MORE THAN 12" DIA.
- ⊙ EXISTING TREE TO BE TRANSPLANTED BY CONTRACTOR
- EASEMENT LINE
- EXISTING OR NEW R/W LINE
- PAVEMENT CENTER LINE OR MONUMENT LINE
- ⊙ EXISTING TREE OR STUMP TO BE REMOVED 12" DIA. OR LESS (NON PAY ITEM)
- ⊙ EXISTING TREE TO REMAIN
- C --- EDGE OF CUT SLOPE
- F --- EDGE OF FILL SLOPE
- NEW CHAIN LINK FENCE

## NOTES

ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CONTRACT SPECIAL PROVISIONS AND DETAILS, CITY OF PHOENIX SUPPLEMENTS TO MAG STANDARD SPECIFICATIONS AND DETAILS, AND MAG STANDARD SPECIFICATIONS AND DETAILS, IN THAT ORDER OF PRECEDENCE, AT THE TIME OF CONSTRUCTION BID.

ALL STORM SEWER MANHOLES ARE TO BE CONSTRUCTED WITHOUT STEPS.

PIPE CONNECTIONS TO EXISTING CONCRETE PIPE MAINS SHALL BE MADE IN ACCORDANCE WITH DETAILS CALLED OUT ON THE PLANS. CONNECTION TO MAINS SHALL NOT BE CLOSER THAN 5', CENTER TO CENTER.

PIPE CONNECTIONS TO NEW PRECAST CONCRETE PIPE MAINS, SHALL BE MADE WITH FACTORY MADE WYES OR TEES. THE DETAIL OF THE FITTINGS MUST BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO MANUFACTURE. PIPE CONNECTIONS TO NEW CAST IN PLACE CONCRETE PIPE MAINS SHALL BE MADE PER C.O.P. DETAIL P1576.

CATCH BASIN CONNECTOR PIPES SHALL BE LAID ON A STRAIGHT ALIGNMENT AND SLOPE UNLESS OTHERWISE SPECIFIED. IF BREAKS IN ALIGNMENT OR SLOPE ARE NECESSARY TO MEET FIELD CONDITIONS. THE MAXIMUM DEFLECTION SHALL BE 22-1/2". THE BEND SHALL BE COLLARED ACCORDING TO C.O.P. DETAIL P1505. ANY ANGLE BENDS GREATER THAN 22-1/2" SHALL BE PREFABRICATED.

CONNECTOR PIPES SHALL CONNECT TO CATCH BASIN WALLS AT AN ANGLE NOT TO EXCEED 22-1/2" FROM PERPENDICULAR.

FACILITIES WHICH ARE NOT SPECIFICALLY LOCATED WITH ACTUAL VERTICAL AND HORIZONTAL CONTROLS, ARE LOCATED ONLY APPROXIMATELY AND TO THE BEST AVAILABLE INFORMATION PROVIDED BY VARIOUS OWNERS OF THE FACILITIES, AND SUPPLEMENTED BY VISUAL SURFACE INFORMATION WHERE APPROPRIATE. ACCURACY, LOCATION AND COMPLETENESS OF THIS INFORMATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO INITIATION OF CONSTRUCTION.

AT LEAST TWO WORKING DAYS BEFORE CONSTRUCTION, THE CONTRACTOR SHALL CONTACT BLUESTAKE TO FIND AND FLAG UNDERGROUND UTILITIES. THE CONTRACTOR SHALL CONTACT OTHER APPROPRIATE UTILITIES DIRECTLY IF THEY ARE NOT ON BLUESTAKE SYSTEM.

VERTICAL CONTROL IS BASED ON NATIONAL GEODETIC SURVEY

UNLESS OTHERWISE NOTED, STATIONS SHOWN ON PIPE PROFILES ARE ALONG CENTERLINE OF PIPE.

UNLESS OTHERWISE NOTED, PIPE SHALL BE BEDDED IN ACCORDANCE WITH CITY OF PHOENIX DETAIL P1200.

CATCH BASINS ARE STATIONED PERPENDICULAR TO THE CENTERLINE OF THE STREET AT THE CENTERLINE OF THE MAINTENANCE BASIN.

SANITARY SEWER MAINS AND TAPS CROSSING OVER STORM DRAIN MAINS SHALL BE SUPPORTED PER M.A.G. DETAIL 403-1, 403-2, OR 403-3.

ALL EXISTING PRECAST CONCRETE SAFETY CURBS AND ALL EXISTING WOODEN PARKING CURBS, WHICH ARE INSIDE THE RIGHT OF WAY AND APPROXIMATELY PARALLEL TO THE NEW CURB LINE, SHALL BE RESET ON THE RIGHT OF WAY DIRECTLY OPPOSITE THEIR EXISTING LOCATION, WITH THE BACK EDGE ON THE RIGHT OF WAY LINE. ALL OTHER PRECAST CONCRETE SAFETY CURBS INSIDE THE STREET RIGHT OF WAY SHALL BE SALVAGED AND STOCK PILED FOR THE OWNER AT THE RIGHT OF WAY LINE.

EXISTING PRECAST CONCRETE SAFETY CURBS OUTSIDE THE RIGHT OF WAY, WHICH ARE DISTURBED BY NEW CONSTRUCTION SHALL BE RESET IN THEIR ORIGINAL POSITION BY THE CONTRACTOR.

ALL EXISTING DRIVEWAYS AND ALL EXISTING ALLEYS SHALL BE GRADED TO MATCH THE NEW WORK IN ACCORDANCE WITH STD. DETAIL P1164, UNLESS OTHERWISE SPECIFIED. EXISTING SURFACING SHALL BE REMOVED AND REPLACED AS NECESSARY.

UNLESS OTHERWISE PROVIDED ON THE PLANS:

–THE SPACE BETWEEN THE BACK OF NEW DRIVEWAY ENTRANCES AND EXISTING A.C. DRIVEWAYS SHALL BE FILLED WITH A MINIMUM OF 3" A.C.S.C. ON 100% COMPACTED NATIVE SOIL. WHERE EXISTING PAVEMENT AND BASE THICKNESS EXCEED THE MINIMUMS, MATCH THE EXISTING.

–THE SPACE BETWEEN THE BACK OF NEW SIDEWALKS AND EXISTING PRIVATE SIDEWALKS, AND THE SPACE BETWEEN THE BACK OF NEW DRIVEWAY ENTRANCES AND EXISTING P.C.C. DRIVEWAYS SHALL BE FILLED WITH P.C.C.. THE THICKNESS AND CLASS SHALL MATCH THAT OF THE NEW SIDEWALK OR DRIVEWAY ENTRANCE.

–THE SPACE BETWEEN THE BACK OF THE NEW SIDEWALKS, AND EXISTING A.C. PARKING LOTS, WHICH FALL WITHIN OR ABUT THE R/W SHALL BE FILLED WITH 2" A.C.S.C. ON 100% COMPACTED NATIVE SOIL.

EXISTING IRRIGATION BERMS DISTURBED BY NEW CONSTRUCTION SHALL BE RECONSTRUCTED AS SHOWN ON PLANS.

CATCH BASIN ACCESS FRAME AND COVERS SHALL BE CONSTRUCTED PER C.O.P. DETAIL P1561.

## STRUCTURAL NOTES

"CLEAR" DIMENSIONS FOR DEPTH OF REINFORCING STEEL ARE FROM FACE OF CONCRETE TO FACE OF BARS.

ALL EXPOSED EDGES OF CONCRETE SHALL BE BEVELED OR ROUNDED.

ALL EXPOSED CONCRETE SURFACES SHALL BE FINISHED IN ACCORDANCE WITH ARIZONA DEPT. OF TRANSPORTATION STANDARD SPECIFICATION 601-3.05 – FINISHING CONCRETE, UNLESS OTHERWISE SPECIFIED.

WATER NOTES

STREET TRANSPORTATION CIVIL/SITE INSPECTION STAFF SHALL BE NOTIFIED 48 HOURS BEFORE ANY CONSTRUCTION BEGINS.

ALL WATER VALVE BOXES SHALL BE PER CITY OF PHOENIX SUPPLEMENT TO M.A.G. SPECIFICATIONS AND DETAILS P1391, TYPE A ONLY.

ALL CONSTRUCTION IN CITY OF PHOENIX RIGHT-OF-WAY, OR EASEMENT, IS TO CONFORM TO M.A.G. SPECIFICATIONS AND DETAILS AND CITY OF PHOENIX SUPPLEMENT TO M.A.G. SPECIFICATIONS AND DETAILS, UNLESS MODIFIED ON THE PLANS.

ALL DUCTILE IRON PIPE WATER MAIN VALVES, FITTINGS, AND BENDS SHALL BE RESTRAINED. RESTRAINED JOINT REQUIREMENTS AND APPROVED RESTRAINING SYSTEM ARE SHOWN IN CITY OF PHOENIX SUPPLEMENT TO M.A.G. SPECIFICATIONS, SECTION 750.3. THE LENGTH OF THE RESTRAINTS MUST BE PER M.A.G. STANDARD DETAIL 303-1 AND 303-2. THRUST BLOCKS ARE NOT ALLOWED TO BE USED IN LIEU OF APPROVED RESTRAINED JOINT SYSTEMS. THRUST BLOCKS CAN BE USED IN ADDITION TO THE APPROVED RESTRAINED JOINT SYSTEMS WHERE A SPECIFIC CITY OF PHOENIX SUPPLEMENT TO M.A.G. STANDARD DETAIL CALLS OUT FOR THRUST BLOCKING, SUCH AS CURRENT DETAILS, P1343, P1351, AND P1360 OR WHEN OTHERWISE APPROVED BY THE WATER SERVICES DEPARTMENT.

THE FOLLOWING M.A.G. DETAILS ARE SPECIFICALLY NOT APPROVED:

- 302-1 JOINT RESTRAINT WITH TIE RODS
- 302-2 JOINT RESTRAINT WITH TIE RODS – ANCHOR BLOCKS
- 321 STANDARD WATER METER VAULT
- 345-1 3", 4", AND 6" WATER METER
- 345-2 4" AND 6" WATER METER WITH ON-SITE FIRE HYDRANTS
- 370 VERTICAL REALIGNMENT OF WATER MAINS
- 381 ANCHOR BLOCKS FOR VERTICAL BENDS
- 390 CURB STOP WITH FLUSHING PIPE
- 391-1 VALVE BOX INSTALLATION

COMPACTION SHALL COMPLY WITH M.A.G. SECTION 601 & CITY OF PHOENIX SUPPLEMENTS.

NEW WATER LINES ARE TO BE BUILT IN ACCORDANCE WITH THE CITY OF PHOENIX "STANDARD UTILITY LOCATIONS".

THIS SET OF PLANS HAS BEEN INITIALLY REVIEWED BY THE CITY OF PHOENIX. SUCH REVIEW IS PART OF THE PROCESS THAT DEVELOPER(S)/CONTRACTOR(S) MUST GO THROUGH IN ORDER TO OBTAIN A CONSTRUCTION PERMIT. THE RESULTS OF SUCH INITIAL REVIEW SHALL NOT DICTATE THE CITY OF PHOENIX'S FINAL DETERMINATION AS TO THE ACCEPTABILITY OF THE PLANS, NOR SHALL IT PREVENT THE CITY OF PHOENIX FROM REQUIRING ERRORS AND OMISSIONS, AS FOUND ON PLANS, BE ADDRESSED BY DEVELOPER(S) /CONTRACTOR(S), WHERE SUCH ERRORS AND OMISSIONS CAUSE THE PLANS TO BE IN VIOLATION OF OR INADEQUATE UNDER APPLICABLE FEDERAL/STATE/COUNTY/LOCAL CODES, ORDINANCES, REGULATIONS, OR OTHER LAWS. THIS REVIEWED AND STAMPED SET OF PLANS MUST BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.

PIPE DEFLECTION SHALL BE PER MANUFACTURERS' RECOMMENDATIONS.

ALL WORK MUST COMPLY WITH REQUIREMENTS OF THE CURRENT CITY OF PHOENIX "TRAFFIC BARRICADE MANUAL".

THE CONTRACTOR IS TO NOTIFY THE PUBLIC THAT WILL BE AFFECTED BY ANY SHUTDOWNS A MINIMUM OF 48 HOURS IN ADVANCE.

A SIX (6) FOOT MINIMUM HORIZONTAL SEPARATION FROM ANY UNDERGROUND UTILITY SHALL BE PROVIDED FOR SEWER MAINS, SEWER SERVICES, WATER MAINS, AND WATER SERVICES. THE MINIMUM HORIZONTAL SEPARATION IS MEASURED FROM OUTSIDE OF SEWER MAIN, SEWER SERVICE, WATER MAIN, OR WATER SERVICE TO OUTSIDE OF UNDERGROUND UTILITY.

A ONE (1) FOOT MINIMUM VERTICAL SEPARATION FROM ANY DRY UNDERGROUND UTILITY CROSSING SHALL BE PROVIDED FOR SEWER MAINS, SEWER SERVICES, WATER MAINS, AND WATER SERVICES. THE MINIMUM VERTICAL SEPARATION IS MEASURED FROM OUTSIDE OF SEWER MAIN, SEWER SERVICE, WATER MAIN, OR WATER SERVICE TO OUTSIDE OF DRY UNDERGROUND UTILITY.

A TWO (2) FOOT MINIMUM VERTICAL SEPARATION SHALL BE PROVIDED BETWEEN ANY SEWER MAIN AND STORM DRAIN CROSSING A WATER MAIN. THE MINIMUM VERTICAL SEPARATION IS MEASURED FROM OUTSIDE OF WATER MAIN TO OUTSIDE OF SEWER MAIN OR STORM DRAIN MAIN. SEE M.A.G. STANDARD DETAIL 404 FOR ADDITIONAL INFORMATION AND/OR PROVISIONS FOR CLEARANCE.

EXCEPTIONS OR DEVIATIONS FROM THE ABOVE MINIMUM CLEARANCES MUST BE APPROVED AND SHOWN ON THE APPROVED WATER AND SEWER PLANS. WHEN UTILITY CONFLICTS ARE FOUND DURING CONSTRUCTION, ALL CHANGES AND REVISIONS MUST BE PRECEDED BY AN APPROVED PLAN REVISION.

ANY AND ALL MORE STRINGENT REQUIREMENTS REQUIRED BY FEDERAL, STATE, COUNTY, OR LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

## WATER NOTES (CONTINUED)

WATER SERVICES SHALL BE INSTALLED PERPENDICULAR TO THE WATER MAIN. WATER SERVICES AT THE END OF CUL-DE-SACS MAY VARY AS NECESSARY, BUT WILL BE APPROVED ON A CASE BY CASE BASIS.

ALL SERVICES SHALL RUN IN A STRAIGHT LINE FROM THE WATER MAIN TO THE METER BOX.

NEITHER WATER SERVICE METER BOX NOR ANY PORTION OF A WATER SERVICE SHALL BE INSTALLED UNDER AN EXISTING OR PROPOSED DRIVEWAY OR SIDEWALK RAMP.

CONCRETE OR ASPHALT DAMAGED DURING THE COURSE OF CONSTRUCTION SHALL BE REMOVED AND REPLACED IN KIND PRIOR TO FINAL INSPECTION.

RECORD DRAWING SUBMITTALS MUST COMPLY PER THE WATER SERVICES DEPARTMENT ENGINEERING POLICY P-68. A COPY OF THE POLICY CAN BE OBTAINED IN THE DEPARTMENT'S WEBSITE:  
[HTTPS://WWW.PHOENIX.GOV/WATERSERVICE/WEBSITE/DOCUMENTS/WSDEPOL68.PDF](https://www.phoenix.gov/waterservice/website/documents/wsdepol68.pdf)

IN ACCORDANCE WITH AAC R-18-4-213, ALL MATERIALS ADDED AFTER JANUARY 1, 1993 WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61.

A PAVEMENT CUT SURCHARGE SHALL BE ASSESSED ON THIS PROJECT FOR ANY TRENCHING OR POTHOLING IN NEW ASPHALT PAVEMENT THAT IS LESS THAN 30 MONTHS OLD. SURCHARGE FEES ASSESSED ARE IN ADDITION TO THE REGULAR PERMIT FEES AND ARE OVER AND ABOVE ANY SPECIAL BACKFILL, COMPACTION, AND PAVEMENT REPLACEMENT STIPULATIONS THAT MAY BE IMPOSED AS A CONDITION OF PERMITTING. PAVEMENT CUT SURCHARGE FEES ARE ASSESSED IN ACCORDANCE WITH SECTION 31-38 OF THE PHOENIX CITY CODE.

PLAN APPROVAL IS VALID FOR 180 DAYS. PRIOR TO PLAN APPROVAL EXPIRATION, ALL ASSOCIATED PERMITS SHALL BE PURCHASED OR THE PLANS SHALL BE RESUBMITTED FOR EXTENSION OF PLAN APPROVAL. THE EXPIRATION, EXTENSION, AND REINSTATEMENT OF CIVIL ENGINEERING PLANS AND PERMITS SHALL FOLLOW THE SAME GUIDELINES AS THOSE INDICATED IN THE PHOENIX BUILDING CONSTRUCTION CODE ADMINISTRATIVE PROVISIONS SECTION 105.3 FOR BUILDING PERMITS.

THIS PLAN IS APPROVED SUBJECT TO COMPLETION OF LINES LABELED "EXISTING" WHICH HAVE BEEN PROPOSED AS PART OF ANOTHER DEVELOPMENT. THE DEVELOPED OF THIS PROJECT MAY BE REQUIRED TO CONSTRUCT THOSE LINES PER CITY REQUIREMENTS PRIOR TO RECEIVING SERVICE FOR THIS PROJECT,

ALL DUCTILE IRON PIPE WATER MAINS WILL BE POLYETHYLENE WRAPPED PER C.O.P. SUPPLEMENT TO M.A.G. SPECIFICATIONS SECTION 750.2 AND M.A.G. SPECIFICATIONS SECTION 610.6.2 AND 610.6.3

JOINT RESTRAINT LIMITS PER M.A.G. STANDARD DETAIL 303-1 AND 303-2 MUST BE SHOWN ON ALL WATER MAIN CONSTRUCTION PLANS WHICH REQUIRE A PROFILE IN ADDITION TO PLAN VIEW.

WHEN THE PROPOSED WATER MAIN COMES INTO CONFLICT WITH ANOTHER UTILITY AND A VERTICAL RE-ALIGNMENT IS NECESSARY, THE RE-ALIGNMENT MUST BE APPROVED ON THE PROPOSED WATER MAIN PLAN OR THE ENGINEER MUST SUBMIT A SEPARATE WATER – VERTICAL RE-ALIGNMENT PLAN (DETAIL DCE-D01) PER THE WATER – VERTICAL RE-ALIGNMENT CHECKLIST. THE WATER- VERTICAL REALIGNMENT DETAIL CAN BE LOCATED AT THE FOLLOWING WEBSITE:  
[HTTP://WWW.PHONEIX.GOV/WATERSERVICES/DESIGN/ENGDDETAILS/INDEX.HTML](http://www.phoenix.gov/waterservices/design/engdetails/index.html)

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**Stanley Consultants INC.**  
1661 East Camelback Road  
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Phoenix, Arizona 85016  
(602) 333-2200  
[www.stanleygroup.com](http://www.stanleygroup.com)

**LEGEND AND NOTES**

**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

DR: IAM	DES: IAM	CK: MAL	SHEET NO:	TOTAL SHEETS	AS BUILT
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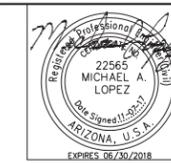
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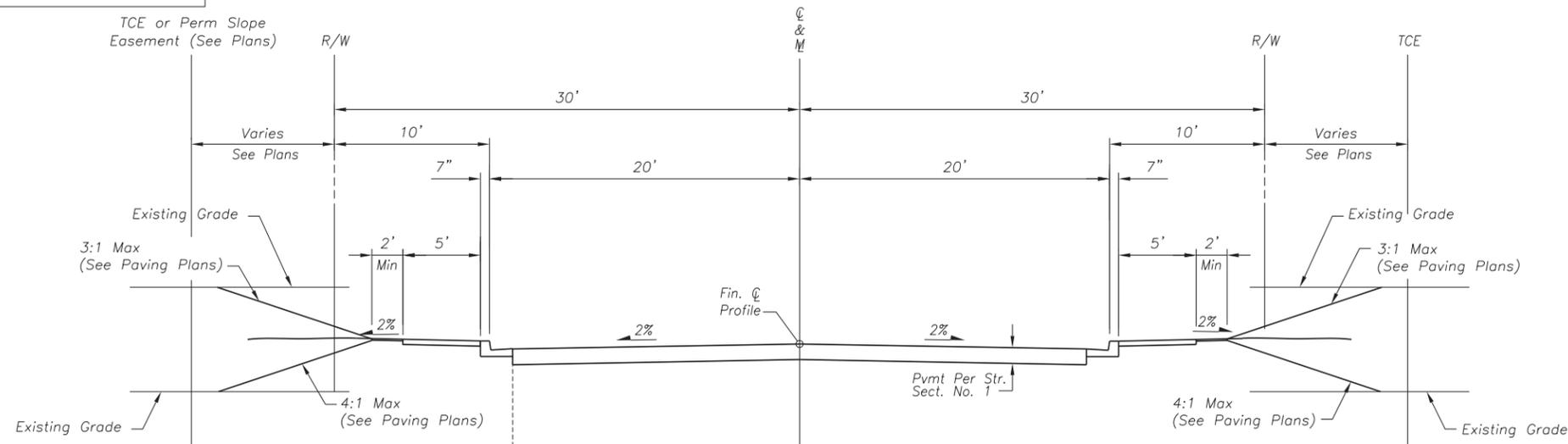
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 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET

RIVERVIEW DR



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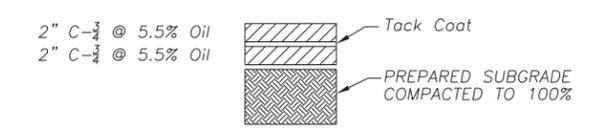
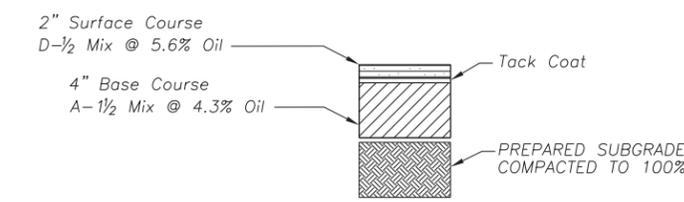
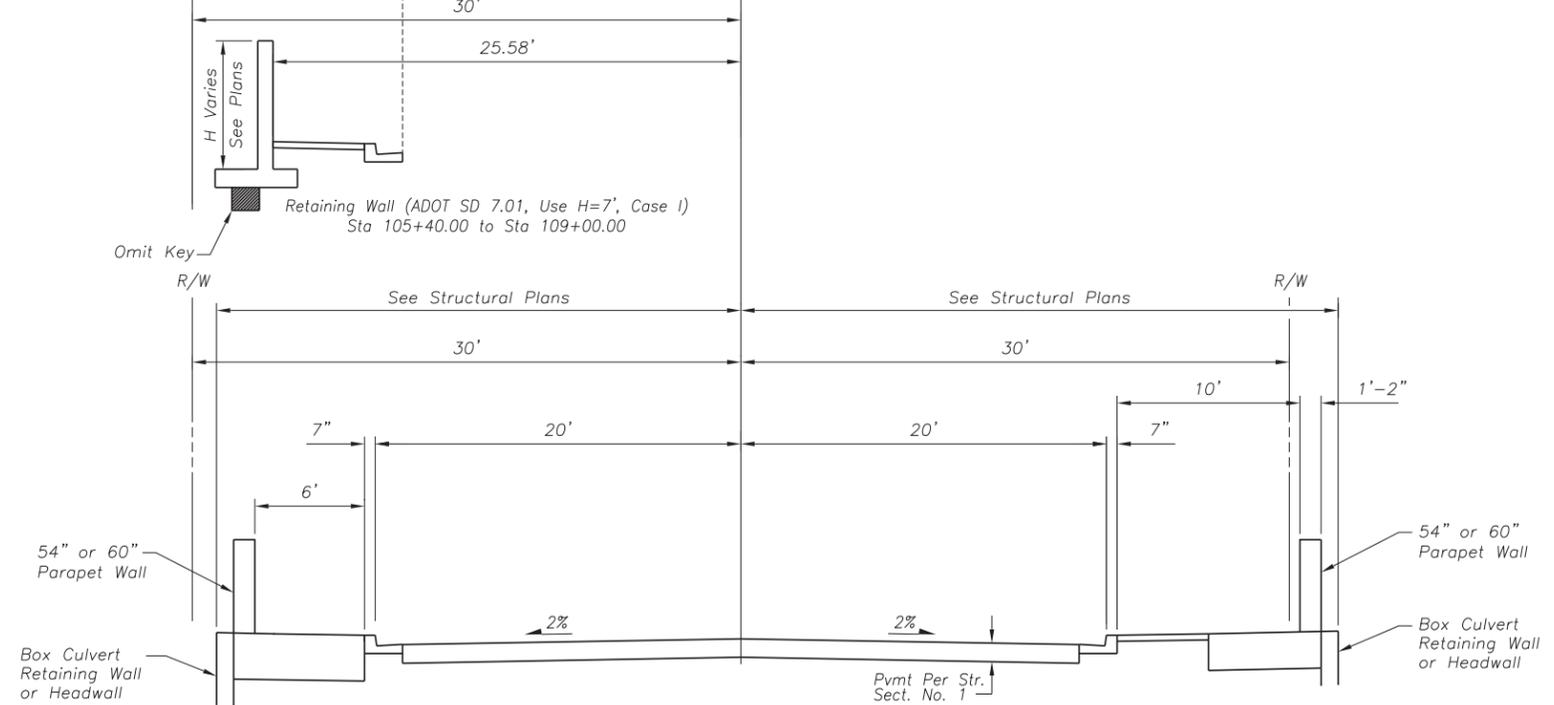
REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
NO.				



Left  
 \*Sta 103+75.00 to Sta 103+87.88  
 Sta 103+87.88 to Sta 110+00.00  
 Sta 111+00.00 to Sta 113+07.60

\*No New Curb & Gutter or Sidewalk in this section. Only New Pavement.

Right  
 \*Sta 103+75.00 to Sta 103+87.88  
 Sta 103+87.88 to Sta 110+00.00  
 Sta 111+00.00 to Sta 113+07.60



HATCHING LEGEND

	EXISTING PAVEMENT OUTSIDE ROADWAY PRISM - TO BE REMOVED
	EXISTING PAVEMENT TO REMAIN
	NEW PAVEMENT 2" D <sub>2</sub> / 4" A <sub>1 1/2</sub>
	NEW 16' WIDE ASPHALT MAINTENANCE ROAD/TRAIL SEE LANDSCAPE PLANS
	NEW 10' WIDE TEMPORARY ASPHALT PATH. SEE PAVING PLANS
	NEW ASPHALT DRIVEWAY CONNECTION 4" - C <sub>3/4</sub>

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

**TYPICAL SECTIONS**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT  
**RIVERVIEW DRIVE**  
 18TH PL TO 22ND ST  
 ST85110072

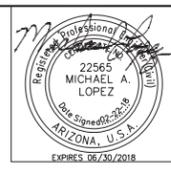
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DATE: 11/17	DATE: 11/17	DATE: 11/17	5	65	
SCALE: NTS					

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

CURVE TABLE				
CURVE NO.	RADIUS	TANGENT	Δ	LENGTH
(C1)	500.00'	59.36'	13°32'28" LT	118.17'

1910  
APN-122-30-157



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	6	65	

02/18  
DATE  
STANLEY CONSULTANTS INC.  
CONSULTING ENGINEER

DESIGN: IAM DRAWN: IAM CHECKED: MAL

GENERAL CONSTRUCTION NOTES

- [S] SAWCUT AND MATCH EXISTING
- [M] MATCH EXISTING
- REMOVE EXISTING A.C. PAVEMENT
- NO. STATION TO STATION SIDE SY
- (1) 103+75.00 TO 105+24.00 LT/RT 1405
- REMOVE CONC S/W, V.G., D/W SLAB
- NO. STATION TO STATION SIDE SF
- (2) 103+87.00 TO 105+30.00 LT 1230
- (3) 104+42.00 TO 104+77.00 RT 187
- REMOVE CONC CURB AND GUTTER
- NO. STATION TO STATION SIDE LF
- (4) 103+87.00 TO 105+25.00 LT 175
- (5) 104+26.00 TO 104+65.00 LT 12
- (6) 104+85.00 TO 105+26.00 LT 21
- REMOVE AND SALVAGE CONC CURB AND GUTTER
- NO. STATION TO STATION SIDE LF
- (7) 103+87.00 TO 105+25.00 RT -

CONSTRUCTION NOTES

NO.	ITEM	UNIT	QTY
1	SUBGRADE PREPERATION	SY	1591
2	AC SURFACE COURSE TYPE D 1/2, 2" THICK	TON	146
3	AC SURFACE COURSE FOR DRIVEWAY CONNECTION TYPE C-3/4	TON	54
4	AC BASE COURSE TYPE A 1-1/2, 4" THICK	TON	292
5	TACK COAT, TYPE SS-1H	TON	0.53
6	CONCRETE SIDEWALK DET P1230	SF	2643
7	CURB RAMP (MID BLOCK) DET P1241-1	NPI	
8	TRUNCATED DOMES DET P1232	SF	18
9	CONCRETE DRIVEWAY ENTRANCE (9" THICK) DET P1244 MOD	SF	404
10	CONCRETE DRIVEWAY ENTRANCE (9" THICK) DET P1255-1	SF	482

SEE SHEET 9 FOR WATERLINE PLAN  
SEE SHEET 30 FOR STREET LIGHT PLAN  
SEE SHEET 32 FOR LANDSCAPE PLAN



PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX.

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Phoenix, Arizona 85016  
(602) 333-2200  
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PAVING  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

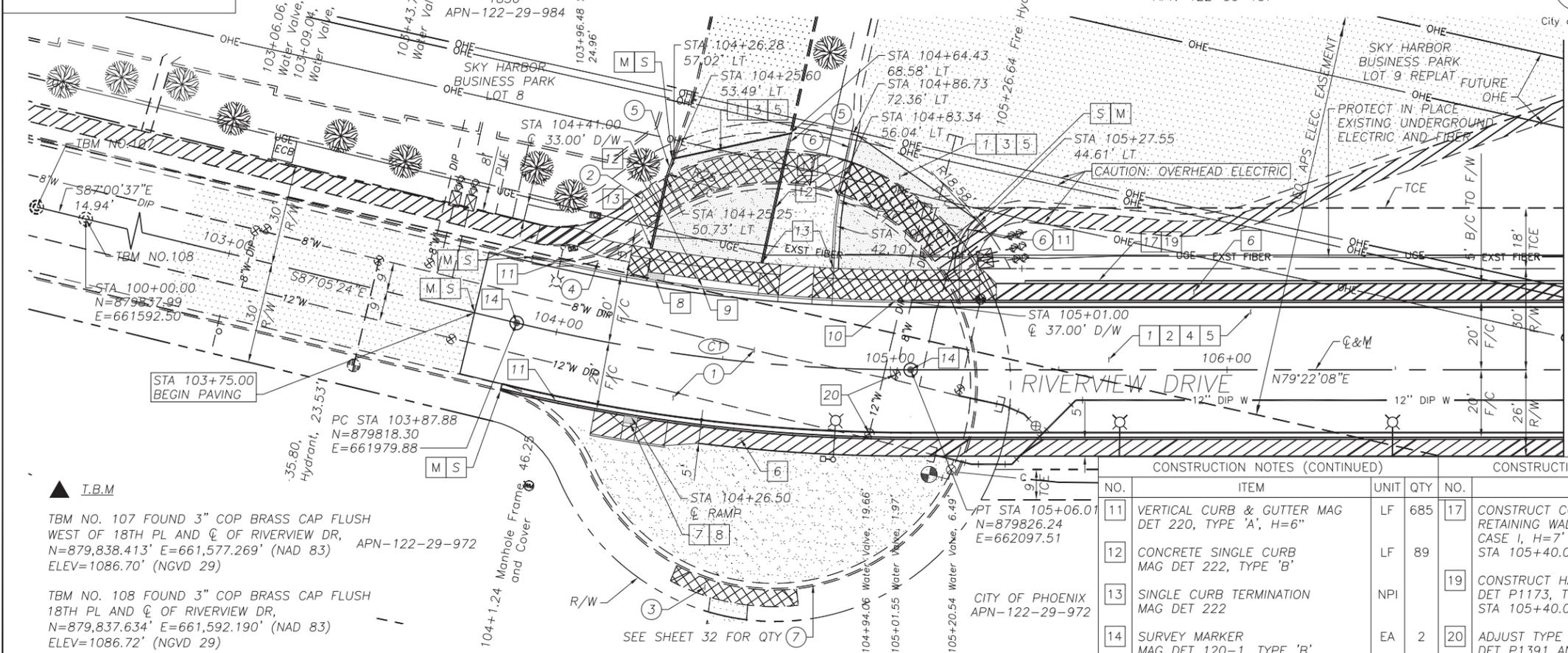
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DATE: 02/18	DATE: 02/18	DATE: 02/18	6	65	

SCALE: 1" = 20' HORIZONTAL  
2" VERTICAL

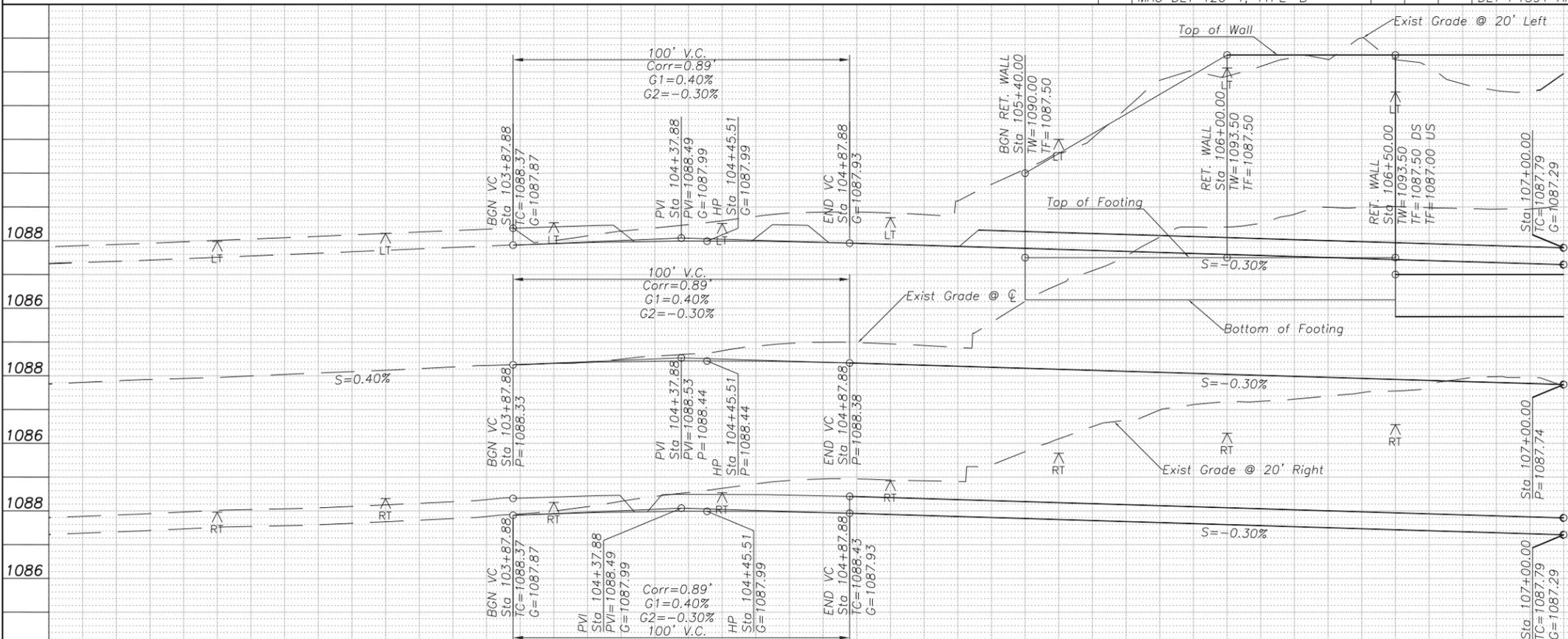
NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



MATCH LINE STA 107+00  
SEE SHEET 7



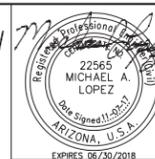
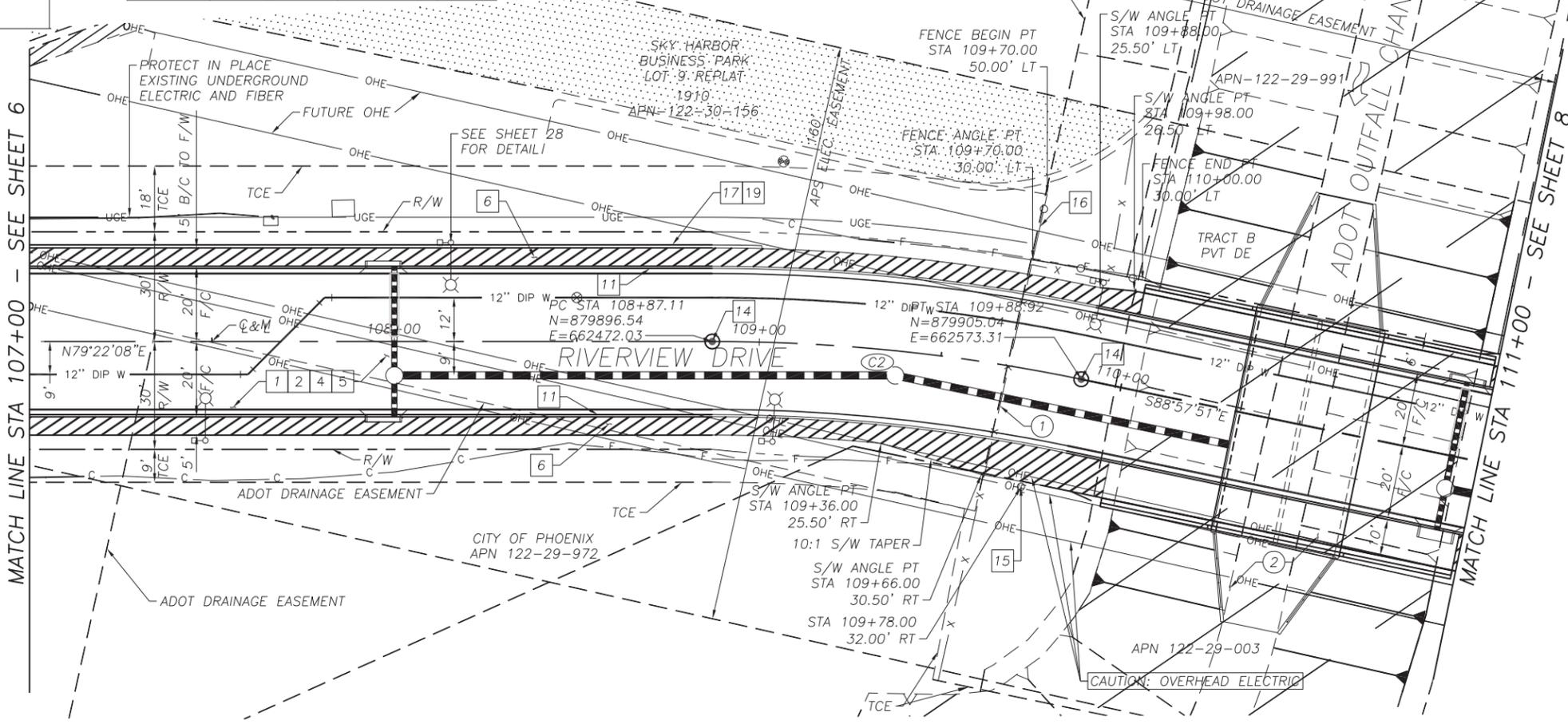
103+00                      104+00                      105+00                      106+00                      107+00

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

CURVE TABLE				
CURVE NO.	RADIUS	TANGENT	Δ	LENGTH
C2	500.00'	51.08'	11°40'01" RT	101.81'

MATCH LINE STA 107+00 - SEE SHEET 6

MATCH LINE STA 111+00 - SEE SHEET 8



FALSA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	7	65	

11/17 DATE  
STANLEY CONSULTANTS INC. CONSULTING ENGINEER  
DESIGN: IAM DRAWN: IAM CHECKED: MAL

GENERAL CONSTRUCTION NOTES

- S SAWCUT AND MATCH EXISTING
- M MATCH EXISTING

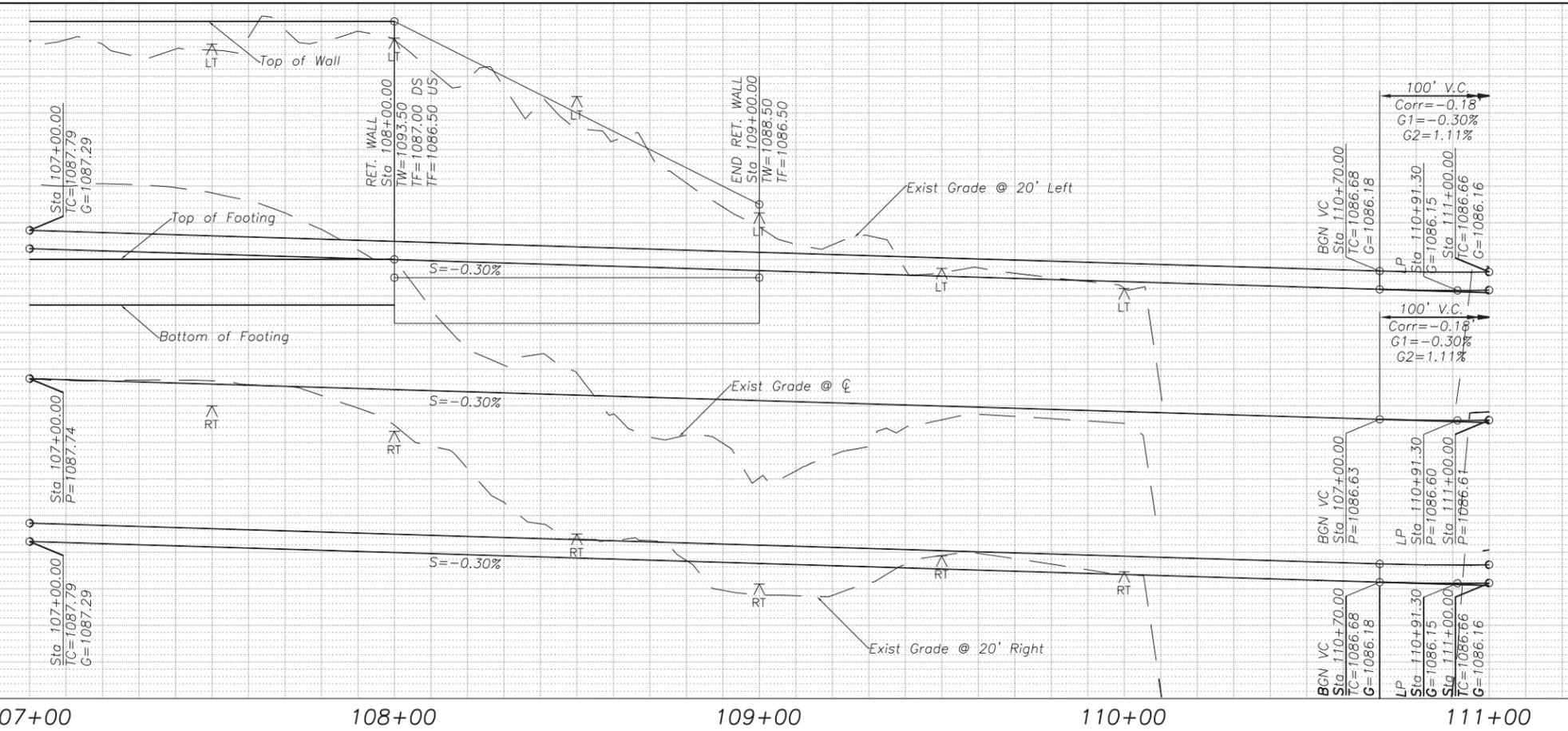
MISCELLANEOUS REMOVAL

NO.	STATION	ITEM	UNIT	QTY
1	109+70.00	6' CHAIN LINK FENCE	LF	140
2	110+50.00	EXISTING CHANNEL LINING, GABION MATTRESSES AND BUTTRESSES, SAFETY CURB. SEE SHEET 18 FOR LIMITS	SF	1554

CONSTRUCTION NOTES

NO.	ITEM	UNIT	QTY
1	SUBGRADE PREPARATION	SY	1598
2	AC SURFACE COURSE TYPE D 1/2, 2" THICK	TON	180
4	AC BASE COURSE TYPE A 1-1/2, 4" THICK	TON	359
5	TACK COAT, TYPE SS-1H	TON	0.55
6	CONCRETE SIDEWALK DET P1230	SF	3277
11	VERTICAL CURB & GUTTER MAG DET 220, TYPE 'A', H=6"	LF	800
14	SURVEY MARKER MAG DET 120-1, TYPE 'B'	EA	2
15	STEEL BOLLARD MAG DET 140, TYPE 2	EA	1
16	CONSTRUCT CHAIN LINK FENCE ADOT DET C-12.20, TYPE 2, H=72"	LF	50
17	CONSTRUCT CONCRETE CANTILEVER RETAINING WALL ADOT SD 7.01, CASE 1, H=7' STA 107+00.00 TO STA 109+00.00	SF	1100
19	CONSTRUCT HANDRAIL DET P1173, TYPE 3 STA 107+00.00 TO STA 109+00.00	LF	200

SEE SHEET 10 FOR WATERLINE PLAN  
SEE SHEET 14 FOR STORM DRAIN PLAN  
SEE SHEET 18 FOR BOX CULVERT PLAN  
SEE SHEET 30 FOR STREET LIGHT PLAN  
SEE SHEET 33 FOR LANDSCAPE PLAN



NO.	STATION	ITEM	UNIT	QTY
1088				
1086				
1088				
1086				
1088				
1086				
1088				
1086				

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**Stanley Consultants INC.**

**PAVING**

**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18TH PL TO 22ND ST  
ST85110072

DR:	DES:	CK:	SHEET NO.:	TOTAL SHEETS:	AS BUILT:
IAM	IAM	MAL	7	65	

DATE: 11/17 DATE: 11/17 DATE: 11/17  
SCALE: 1" = 20' HORIZONTAL  
2" VERTICAL

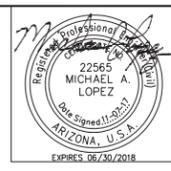








RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET

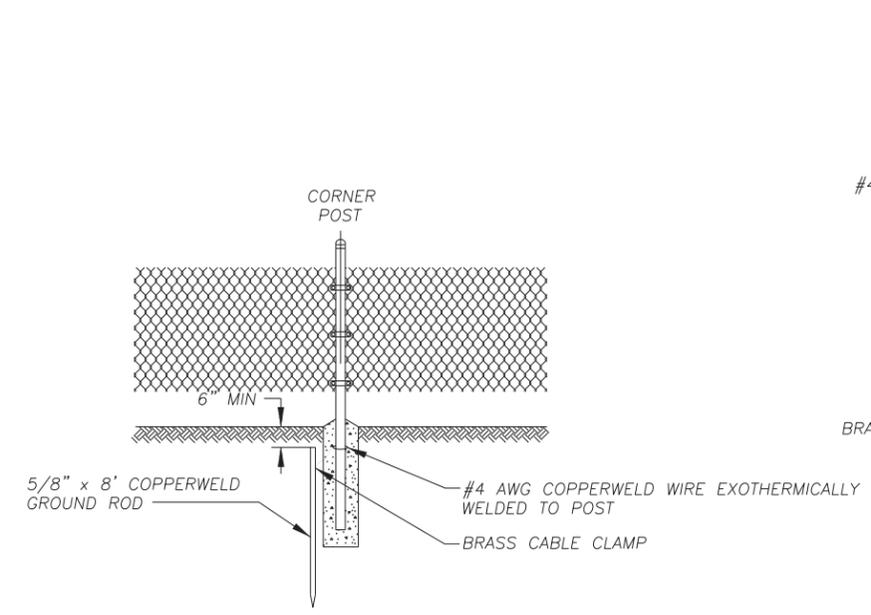


FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	12	65	
DATE: 11/17			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN: IAM	DRAWN: IAM	CHECKED: MAL			

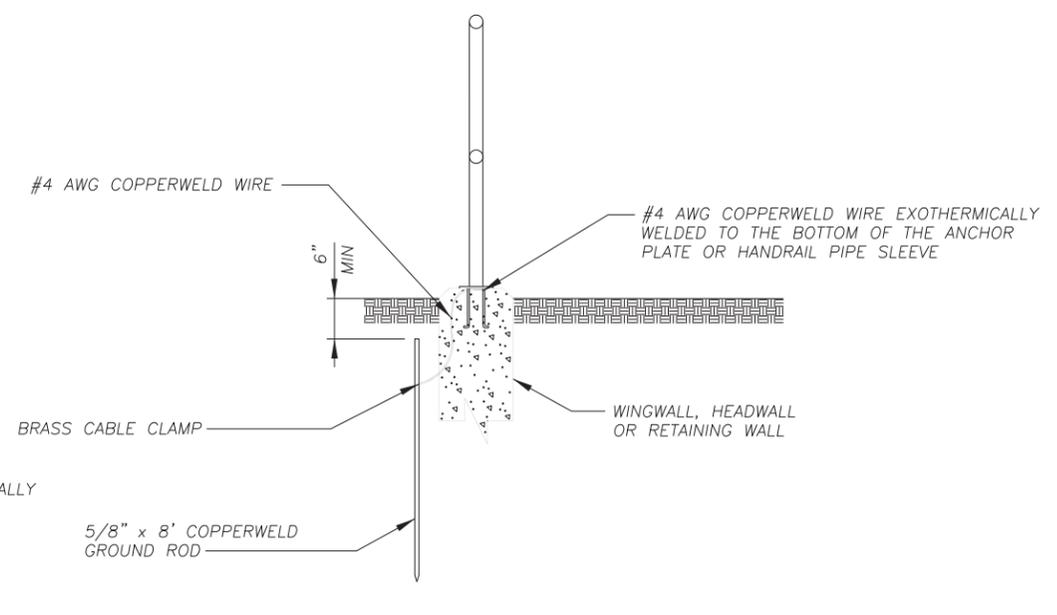
NO.	REVISION BY	DESCRIPTION	DATE

NO.	REVISION BY	DESCRIPTION	DATE

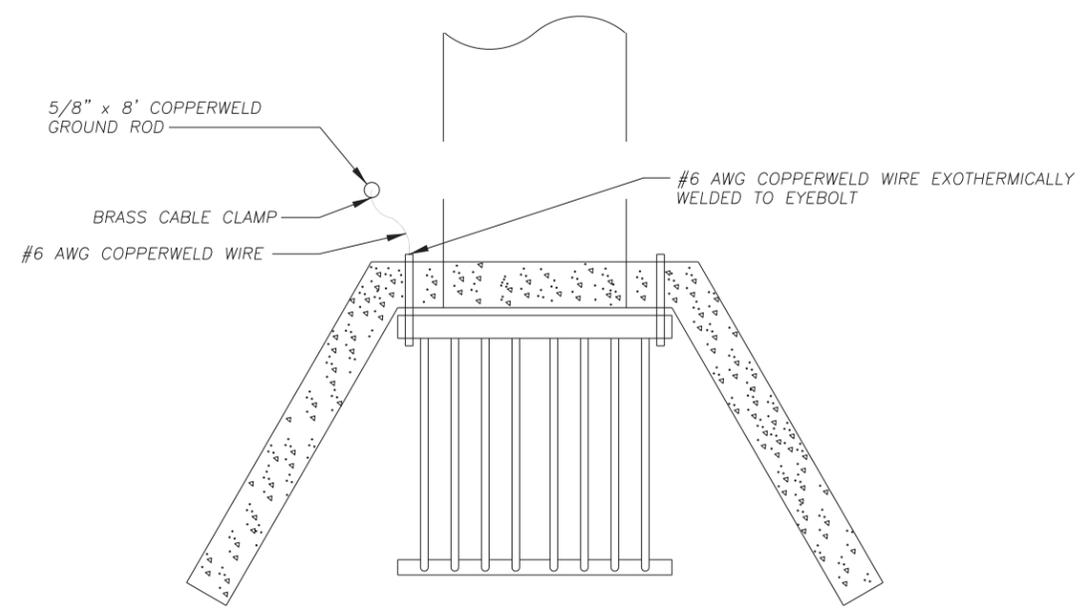
NO.	REVISION BY	DESCRIPTION	DATE



**CHAIN LINK FENCE CORNER POST GROUNDING**  
 NTS



**HANDRAIL GROUNDING**  
 NTS



**TRASH RACK GROUNDING**  
 NTS



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**Stanley Consultants INC.**

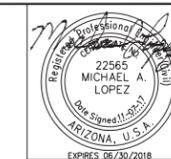
**GROUNDING DETAILS**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

DR: IAM	DES: IAM	CK: MAL	SHEET NO:	TOTAL SHEETS	AS BUILT
DATE: 11/17	DATE: 11/17	DATE: 11/17	12	65	
SCALE: NTS			12	65	

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

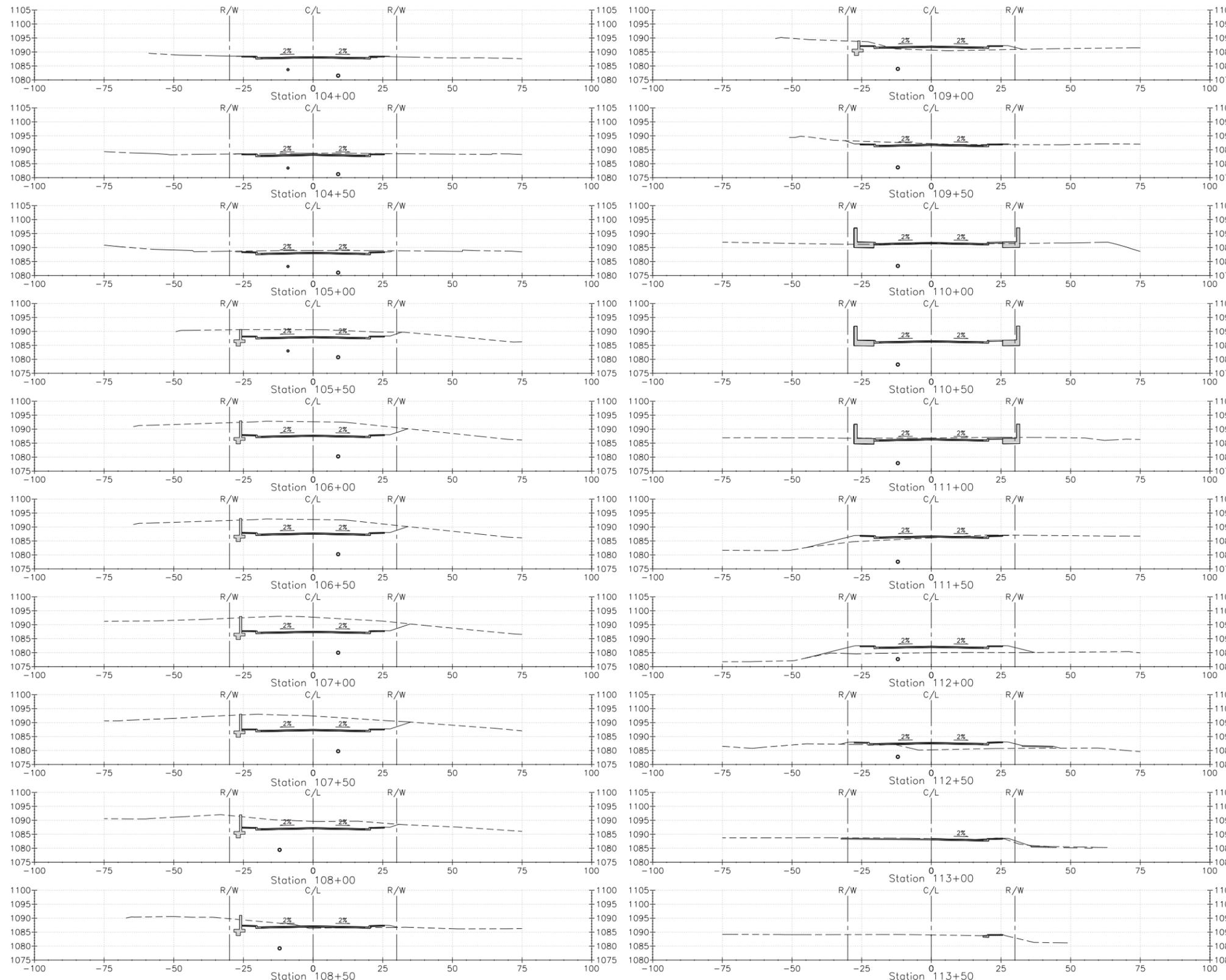


F.A.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	13	65	
DATE			STANLEY CONSULTANTS INC.		
11/17			CONSULTING ENGINEER		
DESIGN: IAM	DRAWN: IAM	CHECKED: MAL			

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



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### ROADWAY CROSS SECTIONS

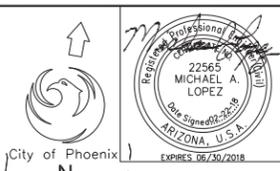
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DR: IAM	DES: IAM	CK: MAL	SHEET NO:	TOTAL SHEETS	AS BUILT
DATE: 11/17	DATE: 11/17	DATE: 11/17	13	65	
SCALE: NTS					

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

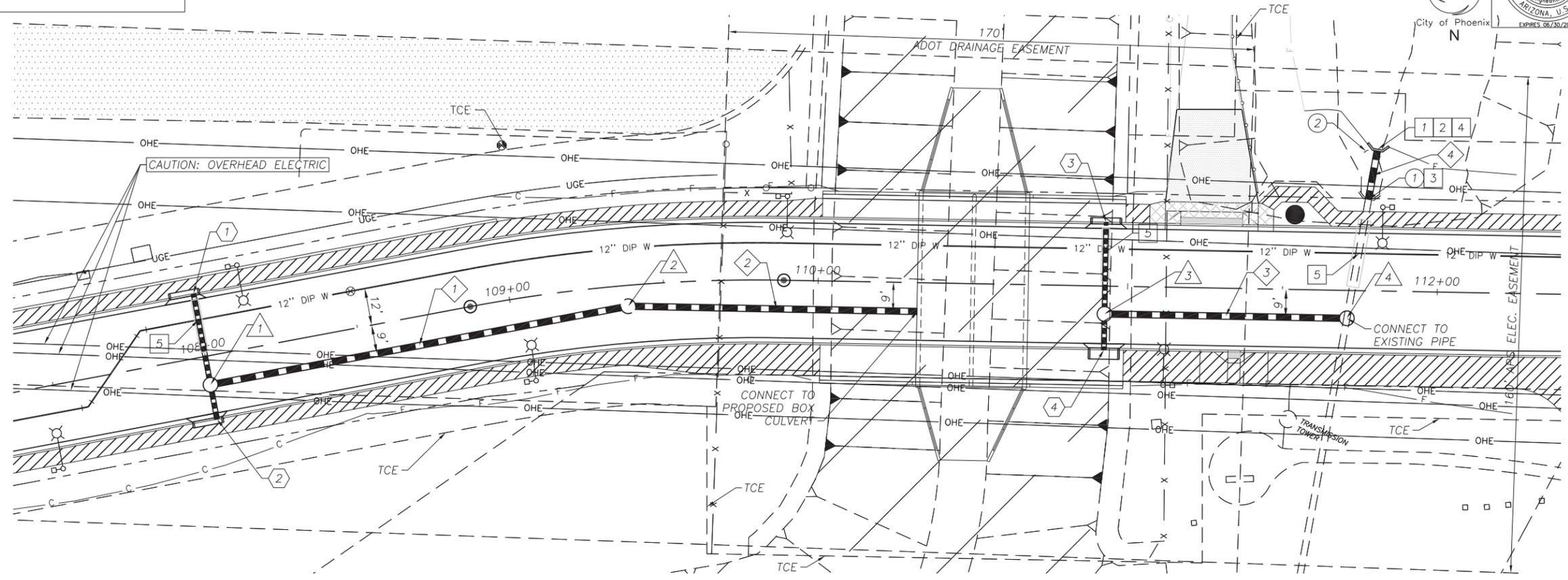


FALMA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	14	65	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: IAM		DRAWN: IAM		CHECKED: MAL	

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



MISCELLANEOUS REMOVAL				
NO.	STATION	ITEM	UNIT	QTY
1	111+77.29	CONCRETE HEADWALL	EA	1
2	111+77.29	RIPRAP	SF	185

STORM DRAIN PIPE			
NO.	STATION TO STATION	SIZE	LF
1	108+00.00 TO 109+38.03	24"	138
2	109+38.03 TO 110+32.25	24"	94
3	110+91.30 TO 111+70.97	24"	79
4	111+77.29 TO 111+79.95	24"	17

STORM DRAIN MANHOLE		
NO.	STATION	TYPE
1	108+00.00, 9.30' RT	SPEC DET B & DET P1520
2	109+38.03, 6.75' RT	SPEC DET A & DET P1520
3	110+91.30, 9.00' RT	SPEC DET B & DET P1520
4	111+70.97, 9.00' RT	SPEC DET B & DET P1520

CATCH BASIN & CONNECTOR PIPE					
NO.	STATION	TYPE	CONNECTION	SIZE	LF
1	108+00.00, 20.00' LT	M-1, L=6'	MANHOLE	18"	30
2	108+00.00, 20.00' RT	DET P1569-1	MANHOLE	18"	12
3	110+91.30, 20.00' LT	R-2 MOD, L=3'	MANHOLE	18"	30
4	110+91.30, 20.00' RT	DET P1584	MANHOLE	18"	12

CONSTRUCTION NOTES			
NO.	ITEM	UNIT	QTY
1	CONSTRUCT HEADWALL FOR 24" PIPE MAG DET 501-1 AND 501-2, 'U' TYPE, REINF. CONCRETE STA 111+81.00, 46.00' LT	EA	1
2	CONSTRUCT HANDRAIL DET P1173, TYPE 3	LF	9
3	CONSTRUCT CONCRETE PIPE COLLAR DET P1505	EA	1
4	CONSTRUCT TRASH RACK MAG DET 502-2	EA	1
5	CONSTRUCT ENCASEMENT MAG DET 404-3	LF	56

SEE SHEET 7 & 8 FOR PAVING PLAN  
SEE SHEET 18 FOR BOX CULVERT PLAN  
SEE SHEET 30 FOR STREET LIGHT PLAN  
SEE SHEET 32 FOR LANDSCAPE PLAN

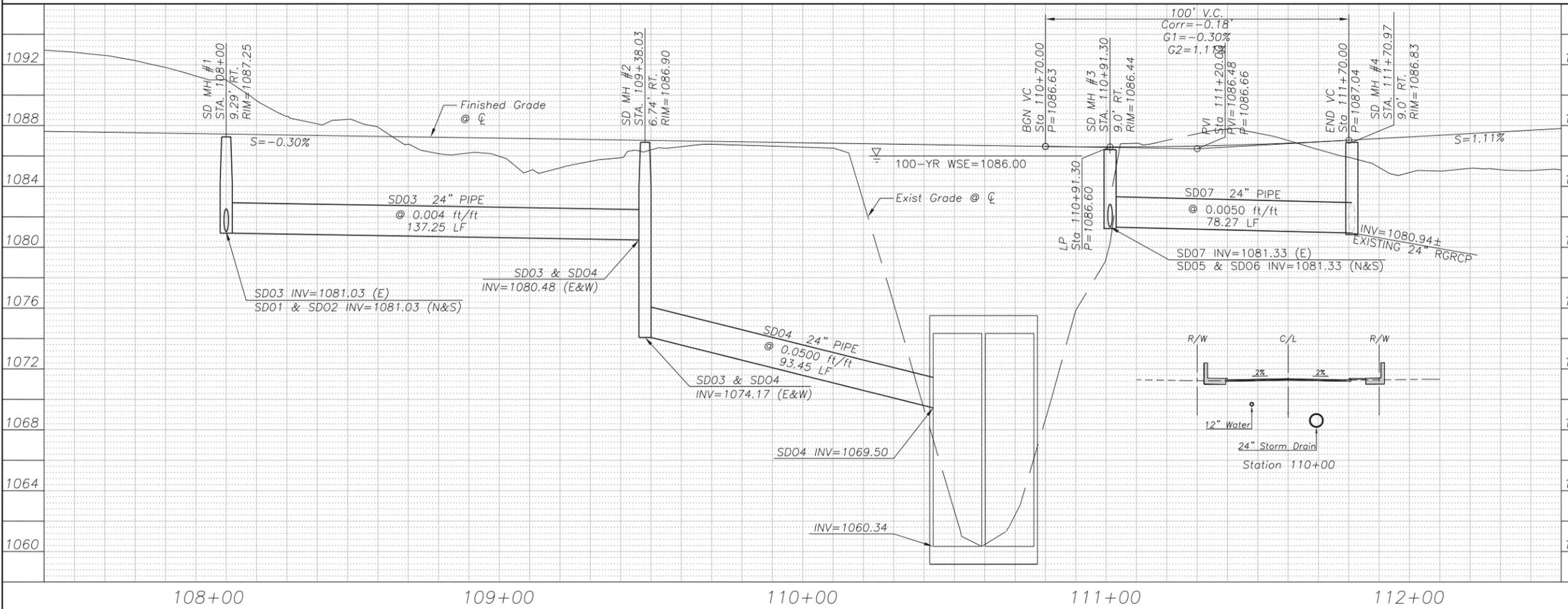


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**STORM DRAIN PLAN**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT  
RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DR: IAM	DES: IAM	CK: MAL	SHEET NO:	TOTAL SHEETS	AS BUILT
DATE: 02/18	DATE: 02/18	DATE: 02/18	14	65	
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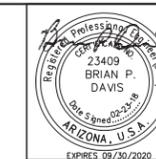


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RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	17	65	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

REVISION BY	CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.					

REVISION BY	CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.					

REVISION BY	CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.					

REVISION BY	CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.					

### APPROXIMATE QUANTITIES

DESCRIPTION	CLASS AA CONCRETE	REINFORCING (LBS)	STRUCTURAL EXCAVATION (CY)	STRUCTURAL BACKFILL (CY)	42" HANDRAIL (P-1173) (MODIFIED TYPE I) (LF)	EXST GABION REMOVAL (CY)	NEW CHANNEL LINING (SY)	RETAINING WALL ADOT SD 7.01 PER DWG. S9 (SF) (CASE IV)	GEOCOMPOSITE DRAIN (SF)	CONCRETE HEADWALL PER DWG. S5 (LF)	INLET STRUCTURE PER DWG. S6 (EA)	OUTLET STRUCTURE PER DWG. S6 (EA)	2-BARREL RCBC PER DWG. S2 (LF)	CONCRETE PARAPET WALL PER DWG. S11 (CY)
	f'c=4000 PSI (CY)													
TOTAL	788	135,880	2040	4082	110	880	605	1433	1455	78	1	1	62	162
AS-BUILT TOTAL														

STRUCTURAL EXCAVATION, STRUCTURAL BACKFILL AND GEOCOMPOSITE DRAIN QUANTITIES SHOWN ARE FOR INFORMATION ONLY. THE COST OF WHICH SHALL BE INCLUDED IN THE COST OF THE ASSOCIATED STRUCTURE.

STRUCTURAL EXCAVATION QUANTITIES INCLUDE OVEREXCAVATION SHOWN ON PLANS.

### GENERAL NOTES:

CONSTRUCTION SPECIFICATION - MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2015 EDITION, AS MODIFIED BY THE FOLLOWING:

2015 CITY OF PHOENIX SUPPLEMENT TO THE 2015 MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD SPECIFICATIONS.

ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2008 EDITION, WHERE SPECIFICALLY REFERENCED BY THE MAG STANDARD SPECIFICATIONS, THE CITY OF PHOENIX STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, OR ON THE PLANS.

WHERE ADOT BRIDGE GROUP STRUCTURE DETAIL SHEETS (SD n.nn) ARE REFERENCED, THE FOLLOWING SHALL APPLY: CONSTRUCTION SPECIFICATIONS SHALL BE PER THE GENERAL NOTES ON THIS SHEET. MAG CLASS "AA" CONCRETE SHALL BE USED IN LIEU OF ADOT CLASS "S" CONCRETE.

DESIGN SPECIFICATIONS - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5th EDITION, 2010.

THE GEOTECHNICAL EVALUATION, DATED DECEMBER 29, 2009 AND ASSOCIATED ADDENDA FOR THIS PROJECT WERE PREPARED BY NINYO & MOORE GEOTECHNICAL AND ENVIRONMENTAL SCIENCE CONSULTANTS.

STRUCTURE BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 203, SELECT MATERIAL TYPE 'A', TYPE 'B', OR AGGREGATE BASE COURSE

LOADING CLASS - HL-93

INVENTORY AND OPERATING RATING FOR HL-93 ARE IN ACCORDANCE WITH AASHTO MANUAL FOR BRIDGE EVALUATION, 1ST EDITION WITH 2010 INTERIMS IN ACCORDANCE WITH LRFD METHOD.

INVENTORY RATING 1.82 HL-93  
 OPERATING RATING 2.37 HL-93

SEISMIC PERFORMANCE: ZONE 1 (Acc = 0.03 g)

ALL CONCRETE SHALL BE MAG CLASS AA (f'c = 4,000 PSI) UNLESS NOTED OTHERWISE.

"AIRPORT BEIGE" COLOR-CONDITIONING ADMIXTURE SHALL BE USED FOR EXPOSED CONCRETE SURFACES OF RETAINING WALLS, BOX CULVERT HEADWALLS AND PARAPETS PER THE SPECIAL PROVISIONS.

REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A615/A615M. ALL REINFORCING STEEL SHALL BE FURNISHED AS GRADE 60.

ALL BENDS AND HOOKS SHALL MEET THE REQUIREMENTS OF AASHTO ARTICLE 5.10.2 ALL BEND DIMENSIONS FOR REINFORCING STEEL SHALL BE OUT-TO-OUT OF BARS. ALL PLACEMENT DIMENSIONS FOR REINFORCING STEEL SHALL BE TO CENTER OF BARS UNLESS NOTED OTHERWISE.

ALL REINFORCING STEEL SHALL HAVE 2 INCHES CLEAR COVER (PLUS RUSTICATION THICKNESS WHERE APPLICABLE) UNLESS NOTED OTHERWISE.

REINFORCING STEEL IN CONCRETE PLACED AGAINST EARTH SHALL HAVE 3 INCHES CLEAR COVER.

WELDING OF REINFORCING IS NOT PERMITTED.

CHAMFER ALL EXPOSED CORNERS 3/4" UNLESS NOTED OTHERWISE.

ALL STATIONS AND OFFSETS ARE MEASURED WITH RESPECT TO THE RIVERVIEW DRIVE CST CL.

DIMENSIONS SHALL NOT BE SCALED FROM DRAWINGS. DIMENSIONS AND ELEVATIONS OF EXISTING FACILITIES SHALL BE VERIFIED IN THE FIELD. ANY DISCREPANCIES IMPACTING NEW CONSTRUCTION SHALL BE REPORTED TO THE ENGINEER FOR EVALUATION PRIOR TO BEGINNING ANY WORK ON AFFECTED ELEMENTS.

THE BOX CULVERT SHALL HAVE FORMED CONSTRUCTION JOINTS IN THE ROOF SLAB AND WALLS (OPTIONAL IN THE FLOOR) SPACED NOT MORE THAN 35'-0 ON CENTER.

RETAINING WALLS AND CHANNEL WALLS SHALL HAVE CONSTRUCTION JOINTS SPACED AT NOT MORE THAN 35'-0 ON CENTER. FOOTINGS MAY BE CONTINUOUS WITH NO JOINT. REINFORCING SHALL BE CONTINUOUS THROUGH CONSTRUCTION JOINTS.

THE CONTRACTOR SHALL MAKE PROVISIONS TO ACCOMMODATE ALL STORMS FLOWS AND NUISANCE FLOWS DURING CONSTRUCTION WITHIN THE CANAL.

ANY DAMAGE DONE TO THE ADOT FACILITIES SHALL BE REPAIRED TO THE SATISFACTION OF THE ADOT ENGINEER AND AT NO COST TO THE CITY OR ADOT.

GEOCOMPOSITE WALL DRAIN AT BOX CULVERT HEADWALLS AND CHANNEL TRANSITION WALLS SHALL MEET THE REQUIREMENTS OF ADOT STANDARD SPECIFICATIONS SECTION 203 AND APPLICABLE SUBSECTIONS. THE CONTRACTOR SHALL SUBMIT GEOCOMPOSITE WALL DRAIN SHOP DRAWINGS TO THE ENGINEER FOR REVIEW AND APPROVAL. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.

### DRAWING INDEX:

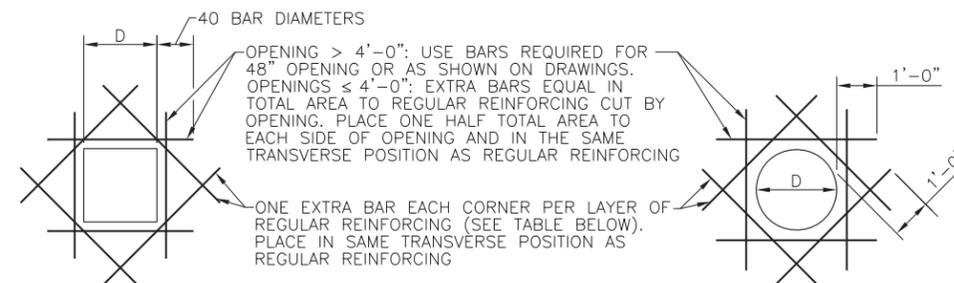
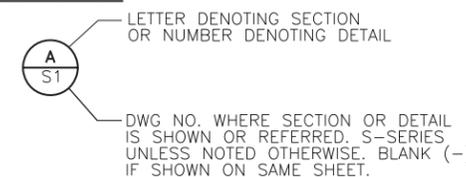
GENERAL NOTES & INDEX	S1
PLAN, ELEVATION & TYPICAL SECTION	S2
STRUCTURAL EXCAVATION & STRUCTURAL BACKFILL DETAILS	S3
BOX CULVERT SECTION & DETAILS	S4
HEADWALL SECTIONS & DETAILS	S5
CHANNEL TRANSITION PLAN & ELEVATION	S6
CHANNEL TRANSITION TYPICAL SECTION	S7
CHANNEL TRANSITION SECTIONS & DETAILS	S8
RETAINING WALL PLAN & ELEVATIONS	S9
MISCELLANEOUS DETAILS	S10
PARAPET DETAILS	S11
RETAINING WALL DETAILS	S12

APPLICABLE SHEETS FROM THE FOLLOWING AS-BUILT PROJECT PLANS FOR THE EXISTING ADOT CHANNEL HAVE BEEN INCLUDED WITH THIS CONSTRUCTION SET:

ORIGINAL PROJECT: PHOENIX CASA GRANDE HIGHWAY  
 INNER LOOP EAST TUNNEL OUTFALL  
 AZ-ACI-10-3(225)  
 10-MA-151 H-0128-01-C

FOLLOW UP PROJECT: PHOENIX CASA GRANDE HIGHWAY  
 INNER LOOP EAST TUNNEL OUTFALL  
 I-10-3(270)  
 10-MA-149 H-0128-05-C

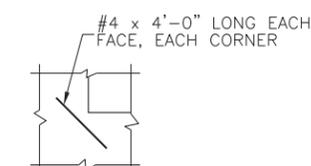
### LEGEND:



### RECTANGULAR OPENINGS

### CIRCULAR OPENINGS

REINFORCING TABLE			
THICKNESS OF CONCRETE	BAR SIZE	BAR LENGTH	
		RECT OPENING	CIRC OPENING
< 12"	#4	D+3'-4"	D+2'-0"
12" TO 18"	#5	D+4'-2"	D+2'-0"
> 18"	#6	D+5'-0"	D+2'-0"



### ISOLATED RE-ENTRANT CORNERS

### TYPICAL TRIM REINFORCING AT OPENINGS IN WALLS AND SLABS

SCALE: NONE  
 (TYPICAL TRIM REINFORCING IS REQUIRED FOR ALL OPENINGS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS)



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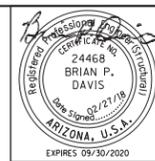
### GENERAL NOTES & INDEX

CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
 18TH PL TO 22ND ST  
 ST85110072

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
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SCALE: AS NOTED						

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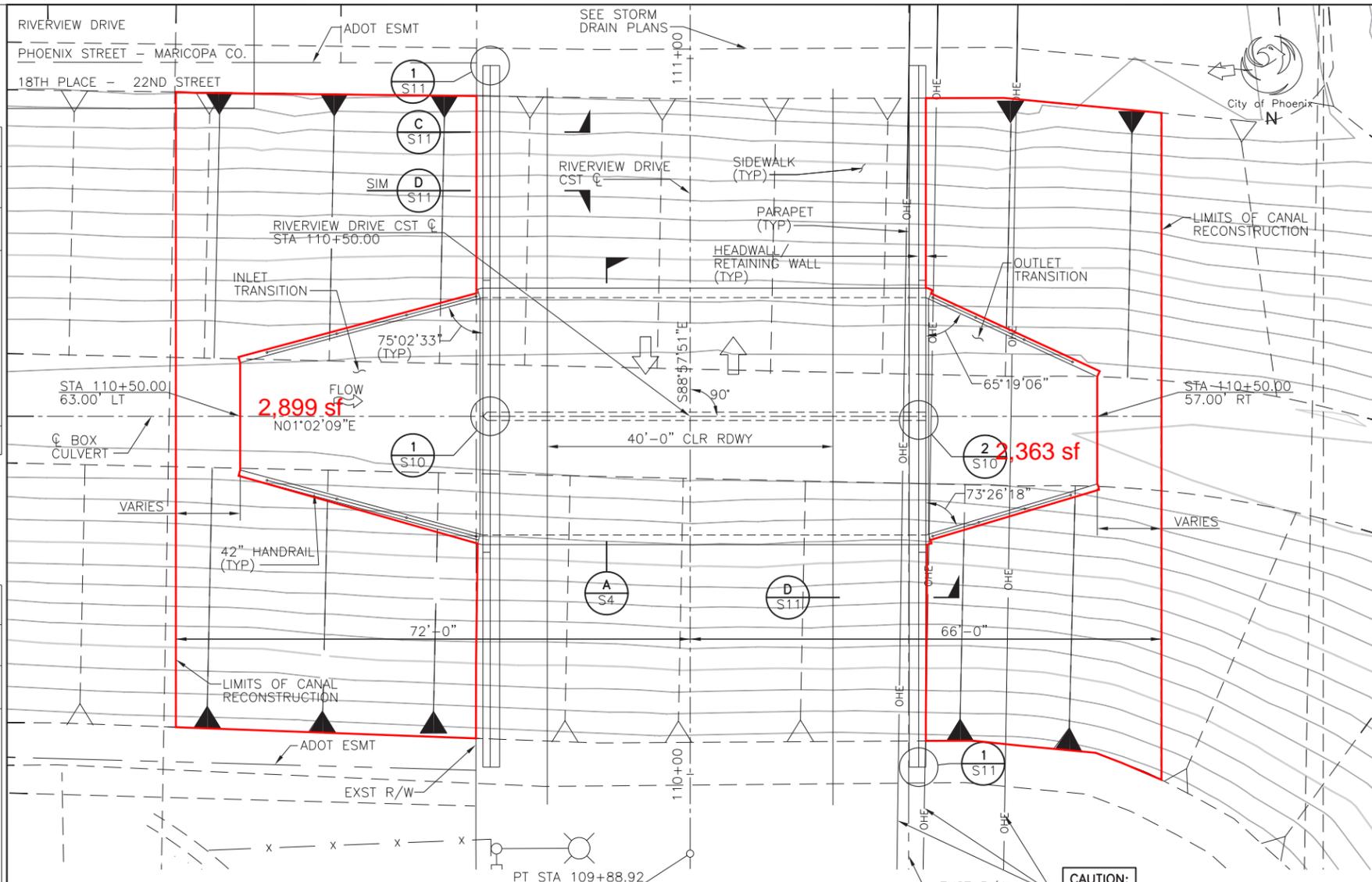


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

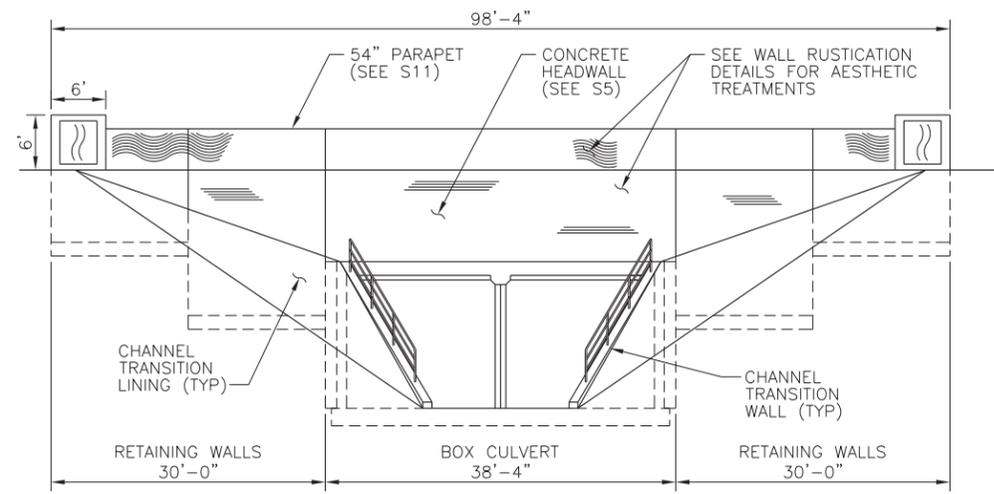
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NO.	DESCRIPTION	REV BY	CHK BY	DATE

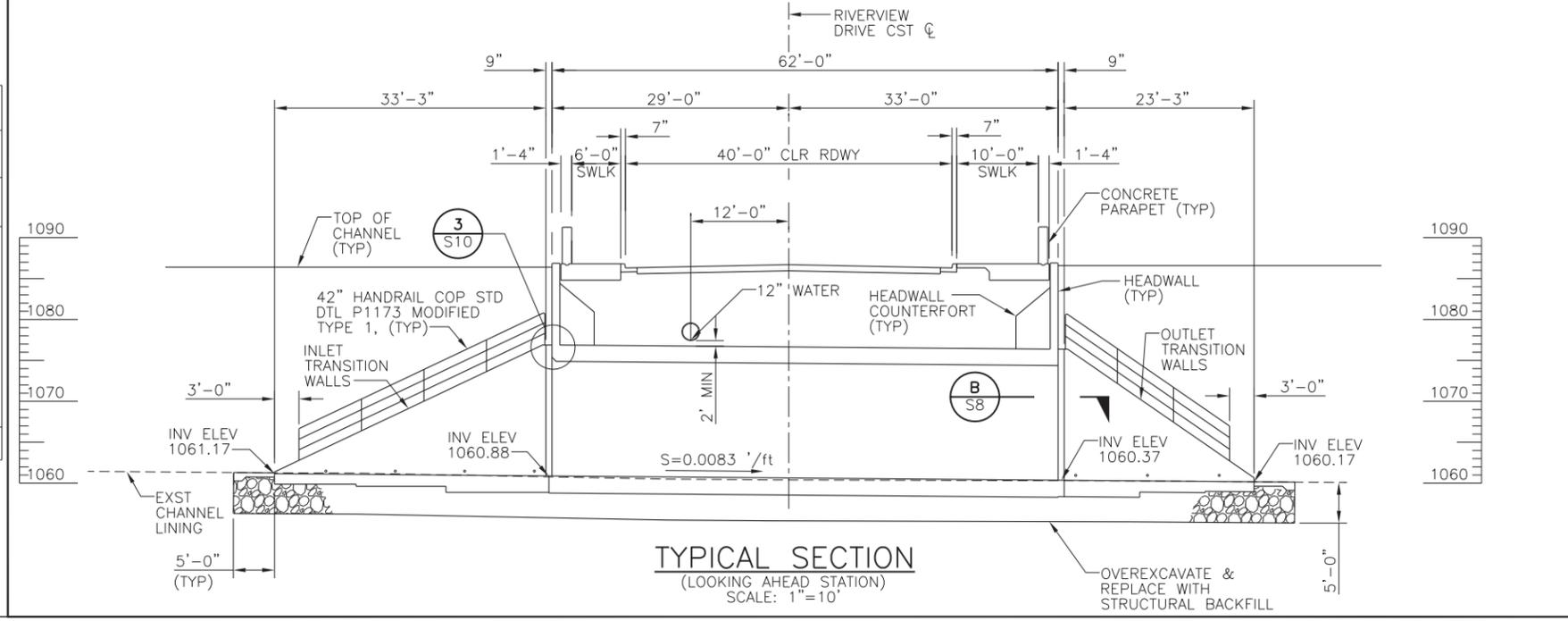
NO.	DESCRIPTION	REV BY	CHK BY	DATE



**PLAN**  
NEW 16'X14' TWO BARREL CAST-IN-PLACE CONCRETE BOX CULVERT  
SKEW 0°00'00"  
1' CONTOUR INTERVAL  
SCALE: 1"=10'



**ELEVATION**  
SCALE: 1"=10'  
INLET SHOWN  
OUTLET SIMILAR



**TYPICAL SECTION**  
(LOOKING AHEAD STATION)  
SCALE: 1"=10'



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**PLAN, ELEVATION & TYPICAL SECTION**

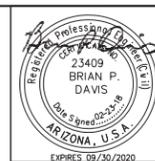
**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
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SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

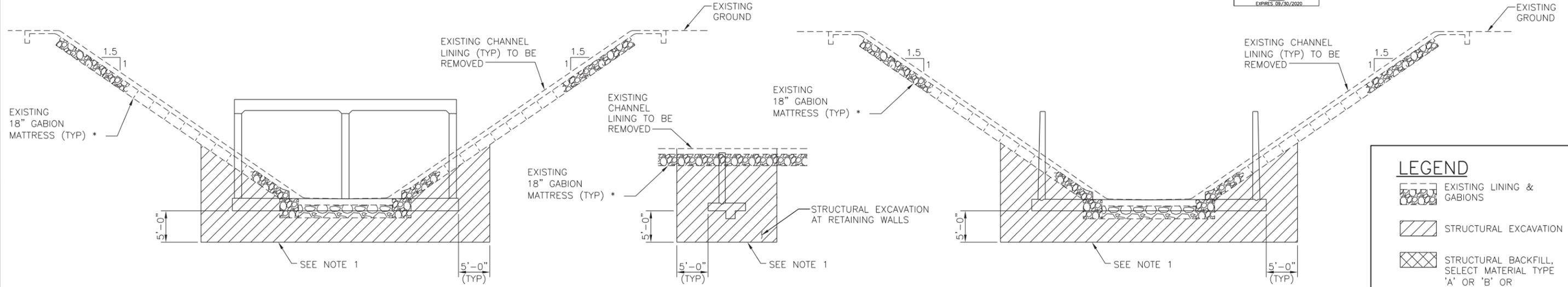


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



BOX CULVERT SECTION

BOX CULVERT RETAINING WALL SECTION

INLET/OUTLET TRANSITION SECTION

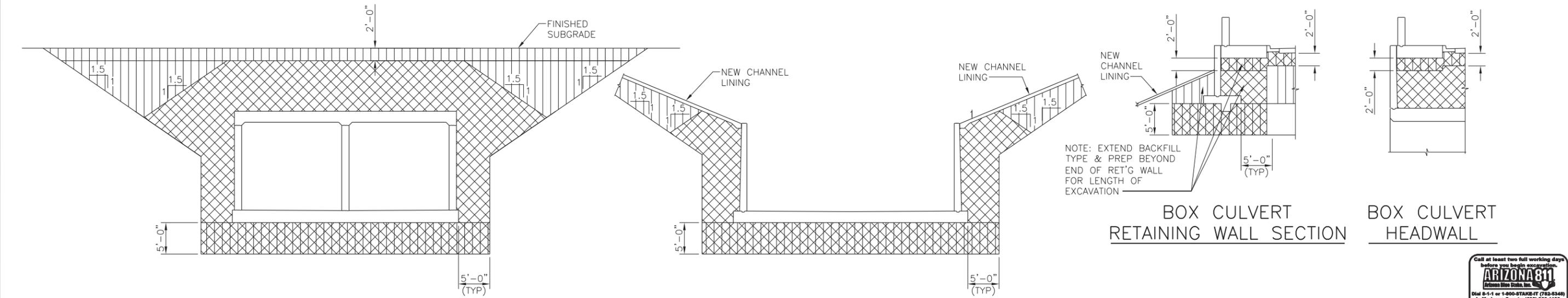
\* POSSIBLE 2-3'x3' GABION BUTTRESSES SPACED AT 100' O.C. SEE AS-BUILT PLANS FOR ADDITIONAL INFORMATION.

STRUCTURAL EXCAVATION LIMITS

SCALE: 1/8" = 1'-0"

**LEGEND**

- EXISTING LINING & GABIONS
- STRUCTURAL EXCAVATION
- STRUCTURAL BACKFILL, SELECT MATERIAL TYPE 'A' OR 'B' OR AGGREGATE BASE COURSE (95% COMPACTION)
- SUBGRADE PREPARATION, 3" MAX PARTICLE SIZE (95% COMPACTION)
- STRUCTURAL BACKFILL (100% COMPACTION OR CLSM)



BOX CULVERT SECTION

INLET/OUTLET TRANSITION SECTION

BOX CULVERT RETAINING WALL SECTION

BOX CULVERT HEADWALL

STRUCTURAL BACKFILL LIMITS

SCALE: 1/8" = 1'-0"

STRUCTURAL EXCAVATION AND BACKFILL NOTES:

- FOLLOWING STRUCTURAL EXCAVATION, THE EXPOSED SURFACE SHALL BE EVALUATED BY THE GEOTECHNICAL ENGINEER. THE GEOTECHNICAL ENGINEER SHALL DETERMINE IF ADDITIONAL EXCAVATION OR REMEDIATION IS REQUIRED PRIOR TO THE COMMENCEMENT OF ANY BACKFILLING OPERATIONS.
- THE BOX CULVERT AND CHANNEL TRANSITION FOUNDATIONS SHALL BE FOUNDED ON A ZONE OF MOISTURE-CONDITIONED AND COMPACTED STRUCTURAL BACKFILL, EXTENDING A MINIMUM OF 5 FEET BELOW THE BOTTOM OF FOUNDATION ELEVATION. THIS IMPROVED ZONE SHALL BE COMPACTED BY APPROPRIATE MECHANICAL METHODS TO A RELATIVE COMPACTION OF 100 PERCENT IN ACCORDANCE WITH ASTM D 698. THE IMPROVED ZONE SHALL EXTEND THE SAME DISTANCE HORIZONTALLY (BEYOND THE BASE SLAB FOOTPRINT) AS IT EXTENDS BELOW THE BOX CULVERT AND TRANSITION CHANNEL FOUNDATIONS.
- ALL EXCAVATIONS SHALL BE SLOPED AND SHORED IN THE INTEREST OF SAFETY IN ACCORDANCE WITH CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS, THE FINAL GEOTECHNICAL EVALUATION REPORT AND ALL LOCAL, STATE AND FEDERAL REGULATIONS.
- NOTHING SHOWN ON THE PLANS SHALL BE TAKEN TO IMPLY NON-CONFORMANCE TO CURRENT SAFETY REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING COMPLIANT EXCAVATIONS AND/OR SHORING COMPLIANCE. WORK IS INCIDENTAL TO THE EXCAVATIONS REQUIRED AND NO ADDITIONAL PAYMENT WILL BE MADE TO MAINTAIN COMPLIANCE.
- SEE DWG S9 FOR ADDITIONAL RETAINING WALL STRUCTURAL BACKFILL INFORMATION.



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STRUCTURAL EXCAVATION & BACKFILL DETAILS

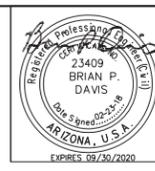
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

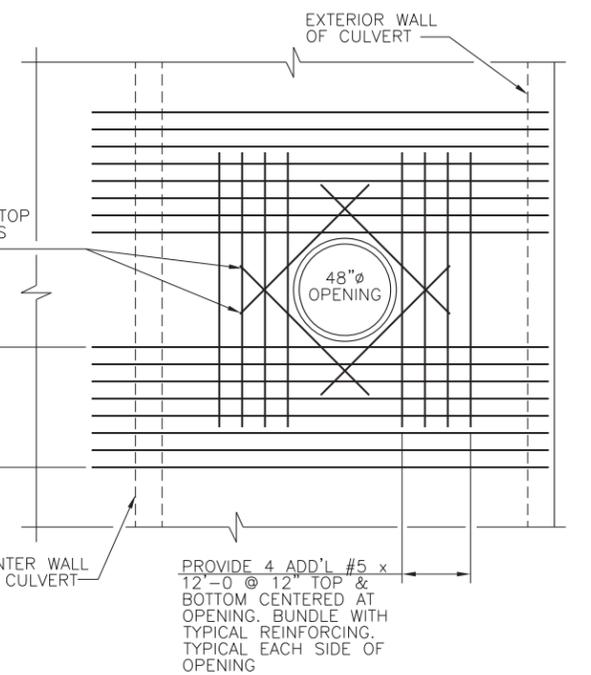
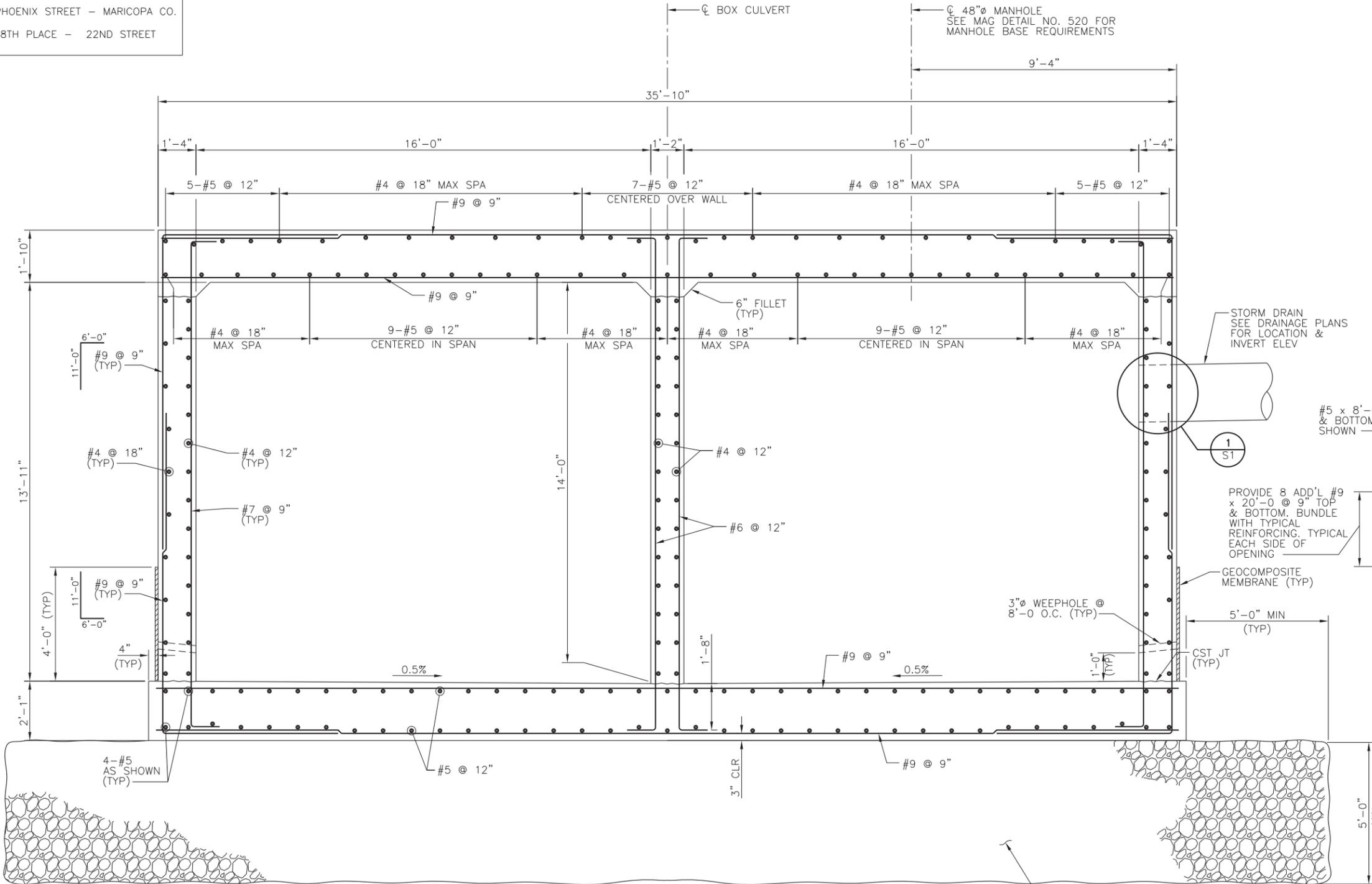
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SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	20	65	
DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			



**REINFORCING AT ROOF OPENING**  
SCALE: 1/4" = 1'-0"  
TYPICAL ROOF REINFORCING NOT SHOWN FOR CLARITY

**SECTION A**  
SCALE: 1/2" = 1'-0"  
LOOKING SOUTH

**NOTES:**

- ALL EXCAVATIONS SHALL BE SLOPED AND SHORED IN THE INTEREST OF SAFETY IN ACCORDANCE WITH CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS, THE FINAL GEOTECHNICAL EVALUATION REPORT AND ALL LOCAL, STATE AND FEDERAL REGULATIONS.
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OVEREXCAVATE & REPLACE WITH COMPACTED STRUCTURAL BACKFILL  
SEE NOTES & DWG NO S3



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

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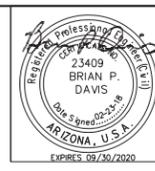
**BOX CULVERT SECTION & DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
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SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

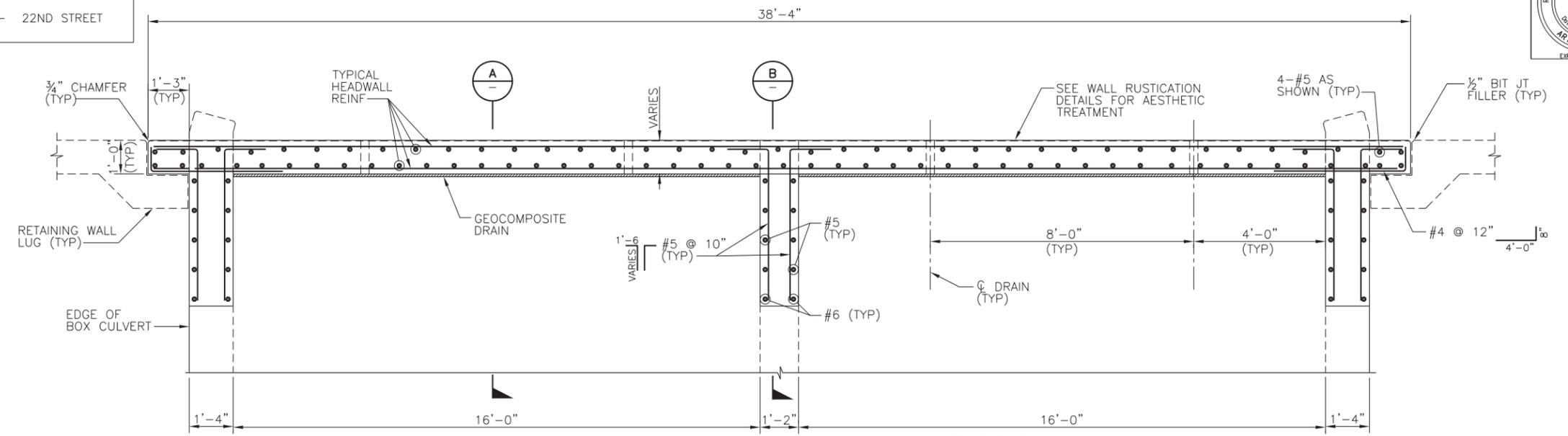


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

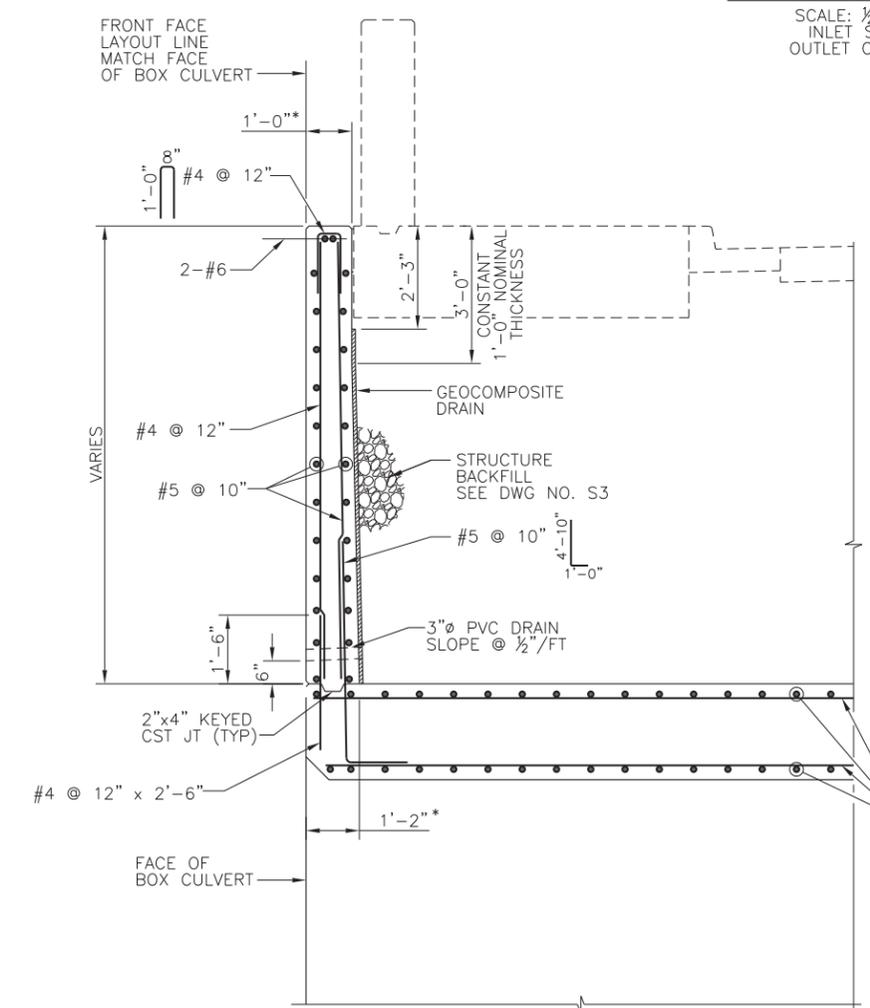
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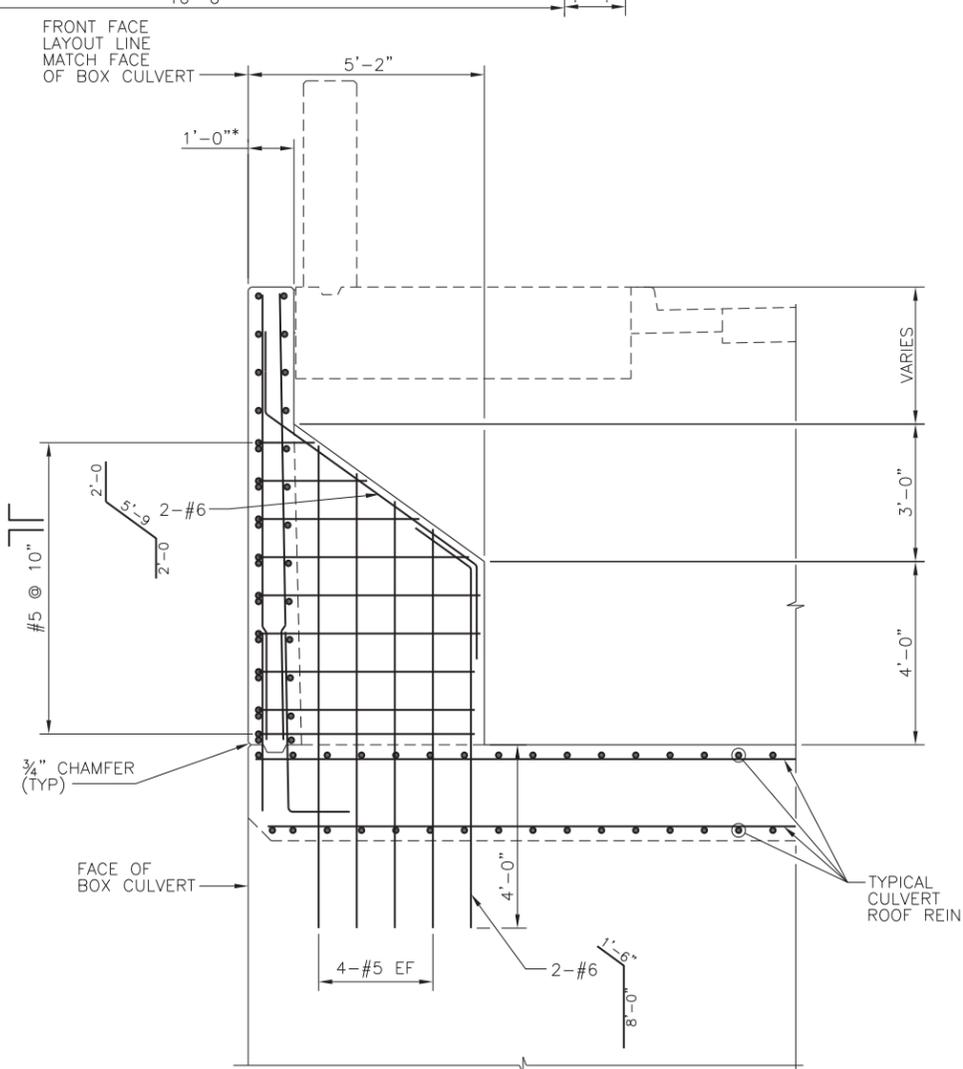
NO.	DESCRIPTION	REV BY	CHK BY	DATE



**HEADWALL PLAN**  
SCALE: 1/2" = 1'-0"  
INLET SHOWN  
OUTLET OPPOSITE



**SECTION A**  
SCALE: 1/2" = 1'-0"  
INLET SHOWN  
OUTLET OPPOSITE



**SECTION B**  
SCALE: 1/2" = 1'-0"  
INLET SHOWN  
OUTLET OPPOSITE

\* NOMINAL WALL THICKNESS INCLUDES RUSTICATION. MAX 1/4". SEE WALL RUSTICATION DETAILS



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**HEADWALL SECTIONS & DETAILS**

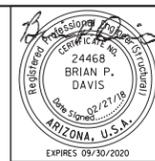
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

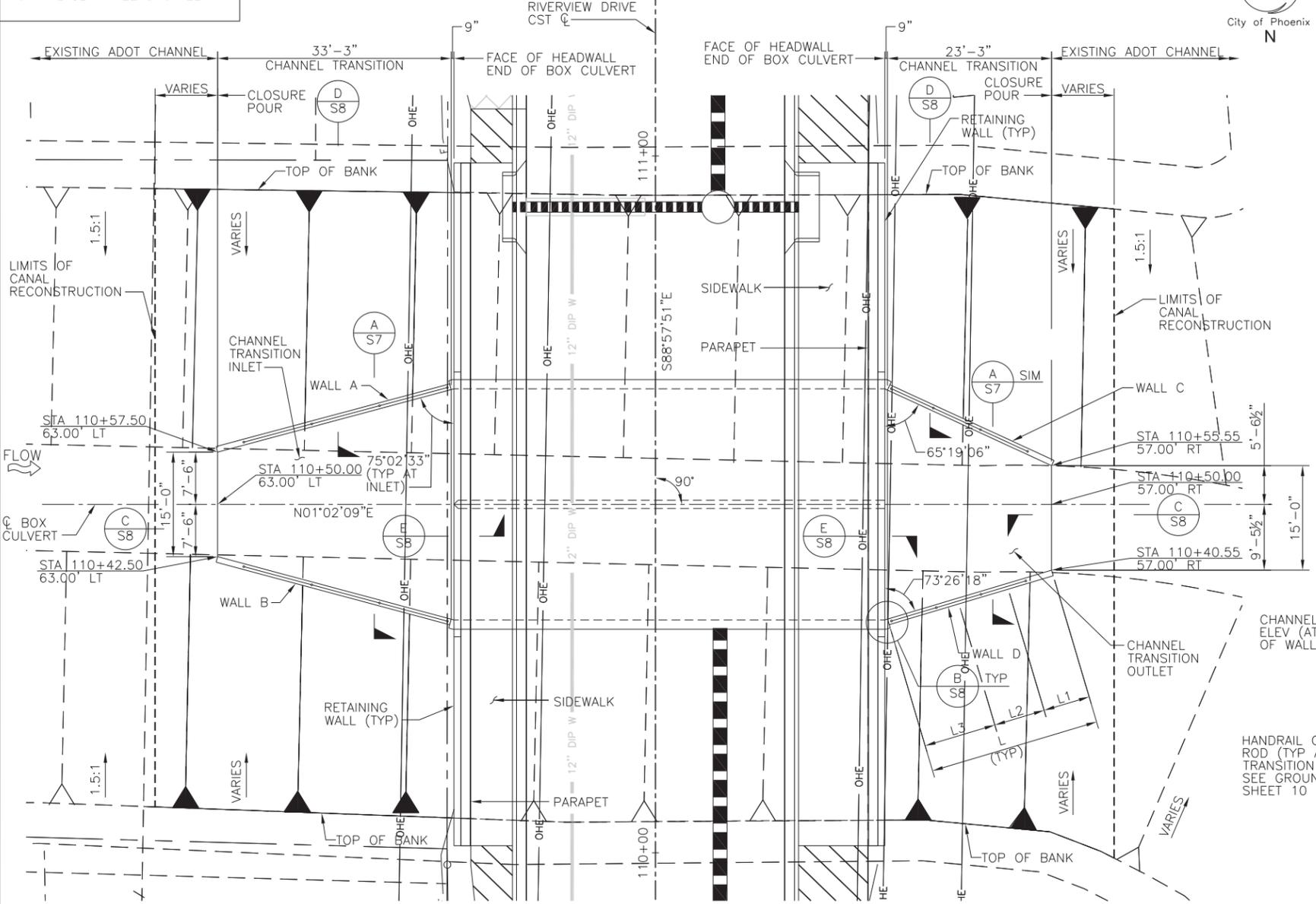
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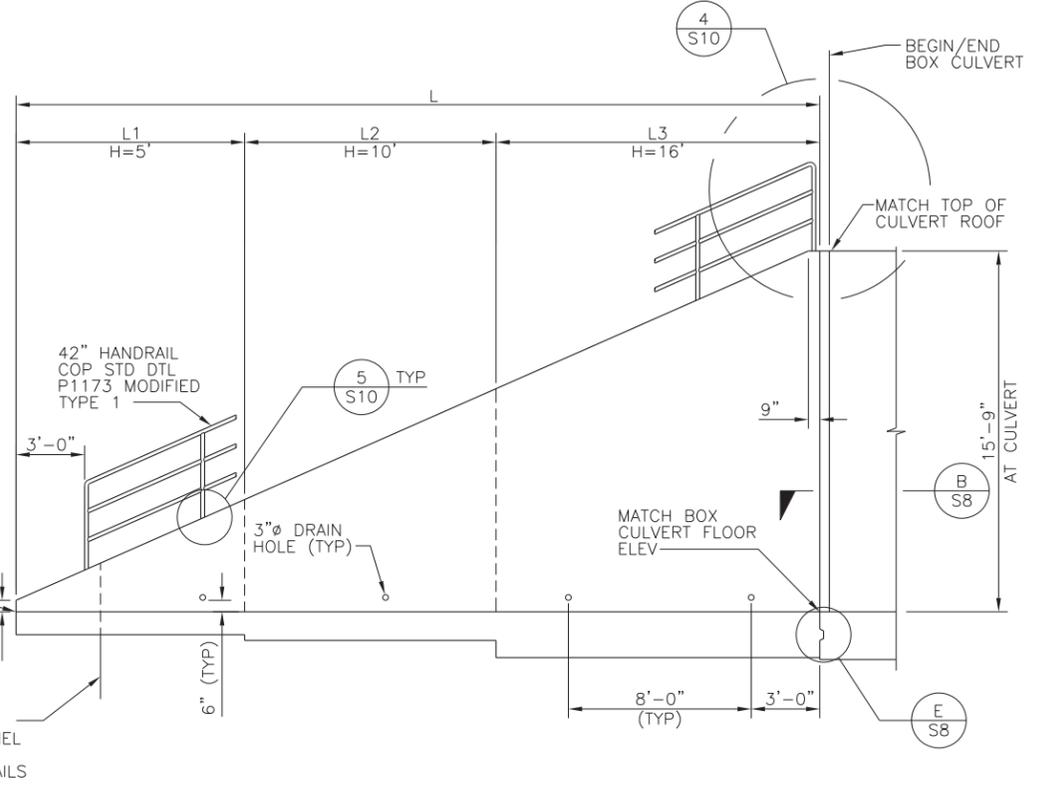
RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	22	65	
DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			



PLAN  
SCALE: 1"=10'



CHANNEL TRANSITION WALL ELEVATION  
SCALE: 1/4"=1'-0"

LOCATION	L	L1	L2	L3
WALL A	34'-9"	10'-0"	11'-0"	13'-9"
WALL B	34'-9"	10'-0"	11'-0"	13'-9"
WALL C	26'-0"	7'-0"	9'-0"	10'-0"
WALL D	24'-7"	6'-7"	8'-0"	10'-0"

H = DESIGN HEIGHT OF WALL. SEE DWG S7



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CHANNEL TRANSITION PLAN & ELEVATION  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
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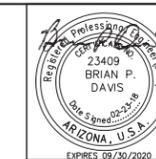
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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

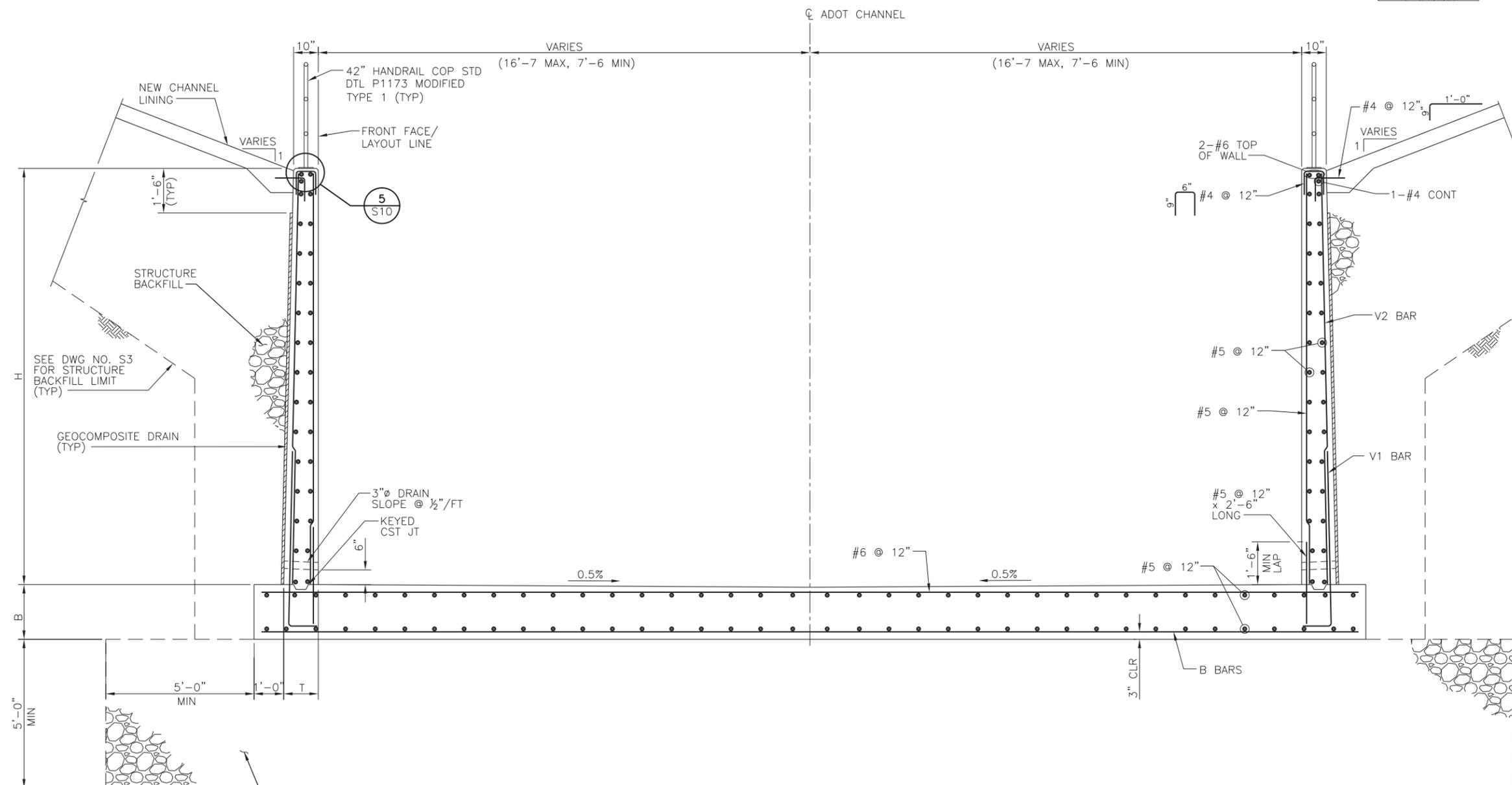


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	23	65	
DATE: 02/18			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



REINFORCING, DIMENSIONS & OTHER INFORMATION SHOWN IS TYPICAL BOTH WALLS

**NOTES:**

- ALL EXCAVATIONS SHALL BE SLOPED AND SHORED IN THE INTEREST OF SAFETY IN ACCORDANCE WITH CURRENT OSHA EXCAVATION AND TRENCH SAFETY STANDARDS, THE FINAL GEOTECHNICAL EVALUATION REPORT AND ALL LOCAL, STATE AND FEDERAL REGULATIONS.
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- BACKFILLING OPERATIONS AT EACH WALL SHALL TAKE PLACE CONCURRENTLY. AT NO TIME SHALL THE FILL HEIGHT DIFFERENCE BETWEEN WALLS BE GREATER THAN 2'-0".

**SECTION A-S6**  
SCALE: 1/2" = 1'-0"  
INLET TRANSITION SHOWN  
OUTLET TRANSITION SIMILAR

DIMENSIONS			V1 BARS			V2 BARS			B BARS	
H	B	T	SIZE	SPACING	LENGTH*	SIZE	SPACING	LENGTH	SIZE	SPACING
5'-0"	1'-0"	10"	#5	12"	VARIES	-	-	-	#6	12"
10'-0"	1'-4"	1'-2"	#7	12"	VARIES	-	-	-	#7	12"
16'-0"	2'-0"	1'-6"	#7	6"	7'-0"	#6	12"	VARIES	#8	6"

\* LENGTH OF BAR INCLUDES HOOK.



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**CHANNEL TRANSITION TYPICAL SECTION**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18TH PL TO 22ND ST  
ST85110072

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
S7	DATE: 02/18	DATE: 02/18	DATE: 02/18	23	65	
SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

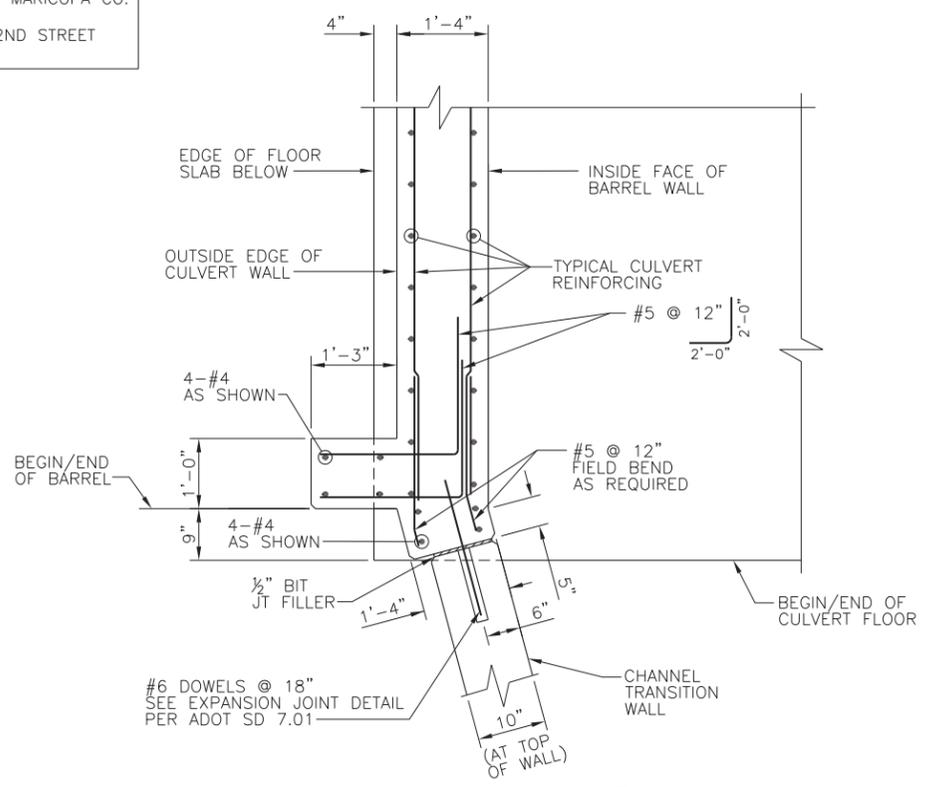


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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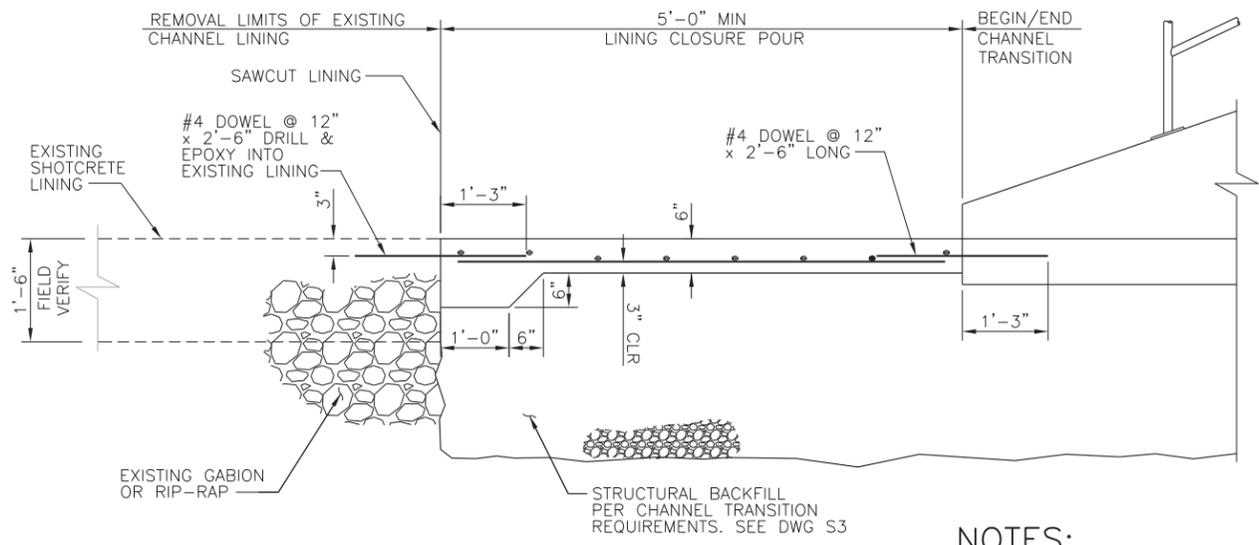
NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

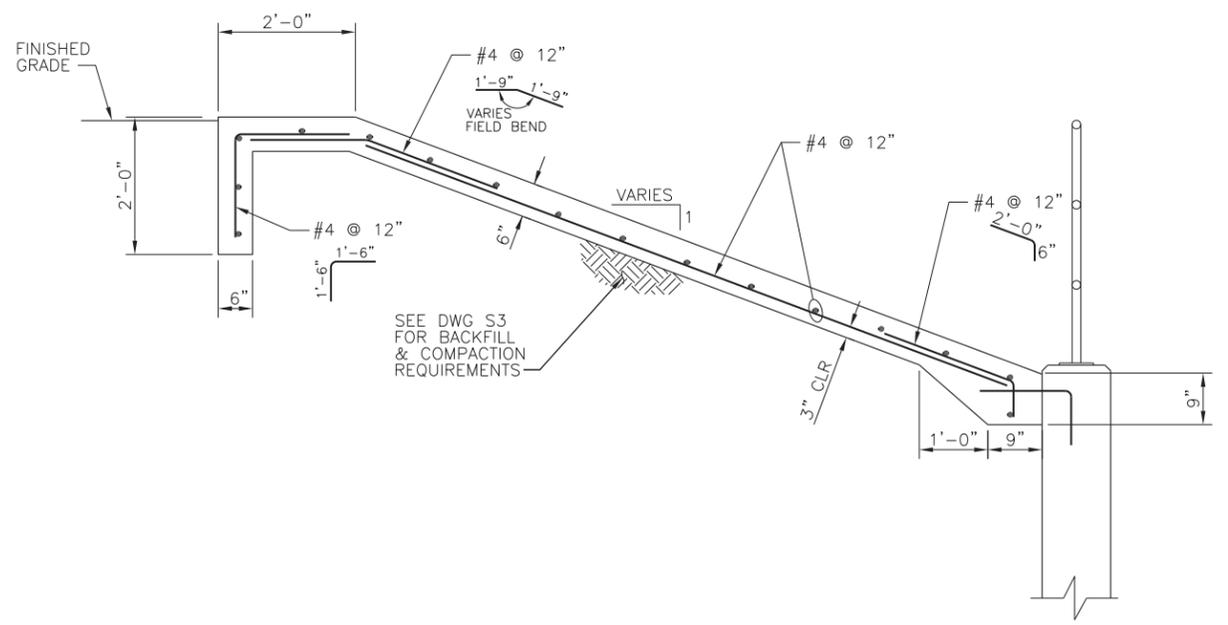


**SECTION B**  
SCALE: 3/4" = 1'-0"  
TYP ALL CHANNEL TRANSITION WALLS

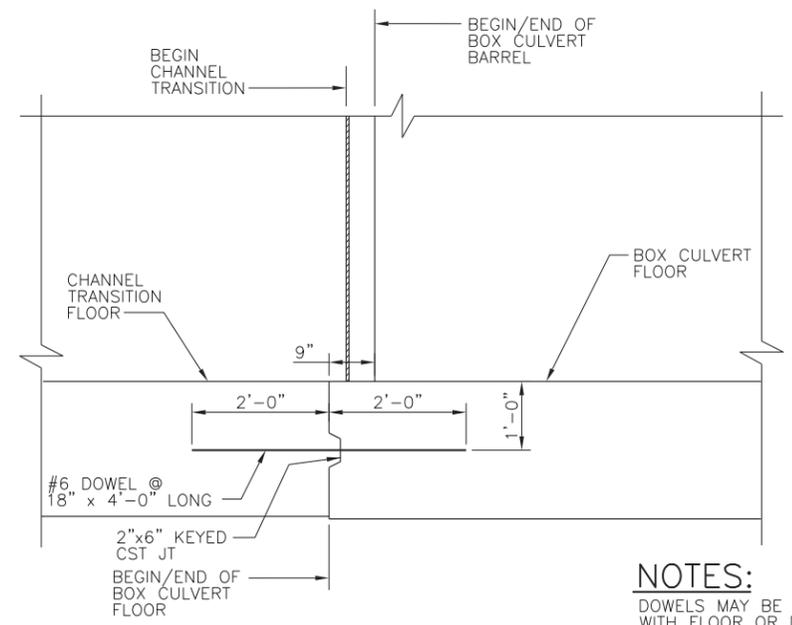


**SECTION C**  
SCALE: 3/4" = 1'-0"  
INLET (NORTH END) SHOWN  
OUTLET (SOUTH END) SIMILAR

- NOTES:**
- SEE EXISTING CHANNEL AS BUILT PLANS FOR LINING & RIP-RAP INFORMATION.
  - SAW CUT EXISTING CHANNEL LINING TO PROVIDE CLEAN EDGE.
  - DOWELS MAY BE CAST WITH FLOOR OR DRILLED & EPOXIED USING HILTI RE 500 ADHESIVE OR APPROVED EQUAL.



**SECTION D**  
SCALE: 3/4" = 1'-0"



**SECTION E**  
SCALE: 3/4" = 1'-0"  
INLET (NORTH END) SHOWN  
OUTLET (SOUTH END) SIMILAR

- NOTES:**
- DOWELS MAY BE CAST WITH FLOOR OR DRILLED & EPOXIED USING HILTI RE 500 ADHESIVE OR APPROVED EQUAL.



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

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(602) 333-2200  
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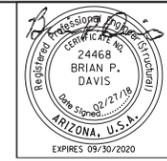
**CHANNEL TRANSITION SECTIONS & DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18TH PL TO 22ND ST  
ST85110072

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
S8	DATE: 02/18	DATE: 02/18	DATE: 02/18	24	65	
SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

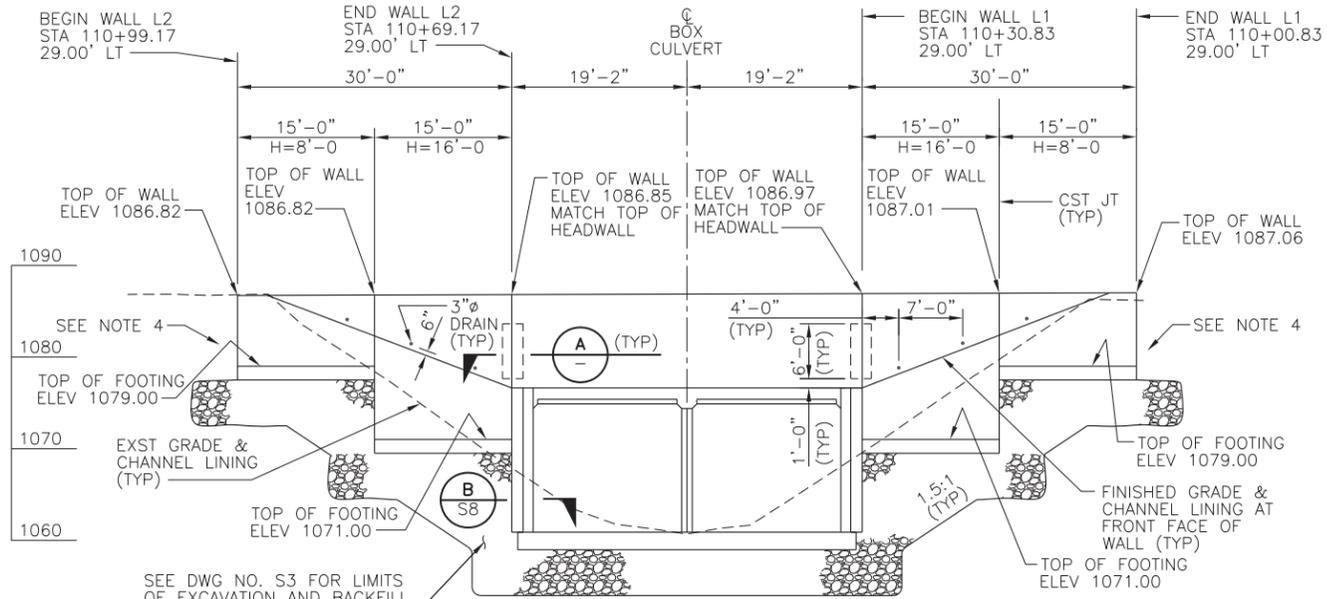


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	25	65	
DATE: 02/18			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN: JML		DRAWN: NRD		CHECKED: BPD	

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

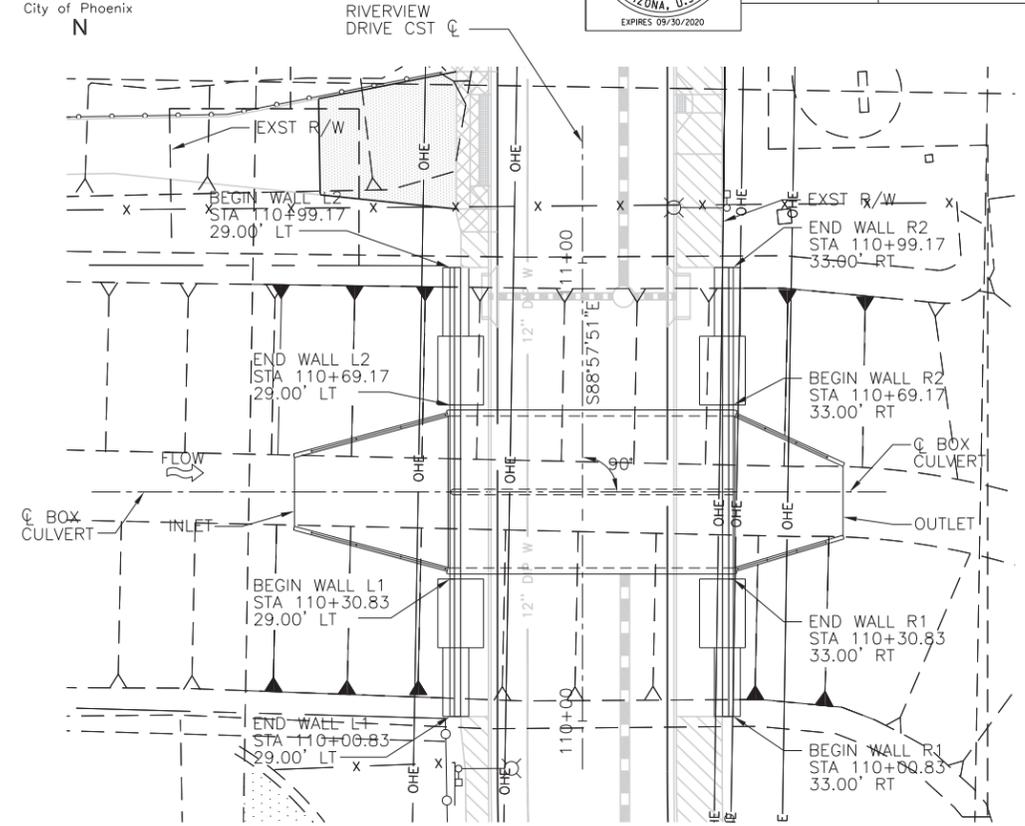


**NORTH RETAINING WALL AND HEADWALL ELEVATION**

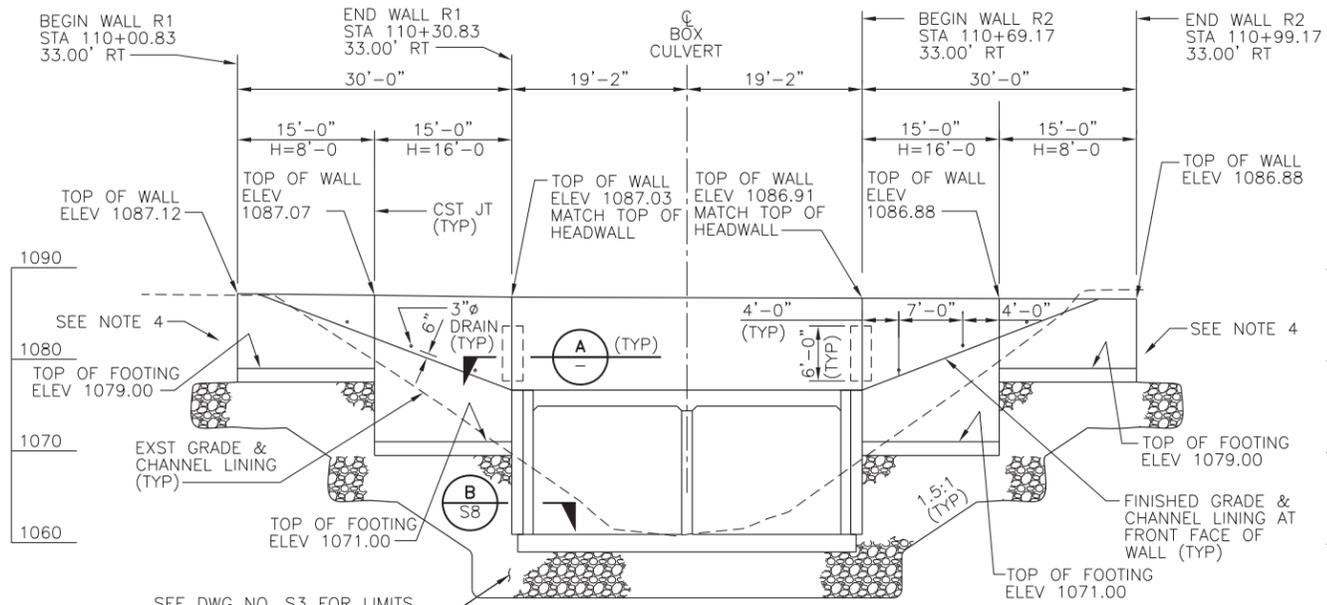
(LOOKING SOUTH)  
SCALE: 1"=10'

**NOTES:**

1. RETAINING WALLS SHALL BE PER ADOT STANDARD SD 7.01, CASE IV.
2. H = DESIGN HEIGHT OF WALL, WALLS TO BE CONSTRUCTED TO ELEVATIONS SHOWN.
3. SEE SPECIAL PROVISIONS FOR RETAINING WALL CONCRETE COLOR REQUIREMENTS.
4. EXTEND BACKFILL TYPE AND PREPARATION FOR LENGTH OF EXCAVATION PER SHEET S3

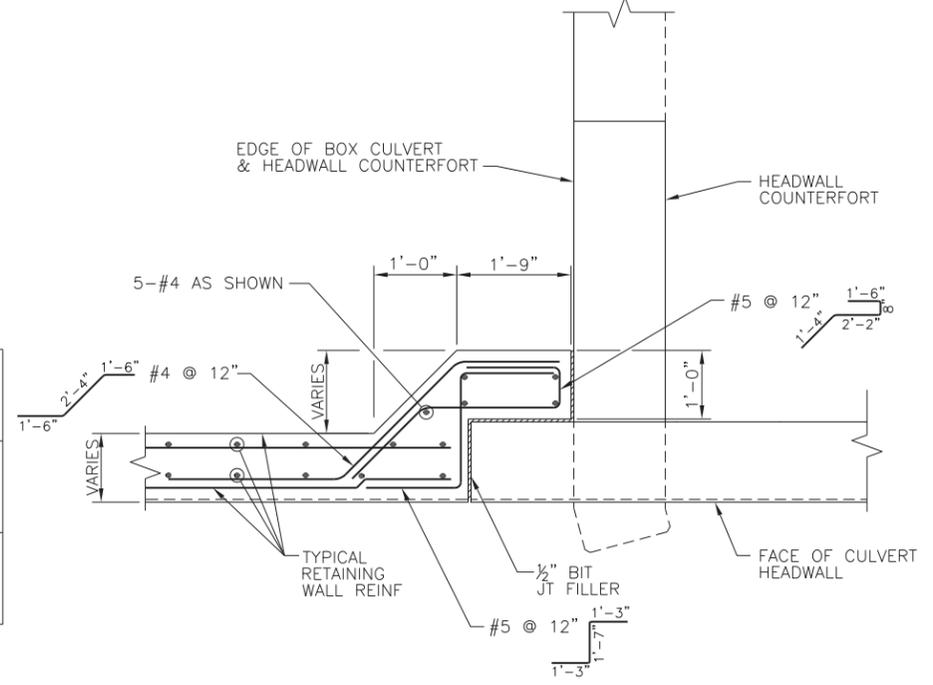


**PLAN**  
SCALE: 1"=20'



**SOUTH RETAINING WALL AND HEADWALL ELEVATION**

(LOOKING NORTH)  
SCALE: 1"=10'



**SECTION**  
SCALE: 3/4"=1'-0'



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**RETAINING WALL PLAN & ELEVATIONS**

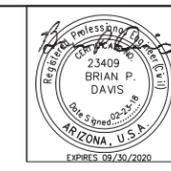
**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18TH PL TO 22ND ST  
ST85110072

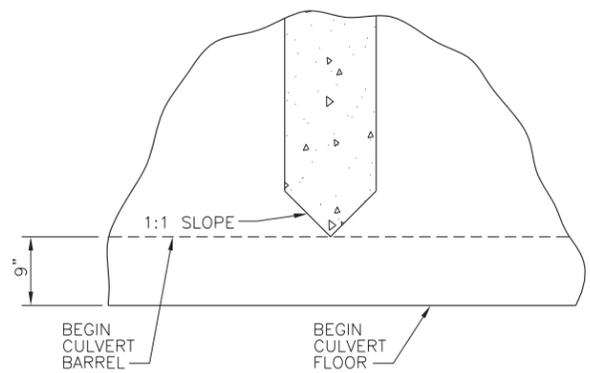
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SCALE: AS NOTED						

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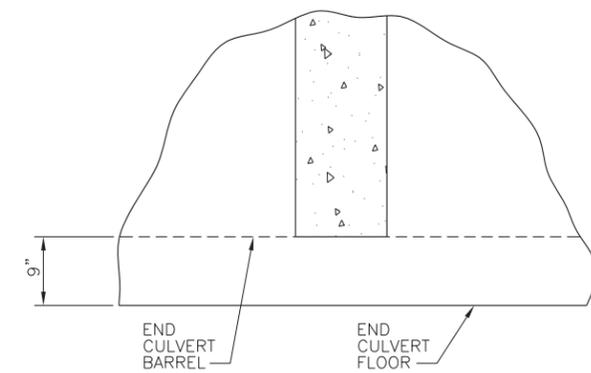
RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



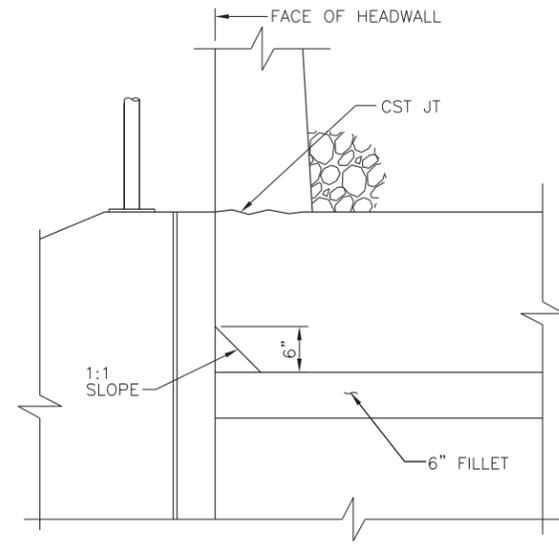
F.H.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	26	65	
DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			



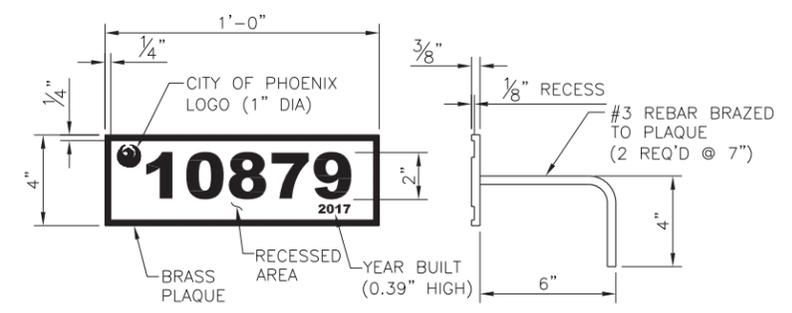
**DETAIL 1**  
 SCALE: 1"=1'-0"  
 S2



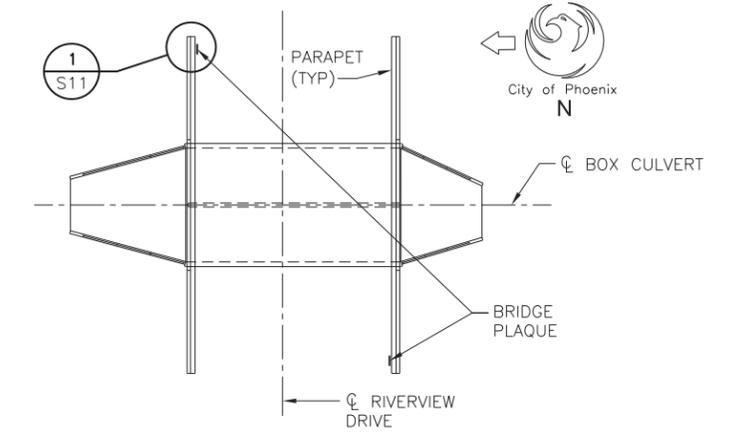
**DETAIL 2**  
 SCALE: 1"=1'-0"  
 S2



**DETAIL 3**  
 SCALE: 1"=1'-0"  
 S2



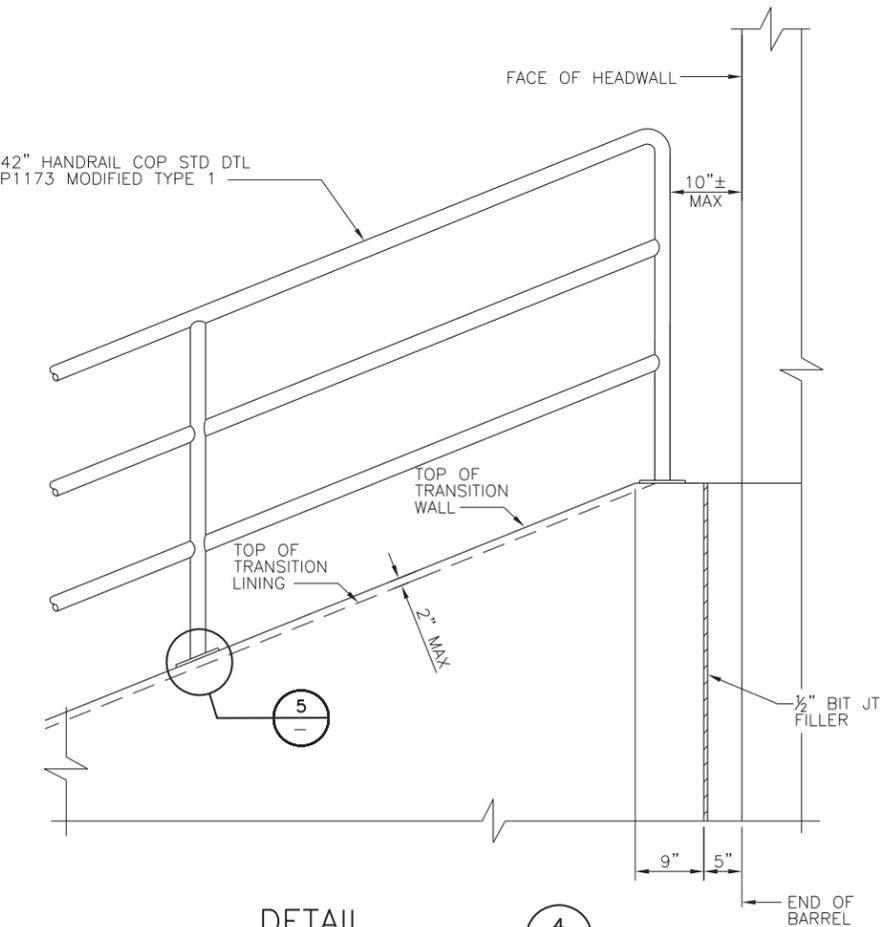
**BRIDGE PLAQUE**  
 SCALE: 3"=1'-0"



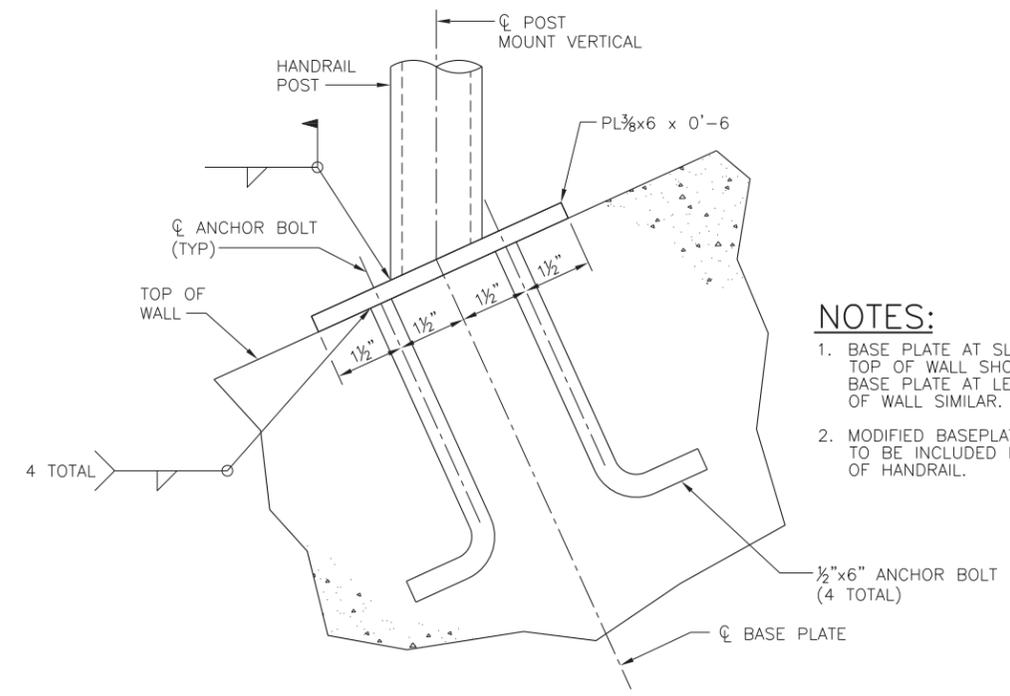
**PLAQUE LOCATIONS**  
 SCALE: NONE

**BRIDGE PLAQUE NOTES:**

1. PLACE PLAQUE AT BEGINNING OF PARAPETS AS SHOWN.
2. THE BRASS PLATE USED FOR THE NUMBER PLAQUE SHALL CONFORM TO ASTM B121.
3. THE FONT TYPE USED FOR THE NUMBER PLAQUE SHALL BE ARIAL.
4. CAST PLAQUE FLUSH WITH FINISHED FACE OF RAIL.



**DETAIL 4**  
 SCALE: 1"=1'-0"  
 S6



**MODIFIED TYPE 1 ANCHOR PLATE**  
 SCALE: 6"=1'-0"  
 S6  
 S7

**NOTES:**

1. BASE PLATE AT SLOPING TOP OF WALL SHOWN, BASE PLATE AT LEVEL TOP OF WALL SIMILAR.
2. MODIFIED BASEPLATE COST TO BE INCLUDED IN COST OF HANDRAIL.

**DETAIL 2**  
 S2



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

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**MISCELLANEOUS DETAILS**

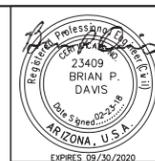
**CITY OF PHOENIX, ARIZONA**  
 STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
S10	DATE: 02/18	DATE: 02/18	DATE: 02/18	26	65	
SCALE: AS NOTED						

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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

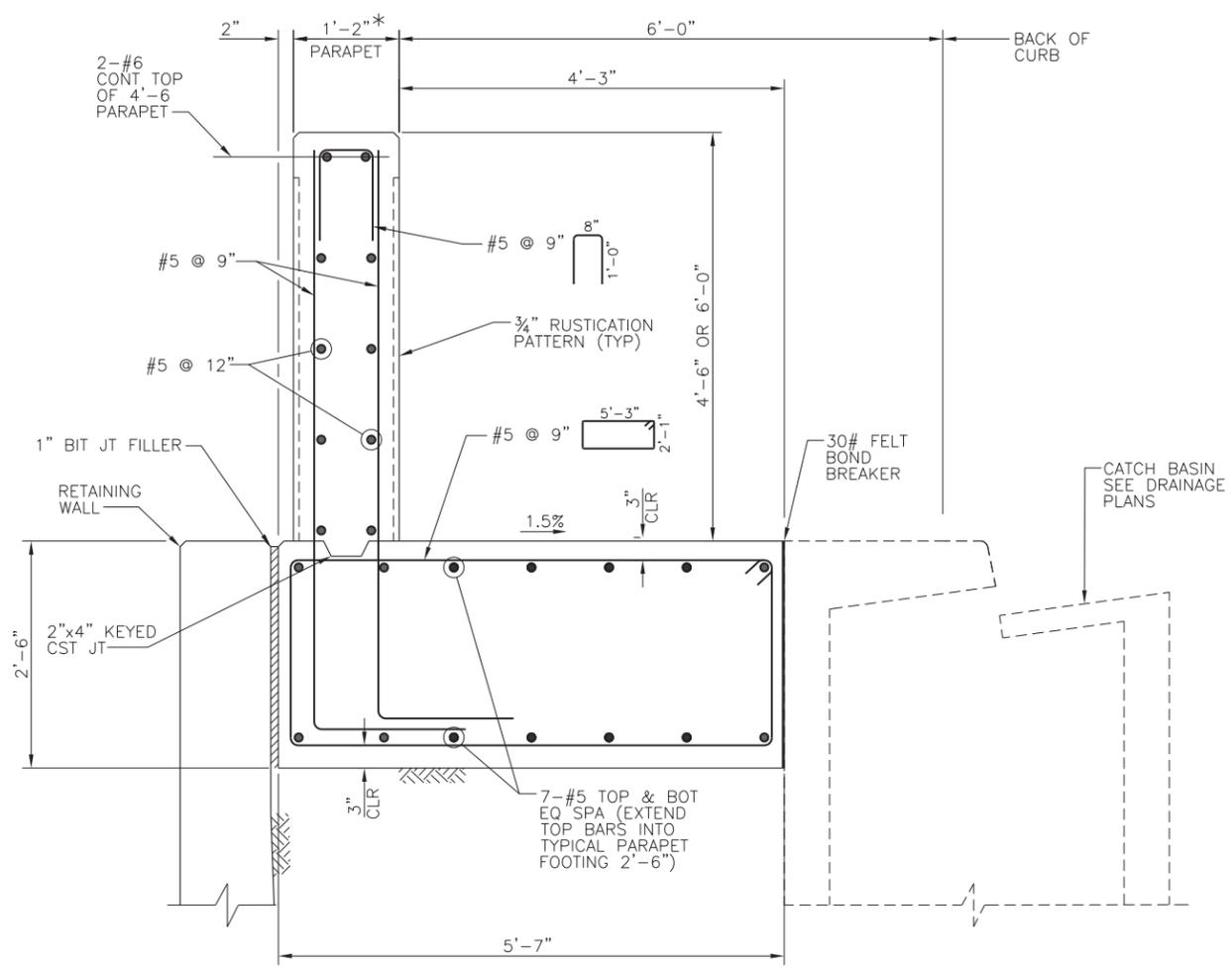


F.H.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	27	65	
DATE: 02/18		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN: JML	DRAWN: NRD	CHECKED: BPD			

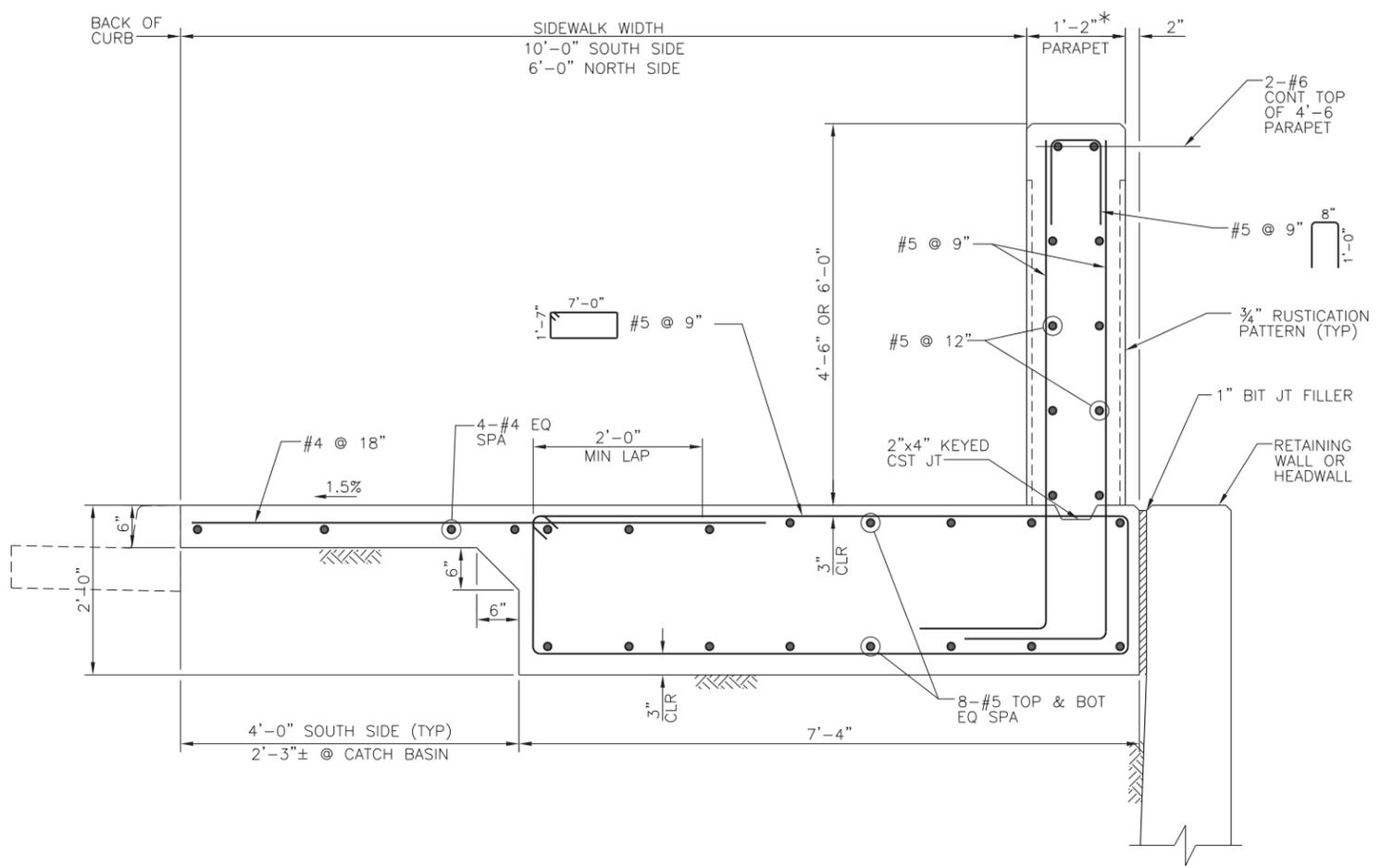
NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

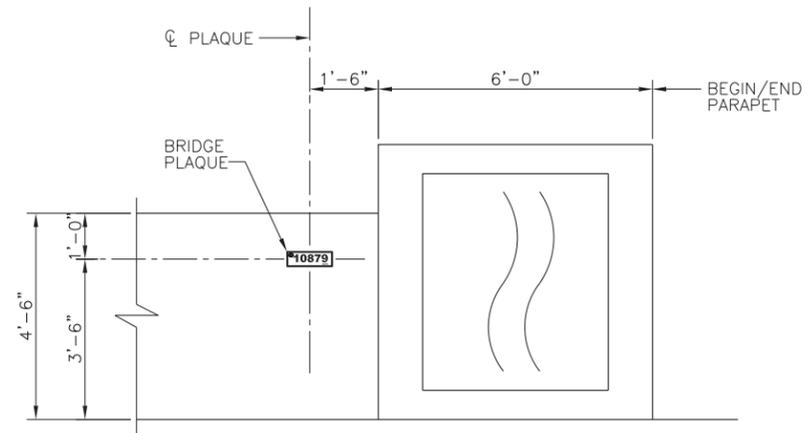
NO.	DESCRIPTION	REV BY	CHK BY	DATE



SECTION C  
SCALE: 1"=1'-0"



SECTION D  
SCALE: 1"=1'-0"  
SOUTH SIDE SHOWN  
NORTH SIDE SIMILAR



DETAIL 1  
SCALE: 1/2"=1'-0"

NOTES:

- 1. SEE WALL RUSTICATION DETAILS FOR AESTHETIC TREATMENT AND LIMITS OF PARAPET.
- \* INCLUDES RUSTICATION THICKNESS



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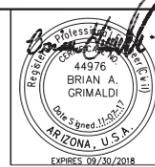
**Stanley Consultants INC.**  
PARAPET DETAILS  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DWG NO.	DR: NRD	DES: JML	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
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SCALE: AS NOTED						

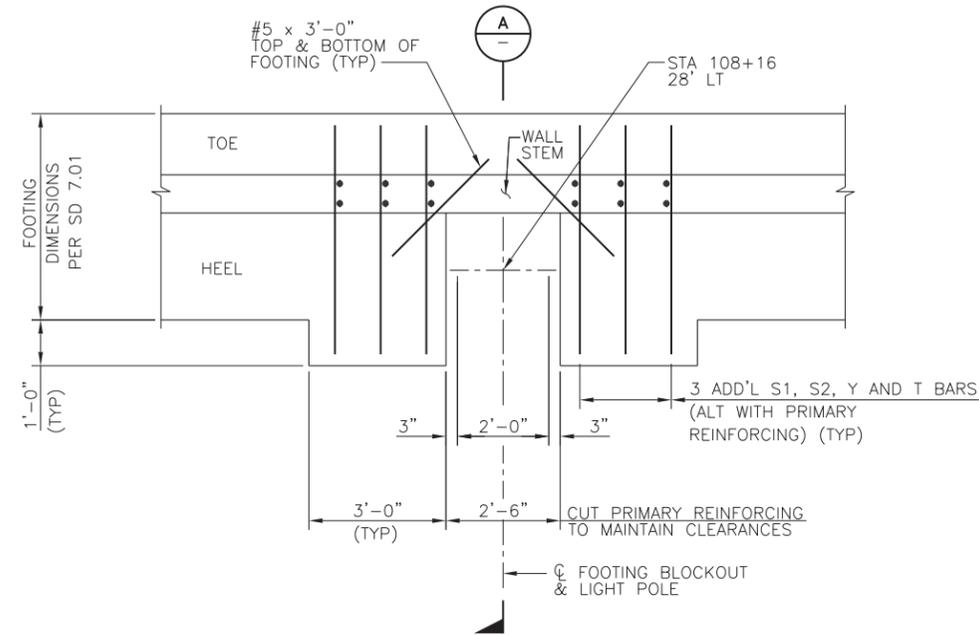
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RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



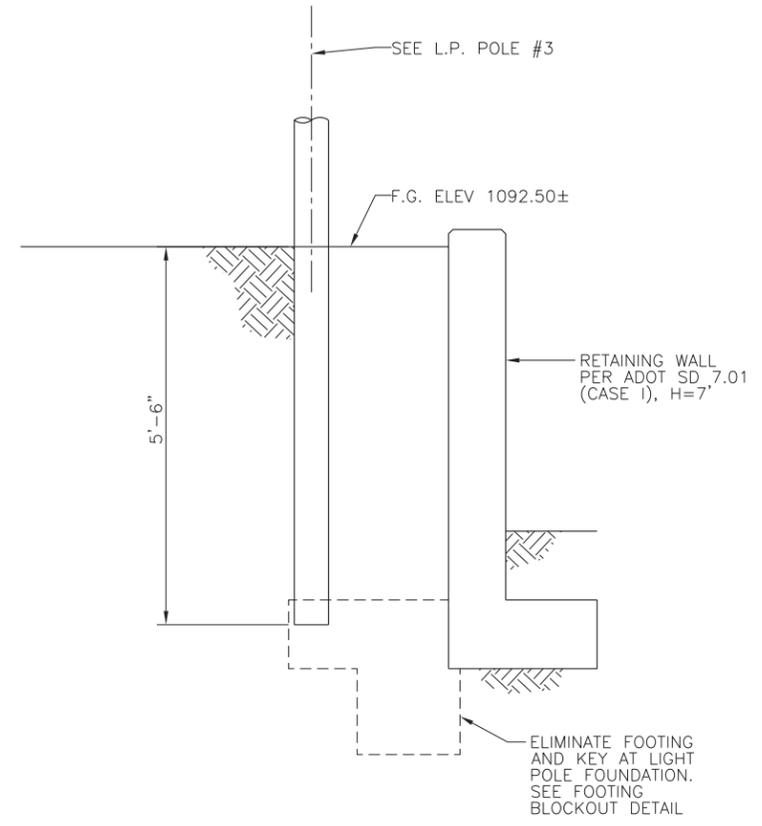
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARZ.	ST85110072	28	65	
DATE: 11/17			STANLEY CONSULTANTS, INC. CONSULTING ENGINEER		
DESIGN: BAG	DRAWN: NRD	CHECKED: BDP			

NO.	DESCRIPTION	REV BY	CHK BY	DATE



**RETAINING WALL  
 FOOTING BLOCKOUT DETAIL - PLAN** 1  
7

SCALE: 1/2" = 1'-0"  
 (PRIMARY REINFORCING NOT SHOWN FOR CLARITY)



**SECTION** A  
-

SCALE: 3/4" = 1'-0"



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 Phoenix, Arizona 85016  
 (602) 333-2200

**RETAINING WALL DETAILS**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

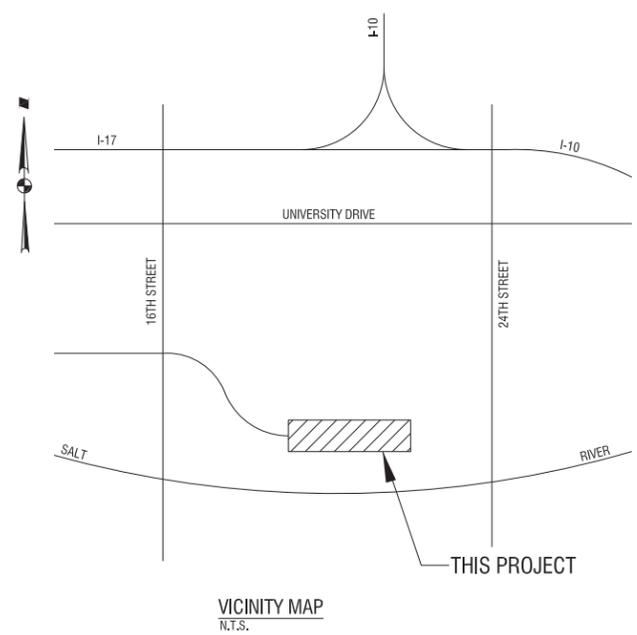
**RIVERVIEW DRIVE  
 18TH PL TO 22ND ST  
 ST85110072**

DWG NO.	DR: NRD	DES: BAG	CK: BPD	SHEET NO.	TOTAL SHEETS	AS BUILT
S12	DATE: 11/17	DATE: 11/17	DATE: 11/17	28	65	
SCALE: AS NOTED						

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# CITY OF PHOENIX STREET LIGHTING RIVERVIEW DRIVE 18TH PLACE TO 22ND STREET

	F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
	9	ARIZ.	ST85110072	29	65
			1661 East Camelback Road, Suite 400 Phoenix, Arizona 85016 Phone: (602) 333-2200		
DR: IAM	DES: EDL	CK: MAL	DATE: 08/17		



### ARIZONA PUBLIC SERVICE (APS) NOTES

1. CONTRACTOR SHALL CONTACT APS INSPECTOR IDENTIFIED ON THE APS CONSTRUCTION DRAWING FOR PRE-CONSTRUCTION MEETING PRIOR TO ANY EXCAVATION.
2. CONTRACTOR TO SUPPLY ALL TRENCH AND CONDUIT, PER APS REQUIREMENTS, UNLESS OTHERWISE NOTED.
3. GRADE STAKE WILL BE SET WITHIN 2' OF J-BOX LOCATION.
4. CONTRACTOR WILL COORDINATE WITH APS AND CITY OF PHOENIX FOR DE-ENERGIZING OF STREETLIGHT CONDUCTOR.
5. GROUND ROD TO BE PROVIDED AND INSTALLED BY CONTRACTOR IN APS J-BOX AT EACH STREETLIGHT LOCATION.
6. IF THE CONTRACTOR INSTALLS THE POLE, THE BARE #6 COPPER GROUND WIRE SHALL BE CONNECTED FROM THE GROUND ROD IN THE APS J-BOX TO THE GROUND CONNECTION IN THE HAND-HOLE..
7. ALL TRENCH AND CONDUIT TO BE INSPECTED BY APS. DO NOT BACKFILL UNTIL INSPECTED.
8. APS CONSTRUCTION PRINT MUST BE USED AS A TRENCHING REFERENCE. TRENCHING VARIATIONS MUST HAVE WRITTEN APS CSR APPROVAL. FOLLOW DETAILS FOR CONSTRUCTION. VARIATIONS IN TRENCH ROUTE MAY RESULT IN A REDESIGN FEE.
9. CONTACT APS FOR ALL TRENCH AND CONDUIT SPECIFICATIONS AND REQUIREMENTS.
10. CONTRACTOR IS RESPONSIBLE FOR INTEGRITY OF ALL CONDUITS UNTIL APS HAS INSTALLED CONDUCTORS.
11. CONTRACTOR IS RESPONSIBLE FOR OBTAINING REQUIRED VARIANCES PRIOR TO SUBMITTING CIP DRAWINGS TO THE UTILITIES.
12. CONTRACTOR IS RESPONSIBLE FOR VERIFYING VERTICAL AND HORIZONTAL CLEARANCES TO EXISTING OVERHEAD LINES AND POLES WHEN PLACING NEW STREETLIGHTS.

### STREETLIGHT NOTES

1. INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-6" POLE PER STD 8040 (POLE CODE 1944.38) WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.
2. INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 30'-6" POLE PER STD 8040 (POLE CODE 1944.30), WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.
3. INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 30'-6" POLE PER STD 8040 (POLE CODE 1944.30) MOUNTED BEHIND WALL (SEE DETAIL ON SHEET 28) 5.24 FEET ABOVE SIDEWALK WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.

### STREET LIGHTING GENERAL NOTES

- THE FOLLOWING INFORMATION IS PROVIDED TO EMPHASIZE CRITICAL WORK AND IS INTENDED TO SUPPLEMENT THE SPECIFICATIONS.
1. THE CONTRACTOR SHALL COMPLY WITH STATE AND CITY STATUTES AND ORDINANCES.
  2. PRIOR TO SUBMITTAL, THE STREET LIGHT DESIGNER SHALL EXAMINE ALL GENERAL CONSTRUCTION DRAWINGS AND VISIT THE CONSTRUCTION SITE TO BECOME FAMILIAR WITH EXISTING CONDITIONS UNDER WHICH THEY WILL OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THE CONTRACT.
  3. THE PROJECT INSPECTOR SHOULD VERIFY DIMENSIONS AT THE SITE AND IMMEDIATELY REPORT DIFFERENCES TO THE DEVELOPER'S CONSTRUCTION MANAGER AND NOT PROCEED WITH WORK UNTIL THE CONSTRUCTION MANAGER RENDERS A DECISION.
  4. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH ALL LICENSING REQUIREMENTS SET FORTH BY THE STATE REGISTRAR OF CONTRACTORS OFFICE TO PERFORM WORK RELATING TO STREET LIGHT INSTALLATION IN CITY OF PHOENIX RIGHT-OF-WAY.
  5. ONE DRY UTILITY PERMIT FOR EACH CITY OF PHOENIX STREET LIGHT PROJECT SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
  6. LIGHT POLES SHALL BE INSTALLED PLUMB, BE ADJUSTED TO PROVIDE PROPER ALIGNMENT TO THE ROADWAY BEING LIGHTED AND BE PROPERLY GROUNDED WHEN THE INSTALLATION IS COMPLETED.
  7. STREET LIGHTS ARE INSPECTED BY THE CITY OF PHOENIX STREETLIGHTING INSPECTOR. WHEN ACCEPTED AND ENERGIZED, THE POLE NUMBERS ARE TO BE INSTALLED BY THE CONTRACTOR.
  8. LUMINAIRES SHALL BE INSTALLED LEVEL AND INCLUDE A LAMP AND PHOTOCELL. THE LUMINAIRES SHALL BE FREE OF DUST, DIRT OR ANYTHING THAT WOULD IMPAIR THE OUTPUT OF THE LIGHT
  9. LUMINAIRES FURNISHED WITH MULTI-TAP BALLASTS SHALL BE REWIRED OR RECONNECTED TO MATCH THE VOLTAGE SUPPLIED BY THE ELECTRIC UTILITY COMPANY.
  10. POLE SHALL BE SET PLUMB IN TWO DIRECTIONS, NINETY (90) DEGREES APART.
  11. SURPLUS EXCAVATION SHALL BE DISPOSED OF BY THE CONTRACTOR.
  12. WIRING SHALL BE INSTALLED PER SERVING UTILITY COMPANY STANDARDS. CONDUIT SHALL BE INSTALLED AT THE DEPTH SPECIFIED ON THEIR PLANS.
  13. CONDUIT MUST BE UL RATED AND SUITABLE FOR UNDERGROUND USE PER UTILITY COMPANY REQUIREMENT.
  14. CONNECTIONS SHALL BE PER SERVING UTILITY COMPANY STANDARDS. EACH POLE SHALL HAVE A 8' X 5/8" COPPER CLAD GROUND ROD DRIVEN BENEATH PULL BOX. A #6 BARE COPPER LEAD FROM THE GROUND ROD IN PULL BOX TO LANDING LUG IN STREET LIGHT POLE HAND HOLE IS REQUIRED.
  15. EXCAVATION FOR PULL BOXES AND MATERIAL SPECIFICATIONS SHALL BE PER SERVING UTILITY COMPANY STANDARDS.
  16. TRENCHES SHALL BE INSTALLED PER SERVING UTILITY COMPANY STANDARDS. THE USE OF A COMMON ELECTRIC UTILITY COMPANY TRENCH IS PERMITTED.
  17. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANY FOR COORDINATION OF THE TRENCHING AND THE INSTALLATION OF CONDUIT.
  18. IT IS THE CONTRACTOR'S RESPONSIBILITY TO RESTORE ALL PROPERTY, LANDSCAPING, PAVING AND DRIVEWAYS THAT ARE DISTURBED DURING STREET LIGHT CONSTRUCTION TO THEIR ORIGINAL CONDITION IN CONFORMANCE WITH MAG SPECIFICATION SECTION 107.9.
  19. PRIOR TO ACCEPTANCE, THE DEVELOPER SHALL ENERGIZE AND OPERATE THE ENTIRE ROADWAY LIGHTING SYSTEM, FROM SUNSET TO SUNRISE FOR TWO (2) CONSECUTIVE DAYS WITHOUT INTERRUPTION OR FAILURE. IF A LAMP OR BALLAST SHOULD FAIL, IT SHALL BE IMMEDIATELY REPLACED. THE DEVELOPER SHALL BE RESPONSIBLE FOR FURNISHING ALL PERSONNEL AND EQUIPMENT TO SUCCESSFULLY PERFORM THIS TEST.
  20. THE CONTRACTOR SHALL GUARANTEE ALL WORK FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ENGINEERING MANAGER, AGAINST IMPERFECT WORKMANSHIP, FAILURE, MALFUNCTION OF MATERIALS AND/OR EQUIPMENT DUE TO FAULTY OR IMPERFECT WORKMANSHIP.
  21. THIS GUARANTEE IS TO BE IN WRITING TO THE CITY AT THE TIME OF ISSUING FINAL ACCEPTANCE. MATERIALS AND WORKMANSHIP FOUND TO BE DEFECTIVE WITHIN THE WARRANTY PERIOD SHALL BE REPLACED WITHOUT COST TO THE CITY

### LEGEND

- ⊠ → NEW STREETLIGHT POLE  
(SEE NOTES ON DWG NP, SL-2 FOR DESCRIPTION)
- ⊠ → EXISTING STREET LIGHT POLE
- → STREET LIGHT JUNCTION BOX PER APS STANDARDS

### SHEET INDEX

- COVER SHEET 29
- SITE PLAN 30
- DETAIL SHEET 31

ITEM NUMBER	TYPE OF STREET	QUANTITY	MOUNTING HEIGHT	POLE LENGTH	MAST ARM	APPROVED POLE & ARM MANUFACTURERS	LUMEN	TYPE	WATTAGE	VOLTAGE	APPROVED LUMINAIRE MANUFACTURERS
1	COLLECTOR	5	32'	38'-6"	2'	CEM-TEC MS-1944 VALMONT CB09159 SOUTHWEST FABRICATION, LLC 386RDB	6,634	LED	70 W	120/208/240/277 AS POWER CO. REQUIRES	AMERICAN ELECTRIC ATBM B MVOLT R2 27K MP NL P7 RFD213834
2	COLLECTOR	4	25'	30'-6"	2'	CEM-TEC MS-1944 VALMONT CB09159 SOUTHWEST FABRICATION, LLC 386RDB	6,634	LED	70 W	120/208/240/277 AS POWER CO. REQUIRES	AMERICAN ELECTRIC ATBM B MVOLT R2 27K MP NL P7 RFD213834
3	COLLECTOR	1	30.24'	30'-6"	2'	CEM-TEC MS-1944 VALMONT CB09159 SOUTHWEST FABRICATION, LLC 386RDB	6,634	LED	70 W	120/208/240/277 AS POWER CO. REQUIRES	AMERICAN ELECTRIC ATBM B MVOLT R2 27K MP NL P7 RFD213834

ALL CATALOG NUMBERS SHALL BE CONFIRMED WITH POWER COMPANY PRIOR TO ORDERING



\*PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX.\*

## STREET LIGHT COVER SHEET

**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

### RIVERVIEW DRIVE 18TH PLACE TO 22ND STREET

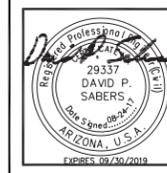
PROJECT #:		ST85110072		FILE NO:		-	
DR:	IAM	DES:	EDL	CK:	MAL	SHEET NO:	29
DATE:	08/17	DATE:	08/17	DATE:	08/17	TOTAL SHEETS:	65
SCALE:	NTS		OS. #:	-			

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PROJECT LIGHT LAYOUT: RIVERVIEW DRIVE

PROJECT #: ST85110072

FILE #:



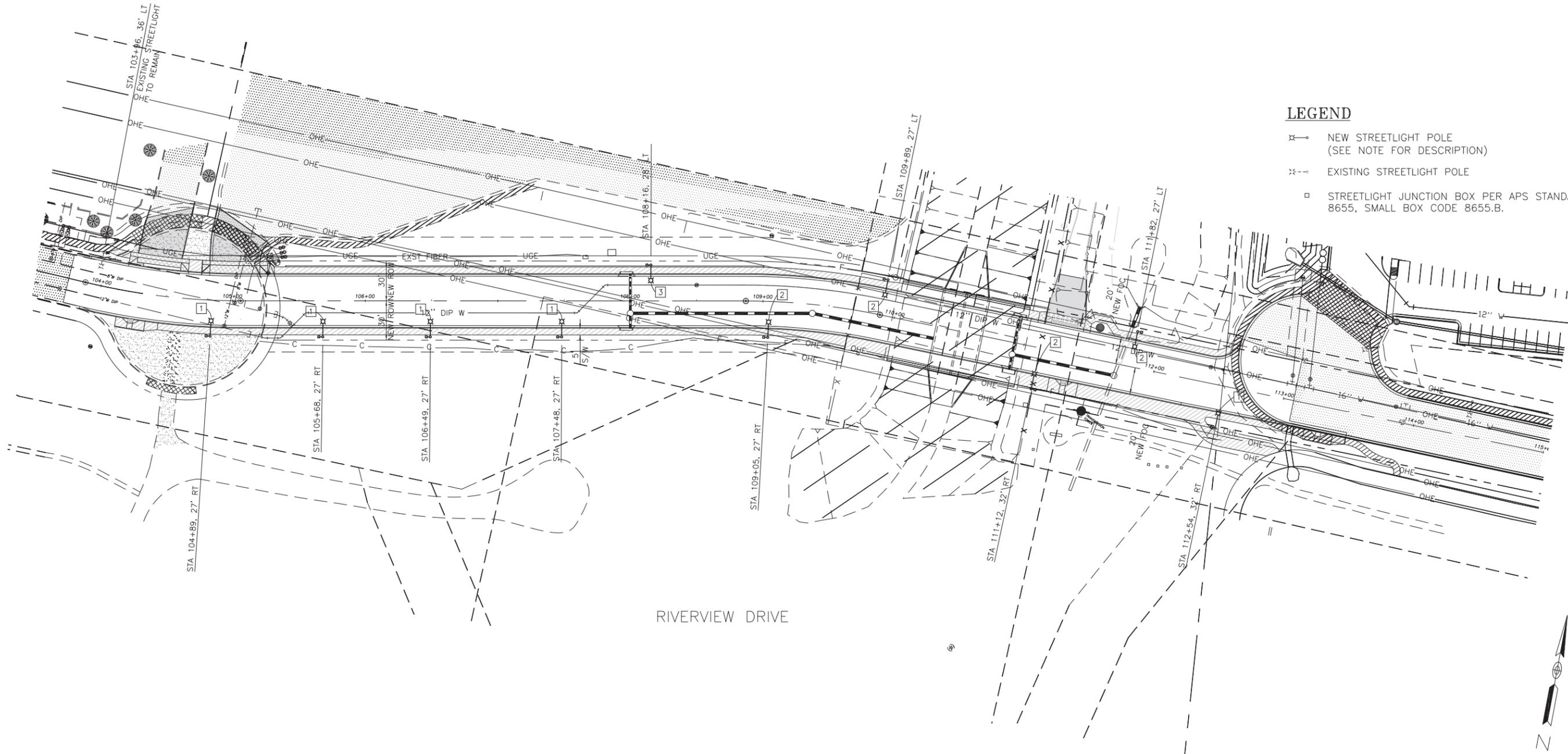
F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST85110072	30	65

1661 East Camelback Road, Suite 400  
Phoenix, Arizona 85016  
Phone: (602) 333-2200

**Stanley Consultants** INC.

DR: IAM	DES: EDL	CK: MAL	DATE: 08/17
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STREET LIGHT LAYOUT: RIVERVIEW DRIVE



**LEGEND**

- ⊗ NEW STREETLIGHT POLE (SEE NOTE FOR DESCRIPTION)
- ⊗ EXISTING STREETLIGHT POLE
- STREETLIGHT JUNCTION BOX PER APS STANDARD 8655, SMALL BOX CODE 8655.B.

**STREETLIGHT NOTES**

- 1 INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-6" POLE PER STD 8040 (POLE CODE 1944.38) WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.
- 2 INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 30'-6" POLE PER STD 8040 (POLE CODE 1944.30), WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.
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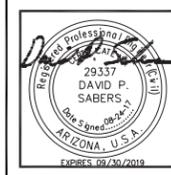


"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY & MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

<b>STREET LIGHT LAYOUT</b>				
<b>CITY OF PHOENIX, ARIZONA</b>				
STREET TRANSPORTATION DEPARTMENT				
RIVERVIEW DRIVE				
18TH PLACE TO 22ND STREET				
PROJECT #:	ST85110072	FILE NO.:		
DR: IAM	DES: EDL	CK: MAL	SHEET NO.:	TOTAL SHEETS
DATE: 08/17	DATE: 08/17	DATE: 08/17	30	65
SCALE: 1" = 40'	DS. #:			

PROJECT #: ST85110072

FILE #:

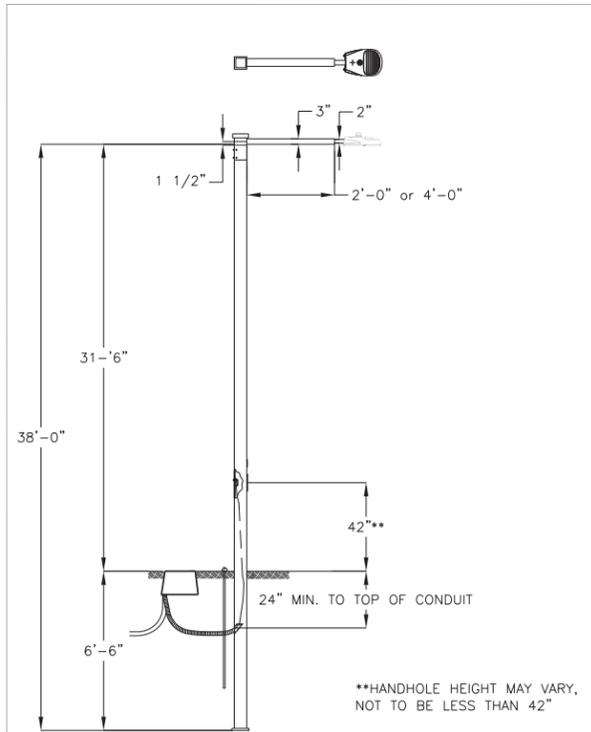


F.H.W.A. REGION	STATE	PROJ. NO.	NO.	TOTAL
9	ARIZ.	ST85110072	31	65

1661 East Camelback Road, Suite 400  
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Phone: (602) 333-2200

**Stanley Consultants INC.**

DR: IAM DES: EDL CK: MAL DATE: 08/17



**1944.**

19 = 19' - 0" POLE SNG SIMPLEX  
30 = 30' - 0" POLE SNG SIMPLEX  
38 = 38' - 0" POLE SNG SIMPLEX  
38X = 38' - 0" POLE DBL SIMPLEX  
\*\* SEE SPEC. NOTE

**CONSTRUCTION NOTES:**

- ADJUST PHOTO EYE TO FACE NORTH
- A GROUND ROD IS PROVIDED WITH THE JUNCTION BOX. WHERE A GROUND ROD CANNOT BE DRIVEN ALTERNATE GROUND SHALL BE USED. SEE 2449 THRU 2460 FOR APPROVED ALTERNATES.
- THE 40'-0" SELF-SUPPORTING STEEL POLE AND ONE OF THE 38'-0" HAVE TWO, MANUFACTURED INSTALLED SIMPLEX FITTINGS 180 APART FOR DOUBLE ARMS. SEE CHART.
- APN 33701054 IS A POLE BAND ADAPTOR WITH A SIMPLEX FITTING. ADAPTOR IS REQUIRED FOR THE SECOND ARM IN DOUBLE ARM APPLICATIONS ON EXISTING PLES IN THE FIELD WITHOUT TWO SIMPLEX FITTINGS. SEE 8198 FOR AVAILABLE SIZES.
- POLES THAT HAVE MORE THAN ONE LUMINAIRE REQUIRE A SEPARATE CIRCUIT WITH FUSING FROM THE J-BOX TO EACH LUMINAIRE.

**ENGINEERING NOTES:**

A THE LIGHT CODE PROVIDES TWO SAME WATTAGE LUMINAIRES WHEN DOUBLE ARM ARE SPECIFIED.

B SEE SPEC 8130 - 8131 FOR IN-LINE FUSE FOR UNDERGROUND FEEDS.

C SEE 8100 THRU 8107 FOR OVERHEAD ATTACHMENTS.

LIGHT CODE	COLOR	APN	TYPE	WATTS	MULTIVOLT	INITIAL LUMENS	PHOTOMETRIC CURVE
CL60		00128329		45	120/208/240/277 DRIVER	4,100	454669
CL61		00128330		60	120/208/240/277 DRIVER	5,100	454659
CL62	GRAY	00128331	LED	95	120/208/240/277 DRIVER	8,200	454677
CL63		00128332		113	120/208/240/277 DRIVER	10,000	454688
CL64		00128364		257	120/208/240/277 DRIVER	19,200	454942

POLE TYPE	POLE CODE	POLE LENGTH	BURY DEPTH	POLE ABOVE GROUND	POLE BUTT DIAMETER			LUMINAIRE HEIGHT ABOVE GROUND ON ARM		
					STEP	TAPER	WEIGHT	20' X 8"	3' X 8"	8' X 8"
LOCAL	1944.30	30'-0"	8'-0"	25'-0"	5-8/16"	7-5/16"	460	25'-11"	27'-3"	-
COLLECTOR	1944.38	38'-0"	8'-0"	32'-0"	6-5/8"	9-3/4"	640	32'-11"	34'-3"	39'-3"
ARTERIAL	1944.38X	38'-0"	8'-0"	32'-0"	6-5/8"	9-3/4"	640	32'-11"	34'-3"	39'-3"

\*\*HANDHOLE HEIGHT MAY VARY, NOT TO BE LESS THAN 42"

24" MIN. TO TOP OF CONDUIT

6'-6"

31'-6"

1 1/2"

3"

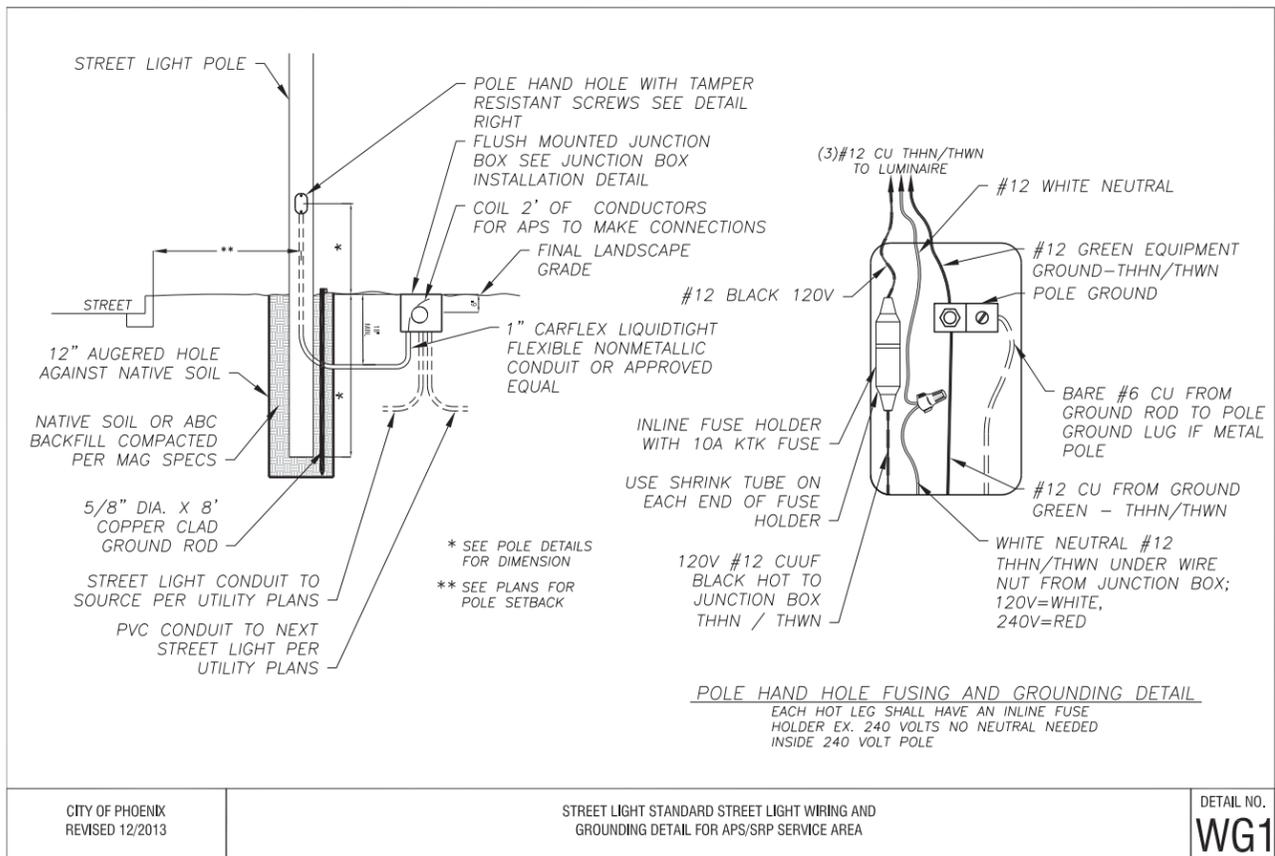
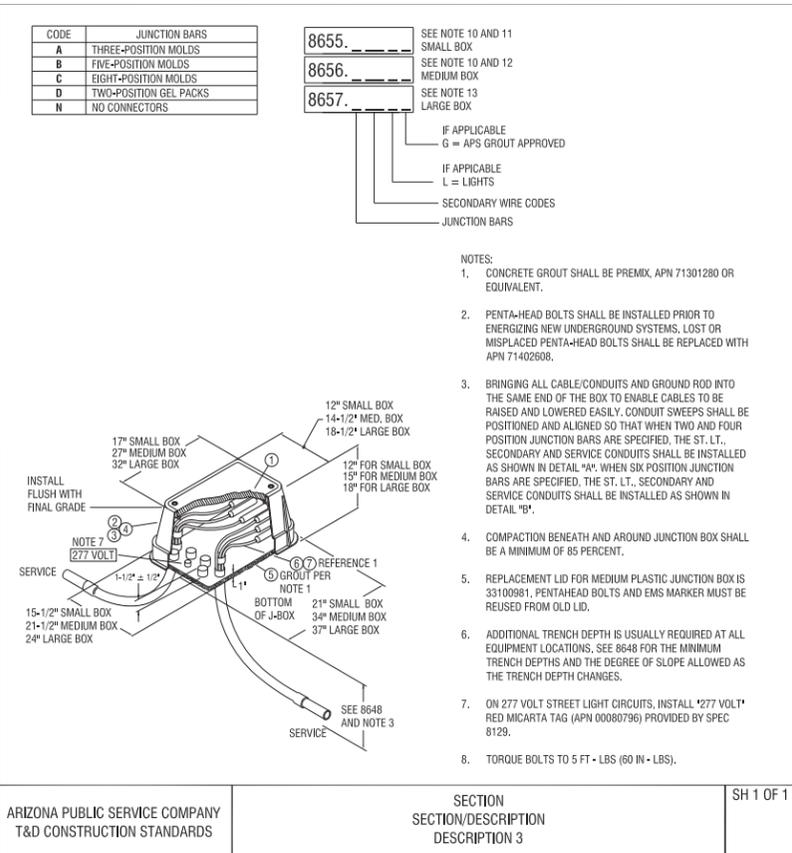
2"

2'-0" or 4'-0"

38'-0"

**LIGHTS**  
ROADWAY LUMINAIRE ON  
20"X6", 3"X8" OR 8"X8" MAST ARMS ON  
19'-0", 30'-0", 38'-0" OR 40'-0" STEEL POLES

8040



**STREETLIGHT NOTES**

- INSTALL ONE 70 W LED (6,634 LUMEN) CLEAR WHITE FIXTURE WITH PHOTOELECTRIC CONTROL ON A 38'-0" POLE PER STD 8040 (POLE CODE 1944.38) WITH A 2' MAST ARM PER APS STD. GROUNDING PER APS STANDARDS AND SPECIFICATIONS. INSTALL (2) #14 THHN/THWN FROM LUMINAIRE TO FUSE HOLDER IN POLE. INSTALL APS PULL BOX ADJACENT TO POLE WITH 1" FLEX CONDUIT TO POLE PER APS SPECIFICATIONS AND REQUIREMENTS. ALL WIRING, FUSING, AND GROUNDING PER APS DETAILS AND SPECIFICATIONS.
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**20 YEAR PHOTOCELL REQUIREMENTS**

MODEL NO. DLL 127F UL 1.5 JU

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**STREET LIGHT DETAIL SHEET**

**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18TH PLACE TO 22ND DSTREET

PROJECT #:	ST85110072	FILE NO.:	-
DR: IAM	DES: EDL	CK: MAL	SHEET NO.:
DATE: 08/17	DATE: 08/17	DATE: 08/17	TOTAL SHEETS:
SCALE: NTS	OS. #:	-	31

DR: IAM DES: EDL CK: MAL DATE: 08/17

OS. #: -

31

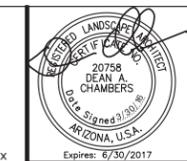
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STREET LIGHT LAYOUT: RIVERVIEW DRIVE

PROJECT #: ST85110072

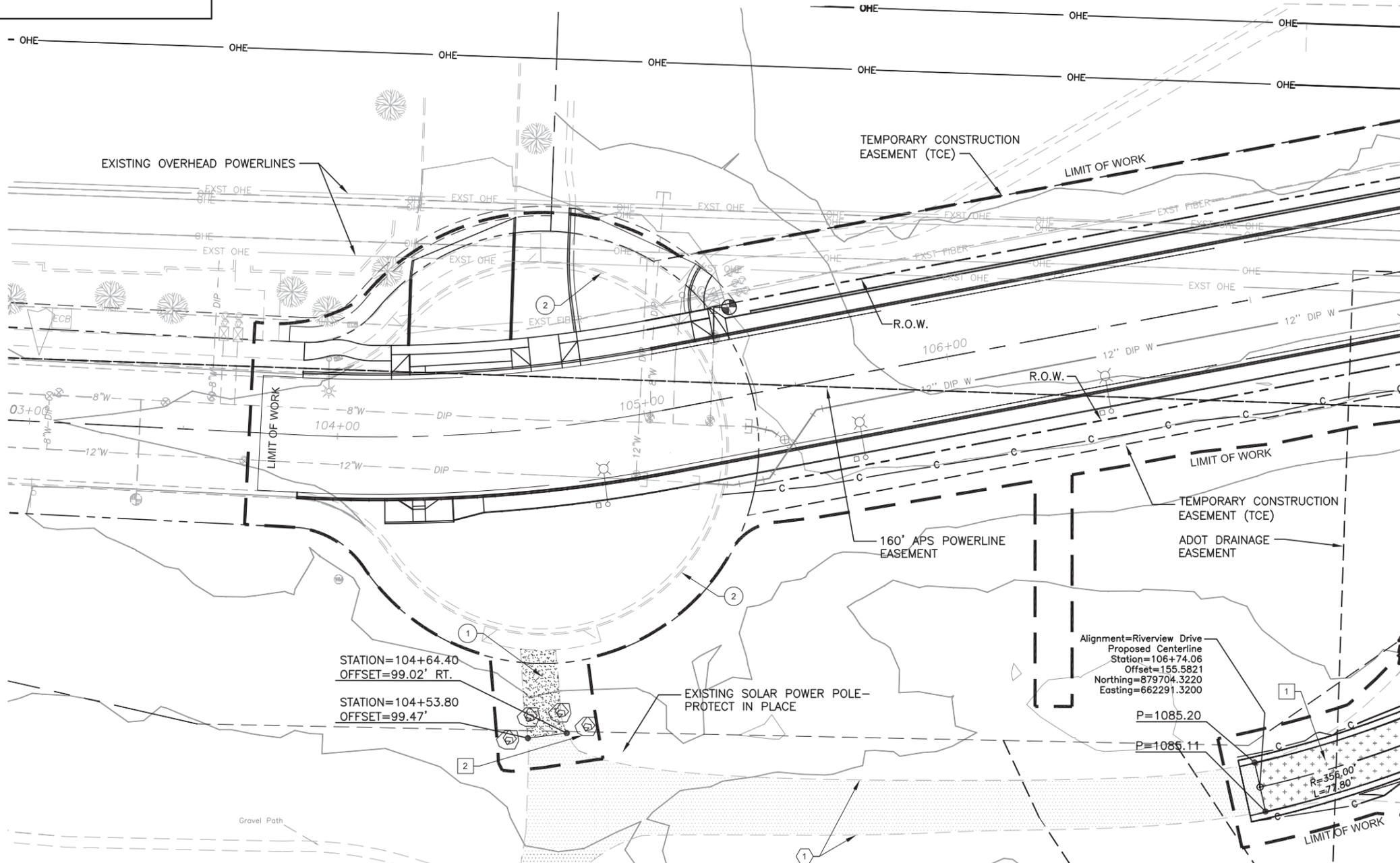
FILE #:

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	32	96	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:		DRAWN:		CHECKED:	

REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
NO.				



MATCH LINE STA 107+50 - SEE SHEET HS-1.2

**HARDSCAPE CONSTRUCTION NOTES:**

- PROTECT IN PLACE**
- EXISTING ASPHALT MAINTENANCE ROAD/ TRAIL- PROTECT IN PLACE
  - EXISTING SAFETY ACCESS CONTROL DEVICE TO TERRACE RAMP- PROTECT IN PLACE
  - EXISTING TRAIL SEATING NODE WITH CONCRETE SEATWEALL & STABILIZED DECOMPOSED GRANITE- PROTECT IN PLACE
  - EXISTING TRANSMISSION LINE TOWER- PROTECT IN PLACE

- REMOVALS**
- SAWCUT AND REMOVE EXISTING ASPHALT MAINTENANCE ROAD/ TRAIL (NPI)
  - EXISTING CURB TO BE REMOVED PER CIVIL PANS. RE-USE CONCRETE CURB AS SALVAGED CONCRETE HEADER PER DTL '5'; SHT SD-1.1.

- CONSTRUCTION**
- 16' WIDE ASPHALT MAINTENANCE ROAD/ TRAIL PER DTL '1'; SHT SD-1.1.
  - RELOCATE (4) EXISTING BOULDERS FROM THE EXISTING PATHWAY DEAD END TO NEW LOCATION
  - 6' HIGH ARCHITECTURAL 'WAVE' FENCE PER DTL '3'; SHT SD-1.1.
  - STABILIZED DECOMPOSED GRANITE PATH PER DTL '4'; SHT SD-1.1.
  - SALVAGED CONCRETE HEADER PER DTL '5'; SHT SD-1.1.
  - BOX CULVERT HEAD WALL- SEE BRIDGE AESTHETIC PLANS & SHT SD-2.1 & SD-2.2.
  - ARCHITECTURAL GABION BASKET PLANTER PER DTL '1', SHT SD-1.2
  - ARCHITECTURAL GABION BASKET WALL PER DTL '1', SHT SD-1.3

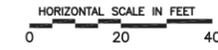
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OFFSET=99.02' RT.

STATION=104+53.80  
OFFSET=99.47'

Alignment=Riverview Drive  
Proposed Centerline  
Station=106+74.06  
Offset=155.5821  
Northing=879704.3220  
Easting=662291.3200

**HARDSCAPE MATERIAL SCHEDULE**

SYMBOL	MATERIAL	SIZE / REMARKS	QNT. (ALL SHEETS)
	New Asphalt Maintenance Road/ Trail	3" D <sub>2</sub> Asphalt Pavement 4" Aggregate Base Course Road/ Trail Excavation	112 Tons 124 Tons 275 CU. YD.
	New Temporary Asphalt Maintenance Road/ Trail	See Paving Plan Sheet 8	
	Existing Asphalt Maintenance Road/ Trail	Saw-cut and Remove Existing Maintenance Road/ Trail (NPI)	37 SQ. YD.
	New Stabilized Decomposed Granite (3" Thick)	1/4" Minus 'Apache Brown' to Match Rio Salado Stabilized D.G. Paths	481 SQ. FT.
	Salvaged Concrete Header	6"X6"; Salvaged from Existing Cul-de-Sac Concrete Curb that is to be Removed	197 LN. FT.
	Architectural 'Wave Fence'	Full Height Fence - 6'-0" High Half Height Fence - 3'-2" Picket Height	114 LN. FT. 38 LN. FT.
	Architectural Gabion	River Run Rock Fill	18 SQ. YD. (SQ. YD. measured in plan view, this equals 18 CU. YD based on 2' wide x 3' deep baskets, see plans and details for baskets size. Contractor to verify total quantities.



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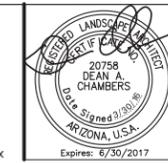
**HARDSCAPE PLAN**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18th PL TO 22nd ST.  
ST85110072

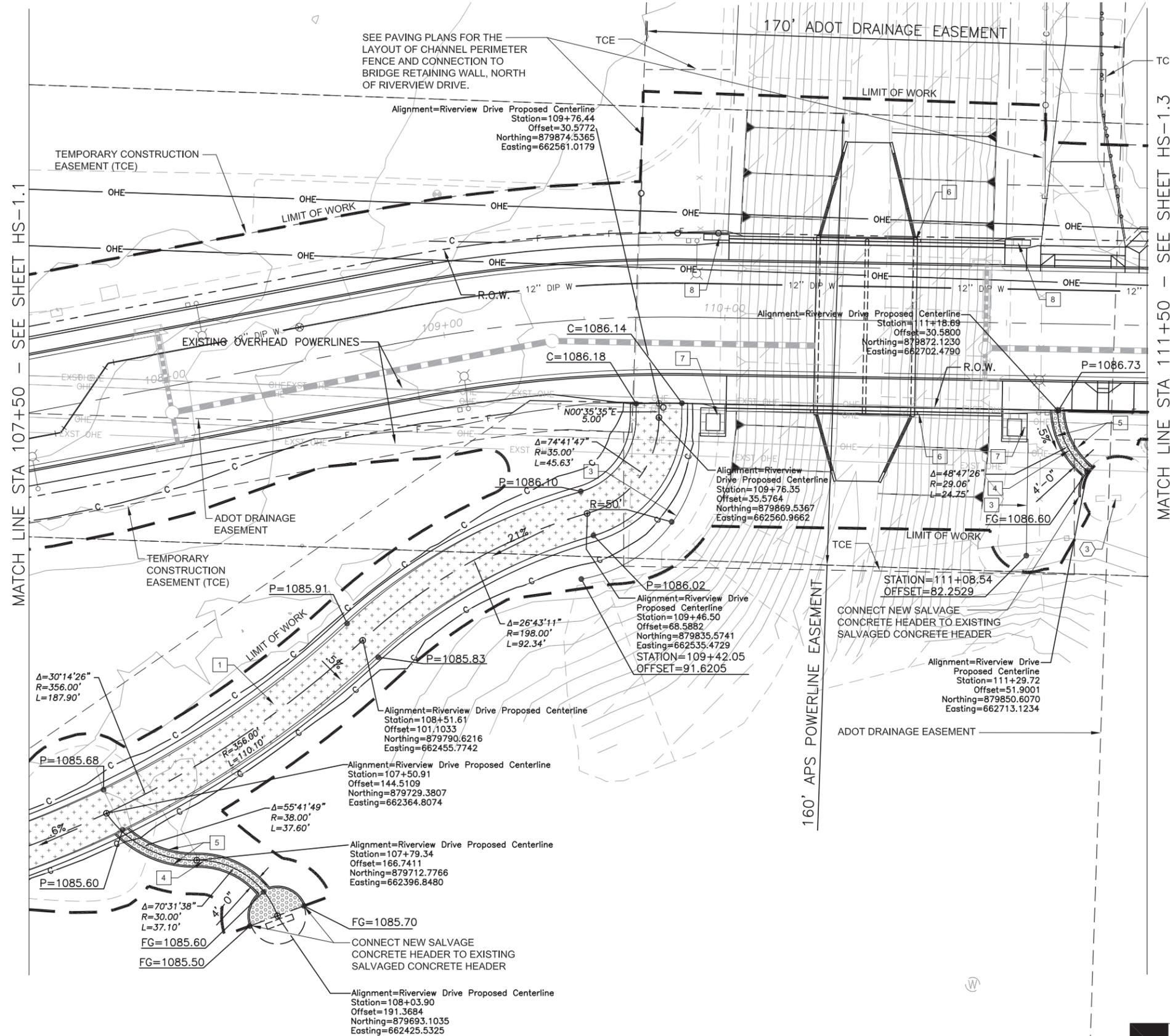
**J2** engineering and environmental design  
4649 east cotton gin loop, suite B2  
phoenix, arizona 85040  
phone: 602.438.2221  
www.j2design.us

DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS	AS BUILT
HS-1.1	SCALE: 1" = 20'	DATE: 03/16	DATE: 03/16	DATE: 03/16	32	96

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	33	96	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:		DRAWN:		CHECKED:	



**HARDSCAPE CONSTRUCTION NOTES:**

**PROTECT IN PLACE**

- 1 EXISTING ASPHALT MAINTENANCE ROAD/ TRAIL- PROTECT IN PLACE
- 2 EXISTING SAFETY ACCESS CONTROL DEVICE TO TERRACE RAMP- PROTECT IN PLACE
- 3 EXISTING TRAIL SEATING NODE WITH CONCRETE SEATWALL & STABILIZED DECOMPOSED GRANITE- PROTECT IN PLACE
- 4 EXISTING TRANSMISSION LINE TOWER- PROTECT IN PLACE

**REMOVALS**

- 1 SAWCUT AND REMOVE EXISTING ASPHALT MAINTENANCE ROAD/ TRAIL (NPI)
- 2 EXISTING CURB TO BE REMOVED PER CIVIL PANS. RE-USE CONCRETE CURB AS SALVAGED CONCRETE HEADER PER DTL '5'; SHT SD-1.1.

**CONSTRUCTION**

- 1 16' WIDE ASPHALT MAINTENANCE ROAD/ TRAIL PER DTL '1'; SHT SD-1.1.
- 2 RELOCATE (4) EXISTING BOULDERS FROM THE EXISTING PATHWAY DEAD END TO NEW LOCATION
- 3 6' HIGH ARCHITECTURAL 'WAVE' FENCE PER DTL '3'; SHT SD-1.1.
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- 6 BOX CULVERT PARAPET WALL & HEAD WALL- SEE BRIDGE AESTHETIC PLANS & SHT SD-2.1 & SD-2.2.
- 7 ARCHITECTURAL GABION BASKET PLANTER PER DTL '1', SHT SD-1.2
- 8 ARCHITECTURAL GABION BASKET WALL PER DTL '1', SHT SD-1.3



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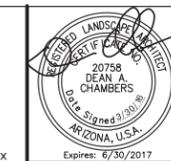
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CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18th PL TO 22nd ST.  
ST85110072

**J2** engineering and environmental design  
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DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS	AS BUILT
HS-1.2	SCALE: 1" = 20'	DATE: 03/16	DATE: 03/16	DATE: 03/16	33	96

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

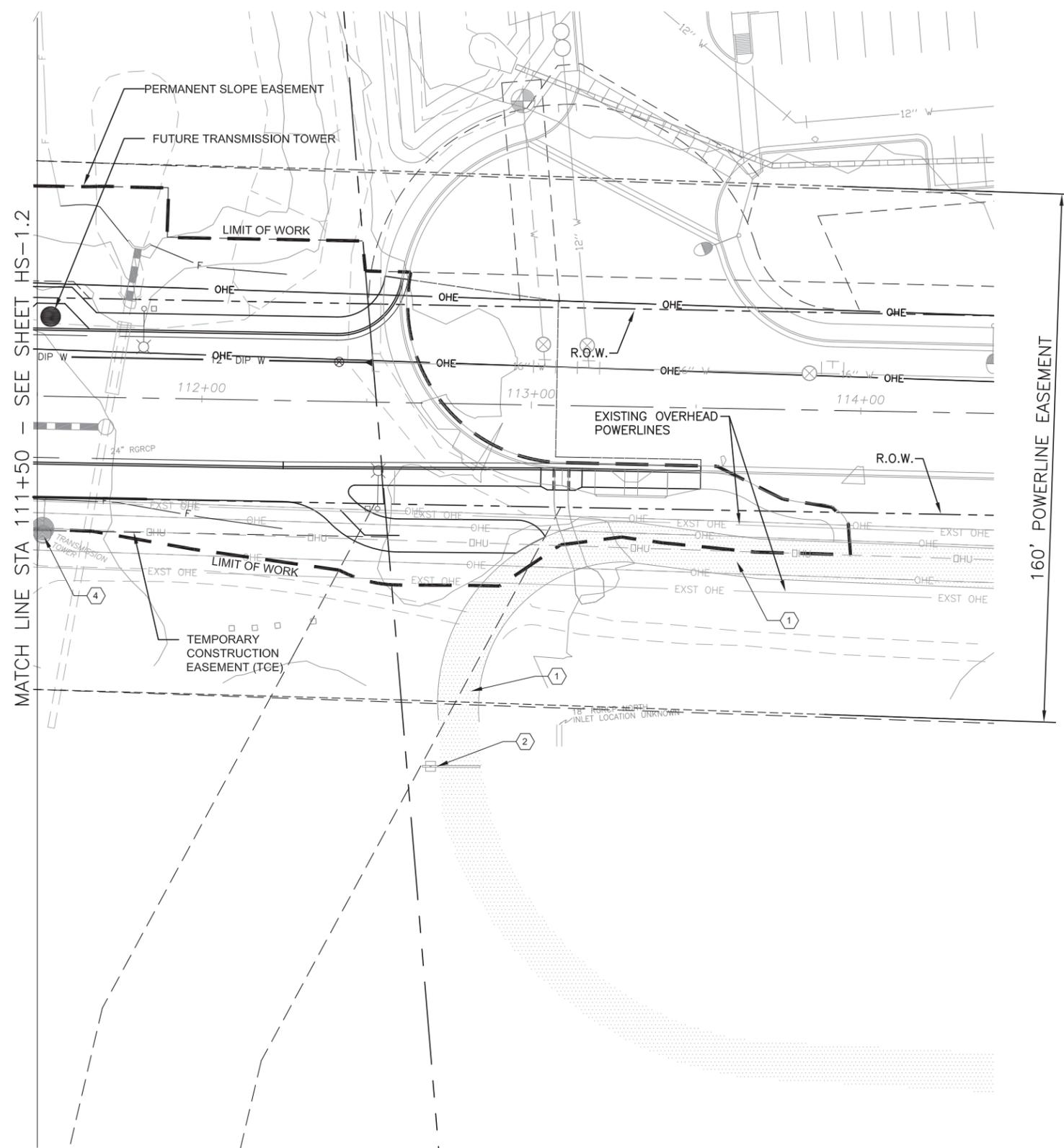


FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



**HARDSCAPE CONSTRUCTION NOTES:**

**PROTECT IN PLACE**

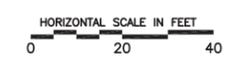
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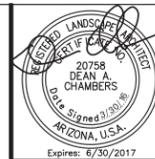
**HARDSCAPE PLAN**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
 18th PL TO 22nd ST.  
 ST85110072

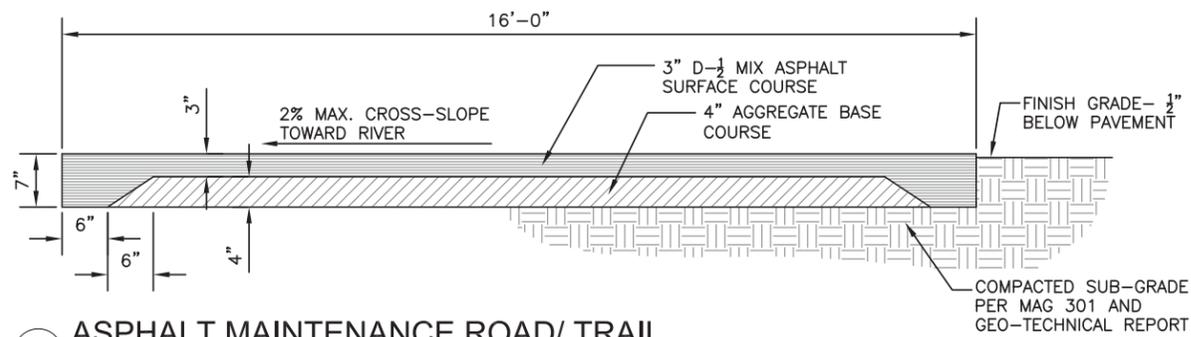
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HS-1.3	DATE: 03/16	DATE: 03/16	DATE: 03/16	34	96	
SCALE: 1" = 20'						

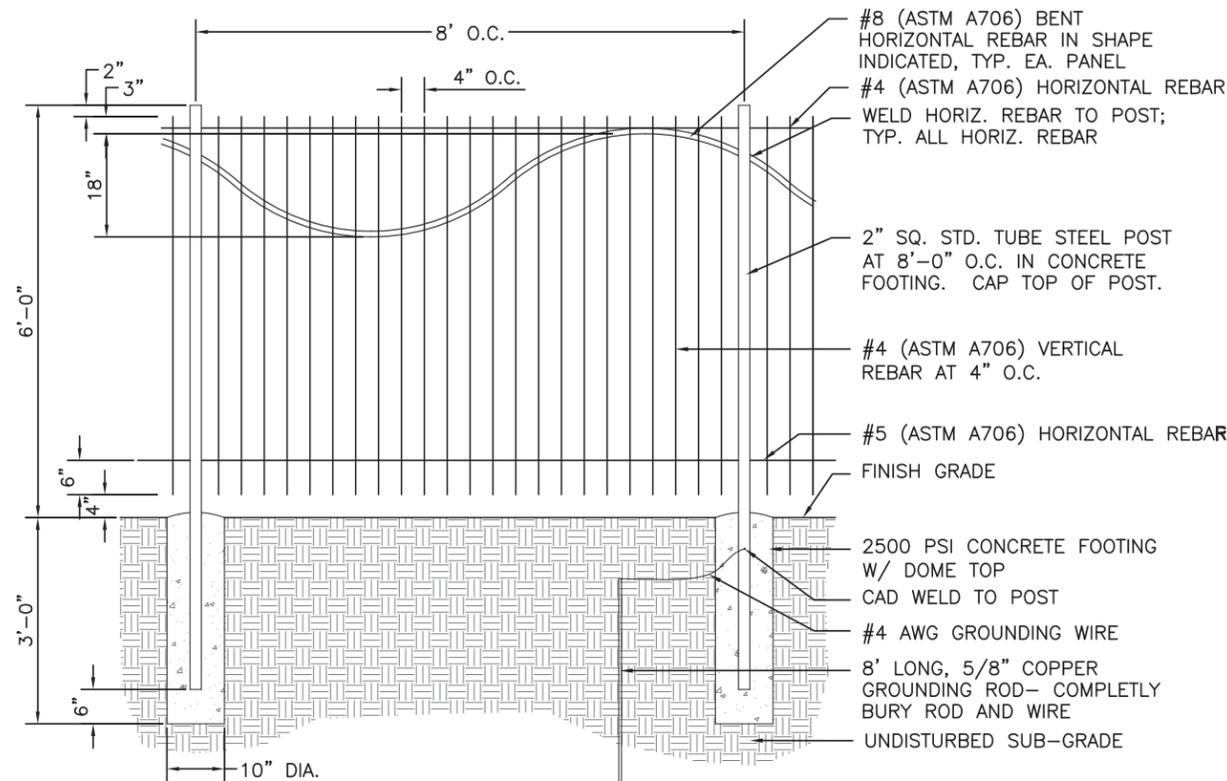
RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



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9	ARIZ.	ST85110072	35	96	
DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

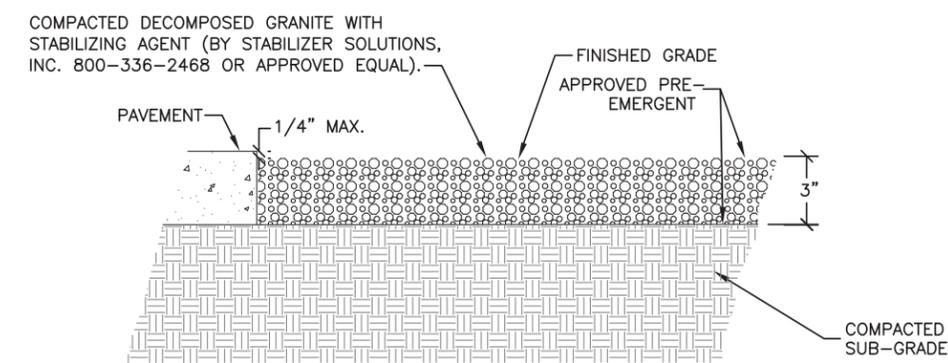


**1 ASPHALT MAINTENANCE ROAD/ TRAIL**  
SCALE: 3/4"=1'-0"



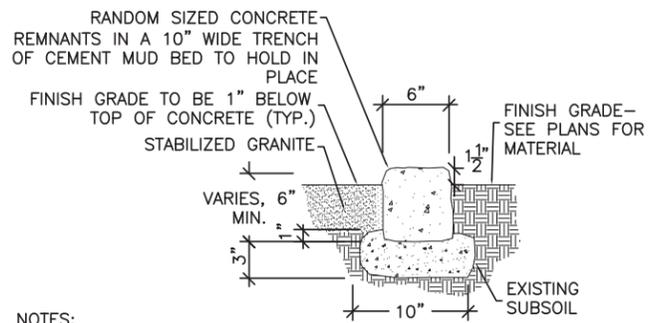
**3 ARCHITECTURAL FENCE DETAIL**  
SCALE: 3/4"=1'-0"

**2 DETAIL NOT USED**  
SCALE: N.T.S.



- NOTES:**
1. SIZE OF DECOMPOSED GRANITE TO BE 1/4"-MINUS. COLOR TO BE 'APACHE BROWN', SUPPLIED BY GRANITE EXPRESS, OR APPROVED EQUAL. PRE-EMERGENT SHALL BE APPLIED TO FINISH GRADE BEFORE INSTALLATION OF DECOMPOSED GRANITE.
  2. STABILIZER AND GRANITE SHALL BE PRE-MIXED PRIOR TO INSTALLATION. MIX RATE: 12-16 LBS OF STABILIZER PER 1 TON OF DG).
  3. FINAL APPLICATION OF PRE-EMERGENT SHALL BE APPLIED TO FINISH GRADE AFTER INSTALLATION OF DECOMPOSED GRANITE IS RAKED SMOOTH AND UNIFORM.
  4. WHERE TRAIL MEETS EXISTING OR NEW CONCRETE SURFACES, THE VERTICAL DISTANCE BETWEEN THE TWO SURFACES SHALL BE NO GREATER THAN 1/4".

**4 STABILIZED GRANITE**  
SCALE: 3"=1'-0"



- NOTES:**
1. CONCRETE LENGTHS VARY BETWEEN 12" (MIN.) AND 24" (MAX.).
  2. MAXIMUM SPACE BETWEEN CONCRETE REMNANTS TO BE 1/2"
  3. CONTRACTOR TO RE-USE EXISTING CUL-DE-SAC CONCRETE CURB THAT IS BEING REMOVED AS A PART OF THIS PROJECT.

**5 SALVAGED CONCRETE HEADER**  
SCALE: 3/4"=1'-0"



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**Stanley Consultants INC.**  
1661 East Camelback Road Suite 400  
Phoenix, Arizona 85016  
(602) 333-2200  
www.stanleygroup.com

**SITE DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
ST85110072

**J2** engineering and environmental design  
4649 east cotton gin loop, suite B2  
phoenix, arizona 85040  
phone: 602.438.2221  
www.j2design.us

DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS:	AS BUILT:
SD-1.1	SCALE: 1" = 20'	DATE: 03/16	DATE: 03/16	DATE: 03/16	35	96



RIVERVIEW DRIVE  
 PHOENIX STREET – MARICOPA CO.  
 18TH PLACE – 22ND STREET



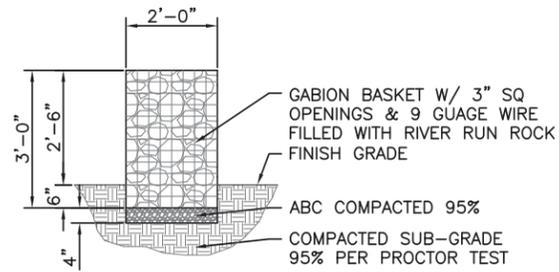
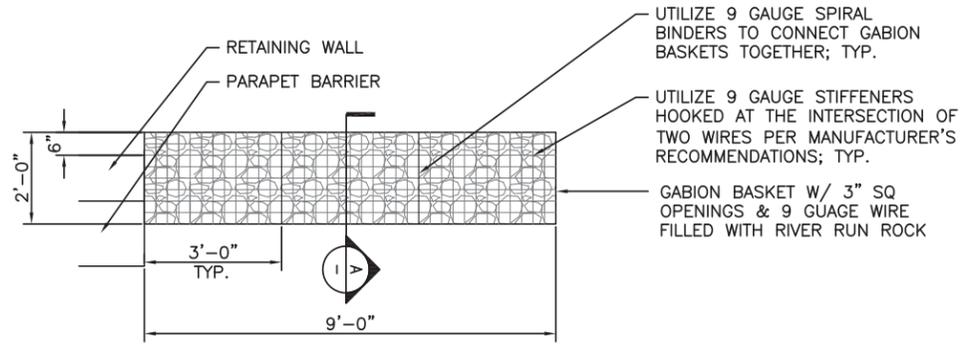
FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	37	96	
DATE: 03/16		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:		DRAWN:		CHECKED:	

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

DRAINAGE CHANNEL



PLAN VIEW RIVERVIEW DRIVE

**1 GABION WALL DETAIL**  
 SCALE: 1/2" = 1'-0"



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**SITE DETAILS**

CITY OF PHOENIX, ARIZONA  
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RIVERVIEW DRIVE  
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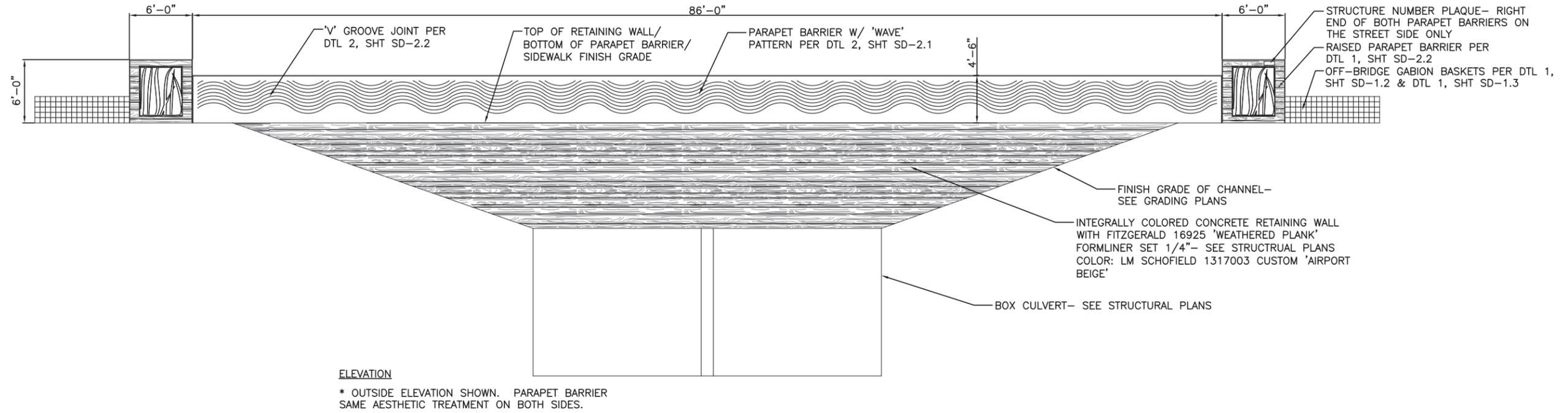
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DWG NO.	DR: SP	DES: DC/SP	CK: DC	SHEET NO.	TOTAL SHEETS	AS BUILT
SD-1.3	DATE: 03/16	DATE: 03/16	DATE: 03/16	37	96	
SCALE: 1" = 20'						

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

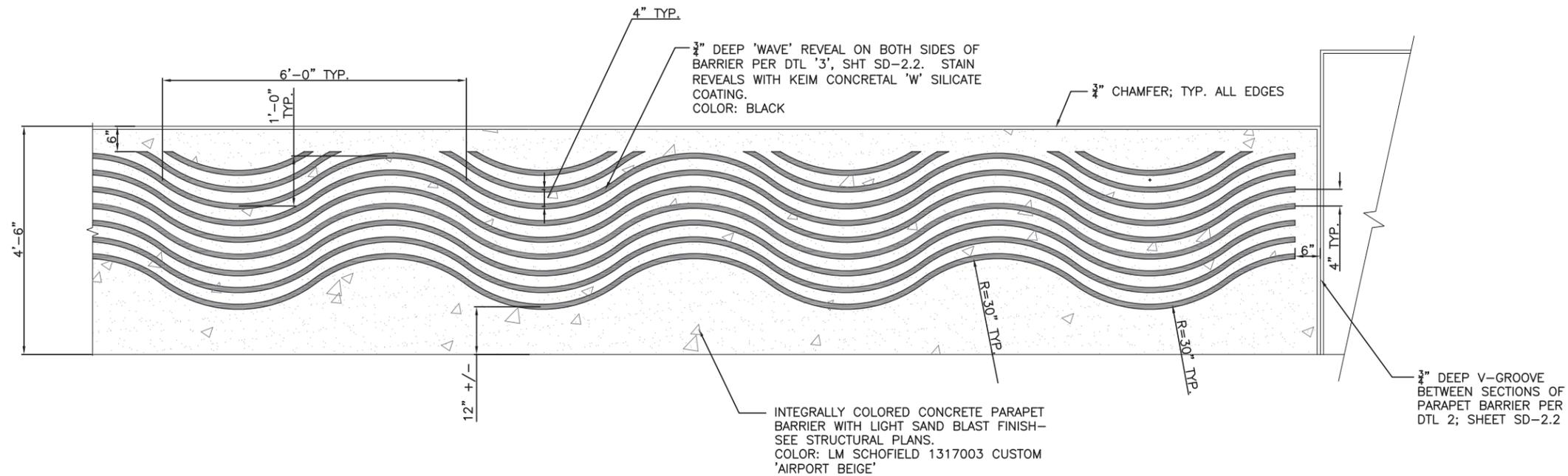


FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	38	96	
DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			



**ELEVATION**  
\* OUTSIDE ELEVATION SHOWN. PARAPET BARRIER SAME AESTHETIC TREATMENT ON BOTH SIDES.

1 RETAINING WALL & PARAPET BARRIER ELEVATION



**NOTE:**  
COST OF FORMLINERS, REVEAL STRIPS, SILICATE STAIN, INTEGRAL COLORED CONCRETE, CONCRETE FINISHING, AND OTHER ITEMS RELATED TO WALL RUSTICATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE RETAINING WALLS & PARAPET BARRIERS.



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

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**WALL RUSTICATION DETAILS**

CITY OF PHOENIX, ARIZONA  
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RIVERVIEW DRIVE  
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2 4'-6" HIGH PARAPET BARRIER ELEVATION

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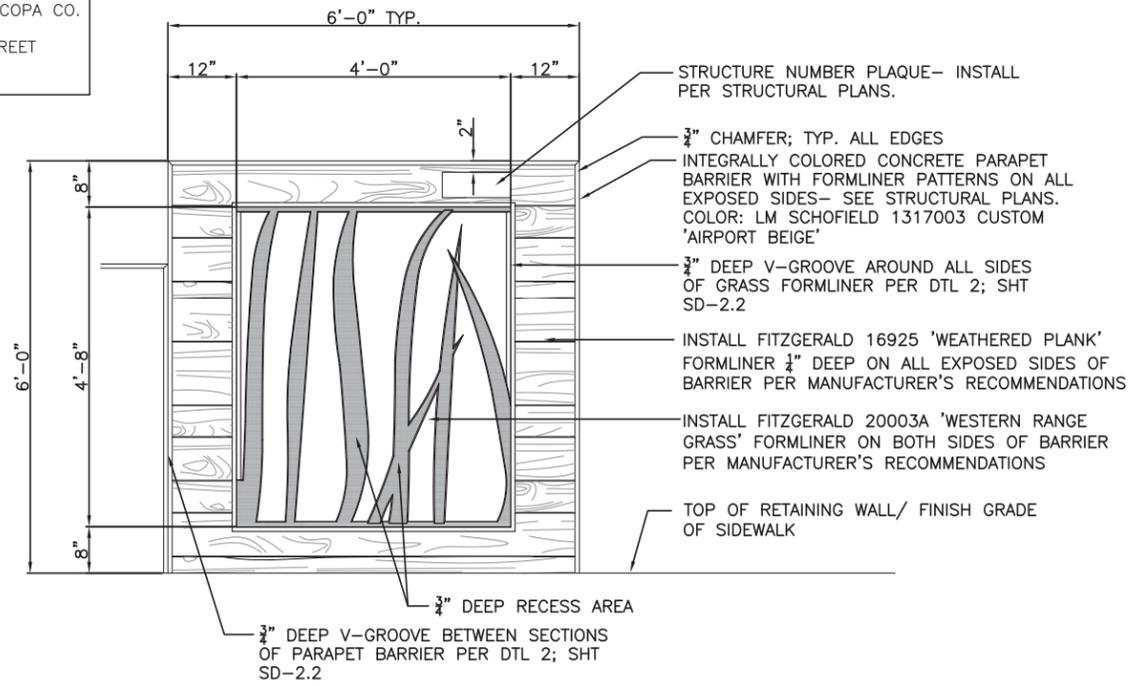
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SD-2.1	DATE: 03/16	DATE: 03/16	DATE: 03/16	38	96	
SCALE: 1" = 20'						

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

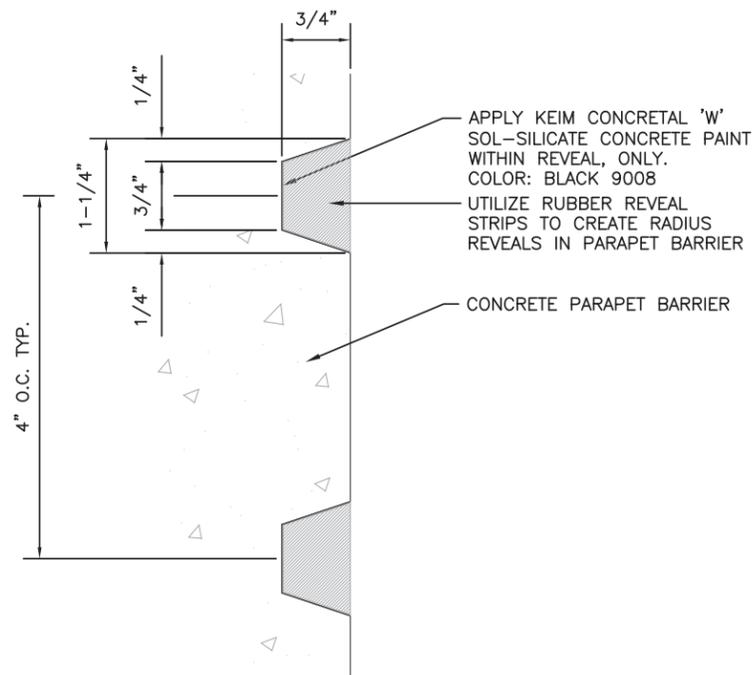
NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



① 6'-0" HIGH PARAPET BARRIER ELEVATION

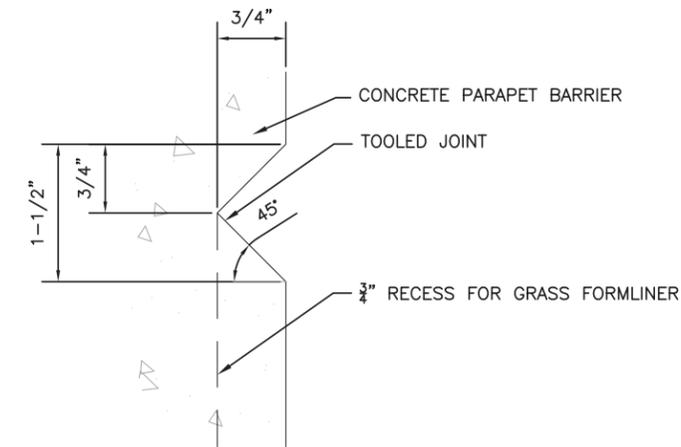


③ WAVE REVEAL DETAIL



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	39	96	

DATE: 03/16  
DESIGN:      DRAWN:      CHECKED:      STANLEY CONSULTANTS INC. CONSULTING ENGINEER



② V-GROOVE DETAIL

NOTE:  
COST OF FORMLINERS, REVEAL STRIPS, SILICATE STAIN, INTEGRAL COLORED CONCRETE, CONCRETE FINISHING, AND OTHER ITEMS RELATED TO WALL RUSTICATION SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE RETAINING WALLS & PARAPET BARRIERS.



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DWG NO.	DR:	SP:	DES:	DC/SP:	CK:	DC:	SHEET NO.	TOTAL SHEETS	AS BUILT
SD-2.2							39	96	

RIVERVIEW DRIVE  
PHOENIX STREET – MARICOPA CO.  
18TH PLACE – 22ND STREET

**LANDSCAPE NOTES**

1. FINAL BUILDING PERMIT CANNOT BE OBTAINED UNTIL BONDING OR APPROVED ASSURANCES IS PROVIDED FOR THE LANDSCAPING WITHIN THE RIGHT-OF-WAY.
2. NO PLANT SUBSTITUTIONS, TYPE, OR QUANTITY DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS WITHOUT PRIOR APPROVAL FROM THE CITY OF PHOENIX AT 602-262-6653.
3. ALL PLANT MATERIAL SPECIFICATIONS TO CONFORM TO THE ARIZONA NURSERYMAN ASSOCIATION STANDARDS.
4. ALL RIGHT-OF-WAY PLANT MATERIAL TO BE IN COMPLIANCE WITH THE DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
5. VERIFY OWNERSHIP OF ANY PLANT MATERIAL OR IRRIGATION LOCATED IN PUBLIC RIGHT-OF-WAY. OBTAIN PERMISSION FROM PARKS & RECREATION DEPARTMENT (PRD), IN WRITING, PRIOR TO REMOVAL OF ANY CITY PLANT MATERIAL OR EQUIPMENT. CONTACT 602-262-6862.
6. ALL EXISTING TREES AND SHRUBS IN RIGHT-OF-WAY DESIGNATED TO REMAIN BUT ARE DAMAGED OR DESTROYED WILL BE REPLACED IN LIKE SIZE AND KIND BY THE CONTRACTOR, CONTACT THE PARKS & RECREATION DEPARTMENT PRIOR TO ANY RIGHT-OF-WAY PLANT RELOCATIONS AT 602-262-6862.
7. EXISTING CITY OF PHOENIX IRRIGATION SHALL BE MODIFIED IN RIGHT-OF-WAY AND CONNECTED TO THE NEW SYSTEM. MAINTAIN ANY THROUGH IRRIGATION REQUIREMENTS. CONTRACTOR TO CAP OFF OR ABANDON EXISTING IRRIGATION TO PLANT MATERIAL AND PROVIDE NEW IRRIGATION FROM PROJECT TO EXISTING RIGHT-OF-WAY LANDSCAPING.
8. ALL ON-SITE ACCESSIBLE SIDEWALKS SHALL BE A MINIMUM OF 3 FEET 0 INCHES WIDE AND HAVE A MAXIMUM SLOPE OF 1:20 WITH THE MAXIMUM CROSS SLOPE OF 1:50. ALL CURBS MUST PROVIDE ACCESSIBLE RAMPS PURSUANTE TO THE AMERICANS WITH DISABILITIES ACT (ADA) STANDARDS.
9. WALLS ARE NOT APPROVED AS PART OF THE LANDSCAPE PLAN BUT ARE SHOWN FOR REFERENCE ONLY.
10. ALL RIGHT-OF-WAY PLANT MATERIAL TO BE IN COMPLIANCE WITH THE DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
11. IRRIGATION BACKFLOW PREVENTERS SHALL HAVE A PLUMBING PERMIT AND PRESSURE DIFFERENTIAL TEST APPROVAL BEFORE FINAL INSPECTION.
12. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS, CODES AND REGULATIONS APPLICABLE TO THE WORK COVERED BY THESE PLANS AND SPECIFICATIONS.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COMPLYING WITH ALL PERMITS REQUIRED TO COMPLETE THE LANDSCAPE CONSTRUCTION WORK COVERED BY THESE PLANS AND SPECIFICATIONS.
14. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND/OR FACILITIES CAUSED DURING THE LANDSCAPE CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL CALL FOR BLUE STAKE 263-1100 PRIOR TO ANY EXCAVATION.
15. ALL GENERAL SITE GRADING TO WITHIN (0.10 FOOT, INCLUDING ALL BERMS, SWALES AND RETENTION AREAS WILL BE CONSTRUCTED AS PER THE GRADING AND DRAINAGE PLANS. LANDSCAPE AREAS SHALL NOT EXCEED 3 TO 1 MAXIMUM SLOPE. THE LANDSCAPE AND IRRIGATION CONTRACTOR SHALL VERIFY AND ACCEPT THESE ROUGH GRADES PRIOR TO STARTING ANY LANDSCAPE AND IRRIGATION WORK. ALL DRAINAGE FLOWS SHALL BE PROTECTED AND MAINTAINED THROUGHOUT LANDSCAPE AND IRRIGATION CONSTRUCTION.
16. ANY DISCREPANCIES FOUND BETWEEN THESE PLANS AND SPECIFICATIONS AND THE SITE SHALL BE REPORTED TO THE CITY OF PHOENIX PRIOR TO STARTING ANY LANDSCAPE AND IRRIGATION WORK.
17. LANDSCAPE IRRIGATION WATER METERS SHALL REMAIN IN THE CONTRACTOR'S NAME AND ALL LANDSCAPE WATER COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE TO THE END OF THE MAINTENANCE PERIOD AND WATER METER ACCOUNTS HAVE BEEN TRANSFERRED TO THE CITY OF PHOENIX PARKS DEPARTMENT.

18. SHOULD THE LANDSCAPE CONTRACTOR HAVE ANY QUESTIONS REGARDING THESE PLANS AND SPECIFICATIONS, OR SHOULD THERE BE ANY DISCREPANCIES, THE CONTRACTOR SHALL CONTACT THE CITY OF PHOENIX FOR CLARIFICATION BEFORE PROCEEDING FURTHER WITH ANY OTHER WORK.
19. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT THE JOB SITE TO BECOME FAMILIAR WITH ALL EXISTING CONDITIONS THAT COULD AFFECT THE INSTALLATION OF ANY WORK SET FORTH IN THESE PLANS OR CITY SPECIFICATIONS PRIOR TO SUBMITTING A BID.
20. CONTRACTOR SHALL VERIFY ROCK AND SOIL CONDITIONS WITHIN THE PROJECT SITE PRIOR TO BIDDING. NO EXTRA PAYMENT OR TIME EXTENSION WILL BE GIVEN DUE TO ROCKY SOIL CONDITIONS. CONTRACTOR IS RESPONSIBLE FOR CONDUCTING SITE INSPECTIONS AND CHECKING TESTING LOGS TO DETERMINE SUBSURFACE CONDITIONS PRIOR TO BIDDING.
21. CONTRACTOR TO VERIFY LIMITS OF DISTURBANCE THROUGHOUT THE PROJECT. BRING DISCREPANCIES IMMEDIATELY TO THE ATTENTION OF THE CITY OF PHOENIX.
22. ALL WORK TO BE CONFINED WITHIN THE EXISTING LIMITS OF DISTURBANCE.
23. THE JOB SITE AT THE COMPLETION OF THE CONSTRUCTION SHALL BE CLEANED OF ANY DEBRIS RESULTING FROM CONSTRUCTION. NO JOB WILL BE CONSIDERED COMPLETE UNTIL ALL CURBS, GUTTERS AND PAVEMENT HAVE BEEN SWEEP CLEAN OF ALL DIRT AND DEBRIS.
24. SEPARATE INSPECTIONS ARE REQUIRED FOR THE BACK FLOW PREVENTER AND RELATED ELECTRICAL CONNECTIONS.
25. ALL EQUIPMENT AND MATERIALS NOT SHOWN OR SPECIFIED ON THE PLANS OR IN CITY SPECIFICATIONS BUT WHICH ARE REQUIRED TO COMPLETE THIS INSTALLATION SHALL BE SUPPLIED BY THE CONTRACTOR AS PART OF THIS CONTRACT WORK SHALL BE CONSIDERED INCIDENTAL TO THE WORK INVOLVED.
26. THE PLANT PITS ARE TO BE INSPECTED BY CITY OF PHOENIX PRIOR TO PLANTING BY THE CONTRACTOR. THE CONTRACTOR SHALL REQUEST AN INSPECTION 48 HOURS IN ADVANCE.
27. PLANT PIT DEPTH SHALL BE MEASURED ON THE LOW SIDE OF PLANT PIT WHEN ON A SLOPE.
28. ALL PLANTS SHALL BE CENTERED IN PLANT PITS.
29. FINAL PLANT MATERIAL PLACEMENT IN THE FIELD MAY BE REQUIRED TO BE ADJUSTED WHERE TREES OCCUR DIRECTLY UNDER OR OVER EXISTING UTILITIES.
30. THE PLANT PIT SOIL MIXTURE SHALL CONSIST OF EQUAL PARTS THAT ARE THOROUGHLY MIXED PRIOR TO BACK FILLING SHALL BE IN SIX INCH (6") LIFTS. EACH LIFT SHALL BE WATER SETTLED WITHOUT PUDDLING.
31. WHERE CALICHE IS ENCOUNTERED IN PLANT PITS, THE WIDTH OF THE PIT SHALL BE INCREASED BY ONE-THIRD (1/3) OVER SPECIFICATIONS. A LIQUID PENETRATION, "ALCLEACHEY" OR APPROVED EQUAL SHALL BE INCORPORATED FOR EACH PIT PER MANUFACTURER'S RECOMMENDATIONS. NO OVER EXCAVATION SHALL OCCUR WITHOUT APPROVAL OF CITY OF PHOENIX. IF CALICHE IS DISCOVERED TO BE PREVALENT IN THE AREA, CONTRACTOR SHALL IMMEDIATELY NOTIFY CITY OF PHOENIX TO DETERMINE ACTION AND ASSOCIATED COST. CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL DIRECTED BY CITY OF PHOENIX.
32. PLANT LOCATIONS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL STAKE TREE AND SHRUB LOCATIONS FOR 5 GALLON PLANTS AND LARGER. THE LOCATIONS ARE TO BE APPROVED BY CITY PRIOR TO INSTALLATION. THE STAKES SHALL BE MARKED ACCORDING TO SPECIFICATIONS.
33. THE CONTRACTOR SHALL PROVIDE GRANITE SAMPLES TO CITY PRIOR TO INSTALLATION. MINIMUM OF 1 TON OF EACH COLOR (COVERS AN AREA APPROXIMATELY 10'X10') LEVEL SAMPLE IN AREA. SAMPLES TO BE PLACED AT EACH RESPECTIVE PARK SITE OR AT LOCATION TO BE DETERMINED BY CITY OF PHOENIX.

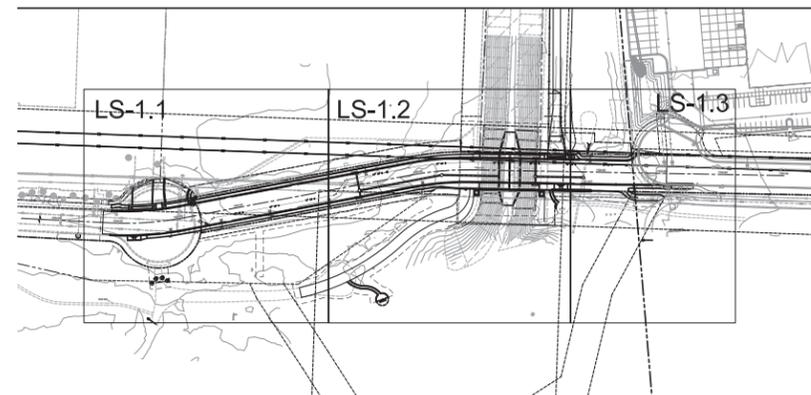


FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	40	96	
DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

**PLANT SCHEDULE:**

BOTANICAL NAME	COMMON NAME	QTYs	SIZE	REMARKS
<b>TREES:</b>				
Acacia greggii	Catclaw Acacia	8	15 Gal.	Multi-Trunk
Celtis pallida	Desert Hackberry	14	15 Gal.	Multi-Trunk
Chilopsis linearis	Desert Willow	5	24" Box	Multi-Trunk
Prosopis pubescens	Screwbean Mesquite	3	24" Box	Multi-Trunk
Prosopis juniflora	Arizona Native Mesquite	9	15 Gal.	Standard
<b>ACCENTS/SHRUBS:</b>				
Agave bovicornuta	Cow's Tongue Agave	2	15 Gal.	
Hesperaloe parviflora	Red Yucca	14	5 Gal.	
Lantana camera	Gold Mound Lantana	8	1 Gal.	'Gold Mound'
<b>SEED MIX:</b>				
	Native Lower Sonoran Mesquite			26,109 SQ. FT.
	Hydroseed Mix- See Specifications			
<b>INERT MATERIAL:</b>				
	Decomposed Granite - 2" Thick			42 CU. YD.
	Match Existing Size (per plan) & Color			
	Stabilized Decomposed Granite - 3" Thick			481 SQ. FT.
	1/4" Minus Apache Brown			
	Landscape Rip-Rap - 8" Thick			798 SQ. FT.
	4"-8" River Rock over Filter Fabric			
<b>EXISTING LANDSCAPE AREA:</b>				
	Protect Existing Landscape Area in Place. Contractor to Restore Existing Plants, Decomposed Granite, & Irrigation Damaged on Private Property by Construction at Contractor's Expense. The TCE Contains the Following Existing Shrubs:			
	(5) Gold Lantana			
	(5) Desert Spoon			
	(44) Green Cloud Sage			
	(27) Red Yucca			
	(11) Mexican Bird of Paradise			
	(6) Baja Ruellia			

**KEY MAP**



**J2** engineering and environmental design  
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**PLANTING SCH. & NOTES**

CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
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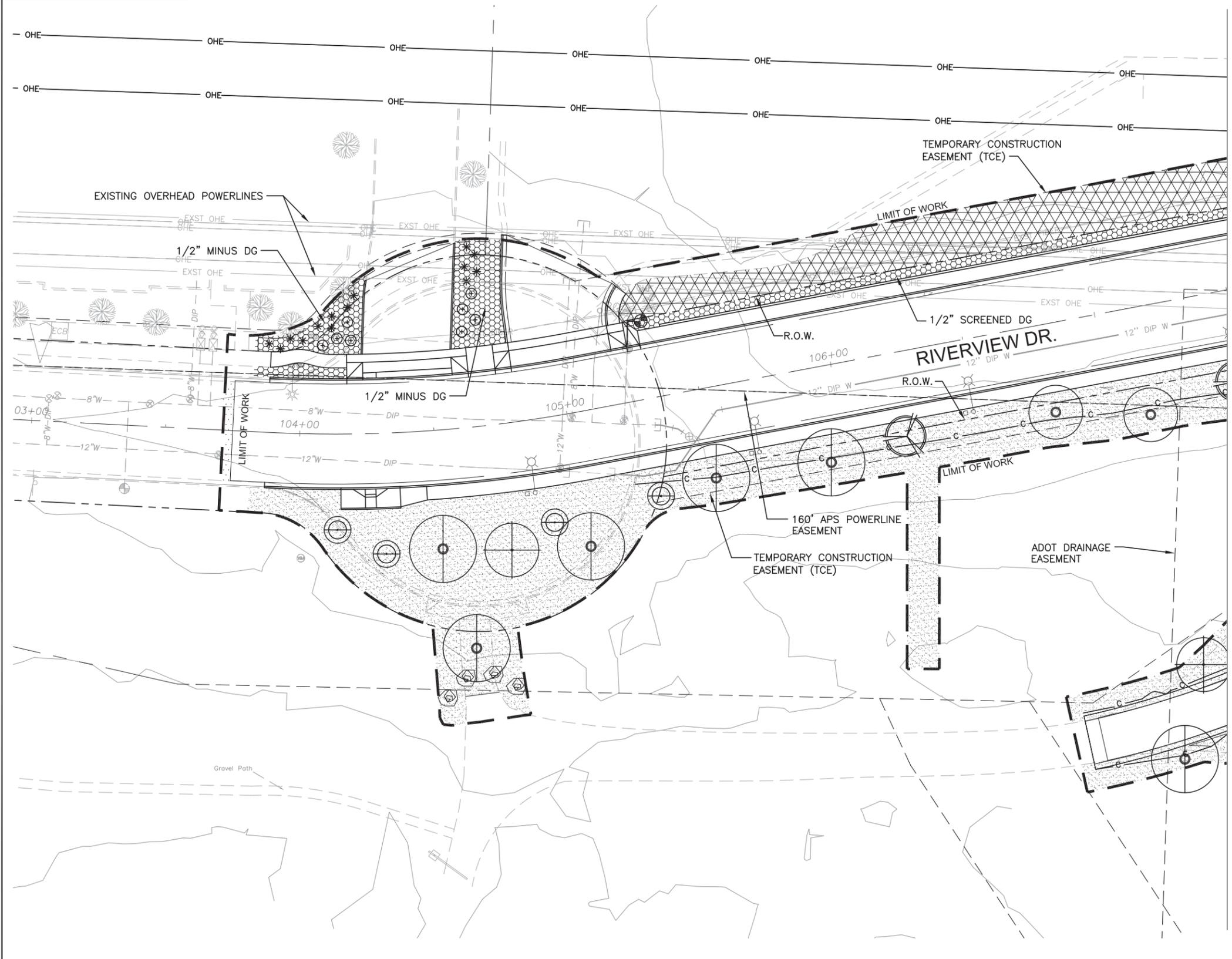
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LS-0.1	DATE: 03/16	DATE: 03/16	DATE: 03/16	40	96	
SCALE: 1" = 20'						

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	41	96	
DATE: 03/16		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
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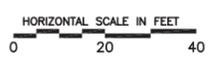
REVISION BY CITY OF PHOENIX	DESCRIPTION	NO.	REV BY	CHKD BY	DATE



MATCH LINE STA 107+50 - SEE SHEET LS-1.2

**PLANT SCHEDULE:**

BOTANICAL NAME	COMMON NAME
<b>TREES:</b>	
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Hesperaloe parviflora	Red Yucca
Lantana camera 'Gold Mound'	Gold Mound Lantana
<b>SEED MIX:</b>	
Native Lower Sonoran Mesquite	Hydroseed Mix- See Specifications
<b>INERT MATERIAL:</b>	
Decomposed Granite - 2" Thick	Match Existing Size (per plan) & Color
Stabilized Decomposed Granite - 3" Thick	1/4" Minus Apache Brown
Landscape Rip-Rap - 8" Thick	4"-8" River Rock over Filter Fabric
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**PLANTING PLAN**

**CITY OF PHOENIX, ARIZONA**  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
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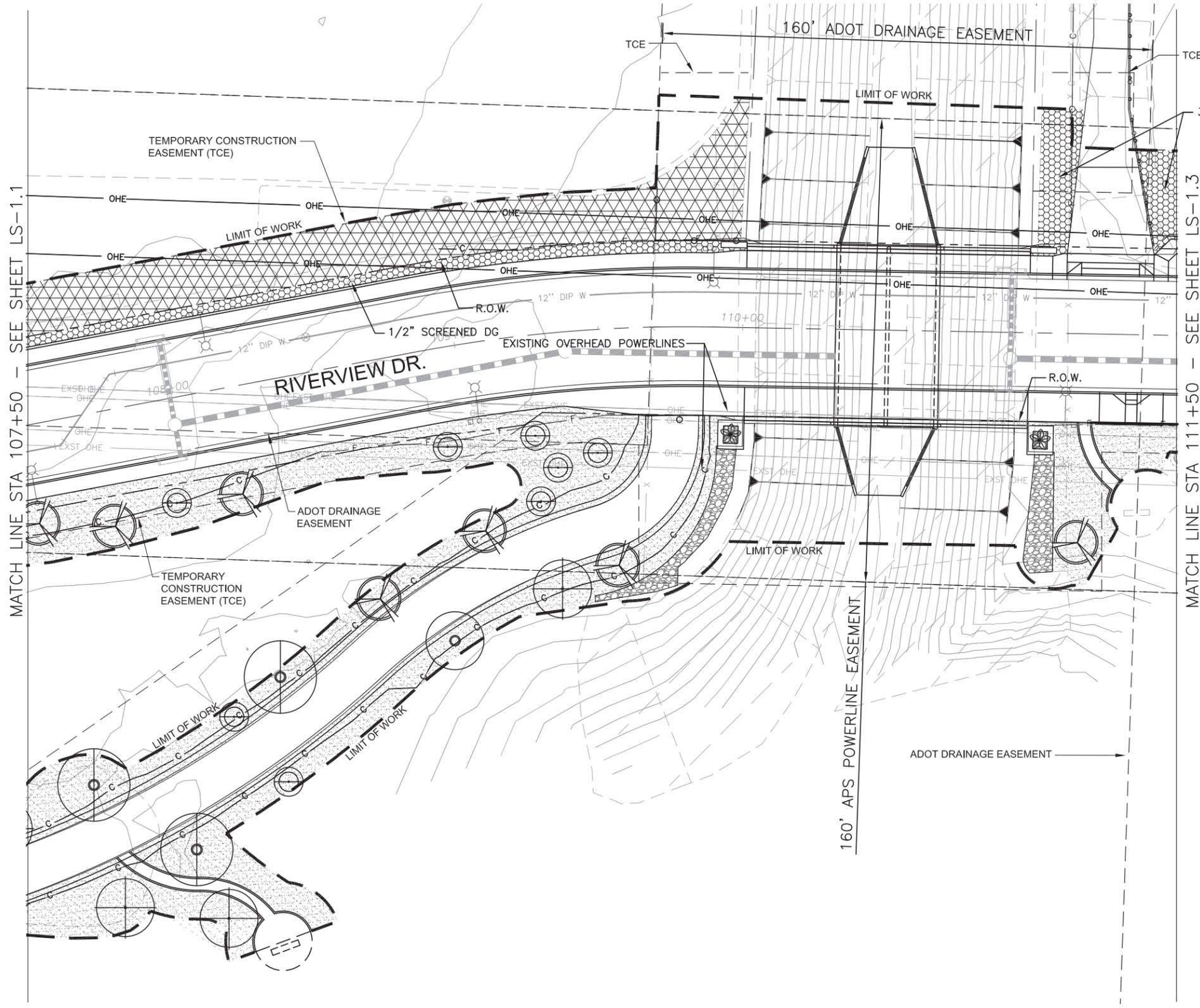
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RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



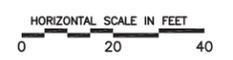
FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	42	96	
DATE			STANLEY CONSULTANTS INC.		
03/16			CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
NO.				



**PLANT SCHEDULE:**

BOTANICAL NAME	COMMON NAME
<b>TREES:</b>	
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Celtis pallida	Desert Hackberry
Chilopsis linearis	Desert Willow
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<b>ACCENTS/SHRUBS:</b>	
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Hesperaloe parviflora	Red Yucca
Lantana camera 'Gold Mound'	Gold Mound Lantana
<b>SEED MIX:</b>	
Native Lower Sonoran Mesquite	
Hydroseed Mix - See Specifications	
<b>INERT MATERIAL:</b>	
Decomposed Granite - 2" Thick	Match Existing Size (per plan) & Color
Stabilized Decomposed Granite - 3" Thick	1/4" Minus Apache Brown
Landscape Rip-Rap - 8" Thick	4"-8" River Rock over Filter Fabric
<b>EXISTING LANDSCAPE AREA:</b>	
Protect Existing Landscape Area in Place. Contractor to Restore Existing Plants, Decomposed Granite, & Irrigation Damaged on Private Property by Construction at Contractor's Expense. The TCE Contains the Following Existing Shrubs:	
	(5) Gold Lantana
	(5) Desert Spoon
	(44) Green Cloud Sage
	(27) Red Yucca
	(11) Mexican Bird of Paradise
	(6) Baja Ruellia



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

**Stanley Consultants INC.**  
 1661 East Camelback Road  
 Suite 400  
 Phoenix, Arizona 85016  
 (602) 333-2200  
 www.stanleygroup.com

**PLANTING PLAN**

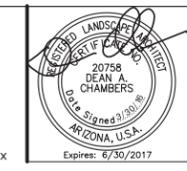
**CITY OF PHOENIX, ARIZONA**  
 STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
 18th PL TO 22nd ST.  
 ST85110072

**J2** engineering and environmental design  
 4649 east cotton gin loop, suite B2  
 phoenix, arizona 85040  
 phone: 602.438.2221  
 www.j2design.us

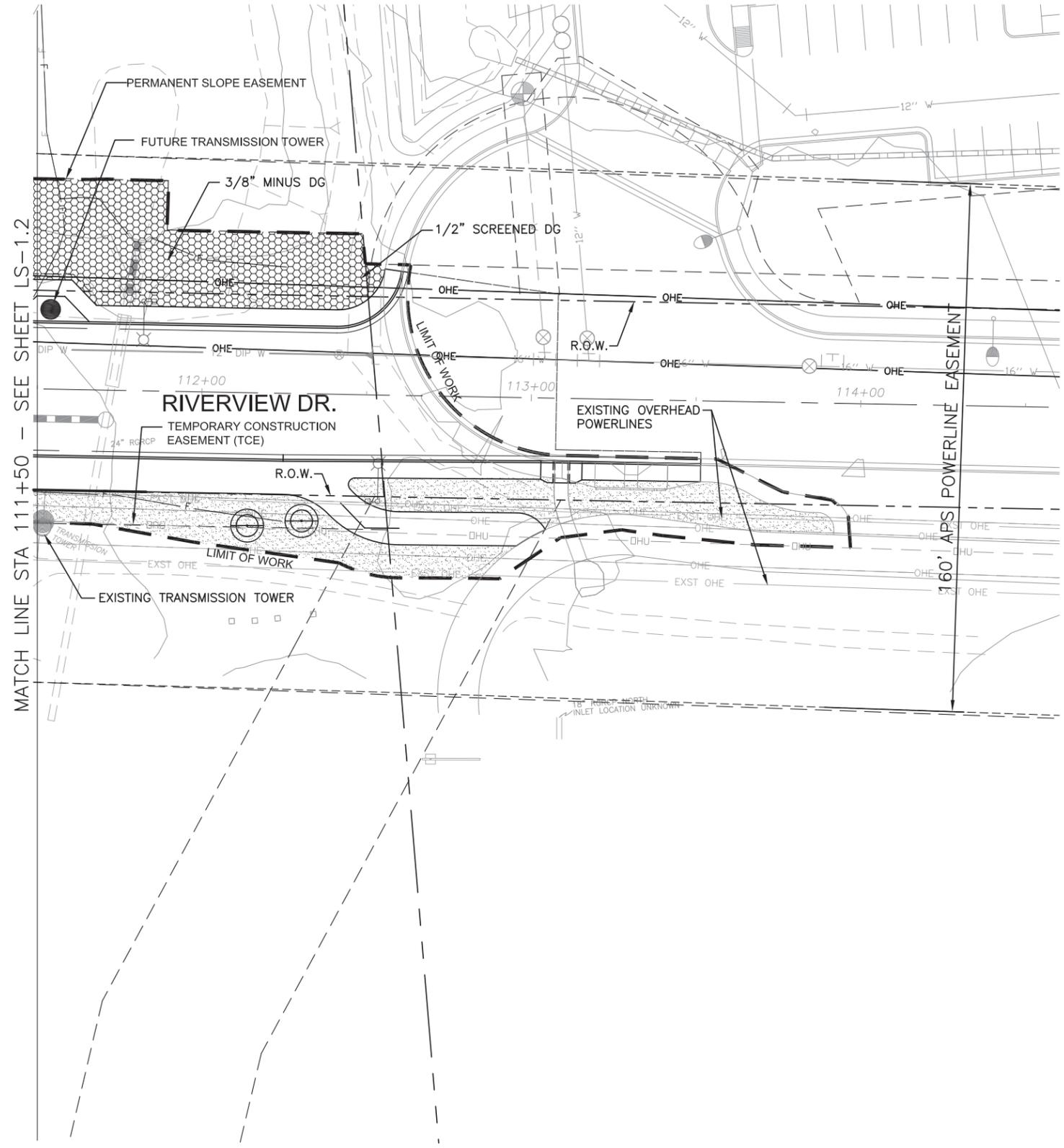
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SCALE: 1" = 20'						

RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



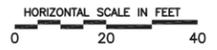
FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	43	96	
DATE			STANLEY CONSULTANTS INC.		
03/16			CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

REVISION BY CITY OF PHOENIX	NO.	DESCRIPTION	REV BY	CHK BY	DATE



**PLANT SCHEDULE:**

- | BOTANICAL NAME                  | COMMON NAME  |
|---------------------------------|--|
| <b>TREES:</b>                   |  |
| Acacia greggii                  | Catclaw Acacia   |
| Celtis pallida                  | Desert Hackberry   |
| Chilopsis linearis              | Desert Willow  |
| Prosopis pubescens              | Screwbean Mesquite   |
| Prosopis juniflora              | Arizona Native Mesquite  |
| <b>ACCENTS/SHRUBS:</b>          |  |
| Agave bovicornuta               | Cow's Tongue Agave   |
| Hesperaloe parviflora           | Red Yucca  |
| Lantana camera 'Gold Mound'     | Gold Mound Lantana   |
| <b>SEED MIX:</b>                |  |
|                                 | Native Lower Sonoran Mesquite  |
|                                 | Hydroseed Mix- See Specifications  |
| <b>INERT MATERIAL:</b>          |  |
|                                 | Decomposed Granite - 2" Thick<br>Match Existing Size (per plan) & Color  |
|                                 | Stabilized Decomposed Granite - 3" Thick<br>1/4" Minus Apache Brown  |
|                                 | Landscape Rip-Rap - 8" Thick<br>4"-8" River Rock over Filter Fabric  |
| <b>EXISTING LANDSCAPE AREA:</b> |  |
|                                 | Protect Existing Landscape Area in Place. Contractor to Restore Existing Plants, Decomposed Granite, & Irrigation Damaged on Private Property by Construction at Contractor's Expense. The TCE Contains the Following Existing Shrubs:<br>(5) Gold Lantana<br>(5) Desert Spoon<br>(44) Green Cloud Sage<br>(27) Red Yucca<br>(11) Mexican Bird of Paradise<br>(6) Baja Ruellia |



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**PLANTING PLAN**

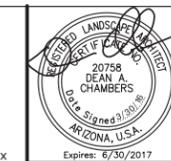
CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

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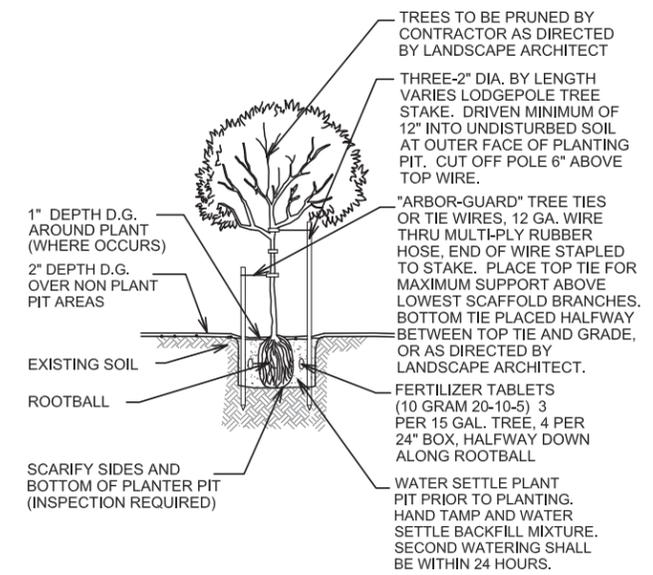
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LS-1.3	DATE: 03/16	DATE: 03/16	DATE: 03/16	43	96	
SCALE: 1" = 20'						

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

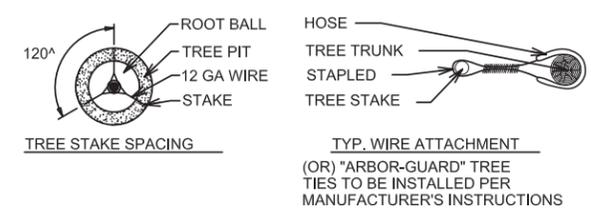


FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
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DATE: 03/16		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:	DRAWN:	CHECKED:			

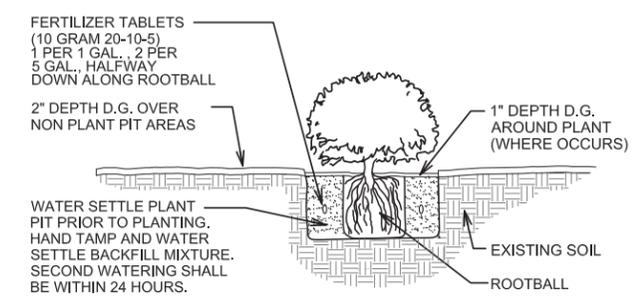
REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.				



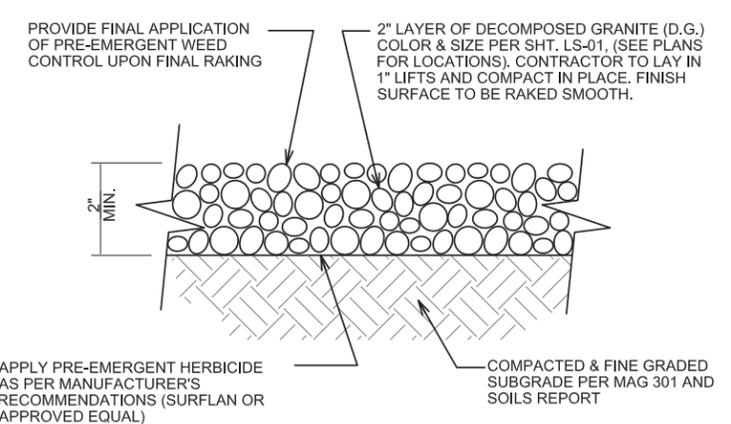
① TREE PLANTING IN D.G. AREAS  
NTS



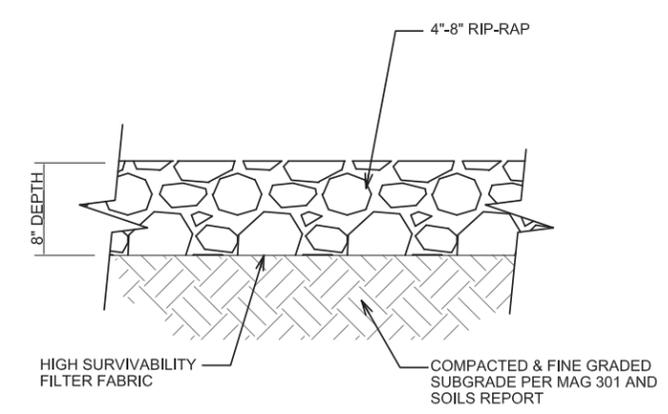
② TREE STAKING DETAIL  
NTS



③ SHRUB PLANTING  
NTS



④ DECOMPOSED GRANITE  
NTS



⑤ RIP-RAP DETAIL  
NTS

**\*\*NOTE:**  
\*PLANTS DELIVERED WITH CRACKED OR BROKEN CONTAINERS WILL BE REJECTED.  
\*SEE SPECIFICATIONS FOR PLANT BACKFILL MIX  
\*MINIMUM PLANT PIT IS 2-1/2 TIMES THE DIAMETER OF ROOTBALL, AND NO DEEPER THAN DEPTH OF THE ROOTBALL  
\*ROOTBALL CROWN TO BE 1/2" HIGHER THAN ADJACENT FINISH GRADE.

⑥ PLANT DETAIL GENERAL NOTES  
NTS



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**PLANTING DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
ST85110072



DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS	AS BUILT
LSD-2.1	SCALE: 1" = 20'	DATE: 03/16	DATE: 03/16	DATE: 03/16	44	96

RIVERVIEW DRIVE  
PHOENIX STREET – MARICOPA CO.  
18TH PLACE – 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	45	96	
DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:		DRAWN:		CHECKED:	

REVISION BY CITY OF PHOENIX		NO.	DESCRIPTION	REV BY	CHK BY	DATE

**INSTALLATION GENERAL NOTES**

1. READ THOROUGHLY AND BECOME FAMILIAR WITH THE SPECIFICATIONS AND INSTALLATION DETAILS FOR THIS AND RELATED WORK PRIOR TO CONSTRUCTION.
2. COORDINATE UTILITY LOCATES ("CALL BEFORE YOU DIG") OF UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION.
3. DO NOT PROCEED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS OR GRADE DIFFERENCES EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING, OR IF DISCREPANCIES IN CONSTRUCTION DETAILS, LEGEND, NOTES, OR SPECIFICATIONS ARE DISCOVERED. BRING ALL SUCH OBSTRUCTIONS OR DISCREPANCIES TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE IN WRITING PRIOR TO CONSTRUCTION.
4. THE DRAWINGS ARE DIAGRAMMATIC. THEREFORE, THE FOLLOWING SHOULD BE NOTED:
  - A. IRRIGATION COMPONENTS MAY BE SHOWN OUTSIDE PLANTING AREAS FOR GRAPHIC CLARITY ONLY. AVOID CONFLICTS BETWEEN THE IRRIGATION SYSTEM, UTILITIES, PLANTING MATERIALS, AND ARCHITECTURAL FEATURES. INSTALL IRRIGATION PIPE AND WIRING IN LANDSCAPED AREAS WHENEVER POSSIBLE.
  - B. USE ONLY STANDARD TEES AND ELBOW FITTINGS. USE OF CROSS TYPE FITTINGS IS NOT PERMITTED.
5. PROVIDE THE FOLLOWING COMPONENTS TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT:
  - A. TWO OPERATING KEYS FOR EACH TYPE OF MANUALLY OPERATED VALVE.
  - B. TWO OF EACH SERVICING WRENCH OR TOOL NEEDED FOR COMPLETE ACCESS, ADJUSTMENT, AND REPAIR OF ALL ROTARY SPRINKLERS.
  - C. TWO RAIN BIRD 44K QUICK COUPLING KEYS, EACH WITH ATTACHED RAIN BIRD SH-1 SWIVEL HOSE ELL AND NIBCO T29-1 WATER CONTROL VALVE FOR OPERATION OF THE QUICK COUPLING VALVES SHOWN ON THE DRAWINGS.
6. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF IRRIGATION SLEEVING. SLEEVES ARE TO BE INSTALLED FOR BOTH PIPING AND ELECTRICAL WIRING AT EACH HARDSCAPE CROSSING. COORDINATE INSTALLATION OF SLEEVING WITH OTHER TRADES. ANY PIPE OR WIRE WHICH PASSES BENEATH EXISTING HARDSCAPE WHERE SLEEVING WAS NOT INSTALLED REQUIRES HORIZONTAL BORING BY THE IRRIGATION CONTRACTOR. SLEEVE AND CONDUIT SIZES SHALL BE A MINIMUM OF TWICE THE AGGREGATE DIAMETER OF ALL PIPE AND WIRE CONTAINED WITHIN SLEEVE OR CONDUIT PIPE.
7. INSTALL ALL ELECTRICAL POWER TO THE IRRIGATION CONTROL SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE AND ALL APPLICABLE LOCAL ELECTRIC UTILITY CODES.
8. WITH REGARD TO PIPE SIZING, THE FOLLOWING SHOULD BE NOTED: IF A SECTION OF UNSIZED PIPE IS LOCATED BETWEEN TWO IDENTICALLY SIZED SECTIONS, THE UNSIZED PIPE IS THE SAME NOMINAL SIZE AS THE TWO SIZED SECTIONS. THE UNSIZED PIPE SHOULD NOT BE CONFUSED WITH THE DEFAULT PIPE SIZE NOTED IN THE LEGEND.
9. INSTALL #12-1 AWG UF/UL 600 VOLT DIRECT-BURY WIRE FOR ALL COMMON WIRE. COLOR CODE WIRES AS DIRECTED BY CITY OF PHOENIX REPRESENTATIVE.

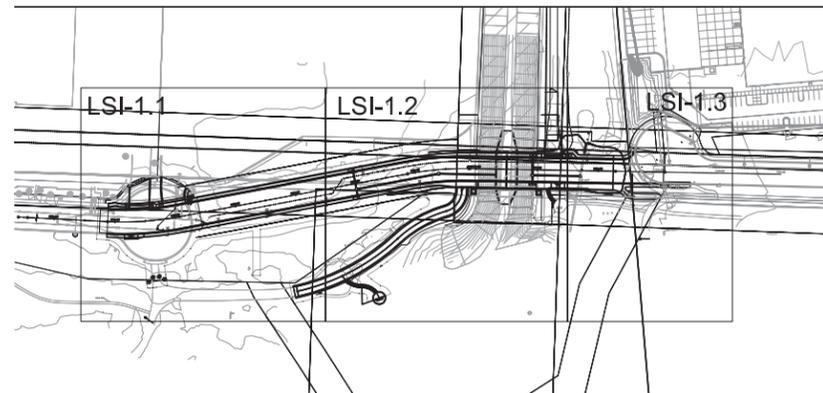
**IRRIGATION QUANTITIES**

SUB-MAINLINE (1" SCH 40 PVC)	59 LF
DRIP LATERAL LINE (3/4" SCH 40 PVC)	1,695 LF
ELECTRIC REMOTE CONTROL VALVE ASSEMBLY (1")	2 EA.
PRESSURE REGULATOR & BASKET FILTER (1")	2 EA.
GATE VALVE (1")	1 EA.
SLEEVE (4")	135 LF

**LEGEND**

- SLEEVING: SCH 40 PVC PIPE (4-INCH SIZE UNLESS OTHERWISE INDICATED)
  - SUB-MAINLINE PIPE: CLASS 200 PVC (2-INCH AND 2.5-INCH)  
SCH 40 PVC (1-INCH AND 1.5-INCH)
  - - - - - EXISTING 2" SCH 40 RIO SALADO SUB-MAINLINE
  - - - - - TREE EMITTER LATERAL PIPE: SCH 40 PVC  
(3/4-INCH SIZE UNLESS OTHERWISE INDICATED)  
SEE EMITTER PLACEMENT DETAIL FOR EMITTER LATERAL PIPE SIZING AND INSTALLATION
  - - - - - SHRUB EMITTER LATERAL PIPE: SCH 40 PVC  
(3/4-INCH SIZE UNLESS OTHERWISE INDICATED)  
SEE EMITTER PLACEMENT DETAIL FOR EMITTER LATERAL PIPE SIZING AND INSTALLATION
  - - - - - GABION PLANTER EMITTER LATERAL PIPE: SCH 40 PVC  
(3/4-INCH SIZE UNLESS OTHERWISE INDICATED)  
SEE EMITTER PLACEMENT DETAIL FOR EMITTER LATERAL PIPE SIZING AND INSTALLATION
  - UNCONNECTED PIPE CROSSING
  - ⊗ ISOLATION GATE VALVE ASSEMBLY – NIBCO T-113-K
  - ⊕ REMOTE CONTROL VALVE ASSEMBLY FOR DRIP LATERALS:  
RAIN BIRD 100-PEB
  - PRESSURE REGULATOR & WYE FILTER ASSEMBLY:  
PLASTIC BODY, 25-75 PSI/ 30 MESH SCREEN – 1" SIZE
  - MULTI-PORT EMITTER – BOWSMITH ML-210  
SEE EMITTER SCHEDULE
  - SINGLE-PORT EMITTER – BOWSMITH SL-210  
SEE EMITTER SCHEDULE
  - ◇ FLUSH CAP ASSEMBLY: SEE DETAIL
- VALVE SIZE
- CONTROLLER/STATION NUMBER
- CONTROL ZONE FLOW (GPM)
- ZONE TYPE
- T-DRIP (TREE DRIP)  
S-DRIP (SHRUB DRIP)  
P-DRIP (PLANTER DRIP)

**KEY MAP**



**J2** engineering and environmental design  
4649 east cotton gin loop, suite B2  
phoenix, arizona 85040  
phone: 602.438.2221  
www.j2design.us



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**IRRIGATION SCH & NOTES**

CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
ST85110072

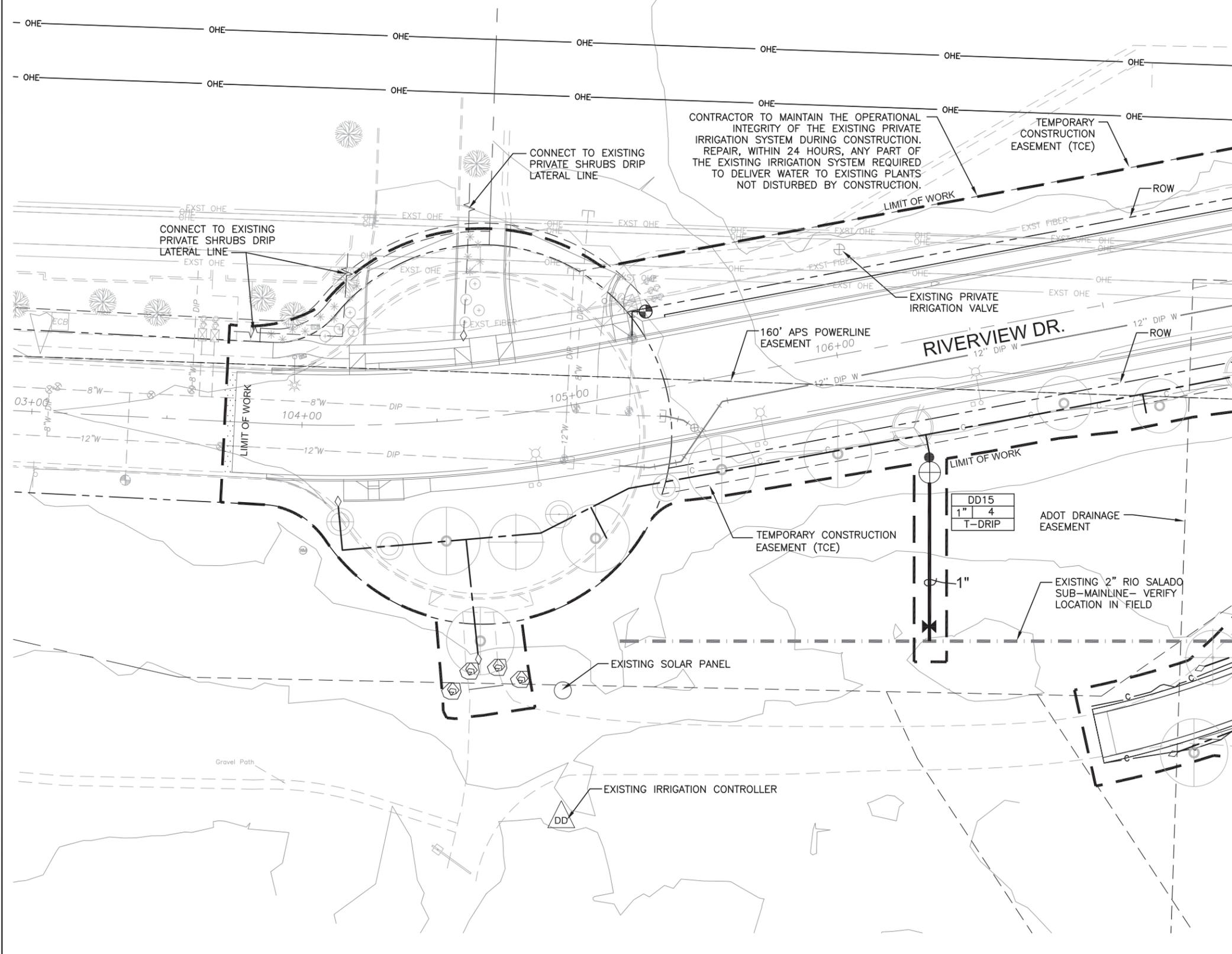
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RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	46	96	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:		DRAWN:		CHECKED:	

REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHKD BY	DATE
NO.				



**IRRIGATION LEGEND**

SYM.	DESCRIPTION
	IRRIGATION CONTROLLER
	GATE VALVE
	REMOTE CONTROL VALVE ASSEMBLY
	DRIP FILTER/REGULATOR ASSEMBLY
	FLUSH END CAP ASSEMBLY
N/S	EMITTER-MULTI-OUTLET ASSEMBLY
N/S	EMITTER-SINGLE-OUTLET ASSEMBLY
	QUICK COUPLER ASSEMBLY

**PIPE LEGEND**

	IRRIGATION MAINLINE PIPE
	EXISTING MAINLINE PIPE
	TREE DRIP LATERAL
	SHRUB/ACCENT/GROUNDCOVER LATERAL
	GABION PLANTER LATERAL
	SLEEVE PIPE

**VALVE KEY LEGEND**

VALVE SIZE	CONTROLLER/STATION NUMBER	CONTROL ZONE FLOW (GPM)	ZONE TYPE
	T		DRIP (TREE DRIP)
	S		DRIP (SHRUB DRIP)
	P		DRIP (PLANTER DRIP)

NOTE:  
ALL SLEEVES TO BE 4" PVC UNLESS OTHERWISE NOTED

MATCH LINE STA 107+50 - SEE SHEET LSI-1.2



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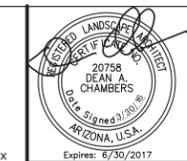
**IRRIGATION PLAN**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
18th PL TO 22nd ST.  
ST85110072

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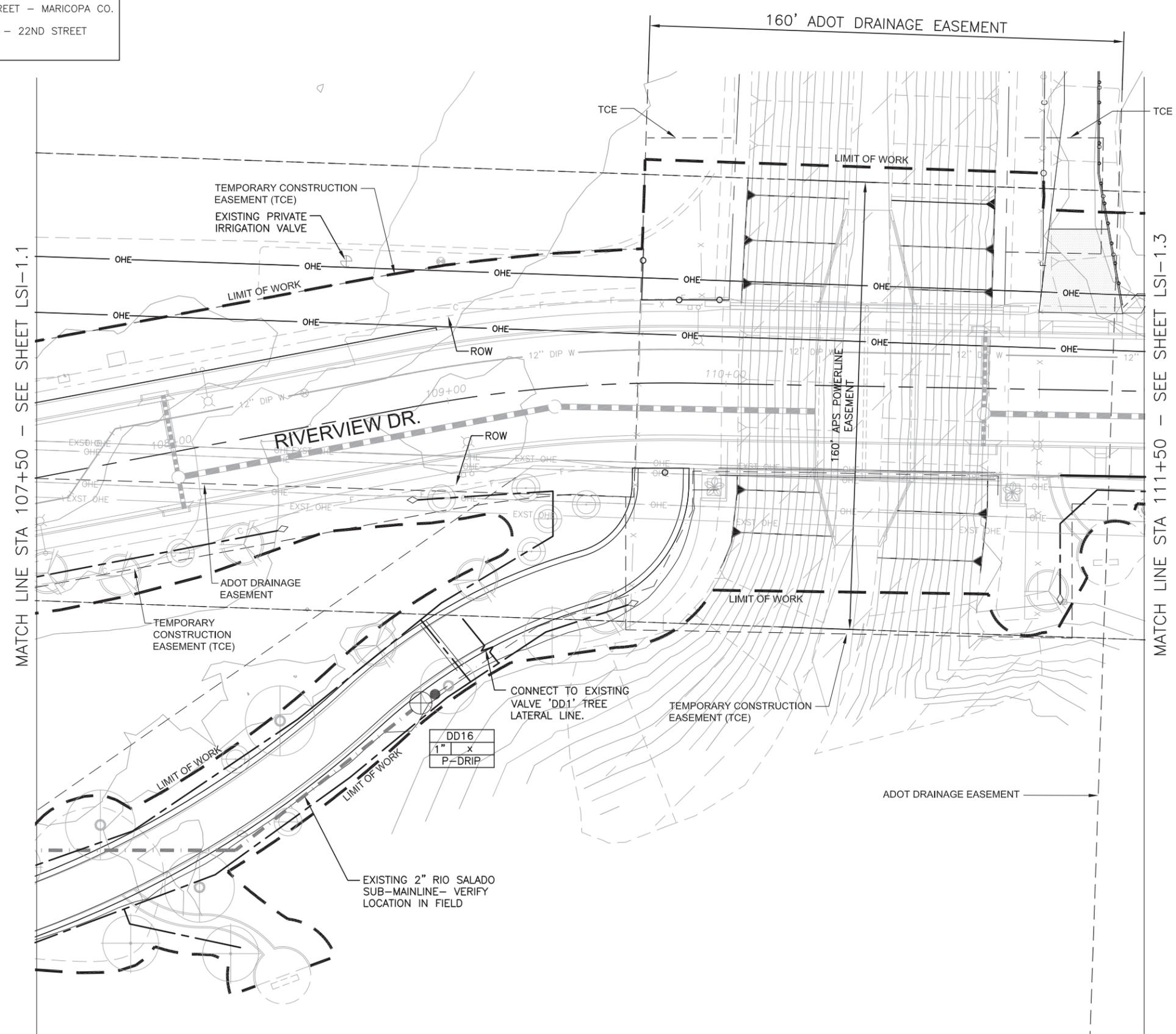
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LSI-1.1	SCALE: 1" = 20'	DATE: 03/16	DATE: 03/16	DATE: 03/16	46	96

RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	47	96	
DATE: 03/16		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:	DRAWN:	CHECKED:			

REVISION BY CITY OF PHOENIX	DESCRIPTION	NO.	REV BY	CHKD BY	DATE



**IRRIGATION LEGEND**

SYM.	DESCRIPTION
	IRRIGATION CONTROLLER
	GATE VALVE
	REMOTE CONTROL VALVE ASSEMBLY
	DRIP FILTER/REGULATOR ASSEMBLY
	FLUSH END CAP ASSEMBLY
N/S	EMITTER-MULTI-OUTLET ASSEMBLY
N/S	EMITTER-SINGLE-OUTLET ASSEMBLY
	QUICK COUPLER ASSEMBLY

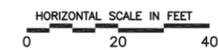
**PIPE LEGEND**

	IRRIGATION MAINLINE PIPE
	EXISTING MAINLINE PIPE
	TREE DRIP LATERAL
	SHRUB/ACCENT/GROUNDCOVER LATERAL
	GABION PLANTER LATERAL
	SLEEVE PIPE

**VALVE KEY LEGEND**

VALVE SIZE	CONTROLLER/STATION NUMBER	CONTROL ZONE FLOW (GPM)	ZONE TYPE
	T		DRIP (TREE DRIP)
	S		DRIP (SHRUB DRIP)
	P		DRIP (PLANTER DRIP)

NOTE:  
 ALL SLEEVES TO BE 4" PVC  
 UNLESS OTHERWISE NOTED



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**IRRIGATION PLAN**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

**RIVERVIEW DRIVE**  
 18th PL TO 22nd ST.  
 ST85110072

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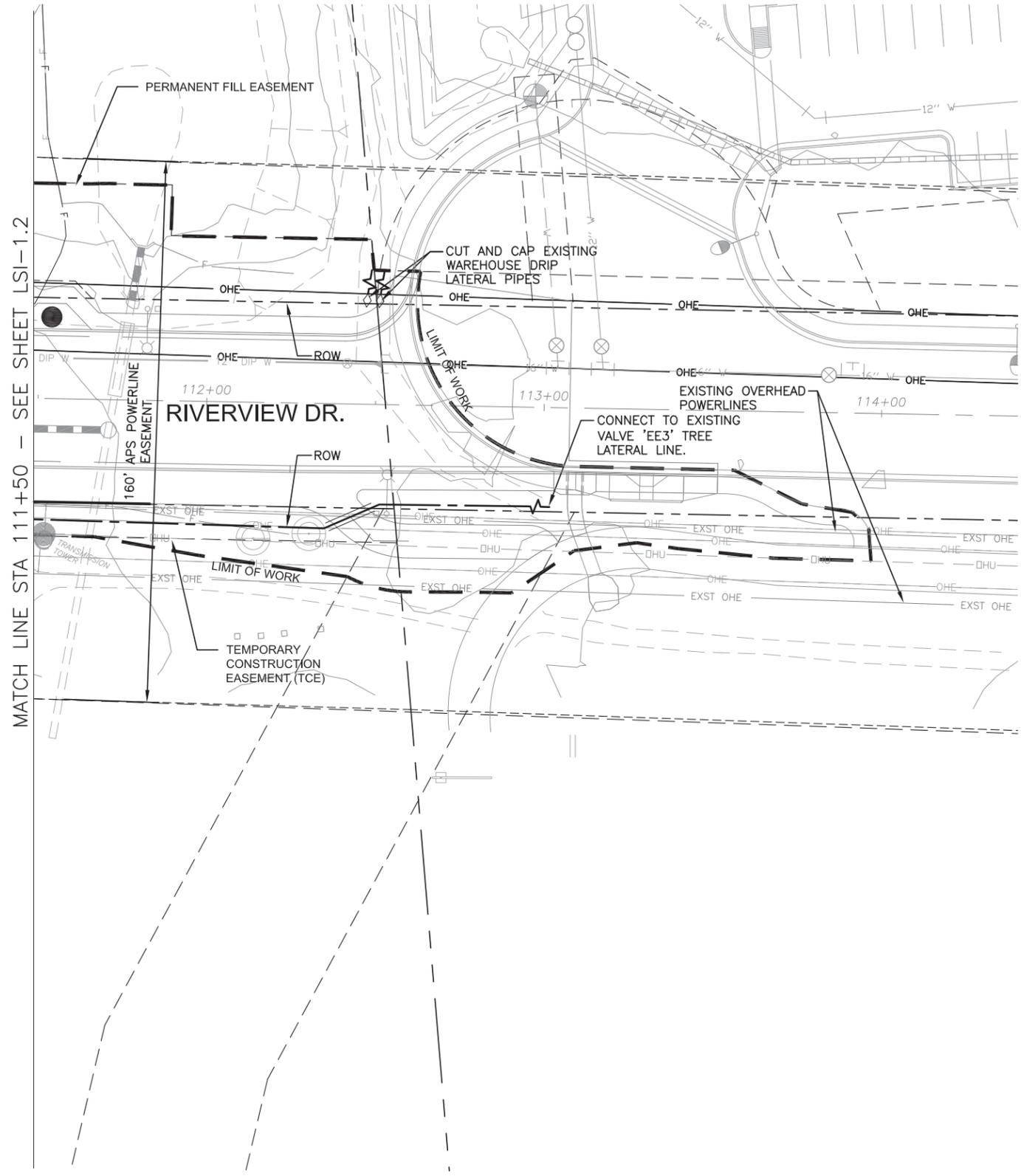
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SCALE: 1" = 20'						

RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	48	96	
DATE		STANLEY CONSULTANTS INC. CONSULTING ENGINEER			
DESIGN:		DRAWN:		CHECKED:	

NO.	DESCRIPTION	REV BY	CHKD BY	DATE



**IRRIGATION LEGEND**

SYM.	DESCRIPTION
	IRRIGATION CONTROLLER
	GATE VALVE
	REMOTE CONTROL VALVE ASSEMBLY
	DRIP FILTER/REGULATOR ASSEMBLY
	FLUSH END CAP ASSEMBLY
N/S	EMITTER-MULTI-OUTLET ASSEMBLY
N/S	EMITTER-SINGLE-OUTLET ASSEMBLY
	QUICK COUPLER ASSEMBLY

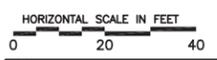
**PIPE LEGEND**

	IRRIGATION MAINLINE PIPE
	EXISTING MAINLINE PIPE
	TREE DRIP LATERAL
	SHRUB/ACCENT/GROUNDCOVER LATERAL
	GATION PLANTER LATERAL
	SLEEVE PIPE

**VALVE KEY LEGEND**

VALVE SIZE	CONTROLLER/STATION NUMBER	CONTROL ZONE FLOW (GPM)	ZONE TYPE
			T-DRIP (TREE DRIP)
			S-DRIP (SHRUB DRIP)
			P-DRIP (PLANTER DRIP)

NOTE:  
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 UNLESS OTHERWISE NOTED



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**IRRIGATION PLAN**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

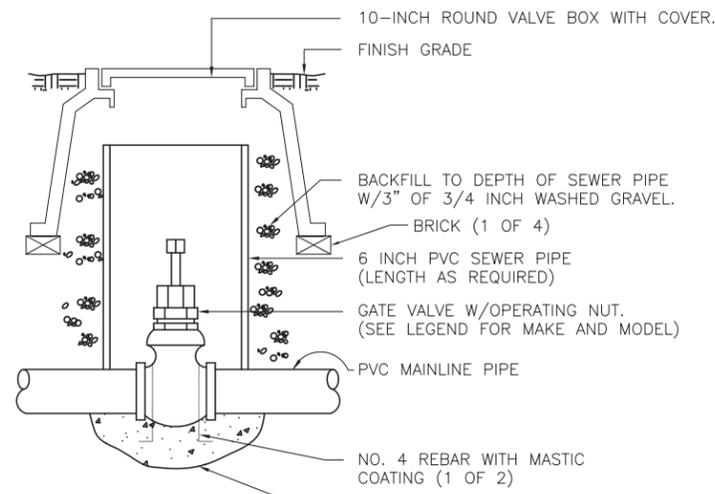
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LSI-1.3	DATE: 03/16	DATE: 03/16	DATE: 03/16	48	96	
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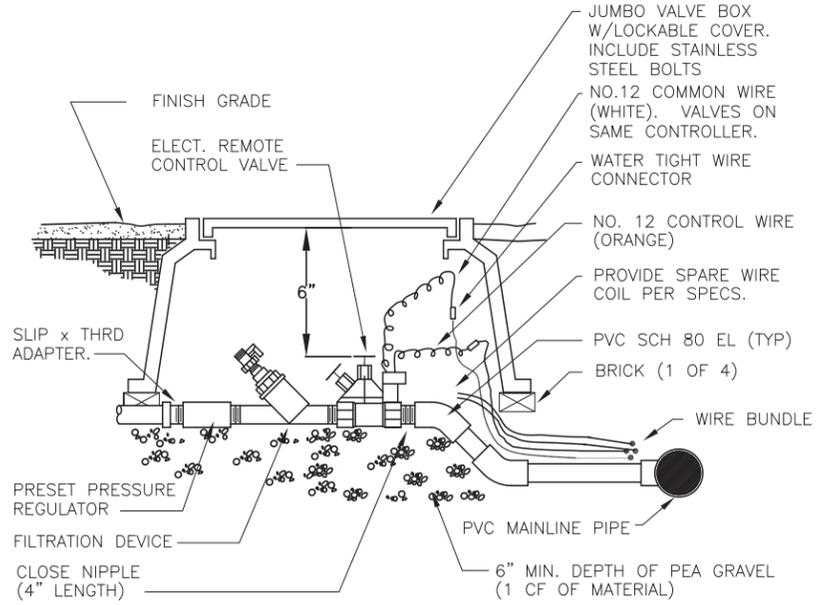
RIVERVIEW DRIVE  
 PHOENIX STREET – MARICOPA CO.  
 18TH PLACE – 22ND STREET

REVISION BY CITY OF PHOENIX	NO.	DESCRIPTION	REV BY	CHK BY	DATE
REVISION BY CITY OF PHOENIX	NO.	DESCRIPTION	REV BY	CHK BY	DATE
REVISION BY CITY OF PHOENIX	NO.	DESCRIPTION	REV BY	CHK BY	DATE



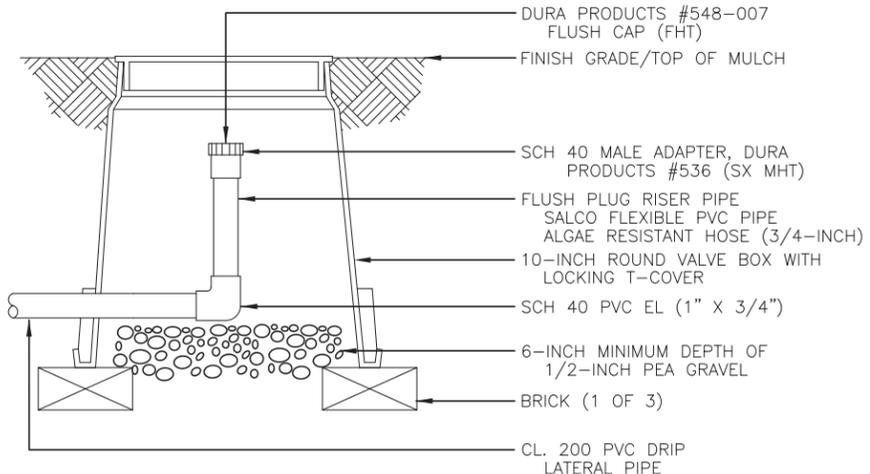
- NOTE:
1. NOMINAL SIZE OF GATE VALVE TO MATCH NOMINAL SIZE OF MAINLINE PIPE.
  2. EMBOSS COVER WITH "GV" IN 1/2" LETTERS.
  3. USE PURPLE VALVE BOXES AND LIDS FOR VALVES SERVICED BY NON POTABLE WATER SOURCE.
  4. USE TAN VALVE BOXES AND LIDS FOR VALVES SERVICED BY POTABLE WATER SOURCE IN D.G. AREAS.
  5. USE GREEN VALVE BOXES AND LIDS FOR VALVES SERVICED BY POTABLE WATER SOURCE IN TURF AREAS.

**1 ISOLATION GATE VALVE ASSEMBLY** N.T.S.



- NOTES:
1. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX. (WRAP AROUND 1/2" PIPE 15 TIMES.)
  2. STEP-UP VALVE W/45° FITTINGS TO MAINTAIN 6" BETWEEN VALVE AND TOP OF BOX.
  3. EMBOSS COVER W/1/2" NUMBERS, WHICH CORRESPOND TO VALVE NUMBERS ON IRRIGATION PLAN AND TO CONTROLLER STATION, AND "T" (TREE) OR "S" (SHRUB).
  4. USE TAN VALVE BOXES AND LIDS FOR VALVES SERVICED BY POTABLE WATER SOURCE IN D.G. AREAS.
  5. USE GREEN VALVE BOXES AND LIDS FOR VALVES SERVICED BY POTABLE WATER SOURCE IN TURF AREAS.
  6. SPACE VALVE BOXES 5 FEET APART.

**2 EMITTER CONTROL VALVE ASSEMBLY** N.T.S.



- NOTE:
1. EMBOSS COVER WITH 1-INCH HIGH "FC" USING STENCIL AND PERMANENT PAINT.
  2. FOR VALVES SERVICED BY NON POTABLE WATER SOURCE, USE PURPLE VALVE BOXES WITH PURPLE LIDS. FOR VALVES SERVICED BY POTABLE WATER SOURCE, USE TAN VALVE BOXES AND LIDS.
  5. TAG FLUSH CAPS SERVICED BY NON POTABLE SOURCE WITH CHRISTY ID TAG MODEL: ID-STD-P2-RC1P2

**3 FLUSH CAP ASSEMBLY** N.T.S.



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	49	96	
DATE: 03/16			STANLEY CONSULTANTS INC. CONSULTING ENGINEER		
DESIGN:	DRAWN:	CHECKED:			

**J2** engineering and environmental design  
 4649 east cotton gin loop, suite B2  
 phoenix, arizona 85040  
 phone: 602.438.2221  
 www.j2design.us

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

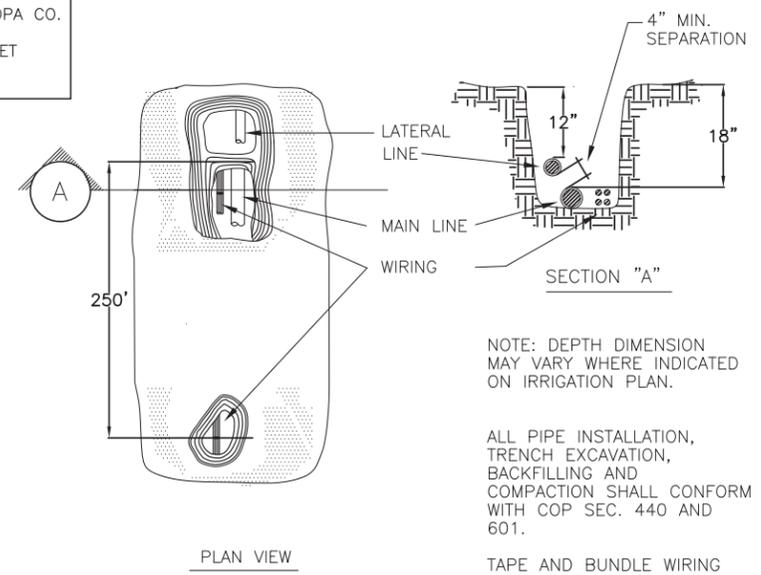
**Stanley Consultants INC.**  
 1661 East Camelback Road  
 Suite 400  
 Phoenix, Arizona 85016  
 (602) 333-2200  
 www.stanleygroup.com

**IRRIGATION DETAILS**  
 CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
 18th PL TO 22nd ST.  
 ST85110072

DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS:	AS BUILT:
LSID-2.1	DATE: 03/16	DATE: 03/16	DATE: 03/16	49	96	
SCALE: 1" = 20'						

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



NOTE: DEPTH DIMENSION MAY VARY WHERE INDICATED ON IRRIGATION PLAN.

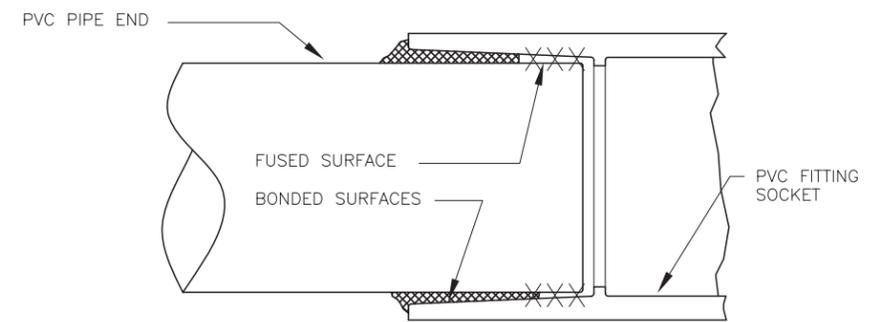
ALL PIPE INSTALLATION, TRENCH EXCAVATION, BACKFILLING AND COMPACTION SHALL CONFORM WITH COP SEC. 440 AND 601.

TAPE AND BUNDLE WIRING WRAP WIRES TOGETHER W/ELECTRICAL TAPE EVERY 10 FT. PROVIDE 12" LOOP (2") AT ALL CHANGE OF DIR. (22d) OR GREATER OR AT MIN. HORIZ. DIST OF 250 FEET

INSTALL MAINLINE PIPE WITH 4" SAND BED COMPLETELY SURROUNDING PIPE

**4 TRENCHING DETAIL**

N.T.S.



NOTES:

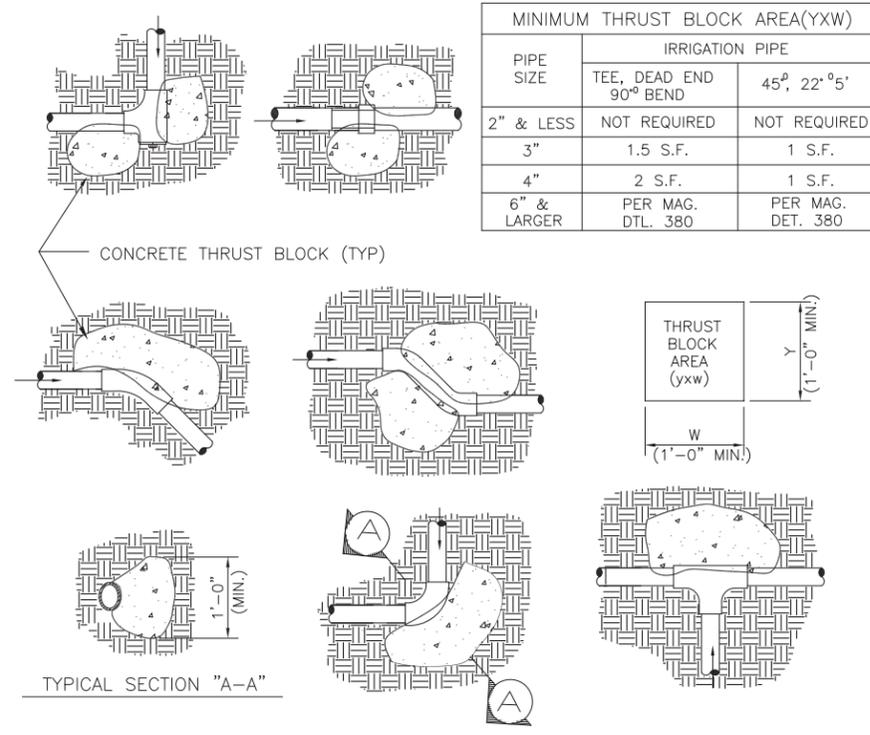
1. SOLVENT WELDED JOINTS SHALL BE MADE IN ACCORDANCE TO ASTM D-2855, AND TYPE OF SOLVENT AND PRIMER RECOMMENDED BY PIPE MANUFACTURER SHALL BE USED.
2. APPLICATOR DAUBER SHALL BE 1/2 THE DIAMETER OF THE PIPE BEING JOINED. 2" PIPE = 1" DAUBER..
3. FOLLOW THE FOLLOWING SEQUENCE OF APPLYING PRIMER AND CEMENT.
  - A. PRIME BOTH PIPE AND FITTING SOCKET TO BE JOINED.
  - B. IMMEDIATELY APPLY A COAT OF CEMENT TO THE PIPE END.
  - C. APPLY A LIGHT COAT OF CEMENT TO THE FITTING SOCKET.
  - D. ADD A SECOND COAT OF CEMENT TO THE PIPE.
  - E. PUSH THE PARTS TOGETHER, ROTATING ONE-EIGHTH TO ONE-QUARTER TURN, AND HOLD FOR 15 TO 30 SECONDS.

THE SECOND COAT OF CEMENT ON THE PIPE IS THE KEY TO SUCCESS BECAUSE IT PUTS THE MOST ADHESIVE WHERE IT WILL BE MOST BENEFICIAL. ANY EXCESS CEMENT WILL BE PUSHED BACK OUT ALONG THE PIPE, FILLING THE GAP BETWEEN THE PIPE AND FITTING AT THE SOCKET OPENING. ABNORMAL AMOUNTS OF OF CEMENT WILL NOT BE TRAPPED WITHIN THE JOINT, AND CAN BE WIPED OFF AT THIS POINT.

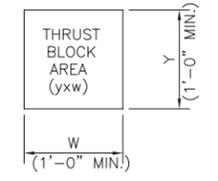
4. THE CONTRACTOR SUPERINTENDANT SHALL CONDUCT A FIELD CLASS INSTRUCTING HIS EMPLOYEES ON THE PROPER METHOD SOLVENT WELDING PIPE. THE SEMINAR SHALL BE HELD ON SITE. THE CITY'S REPRESENTATIVE SHALL BE INVITED TO ATTEND.

**6 PIPE SOLVENT WELD DETAIL**

N.T.S.

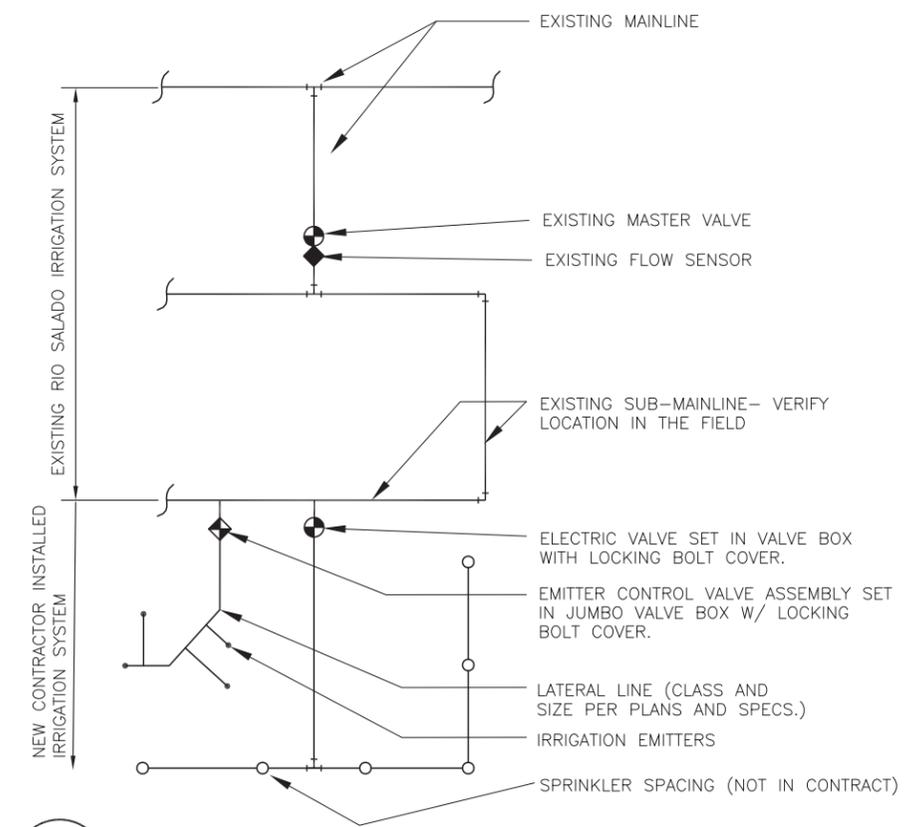


PIPE SIZE	IRRIGATION PIPE	
	TEE, DEAD END 90° BEND	45°, 22° 0' 5'
2" & LESS	NOT REQUIRED	NOT REQUIRED
3"	1.5 S.F.	1 S.F.
4"	2 S.F.	1 S.F.
6" & LARGER	PER MAG. DTL. 380	PER MAG. DET. 380



**5 THRUST BLOCK DETAIL**

N.T.S.



**7 WATER SYSTEM SCHEMATIC**

N.T.S.



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	50	96	

DATE: 03/16  
DESIGN: \_\_\_\_\_ DRAWN: \_\_\_\_\_ CHECKED: \_\_\_\_\_  
STANLEY CONSULTANTS INC. CONSULTING ENGINEER

REVISION BY CITY OF PHOENIX	DESCRIPTION	REV BY	CHK BY	DATE
NO.				

"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."



**IRRIGATION DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
ST85110072

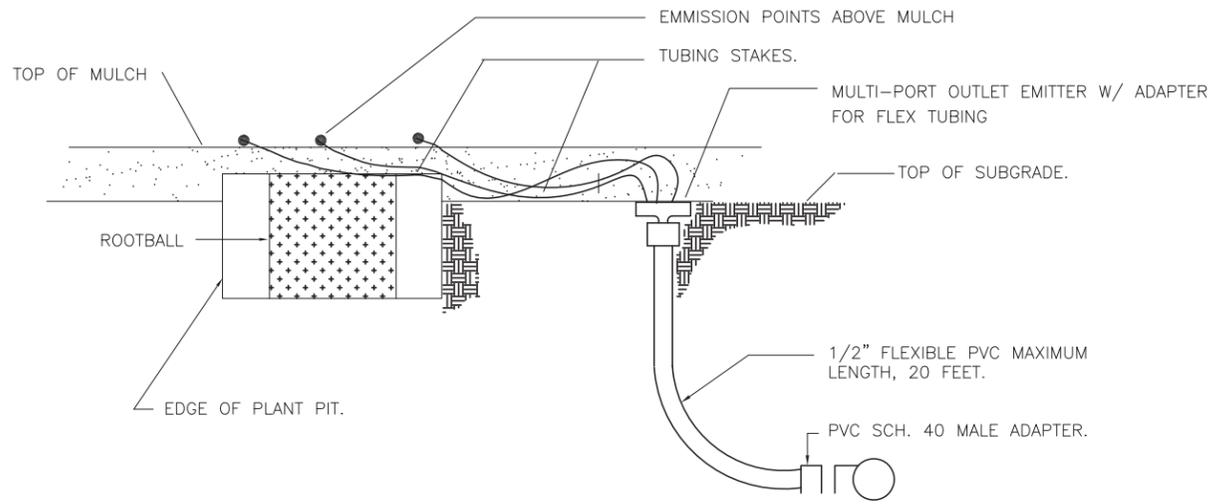
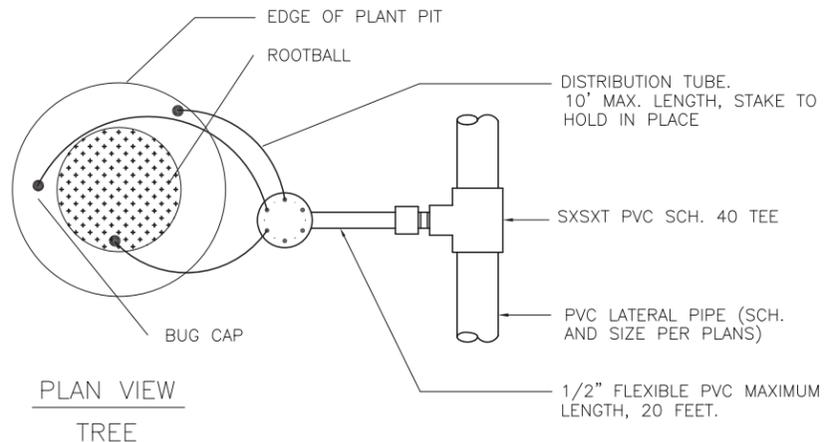
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LSID-2.2	DATE: 03/16	DATE: 03/16	DATE: 03/16	50	96	

SCALE: 1" = 20'

**J2** engineering and environmental design  
4649 east cotton gin loop, suite B2  
phoenix, arizona 85040  
phone: 602.438.2221  
www.j2design.us



RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET



- NOTES:
1. PLACE EMITTER OUTSIDE OF ROOTBALL ON UPHILL SIDE OF PLANT.
  2. REFER TO PLANTING PLAN, SPECIFICATIONS, AND PLANT EMITTER SCHEDULE FOR PLANTING REQUIREMENTS.

**8 MULTI-PORT EMITTER ASSEMBLY**

	BOTANICAL NAME	FLOW PER OUTLET	QUANTITY AND TYPE OF EMITTER	NUMBER OF OPEN OUTLETS / EMITTERS	TOTAL FLOW/ PLANT (GPH) UNLESS SPECIFIED
TREES:	ACACIA GREGGII	1 GPM	2 MULTI-OUTLET	6	12
	CELTIS PALLIDA	1 GPM	2 MULTI-OUTLET	4	8
	CHILOPSIS LINEARIS	1 GPM	2 MULTI-OUTLET	4	8
	PROSOPIS PUBESCENS	1 GPM	2 MULTI-OUTLET	6	12
	PROSOPIS VELUTINA	1 GPM	2 MULTI-OUTLET	6	12
ACCENT / G.C.	AGAVE BOVICORNUTA	1 GPM	1 SINGLE-OUTLET	1	1
	HESPERALOE PARVIFLORA	1 GPM	1 SINGLE-OUTLET	1	1
	LANTANA 'GOLD MOUND	1 GPM	1 SINGLE-OUTLET	1	1

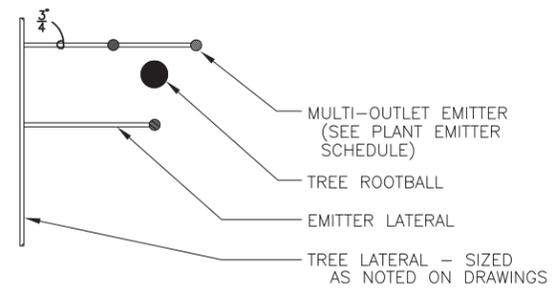
- NOTES:
1. TOTAL FLOW REQUIREMENT PER TREE ASSUMES DAILY IRRIGATION CYCLE OF FOUR HOURS DURING PEAK SEASON FOR MATURE PLANT MATERIAL.

**10 EMITTER SCHEDULE**



FALWA REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	51	96	

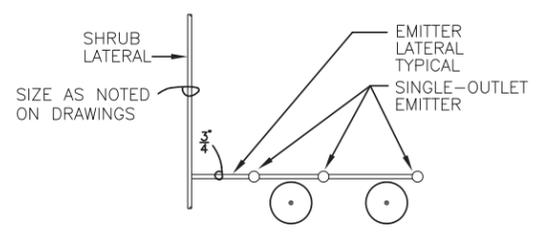
DATE: 03/16  
DESIGNER: STANLEY CONSULTANTS INC. CONSULTING ENGINEER  
DRAWN: CHECKED:



**PLAN VIEW MULTI-OUTLET EMITTER**  
TREES (TYPICAL)  
SEE PLANT EMITTER SCHEDULE DETAIL

- NOTES:
1. MULTI-OUTLET EMITTERS ARE TO BE EQUALLY SPACED AND LOCATED TO DIRECT WATER FLOW AROUND THE ROOTBALL.
  2. NUMBER OF OPENINGS REQUIRED IS BASED ON PLANT TYPE. (SEE PLANT EMITTER SCHEDULE)

**9 EMITTER PLACEMENT DETAIL**  
N.T.S.



**PLAN VIEW SINGLE OUTLET EMITTER**  
SHRUBS AND GROUNDCOVER (TYPICAL)  
SEE PLANT EMITTER SCHEDULE



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1661 East Camelback Road Suite 400 Phoenix, Arizona 85016 (602) 333-2200 www.stanleygroup.com

**IRRIGATION DETAILS**  
CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
18th PL TO 22nd ST.  
ST85110072

J2 engineering and environmental design  
4649 east cotton gin loop, suite B2  
phoenix, arizona 85040  
phone: 602.438.2221  
www.j2design.us

DWG NO:	DR: SP	DES: DC/SP	CK: DC	SHEET NO:	TOTAL SHEETS	AS BUILT
LSID-2.3	DATE: 03/16	DATE: 03/16	DATE: 03/16	51	96	

RIVERVIEW DRIVE  
PHOENIX STREET - MARICOPA CO.  
18TH PLACE - 22ND STREET

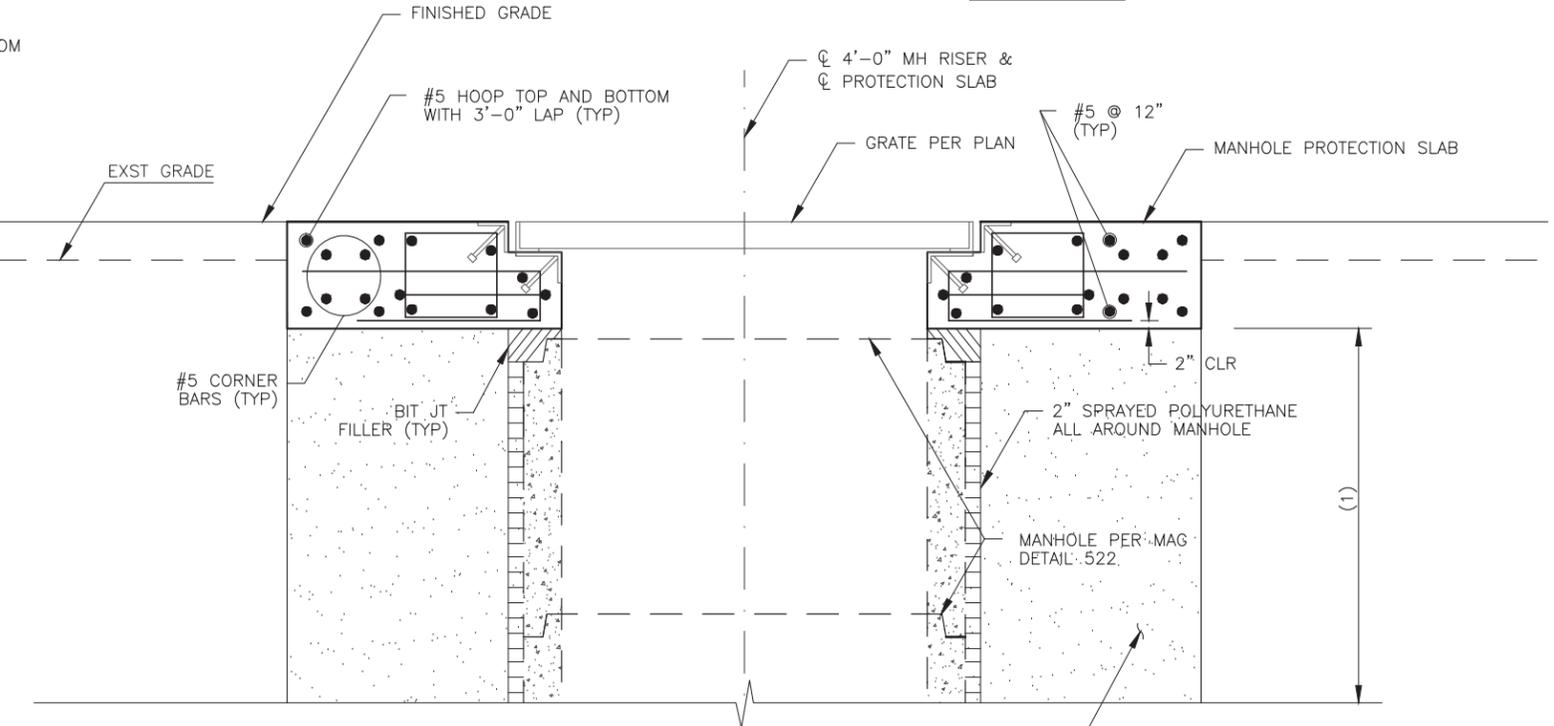
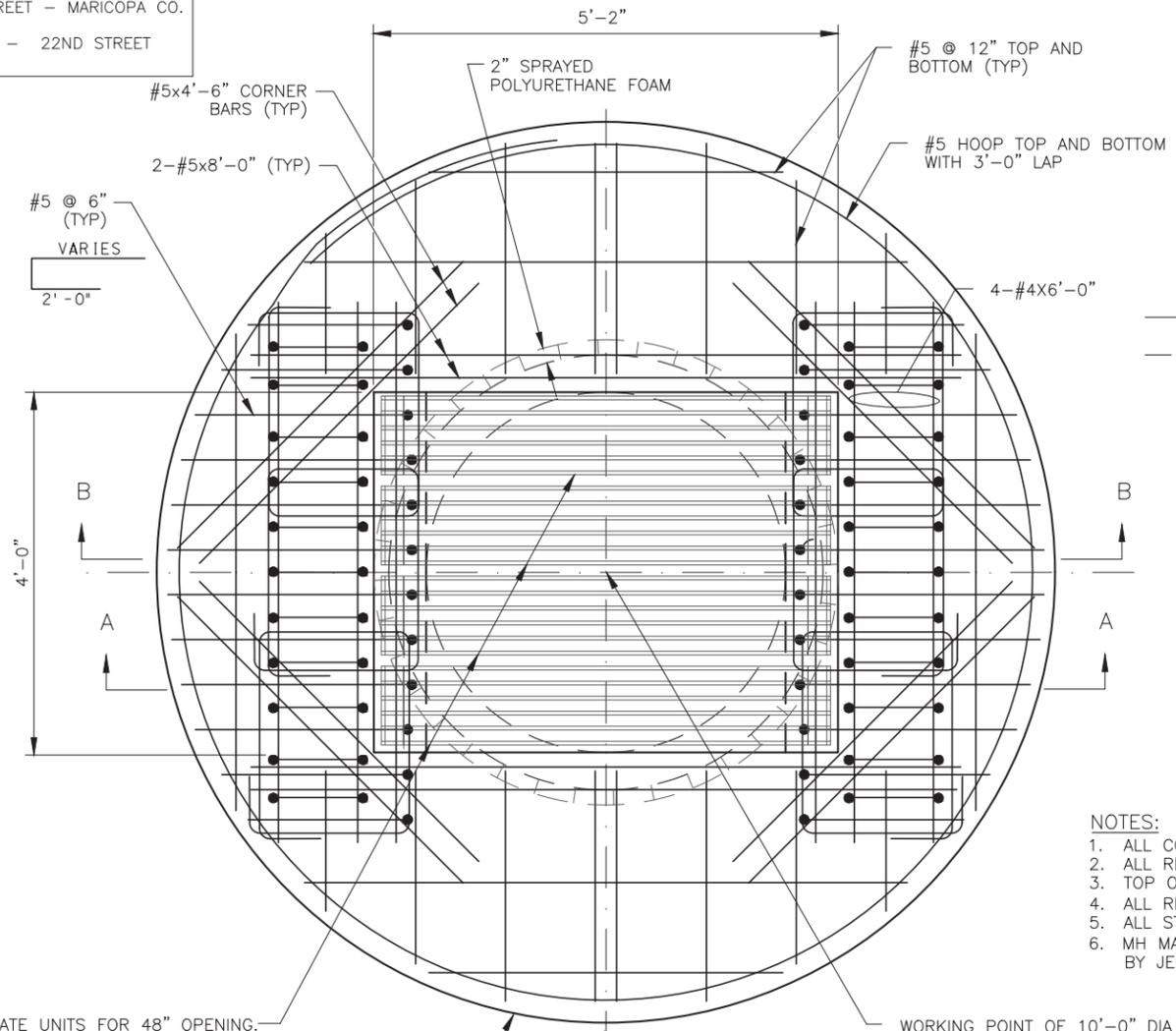


PROJECT NO.	ST85110072	SHEET NO.	52	TOTAL SHEETS	68
DATE	02/18	DRAWN		CHECKED	

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



- NOTES:
1. ALL CONCRETE SHALL BE MAG AA (f'c=4000 PSI).
  2. ALL REBAR SHALL BE GRADE 60.
  3. TOP OF SLAB SHALL HAVE A BROOM FINISH.
  4. ALL REBAR SHALL HAVE A 2" CLEAR U.N.O.
  5. ALL STRUCTURAL STEEL SHALL BE ASTM A36 U.N.O.
  6. MH MATERIAL THICKNESS SHALL BE 5", f'c=4,000 PSI BY JENSEN PRECAST OR APPROVED EQUAL.

SECTION B-B  
NTS

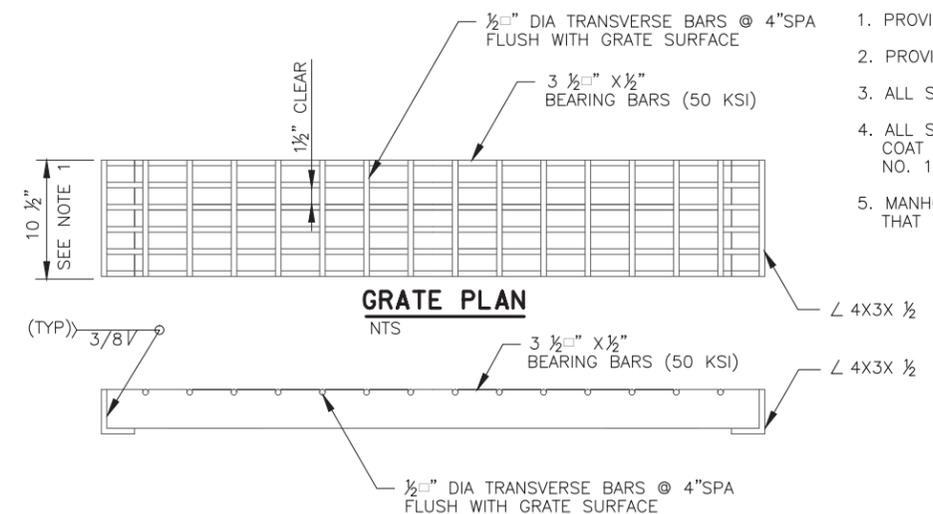
(1) SEE DETAIL C FOR LIMITS OF SLURRY AND FOR PROTECTION DETAILS FOR STORM DRAIN SD03

4 EACH GRATE UNITS FOR 48" OPENING. SLAB SHALL BE ORIENTED SO THAT BEARING BARS ARE PERPENDICULAR TO TRAFFIC.

WORKING POINT OF 10'-0" DIA SLAB = C OF PROTECTION SLAB AND C OF 4'-0" MH RISER

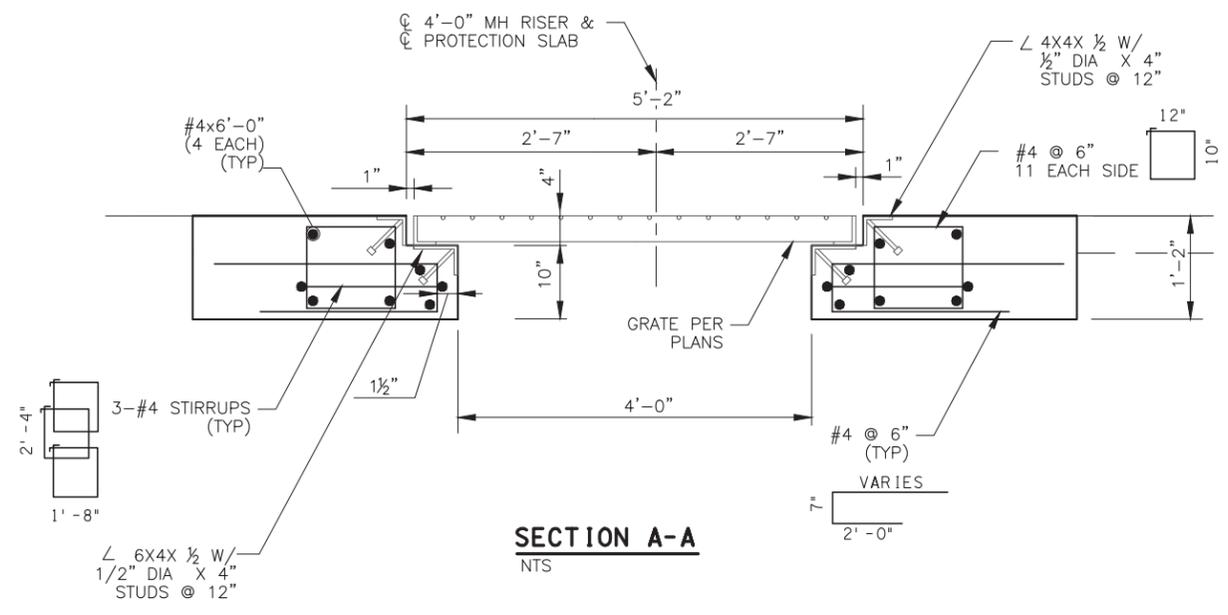
PLAN  
NTS

- GRATE NOTES:
1. PROVIDE FOUR UNITS FOR 48" OPENING.
  2. PROVIDE 1 1/2" DISTANCE BETWEEN UNITS.
  3. ALL STRUCTURAL STEEL SHALL BE ASTM A36 U.N.O.
  4. ALL STRUCTURAL STEEL TO BE PAINTED ONE SHOP COAT NO. 1 PAINT AND TWO FIELD COATS OF NO. 10 PAINT AS PER SECTION 790.
  5. MANHOLE PROTECTION SLAB SHALL BE ORIENTED SO THAT BEARING BARS ARE PERPENDICULAR TO TRAFFIC.



GRATE PLAN  
NTS

GRATE SECTION  
NTS



SECTION A-A  
NTS

# DETAIL A

MANHOLE PROTECTION SLAB-TYPE I  
USE AT SD MH # 2



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**ethos**  
ENGINEERING, LLC.  
9180 S Kyrene Rd  
Suite #104  
Tempe, AZ 85284

CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

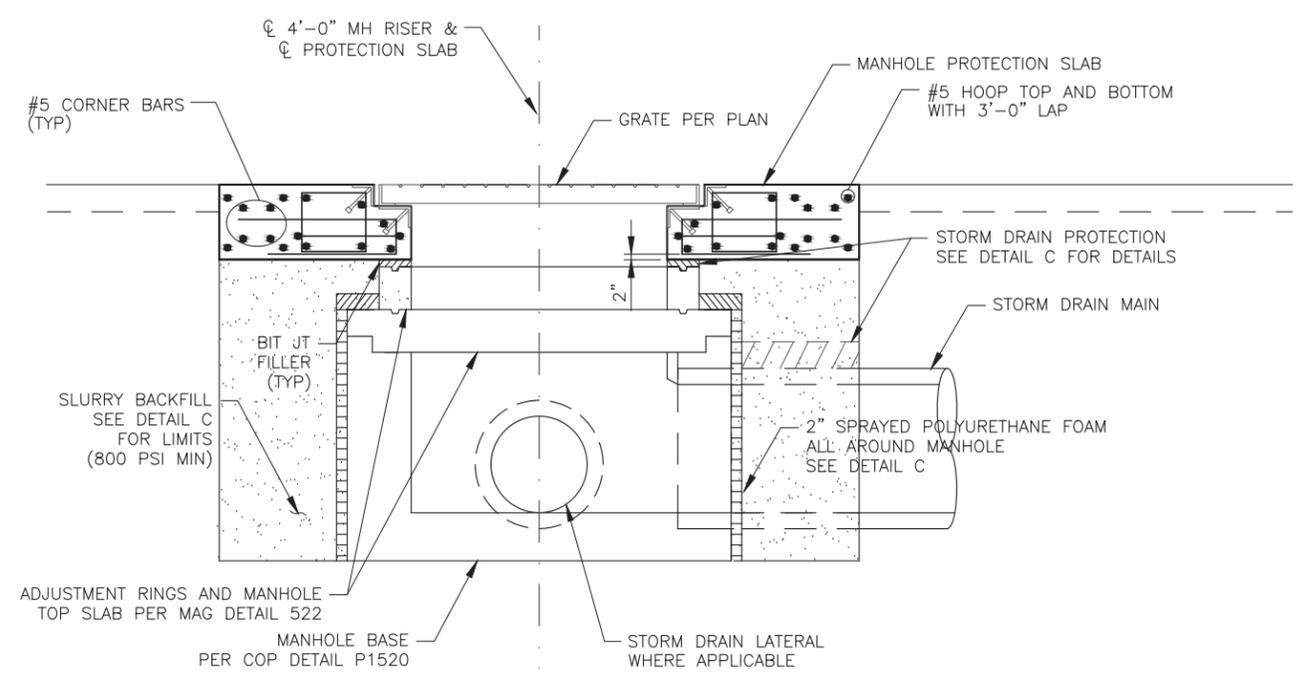
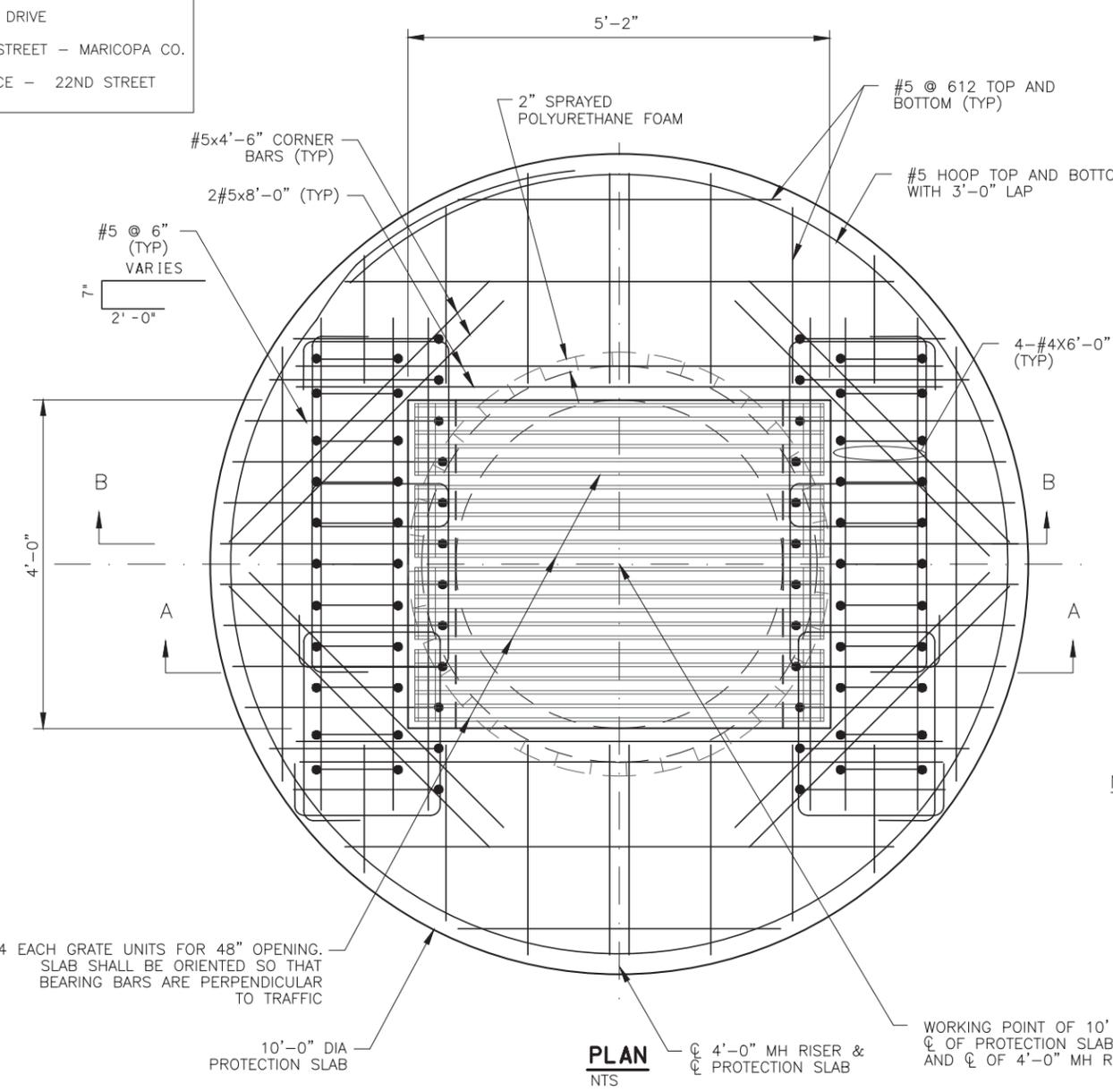
RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DR: SRR	DES: SEO	CK: BAG	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE: 02/18	DATE: 02/18	DATE: 02/18	52	68	

RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET



F.H.M.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	53	68	
DATE		ethos ENGINEERING, LLC			
02/18					
DESIGN:	DRAWN:	CHECKED:			



**NOTES:**

1. ALL CONCRETE SHALL BE MAG AA (f'c=4000 PSI).
2. ALL REBAR SHALL BE GRADE 60.
3. TOP OF SLAB SHALL HAVE A BROOM FINISH.
4. ALL REBAR SHALL HAVE A 2" CLEAR U.N.O.
5. ALL STRUCTURAL STEEL SHALL BE ASTM A36 U.N.O.
6. SLURRY TO BE PLACED IN 2 LIFTS. SECOND LIFT SHALL OCCUR AFTER THE SETTING OF FIRST LIFT.
7. MH MATERIAL THICKNESS SHALL BE 5", f'c=4,000 PSI BY JENSEN PRECAST OR APPROVED EQUAL.

**SECTION B-B**  
 NTS

**GRATE NOTES:**

1. PROVIDE FOUR UNITS FOR 48" OPENING.
2. PROVIDE 1 1/2" DISTANCE BETWEEN UNITS.
3. ALL STRUCTURAL STEEL SHALL BE ASTM A36 U.N.O.
4. ALL STRUCTURAL STEEL TO BE PAINTED ONE SHOP COAT NO. 1 PAINT AND TWO FIELD COATS OF NO. 10 PAINT AS PER SECTION 790.
5. MANHOLE PROTECTION SLAB SHALL BE ORIENTED SO THAT BEARING BARS ARE PERPENDICULAR TO TRAFFIC

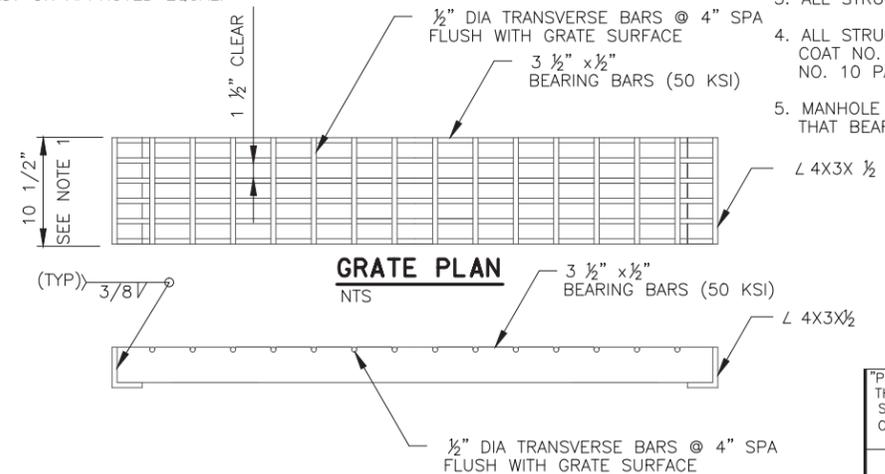
4 EACH GRATE UNITS FOR 48" OPENING. SLAB SHALL BE ORIENTED SO THAT BEARING BARS ARE PERPENDICULAR TO TRAFFIC

10'-0" DIA PROTECTION SLAB

**PLAN**  
 NTS

4'-0" MH RISER & PROTECTION SLAB

WORKING POINT OF 10' DIA SLAB = CL OF PROTECTION SLAB AND CL OF 4'-0" MH RISER



**GRATE PLAN**  
 NTS

**GRATE SECTION**  
 NTS

**DETAIL B**

MANHOLE PROTECTION SLAB-TYPE II  
 USE AT STORM DRAIN MH#1, MH#3 & MH#4



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**DETAIL B**

CITY OF PHOENIX, ARIZONA  
 STREET TRANSPORTATION DEPARTMENT

RIVERVIEW DRIVE  
 18TH PL TO 22ND ST  
 ST85110072

DR: SRR	DES: SEO	CK: BAG	SHEET NO.	TOTAL SHEETS	AS BUILT
DATE: 02/18	DATE: 02/18	DATE: 02/18	53	68	
SCALE: AS NOTED			53	68	

RIVERVIEW DRIVE  
 PHOENIX STREET - MARICOPA CO.  
 18TH PLACE - 22ND STREET

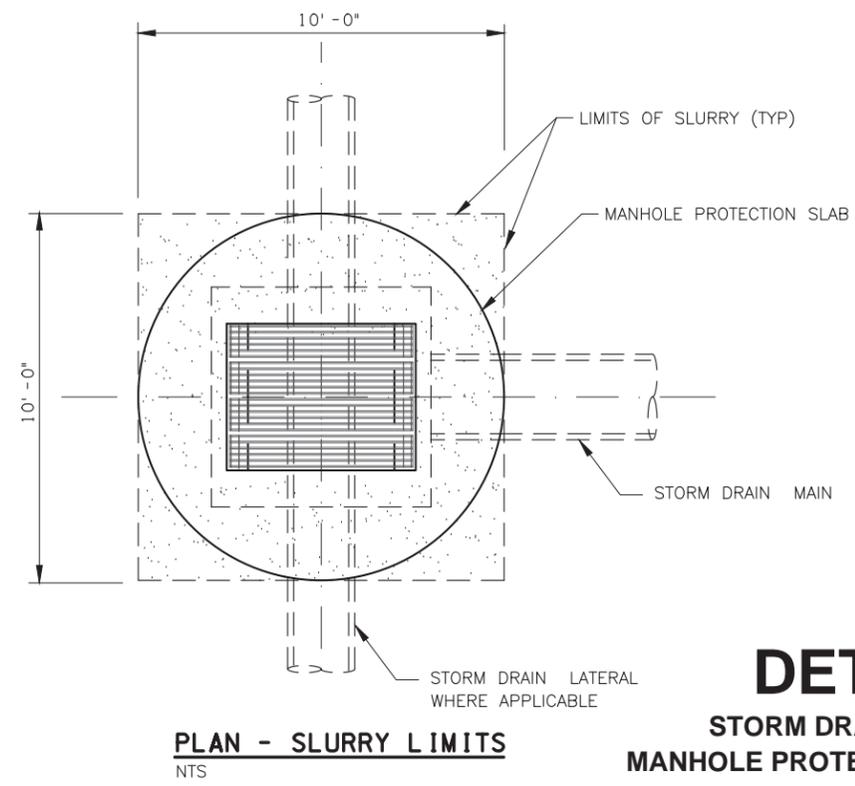
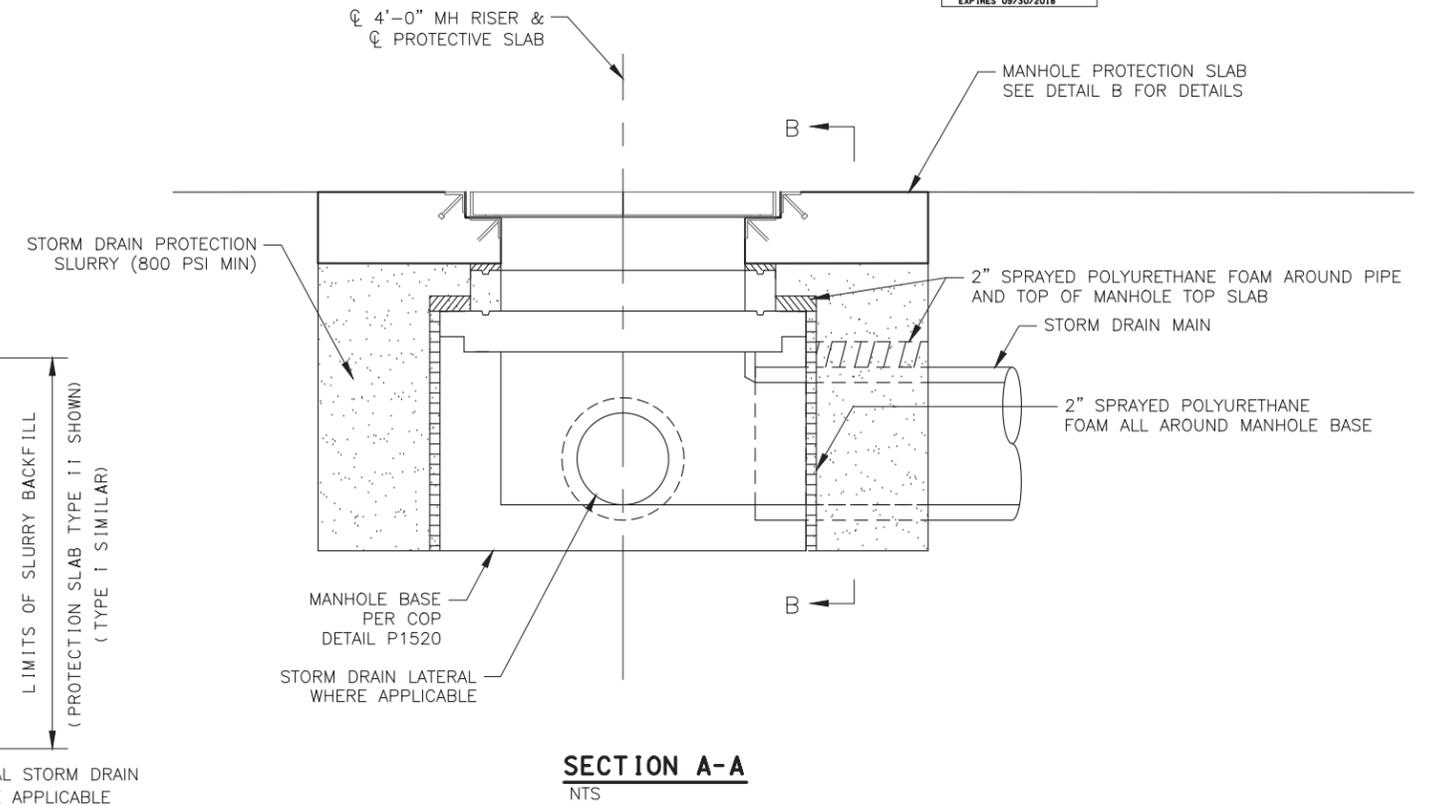
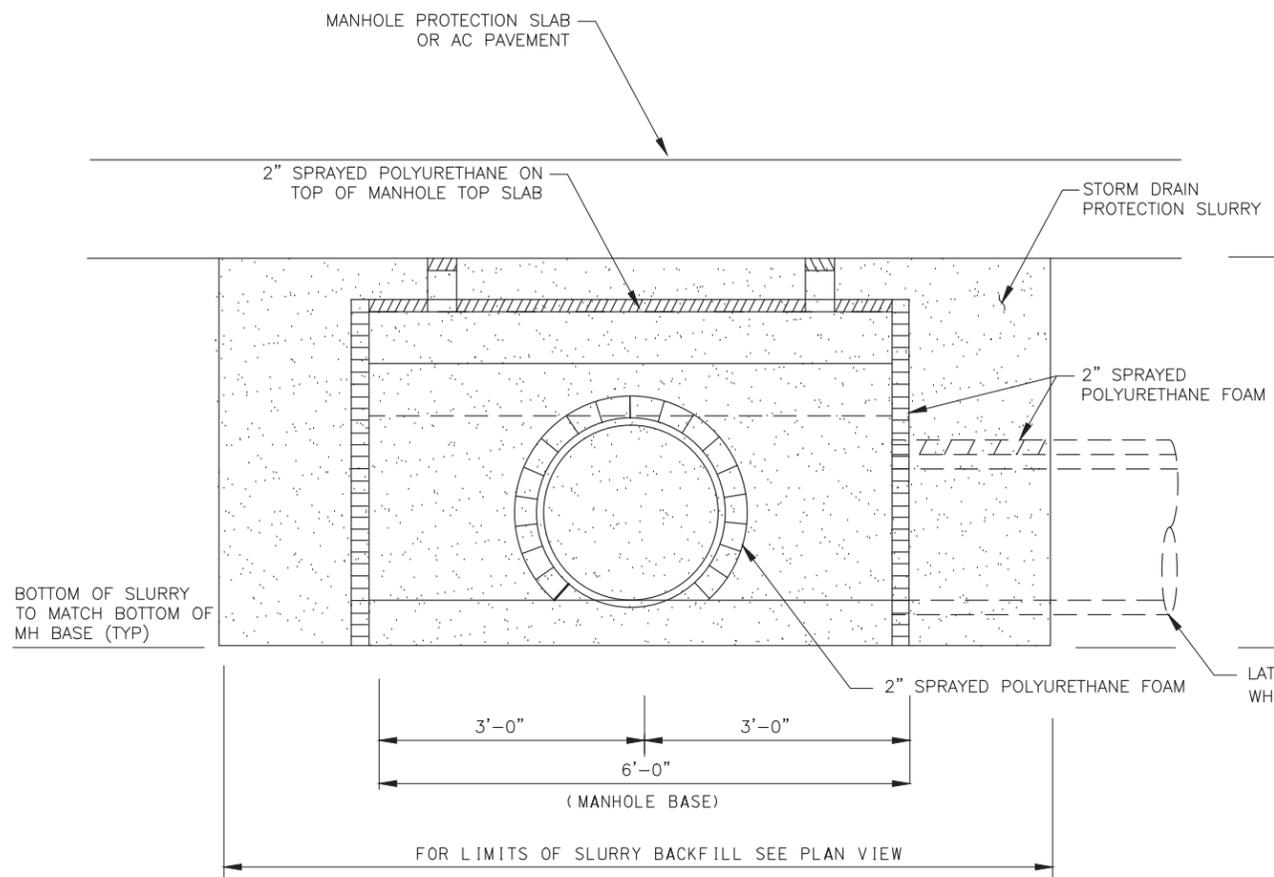


F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	ST85110072	54	68	
DATE: 02/18		ethos ENGINEERING, LLC			
DESIGN:		DRAWN:		CHECKED:	

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE

NO.	DESCRIPTION	REV BY	CHK BY	DATE



# DETAIL C

## STORM DRAIN PROTECTION MANHOLE PROTECTION SLAB TYPE I & II



"PER CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX."

**ethos**  
ENGINEERING, LLC.

9180 S Kyrene Rd  
Suite 2104  
Tempe, AZ 85284

### DETAIL C

CITY OF PHOENIX, ARIZONA  
STREET TRANSPORTATION DEPARTMENT

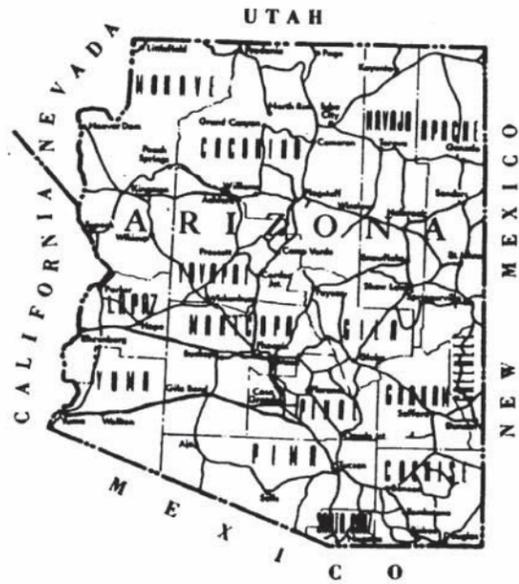
RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072

DR: SRR	DES: SEO	CK: BAG	SHEET NO:	TOTAL SHEETS	AS BUILT
DATE: 02/18	DATE: 02/18	DATE: 02/18	NO:	54	68
SCALE: AS NOTED			S-1.03	54	68

C:\Engineering - Working Projects\CADD\DOT Channel\Str\STORM DRAIN PROTECTION SLAB Detail C.dwg 02/21/18 - 10:27PM

10-MA-151 H0128-OIC

7/5IF

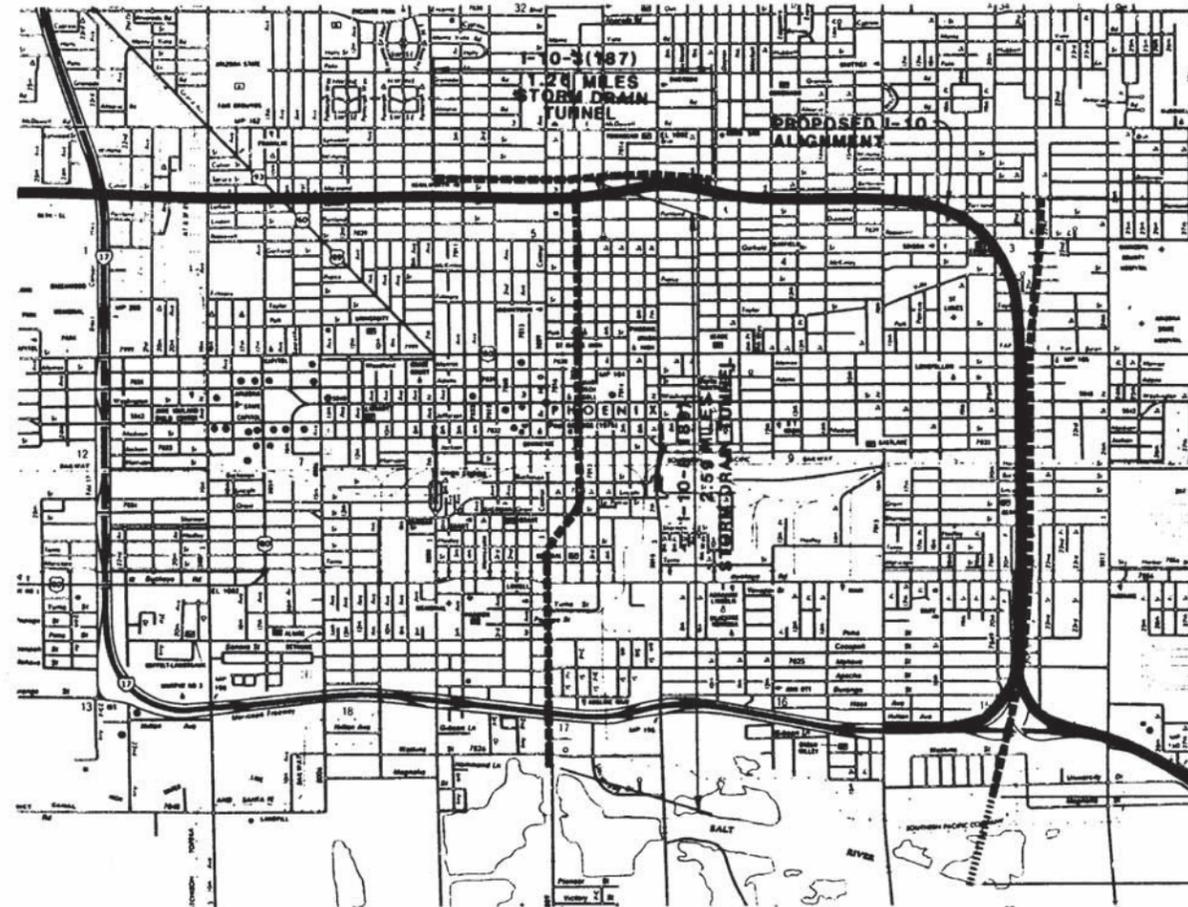


STATE OF ARIZONA  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 PLAN AND PROFILE OF PROPOSED  
 STATE HIGHWAY  
 PHOENIX-CASA GRANDE  
 MARICOPA COUNTY  
 AZ-ACI-10-3(225)



**AS BUILT**  
 DATE 6-4-90 JRD

FIELD AS BUILT 1/15/88  
 STEVEN A. JIMENEZ FIELD ENGINEER



PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTE: FOR ADDITIONAL CONSTRUCTION PROJECTS, SEE FACE SHEET NUMBERS 7/5IC, D, & E.

ARIZONA DEPARTMENT OF TRANSPORTATION  
 HIGHWAY DIVISION  
 APPROVED: WALTER O. FORD  
 ASSISTANT DIRECTOR  
 STATE ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED DATE \_\_\_\_\_  
 CHIEF DEPUTY STATE ENGINEER

APPROVED DATE \_\_\_\_\_  
 DIVISION ADMINISTRATOR

APPROVED DATE \_\_\_\_\_  
 DEPUTY STATE ENGINEER

**RIVERVIEW DRIVE  
 18TH PL TO 22ND ST  
 ST85110072**

PHOENIX - CASA GRANDE HIGHWAY  
INNER LOOP - EAST TUNNEL OUTFALL  
MARICOPA COUNTY



F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	1-10-3(225)	4	25	JRD 4-23-90

DATE: 3/1/90  
FOR THE CONSULTING ENGINEER  
DESIGN: G.E.S. DRAWN: R.L.C. CHECKED: E.L.

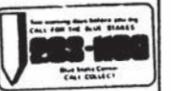
arthur beard engineers, inc.  
PHOENIX - TUCSON, ARIZONA

**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

R/W Control is as stated on R/W plans

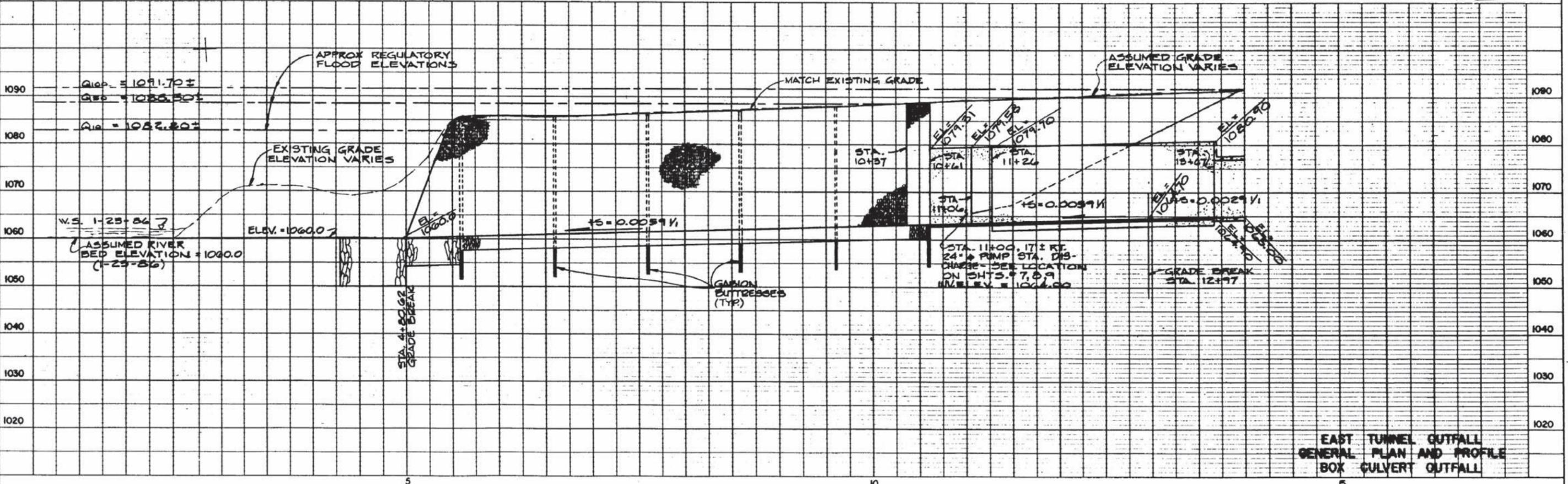
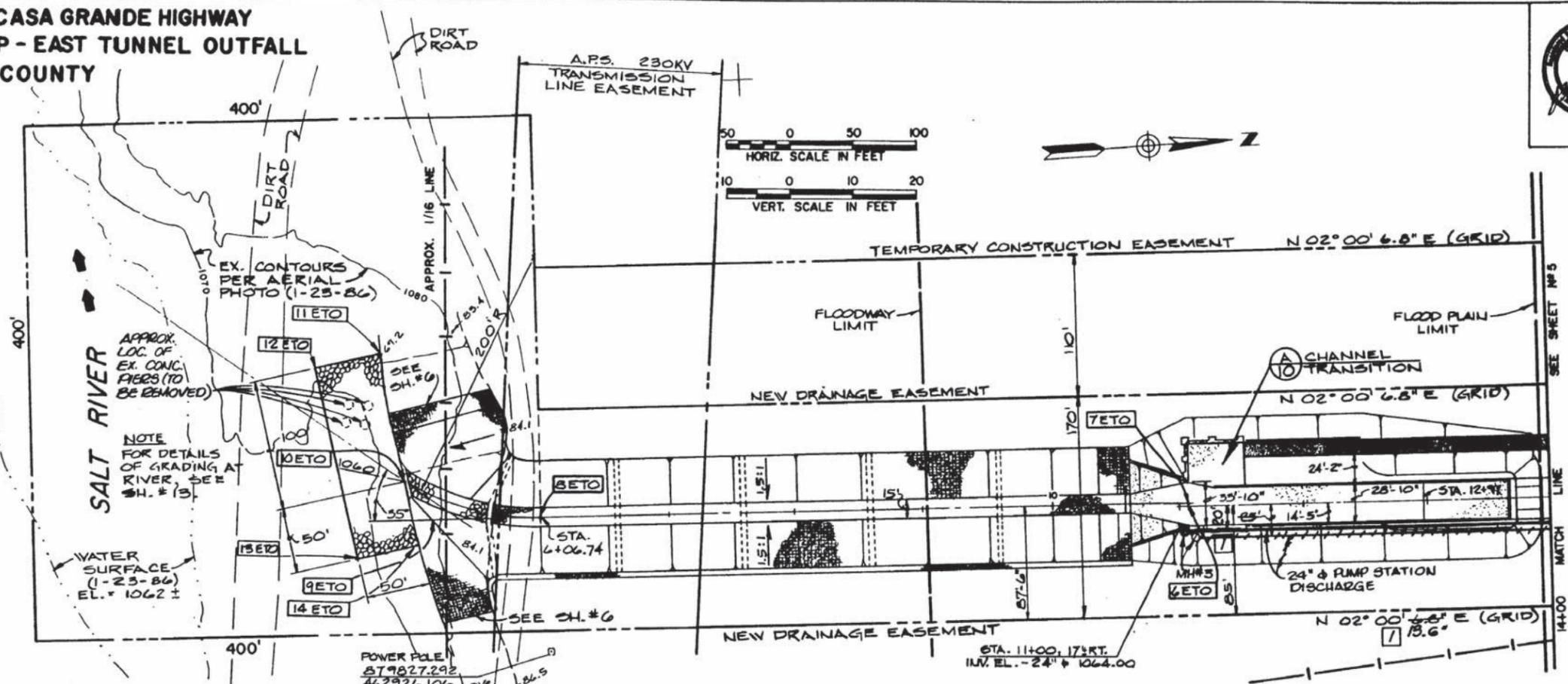
PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTES  
FOR GABION AND RIP-RAP SIZING, SEE SH.#6.  
FOR PERMANENT FENCE LOCATION, SEE SH.#647



PLAN	NOTE BOOK	NO.

PROFILE	NOTE BOOK	NO.



**EAST TUNNEL OUTFALL**  
**GENERAL PLAN AND PROFILE**  
**BOX CULVERT OUTFALL**

As-Built

**PHOENIX - CASA GRANDE HIGHWAY  
INNER LOOP - EAST TUNNEL OUTFALL  
MARICOPA COUNTY**

**ELECTRICAL NOTES**  
ELECTRICAL SERVICE, APS CONTRACTOR TO PROVIDE 4" PVC CONDUIT FROM METER FULL SECTION TO APS SERVICE. CONDUIT, EXCAVATION AND BACKFILL PER APS REQUIREMENTS. CONDUCTORS FURNISHED AND INSTALLED BY APS. FINAL CONNECTION AT METER SECTION BY CONTRACTOR.



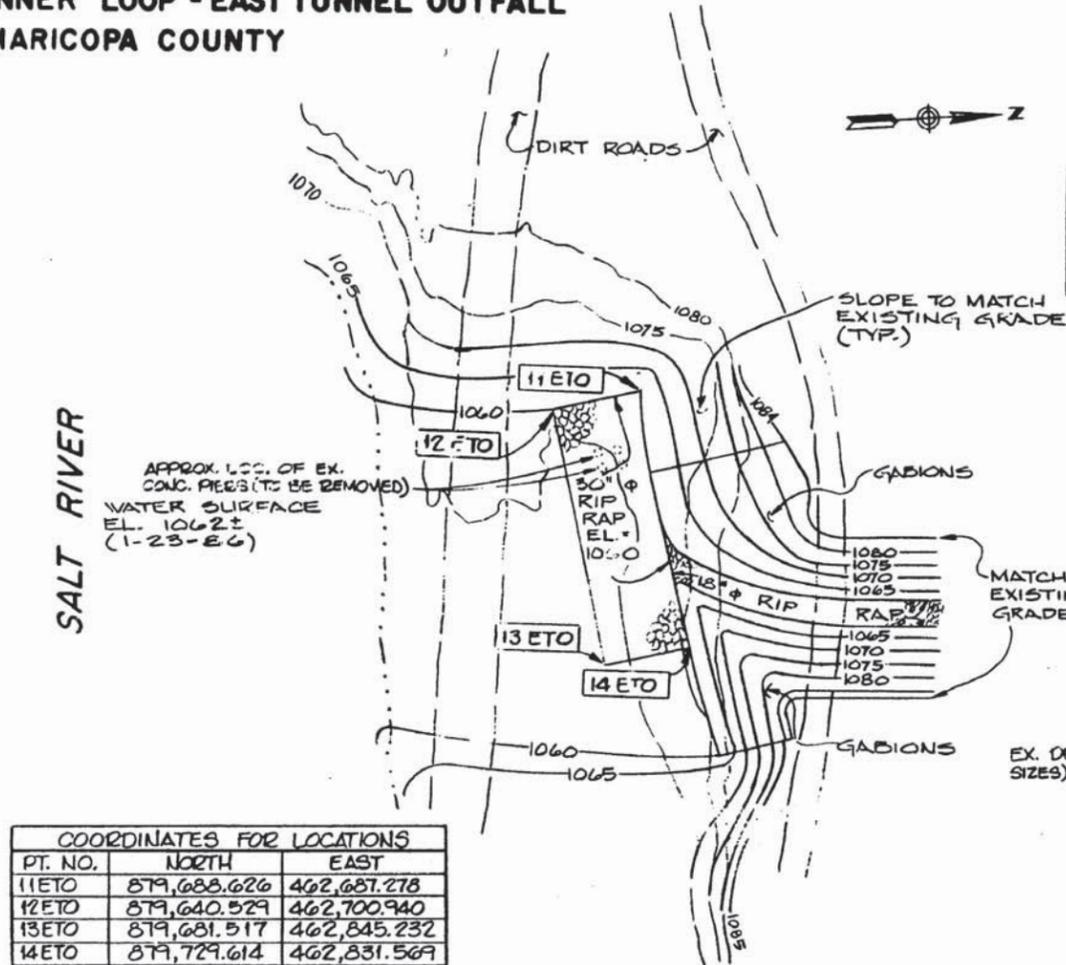
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	1-10-3(225)	13	25	JRD 4-23-90

DATE: *May 2, 1990*  
FOR THE CONSULTING ENGINEER  
DESIGN: E.L.S. DRAWN: R.L.C. CHECKED: E.L.

Arthur Board Engineers, Inc.  
PHOENIX - TUCSON, ARIZONA

**COORDINATES FOR LOCATIONS**

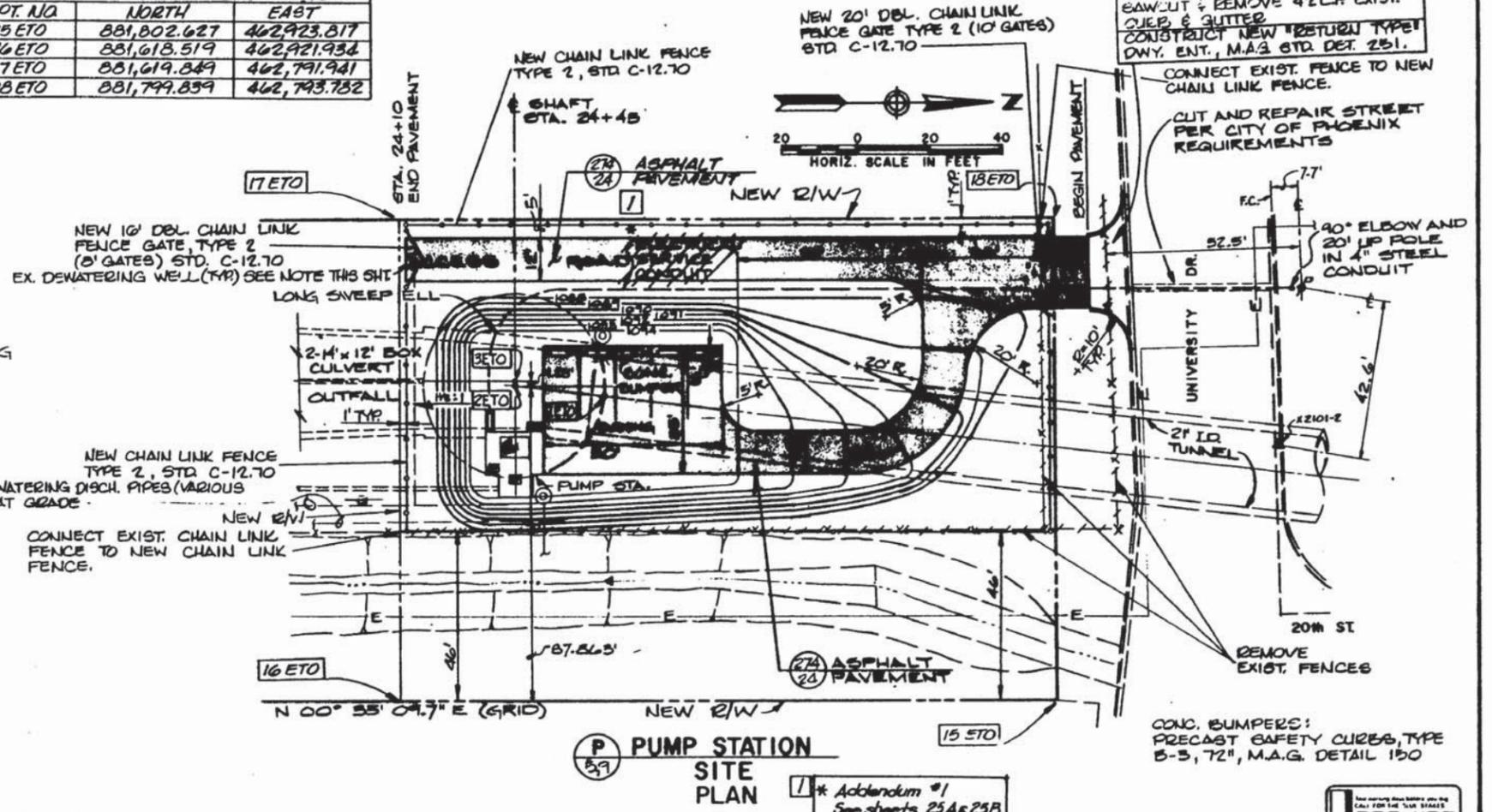
PT. NO.	NORTH	EAST
15 ETO	881,802.627	462,923.817
16 ETO	881,618.519	462,921.934
17 ETO	881,619.849	462,791.941
18 ETO	881,799.839	462,793.732



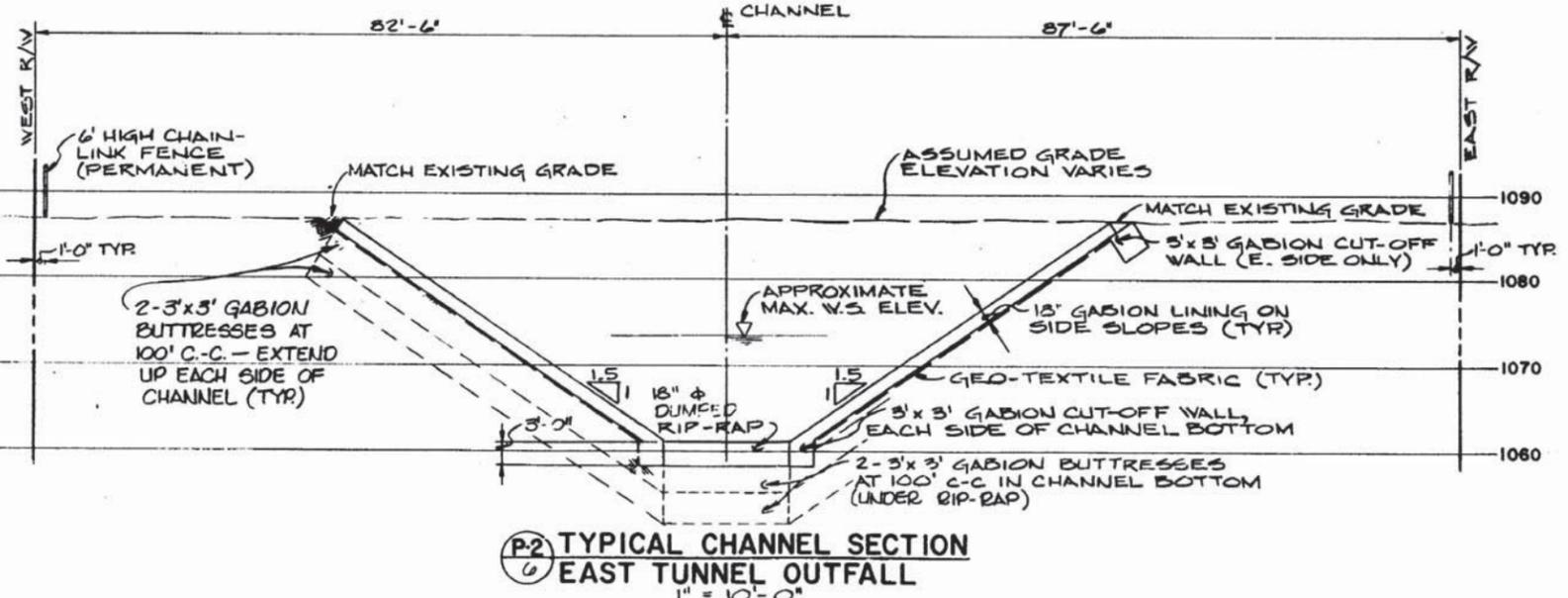
**COORDINATES FOR LOCATIONS**

PT. NO.	NORTH	EAST
11 ETO	879,688.626	462,687.278
12 ETO	879,640.529	462,700.940
13 ETO	879,681.517	462,845.232
14 ETO	879,729.614	462,831.569

**GRADING PLAN  
AT SALT RIVER**  
1" = 20'-0"  
50'-0"



**PUMP STATION  
SITE PLAN**  
1" = 20'-0"  
50'-0"  
\* Addendum #1  
See sheets 25A & 25B



**TYPICAL CHANNEL SECTION  
EAST TUNNEL OUTFALL**  
1" = 10'-0"

**RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072**

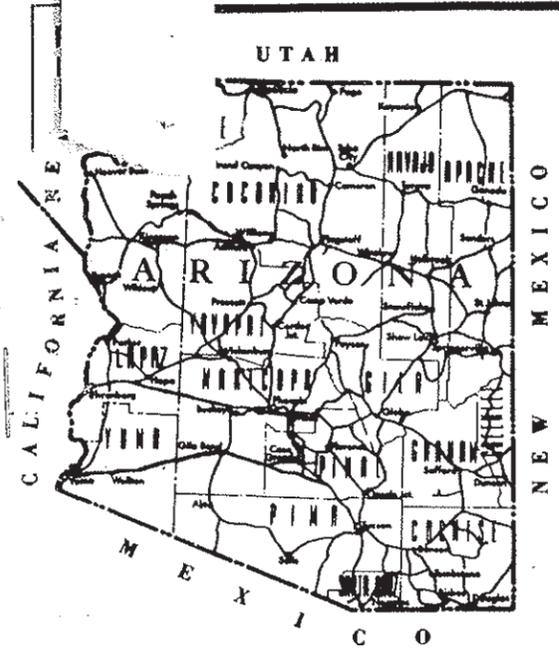
**EAST TUNNEL OUTFALL  
MISCELLANEOUS DETAILS**

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

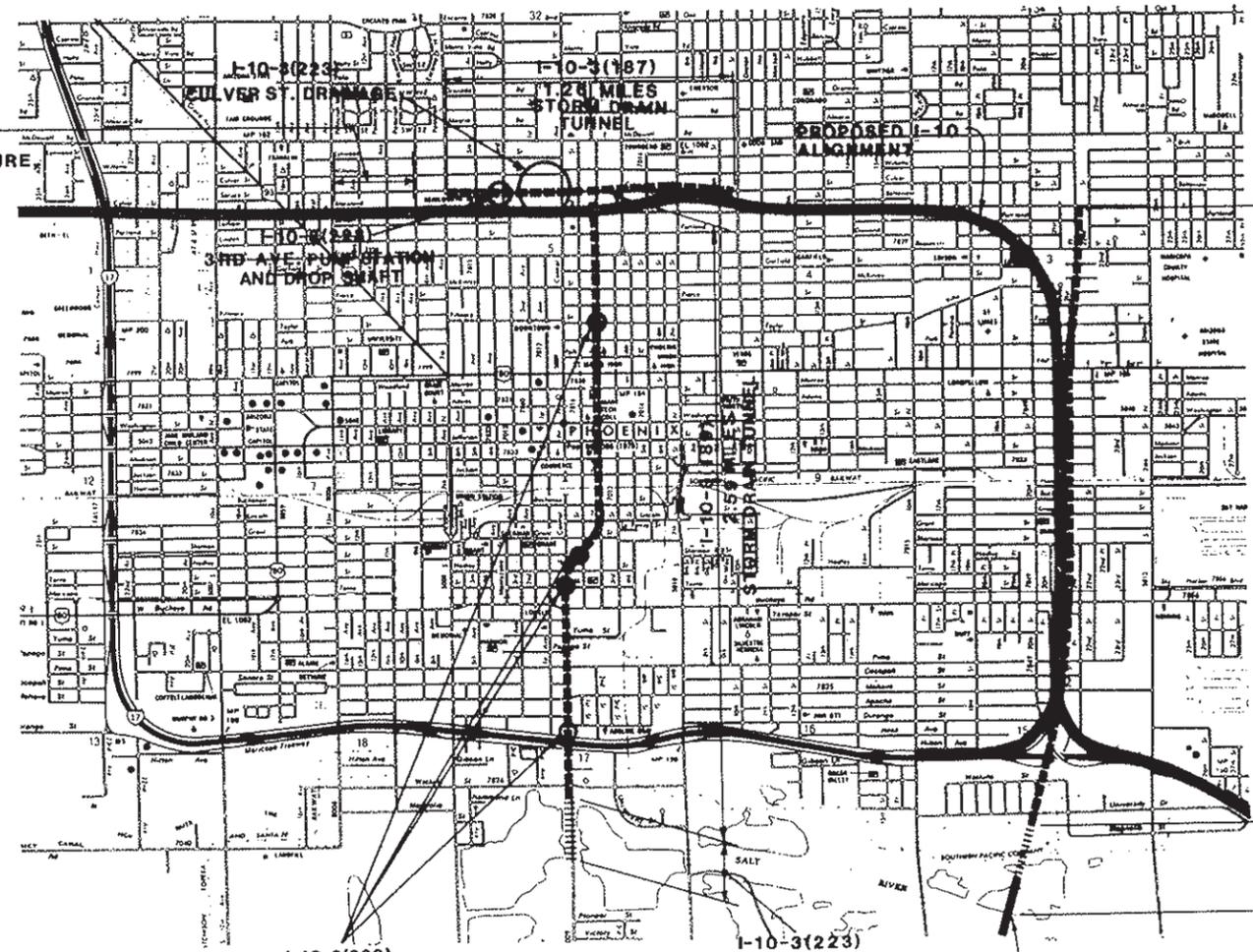
**DEWATERING WELLS & PIPING:**  
LOCATIONS OF EXIST. DEWATERING WELLS AND DISCHARGE PIPING ARE APPROXIMATE. CONTRACTOR TO VERIFY LOCATIONS PRIOR TO THE START OF CONSTRUCTION AND SHALL TAKE APPROPRIATE PROTECTIVE MEASURES DURING CONSTRUCTION.

10-MA-149 H0128-05C

STATE OF ARIZONA  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
 PLAN AND PROFILE OF PROPOSED  
 STATE HIGHWAY  
 PHOENIX-CASA GRANDE  
 MARICOPA COUNTY  
 I-10-3(270)



I-10-3(120)  
 0.34 MILES  
 BRIDGE, DRAINAGE STRUCTURE  
 GRADE & DRAIN



**AS BUILT**  
 DATE: 12-17-92 JMG

FIELD ENGINEER: MICHAEL J. HARRINGTON  
 FINISH DATE: OCTOBER 2, 1989

Disk II -  
 II

**PDF**  
 DATE 1-25-02 DISK II

I-10-3(223)  
 WEST TUNNEL DROP SHAFTS

I-10-3(223)  
 0.10 MILES  
 INNER LOOP - WEST TUNNEL OUTFALL

I-10-3(270)  
 EAST TUNNEL OUTFALL  
 MODIFICATIONS

I-10-3(188)  
 2.63 MILES  
 STORM DRAIN TUNNEL

AZ-ACI-10-3(225)  
 0.377 MILES  
 INNER LOOP -  
 EAST TUNNEL  
 OUTFALL

ARIZONA DEPARTMENT OF TRANSPORTATION  
 HIGHWAY DIVISION  
 APPROVED:

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 CHIEF DEPUTY STATE ENGINEER

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 DEPUTY STATE ENGINEER

U.S. DEPARTMENT OF TRANSPORTATION  
 FEDERAL HIGHWAY ADMINISTRATION

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
 DIVISION ADMINISTRATOR

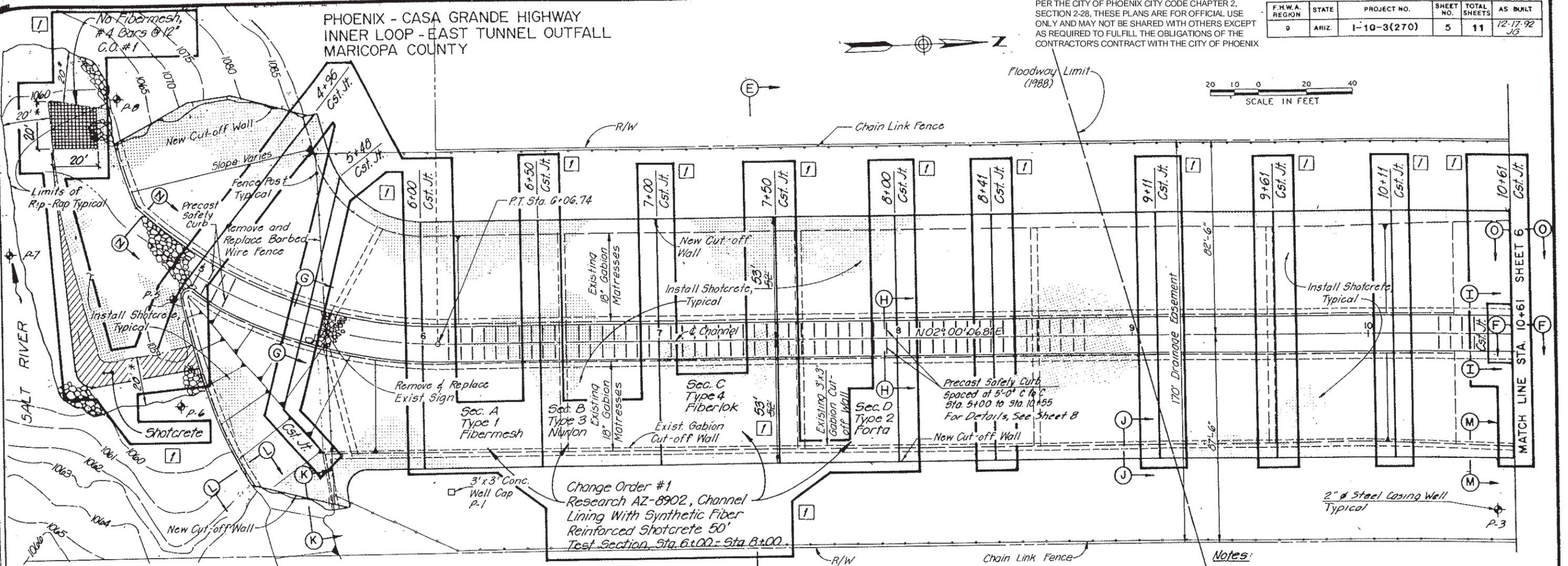
**RIVERVIEW DRIVE**  
**18TH PL TO 22ND ST**  
**ST85110072**

TRACS NO. 10 MA 149 H-0128-05-C

# PHOENIX - CASA GRANDE HIGHWAY INNER LOOP - EAST TUNNEL OUTFALL MARICOPA COUNTY

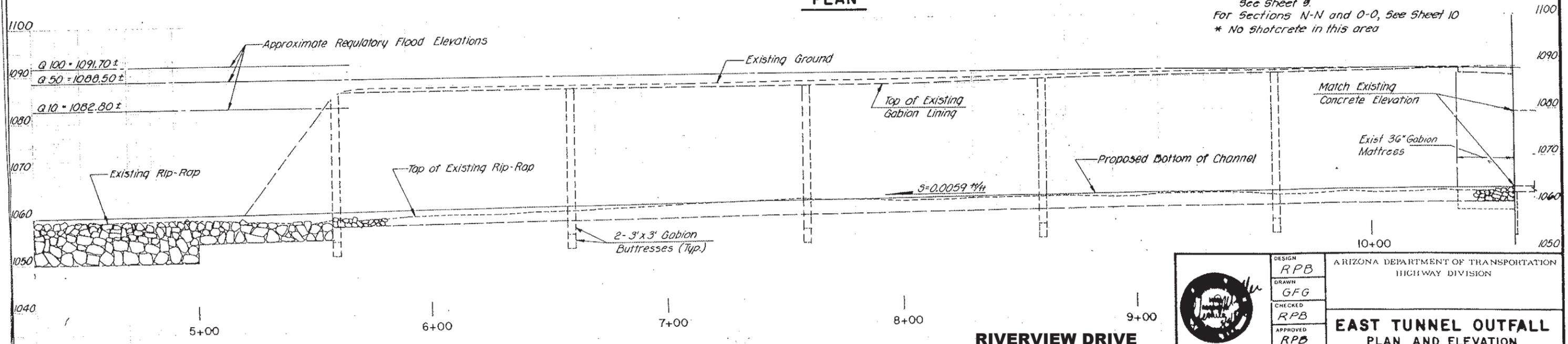
PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ	I-10-3(270)	5	11	12-17-92 JG



**PLAN**

**Notes:**  
 For Sections E-E and F-F, See Sheet 8  
 For Sections G-G, H-H, I-I, J-J, K-K, L-L and M-M, See Sheet 9  
 For Sections N-N and O-O, See Sheet 10  
 \* No Shotcrete in this area



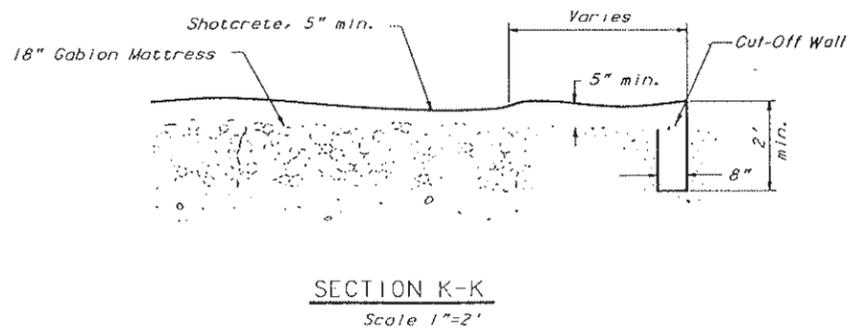
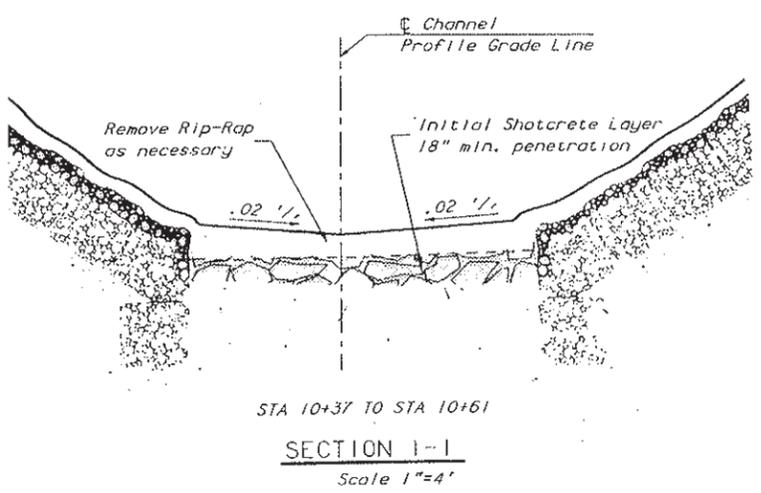
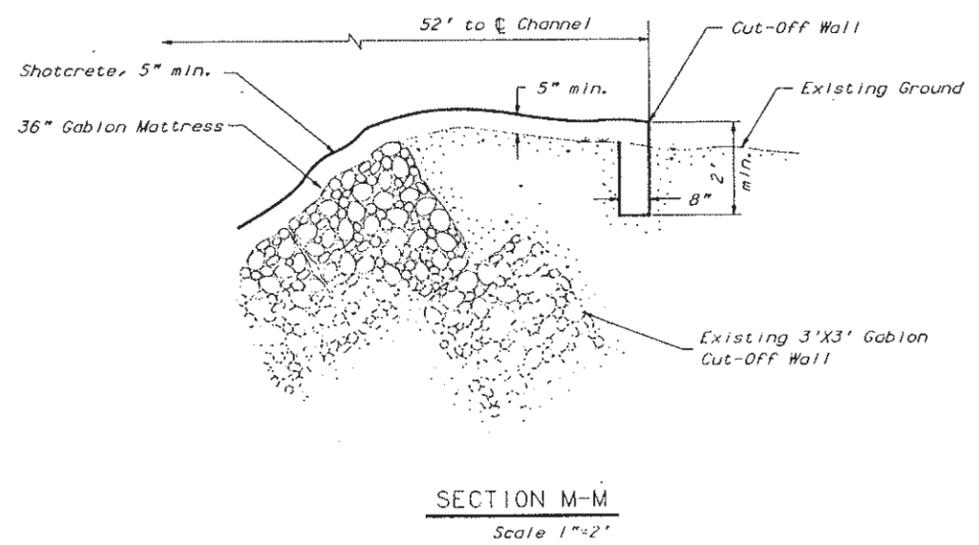
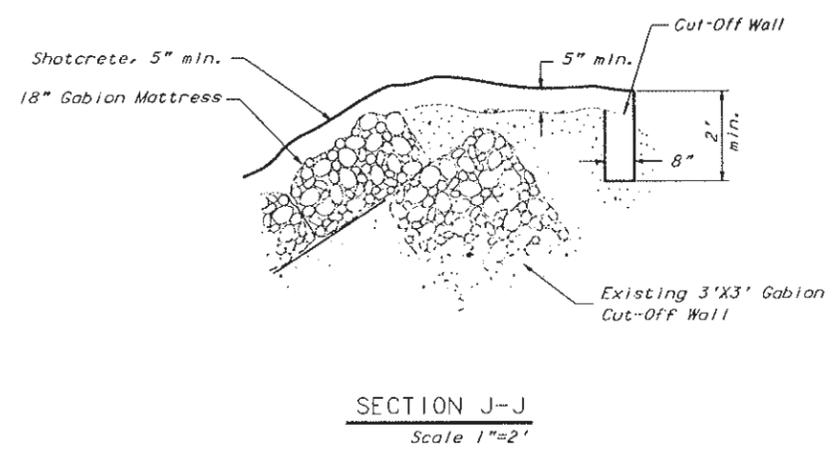
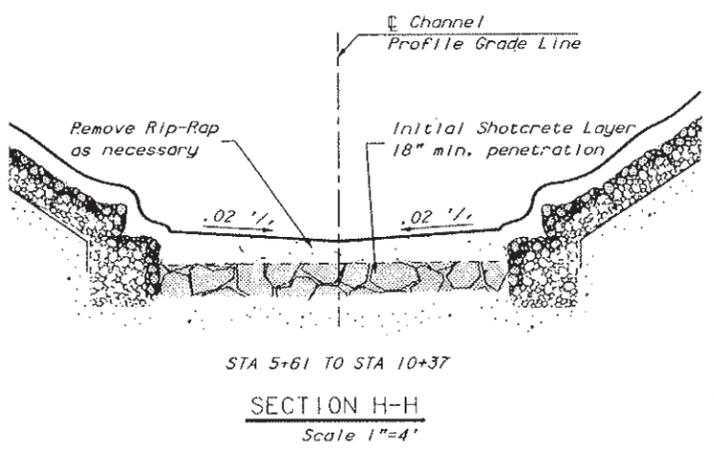
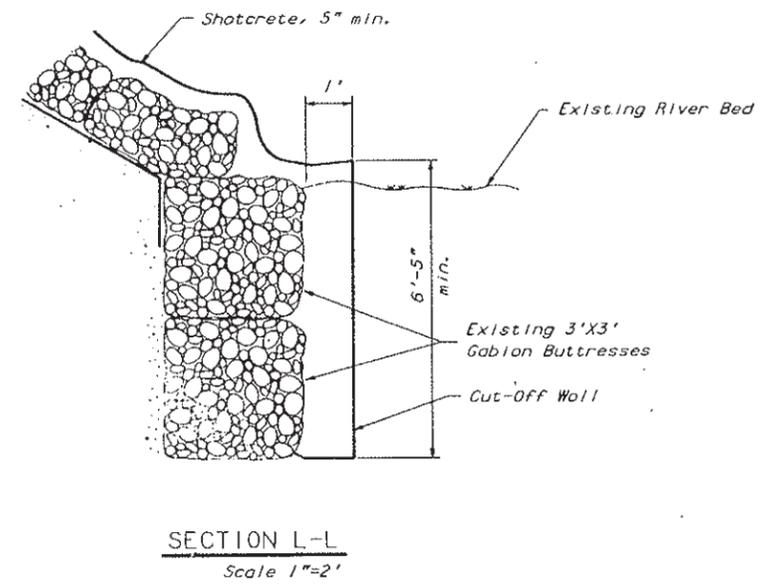
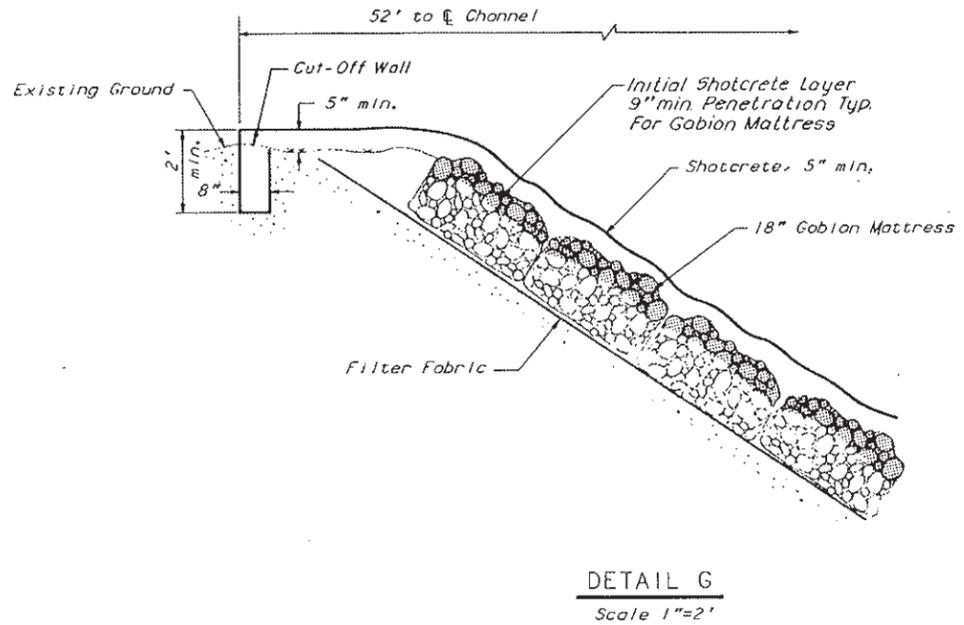
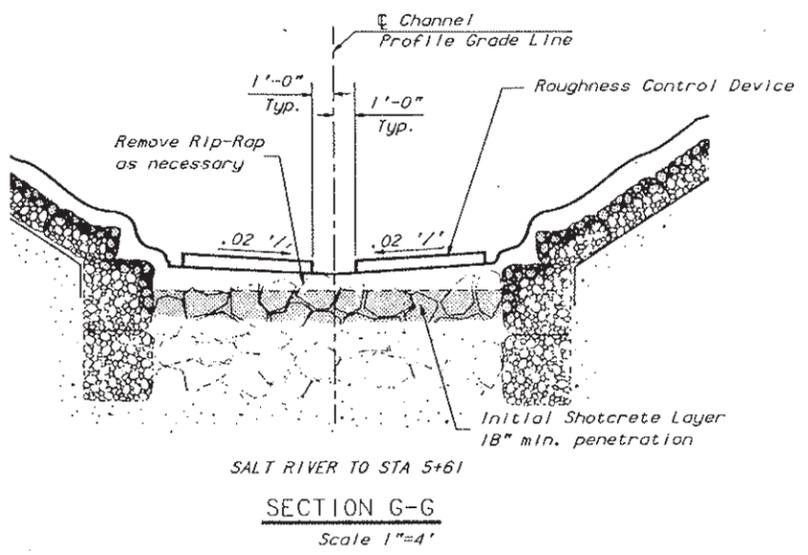
**ELEVATION**

**RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072**

	DESIGN	RPB	ARIZONA DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION  <b>EAST TUNNEL OUTFALL PLAN AND ELEVATION SALT RIVER TO STA. 10+61</b>  TRACS NO. 10 MA 148 H-0128-05-C DWG NO 5
	DRAWN	GFG	
	CHECKED	RPB	
	APPROVED	RPB	

**PHOENIX-CASA GRANDE HIGHWAY  
RIVER LOOP-EAST TUNNEL OUTFALL  
RICOPA COUNTY**

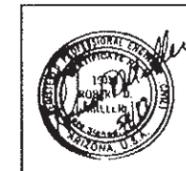
F.H.W.A. REGION	STATE	PROJECT NO.	SHEET NO.	TOTAL SHEETS	AS BUILT
9	ARIZ.	I-10-3(270)	9	11	12-17-92 JG



Notes:  
For location of sections G-G, H-H, I-I, J-J, K-K, L-L, and M-M, see sheet 5.

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

**RIVERVIEW DRIVE  
18TH PL TO 22ND ST  
ST85110072**



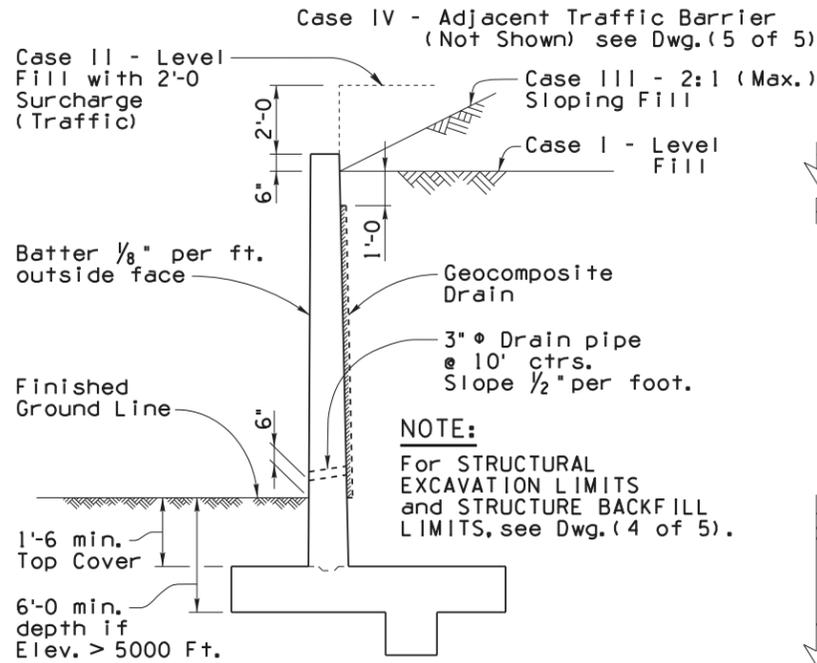
DESIGN: RPB  
DRAWN: A.A.  
CHECKED: RPB  
APPROVED: RPB

ARIZONA DEPARTMENT OF TRANSPORTATION  
HIGHWAY DIVISION

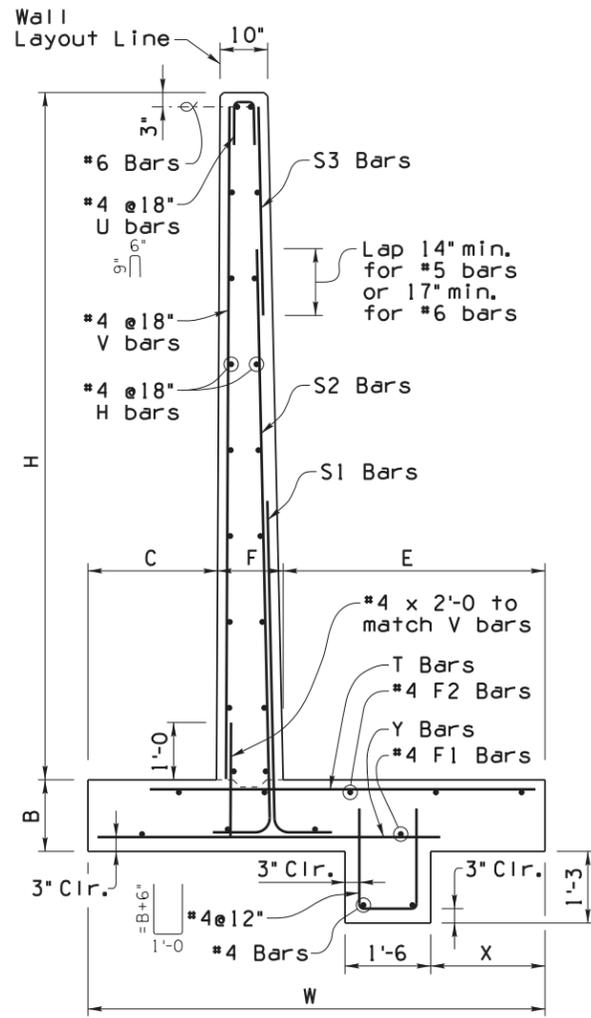
**EAST TUNNEL OUTFALL  
CHANNEL DETAILS**



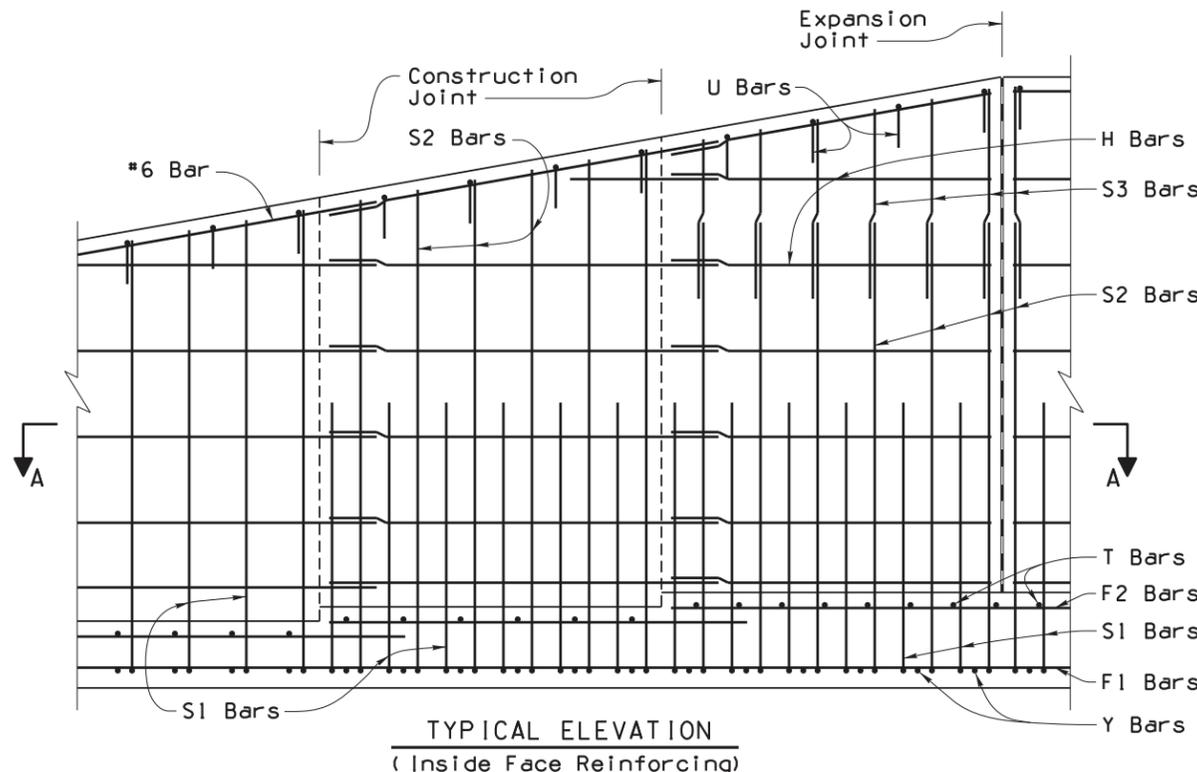
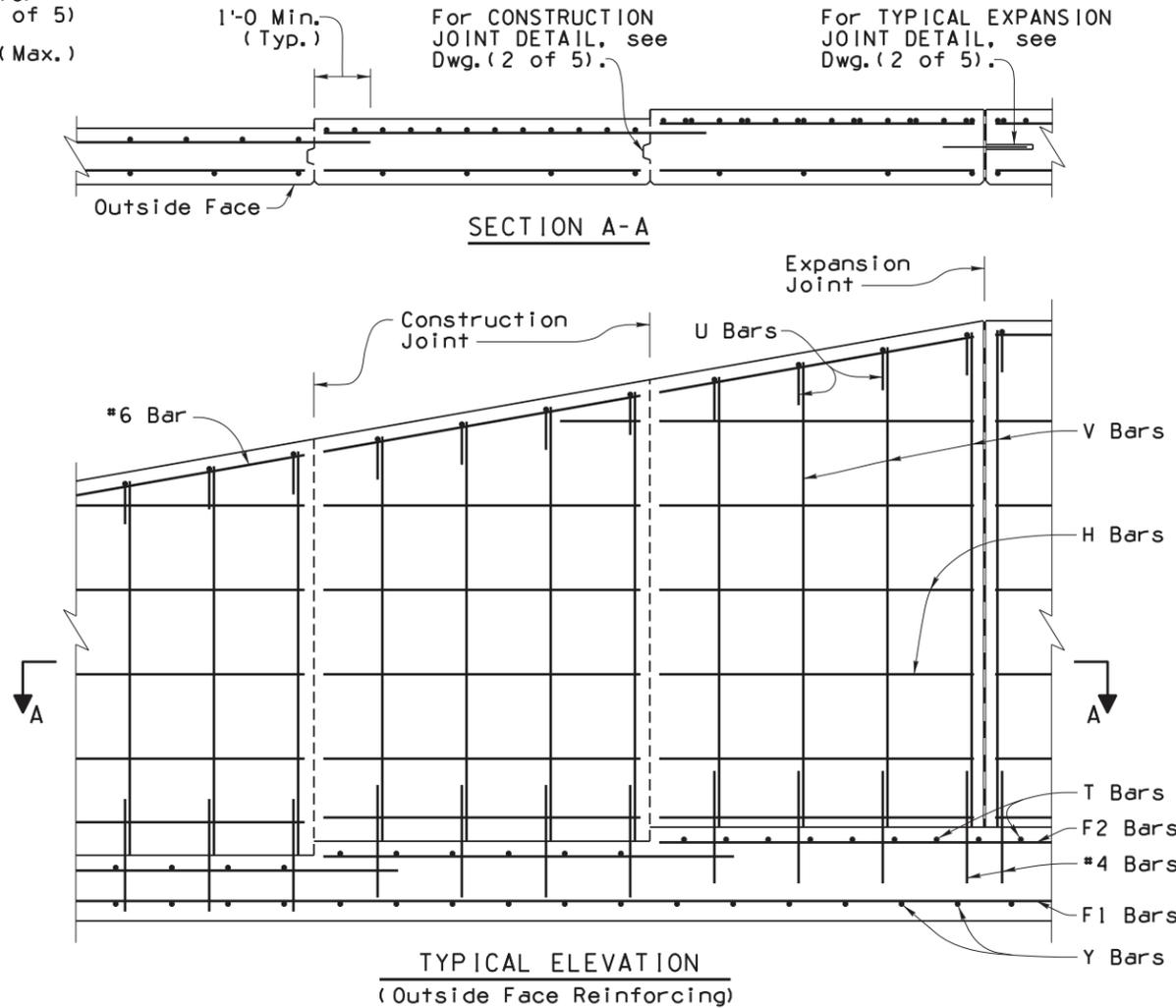
TRACS NO. 10 MA 149 H-0128-05-C  
DWG. NO. 9



TYPICAL SECTION (Case I, II, III)



TYPICAL WALL DETAILS



GENERAL NOTES:

Construction Specification - Arizona Department of Transportation Standard Specifications for Road and Bridge Construction, latest Edition.

Design Specifications - AASHTO LRFD Bridge Design Specifications, 7th Edition 2014.

Design:  
Soil weight = 120 p.c.f.  
Backfill angle of internal friction = 33°  
Existing ground angle of internal friction = 31°

All Concrete shall be Class "S" (f'c = 3000 psi).

Reinforcing steel shall conform to ASTM Specification A615. All reinforcing shall be furnished as Grade 60.

All bends and hooks shall meet the requirements of AASHTO LRFD Article 5.10. All bend dimensions for reinforcing steel shall be out-to-out of bars. All placement dimensions for reinforcing steel shall be to center of bars unless noted otherwise.

All reinforcing steel shall have 2 inch clear cover unless noted otherwise.

Chamfer all exposed corners 3/4" unless noted otherwise.

Compact structure backfill for footing and wall base minimum 100 percent of ASTM D698 max. dry density.

See Project Plans for wall layout, top of footing and finished grade elevations, footing step and wall joint locations. Construction Joints shall match the locations of construction joints. See Project Plans for wall surface treatment. Increase the wall thickness at the face for the depth of surface treatment.

Dimensions shall not be scaled from drawings.

Pay item measure of square foot of wall constructed is measured along front face of wall from top of footing to top of wall cap. Pay item includes all labor and materials for excavation, backfill, drainage and reinforced concrete wall with footing.

Item No. 9140178 RETAINING WALL (REINFORCED CONCRETE CANTILEVER)  
Measure: Square Foot

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTE:

For Retaining Wall Dimensions, Quantities and additional Details, see SD 7.01 (2 to 5).

Note to Designer: The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.J.H.	9-10
2	General updates, added limit state values and notes.	D.B.B.	1-15
3			
4			

DESIGN APPROVED <i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>		RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
			<b>SD 7.01 (1 of 5)</b>
LOCATION	<b>RIVERVIEW DRIVE</b>		SHEET NO.
	<b>18TH PL TO 22ND ST</b>		<b>OF</b>
	<b>ST85110072</b>		

CASE I - LEVEL FILL

Dimensions							Steel List											Service Limit State			Strength Limit State										
H	W	B	C	F	E	X	S1			S2			S3			H	V	Y			F1	T			F2	Qtveu-SERV Lbs./Sq.Ft.	Qnveu-SERV Lbs./Sq.Ft.	B'SERV Ft.	Qtveu-STR Lbs./Sq.Ft.	Qnveu-STR Lbs./Sq.Ft.	B'STR Ft.
							Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length			Number	Length	Bar Size		Spacing	Length	Number							
4'	3'-0	1'-0	10"	10"	1'-4	8"	5	12"	5'-6						4	3'-9	5	12"	2'-3	2	5	12"	2'-3	3	840	480	2.46	1130	650	2.36	
5'	3'-6	1'-0	1'-0	10"	1'-8	9"	5	12"	6'-6						6	4'-9	5	12"	2'-9	2	5	12"	2'-9	3	920	560	2.91	1240	760	2.79	
6'	4'-0	1'-0	1'-2	10"	2'-0	10"	5	12"	7'-6						6	5'-9	5	12"	3'-3	2	5	12"	3'-3	3	1010	650	3.31	1380	900	3.16	
7'	4'-6	1'-0	1'-4	10"	2'-4	11"	5	12"	8'-6						8	6'-9	5	12"	3'-9	3	5	12"	3'-6	3	1110	750	3.70	1530	1040	3.52	
8'	5'-0	1'-2	1'-6	10"	2'-8	1'-0	5	12"	9'-9						10	7'-9	5	12"	4'-3	3	5	12"	4'-0	3	1270	890	4.01	1750	1240	3.79	
9'	5'-6	1'-2	1'-9	1'-0	2'-9	1'-2	5	12"	10'-9						10	8'-9	5	12"	4'-6	3	5	12"	4'-0	3	1350	970	4.40	1880	1370	4.14	
10'	6'-0	1'-2	1'-9	1'-0	3'-3	1'-4	6	12"	11'-9						12	9'-9	5	12"	4'-9	3	5	12"	4'-6	4	1510	1130	4.73	2100	1590	4.45	
11'	6'-6	1'-2	2'-0	1'-0	3'-6	1'-6	5	12"	4'-3	5	12"	12'-9			14	10'-9	5	12"	5'-3	4	5	12"	4'-9	4	1590	1210	5.12	2230	1710	4.81	
12'	7'-0	1'-3	2'-0	1'-0	4'-0	1'-8	6	12"	5'-3	5	12"	13'-9			14	11'-9	5	12"	5'-6	4	6	12"	5'-6	5	1770	1380	5.42	2490	1960	5.08	
13'	7'-6	1'-3	2'-3	1'-0	4'-3	1'-10	7	12"	6'-6	5	12"	14'-9			16	12'-9	5	12"	5'-9	4	6	9"	5'-9	5	1860	1470	5.81	2620	2090	5.43	
14'	8'-0	1'-3	2'-3	1'-2	4'-7	2'-0	7	12"	7'-0	5	12"	15'-9			18	13'-9	5	12"	6'-3	4	7	12"	6'-9	5	2020	1630	6.14	2850	2320	5.74	
15'	8'-6	1'-3	2'-6	1'-3	4'-9	2'-2	7	12"	8'-0	5	12"	16'-9			18	14'-9	6	12"	6'-6	5	7	12"	7'-0	5	2100	1710	6.53	2970	2450	6.10	
16'	9'-0	1'-4	2'-6	1'-4	5'-2	2'-4	7	12"	7'-3	6	12"	8'-9	5	12"	10'-9	20	15'-9	6	12"	6'-9	5	8	12"	8'-3	6	2300	1900	6.82	3250	2710	6.36
17'	9'-6	1'-4	2'-9	1'-5	5'-4	2'-6	7	12"	6'-0	7	12"	9'-9	5	12"	10'-9	22	16'-9	6	9"	7'-3	5	8	12"	8'-6	6	2380	1980	7.21	3380	2840	6.72
18'	10'-0	1'-5	2'-9	1'-6	5'-9	2'-8	7	12"	7'-0	7	12"	10'-6	5	12"	11'-0	22	17'-9	6	9"	7'-6	5	7	8"	8'-6	6	2580	2170	7.50	3660	3110	6.99
19'	10'-6	1'-6	3'-0	1'-7	5'-11	2'-10	8	12"	8'-0	7	12"	10'-3	6	12"	12'-9	24	18'-9	6	9"	8'-0	6	8	9"	9'-3	7	2690	2270	7.86	3830	3260	7.30
20'	11'-0	1'-6	3'-0	1'-8	6'-4	3'-0	8	12"	7'-6	8	12"	11'-6	6	12"	12'-9	26	19'-9	6	8"	8'-3	6	8	8"	9'-6	7	2860	2440	8.19	4070	3500	7.61
21'	11'-6	1'-7	3'-3	1'-9	6'-6	3'-2	8	12"	8'-3	8	12"	12'-6	6	12"	12'-9	26	20'-9	7	12"	8'-9	6	9	9"	10'-6	7	2970	2540	8.54	4240	3660	7.92
22'	12'-0	1'-8	3'-3	1'-10	6'-11	3'-4	9	12"	9'-6	8	12"	13'-6	6	12"	13'-0	28	21'-9	7	12"	9'-0	6	9	9"	11'-0	7	3180	2740	8.83	4530	3940	8.18
23'	12'-6	1'-9	3'-6	2'-0	7'-0	3'-6	10	12"	12'-3	7	12"	14'-0	6	12"	13'-3	30	22'-9	8	12"	9'-3	6	8	6"	10'-3	7	3290	2840	9.18	4700	4100	8.49
24'	13'-0	1'-10	3'-6	2'-2	7'-4	3'-8	9	12"	9'-3	9	12"	15'-6	6	12"	13'-3	30	23'-9	8	12"	9'-6	7	8	6"	10'-6	8	3500	3040	9.47	5000	4380	8.76
25'	13'-6	2'-0	3'-9	2'-4	7'-5	3'-10	9	12"	10'-3	9	12"	16'-6	6	12"	13'-6	32	24'-9	8	12"	10'-0	7	8	6"	10'-9	8	3650	3170	9.78	5220	4580	9.02
26'	14'-0	2'-3	3'-9	2'-6	7'-9	4'-0	10	12"	13'-0	8	12"	17'-6	6	12"	13'-9	34	25'-9	8	12"	10'-3	7	8	6"	11'-0	8	3920	3410	9.99	5630	4940	9.19
27'	14'-6	2'-6	4'-0	2'-8	7'-10	4'-2	10	12"	12'-3	9	12"	18'-6	6	12"	14'-3	34	26'-9	8	12"	10'-6	7	8	6"	11'-0	8	4110	3570	10.26	5910	5180	9.41
28'	15'-0	2'-9	4'-0	2'-10	8'-2	4'-4	10	12"	13'-3	9	12"	19'-9	6	12"	14'-3	36	27'-9	8	12"	11'-0	7	8	6"	11'-6	8	4390	3820	10.47	6330	5550	9.58
29'	15'-6	3'-0	4'-3	3'-0	8'-3	4'-6	10	12"	12'-0	10	12"	21'-0	6	12"	14'-3	38	28'-9	8	12"	11'-3	7	8	6"	11'-9	9	4580	3980	10.73	6610	5800	9.79
30'	16'-0	3'-3	4'-3	3'-2	8'-7	4'-8	10	12"	13'-0	10	12"	22'-3	6	12"	14'-3	38	29'-9	8	12"	11'-6	8	8	6"	11'-9	9	4860	4230	10.94	7040	6180	9.97

⊕ Total number of bars in cross section.

QUANTITIES

CASE I			
H	Concrete C.Y./Ln.Ft.	Steel Lbs./Ln.Ft.	Steel (Horiz. Lap) Lbs./Splice
4'	.30	27	10
5'	.35	31	12
6'	.40	33	12
7'	.45	38	14
8'	.53	42	15
9'	.61	44	15
10'	.67	53	17
11'	.72	57	19
12'	.80	66	20
13'	.86	78	21
14'	.96	84	22
15'	1.04	92	23
16'	1.16	108	25
17'	1.25	119	26
18'	1.37	128	26
19'	1.50	153	29
20'	1.61	171	30
21'	1.75	185	30
22'	1.90	203	32
23'	2.09	229	33
24'	2.29	236	34
25'	2.54	248	36
26'	2.84	264	37
27'	3.16	279	37
28'	3.50	294	38
29'	3.85	317	40
30'	4.22	328	41

LIMIT STATE NOTES:

- Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- Qnveu-SERV = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- B' SERV = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.
- Qtveu-STR = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
- Qnveu-STR = Net equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.
- B' STR = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

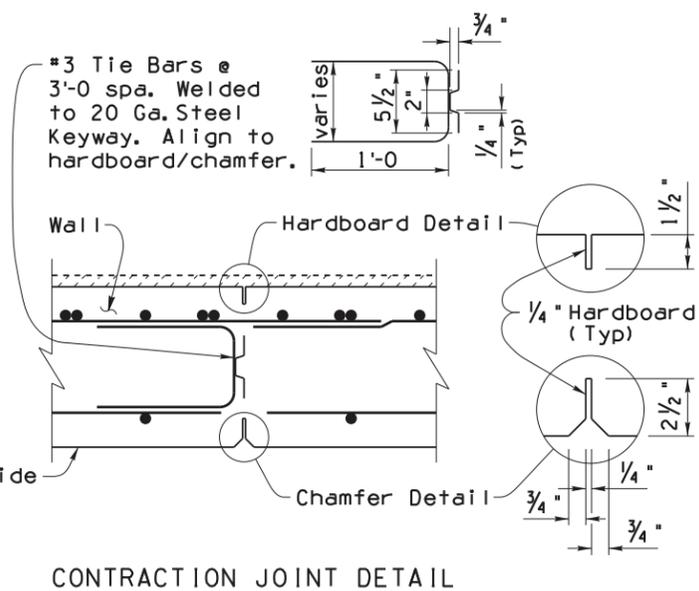
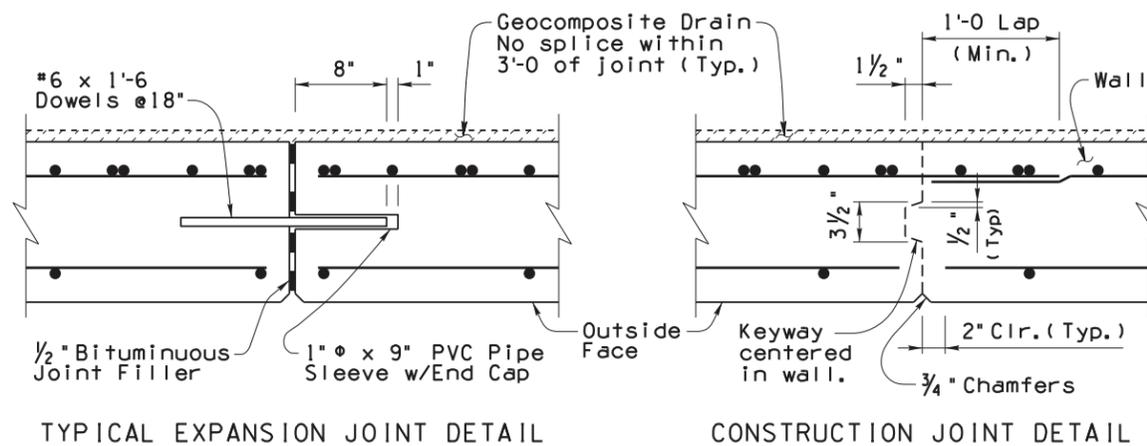
For other applicable limit states, perform project specific-analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

QUANTITIES NOTE:

- Quantities are shown for information purposes only. The pay item is measured per square foot of wall.
- Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.
- Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0 lap splices occur at construction or contraction joints.
- Steel and concrete quantities for footing steps shall be added to those shown in the table.

JOINT NOTES:

- All retaining walls shall have construction joints or contraction joints spaced at not more than 30'-0 apart or as shown. Contraction joints may be substituted for construction joints for wall pours longer than 30'-0.
- Expansion joints shall be provided at intervals not exceeding 90'-0.
- Footings may be continuous with no joints (except at footing step locations).



Bar Size	Dimension	
	A	D
5	1'-0	3 3/4"
6	1'-0	4 1/2"
7	1'-2	5 1/4"
8	1'-4	6"
9	1'-8	9"
10	1'-10	10"
11	2'-0	11"

S2 BAR S1 BAR

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTE:

For General Notes, Typical Elevations, Sections, and Details see SD 7.01 (1, 3 and 4).

DESIGN APPROVED <i>Celina Aman</i>	ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>	RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO. <b>RIVERVIEW DRIVE</b>	DRAWING NO. <b>SD 7.01 (2 of 5)</b>
LOCATION	<b>18TH PL TO 22ND ST</b>	SHEET NO. <b>OF</b>

ST85110072

CASE III - 2:1 (MAX.) SLOPING FILL

Dimensions							Steel List												Service Limit State			Strength Limit State									
H	W	B	C	F	E	X	S1			S2			S3			H	V	Y			F1	T	F2	Qtveu-SERV Lbs./Sq.Ft.	Qnveu-SERV Lbs./Sq.Ft.	B'SERV Ft.	Qtveu-STR Lbs./Sq.Ft.	Qnveu-STR Lbs./Sq.Ft.	B'STR Ft.		
							Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length			Number	Length	Bar Size										Spacing	Length
4'	3'-0	1'-0	1'-0	10"	1'-2	1'-0	5	12"	5'-6						4	3'-9	5	12"	2'-0	2	5	12"	2'-6	3	960	600	2.52	1320	830	2.44	
5'	3'-6	1'-0	1'-0	10"	1'-8	1'-0	5	12"	6'-6						6	4'-9	5	12"	2'-6	2	5	12"	3'-0	3	1140	780	2.90	1570	1080	2.80	
6'	4'-2	1'-0	1'-0	10"	2'-4	1'-0	5	12"	7'-6						6	5'-9	5	12"	3'-3	2	5	12"	3'-9	3	1300	940	3.46	1810	1320	3.34	
7'	5'-0	1'-2	1'-2	10"	3'-0	1'-3	5	12"	8'-9						8	6'-9	5	12"	3'-9	3	5	12"	4'-3	4	1470	1090	4.19	2040	1530	4.05	
8'	5'-9	1'-2	1'-4	10"	3'-7	1'-6	6	12"	9'-9						10	7'-9	5	12"	4'-3	3	6	12"	5'-0	4	1600	1220	4.89	2220	1710	4.73	
9'	6'-6	1'-3	1'-6	1'-0	4'-0	1'-9	6	12"	10'-9						10	8'-9	5	12"	4'-9	3	6	9"	5'-6	5	1760	1370	5.55	2450	1930	5.37	
10'	7'-3	1'-3	1'-8	1'-0	4'-7	2'-0	7	12"	12'-0						12	9'-9	5	12"	5'-3	4	7	12"	6'-9	5	1890	1500	6.25	2640	2110	6.06	
11'	8'-3	1'-4	1'-10	1'-2	5'-3	2'-3	7	12"	13'-0						14	10'-9	5	12"	6'-0	4	8	12"	7'-9	6	2030	1630	7.25	2830	2290	7.04	
12'	9'-0	1'-4	2'-0	1'-2	5'-10	2'-6	7	12"	14'-0						14	11'-9	5	12"	6'-6	4	8	12"	8'-6	7	2170	1770	7.95	3020	2480	7.73	
13'	9'-9	1'-6	2'-2	1'-4	6'-3	2'-9	6	12"	6'-3	6	12"	15'-0			16	12'-9	5	12"	7'-0	5	8	9"	9'-3	8	2360	1940	8.58	3290	2730	8.34	
14'	10'-6	1'-8	2'-4	1'-4	6'-10	3'-0	7	12"	8'-6	6	12"	16'-3			18	13'-9	5	12"	7'-6	5	7	6"	9'-0	8	2550	2110	9.22	3560	2970	8.95	
15'	11'-3	1'-10	2'-6	1'-4	7'-5	3'-2	7	14"	6'-6	7	14"	17'-6			18	14'-9	6	14"	8'-3	5	8	7"	10'-9	9	2740	2280	9.86	3830	3210	9.56	
16'	12'-0	2'-0	2'-8	1'-6	7'-10	3'-4	7	12"	6'-9	7	12"	10'-3	5	12"	10'-0	20	15'-9	5	12"	8'-9	6	8	6"	11'-0	9	2940	2460	10.49	4110	3460	10.18
17'	12'-6	2'-2	2'-8	1'-6	8'-4	3'-6	8	14"	7'-9	8	14"	11'-0	6	14"	11'-0	22	16'-9	6	14"	9'-3	6	9	7"	12'-0	9	3220	2720	10.72	4510	3840	10.37
18'	13'-0	2'-4	2'-10	1'-6	8'-8	3'-8	8	12"	8'-3	8	12"	11'-6	6	12"	11'-6	22	17'-9	6	12"	9'-6	6	9	6"	12'-6	10	3440	2920	11.02	4830	4130	10.64
19'	13'-6	2'-6	2'-10	1'-8	9'-0	3'-10	9	14"	8'-9	9	14"	13'-6	6	14"	11'-0	24	18'-9	6	12"	9'-9	7	9	6"	13'-0	10	3730	3190	11.24	5260	4530	10.83
20'	14'-0	2'-8	3'-0	1'-10	9'-2	4'-0	9	14"	9'-6	9	14"	14'-3	6	14"	11'-3	26	19'-9	6	12"	10'-3	7	10	7"	13'-6	11	3960	3400	11.53	5590	4840	11.10
21'	14'-6	2'-10	3'-2	2'-0	9'-4	4'-2	9	12"	9'-6	9	12"	14'-9	6	12"	12'-0	26	20'-9	6	12"	10'-6	7	10	6"	14'-0	11	4200	3620	11.82	5930	5150	11.36
22'	15'-0	3'-0	3'-2	2'-2	9'-8	4'-4	9	12"	10'-3	9	12"	15'-9	6	12"	12'-3	28	21'-9	7	12"	11'-0	8	10	6"	14'-6	11	4510	3910	12.04	6380	5570	11.54
23'	15'-8	3'-4	3'-4	2'-4	10'-0	4'-6	9	12"	11'-3	9	12"	16'-9	6	12"	12'-6	30	22'-9	7	12"	11'-6	8	10	6"	14'-9	12	4790	4150	12.48	6780	5920	11.96
24'	16'-4	3'-8	3'-6	2'-6	10'-4	4'-8	10	14"	11'-9	10	14"	19'-0	6	14"	12'-0	30	23'-9	7	12"	12'-0	8	11	7"	15'-9	12	5070	4390	12.93	7190	6270	12.37
25'	17'-0	4'-0	3'-8	2'-9	10'-7	4'-10	10	12"	13'-0	9	12"	19'-3	6	12"	12'-9	32	24'-9	7	12"	12'-6	8	11	6"	16'-6	12	5350	4630	13.38	7590	6620	12.79
26'	17'-6	4'-4	3'-10	3'-0	10'-8	5'-0	10	12"	13'-9	9	12"	20'-3	6	12"	13'-0	34	25'-9	7	12"	13'-0	9	11	6"	17'-0	13	5670	4910	13.59	8060	7030	12.96
27'	18'-0	4'-8	4'-0	3'-3	10'-9	5'-2	10	12"	15'-0	9	12"	21'-3	6	12"	13'-3	34	26'-9	7	12"	13'-0	9	11	6"	17'-6	13	6000	5200	13.81	8540	7460	13.14
28'	18'-8	5'-0	4'-3	3'-6	10'-11	5'-4	10	12"	13'-9	10	12"	22'-9	6	12"	13'-6	36	27'-9	7	12"	13'-6	9	11	6"	17'-9	13	6240	5400	14.29	8890	7760	13.59
29'	19'-4	5'-4	4'-6	3'-9	11'-1	5'-6	10	12"	14'-9	10	12"	24'-0	6	12"	13'-9	38	28'-9	7	12"	14'-0	10	11	6"	17'-9	13	6490	5610	14.77	9250	8060	14.03
30'	20'-0	5'-8	4'-9	4'-0	11'-3	5'-8	10	12"	15'-9	10	12"	25'-3	6	12"	13'-9	38	29'-9	7	12"	14'-6	10	11	6"	18'-0	13	6740	5820	15.25	9600	8360	14.48

⊕ Total number of bars in cross section.

QUANTITIES

CASE III			
H	Concrete C.Y./Ln.Ft.	Steel Lbs./Ln.Ft.	Steel (Horiz. Lap) Lbs./Splice
4'	.30	27	10
5'	.35	31	12
6'	.41	34	12
7'	.50	40	14
8'	.56	50	16
9'	.68	57	16
10'	.74	71	18
11'	.88	84	20
12'	.96	89	21
13'	1.13	107	24
14'	1.28	123	25
15'	1.44	140	26
16'	1.65	154	28
17'	1.81	181	29
18'	1.97	213	30
19'	2.20	229	32
20'	2.44	248	34
21'	2.69	292	34
22'	2.96	314	36
23'	3.35	320	38
24'	3.77	353	38
25'	4.25	400	39
26'	4.72	417	42
27'	5.22	432	42
28'	5.77	459	43
29'	6.35	473	45
30'	6.95	487	45

LIMIT STATE NOTES:

Qtveu-SERV = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.  
 Qnveu-SERV = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.  
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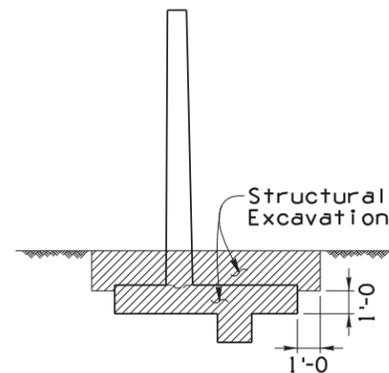
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QUANTITIES NOTE:

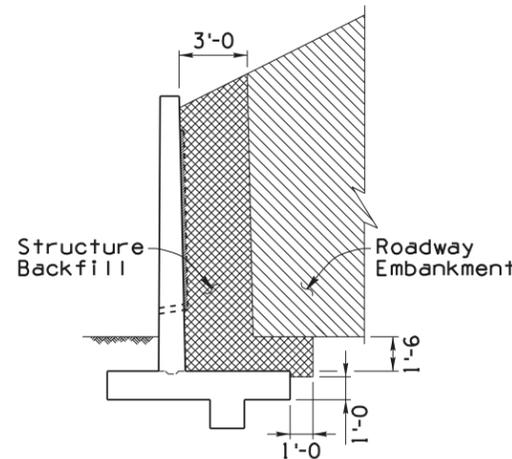
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 Steel and concrete quantities for footing steps shall be added to those shown in the table.

Note to Designer: The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.J.H.	9-10
2	General updates, added limit state values and notes.	D.B.B.	1-15
3			
4			



STRUCTURAL EXCAVATION LIMITS



STRUCTURE BACKFILL LIMITS

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTE:

For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1 to 3).

DESIGN APPROVED <i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>		RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
	<b>RIVERVIEW DRIVE</b>		<b>SD 7.01 (4 of 5)</b>
LOCATION	<b>18TH PL TO 22ND ST</b>		SHEET NO.
	<b>ST85110072</b>		<b>OF</b>

CASE IV - ADJACENT TRAFFIC BARRIER

QUANTITIES

LIMIT STATE NOTES:

Dimensions							Steel List												Service Limit State			Strength Limit State									
H	W	B	C	F	E	X	S1			S2			S3			H	V	Y			F1	T			F2	Qtveu-SERV Lbs./Sq.Ft.	Qnveu-SERV Lbs./Sq.Ft.	B'SERV Ft.	Qtveu-STR Lbs./Sq.Ft.	Qnveu-STR Lbs./Sq.Ft.	B'STR Ft.
							Bar Size	Spacing	Length	Bar Size	Spacing	Length	Bar Size	Spacing	Length			Number	Length	Bar Size		Spacing	Length	Number							
4'	5'-0"	1'-0"	1'-6"	1'-0"	2'-6"	1'-0"	5	12"	5'-6"						4	3'-9"	5	12"	4'-0"	4	5	12"	3'-9"	4	1970	1610	2.92	2450	1970	3.09	
5'	5'-0"	1'-0"	1'-6"	1'-0"	2'-6"	1'-0"	5	12"	6'-6"						6	4'-9"	5	12"	4'-0"	4	5	12"	3'-9"	4	1900	1540	3.27	2350	1860	3.49	
6'	5'-6"	1'-0"	1'-6"	1'-0"	3'-0"	1'-6"	5	12"	7'-6"						6	5'-9"	5	12"	4'-0"	4	5	12"	4'-3"	4	1610	1250	4.40	2030	1540	4.63	
7'	5'-6"	1'-3"	1'-6"	1'-0"	3'-0"	1'-6"	5	12"	8'-9"						8	6'-9"	5	12"	4'-0"	4	5	12"	4'-3"	4	1590	1200	4.91	1980	1450	5.22	
8'	6'-0"	1'-3"	1'-9"	1'-0"	3'-3"	1'-8"	5	12"	9'-9"						10	7'-9"	5	12"	4'-6"	4	5	12"	4'-6"	4	1520	1130	5.72	1950	1420	5.94	
9'	6'-6"	1'-3"	2'-0"	1'-1"	3'-5"	1'-8"	5	12"	6'-6"	5	12"	10'-9"			10	8'-9"	5	12"	5'-0"	4	5	12"	4'-9"	4	1490	1100	6.50	2100	1570	6.12	
10'	7'-0"	1'-3"	2'-0"	1'-1"	3'-11"	1'-10"	5	12"	7'-6"	5	12"	11'-9"			12	9'-9"	5	12"	5'-3"	5	6	12"	5'-6"	5	1670	1280	6.55	2370	1840	6.15	
11'	7'-6"	1'-3"	2'-3"	1'-2"	4'-1"	2'-0"	5	12"	8'-6"	5	12"	12'-9"			14	10'-9"	5	12"	5'-6"	5	6	12"	5'-9"	5	1770	1380	6.82	2520	1990	6.38	
12'	8'-0"	1'-3"	2'-3"	1'-2"	4'-7"	2'-0"	6	12"	9'-6"	5	12"	13'-9"			14	11'-9"	5	12"	6'-0"	5	7	12"	6'-9"	5	1950	1560	6.94	2790	2260	6.48	
13'	8'-6"	1'-3"	2'-6"	1'-3"	4'-9"	2'-2"	6	12"	7'-0"	6	12"	10'-6"	5	12"	5'-6"	16	12'-9"	6	12"	6'-6"	5	8	12"	7'-9"	5	2050	1660	7.24	2930	2410	6.74
14'	9'-0"	1'-3"	2'-6"	1'-4"	5'-2"	2'-4"	6	12"	8'-3"	6	12"	11'-6"	5	12"	5'-6"	18	13'-9"	6	12"	6'-9"	5	9	12"	8'-6"	6	2230	1840	7.41	3200	2680	6.89
15'	9'-6"	1'-4"	2'-9"	1'-5"	5'-4"	2'-6"	7	12"	5'-6"	7	12"	12'-9"	5	12"	5'-6"	18	14'-9"	6	12"	7'-0"	5	9	12"	9'-0"	6	2350	1950	7.69	3390	2850	7.13
16'	10'-0"	1'-5"	2'-9"	1'-6"	5'-9"	2'-8"	7	12"	5'-6"	7	12"	13'-9"	5	12"	5'-6"	20	15'-9"	6	12"	7'-6"	5	8	9"	9'-0"	6	2560	2150	7.85	3700	3140	7.27
17'	10'-6"	1'-6"	3'-0"	1'-7"	5'-11"	2'-10"	8	12"	7'-9"	7	12"	15'-0"	5	12"	5'-6"	22	16'-9"	7	12"	7'-9"	6	8	8"	9'-3"	7	2680	2260	8.15	3880	3310	7.52
18'	11'-0"	1'-7"	3'-0"	1'-8"	6'-4"	3'-0"	8	12"	8'-0"	8	12"	13'-0"	6	12"	9'-3"	22	17'-9"	7	12"	8'-6"	6	8	6"	9'-6"	7	2880	2450	8.40	4180	3600	7.75
19'	11'-6"	1'-8"	3'-3"	1'-9"	6'-6"	3'-2"	8	12"	10'-3"	8	12"	13'-9"	6	12"	9'-3"	24	18'-9"	7	12"	8'-6"	6	8	6"	9'-9"	7	2990	2550	8.74	4350	3760	8.04
20'	12'-0"	1'-9"	3'-3"	1'-10"	6'-11"	3'-4"	9	12"	10'-6"	8	12"	15'-0"	6	12"	9'-3"	26	19'-9"	7	12"	9'-0"	6	8	6"	10'-3"	7	3200	2750	9.01	4650	4040	8.29
21'	12'-6"	1'-10"	3'-6"	1'-11"	7'-1"	3'-6"	9	12"	10'-0"	9	12"	16'-6"	6	12"	9'-3"	26	20'-9"	7	9"	9'-6"	6	8	6"	10'-6"	8	3310	2850	9.35	4820	4200	8.58
22'	13'-0"	1'-11"	3'-6"	2'-0"	7'-6"	3'-8"	9	12"	11'-0"	9	12"	17'-6"	6	12"	9'-3"	28	21'-9"	7	9"	9'-9"	7	9	6"	11'-6"	8	3520	3050	9.62	5120	4490	8.83
23'	13'-6"	2'-0"	3'-9"	2'-2"	7'-7"	3'-10"	10	12"	12'-6"	9	12"	19'-0"	6	12"	9'-3"	30	22'-9"	8	12"	10'-0"	7	9	6"	11'-9"	8	3590	3110	9.98	5250	4600	9.14
24'	14'-0"	2'-2"	3'-9"	2'-4"	7'-11"	4'-0"	10	12"	13'-6"	9	12"	20'-0"	6	12"	9'-3"	30	23'-9"	8	12"	10'-6"	7	9	6"	12'-0"	8	3830	3330	10.21	5600	4930	9.34
25'	14'-6"	2'-4"	4'-0"	2'-6"	8'-0"	4'-2"	10	12"	14'-6"	9	12"	21'-0"	6	12"	9'-3"	32	24'-9"	8	12"	10'-9"	7	9	6"	12'-6"	9	4020	3500	10.50	5880	5170	9.58
26'	15'-0"	2'-6"	4'-0"	2'-8"	8'-4"	4'-4"	10	12"	14'-6"	10	12"	22'-6"	6	12"	9'-3"	34	25'-9"	8	12"	11'-0"	7	10	9"	13'-3"	9	4270	3730	10.74	6240	5510	9.79
27'	15'-6"	2'-9"	4'-3"	2'-10"	8'-5"	4'-6"	10	12"	15'-0"	10	12"	23'-6"	6	12"	10'-3"	34	26'-9"	8	12"	11'-6"	8	10	9"	13'-3"	9	4450	3880	11.00	6520	5750	9.99
28'	16'-0"	3'-0"	4'-3"	3'-0"	8'-9"	4'-8"	10	12"	15'-6"	10	12"	24'-6"	6	12"	11'-3"	36	27'-9"	8	12"	12'-0"	8	10	9"	13'-6"	9	4730	4130	11.20	6940	6130	10.16
29'	16'-6"	3'-3"	4'-6"	3'-3"	8'-9"	4'-10"	11	12"	16'-3"	9	12"	25'-0"	6	12"	12'-3"	38	28'-9"	8	12"	12'-6"	8	10	9"	14'-0"	9	4920	4290	11.46	7240	6380	10.36
30'	17'-0"	3'-6"	4'-6"	3'-6"	9'-0"	5'-0"	11	12"	17'-0"	10	12"	26'-0"	6	12"	12'-9"	38	29'-9"	8	12"	13'-0"	8	10	9"	14'-3"	10	5210	4550	11.66	7670	6780	10.52

CASE IV			
H	Concrete C.Y./Ln.Ft.	Steel Lbs./Ln.Ft.	Steel (Horiz. Lap) Lbs./Splice
4'	.40	32	12
5'	.44	35	14
6'	.50	37	14
7'	.58	41	15
8'	.64	44	16
9'	.71	53	16
10'	.77	62	19
11'	.85	67	20
12'	.91	79	20
13'	.99	95	22
14'	1.07	109	24
15'	1.19	119	24
16'	1.31	126	25
17'	1.43	150	28
18'	1.57	179	28
19'	1.71	190	29
20'	1.85	207	30
21'	2.00	232	31
22'	2.16	264	33
23'	2.35	289	34
24'	2.60	301	34
25'	2.86	315	36
26'	3.13	334	38
27'	3.46	345	38
28'	3.81	358	40
29'	4.21	365	41
30'	4.63	401	42

**Q<sub>tveu</sub>-SERV** = Total equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

**Q<sub>nveu</sub>-SERV** = Net equivalent uniform vertical bearing stress to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

**B'SERV** = Effective footing width to be used only for the evaluation of settlement based on the Service I Limit State as per ADOT SF-1.

**Q<sub>tveu</sub>-STR** = Total equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

**Q<sub>nveu</sub>-STR** = Net equivalent uniform vertical bearing stress to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

**B'STR** = Effective footing width to be used only for the evaluation of bearing resistance based on the Strength I Limit State as per ADOT SF-1.

For other applicable limit states, perform project specific-analysis using the procedures in ADOT SF-1. ADOT SF-1 (Materials Group memorandum) is found at Materials Group website.

QUANTITIES NOTE:

Quantities are shown for information purposes only. The pay item is measured per square foot of wall.

Quantities are for one L.F. of wall except for horizontal steel lap splices and footing steps.

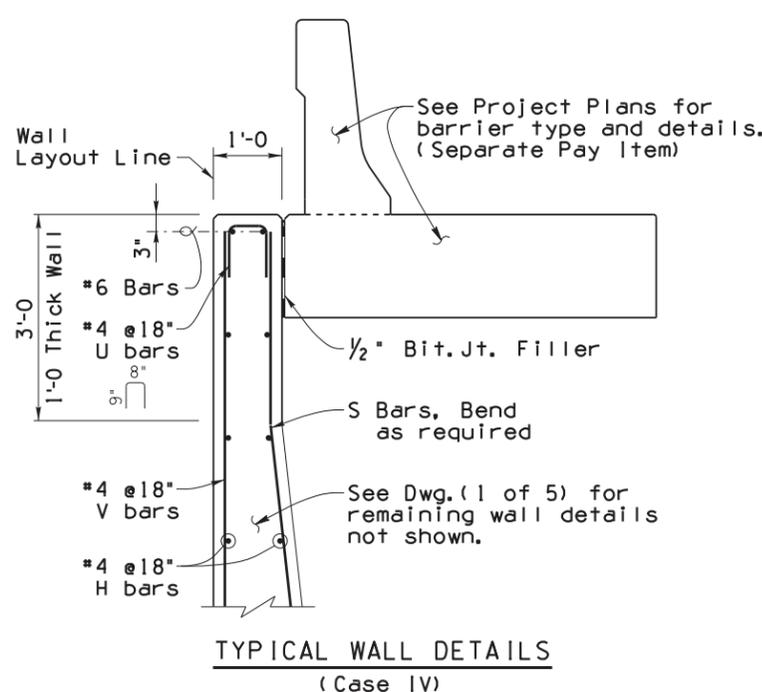
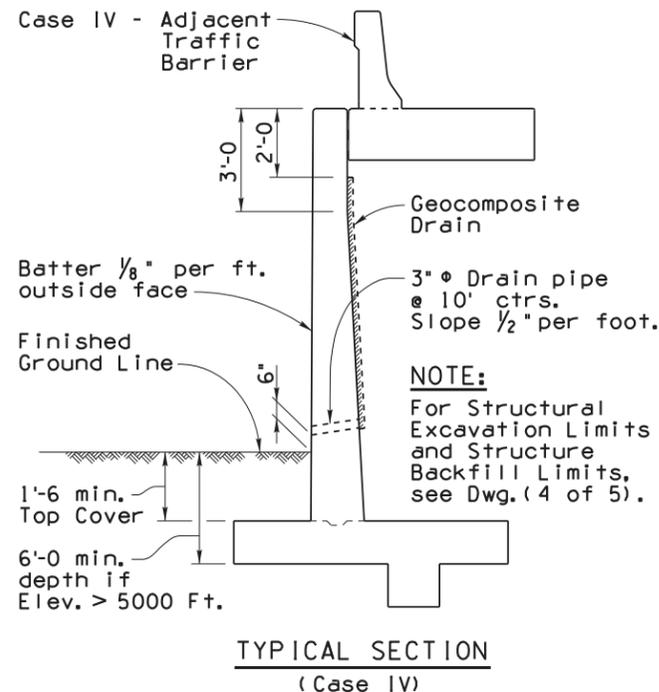
Steel quantities for horizontal lap splices shall be added for wall segments greater than 30 feet, and add a splice for each additional wall segment greater than 30 feet. Horizontal 1'-0" lap splices occur at construction or contraction joints.

Steel and concrete quantities for footing steps shall be added to those shown in the table.

⊕ Total number of bars in cross section.

Note to Designer: The information presented in this Standard Detail has been prepared in accordance with recognized engineering principles and is for general use. It should not be used for specific application without competent professional examination and verification of its suitability and applicability by a licensed professional engineer. Contents within the inner border line shall not be altered.

NO.	DESCRIPTION OF REVISIONS	MADE BY	DATE
1	Original Issue	S.J.H.	9-10
2	General updates, added limit state values and notes.	D.A.B.	1-15
3			
4			



PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

NOTE:

For General Notes, Typical Elevations, Sections and Details see SD 7.01 (1 to 4).

DESIGN APPROVED <i>Celina Aman</i>		ARIZONA DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE DELIVERY AND OPERATIONS DIVISION BRIDGE GROUP STRUCTURE DETAIL	
APPROVED FOR DISTRIBUTION <i>[Signature]</i>		RETAINING WALL (REINFORCED CONCRETE CANTILEVER)	
ROUTE	PROJECT NO.	FA NO.	DRAWING NO.
	<b>RIVERVIEW DRIVE</b>		<b>SD 7.01 (5 of 5)</b>
LOCATION	<b>18TH PL TO 22ND ST</b>		SHEET NO.
	<b>ST85110072</b>		<b>OF</b>

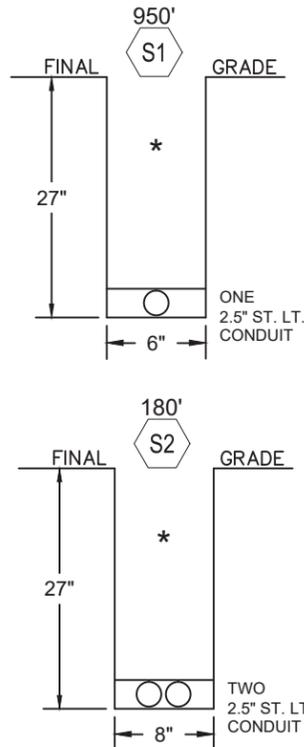
# CITY OF PHOENIX GENERAL NOTES FOR UTILITY CONSTRUCTION

- ALL UTILITY CONSTRUCTION SHALL CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND DETAILS OF PUBLIC WORKS CONSTRUCTION, AND THE CITY OF PHOENIX SUPPLEMENTS TO MAG.
- ALL WORK PERFORMED IN THE CITY OF PHOENIX RIGHTS-OF-WAY SHALL BE GOVERNED BY THE LATEST EDITION OF THE CITY OF PHOENIX TRAFFIC BARRICADE MANUAL.
- THIS SET OF PLANS WAS REVIEWED BY THE CITY OF PHOENIX UTILITY COORDINATION SECTION IN COMPLIANCE WITH CITY REQUIREMENTS. HOWEVER, SUCH REVIEW SHALL NOT PREVENT THE CITY FOR REQUIRING CORRECTION OF ERRORS FOUND TO BE IN VIOLATION OF ANY LAW, ORDINANCE OR CITY OF PHOENIX REQUIREMENT FOR UTILITY CONSTRUCTION IN THE RIGHTS-OF-WAY.
- THE CONTRACTOR SHALL HAVE A COPY OF THE APPROVED CONSTRUCTION PLANS AND APPROVED TRAFFIC CONTROL PLAN AT THE PROJECT SITE AT ALL TIMES.
- ALL UTILITIES CROSSING STREETS MUST BE BORED OR PUNCHED UNLESS PERMISSION TO OPEN CUT AS BEEN GIVEN IN WRITING BY THE CITY ENGINEER.
- BEFORE STARTING ANY WORK ON A MAJOR OR COLLECTOR STREET, THE UTILITY COMPANY SHALL SCHEDULE A PRE CONSTRUCTION MEETING WITH THE CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT'S UTILITY INSPECTION SECTION.
- THE CITY OF PHOENIX DOES NOT WARRANT ANY QUANTITIES SHOWN ON THE PLANS.
- UTILITY COMPANIES ARE TO COORDINATE ALLEY WORK WITH THE REFUSE SECTION.
- THE UTILITY COMPANY SHALL CONTACT THE CITY OF PHOENIX STREET TRANSPORTATION DEPARTMENT'S UTILITY INSPECTION SECTION A MINIMUM OF 48 HOURS IN ADVANCE OF STARTING WORK, GIVING LOCATION AND PERMIT NUMBER IN ORDER TO SCHEDULE INSPECTIONS.
- ALL WORK REQUIRING ASPHALT REPLACEMENT, CONCRETE REPLACEMENT, OR RESURFACING ALLEYS IN THE CITY OF PHOENIX RIGHTS-OF-WAY WILL REQUIRE A FINAL INSPECTION WITH THE UTILITY COMPANY REPRESENTATIVE AT TIME OF COMPLETION.
- MAINTAIN A MINIMUM SIX (6) FEET HORIZONTAL SEPARATION AND ON (1) FOOT VERTICAL FROM ALL WATER AND SEWER MAINS, ALL MEASUREMENTS OUTSIDE TO OUTSIDE.

## GENERAL TRENCHING NOTES

- ALL WORK TO COMPLY WITH THE APS TRANSMISSION & DISTRIBUTION CONSTRUCTION STANDARDS (T.A.D.C.S) MANUAL. ALL WORK SHALL COMPLY WITH THE NECESSARY PERMIT RESTRICTIONS AND REQUIREMENTS AS PROMULGATED BY THE LOCAL GOVERNMENTAL AGENCY AND / OR OTHER PUBLIC REGULATORY AGENCIES.
- ALL TRENCHING ACTIVITIES SHALL CONFORM TO O.S.H.A. REGULATIONS. PROTECTION FOR EMPLOYEES AND OTHERS PER O.S.H.A. REQUIREMENTS SHALL BE PROVIDED ON ALL WORK.
- \*** DENOTES BACKFILL AND COMPACTION PER APS SPECIFICATIONS AS DEFINED IN THE 8601 SECTION OF THE APS T. & D.C.S. MANUAL. BEDDING, SHADING AND BACKFILL SHALL HAVE 100% COMPACTION IN TRAVELED AREAS AND 95% COMPACTION ELSEWHERE.
- MAINTAIN MINIMUM 12" VERTICAL SEPARATION BETWEEN ALL APS FACILITIES (I.E. DUCT BANK, CONDUIT, AND CABLE) AND ANY EXISTING UNDERGROUND CONFLICTS. MAINTAIN A MINIMUM OF 24" VERTICAL SEPARATION FROM ANY PROPOSED UNDERGROUND CONFLICTS.
- THE USABILITY OF ALL CONDUIT SYSTEMS MUST BE ENSURED. THE PARTY RESPONSIBLE FOR INSTALLING THE CONDUIT SHALL MANDRELL. MANDRELLING SHALL BE PER APS SPECIFICATIONS AS DEFINED IN THE 8601 SECTION OF THE APS T.A.D.C.S. MANUAL.**
- A POLYESTER, PRE-LUBRICATED FLAT STRAP PULL LINE (8895.MR) IS REQUIRED IN ALL CONDUIT RUNS. THE PULL LINE SHALL BE PROVIDED BY APS, AND INSTALLED BY THE CONTRACTOR.
- TRENCH DEPTHS SHOWN ARE MINIMUM REQUIREMENTS.
- THE TRENCH BOTTOM SHALL BE SMOOTH, FLAT AND WITHOUT SURFACE IRREGULARITIES, OTHERWISE A SUFFICIENT AMOUNT OF BEDDING MATERIAL SHALL BE INSTALLED TO PROVIDE THE REQUIRED SURFACE. THE BEDDING MATERIAL SHALL NOT CONTAIN ROCKS LARGER THAN 1-1/2" IN THEIR GREATEST DIMENSION. THE BEDDING MATERIAL SHALL CONTAIN A SUFFICIENT VOLUME OF FINES TO FILL ALL VOIDS.
- CONTRACTOR SHALL NOT TRENCH CLOSER THAN 2' TO APS FACILITIES (EXCEPT 4' TO POLES) UNLESS AN APS REPRESENTATIVE IS PRESENT.
- WHEN PASSING OVER OR UNDER CONFLICTS, TRENCH SHALL NOT BE SLOPED STEEPER THAN 1:12 RATIO OR MINIMUM RADIUS OF 160 TIMES THE OUTSIDE DIAMETER OF THE CONDUIT.
- TRENCH WIDTHS SHOWN ARE MINIMUM REQUIREMENTS BASED ON CONDUIT SIZES. TRENCHES 46 INCHES OR MORE IN DEPTH, MEASURED TO THE TOP OF THE INSTALLED BEDDING MATERIAL, SHALL BE A MINIMUM OF 16 INCHES IN WIDTH WHEREVER A WORKER MUST ENTER THE TRENCH. TRENCHES 60 INCHES OR MORE IN DEPT, MEASURED TO THE TOP OF THE INSTALLED BEDDING MATERIAL, SHALL BE A MINIMUM OF 24 INCHES IN WIDTH WHEREVER A TRENCH MUST BE SHORED.
- REFER TO 8648 FOR MINIMUM TRENCH DEPTH REQUIREMENTS AT THE APPROACH TO, AND BENEATH A.P.S. PAD-MOUNTED EQUIPMENT AND SUBSTRUCTURES. THESE MINIMUMS ARE REQUIRED TO ENSURE ADEQUATE VERTICAL SPACE IS AVAILABLE TO INSTALL THE CONDUIT SWEEPS. CONDUIT SWEEPS SHALL NOT BE CUT-OFF TO FACILITATE INSTALLATION.
- THE TRENCHING CONTRACTOR IS REQUIRED TO PROVIDE A TRAFFIC CONTROL PLAN (T.C.P.) PRIOR TO APPLYING FOR A TRENCHING PERMIT.
- SPACING BETWEEN APS LAYERS IS 6" MINIMUM WHEN MECHANICAL COMPACTION IS USED; OTHERWISE, IT CAN BE DECREASED TO 3".

## TRENCH DETAILS:



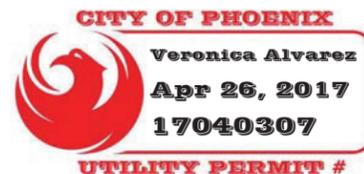
## ITEMS OF RESPONSIBILITY

- TO BE PROVIDED BY THE CITY OF PHOENIX CONTRACTOR:**
  - ALL TRENCH MATERIAL AND TRENCH RELATED WORK INCLUDING BUT NOT LIMITED TO; TRENCHING, ASPHALT CUTTING, MILLING, POT-HOLING, T-TOPS, PUNCHING, BORING, SPOILS REMOVAL, BACKFILL MATERIAL AND COMPACTION (PER APS T.A.D.C.S. MANUAL, SECTION 8601), ALL SURFACE RESTORATION (I.E., LANDSCAPING, SIDEWALKS, CURBS, GUTTERS, ASPHALT, ETC.) AS IT RELATES TO WORK PERFORMED ON THIS PROJECT BY THE CITY OF PHOENIX CONTRACTOR AND APS CREWS.
  - LABOR TO INSTALL ALL APS PROVIDED GROUND RODS (OR ALTERNATE GROUNDING MATERIAL); SECONDARY JUNCTION BOXES, PULL LINE, CONDUIT PLUGS, CONDUIT IDENTIFICATION RINGS, ELECTRONIC MARKERS AND ASSOCIATED MATERIALS.
  - LABOR AND MATERIAL FOR ALL STREET LIGHT POLES, STREET LIGHT MAST ARMS, STREET LIGHT LUMINAIRES, FUSES IN HAND HOLES AND STREET LIGHT SONO TUBE INSTALLATIONS PER APS SPECIFICATIONS.
  - ALL MISCELLANEOUS MATERIAL AND WORK INCLUDING BUT NOT LIMITED TO; BARRICADING, SHORING, STEEL PLATING AND TRAFFIC CONTROL.
  - ALL CONDUIT SHOWN TO BE INSTALLED IN ENERGIZED EQUIPMENT, WILL BE CAPPED AND LOCATED AT A POINT EITHER 2' FROM THE EQUIPMENT OR FROM THE BLUE STAKE MARKINGS FOR UNDERGROUND ELECTRIC CABLES UNLESS QUALIFIED PERSONNEL ARE UTILIZED.  
**WARNINGS:** CUSTOMER CONTRACTOR SHALL NOT ENTER APS-OWNED EQUIPMENT.
  - ANY POT HOLES REQUIRED FOR LOCATING OTHER UTILITIES ALONG WITH SURFACE RESTORATIONS.
- TO BE PROVIDED BY THE ARIZONA PUBLIC SERVICE COMPANY AND INSTALLED BY THE CITY OF PHOENIX CONTRACTOR:**
  - ALL GROUND RODS OR ALTERNATE GROUNDING MATERIAL, SECONDARY JUNCTION BOXES, PULL STRAP, AND ELECTRONIC U.G. MARKERS.
- PROVISIONS FOR SURVEY OF BOTH HORIZONTAL AND VERTICAL CONTROL:**
  - THE CITY OF PHOENIX CONTRACTOR SHALL PROVIDE BENCHMARKS AND VERTICAL CONTROL.
  - APS SURVEY SHALL PROVIDE HORIZONTAL LAYOUT ONLY.
  - ALL TRENCH DEPTHS MUST INCORPORATE THE VERTICAL SPACE AND SEPARATIONS REQUIRED BY THE OTHER JOINT-USE TRENCH OCCUPANTS. THIS INCLUDES SECTIONS OF TRENCH THAT ARE NOT JOINTLY-USED WITH APS. MINIMUM COVER REQUIREMENTS FOR APS FACILITIES ARE NOTED WITH THE TRENCH DETAILS.
  - WHEN THOSE OTHER THAN APS, ARE REQUIRED TO PROVIDE SURVEY, THE REQUIREMENT IS AN EXCEPTION TO THE APS STANDARD 8601. APS STANDARD 8601 SPECIFIES THAT APS SHALL ALWAYS PROVIDE SURVEY. WHERE THE REQUIREMENT FOR OTHERS TO PROVIDE SURVEY IS SPECIFIED ON THE CONSTRUCTION SKETCH, THAT REQUIREMENT SHALL TAKE PRECEDENCE OVER THE CONFLICTING PORTION OF THE APS STANDARD 8601.
- TO BE PROVIDED BY THE ARIZONA PUBLIC SERVICE COMPANY AND INSTALLED BY ARIZONA PUBLIC SERVICE COMPANY:**
  - LABOR AND MATERIAL FOR ALL STREET LIGHT SECONDARY WIRE FROM JUNCTION BOX TO JUNCTION BOX, CONNECTIONS IN JUNCTION BOXES AND REMOVAL/REPLACEMENT OF EXISTING WIRE WHERE NOTED.
  - CONDUIT SYSTEM INSPECTION INCLUDING; TRENCH WORK AND DEPTHS, CONDUIT INSTALLATION, MISCELLANEOUS WORK AND INSTALLATIONS. CALL THE APS INSPECTOR, 602-708-8881 OR 602-371-6512 A MINIMUM OF FIVE WORKING DAYS PRIOR TO THE START OF TRENCHING.
- HAULING AND DELIVERY:**
  - APS DOES NOT DELIVER THE APS PROVIDED MATERIALS TO THE CONTRACTOR. IN ORDER TO LIMIT THE WAIT TIME FOR THE CITY'S TRENCHING CONTRACTOR, AN APPOINTMENT MUST BE SCHEDULED WITH THE APS WAREHOUSE FOR MATERIAL PICKUP. CALL ALISSA SCHAD (602-371-7758) TO SCHEDULE THE APPOINTMENT. AN ARRIVAL TIME LATER THAN TEN MINUTES, MAY RESULT IN AN APS CANCELLATION OF THE APPOINTMENT, DEPENDING ON THE CONGESTION AND WORKLOAD PRESENT AT THE APS WAREHOUSE.

TOTAL WIRE ( ft )	
<b>INSTALL</b>	
• 6220.UA1/0AL =	1194'
• 6220.UA4/0B =	651'
<b>REMOVE</b>	
• 6220.UA1/0AL =	651'

STREETLIGHT SUMMARY				
SYM	#/TYPE POLE	#/TYPE LAMP	INVEST.BY	INST/REM
A	6 - 1946.D32FD	6 - 16,000	0	I
B	4 - 1946.S23	4 - 16,000	0	I

BILL TO: CITY OF PHOENIX



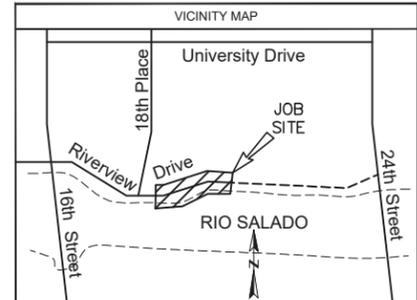
City of Phoenix  
Riverview Drive  
18th Place to 22nd Street  
ST85110072

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX

APS SYMBOLS LEGEND		
EXISTING EQUIPMENT	PROPOSED EQUIPMENT	DESCRIPTION
		-PADMOUNTED TRANSFORMER
		- SWITCHING CABINETS
		- 10 SWITCHING CABINET
		- OH/UG CAPACITOR BANK
		- J-BOX / PULL BOX
		- MANHOLES
		-OH TRANSFORMER
		-OH SWITCH (KPF)
		- APS OWNED POLE
		- APS OWNED STEEL POLE
		- APS OWNED JOINT USE POLE
		- DIP (TRANSITION) POLE
		- STREET LIGHT
		- DUSK TO DAWN LIGHT

APS UTILITIES KEY		
EXISTING		PROPOSED
	WATER	W
	SEWER	S
	GAS	G
	STORM DRAIN	SD
	IRRIGATION	IRR
	TRAFFIC SIGNAL	TS
	TELE	T
	CATV	CATV
	FIBER	FO
UG ELECTRIC NOMINAL TRANSMISSION (69KV)*		
UG ELECTRIC NOMINAL PRIMARY (12,470/7,200V)*		
UG ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*		
OH ELECTRIC NOMINAL TRANSMISSION (69KV)*		
OH ELECTRIC NOMINAL PRIMARY (12,470/7,200V)*		
OH ELECTRIC NOMINAL SECONDARY/SERVICE (120/240V)*		
CONDUIT		
TRENCH RUNNING LINE		
* UNLESS OTHERWISE NOTED		

DATA MODIFIED PER FIELD CONDITIONS



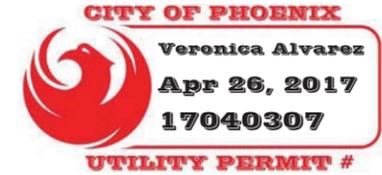
T 1N R 3E Sec 22 NW 1/4 MAP# 6-31

CONTACT: HENRY MIRANDA  
PHONE: 602-371-6605 PGR/MOBILE: 928-607-5429  
INSPECTOR: JOHN WILSON  
PHONE: 602-371-6512 PGR/MOBILE: 602-708-8881

NO.	DATE	DESCRIPTION	BY

aps RIVERVIEW STREET LIGHT IMPROVEMENTS	
WO#: WA305192	DATE: 11/16/2016
BY: A.SANCHEZ III	SCALE: 1:40
FILENAME: WA305192.DWG	SHEET 1 OF 4

City of Phoenix  
 Riverview Drive  
 18th Place to 22nd Street  
 ST85110072

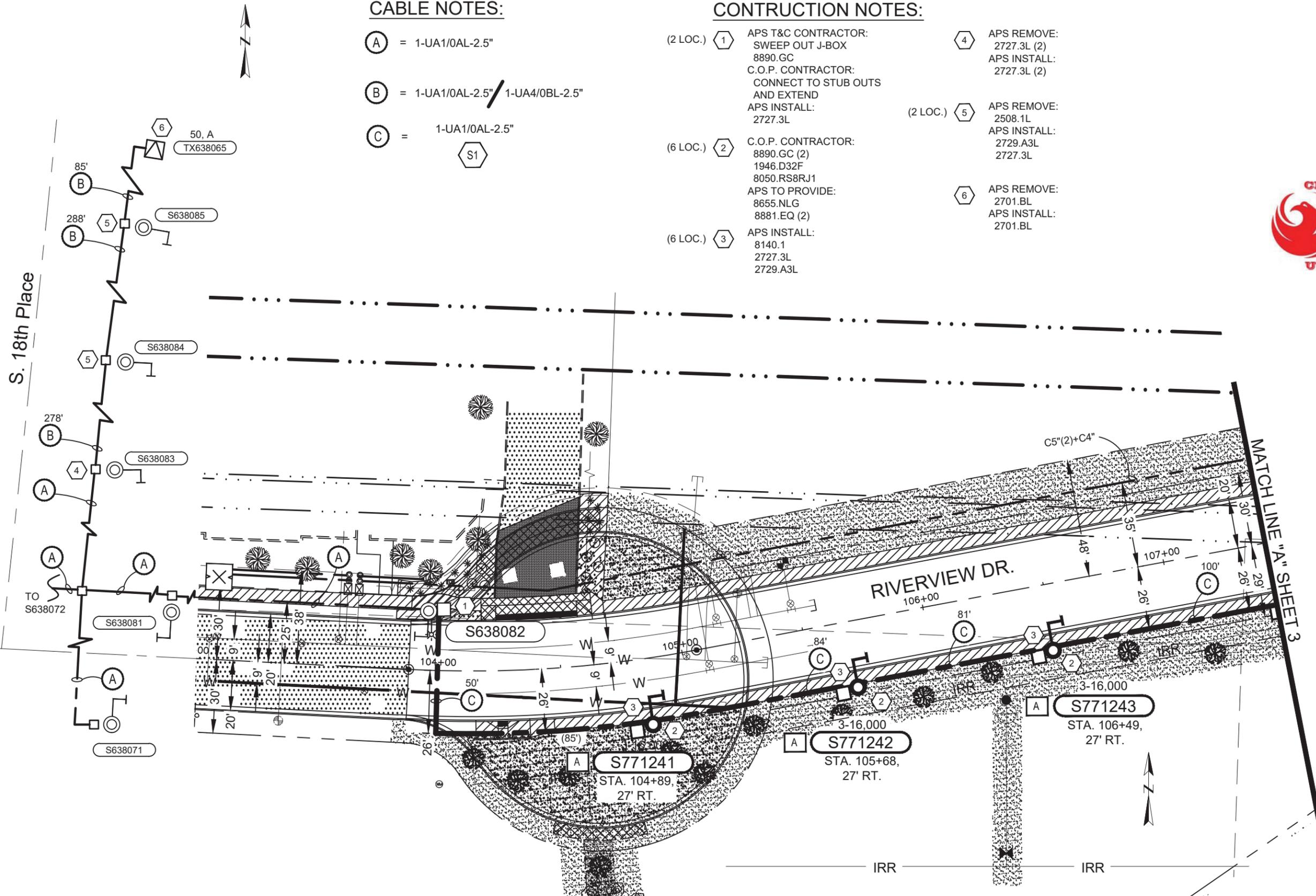


**CABLE NOTES:**

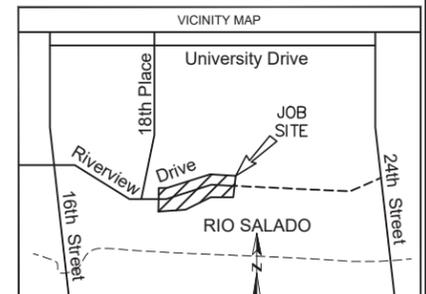
- (A) = 1-UA1/0AL-2.5"
- (B) = 1-UA1/0AL-2.5" / 1-UA4/0BL-2.5"
- (C) = 1-UA1/0AL-2.5"

**CONSTRUCTION NOTES:**

- (2 LOC.) (1) APS T&C CONTRACTOR:  
SWEEP OUT J-BOX  
8890.GC  
C.O.P. CONTRACTOR:  
CONNECT TO STUB OUTS  
AND EXTEND  
APS INSTALL:  
2727.3L
- (6 LOC.) (2) C.O.P. CONTRACTOR:  
8890.GC (2)  
1946.D32F  
8050.RS8RJ1  
APS TO PROVIDE:  
8655.NLG  
8881.EQ (2)
- (6 LOC.) (3) APS INSTALL:  
8140.1  
2727.3L  
2729.A3L
- (4) APS REMOVE:  
2727.3L (2)  
APS INSTALL:  
2727.3L (2)
- (2 LOC.) (5) APS REMOVE:  
2508.1L  
APS INSTALL:  
2729.A3L  
2727.3L
- (6) APS REMOVE:  
2701.BL  
APS INSTALL:  
2701.BL



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T 1N	R 3E	Sec 22	NW 1/4	MAP# 6-31
CONTACT: HENRY MIRANDA				
PHONE: 602-371-6605		PGR/MOBILE: 928-607-5429		
INSPECTOR: JOHN WILSON				
PHONE: 602-371-6512		PGR/MOBILE: 602-708-8881		

NO.	DATE	DESCRIPTION	BY

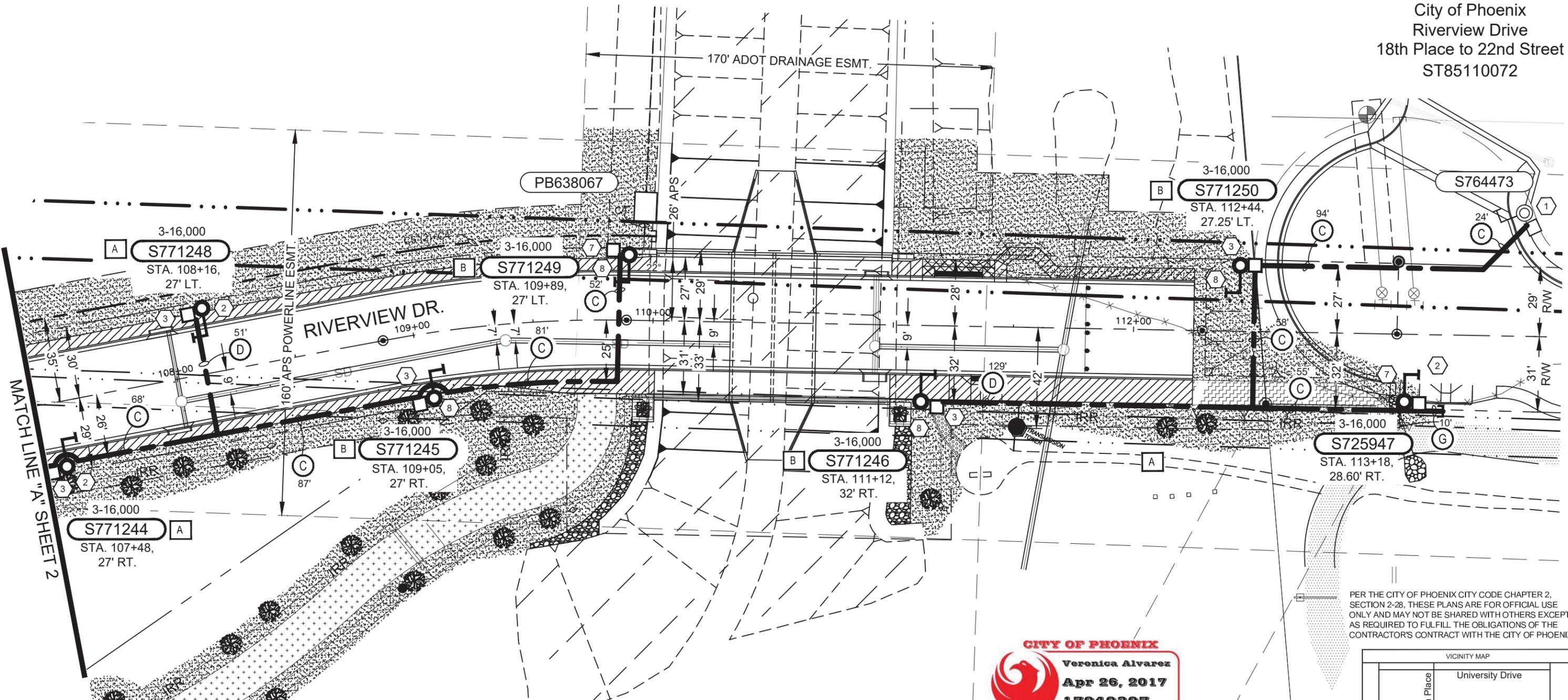
<b>aps</b> RIVERVIEW STREET LIGHT IMPROVEMENTS	
WO#: WA305192	DATE: 11/16/2016
BY: A.SANCHEZ III	SCALE: 1:40
FILENAME: WA305192.DWG	SHEET 2 OF 4

ISSUED-FOR-CONSTRUCTION  
**FINAL DESIGN**  
 WA305192 A.S.3 04-04-2017

**FINAL**  
 APS DESIGN  
 11/16/2016



City of Phoenix  
Riverview Drive  
18th Place to 22nd Street  
ST85110072



MATCH LINE "A" SHEET 2

**CABLE NOTES:**

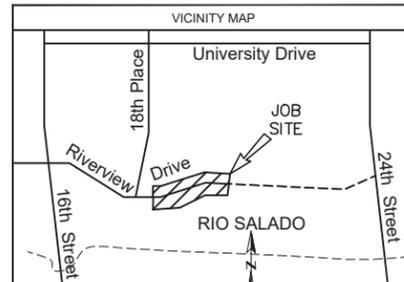
- (C) = 1-UA1/0AL-2.5"  
S1
- (D) = 2-UA1/0A-2.5"(2)  
S2
- (E) = C2.5"  
S1

**CONSTRUCTION NOTES:**

- (2 LOC.) (1) APS T&C CONTRACTOR:  
SWEEP OUT J-BOX  
8890.GC  
8881.EQ  
C.O.P. CONTRACTOR:  
CONNECT TO STUB OUTS  
AND EXTEND
- (6 LOC.) (2) C.O.P. CONTRACTOR:  
8890.GC (2)  
1946.D32F  
8050.RS8RJ4  
APS TO PROVIDE:  
8655.NLG  
8881.EQ (2)
- (8 LOC.) (3) APS INSTALL:  
8140.1  
2727.3L  
2729.A3L
- (3 LOC.) (7) APS INSTALL:  
8140.1  
2729.A3L
- (4 LOC.) (8) C.O.P. CONTRACTOR:  
8890.GC (2)  
1946.S23  
8027.SS4AZ4  
APS TO PROVIDE:  
8655.NLG  
8881.EQ (2)

**CITY OF PHOENIX**  
Veronica Alvarez  
Apr 26, 2017  
17040307  
**UTILITY PERMIT #**

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX



T 1N R 3E Sec 22 NW 1/4 MAP# 6-31

CONTACT: HENRY MIRANDA  
PHONE: 602-371-6605 PGR/MOBILE: 928-607-5429  
INSPECTOR: JOHN WILSON  
PHONE: 602-371-6512 PGR/MOBILE: 602-708-8881

NO.	DATE	DESCRIPTION	BY

**aps RIVERVIEW STREET LIGHT IMPROVEMENTS**

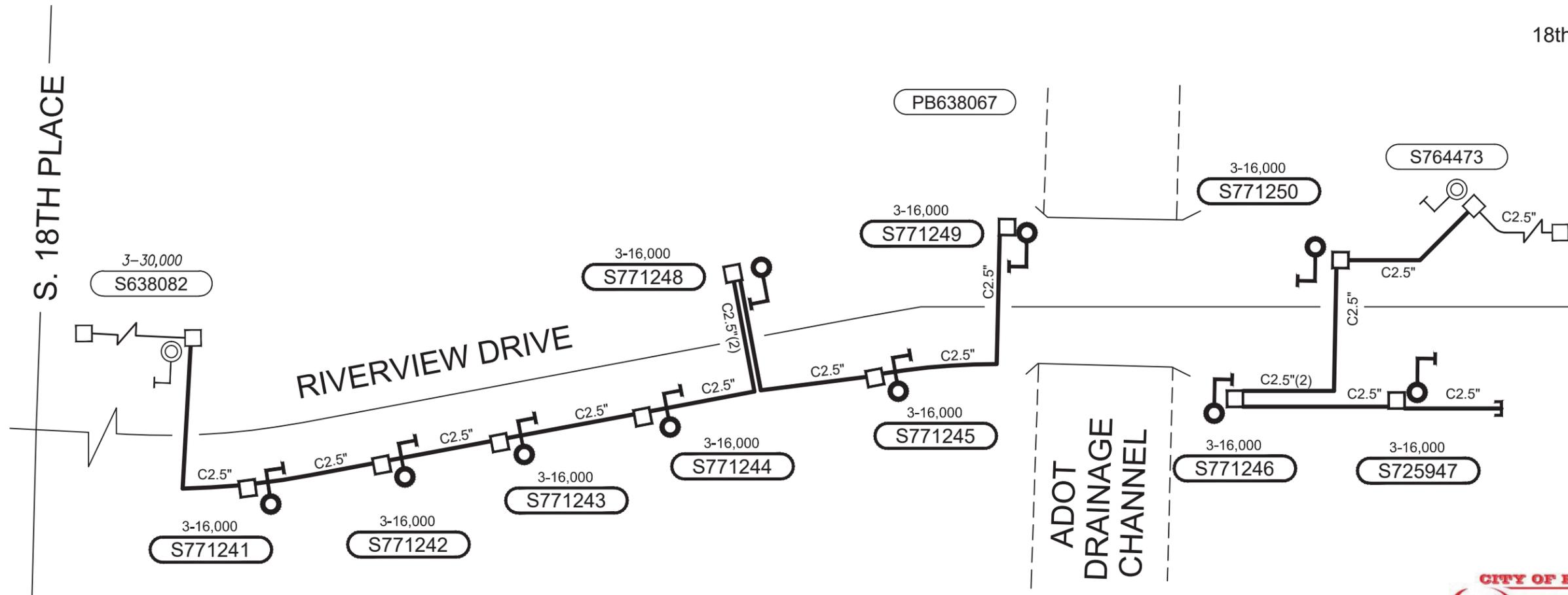
WO#: WA305192 DATE: 11/16/2016  
BY: A.SANCHEZ III SCALE: 1:40  
FILENAME: WA305192.DWG SHEET 3 OF 4

ISSUED-FOR-CONSTRUCTION  
**FINAL DESIGN**  
WA305192 A.S.3 04-04-2017

**FINAL**  
APS DESIGN  
11/16/2016

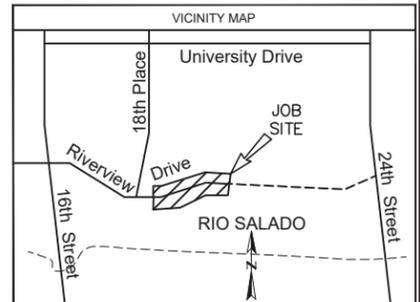
**ARIZONA BLUE STAKE**  
CALL TWO WORKING DAYS  
BEFORE YOU DIG  
Dial 811 or  
602-263-1100  
1-800-STAKE-IT  
(OUTSIDE MARICOPA COUNTY)

City of Phoenix  
Riverview Drive  
18th Place to 22nd Street  
ST85110072



**CITY OF PHOENIX**  
Veronica Alvarez  
Apr 26, 2017  
17040307  
**UTILITY PERMIT #**

PER THE CITY OF PHOENIX CITY CODE CHAPTER 2, SECTION 2-28, THESE PLANS ARE FOR OFFICIAL USE ONLY AND MAY NOT BE SHARED WITH OTHERS EXCEPT AS REQUIRED TO FULFILL THE OBLIGATIONS OF THE CONTRACTOR'S CONTRACT WITH THE CITY OF PHOENIX



T 1N R 3E Sec 22 NW 1/4 MAP# 6-31

CONTACT: HENRY MIRANDA  
PHONE: 602-371-6605 PGR/MOBILE: 928-607-5429  
INSPECTOR: JOHN WILSON  
PHONE: 602-371-6512 PGR/MOBILE: 602-708-8881

NO.	DATE	DESCRIPTION	BY

**aps** RIVERVIEW STREET LIGHT IMPROVEMENTS

WO#: WA305192 DATE: 11/16/2016  
BY: A.SANCHEZ III SCALE: 1:40  
FILENAME: WA305192.DWG SHEET 4 OF 4

**CONDUIT LAYOUT**

**LEGEND**

- EXISTING CONDUIT
- PROPOSED CONDUIT

ISSUED-FOR-CONSTRUCTION  
**FINAL DESIGN**  
WA305192 A.S.3 04-04-2017

**FINAL**  
APS DESIGN  
11/16/2016

