



City of
Los Banos
At the Crossroads of California

Plans for
Construction of

8TH AND 9TH STREET WATER LINE

**City of Los Banos
Public Works Department**

LEGEND

	EXISTING	PROPOSED
COMMUNICATIONS LINE	--- COM ---	
OVERHEAD UTILITY LINE	--- OHL ---	
POWER POLE		
SERVICE POLE		
STREET LIGHT		
GAS VALVE		
GAS LINE	--- G ---	
WATER METER		
SEWER CLEAN OUT		
SANITARY SEWER MANHOLE		
STORM DRAIN MANHOLE		
DRAIN INLET		
STREET SIGN		
MONUMENT WELL		
SAWCUT LINE		
FIRE HYDRANT		
PIPE LINE PLUG/BLIND FLANGE		
WATER VALVE		
CONCRETE REMOVAL AND REPAIR AREA		
CONCRETE		

FOR CLARITY PURPOSES SYMBOLS SHOWN IN THE LEGEND MAY APPEAR SMALLER THAN SHOWN ON THE PLANS.

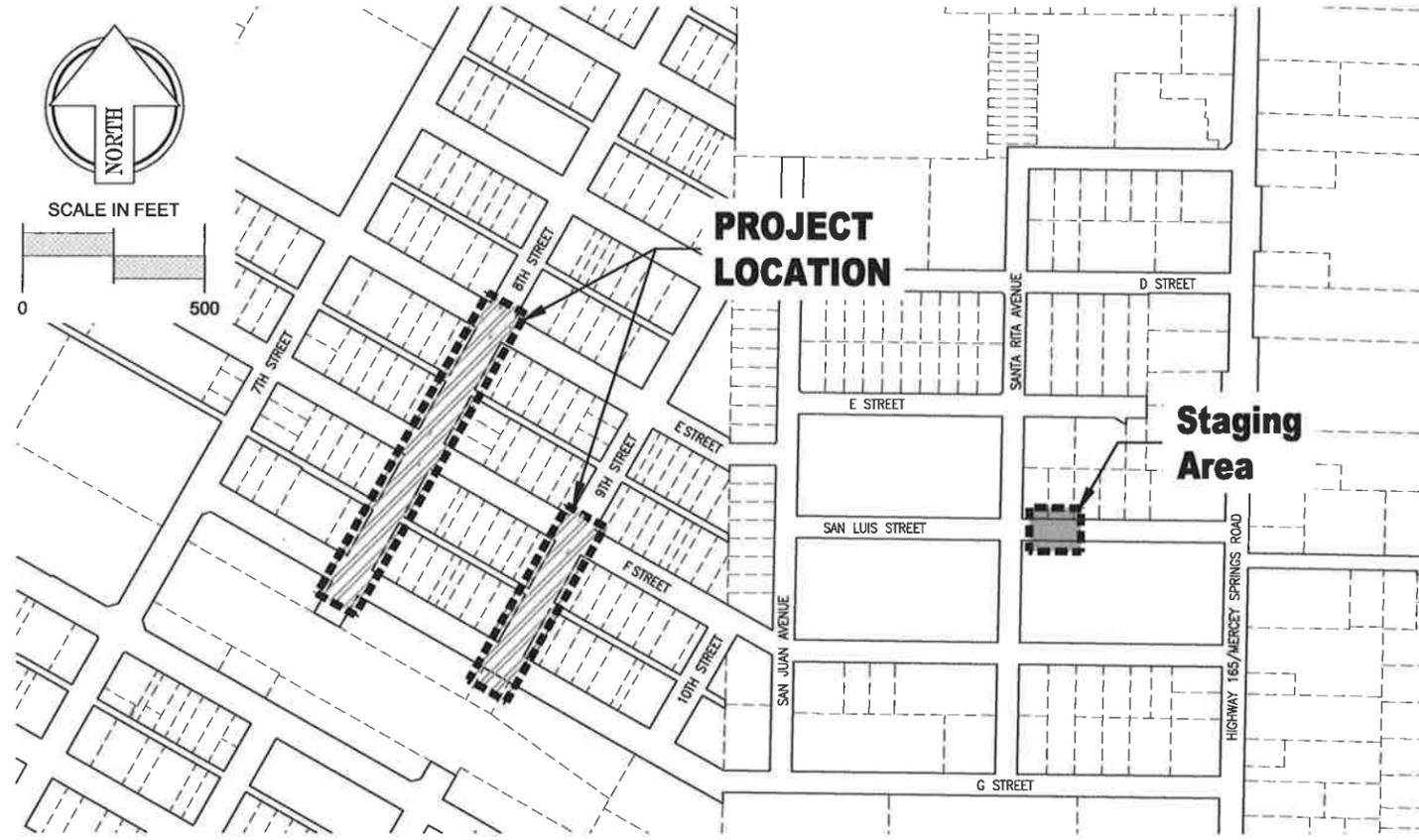
UTILITY CONTACTS

PG&E-	STEVE MURPHY 3185 M STREET MERCED, CA 95348	MAIN (209) 726-6338 CELL (209) 363-2216
AT&T-	TROY BRANIFF 1860 W WARDROBE AVE MERCED, CA 95341	MAIN (209) 726-7137

**PROJECT PLANS FOR CONSTRUCTION OF
8th and 9th Street Waterline**



CITY OF LOS BANOS



INDEX OF DRAWINGS

1	LOCATION MAP AND INDEX OF DRAWINGS
2	PROJECT NOTES AND SHEET KEY
3	8th STREET IMPROVEMENTS STA: 10+00 TO 14+00
4	8th STREET IMPROVEMENTS STA: 14+00 TO 18+00
5	9th STREET IMPROVEMENTS STA: 10+00 TO 14+00
6	TRENCH BACKFILL, VALVE, THRUST BLOCK, AND VALLEY GUTTER REPAIR DETAILS
7	TRAFFIC CONTROL DETAILS

BENCHMARK

VERTICAL AND HORIZONTAL DATUM:

VERTICAL AND HORIZONTAL DATUM INFORMATION WAS TAKEN FROM THE NGS DATA SHEET FOR PID HS5126.
 VERTICAL DATUM: NAVD88
 ELEVATION: 120.96'
 HORIZONTAL DATUM: NAD83-2011, CALIFORNIA SPCS, ZONE 3

DESCRIPTION: STATION IS LOCATED ON THE EAST SIDE OF LOS BANOS, AT THE LOS BANOS MUNICIPAL AIRPORT, IN THE MEDIAN OF THE RUNWAY AND THE PARALLEL TAXI, NEAR THE FRONT VASI FOR RUNWAY 32. TO REACH THE JUNCTION OF STATE HIGHWAY 152 AND WEST I STREET ON THE WEST SIDE OF LOS BANOS, GO NORTHEAST ON WEST I STREET FOR 0.06 MI TO A PAVED ROAD LEFT. TURN LEFT, SOUTHWEST, ON PAVED ROAD FOR 0.25 MI TO A LOCKED GATE ON THE RIGHT. TURN RIGHT, NORTHEAST, THROUGH GATE, PASSING TO RIGHT OF FUEL PUMPS, ACROSS APRON FOR 0.05 MI TO THE PARALLEL TAXI. TURN LEFT, NORTHWEST, ON TAXI FOR 0.06 MI TO THE STATION ON THE RIGHT. STATION MARK IS SET IN THE TOP OF A 30-CM ROUND CONCRETE POST FLUSH WITH THE GROUND ON A SLIGHT HUMP IN A BARE AREA. IT IS 142.1 FT SOUTHWEST OF THE RUNWAY CENTER, 103.3 FT NORTHEAST OF THE EDGE OF THE APRON/TAXI, 26.6 FT SOUTHWEST OF THE SOUTH CORNER OF THE CONCRETE PAD FOR THE OUTBOARD VASI, 73.8 FT NORTHWEST OF THE EXTENDED SOUTHEAST WALL OF A HANGAR AND 1.3 FT NORTHWEST OF A FIBERGLASS WITNESS POST.

Plan sheets in this plan set are full size when printed on 11x17 size sheets without an exaggeration. The bar scale should be used to check plan sheet scale.



Jul 11, 2019 - 3:00pm
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REV	DATE	DESCRIPTION	APPR
1			

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 CONSULTING ENGINEERS

456 Sixth Street • Gustine, California 95322
 Telephone (209) 854-3300 • Fax (209) 854-3600

City of Los Banos
8th and 9th Street Waterline
LOCATION MAP AND INDEX OF DRAWINGS

DESIGNED BY	MVP, DGR	DATE	06/14/19	DRAWING	C-101
DRAWN BY	MVP, DGR	DATE	07/08/19	SHEET	1
CHECKED BY	M. Gouveia	DATE	07/11/19	OF 7 SHEETS	
APPROVED	M. Gouveia	DATE	07/11/19	PROJECT NUMBER	840,04D

GENERAL NOTES

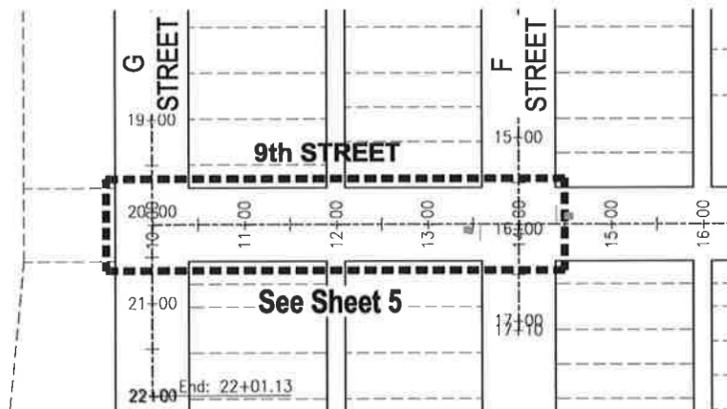
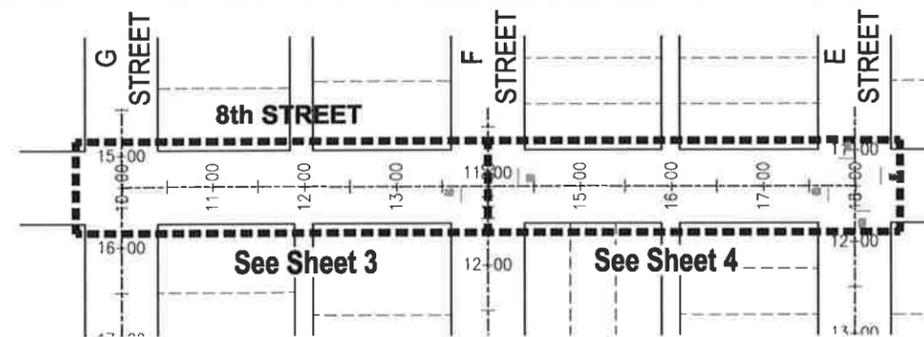
- PROJECT WORK HOURS ARE:
MON - FRI 7AM - 5PM
- THE CONTRACTOR SHALL POSSESS THE CLASS (OR CLASSES) OF LICENSE AS SPECIFIED IN THE "NOTICE TO BIDDERS".
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN ENCROACHMENT PERMIT FROM CALTRANS PRIOR TO PERFORMING ANY WORK.
- SURVEY MONUMENTS ARE NOT LOCATED AS PART OF THE USA CALL BEFORE YOU DIG PROCESS. THE PROJECT SURVEYOR SHALL LOCATE AND MARK THE MONUMENTS WITHIN THE PROJECT ENVELOPE FOR PRESERVATION.
- PURSUANT TO SECTION 8771 OF THE CALIFORNIA BUSINESS AND PROFESSIONALS CODE, THE CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND PRESERVATION OF ANY MONUMENTATION FOUND WITHIN OR ADJACENT TO THE PROJECT IMPROVEMENTS. IF PROJECT IMPROVEMENTS ENCROACH UPON AN AREA WHERE MONUMENTATION IS PRESENT, THE ENGINEER OF RECORD MUST BE CONTACTED AND THE MONUMENT MUST BE PROTECTED AND REMAIN UNDISTURBED BY CONSTRUCTION ACTIVITIES. IF AN EXISTING MONUMENT IS DISTURBED DURING CONSTRUCTION, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS RELATED TO RESTORATION OF THE MONUMENT INCLUDING THE DOCUMENTATION, RECORDATION, AND RESETTING OF THE MONUMENT (IF REQUIRED) BY THE ENGINEER OF RECORD.
- EXISTING UTILITY LOCATIONS ARE SHOWN BASED ON USA MARKINGS COLLECTED IN THE FIELD AND RECORD INFORMATION. ACTUAL BUILT LOCATIONS MAY VARY. THE ENGINEER DOES NOT GUARANTEE THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THESE PLANS TO BE EITHER TRUE OR EXACT. THE CONTRACTOR SHALL VERIFY ACTUAL DEPTH AND EXACT LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATION ACTIVITIES. CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING IN AREAS NEAR NATURAL GAS, TV, PHONE, AND OTHER EXISTING UTILITIES AND IS RESPONSIBLE FOR ALL COSTS RELATED TO DAMAGED LINES OR DISRUPTION OF SERVICE CAUSED BY ANY ACTIVITIES AS THEY RELATE TO THIS PROJECT.
- THE CONTRACTOR SHALL BE AWARE OF EXISTING OVERHEAD UTILITY LINES AND SHALL EXERCISE CAUTION WHILE WORKING NEAR SUCH LINES. OVERHEAD UTILITY LINES HAVE BEEN OMITTED FROM PLANS FOR CLARITY PURPOSES.
- THE CONTRACTOR SHALL EXERCISE CARE TO MINIMIZE DAMAGE TO FACILITIES ADJACENT TO PROJECT IMPROVEMENTS SUCH AS EQUIPMENT, FENCING, CONCRETE FLATWORK, LANDSCAPING, LANDSCAPE IRRIGATION, ECT., DESIGNATED TO REMAIN. ANY FACILITIES DAMAGED BY THE CONTRACTOR SHALL BE RESTORED IN KIND AT NO COST TO THE CITY TO THEIR ORIGINAL PRE-CONSTRUCTION CONDITION OR BETTER. DISTURBED AND DAMAGED SURFACES SHALL BE RESTORED AFTER ALL CONSTRUCTION IS COMPLETE AND PRIOR TO CITY ACCEPTANCE.
- IN INSTANCES WHERE RESTORATION OF THE PAVEMENT IMPACTS ADJACENT FACILITIES SUCH AS EXISTING UTILITY FRAMES AND COVERS, THOSE FACILITIES SHALL BE RAISED TO GRADE AS PART OF THE PROJECT IMPROVEMENTS EVEN IF NOT SHOWN OR ACCOUNTED FOR IN THE PROJECT PLANS AND SPECIFICATIONS.
- WHERE EXCAVATIONS ARE 5 FEET DEEP OR GREATER THE CONTRACTOR IS REQUIRED TO OBTAIN A CAL-OSHA PERMIT AND PREPARE A SHORING PLAN FOR THE EXCAVATION. THE SHORING PLAN SHALL BE PREPARED, SIGNED, AND STAMPED BY A REGISTERED CALIFORNIA CIVIL ENGINEER. A COPY OF THE PLAN IS TO BE PROVIDED TO THE STATE REPRESENTATIVE IN THE FIELD BEFORE CONSTRUCTION BEGINS.
- CONSTRUCTION TRENCHES THAT ARE REQUIRED TO REMAIN OPEN OVERNIGHT MUST HAVE STEEL TRAFFIC PLATE(S) WITH A NON-SKID SURFACE SECURELY INSTALLED.
- STEEL PLATES GREATER THAN 5 FEET 3 INCHES WIDE SHALL BE DESIGNED BY A REGISTERED CALIFORNIA CIVIL ENGINEER.
- THE CONTRACTOR SHALL CONNECT AND CONCEAL WATERLINE IMPROVEMENTS AT THE END OF EACH WORKING DAY.
- EXISTING FIRE HYDRANTS AND VALVES TO BE REMOVED SHALL BE SALVAGED AND BECOME PROPERTY OF THE OWNER.

GENERAL NOTES (Continued)

- THE CONTRACTOR SHALL MAINTAIN WATER SERVICE TO BUSINESSES AND RESIDENTS AT ALL TIMES EXCEPT WHEN A SHUTDOWN IS REQUIRED FOR INSTALLATION OF THE NEW WATERLINE. SHUTDOWNS SHALL BE COORDINATED WITH THE CITY PUBLIC WORKS DEPARTMENT AT LEAST 2 FULL BUSINESS DAYS IN ADVANCE.
- ALL EXISTING WATER SERVICES ARE TO BE TRANSFERRED FROM THE EXISTING LINES EVEN IF NOT SHOWN OR ACCOUNTED FOR IN THE PROJECT PLANS AND SPECIFICATIONS.
- UTILITY CONFLICTS ARE TO BE WORKED OUT IN THE FIELD WITH THE PROJECT ENGINEER AND CITY REPRESENTATIVE.
- MAINTAIN A MINIMUM VERTICAL CLEARANCE OF 12 INCHES AT ALL UTILITY CROSSINGS. CONTRACTOR SHALL COMPLY WITH WATER AND SEWER SEPARATION REQUIREMENTS PER CITY OF LOS BANOS STANDARDS AND DEPARTMENT OF WATER RESOURCES, DRINKING WATER PROGRAM REGULATIONS UNLESS OTHERWISE NOTED ON THESE PLANS.
- AT THE END OF EACH DAY OR AS DIRECTED BY THE OWNER, THE CONTRACTOR SHALL SWEEP ROADWAYS OF ALL DEBRIS AND EXCESS MATERIAL ATTRIBUTED TO THE CONTRACTOR'S OPERATIONS. UNLESS OTHERWISE APPROVED BY THE OWNER, MECHANICAL STREET SWEEPERS WITHOUT DEBRIS STORAGE COMPARTMENTS WILL NOT BE ALLOWED.
- UNLESS OTHERWISE APPROVED BY THE OWNER, TARPS OR OTHER EFFECTIVE COVERS ARE REQUIRED ON ALL STOCKPILED MATERIAL AND ON ALL HAUL TRUCKS TO MINIMIZE DUST.

TRAFFIC MANAGEMENT AND DETOUR NOTES

- THE CONTRACTOR SHALL COORDINATE TRAFFIC CONTROL EFFORTS IN ACCORDANCE WITH THE APPROVED TRAFFIC CONTROL PLAN WITH THE PUBLIC WORKS DEPARTMENT, AND THE ENGINEER OF RECORD DURING THE CONSTRUCTION OF THE PROJECT.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN EMERGENCY VEHICLE ACCESS THROUGH THE PROJECT AREA AT ALL TIMES.
- ALL SIGNS AND TRAFFIC CONTROL DEVICES BEING USED SHALL BE IN ACCORDANCE WITH THE LATEST VERSION OF THE MUTCD. THE EXACT LOCATIONS OF SIGNS SHALL BE DETERMINED BY THE CITY OF LOS BANOS AND/OR CALTRANS FIELD ENGINEER.
- THE CONTRACTOR SHALL HAVE ALL SIGNS, DELINEATORS, BARRICADES, ETC., PROPERLY PLACED PRIOR TO COMMENCING CONSTRUCTION AND SHALL BE SOLELY RESPONSIBLE FOR MAINTAINING THE TRAFFIC CONTROL DEVICES BEING IMPLEMENTED THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
- WHEN WORK IS NOT BEING PERFORMED, ALL ROADWAYS SHALL BE RETURNED TO THEIR FULL TRAFFIC USAGE BY PLATING OPEN TRENCHES AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES USED FOR TRAFFIC CONTROL OR DETOUR.
- REFLECTIVE TABS ARE NOT ACCEPTABLE TO BE USED AS TEMPORARY DELINEATION DEVICES.
- THE CONTRACTOR SHALL DIRECT PEDESTRIANS TO USE ALTERNATE ROUTES WHILE CONSTRUCTION IS TAKING PLACE WITHIN PEDESTRIAN ROUTES.
- THE CONTRACTOR SHALL NOTIFY ALL OWNERS WITHIN THE AFFECTED AREA AT LEAST 2 FULL BUSINESS DAYS PRIOR TO ANY ROAD CLOSURE.
- ANY PROPOSED CHANGES TO THE APPROVED TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY OF LOS BANOS PRIOR TO IMPLEMENTATION.



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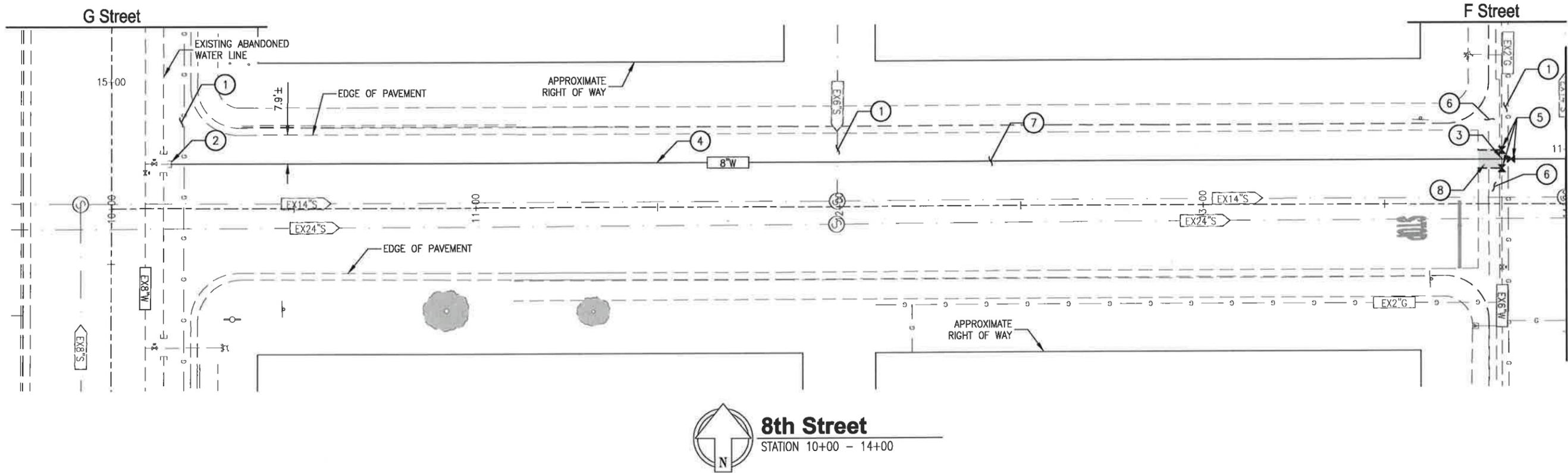
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City of Los Banos
8th and 9th Street Waterline
PROJECT NOTES AND SHEET KEY

DESIGNED BY MVP, DGR	DATE 06/14/19	DRAWING C-102
DRAWN BY MVP, DGR	DATE 07/08/19	SHEET 2
CHECKED BY M. Gouveia	DATE 07/11/19	OF 7 SHEETS
APPROVED M. Gouveia	DATE 07/11/19	PROJECT NUMBER 840.04D



CONSTRUCTION NOTES

REFERENCE
DETAIL

UNDERGROUND IMPROVEMENTS

- ① LOCATE AND PROTECT EXISTING UTILITIES IN PLACE.
- ② REMOVE EXISTING CAP/BLIND FLANGE AND CONNECT 8" WATERLINE.
- ③ CONNECT TO EXISTING WATERLINE.
- ④ INSTALL 8" WATERLINE WITH 2'-6" MIN. OF COVER.
- ⑤ INSTALL 8" WATER VALVE.

①
②
③
④
⑤

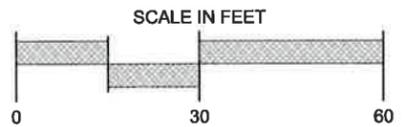
SURFACE IMPROVEMENTS

- ⑥ EXISTING CONCRETE IMPROVEMENTS TO REMAIN IN PLACE AND BE PROTECTED.
- ⑦ REMOVE AND REPLACE EXISTING AC AS REQUIRED TO CONSTRUCT THE "T" CUT TRENCH PATCH.
- ⑧ SAWCUT, REMOVE, AND REPLACE EXISTING VALLEY GUTTER AS REQUIRED TO ACCOMMODATE THE PROPOSED IMPROVEMENTS. VALLEY GUTTER TO BE REMOVED TO THE NEAREST PANELS JOINT. PANEL WIDTH IS 5'-0" MINIMUM.

⑥
⑦
⑧

ESTIMATED QUANTITIES

INSTALL 8" WATERLINE	384 LF
INSTALL 8" VALVE	3 EA
VALLEY GUTTER REPAIR	30 SF
AC REPAIR	1,536 SF



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Jul 17, 2019 - 10:08am
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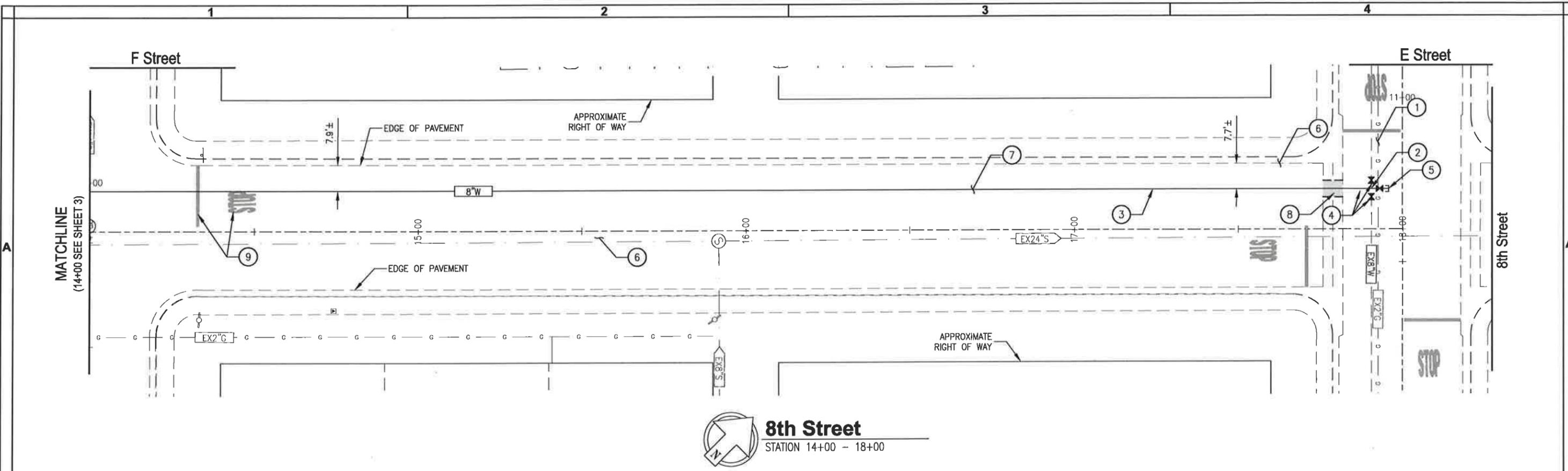
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City of Los Banos
8th and 9th Street Waterline
8th STREET IMPROVEMENTS
STA: 10+00 TO 14+00

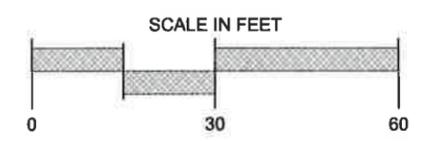
DESIGNED BY MVP, DGR	DATE 06/14/19	DRAWING C-103
DRAWN BY MVP, DGR	DATE 07/08/19	SHEET 3
CHECKED BY M. Gouveia	DATE 07/11/19	OF 7 SHEETS
APPROVED M. Gouveia	DATE 07/11/19	PROJECT NUMBER 840.04D



8th Street
STATION 14+00 - 18+00

CONSTRUCTION NOTES	REFERENCE DETAIL
<u>UNDERGROUND IMPROVEMENTS</u>	
① LOCATE AND PROTECT EXISTING UTILITIES IN PLACE.	
② CONNECT TO EXISTING WATERLINE.	
③ INSTALL 8" WATERLINE WITH 2'-6" MIN. OF COVER.	① ⑥
④ INSTALL 8" WATER VALVE.	② ⑥
INSTALL 8" WATERLINE STUB WITH A BLIND FLANGE FOR FUTURE CONNECTION. REMOVE EXISTING WATERLINE AS REQUIRED FOR INSTALLATION. 8" WATERLINE IS TO BE STUBBED 2'-0" PAST THE EXISTING WATERLINE.	① ⑥
<u>SURFACE IMPROVEMENTS</u>	
⑥ EXISTING SURFACE IMPROVEMENTS TO REMAIN IN PLACE AND BE PROTECTED.	
⑦ REMOVE AND REPLACE EXISTING AC AS REQUIRED TO CONSTRUCT THE "T" CUT TRENCH PATCH.	① ⑥
SAWCUT, REMOVE, AND REPLACE EXISTING VALLEY GUTTER AS REQUIRED TO ACCOMMODATE THE PROPOSED IMPROVEMENTS. VALLEY GUTTER TO BE REMOVED TO THE NEAREST PANELS JOINT. PANEL WIDTH IS 5'-0" MINIMUM.	④ ⑥
⑨ REAPPLY STOP MARKINGS AND LIMIT LINE.	

ESTIMATED QUANTITIES	
INSTALL 8" WATERLINE	390 LF
INSTALL 8" VALVE	3 EA
VALLEY GUTTER REPAIR	30 SF
AC REPAIR	1,560 SF
THERMOPLASTIC MARKINGS	41 SF



REV	DATE	DESCRIPTION	APPR
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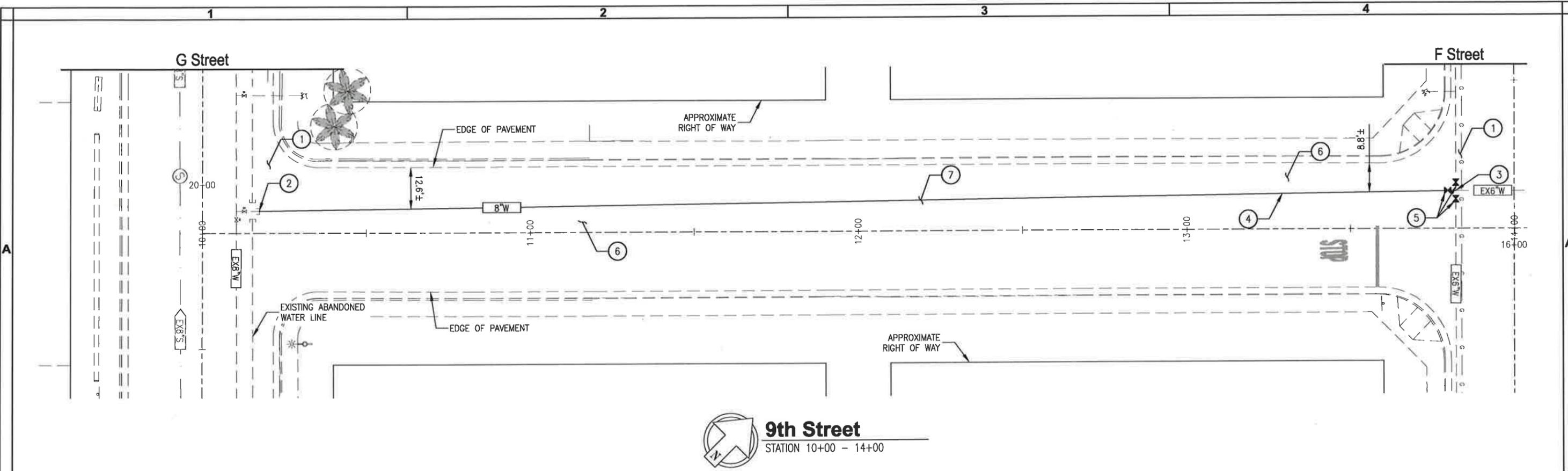
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City of Los Banos
8th and 9th Street Waterline
8th STREET IMPROVEMENTS
STA: 14+00 TO 18+00

DESIGNED BY MVP, DGR	DATE 06/14/19	DRAWING C-104
DRAWN BY MVP, DGR	DATE 07/08/19	
CHECKED BY M. Gouveia	DATE 07/11/19	SHEET 4 OF 7 SHEETS PROJECT NUMBER 840.04D
APPROVED M. Gouveia	DATE 07/11/19	

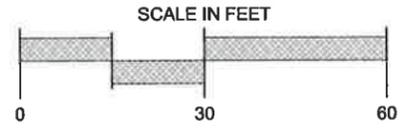
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9th Street
STATION 10+00 - 14+00

CONSTRUCTION NOTES	REFERENCE DETAIL
<u>UNDERGROUND IMPROVEMENTS</u>	
① LOCATE AND PROTECT EXISTING UTILITIES IN PLACE.	
② REMOVE EXISTING CAP/BLIND FLANGE AND CONNECT 8" WATERLINE.	
③ CONNECT TO EXISTING WATERLINE.	
④ INSTALL 8" WATERLINE WITH 2'-6" MIN. OF COVER.	① ⑥
⑤ INSTALL 8" WATER VALVE.	② ⑥
<u>SURFACE IMPROVEMENTS</u>	
⑥ EXISTING SURFACE IMPROVEMENTS TO REMAIN IN PLACE AND BE PROTECTED.	
⑦ REMOVE AND REPLACE EXISTING AC AS REQUIRED TO CONSTRUCT THE "T" CUT TRENCH PATCH.	① ⑥

ESTIMATED QUANTITIES	
INSTALL 8" WATERLINE	320 LF
INSTALL 8" VALVE	3 EA
AC REPAIR	1,500 SF



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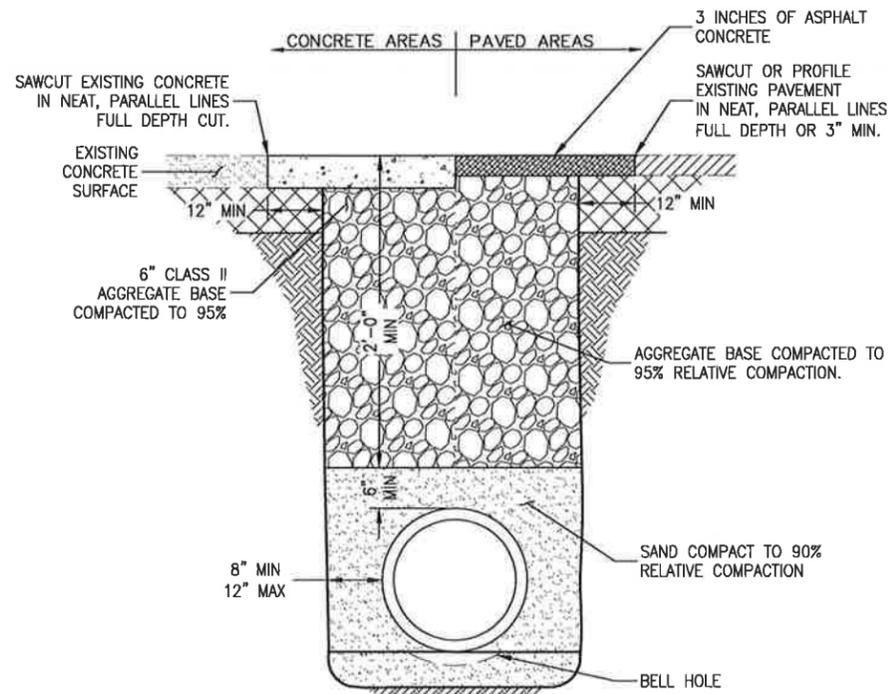
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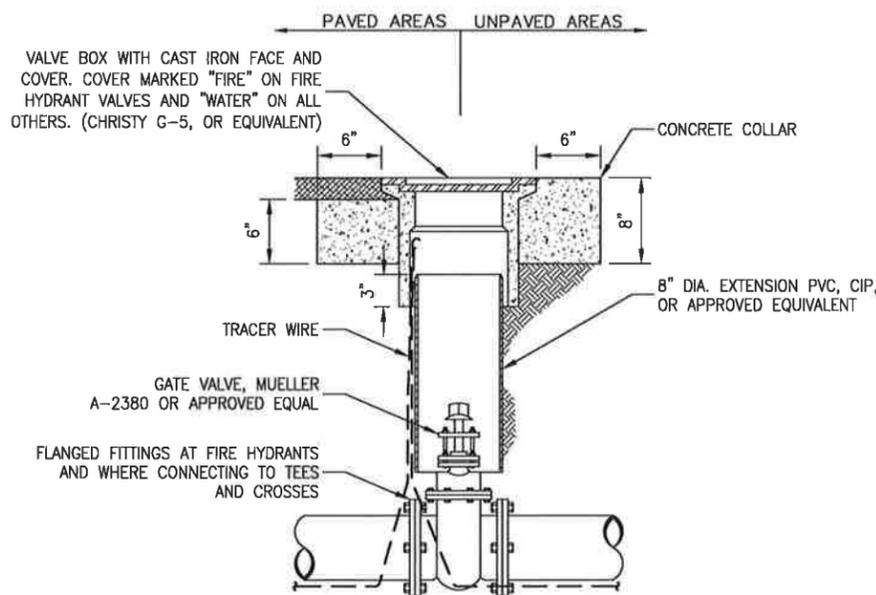
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8th and 9th Street Waterline
9th STREET IMPROVEMENTS
STA: 10+00 TO 14+00

DESIGNED BY	DATE	DRAWING
MVP, DGR	06/14/19	C-105
DRAWN BY	DATE	SHEET
MVP, DGR	07/08/19	5
CHECKED BY	DATE	OF 7 SHEETS
M. Gouveia	07/11/19	PROJECT NUMBER
APPROVED	DATE	840.04D
M. Gouveia	07/11/19	

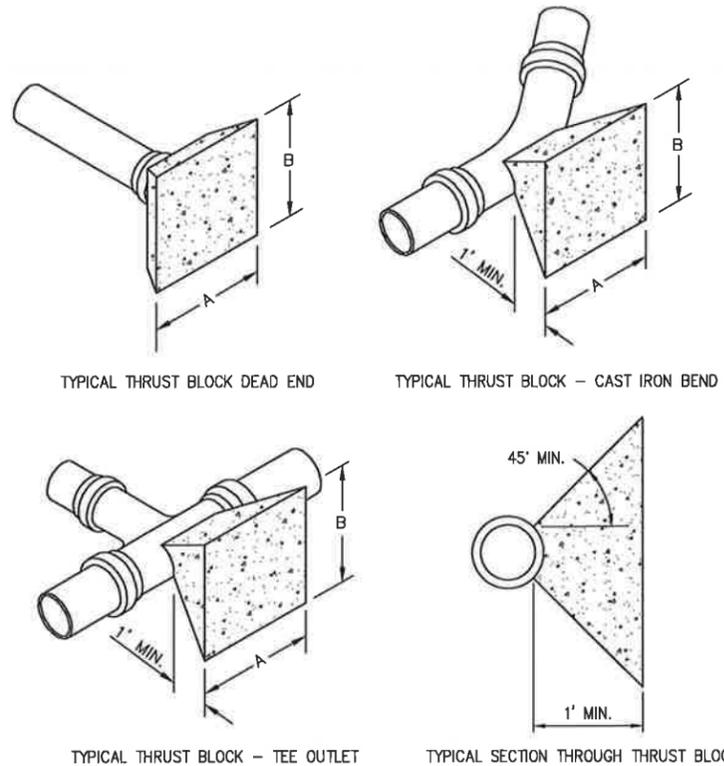
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1 TRENCH BACKFILL
NOT TO SCALE

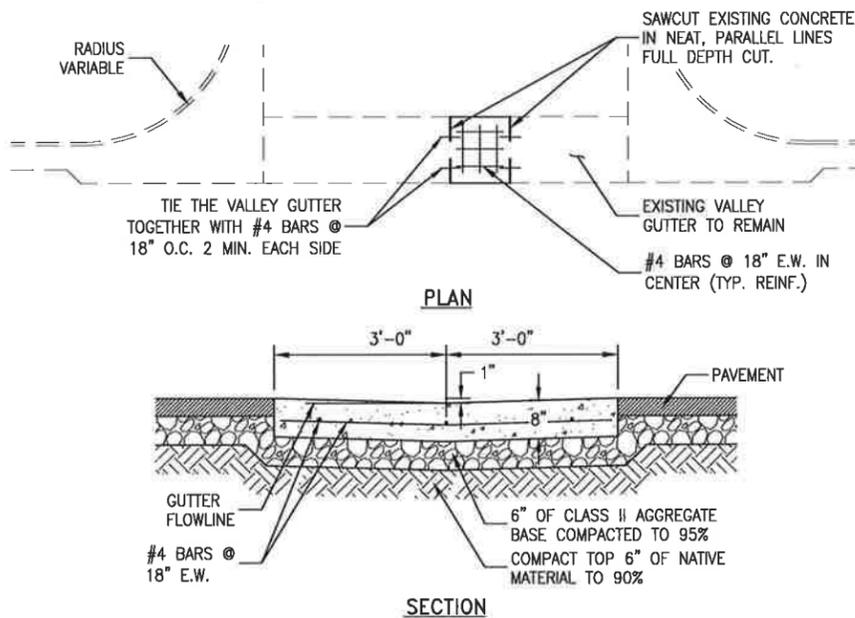


2 VALVE BOX INSTALLATION
NOT TO SCALE



3 THRUST BLOCKS
NOT TO SCALE

FITTINGS	ALLOWABLE SOIL BEARING VALUE 1,500 LBS. PER SQ. FT.	
	"A"	"B"
6" LINE	"A"	"B"
22-1/2"	1'-6"	1'-0"
45"	2'-0"	1'-3"
90"	3'-0"	1'-6"
TEE OUTLET	2'-0"	1'-6"
DEAD END	2'-0"	1'-6"
8" LINE	"A"	"B"
22-1/2"	1'-6"	1'-6"
45"	2'-6"	1'-6"
90"	4'-0"	2'-0"
TEE OUTLET	2'-9"	2'-0"
DEAD END	2'-9"	2'-0"



4 VALLEY GUTTER REPAIR DETAIL
NOT TO SCALE

DETAIL NOTES

- SOIL DENSITIES ARE EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D 1557.
- CITY SHALL APPROVE SUBGRADE AND AGGREGATE BASE PRIOR TO PLACEMENT OF CONCRETE.
- IMMEDIATELY PRIOR TO PLACEMENT OF CONCRETE THE GEOTECHNICAL ENGINEER SHALL CERTIFY THE MOISTURE CONTENT OF THE NATIVE MATERIAL SUBBASE HAS A MOISTURE CONTENT OF NOT LESS THAN 3%. IN ADDITION, AGGREGATE BASE SHALL HAVE A MOISTURE CONTENT AS SPECIFIED BY THE DIRECTOR.

TRENCHING, PIPE BEDDING, AND BACKFILL

- TRENCH WALL SHOWN VERTICAL FOR CLARITY, EXCAVATE PER OSHA SAFETY REQUIREMENTS.
- SAND SHALL CONFORM TO THE FOLLOWING GRADING REQUIREMENTS

SIEVE SIZE	PERCENTAGE PASSING
#4	100
#16	0-70
#30	0-15
#200	0-5

- FOR PVC PRESSURE PIPE PROVIDE 4" OF MANUFACTURED SAND BEDDING.
- IF THE BOTTOM OF THE TRENCH IS SOFT OR UNSTABLE, IT SHALL BE OVER EXCAVATED A MINIMUM OF 1 FOOT BELOW GRADE AND BACKFILLED WITH APPROVED IMPORTED MATERIAL.
- RELATIVE COMPACTION IS EXPRESSED AS A PERCENTAGE OF MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557.
- FOR PIPE BEDDING AND BACKFILL PURPOSES, AWWA C900 PIPE SHALL BE CONSIDERED RIGID WALLED.
- TRENCHES NOT IN PAVED AREA SHALL BE RESTORED TO MATCH EXISTING SURFACE CONDITIONS.

THRUST BLOCKS

- ALL VALUES SHOWN ARE MINIMUM FOR A HYDROSTATIC PRESSURE OF 150 P.S.I. AND SOIL RESISTANCE OF 1,500 LBS./SQ. FT. WITH A MINIMUM PIPELINE COVER OF 2'-6".
- REDUCTION OF THE THRUST BLOCK SURFACE AREA WILL BE CONSIDERED UPON SUBMITTAL OF APPROVED SOIL BEARING TEST RESULTS GREATER THAN 1,500 LBS./SQ. FT.
- ALL THRUST BLOCKS SHALL BE POURED AGAINST UNDISTURBED SOIL.
- THRUST BLOCKS SHOWN ARE FOR HORIZONTAL THRUST RESTRAINT. FOR VERTICAL THRUST RESTRAINT, DETAILS SHALL BE PROVIDED BY THE DESIGN ENGINEER.

VALVES

- IF VALVE OPERATING NUT IS INSTALLED DEEPER THAN 2'-6", ATTACH PERMANENT EXTENSION AS APPROVED BY PUBLIC WORKS DIRECTOR.



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Jul 11, 2019 - 3:01pm
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REV	DATE	DESCRIPTION	APPR
1			

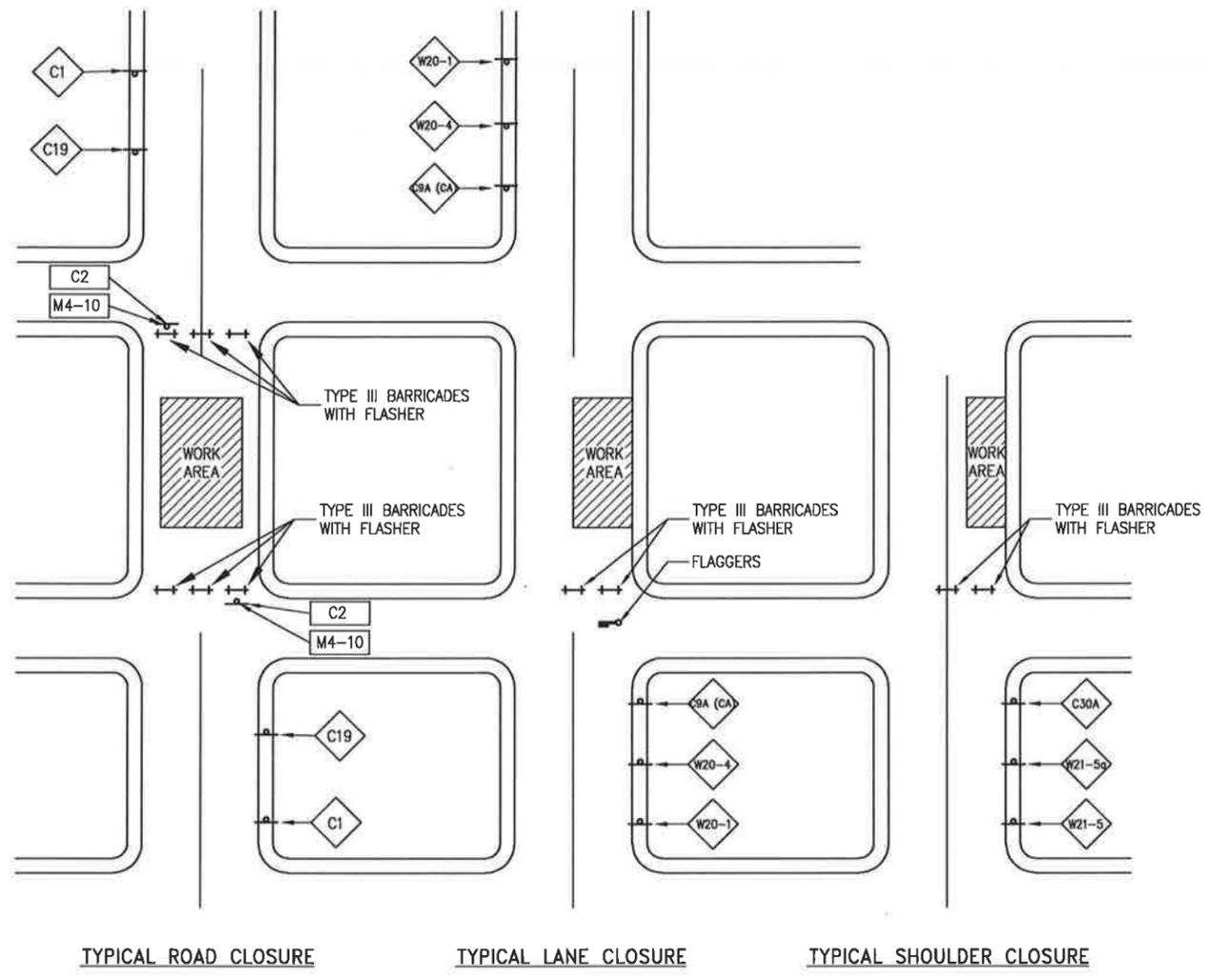
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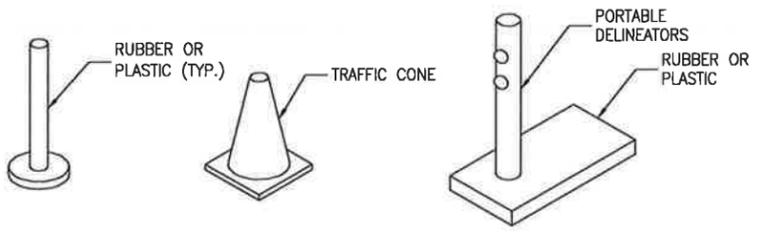
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CONSULTING ENGINEERS
456 Sixth Street • Gustine, California 95322
Telephone (209) 854-3300 • Fax (209) 854-3600

City of Los Banos
8th and 9th Street Waterline
**TRENCH BACKFILL, VALVE, THRUST BLOCK,
AND VALLEY GUTTER REPAIR DETAILS**

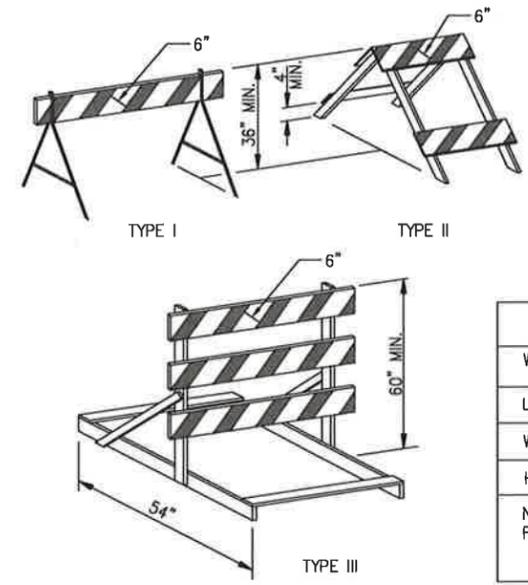
DESIGNED BY	DATE	DRAWING
MVP, DGR	06/14/19	C-106
DRAWN BY	DATE	SHEET
MVP, DGR	07/08/19	6
CHECKED BY	DATE	OF 7 SHEETS
M. Gouveia	07/11/19	PROJECT NUMBER
APPROVED	DATE	840.04D
M. Gouveia	07/11/19	



1 CLOSURE DETAILS
NOT TO SCALE



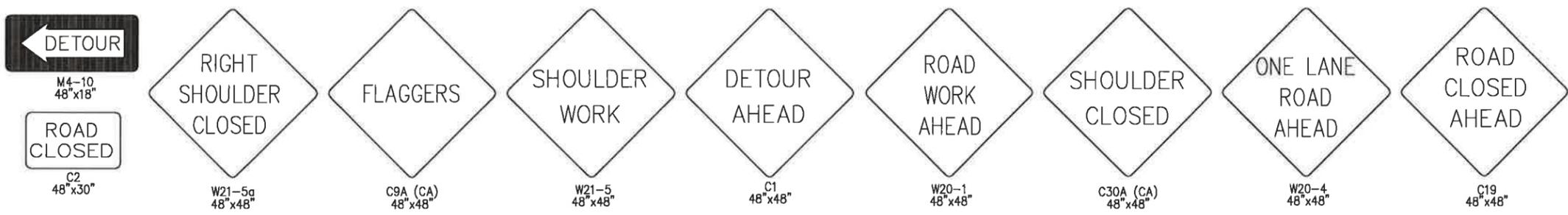
3 TRAFFIC DELINEATORS
NOT TO SCALE



BARRICADE AND PORTABLE FLASHER SUPPORT CHARACTERISTICS

TYPE	1	2	3	PORTABLE FLASHER SUPPORT
WIDTH OF RAIL	8" - 12"	8" - 12"	8" - 12"	TOP - 8" - 12" BOTTOM - 4" MIN.
LENGTH OF RAIL	2' MIN.	32" - 4'	3' MIN.	31" MAX.
WIDTH OF STRIPE	6"	6"	6"	4" OR 6"
HEIGHT	3' MIN.	3' MIN.	5' MIN.	30" MIN.
NUMBER OF RAIL FACES REFLECTORIZED	2	4	3 IF FACING TRAFFIC IN ONE DIRECTION. 6 IF FACING TRAFFIC IN TWO DIRECTIONS.	2 IF TOP RAIL IS 12" WIDE. 4 IF TOP RAIL IS LESS THAN 12" WIDE

4 PORTABLE BARRICADES
NOT TO SCALE



2 TYPICAL CONSTRUCTION SIGNS
NOT TO SCALE



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City of Los Banos
8th and 9th Street Waterline
TRAFFIC CONTROL DETAILS

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DRAWN BY	DATE	SHEET
MVP, DGR	07/08/19	7
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M. Gouveia	07/11/19	
APPROVED	DATE	PROJECT NUMBER
M. Gouveia	07/11/19	840,04D