



FLEWELLING & MOODY
architects for education

Tropico Middle School Landscape, Drainage and Parking Lot Upgrade Project
SOUTHERN KERN UNIFIED SCHOOL DISTRICT
F&M Project No. 2940.0400
Bid Clarification No. 1; Page 1 of 11

BID CLARIFICATION NO. 1

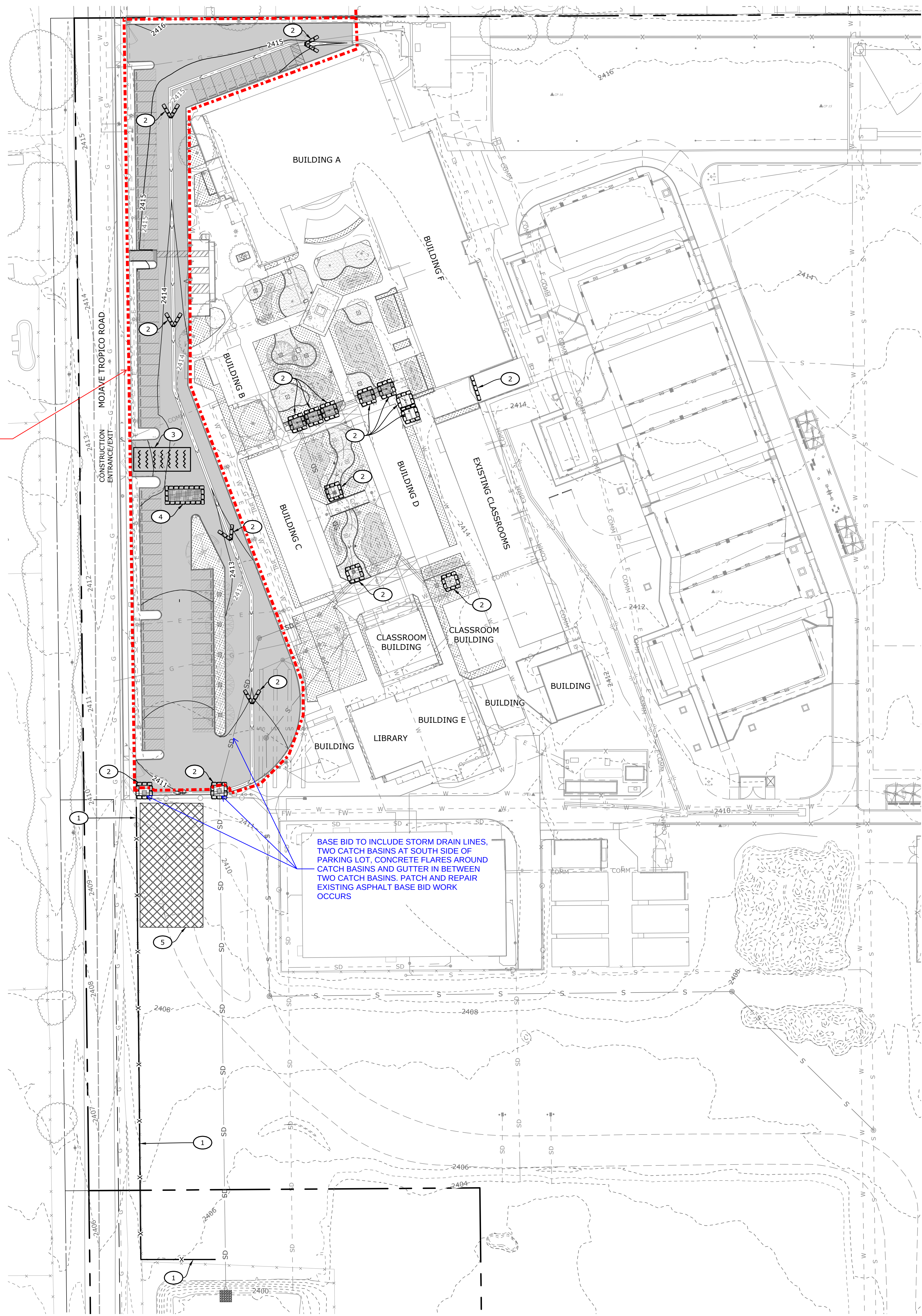
January 6, 2025

The following changes and/or clarifications shall be made to the drawings and specifications and all other conditions shall remain the same. All changes and/or clarifications provided shall be included in the scope of contracted work. Pursuant to PR13-01 all work that requires approval by the DSA shall not begin until said approvals are obtained.

A. DRAWINGS:

1. **Add** the following sheets to the set of project contract documents. The purpose of the bid clarification sheets is to delineate the 'Bid Alternate #01' scope of work from the base bid:
 - a. C1.01 – Cover Sheet – Bid Clarification No. 1 – 01/06/2025
 - b. C2.01 – Erosion Control Plan – Bid Clarification No. 1 – 01/06/2025
 - c. C3.01 – Grading, Drainage and Paving Plan – Bid Clarification No. 1 – 01/06/2025
 - d. C3.02 – Grading, Drainage and Paving Plan – Bid Clarification No. 1 – 01/06/2025
 - e. C3.03 – Grading, Drainage and Paving Plan – Bid Clarification No. 1 – 01/06/2025
 - f. C3.04 – Grading, Drainage and Paving Plan – Bid Clarification No. 1 – 01/06/2025
 - g. C4.01 – Details – Bid Clarification No. 1 – 01/06/2025
 - h. C4.02 – Details – Bid Clarification No. 1 – 01/06/2025
 - i. L2.01 – Irrigation Plan – Bid Clarification No. 1 – 01/06/2025
 - j. L2.02 – Irrigation Legends & Notes Plan – Bid Clarification No. 1 – 01/06/2025
 1. The revisions shown is to provide a new Rain Bird (36) station automatic controller assembly to be incorporated and made part of this contract.

Flewellling & Moody, Inc.



BID ALTERNATE #1
SCOPE OF WORK SHALL
INCLUDE THE COMPLETE DEMO
AND INSTALLATION OF THE
ENTIRE PARKING LOT
INCLUDING ALL THE DRIVE
AISLES. SCOPE OF WORK SHALL
INCLUDE BUT NOT LIMITED TO
THE REMOVAL OF ALL SPOILS
FROM THE EXISTING AC
PARKING AREA AND ALL
EXISTING WHEEL STOPS.

BASE BID TO INCLUDE STORM DRAIN LINES,
TWO CATCH BASINS AT SOUTH SIDE OF
PARKING LOT, CONCRETE FLARES AROUND
CATCH BASINS AND GUTTER IN BETWEEN
TWO CATCH BASINS. PATCH AND REPAIR
EXISTING ASPHALT BASE BID WORK
OCCURS

EROSION CONTROL CONSTRUCTION NOTES

1. CONSTRUCT SILT FENCE PER STD. PLATE BMP-10 IN CURRENT KERN COUNTY DEVELOPMENT STANDARDS (DETAIL ON SHEET C2.02) PRIOR TO AND DURING GRADING.
2. CONSTRUCT TEMPORARY GRAVEL BAG CHECK DAM OR CATCH BASIN SEDIMENT BARRIER PER STD. PLATE BMP-1 IN CURRENT KERN COUNTY DEVELOPMENT STANDARDS (DETAIL ON SHEET C2.02). ALL GRAVEL BAGS MUST BE IN PLACE DURING PROJECT CONSTRUCTION.
3. CONSTRUCT "RUMBLE RACKS" AT ALL CONSTRUCTION SITE ENTRANCES AND EXITS (MINIMUM 30-FEET BY 12-FEET WIDE) PER STD. PLATE BMP-3 THROUGH BMP-5 IN CURRENT KERN COUNTY DEVELOPMENT STANDARDS (DETAILS ON SHEET C2.02). RECOMMENDED LOCATIONS SHOWN. CONTRACTOR TO SUBMIT FINAL LOCATION TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
4. PROPOSED CONCRETE WASH-OFF AREA PER STD. PLATE BMP-8 IN CURRENT KERN COUNTY DEVELOPMENT STANDARDS (DETAIL ON SHEET C2.02). WASH-OFF AREA SHALL BE IN PLACE AT ALL TIMES DURING GRADING AND PAVING OPERATIONS. CONTRACTOR SHALL NOT TRACK SOLIDS OR CONCRETE WASH OUT OR DEBRIS ON PUBLIC ROADWAYS. RECOMMENDED LOCATION SHOWN. CONTRACTOR SHALL SUBMIT FINAL LOCATION TO OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.
5. PROPOSED STOCKPILE AND MATERIAL STORAGE AREA PER STD. PLATE BMP-7 IN CURRENT KERN COUNTY DEVELOPMENT STANDARDS (DETAIL ON SHEET C2.02).

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APP: 03-12476
REVIEW
SS ☒ FLS ☒
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FLEWELLING & MOODY
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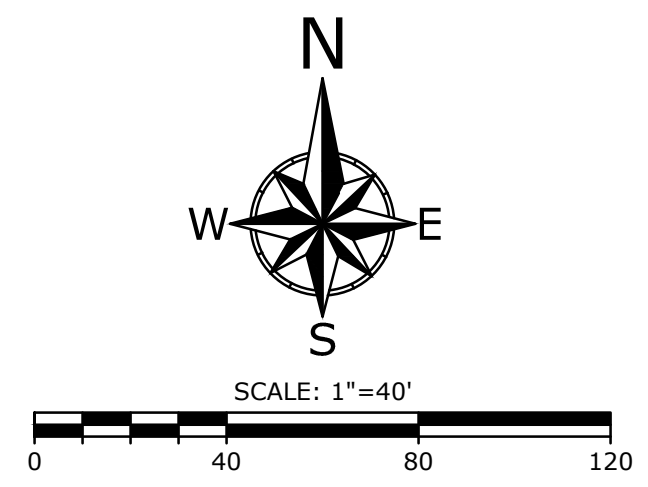
Drawn by		
Checked by		
Revisions		
No.	Date	Description

All dimensions must be checked at the job by the contractor who accepts full responsibility for their accuracy under the contract. These plans & the specifications in connection therewith have been prepared for a specific site. Any and all responsibility for their use in whole or in part on any other site is hereby disclaimed by Flewellling & Moody.

SOUTHERN KERN UNIFIED
SCHOOL DISTRICT
TROPICO MIDDLE SCHOOL
LANDSCAPE & DRAINAGE PROJECT
3180 MOJAVE TROPICO ROAD
ROSAMOND, CA 93560

EROSION CONTROL PLAN

Job No.
2940.400
Date
10-16-2024
C2.01



NOTE: THE INTENT OF THIS DRAWING IS TO INDICATE ONLY THE REVISIONS SHOWN WITHIN THE 'RED DASHED AREAS' AS BID ALTERNATE #1. ALL ADDITIONAL 'BASE BID' NOTES SHOWN WITH A 'BLUE TEXT' SHALL HEREBY BE MADE PART OF THE CONTRACT. ALL OTHER WORK SHALL REMAIN UNCHANGED PER THE DSA APPROVED DOCUMENTS, (A#03-124766, DATED 12/04/2024)



GRADING AND DRAINAGE CONSTRUCTION NOTES

- 1 SAWCUT PCC OR AC PAVEMENT TO LIMITS SHOWN.
- 2 CONSTRUCT DRIVE AISLE AC PAVEMENT (4" AC OVER 4.5" CAB) PER DETAIL "A" ON SHEET C4.01.
- 3 CONSTRUCT PCC WALKWAY (4" THICK) PER DETAIL "B" ON SHEET C4.01. COLOR, PATTERN AND FINISH PER LANDSCAPE ARCHITECT'S PLAN.
- 4 CONSTRUCT LANDSCAPING PER LANDSCAPE ARCHITECT'S PLAN.
- 5 CONSTRUCT DECOMPOSED GRANITE PER ARCHITECT'S PLAN.
- 6 CONSTRUCT 0" MOW CURB PER LANDSCAPE ARCHITECT'S PLAN.
- 7 CONSTRUCT CONCRETE BRIDGE, CURBS AND HANDRAILS PER ARCHITECT'S PLAN.
- 8 CONTRACTOR TO ADJUST ALL EXISTING UTILITY LIDS/COVERS WITHIN PROJECT LIMITS TO FINISH SURFACE ELEVATION.
- 9 CONSTRUCT TREE PER LANDSCAPE ARCHITECT'S PLAN.
- 10 CONSTRUCT MORTARED COBBLE PER LANDSCAPE ARCHITECT'S PLAN.
- 11 CONSTRUCT FLARED END PIPE OUTLET.
- 12 CONSTRUCT 6" CURB (TYPE A1-6) PER SPWVC STANDARD PLAN 120-2.
- 13 CONSTRUCT 8" SDR 35 PVC PIPE PER GRAVITY PIPE TRENCH DETAIL "F" ON SHEET C4.01 AND DETAIL "K" ON SHEET C4.02. INSTALL ALL FITTINGS, ELBOWS, WYES AND TEES NECESSARY TO CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.
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- 15 CONSTRUCT 12" SDR 35 PVC PIPE PER GRAVITY PIPE TRENCH DETAIL "F" ON SHEET C4.01 AND DETAIL "K" ON SHEET C4.02. INSTALL ALL FITTINGS, ELBOWS, WYES AND TEES NECESSARY TO CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.
- 16 CONSTRUCT 12" NYLOPLAST DRAIN BASIN 2812AG WITH 12" SQUARE STANDARD GRATE 1299CGS OR APPROVED EQUAL.
- 17 CONSTRUCT 12" NYLOPLAST DRAIN BASIN 2812AG WITH 12" SQUARE PEDESTRIAN HEEL PROOF GRATE 1299CGP OR APPROVED EQUAL.
- 18 CONSTRUCT 24"x24" BROOKS PRECAST CATCH BASIN OR APPROVED EQUAL WITH PEDESTRIAN RATED GRATE.
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- 25 CONSTRUCT GUARDRAIL PER ARCHITECT'S PLAN.
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- 30 CONSTRUCT 4' WIDE WHITE STRIPE AS SHOWN.
- 31 CONSTRUCT 4' WIDE BLUE STRIPING AS SHOWN.
- 32 CONSTRUCT TRUNCATED DOMES PER CALTRANS STD PLAN A88A.
- 33 CONSTRUCT WHEEL STOP PER DETAIL "M" ON SHEET C4.02.
- 34 CONSTRUCT VARIABLE HEIGHT CONCRETE CURB (TYPE A1-6) MODIFIED PER SPWVC STANDARD PLAN 120-2. CURB HEIGHTS PER PLAN. SEE DETAIL "O" ON SHEET C4.02.
- 35 CONSTRUCT 36"x36" BROOKS PRECAST CATCH BASIN OR APPROVED EQUAL WITH TRAFFIC RATED GRATE. CONSTRUCT GUTTER FLARE AROUND CATCH BASIN PER GUTTER FLARE DETAIL ON SHEET C3.03.
- 36 CONSTRUCT 18" HDPE (N-12 WT) PIPE PER GRAVITY PIPE TRENCH DETAIL "F" ON SHEET C4.01 AND DETAIL "K" ON SHEET C4.02. INSTALL ALL FITTINGS, ELBOWS, WYES AND TEES NECESSARY TO CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.

GENERAL NOTE

CONTRACTOR TO FURNISH AND INSTALL ALL NECESSARY FITTINGS TO CONSTRUCT UTILITY SYSTEMS AS SHOWN ON PLAN INCLUDING ECCENTRIC TEES/WYES WHERE NEEDED.

EXISTING UTILITY COVER ADJUSTMENT NOTE

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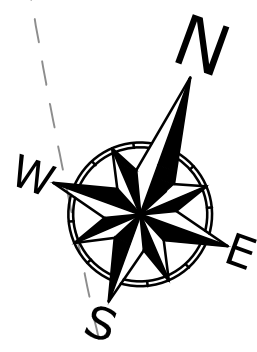
BID ALTERNATE #1
SCOPE OF WORK SHALL INCLUDE THE COMPLETE DEMO AND INSTALLATION OF THE ENTIRE PARKING LOT INCLUDING ALL THE DRIVE AISLES. SCOPE OF WORK SHALL INCLUDE BUT NOT LIMITED TO THE REMOVAL OF ALL SPOILS FROM THE EXISTING AC PARKING AREA AND ALL EXISTING WHEEL STOPS.

MOJAVE TROPICO ROAD

BUILDING A

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MATCHLINE A-A - SEE SHEET C3.02



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ARCHITECT



CONSULTANT



Drawn by

Checked by

Revisions

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SOUTHERN KERN UNIFIED
SCHOOL DISTRICT

TROPICO MIDDLE SCHOOL
LANDSCAPE & DRAINAGE PROJECT

3180 MOJAVE TROPICO ROAD
ROSAMOND, CA 93560

GRADING,
DRAINAGE
AND PAVING
PLAN

Job No.

2940.400

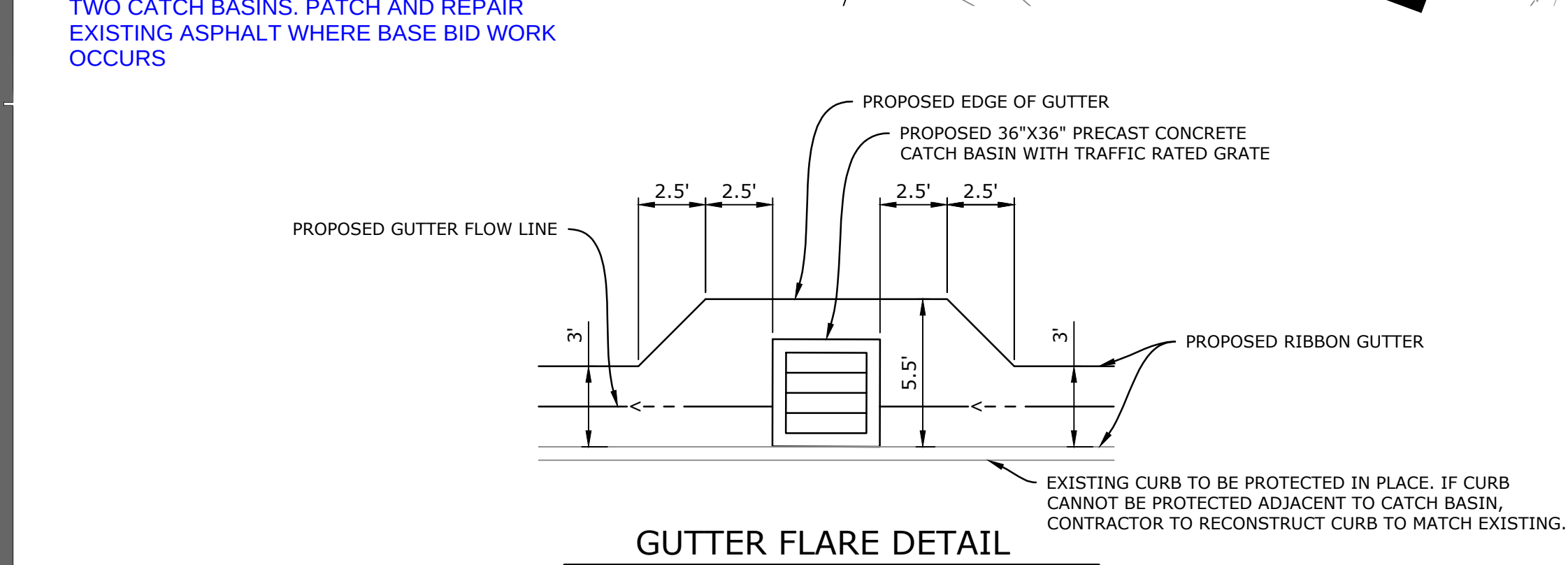
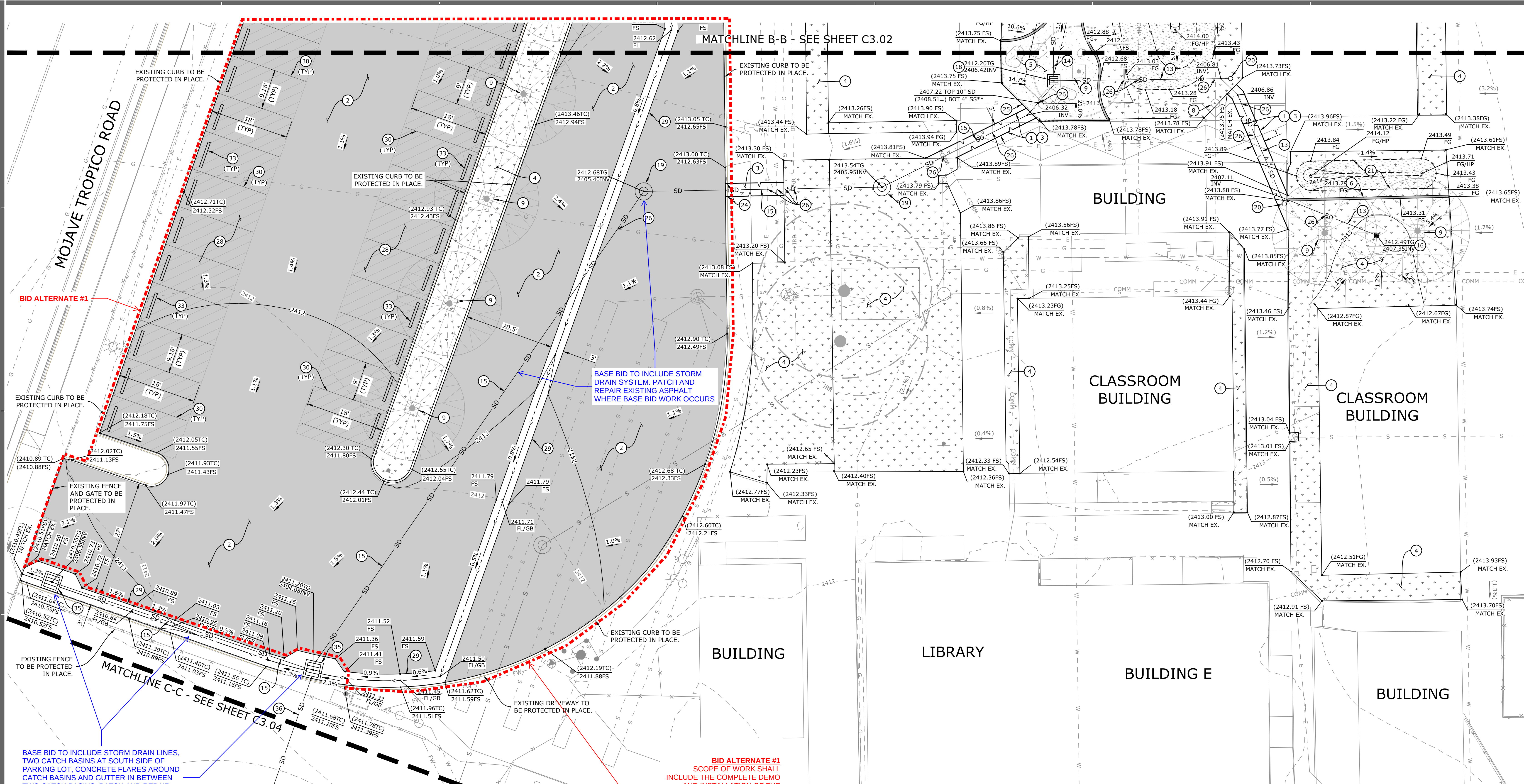
Date

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C3.01



Know what's below.
Call before you dig.



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GENERAL NOTE

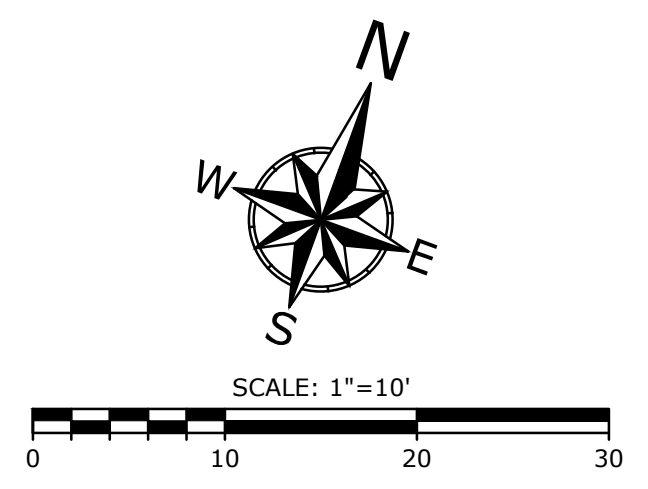
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Drawn by
Checked by
Persons

No.	Date	Description

SOUTHERN KERN UNIFIED SCHOOL DISTRICT

TROPICO MIDDLE SCHOOL LANDSCAPE & DRAINAGE PROJECT

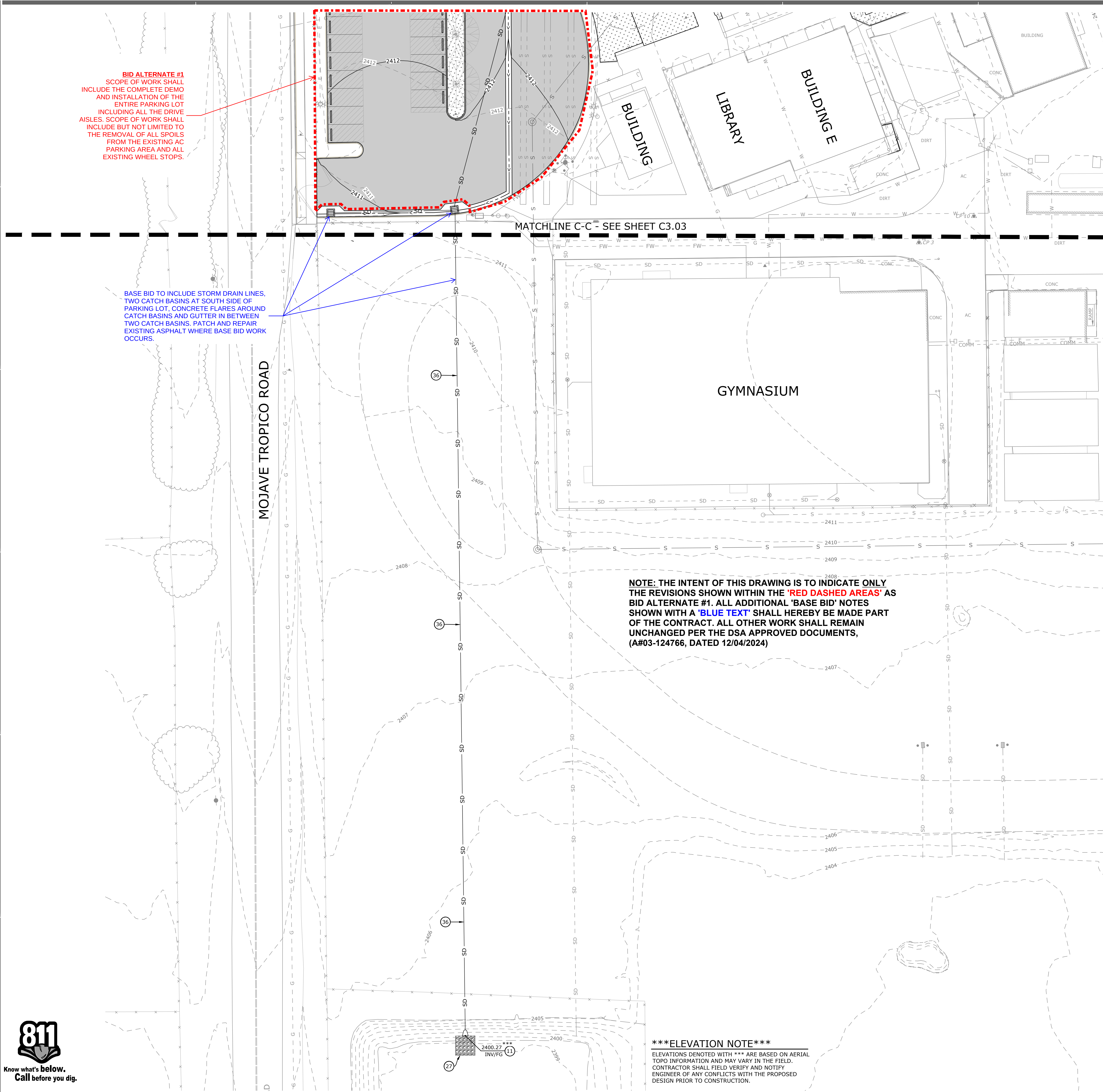
3180 MOJAVE TROPICO ROAD ROSAMOND, CA 93560

GRADING, DRAINAGE AND PAVING PLAN

Job No.
2940.400

Date
10-16-2024

C3.03



GRADING AND DRAINAGE CONSTRUCTION NOTES

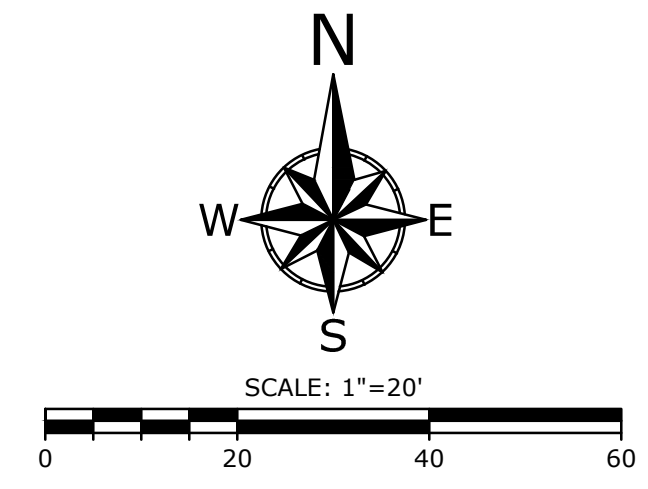
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- 33 CONSTRUCT WHEEL STOP PER DETAIL "M" ON SHEET C4.02.
- 34 CONSTRUCT VARIABLE HEIGHT CONCRETE CURB (TYPE A1-6) MODIFIED PER SPPWC STANDARD PLAN 120-2. CURB HEIGHTS PER PLAN. SEE DETAIL "O" ON SHEET C4.02.
- 35 CONSTRUCT 36"x36" BROOKS PRECAST CATCH BASIN OR APPROVED EQUAL WITH TRAFFIC RATED GRATE. CONSTRUCT GUTTER FLARE AROUND CATCH BASIN PER GUTTER FLARE DETAIL ON SHEET C3.03.
- 36 CONSTRUCT 18" HDPE (N-12 WT) PIPE PER GRAVITY PIPE TRENCH DETAIL "F" ON SHEET C4.01 AND DETAIL "K" ON SHEET C4.02. INSTALL ALL FITTINGS, ELBOWS, WYES AND TEES NECESSARY TO CONSTRUCT STORM DRAIN SYSTEM AS SHOWN.

GENERAL NOTE
CONTRACTOR TO FURNISH AND INSTALL ALL NECESSARY FITTINGS TO CONSTRUCT UTILITY SYSTEMS AS SHOWN ON PLAN INCLUDING ECCENTRIC TEES/WYES WHERE NEEDED.

EXISTING UTILITY COVER ADJUSTMENT NOTE
CONTRACTOR TO ADJUST ALL EXISTING UTILITY LIDS/COVERS WITHIN WORK AREA TO FINISH SURFACE ELEVATION.

****EXISTING UTILITY CROSSING NOTE****
LOCATION, SIZE AND DEPTH OF EXISTING UTILITIES SHOWN ARE ESTIMATES ONLY AND WERE BASED ON AS-BUILT PLANS AND OBSERVED SURFACE EVIDENCE. CONTRACTOR SHALL POTHOLE AT PROPOSED UTILITY CROSSINGS TO FIELD VERIFY LOCATION, SIZE, DEPTH OF ALL EXISTING CROSSING UTILITIES PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER OF ANY CONFLICTS.

*****ELEVATION NOTE*****
ELEVATIONS DENOTED WITH *** ARE BASED ON AERIAL TOPO INFORMATION AND MAY VARY IN THE FIELD. CONTRACTOR SHALL FIELD VERIFY AND NOTIFY ENGINEER OF ANY CONFLICTS WITH THE PROPOSED DESIGN PRIOR TO CONSTRUCTION.



AGENCY

IDENTIFICATION DIV. OF THE STATE
APP: 03-12476
REVIEWER
SS ☒ FLS ☒
DATE: 12/0

ICT

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architecture planning interiors

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CONSULTANT

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Drawn by
Checked by
Revisions

No.	Date	Description
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SOUTHERN KERN UNIFIED SCHOOL DISTRICT
TROPICO MIDDLE SCHOOL
LANDSCAPE & DRAINAGE PROJECT
3180 MOJAVE TROPICO ROAD
ROSAMOND, CA 93560

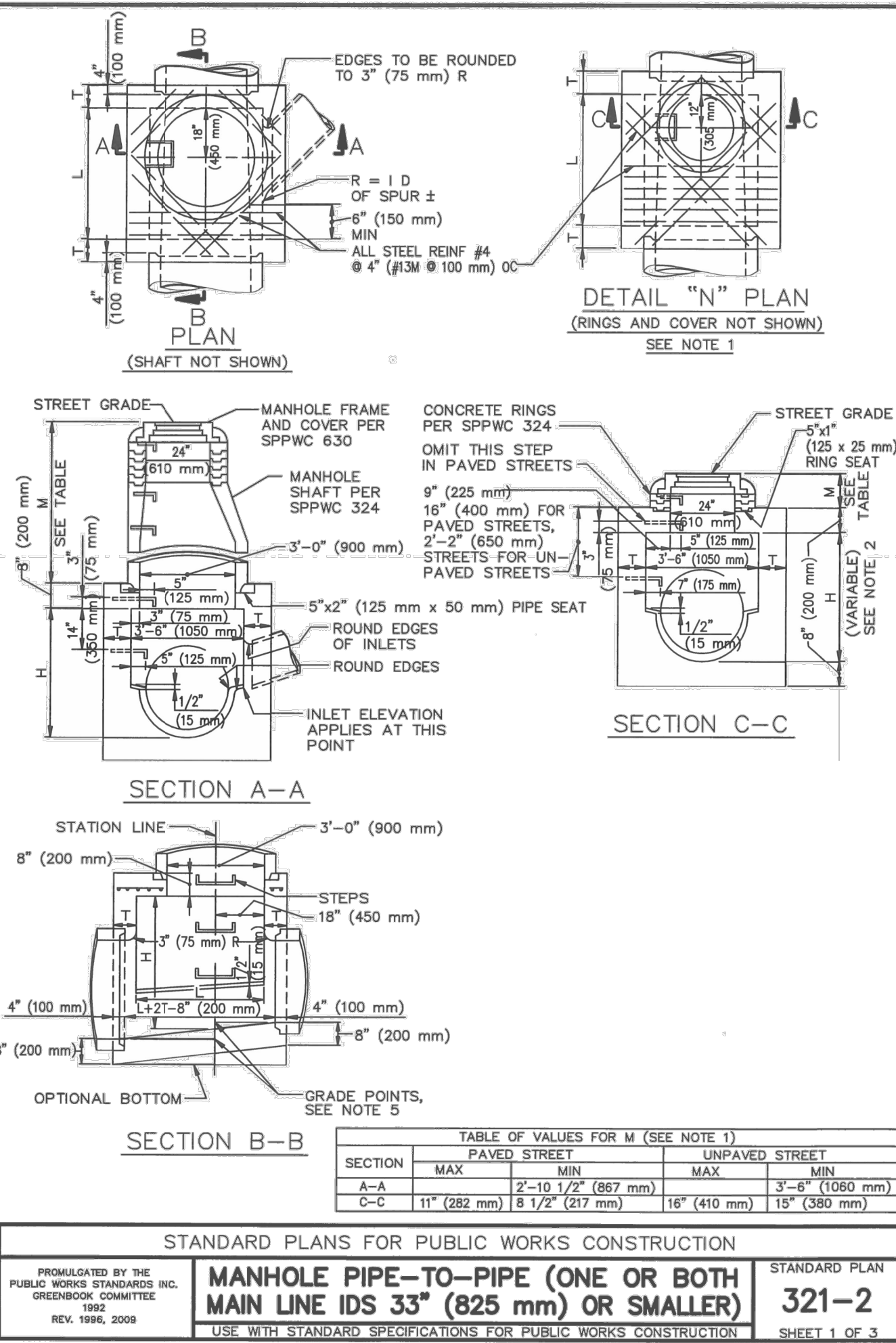
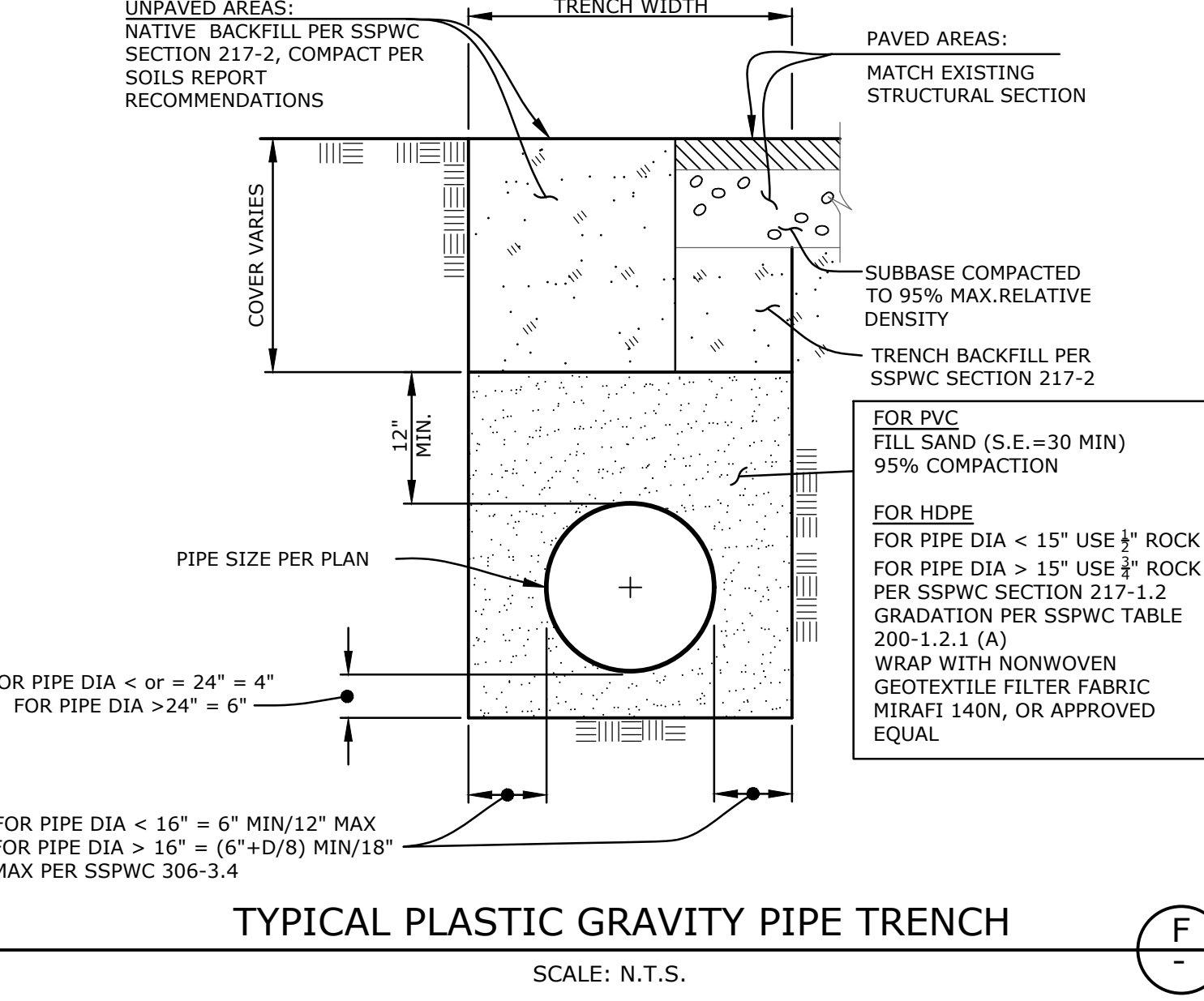
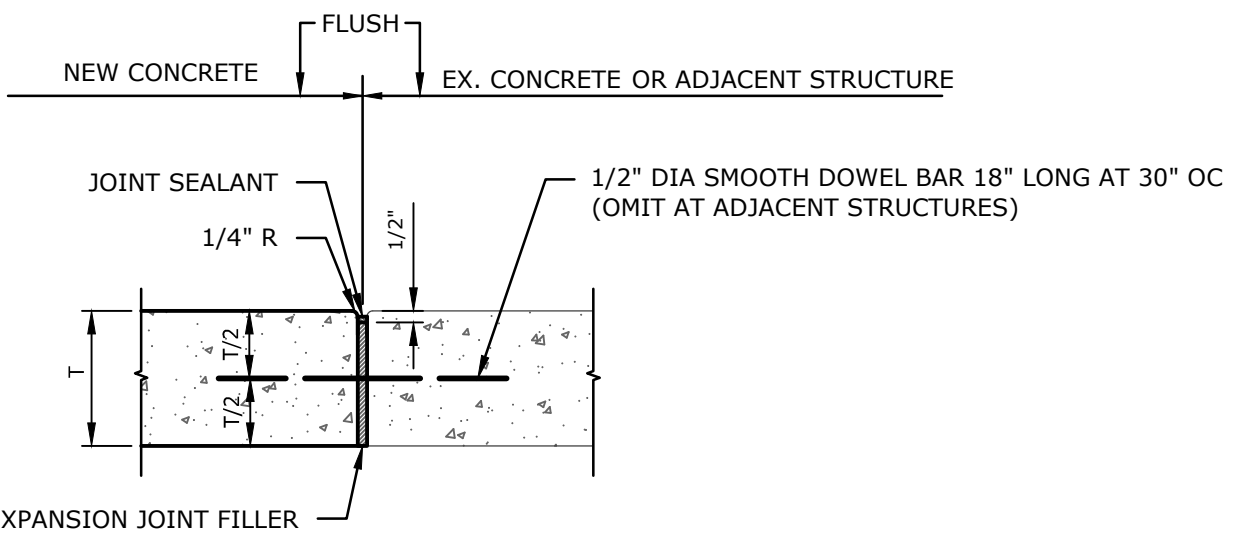
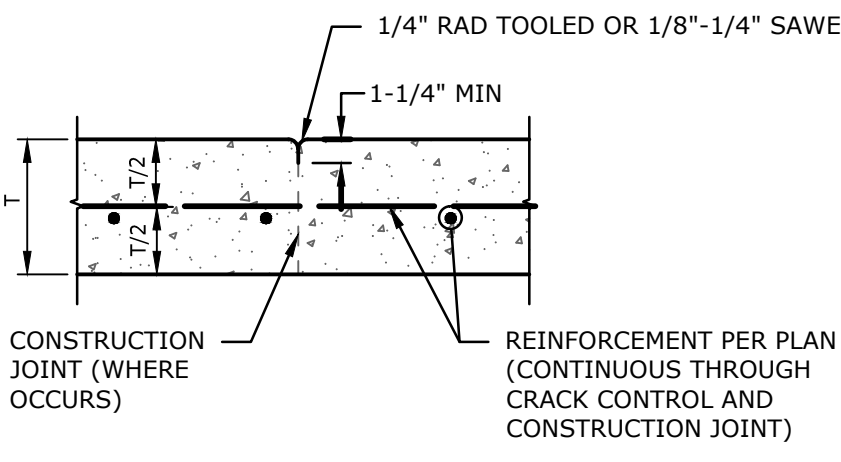
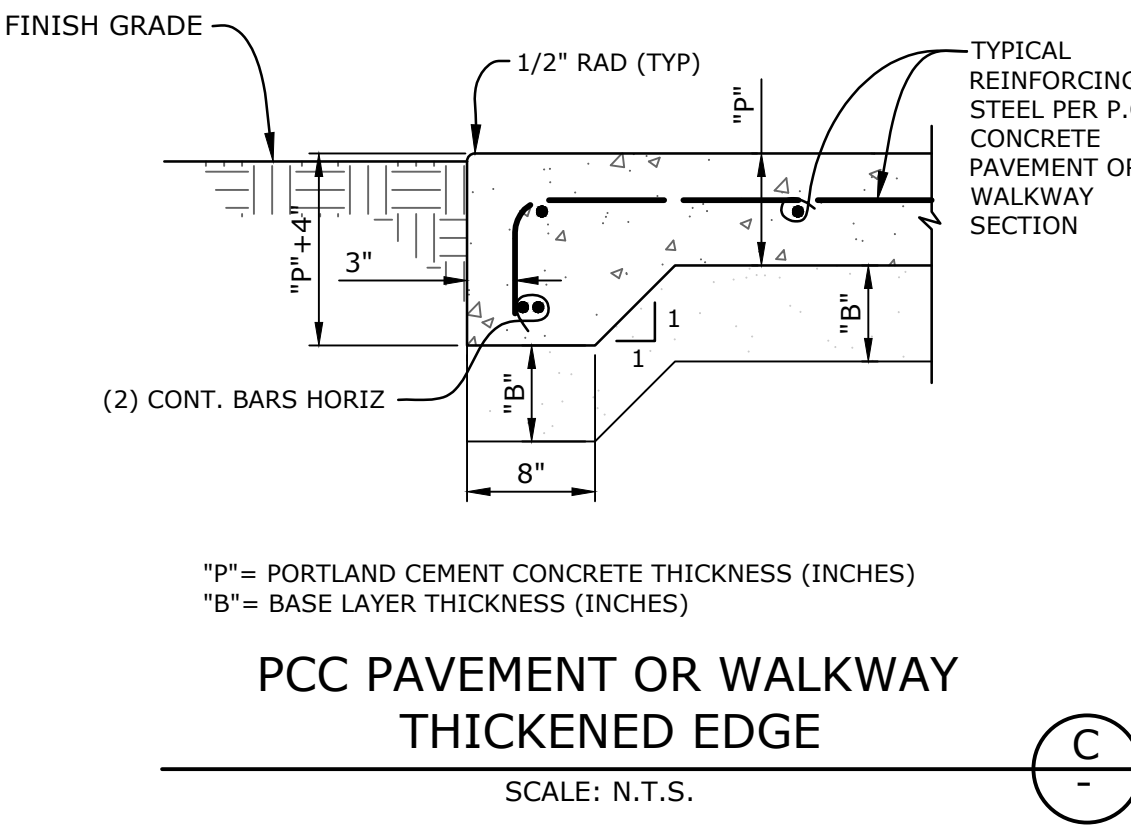
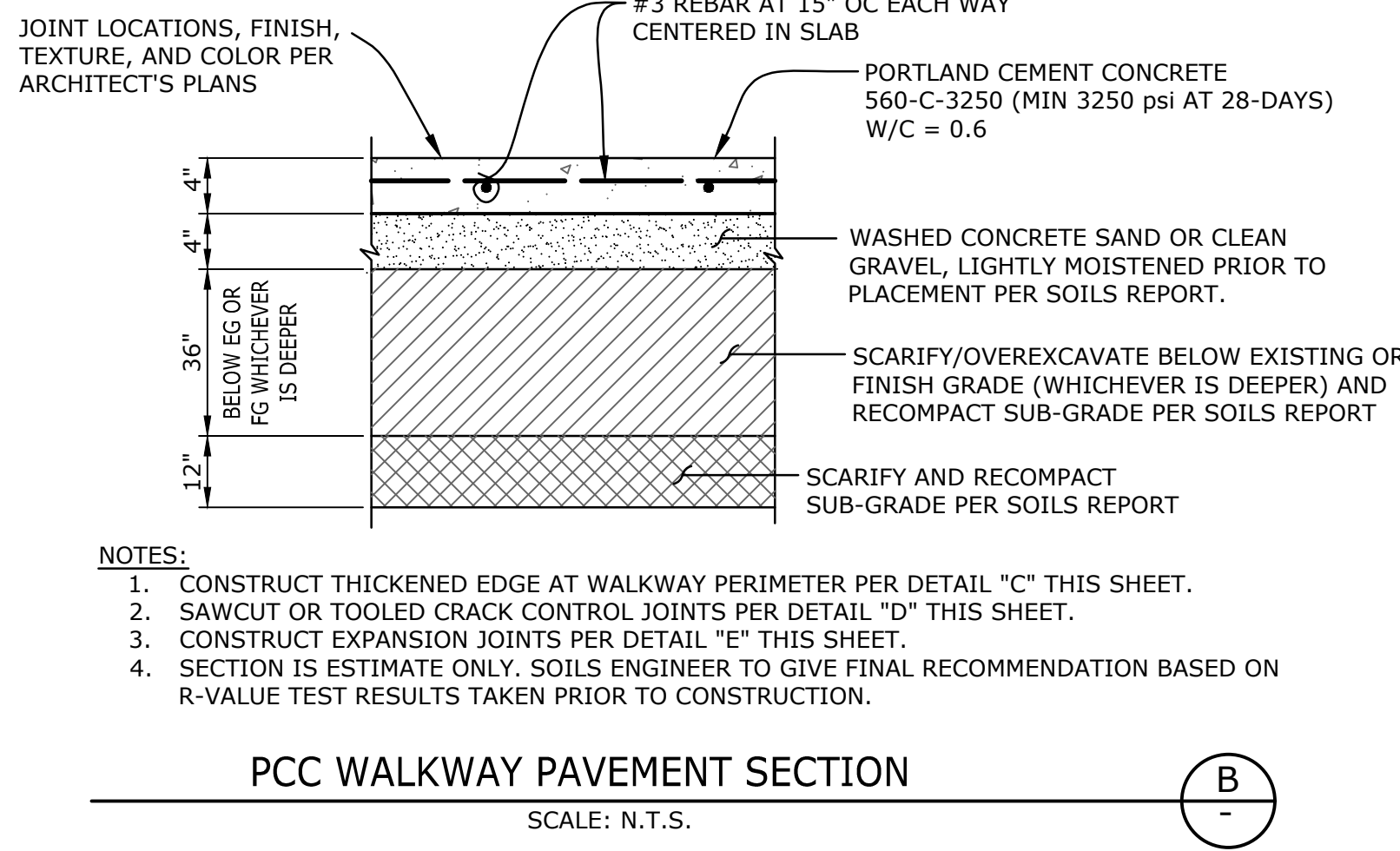
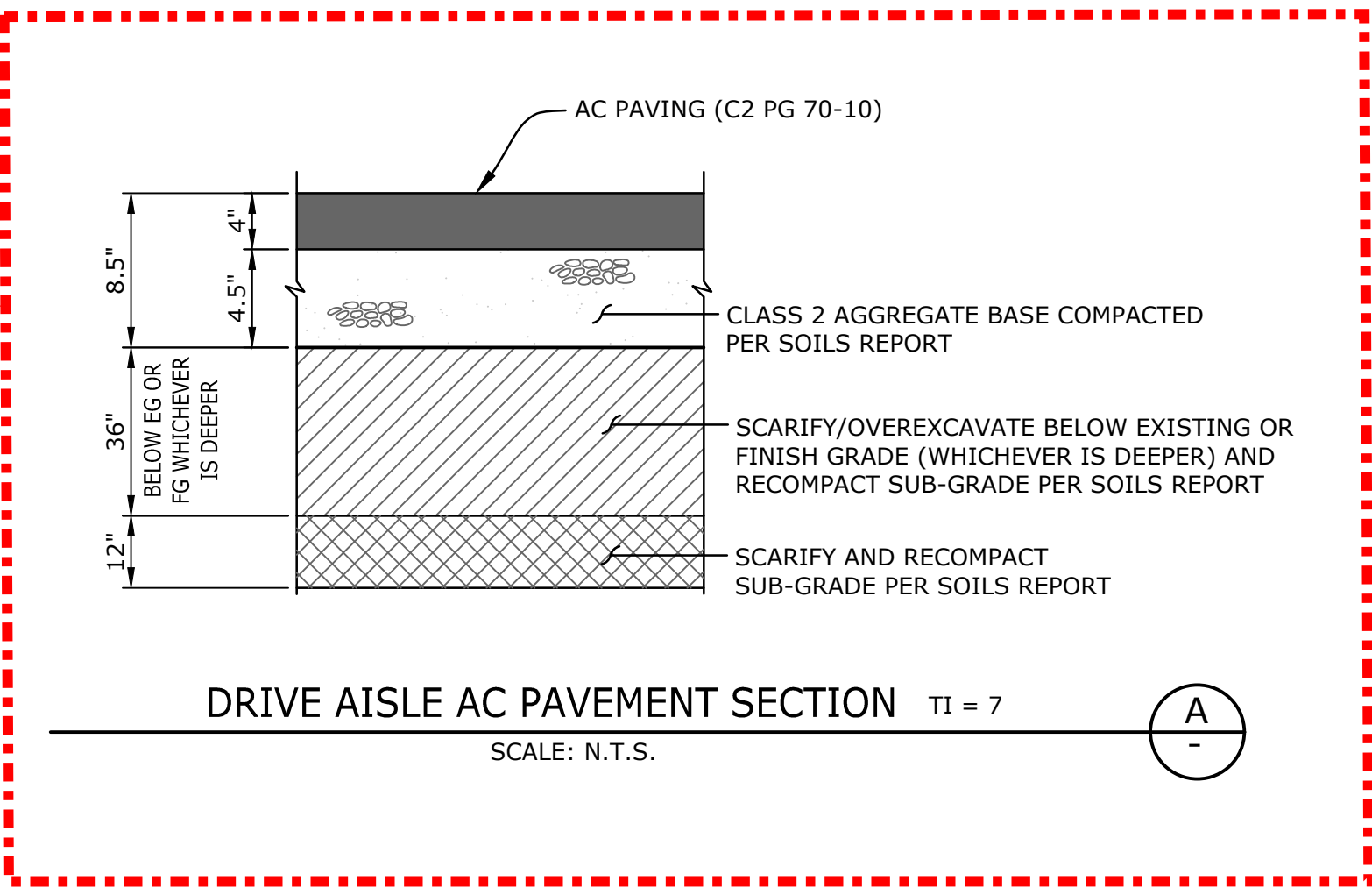
**GRADING,
DRAINAGE
AND PAVING
PLAN**

Job No.
2940.400
Date
10-16-2024

C3.04



BID ALTERNATE #1





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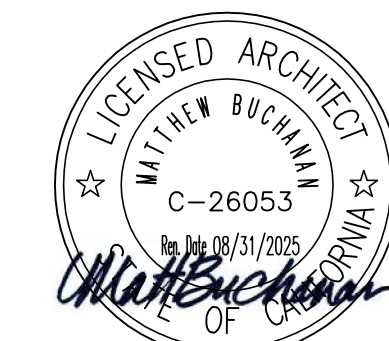
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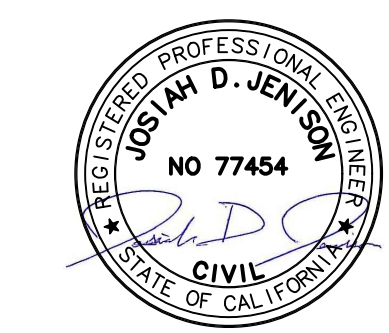
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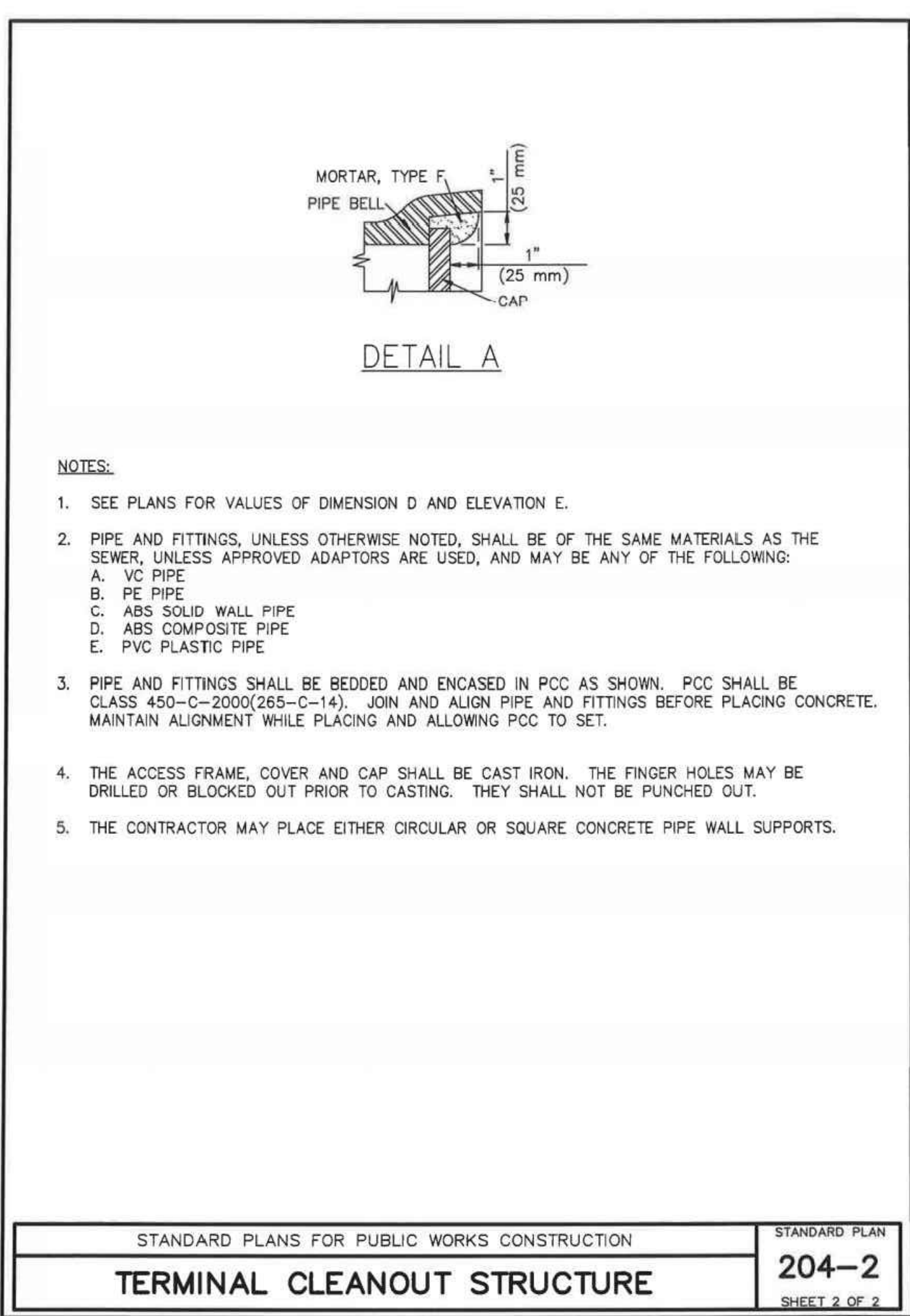
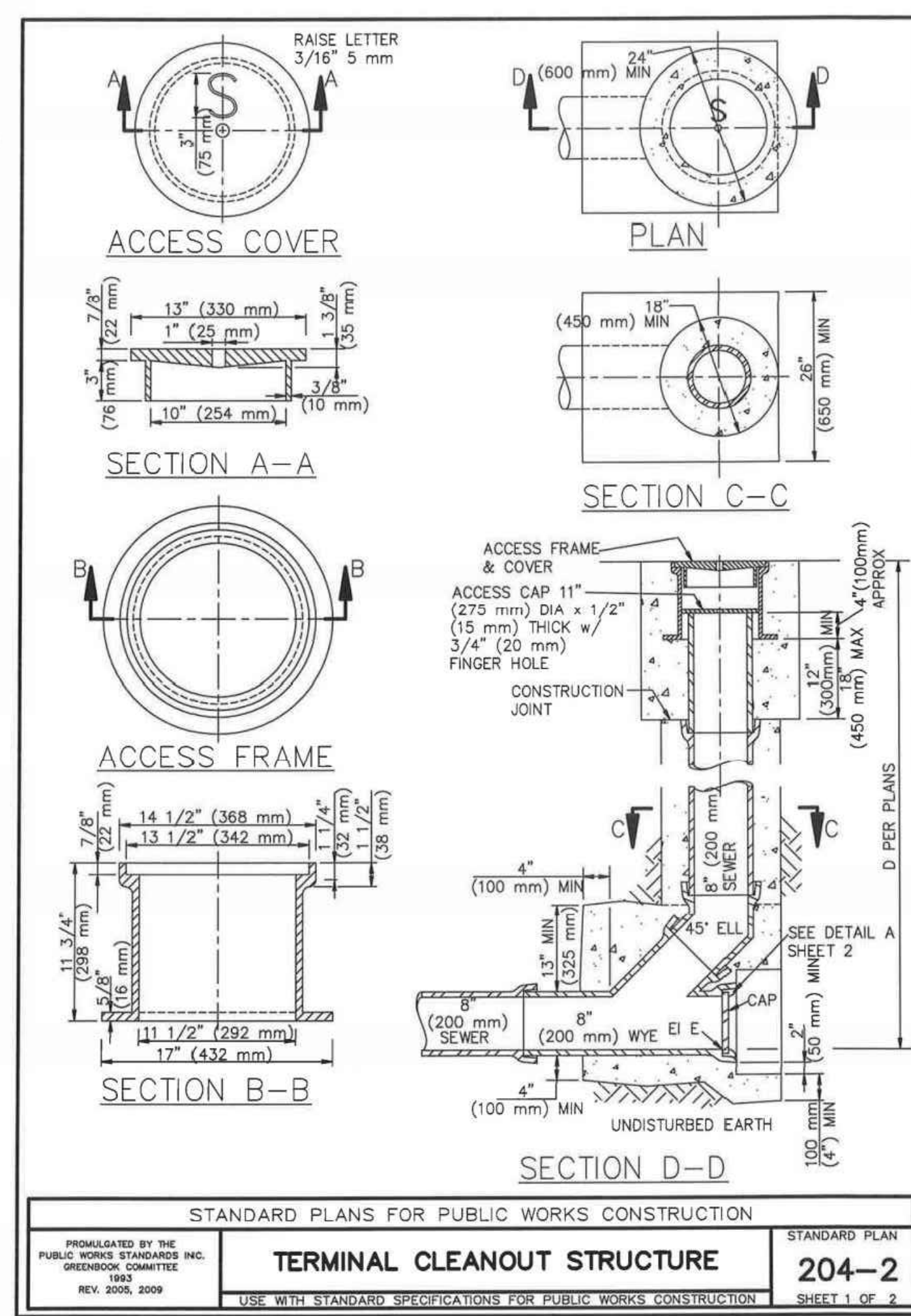
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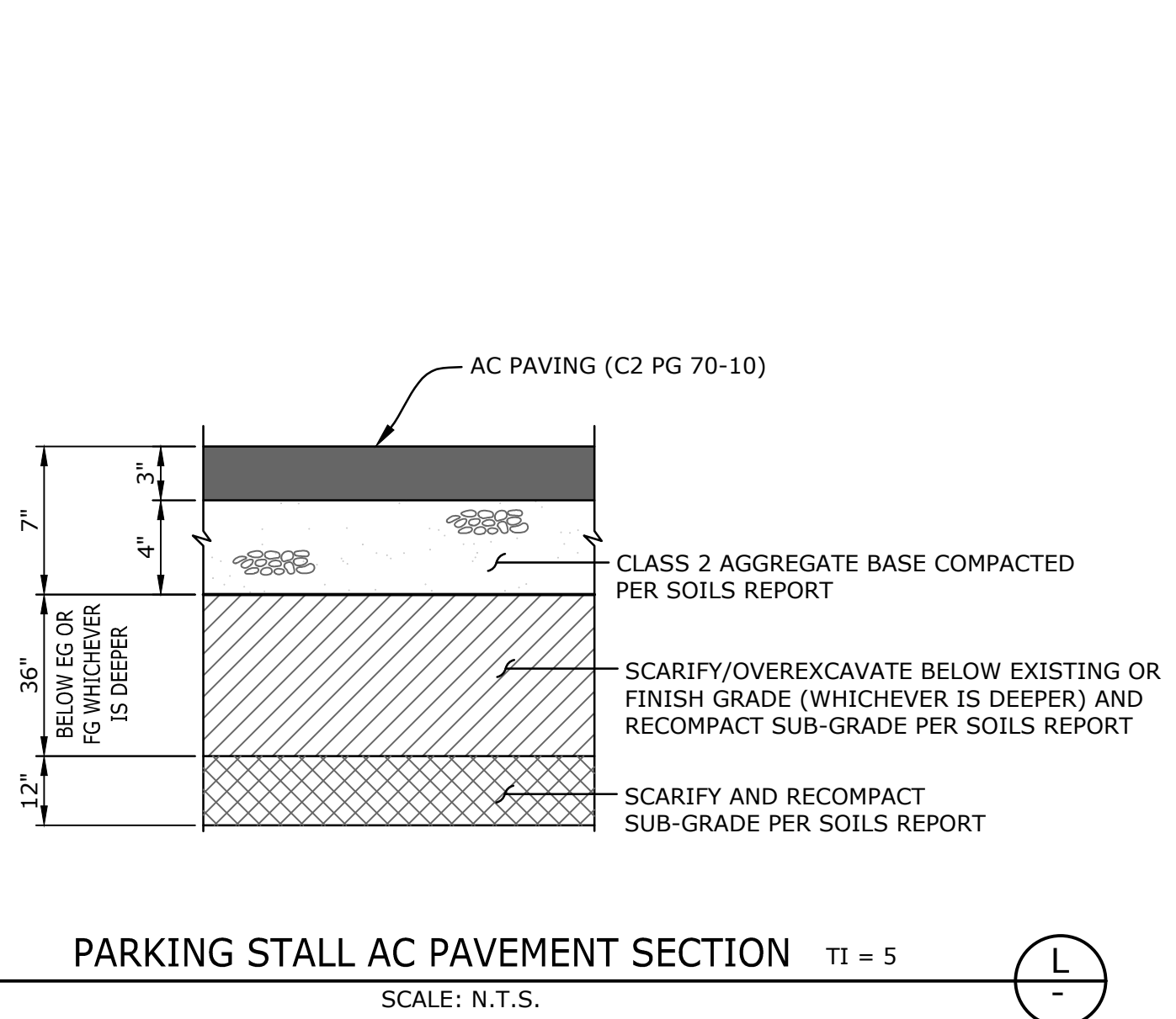
DETAILS

Job No.	2940.400	C4.02
Date	10-16-2024	



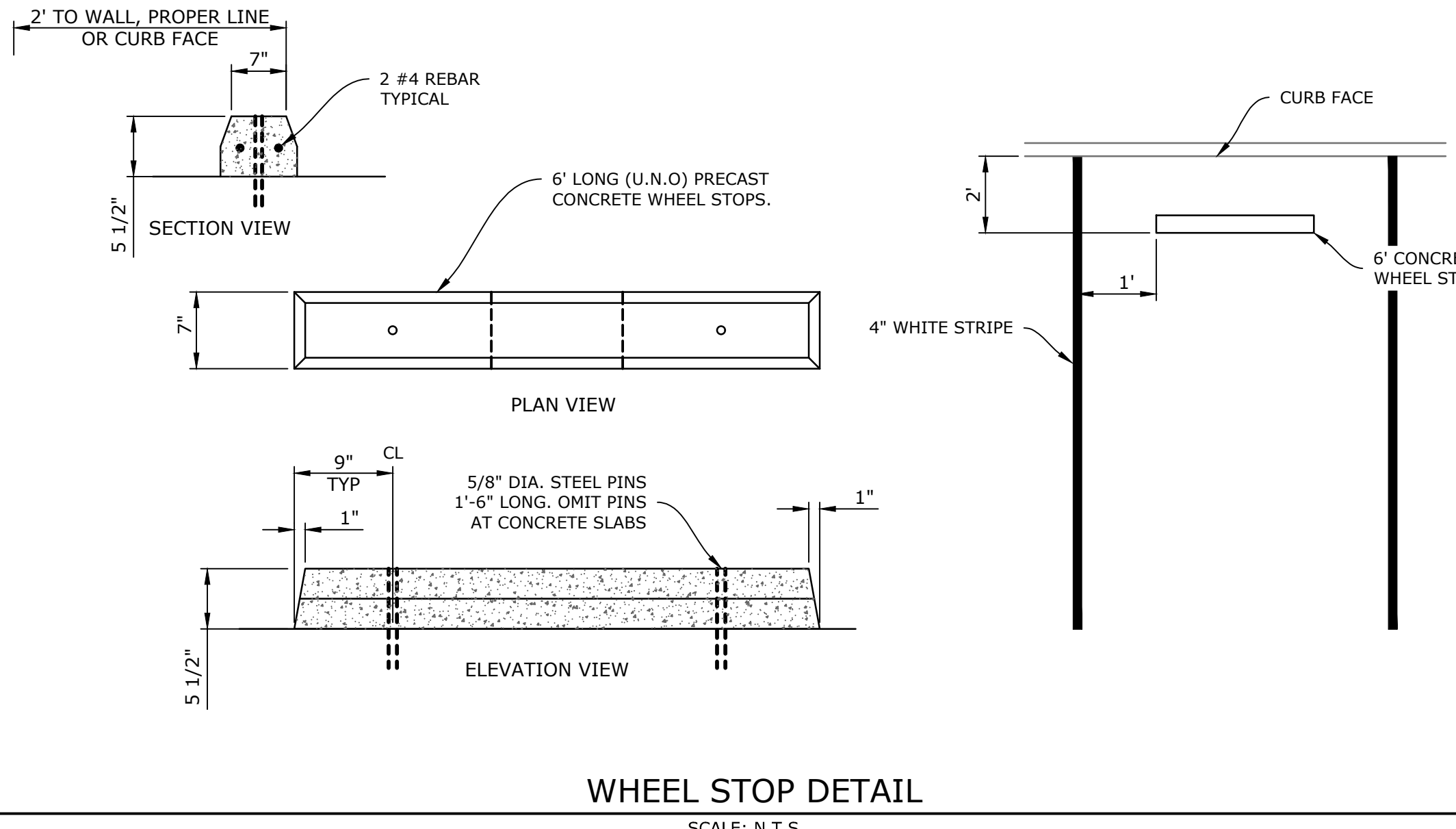
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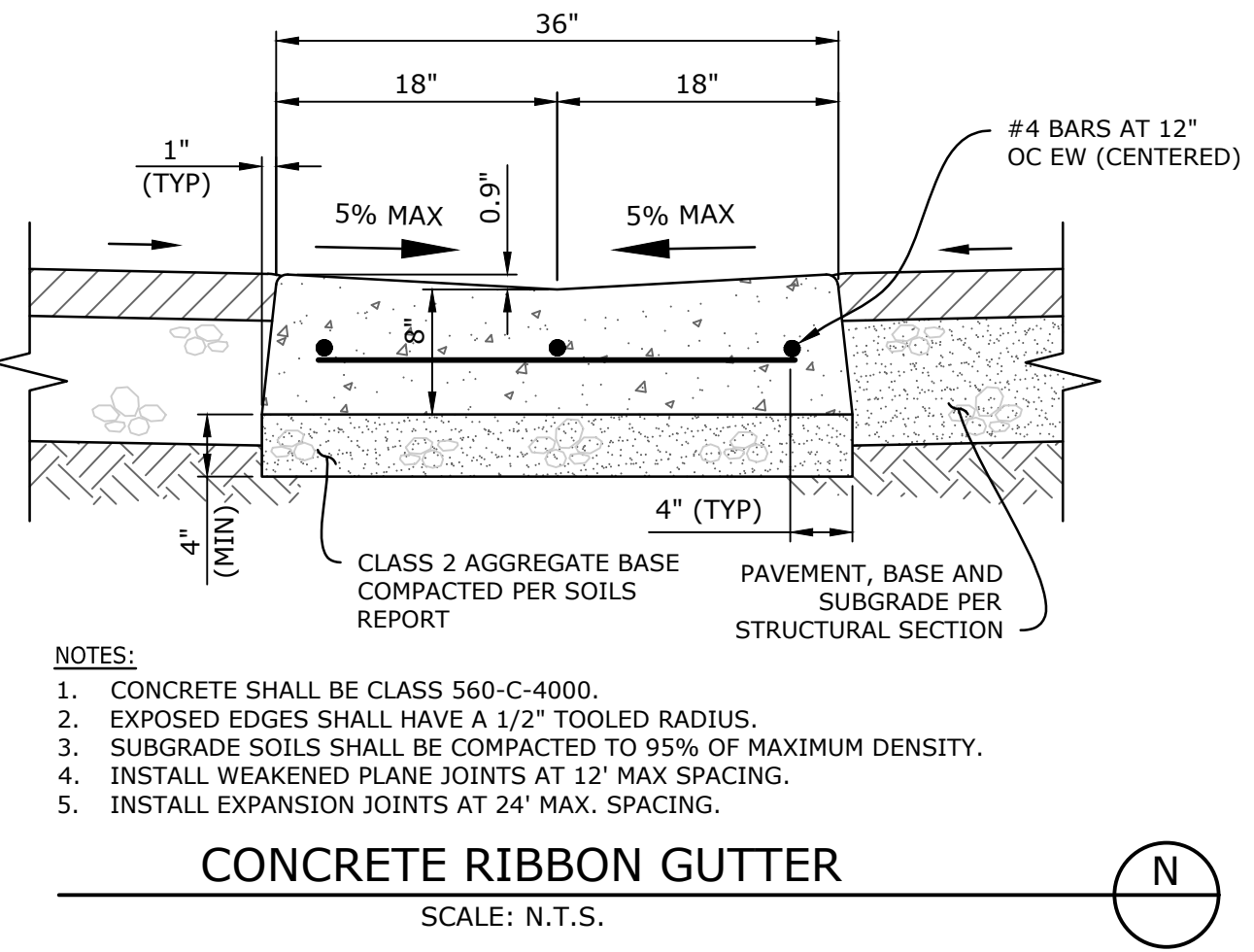
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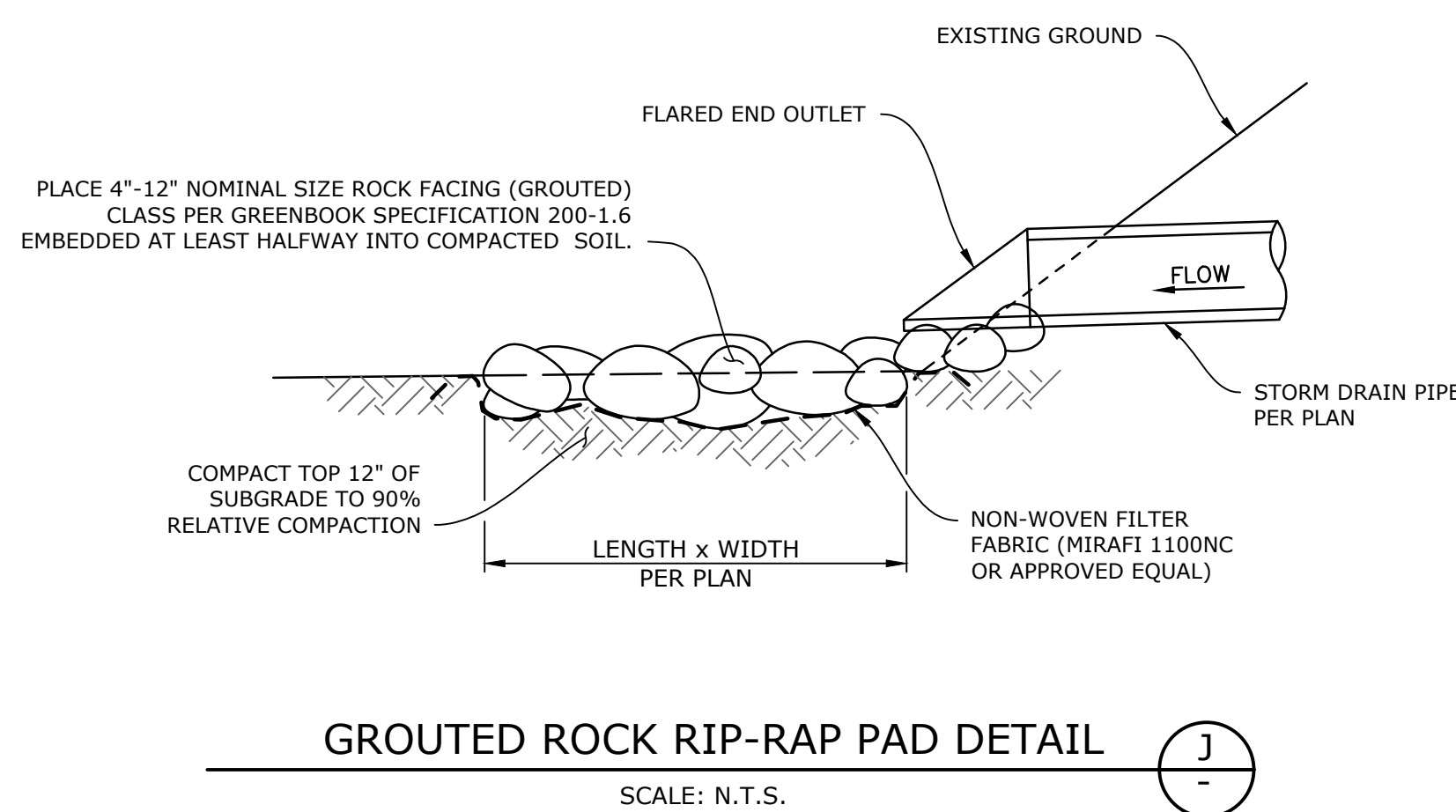
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M



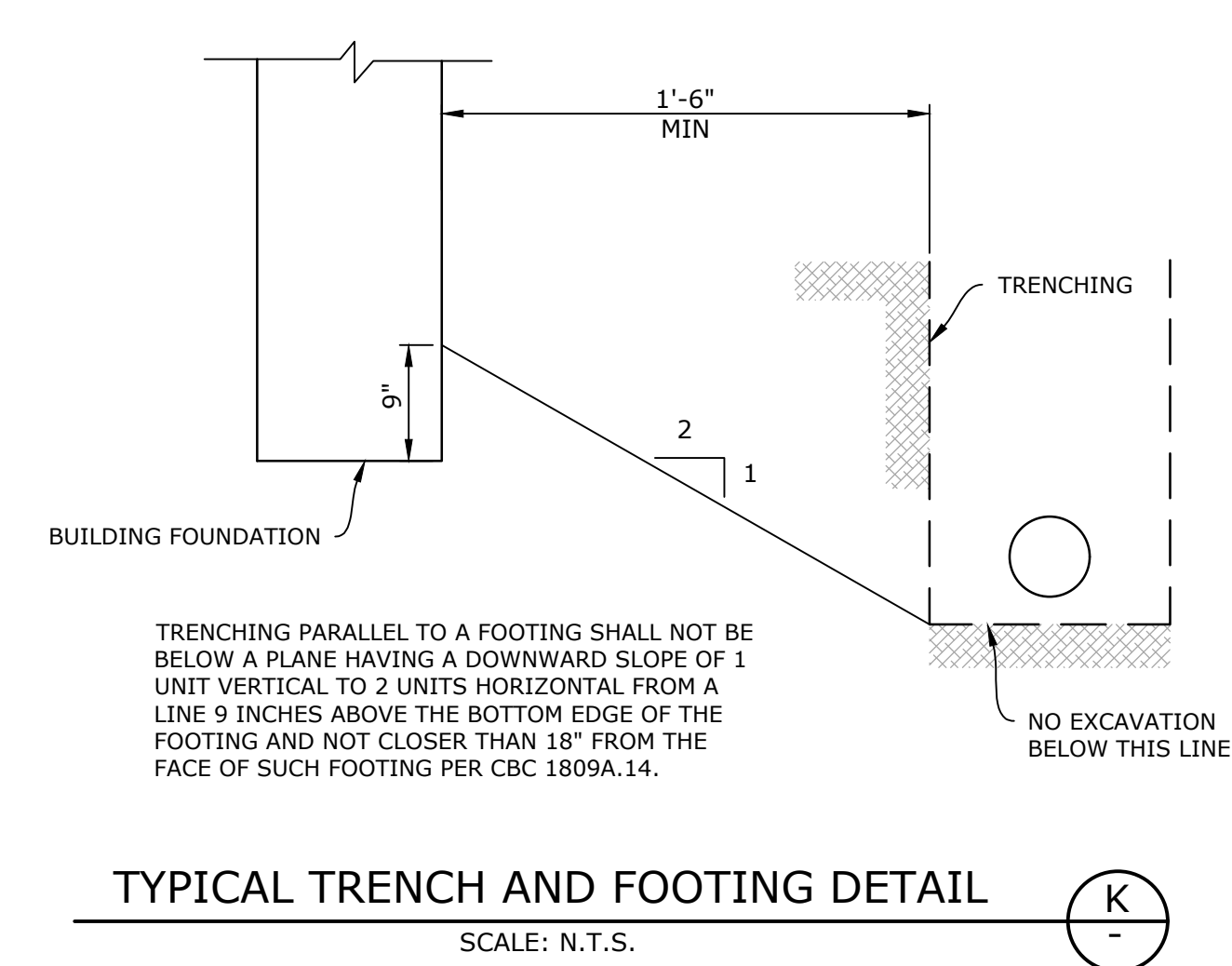
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N



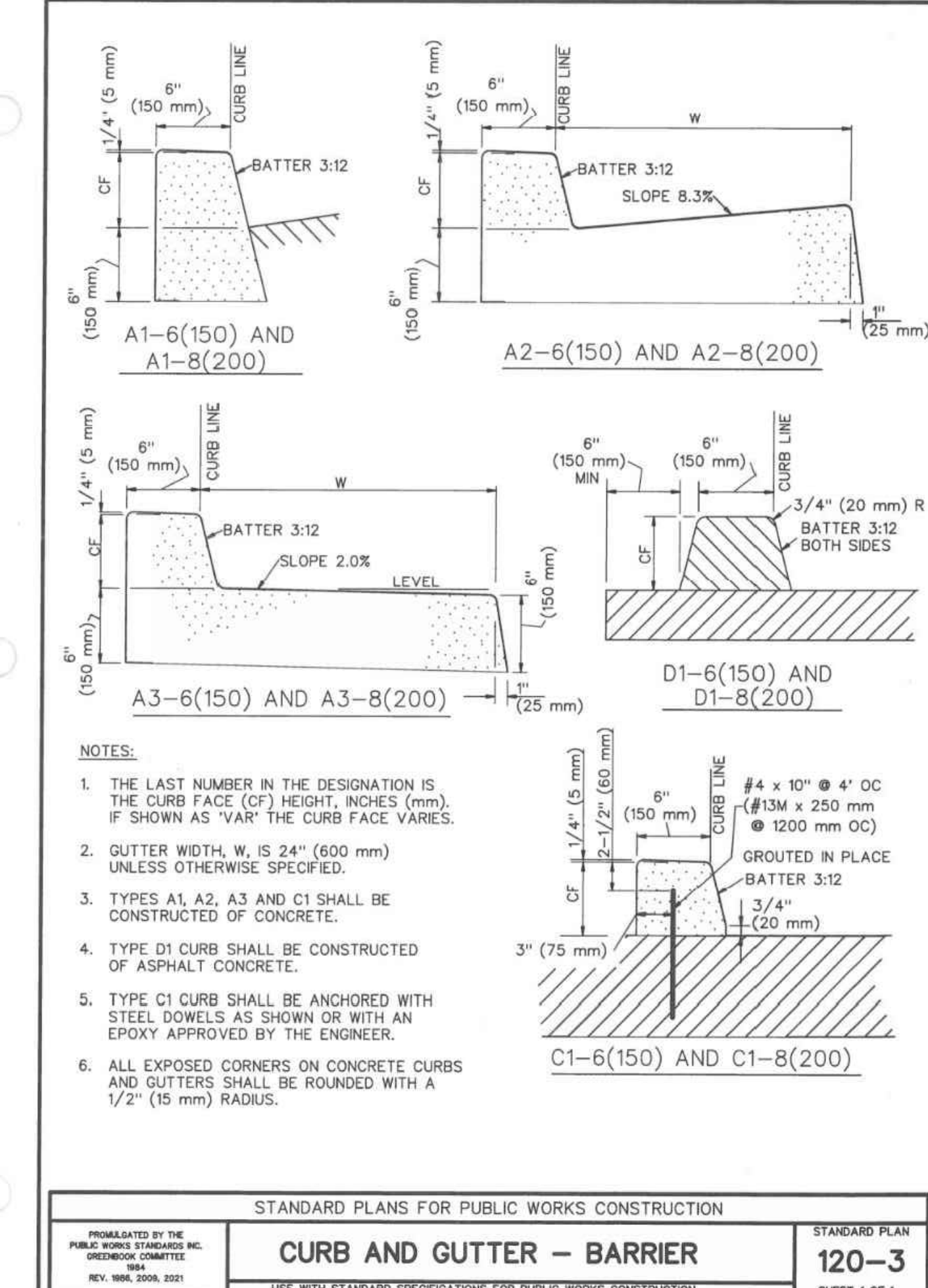
GROUTED ROCK RIP-RAP PAD DETAIL
SCALE: N.T.S.

J



TYPICAL TRENCH AND FOOTING DETAIL
SCALE: N.T.S.

K



CURB AND GUTTER - BARRIER
SCALE: N.T.S.

O

NOTE: THE INTENT OF THIS DRAWING IS TO INDICATE ONLY THE REVISIONS SHOWN WITHIN THE 'RED DASHED AREAS' AS BID ALTERNATE #1. ALL ADDITIONAL 'BASE BID' NOTES SHOWN WITH A 'BLUE TEXT' SHALL HEREBY BE MADE PART OF THE CONTRACT. ALL OTHER WORK SHALL REMAIN UNCHANGED PER THE DSA APPROVED DOCUMENTS, (A#03-124766, DATED 12/04/2024)

NOTE: THE INTENT OF THIS DRAWING IS TO INDICATE ONLY THE REVISIONS SHOWN WITHIN THE 'RED DASHED AREAS' AS BID ALTERNATE #1. ALL ADDITIONAL 'BASE BID' NOTES SHOWN WITH A 'BLUE TEXT' SHALL HEREBY BE MADE PART OF THE CONTRACT. ALL OTHER WORK SHALL REMAIN UNCHANGED PER THE DSA APPROVED DOCUMENTS, (A#03-124766, DATED 12/04/2024)

MOJAVE TROPICO ROAD

BID ALTERNATE #1
SCOPE OF WORK SHALL INCLUDE THE COMPLETE DEMO AND INSTALLATION OF THE ENTIRE PARKING LOT INCLUDING ALL THE DRIVE AISLES. SCOPE OF WORK SHALL INCLUDE BUT NOT LIMITED TO THE REMOVAL OF ALL SPOILS FROM THE EXISTING AC PARKING AREA AND ALL EXISTING WHEEL STOPS.

NOTE: CONTRACTOR TO COORDINATE INSTALLATION OF PIPING ACROSS EXISTING PAVEMENT WITH THE GENERAL CONTRACTOR. INSTALL SUPPLY LINE PIPE IN SLEEVE (SIZE AS NOTED) AND A SEPARATE SLEEVE FOR WIRES (SIZE AS NOTED).

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SCOPE OF WORK SHALL INCLUDE THE COMPLETE DEMO AND INSTALLATION OF THE ENTIRE PARKING LOT INCLUDING ALL THE DRIVE AISLES. SCOPE OF WORK SHALL INCLUDE BUT NOT LIMITED TO THE REMOVAL OF ALL SPOILS FROM THE EXISTING AC PARKING AREA AND ALL EXISTING WHEEL STOPS.

NOTE: CONTRACTOR TO COORDINATE INSTALLATION OF PIPING ACROSS EXISTING PAVEMENT WITH THE GENERAL CONTRACTOR. INSTALL SUPPLY LINE PIPE IN SLEEVE (SIZE AS NOTED) AND A SEPARATE SLEEVE FOR WIRES (SIZE AS NOTED).

NOTE: CONTRACTOR TO COORDINATE INSTALLATION OF PIPING ACROSS EXISTING PAVEMENT WITH THE GENERAL CONTRACTOR. INSTALL SUPPLY LINE PIPE IN SLEEVE (SIZE AS NOTED) AND A SEPARATE SLEEVE FOR WIRES (SIZE AS NOTED).

BASE BID TO INCLUDE NEW IRRIGATION LINES FROM (E) SIDEWALK TO (E) PARKING ISLAND OF PARKING LOT. PATCH AND REPAIR EXISTING ASPHALT WHERE BASE BID WORK OCCURS

BASE BID TO INCLUDE NEW IRRIGATION LINES FROM (E) SIDEWALK TO (E) PARKING ISLAND OF PARKING LOT. PATCH AND REPAIR EXISTING ASPHALT WHERE BASE BID WORK OCCURS

BUILDING B

BUILDING C

OFFICE ENTRANCE

BUILDING A

BUILDING D

BUILDING F

CLASSROOM BUILDING

CLASSROOM BUILDING

CLASSROOM BUILDING

CLASSROOM BUILDING

LIBRARY

SERVICE BUILDING

BUILDING

EXISTING LANDSCAPE NOTE

- PROTECT ALL EXISTING LANDSCAPING. ANY EXISTING LANDSCAPING REMOVED OR DAMAGED SHALL BE PROPERLY REPLACED, INCLUDING SOD, AS DIRECTED BY THE LANDSCAPE ARCHITECT.
- VERIFY THAT FENCING HAS BEEN PROVIDED AROUND EXISTING TREES, LOCATED AT THE DRIPLINE (LINE OF FURTHEST BRANCH OF TREE PLUS 3 FT.) NOTIFY LANDSCAPE ARCHITECT TO REVIEW AND APPROVE FINAL FENCING LOCATION AND PROPOSED IRRIGATION SYSTEM LAYOUT AND TRENCHING IN THE VICINITY OF EXISTING TREES TO BE RETAINED.
- DO NOT EXCAVATE OR INSTALL IRRIGATION MATERIALS OR EQUIPMENT WITHIN THE DRIPLINE OF EXISTING TREES. DO NOT PERMIT SPRINKLER HEADS TO SPRAY ONTO OR WITHIN 5 FT. OF THE TRUNKS OF THE EXISTING TREES. USE ALL POSSIBLE CARE TO AVOID INJURY TO EXISTING TREES AND TREE ROOTS. EXCAVATE BY HAND IN AREAS WHERE (1) INCH AND LARGER ROOTS OCCUR. TUNNEL UNDER ALL ROOTS (1) INCH AND LARGER IN DIAMETER AND HEAVILY WRAP WITH BURLAP TO PREVENT SCARRING OR EXCESSIVE DRYING OF EXISTING ROOTS. LANDSCAPE ARCHITECT TO APPROVE ALL TRENCHING AND EXCAVATIONS PRIOR TO ACTUAL COMMENCEMENT OF IRRIGATION INSTALLATION.
- DO NOT USE DITCHING MACHINE WITHIN THE DRIPLINE OF EXISTING TREES. IN NO CASE SHALL MORE THAN TWO SIDES OF AN EXISTING TREE BE TRENCHED FOR IRRIGATION LINES. CONFIRM TRENCHING LOCATIONS AT EXISTING TREES WITH LANDSCAPE ARCHITECT, TO OBTAIN APPROVAL PRIOR TO TRENCHING. WHERE ROOTS ARE ENCOUNTERED OUTSIDE THE DRIPLINE, CONTRACTOR TO HAND TRIM THE WALL OF THE TRENCH ADJACENT TO THE TREE, MAKING CLEAN CUTS THROUGH. PAINT ROOTS (1) INCH AND LARGER IN DIAMETER WITH TWO COATS OF TREE SEAL OR EQUIVALENT OR PER LANDSCAPE ARCHITECT'S DIRECTIONS. CLOSE TRENCHES ADJACENT TO TREE WITHIN 24 HOURS. WHERE THIS IS NOT POSSIBLE, SHADE THE SIDE OF THE TRENCH ADJACENT TO THE EXISTING TREE WITH BURLAP OR CANVAS.

EXISTING IRRIGATION VERIFICATION NOTES

TYPICAL - ALL EXISTING IRRIGATION EQUIPMENT, VALVES, HEADS, ETC. WITHIN NEW PHASE OF WORK SHALL BE REMOVED AND RETURNED TO OWNER. ALL NON-PRESSURE AND PRESSURE LINES TO BE ABANDONED IN PLACE. ANY EXISTING IRRIGATION NOT A PART OF THIS PHASE OF WORK SHALL REMAIN AND KEPT OPERATIONAL DURING CONSTRUCTION. CONTRACTOR TO INCORPORATE ALL EXISTING SYSTEMS TO REMAIN INTO NEW IRRIGATION CONFIGURATION. REFER TO "EXISTING IRRIGATION NOTE" ON SHEET FOR ADDITIONAL INFORMATION. NOTIFY LANDSCAPE ARCHITECT/IRRIGATION DESIGNER OF ANY DISCREPANCIES FOUND ON SITE FOR FURTHER DIRECTION ON HOW TO PROCEED.

REFER TO SHEET L2.02 FOR LEGENDS, CONSTRUCTION NOTES & CALCS.
REFER TO SHEET L2.03 FOR GENERAL NOTES
REFER TO SHEET L2.04 & L2.05 FOR INSTALLATION DETAILS

INLINE DRIP EMITTER CHART FOR GRID PATTERN AND PRECIPITATION RATES			
EMITTER GPH	EMITTER SPACING	ROW SPACING	
0.53 GPH (PER EMITTER)	12" O.C.	12" O.C.	16" O.C.
		18" O.C.	24" O.C.

INLINE TUBING (GRID PATTERN) PRECIPITATION RATE FORMULA:
 $PR = (231.1 \times \text{EMITTER FLOW RATE}) / (\text{EMITTER SPACING} \times \text{ROW SPACING})$

HYDROZONE LEGEND	
H	HIGH WATER USE PLANTS
M	MEDIUM WATER USE PLANTS
L	LOW WATER USE PLANTS

VALVE SEQUENCE	ADD	1-1/2"	VALVE SIZE
FLOW (GPM)	00	30	OPER. PRESS.
PLANT FACTOR	L	D	IRR. TYPE
HYDRO. S.F.	0000	0.00	PRECIP. RATE/DRIP SPACING

PIPE SIZING LEGEND	
PIPE SIZE	GPM
A 3/4"	1-6
B 1"	7-12
C 1-1/4"	13-20
D 1 1/2"	21-30
E 2"	31-45
F 2 1/2"	46-55
G 3"	56-70
H 4"	71-125

SLEEVE SIZING LEGEND	
SLEEVE SIZE	PIPE SIZE
[2"]	2" 1/2" TO 1"
[3"]	3" 1 1/4" TO 1 1/2"
[4"]	4" 2"
[6"]	6" 2 1/2" TO 3"

Rogue Irrigation Consultants, LLC
5873 S. Orlando Avenue - L.A. - CA. 90056-1632
Ph: 310. 923. 1. 885
E-mail: troque@rogue-irrigation.com

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DATE: 12/04/2024

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Licensed Architect
Mark Beall
C-26053
In the State of California
Since 10/13/2005

CONSULTANT
Mark Beall associates
landscape architecture

Drawn by: JL
Checked by: MB
Revisions:
No. Date Description

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SOUTHERN KERN UNIFIED SCHOOL DISTRICT
TROPICO MIDDLE SCHOOL
LANDSCAPE, DRAINAGE, AND PARKING LOT
UPGRADE PROJECT
3180 MOJAVE TROPICO ROAD
ROSAMOND, CA 93660

IRRIGATION PLAN

Job No:
2940.400
Date:
04-23-24

L2.01

CONSTRUCTION NOTES

TYPICAL - DENOTES NEW 3" PRESSURE SUPPLY LINE. CONTRACTOR TO EXTEND NEW LINE AND CONNECT TO SYSTEM SUPPLY (MASTER VALVE/FLOW SENSOR, BOOSTER PUMP, BACKFLOW ASSEMBLIES PROVIDED UNDER ATHLETIC FIELD EXPANSION PROJECT. CONTRACTOR TO REFER TO ATHLETIC FIELD EXPANSION PLANS FOR ADDITIONAL INFORMATION.), AS REQUIRED. EXACT ROUTING, LOCATION OF CONNECTION POINT AND WATER PRESSURE TO BE DETERMINED AND VERIFIED ON SITE. COORDINATE INSTALLATION WITH THE GENERAL CONTRACTOR PRIOR TO START OF CONSTRUCTION. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND ON SITE PRIOR TO PROCEEDING WITH WORK.

TYPICAL - ALL LINES SHOWN CROSSING EXISTING PAVING, HARDSCAPE, ETC., SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO START OF CONSTRUCTION. CONTRACTOR TO BORE, CUT & PATCH, ETC. UNDER PAVING, HARDSCAPE, ETC. AS NEEDED AND REPAIRED TO MATCH EXISTING CONDITION. CONTRACTOR TO COORDINATE WITH OTHER TRADES ON SITE IN ORDER TO MINIMIZE ADDITIONAL TRENCHING. WHENEVER POSSIBLE, CONTRACTOR TO UTILIZE CROSSOVER TRENCHING PERFORMED BY OTHER TRADES. CONTRACTOR TO OBTAIN APPROVAL FROM GENERAL CONTRACTOR PRIOR TO PROCEED. EXACT LOCATION AND ROUTING OF LINES TO BE DETERMINED ON SITE. REFER TO SLEEVING NOTES ON LEGEND.

TYPICAL - DENOTES EXISTING (24 STATION) AUTOMATIC CONTROLLER ASSEMBLY. EXACT LOCATION OF EXISTING CONTROLLER TO BE DETERMINED AND VERIFIED ON SITE. CONTRACTOR TO EXTEND NEW WIRES (INSTALLED IN SLEEVE/FLEX CONDUIT, SIZE AS REQUIRED), AS REQUIRED TO NEW VALVE LOCATIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND ON SITE. SEE UPDATED NOTE #3 BELOW.

TYPICAL - (BRASS) GATE/SECTIONAL VALVE (LINE SIZE). EXACT LOCATION TO BE DETERMINED ON SITE.

TYPICAL - ALL LINES AND EQUIPMENT SHOWN OUTSIDE OF PLANTING AREAS OR PROPERTY LINE ARE FOR GRAPHIC CLARITY PURPOSES ONLY. ALL LINES AND EQUIPMENT SHALL BE INSTALLED WITHIN PLANTING AREAS WHENEVER POSSIBLE AND WITHIN PROPERTY LINES AT ALL TIMES. EXACT ROUTING OF LINES AND LOCATION OF EQUIPMENT TO BE DETERMINED ON SITE. CONTRACTOR TO ENSURE AS-BUILT DIMENSIONS AND NOTATIONS BE KEPT CURRENT FOR ENTIRE DURATION OF CONSTRUCTION. CURRENT AS-BUILT PLANS SHALL BE AVAILABLE FOR ALL SITE REVIEWS AND SHALL BE KEPT ON SITE AT ALL TIMES.

TYPICAL - DENOTES PRESSURE COMPENSATING IN-LINE EMITTER TUBING SYSTEMS. CONTRACTOR TO INSTALL DRIP TUBING IN GRID TYPE PATTERN. EXACT LAYOUT OF TUBING TO BE DETERMINED AND APPROVED BY LANDSCAPE ARCHITECT/IRRIGATION DESIGNER PRIOR TO FINALIZING INSTALLATION AND BACKFILL. MINOR ADJUSTMENTS AND OR ADDITIONAL TUBING MAY BE REQUIRED TO ACHIEVE A MORE UNIFORM & ADEQUATE COVERAGE. TUBING SPACING SHALL BE BETWEEN 12" O.C. (MIN.) TO 18" O.C. (MAX.) REFER TO PLANS FOR SPACING REQUIRED. TUBING SHALL BE BURIED A MIN. OF 3" AND 6" MAX. BELOW FINISH GRADE (NOT INCLUDING MULCH).

TYPICAL - DENOTES ROOT WATERING SYSTEMS FOR TREES. EXACT LOCATION TO BE DETERMINED ON SITE. REFER TO DETAIL NO. 7 FOR NUMBER OF BUBBLERS PER SIZE OF TREE, UNLESS OTHERWISE NOTED.

TYPICAL - DENOTES DRIP "SPIRAL" TYPE RINGS SYSTEMS FOR TREES. EXACT LAYOUT TO BE DETERMINED AND APPROVED BY LANDSCAPE ARCHITECT/IRRIGATION DESIGNER ON SITE PRIOR TO FINALIZING INSTALLATION. REFER TO DETAIL NO. 12 FOR GENERAL INSTALLATION NOTES.

TYPICAL - DENOTES STREAM BUBBLERS (ON POP-UP HEADS) FOR EXISTING TREES ONLY. EXACT LAYOUT TO BE DETERMINED AND APPROVED BY LANDSCAPE ARCHITECT/IRRIGATION DESIGNER ON SITE PRIOR TO FINALIZING INSTALLATION. REFER TO DETAIL NO. 13 FOR GENERAL INSTALLATION. HEADS TO BE INSTALLED APPROXIMATELY 5'-6" FROM EXISTING TREE TRUNKS. SPRAY TOWARDS TREE TRUNK WITHOUT SPRAYING ONTO (ADJUST SPRAY AS NEEDED) EXISTING TREE TRUNK.

TYPICAL - DENOTES SINGLE BUBBLER HEAD (ON POP-UP HEADS) FOR SHRUB PLANTING. EXACT LOCATION TO BE DETERMINED ON SITE. INSTALL ASSEMBLY PLUMB TO FINISH GRADE. BUBBLER TO BE INSTALLED ADJACENT TO ROOTBALL. FLUSH TO FINISH GRADE. IN SLOPING CONDITIONS, INSTALL BUBBLER ON HIGH SIDE OF SLOPE.

TYPICAL - DENOTES OPERATION INDICATOR/FLUSH OUT ASSEMBLY. CONTRACTOR TO INSTALL AT END RUN OF DRIP SYSTEMS. EXACT LOCATION TO BE DETERMINED ON SITE. ASSEMBLY TO BE INSTALLED A MIN. OF 6" FROM EDGE OF HARDSCAPE OR PLANTING AREAS.

TYPICAL - CONTRACTOR TO STUB-OUT LINE (IN ROUND VALVE BOX) FOR FUTURE USE/CONNECTION. EXACT LOCATION TO BE DETERMINED.

TYPICAL - CONTRACTOR TO STUB-OUT (2) CONTROL & (1) COMMON WIRE (WIRE COLORS TO DIFFER FROM WIRES BEING USED) INSTALLED IN ROUND VALVE BOX (REFER TO NOTE NO. 12). RUN WIRE BACK TO EXISTING CONTROLLER AND BUNDLE BOTH ENDS WITH A 2 FT. EXPANSION COIL. LABEL WIRES "AUX" FOR FUTURE USE.

TYPICAL - DENOTES (NEW) 36 STATION AUTOMATIC CONTROLLER ASSEMBLY. INSTALLED INSIDE EXISTING CONTROLLER ENCLOSURE. EXACT LOCATION TO BE DETERMINED AND VERIFIED ON SITE. CONTRACTOR TO EXTEND NEW WIRES (INSTALLED IN SLEEVE/FLEX CONDUIT, SIZE AS REQUIRED), TO NEW VALVE LOCATIONS. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND ON SITE. REMOVE EXISTING (24) STATION CONTROLLER (#2) AND RETURNED TO DISTRICT. CONTRACTOR TO CONNECT ALL REQUIRED WIRES TO PUMP CONTROL AS REQUIRED.

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IRRIGATION EQUIPMENT LEGEND

SYMBOL	MANUF.	MODEL NO.	DESCRIPTION	DETAILS	SHEET
	NBCO	T-113 SERIES w/ KEY	BRONZE GATE VALVE - NON-RISING STEM - MATCH LINE SIZE - INSTALLED WITH KEY/HANDLE	5	L2.04
	RAIN BIRD	33-DLRC-33DK	TWO PIECE BODY - DOUBLE KEY LUG - LOCKING RUBBER COVER W/ VALVE KEY	3	L2.04
	RAIN BIRD	PB-8 REMOTE CONTROL VALVE w/ PRSD	REMOTE CONTROL VALVE ASSEMBLY & PRESSURE REGULATOR W/ BALL VALVE - INSTALLED ON SUPPLY SIDE OF VALVE (MATCH LINE SIZE) - SIZE PER PLAN - CONTRACTOR TO SET PRESSURE REGULATOR FOR OPTIMAL PRESSURE OUTPUT. ADJUST IN FIELD AS REQUIRED.	1	L2.04
	NBCO	T-585-70			
	RAIN BIRD	XCZ-100-PRB-COM SERIES	MEDIUM FLOW (DRIP) REMOTE CONTROL VALVE ASSEMBLY W/ QUICK CHECK BASKET FILTER - SIZE PER PLAN (MEDIUM FLOW VALVE WITH PRESSURE REGULATOR (40 P.S.I.) AND (200 MESH) FILTER ASSEMBLY)	2	L2.04
	RAIN BIRD	XCZ-150-LCS SERIES	HIGH FLOW (DRIP) REMOTE CONTROL VALVE ASSEMBLY W/ DISC FILTER FILTER - SIZE PER PLAN (HIGH FLOW VALVE WITH PRESSURE REGULATOR (40 P.S.I.) AND (120 MESH) FILTER ASSEMBLY) INSTALLED IN JUMBO RECTANGULAR VALVE BOX	2	L2.04
	RAIN BIRD/GPH	RD-45-12 SERIES POP-UP (FLUSH-OUT)	DRIP INDICATOR/FLUSH OUT ASSEMBLY. GPH GDN FLUSH OUT NOZZLE (ORANGE) FLUSH OUT NOZZLE TO BE IN CLOSED POSITION DURING OPERATION OF DRIP. OPEN FOR SYSTEM FLUSH OUT. INSTALLED AT END RUN OF DRIP SYSTEMS.	9	L2.04
NO SYMBOL	RAIN BIRD	ARV050 SERIES	AIR/VACUUM RELIEF VALVE INSTALLED INSIDE RAIN BIRD SER-7/9 EMITTER BOX AT HIGHEST POINT OF DRIP SYSTEM	14	L2.05
	RAIN BIRD	EXISTING ESP-4XMEF (24 STATION SERIES ESP-12-LXMEF (12 STATION BASE) SERIES W/ (2X) ESP-LXISM12 MODULES (TOTAL OF 36 STATIONS)	CONTRACTOR TO VERIFY EXISTING CONTROLLER TYPE, MODEL NO., LOCATION AND OPERATIONAL STATUS ON SITE PRIOR TO START OF CONSTRUCTION. NOTIFY ARCHITECT OF ANY DISCREPANCIES FOUND ON SITE. NEW (36) STATION AUTOMATIC CONTROLLER ASSEMBLY. CONTRACTOR TO REMOVE EXISTING (24) STATION CONTROLLER (AND RETURNED TO DISTRICT) AND REPLACE WITH NEW CONTROLLER INSIDE EXISTING CONTROLLER ENCLOSURE LOCATED AT UTILITY YARD. EXACT LOCATION TO BE DETERMINED ON SITE.	-	-
		MAIN LINE (PRESSURE SUPPLY) PIPE SCHEDULE 40 PVC FOR PIPE 1-1/2" AND SMALLER - BURY 18" BELOW FINISH GRADE - SIZE PER PLAN - REFER TO SPECIFICATIONS SECTION 328400 FOR ADDITIONAL INFORMATION SCHEDULE 315 PVC FOR PIPE 2" TO 4" - BURY 24" BELOW FINISH GRADE - SIZE PER PLAN - REFER TO SPECIFICATIONS SECTION 328400 FOR ADDITIONAL INFORMATION		SPECS.	L2.01
		DENOTES WIRE PVC SLEEVE/FLEXIBLE CONDUIT FOR WIRES. EXACT ROUTING AND SIZE TO BE DETERMINED. SLEEVE/CONDUIT SIZE TO BE SIZED ACCORDINGLY WITHOUT ANY RESISTANCE THROUGH SLEEVE WHEN PULLING WIRES THROUGH SLEEVE. CONDUIT TO BE BURIED 24" MIN. UNDER PAVED AREAS.		SPECS.	L2.01
		NON-PRESSURE (LATERAL LINE) PIPE SCHEDULE 40 PVC - BURY 12" BELOW FINISH GRADE - SIZE PER PLAN - REFER TO SPECIFICATIONS SECTION 328400 FOR ADDITIONAL INFORMATION		SPECS.	L2.01
	NO SYMBOL	SLEEVE FOR PRESSURE OR NON-PRESSURE PIPE SCHEDULE 40 PVC - 2X DIAMETER OF PIPE BEING SLEEVED - SIZE PER PLAN - BURY 24" BELOW FINISH GRADE (ALL PRESSURE SUPPLY LINE SLEEVE SHALL BE ACCOMPANIED BY A 2" MINIMUM SLEEVE FOR WIRES (SCHEDULE 40 PVC) UNLESS OTHERWISE NOTED ON PLAN		SPECS.	L2.01
	NO SYMBOL	SLEEVE FOR LOW VOLTAGE VALVE WIRES SCHEDULE 40 PVC - 2X DIAMETER OF PIPE BEING SLEEVED - SIZE PER PLAN - BURY 24" BELOW FINISH GRADE (ALL PRESSURE SUPPLY LINE SLEEVE SHALL BE ACCOMPANIED BY A 2" MINIMUM SLEEVE FOR WIRES (SCHEDULE 40 PVC) UNLESS OTHERWISE NOTED ON PLANS		SPECS.	L2.01
NO SYMBOL		TYPICAL TRENCHING DETAIL FOR BURIED PRESSURE LINES, LATERAL LINES, WIRES & SLEEVES		15	L2.05
NO SYMBOL		TYPICAL MULTI-VALVE JUMBO BOX ASSEMBLY-CONTRACTOR TO GROUP VALVES INTO (2) MAX. PER JUMBO BOX TO MINIMIZE VALVE BOX FOOTPRINT WHENEVER POSSIBLE.		4	L2.04
NO SYMBOL		TYPICAL VALVE BOX LAYOUT		17	L2.05
NO SYMBOL		TYPICAL THRUST BLOCK FOR PIPING 3" AND LARGER		16	L2.05
NO SYMBOL		SLEEVE CROSSING NOTE: ALL PIPING AND WIRES CROSSING HARDSCAPE, PAVING, ETC. AREA SHALL BE INSTALLED IN SLEEVE (REFER TO SLEEVE NOTE ABOVE). PIPE AND WIRES TO BE INSTALLED IN SEPARATE SLEEVES. SLEEVES INSTALLED A MINIMUM OF (6") INTO PLANTING AREA. CONTRACTOR TO BORE UNDERCUT & PATCH UNDER EXISTING PAVING/HARDSCAPE AS REQUIRED AND REPAIR TO ORIGINAL CONDITION. CONTRACTOR TO COORDINATE WITH NECESSARY TRADES ON SITE. PRIOR TO START OF CONSTRUCTION IN ORDER TO UTILIZE SCHEDULED UTILITY TRENCHES WHENEVER POSSIBLE. AT A MINIMUM ALL CROSSOVERS OVER PAVING SHALL RECEIVE (2) 6" SEPARATE SLEEVES.			

POINT OF CONNECTION DESIGNATION: 2
NAME OF WATER PURVEYOR: N/A
CONTACT NAME: N/A
PHONE: N/A
SIZE OF WATER METER: N/A
SIZE OF SERVICE LINE: 3"
STATIC WATER PRESSURE: 85 P.S.I. MIN. (BOOST. PRESSURE)
DESIGN WATER PRESSURE: 67.62 P.S.I.
DESIGNED HIGHEST GPM/GPH FLOW: 52.3 G.P.M.

WORST CASE PRESSURE LOSS CHART

CONTROLLER/STATION: 2-7

POC ELEV: 92.3

GPM: 52.3

PSI AT POC: 85 P.S.I.

0" WATER METER 0.00 PSI

3" BACKFLOW PREVENTER 13.00 PSI

3" MASTER VALVE 3.00 PSI

2-1/2" FLOW SENSOR 1.00 PSI

0 LF OF 2" PVC CL-315 MAINLINE 0.00 PSI

150 LF OF 2-1/2" PVC CL-315 MAINLINE (0.88) 1.32 PSI

425 LF OF 3" PVC CL-315 MAINLINE (0.34) 1.50 PSI

0 LF OF 1" PVC SCH-40 MAINLINE 0.00 PSI

FITTINGS (20% MAINLINE LOSS) 1.00 PSI

1-1/2" REMOTE CONTROL VALVE 3.80 PSI

LATERAL LINE LOSSES (FIXED) 8.00 PSI

ELEVATION CHANGE FROM POC TO HIGHEST OUTLET (+/- FT.) 5.00 PSI

SPRINKLER DESIGN OPERATING PRESSURE 30.00 PSI

#1 TOTAL SYSTEM LOSSES: 67.62 PSI

SUMMARY:

#2 AVAILABLE STATIC PRESSURE AT POC: 85.00 PSI

#3 REQUIRED SYSTEM MINIMUM PRESSURE: #1 67.62 PSI

#4 RESIDUAL PRESSURE: #2 - #3 17.38 PSI

IF PRESSURE AT POC IS TOO HIGH, ADD THE FOLLOWING: 0.00

#5 ADJUST PRESSURE REGULATOR AT POC TO: #1 + 25% 0.00 PSI

RESIDUAL FROM ADJUSTED PRESSURE: #5 - #3 -67.62 PSI

IF PRESSURE AT POC IS TOO LOW, ADD THE FOLLOWING: 0.00 PSI

#5 TOTAL BOOSTED PSI REQ'D AT PUMP: #3 + 25% 0.00 PSI

RESIDUAL PRESSURE: #5 - #3 -67.62 PSI

PUMP BOOST REQUIRED: #5 - #2 -85.00 PSI

POINT OF CONNECTION DESIGNATION: 2
NAME OF WATER PURVEYOR: N/A
CONTACT NAME: N/A
PHONE: N/A
SIZE OF WATER METER: N/A
SIZE OF SERVICE LINE: 3"
STATIC WATER PRESSURE: 85 P.S.I. MIN. (BOOST. PRESSURE)
DESIGN WATER PRESSURE: 75.05 P.S.I.
DESIGNED HIGHEST GPM/GPH FLOW: 39.0 G.P.M.

WORST CASE PRESSURE LOSS CHART

CONTROLLER/STATION: 2-1

POC ELEV: 92.3

GPM: 39.0

PSI AT POC: 85 P.S.I.

0" WATER METER 0.00 PSI

3" BACKFLOW PREVENTER 13.00 PSI

3" MASTER VALVE 3.00 PSI

2-1/2" FLOW SENSOR 1.00 PSI

485 LF OF 2" PVC CL-315 MAINLINE (1.41) 6.80 PSI

315 LF OF 2-1/2" PVC CL-315 MAINLINE (0.53) 1.70 PSI

425 LF OF 3" PVC CL-315 MAINLINE (0.20) 0.85 PSI

0 LF OF 1" PVC SCH-40 MAINLINE 0.00 PSI

FITTINGS (20% MAINLINE LOSS) 1.90 PSI

1-1/2" REMOTE CONTROL VALVE 3.80 PSI

LATERAL LINE LOSSES (FIXED) 8.00 PSI

ELEVATION CHANGE FROM POC TO HIGHEST OUTLET (+/- FT.) 5.00 PSI

SPRINKLER DESIGN OPERATING PRESSURE 30.00 PSI

#1 TOTAL SYSTEM LOSSES: 75.05 PSI

SUMMARY:

#2 AVAILABLE STATIC PRESSURE AT POC: 85.00 PSI

#3 REQUIRED SYSTEM MINIMUM PRESSURE: #1 75.05 PSI

#4 RESIDUAL PRESSURE: #2 - #3 9.95 PSI

IF PRESSURE AT POC IS TOO HIGH, ADD THE FOLLOWING: 0.00

#5 ADJUST PRESSURE REGULATOR AT POC TO: #1 + 25% 0.00 PSI

RESIDUAL FROM ADJUSTED PRESSURE: #5 - #3 -75.05 PSI

IF PRESSURE AT POC IS TOO LOW, ADD THE FOLLOWING: 0.00 PSI

#5 TOTAL BOOSTED PSI REQ'D AT PUMP: #3 + 25% 0.00 PSI

RESIDUAL PRESSURE: #5 - #3 -75.05 PSI

PUMP BOOST REQUIRED: #5 - #2 -85.00 PSI

P.O.C. NOTES

P.O.C. NOTE NO. 2:
 POINT OF CONNECTION SHALL BE DOWNSTREAM OF THE EXISTING IRRIGATION BACKFLOW/GATE VALVE. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE P.O.C. INFORMATION SHOWN ON THESE DRAWINGS IS FOUND TO BE DIFFERENT THAN ACTUAL P.O.C. INFORMATION GATHERED IN THE FIELD, AND ARE NOT REPORTED PRIOR TO START OF CONSTRUCTION, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO THE SCHOOL DISTRICT.

SITE INFORMATION

PROJECT ADDRESS: 3180 MOJAVE TROPICO ROAD ROSAMOND, CA. 93560	WATER PURVEYOR: BY OTHERS
(EXISTING) METER SIZE	FIELD VERIFIED
(EXIST.) BOOSTED PRESSURE	85-100 P.S.I.
SYSTEM DESIGN PRESSURE	85 P.S.I.
MAXIMUM SYSTEM DEMAND	150 G.P.M.
LANDSCAPE AREA SERVED	T.B.D.

IN-LINE DRIP EMITTER CHART FOR GRID PATTERN AND PRECIPITATION RATES				
EMITTER GPH	EMITTER SPACING	ROW SPACING		
0.53 GPH (PER EMITTER)	12" O.C.	12" O.C.	16" O.C.	18" O.C.
		85 PR	64 PR	57 PR
IN-LINE TUBING (GRID PATTERN) PRECIPITATION RATE FORMULA: PR=(231.1 x EMITTER FLOW RATE / (EMITTER SPACING x ROW SPACING))				

SPRINKLER HEAD LEGEND

SYMBOL	MANUFACTURER/MODEL: BODY / NOZZLE	RADIUS	PRESS.	NOZZLE FLOW RATE GPM	PRECIP. IN/HR	DETAILS	SHEET
BUBBLER (2) (3) (4)	RAIN BIRD RWS-B-C-1402 (REFER TO DETAIL NO. 7)		30	0.50	0.50	7	L2.05
	RAIN BIRD 1804-SAM-PRS-1401 w/ PA-80 ADAPTOR		30	0.25	0.50	6	L2.04
	NETAFIM TLHCVRX7-CS-18 (SEE DRIP NOTES BELOW)		40	0.77 G.P.H.	0.75	12	L2.05
TURF POP UP F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-5 MPR	4'-5"	30	Q-0.10, H-0.20	1.78	8	L2.04
TURF POP UP F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-8 HE-VAN	6'-8"	30	Q-0.29, H-0.59	2.03	8	L2.04
TURF POP UP F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-10 HE-VAN	9'-10"	30	Q-0.45, H-0.89, ZT-1.88, F-1.78	1.98	8	L2.04
TURF POP UP F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-12 HE-VAN	11'-12"	30	Q-0.59, H-1.18, F-2.37	1.83	8	L2.04
TURF POP UP F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-15 HE-VAN	13'-15"	30	Q-0.93, H-1.85, F-3.70	1.63	8	L2.04
STREAM ROTOR F 2T H 1T Q	RAIN BIRD RD-06-S-P30-F-R-VAN24	16'-19"	30	Q-0.60, H-1.20, F-2.35	0.73	8	L2.04
STREAM BUBBLER F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-5-B MPR NOZZLE	3'-5"	30	F-1.50	0.70	13	L2.05
STREAM BUBBLER F 2T H 1T Q	RAIN BIRD 1806-SAM-PRS-5-B MPR NOZZLE	3'-5"	30	Q-0.50, H-1.00, F-1.50	0.70	13	L2.05
DRIP NETAFIM	TLHCVRX5-CS-12	0.53 GPH EMITTER FLOW RATE WITH EMITTER SPACING AT 12" O.C. ROW SPACING TO BE 12"-16" ON CENTER - INSTALL PER MANUFACTURER RECOMMENDATION BURY 4" BELOW FINISH GRADE OR MULCH - SECURE TUBING W/ EPOXY COATED WIRE STAKES (9" LONG - 5' ON CENTER)				11, 12	L2.05

DRIP NOTES:

- SUB-SURFACE IN-LINE DRIP TUBING SHALL BE INSTALLED AT 16" MAXIMUM ROW SPACING, 4'-6" BELOW GRADE FOR SHRUB AREAS. INSTALL TUBING WITH TRIANGULAR SPACED EMITTER LAYOUT. ANCHOR TUBING WITH 9" PVC COATED GALVANIZED WIRE STAKES. GPH IRRIGATION PRODUCTS MODEL # GPH GDT-5-140000, INSTALLED AT 5 FT. ON CENTER.
- INSTALL PERIMETER TUBING MAXIMUM 6" FROM PERIMETER EDGE FOR GROUND COVER AREAS OR AT FIRST LINE OF SHRUBS. CONTRACTOR SHALL DETERMINE MINIMUM ROW SPACING IN THE FIELD AFTER REVIEW OF PLANT SPACING FOR EACH PLANTER. EACH AND EVERY SHRUB SHALL RECEIVE WATER FROM A MINIMUM OF TWO IN-LINE DRIP EMITTERS. AREAS OF TIGHTLY SPACED GROUND COVER OR SANDY SOILS WILL REQUIRE CLOSER ROW SPACING. FOR ANY SINGLE OR DOUBLE ROW TYPE PLANTINGS, INSTALL DRIP TUBING ON BOTH SIDES OF THE SHRUB ROW TO IRRIGATE SHRUBS ON EITHER SIDE. DUE TO SOIL STRATA DIFFERENCES AND POSSIBLE COMPACTION, CONTRACTOR SHALL FIELD VERIFY PRIOR TO STARTING WORK AND BEFORE BACKFILLING, THAT THE FINAL LAYOUT AND ROW SPACING WILL PROVIDE ADEQUATE WATER TO ALL PLANTS.
- FOR SLOPE AREAS CONTRACTOR SHALL ALWAYS FOLLOW AND ROUTE IN-LINE TUBING PARALLEL TO GRADE. DIRECTIONAL LAYOUT AS SHOWN IN THE PLANS MAY NOT BE EXACTLY ACROSS SLOPE. DRIP HATCH PATTERN ANGLE SHOWN ON PLAN ARE DIAGRAMMATICAL ONLY. ALWAYS INSTALL DRIP LINES ACROSS SLOPE. INSTALL IN-LINE DRIP CHECK VALVE FOR DRIP LINE TUBING WITH 8' OR GREATER ELEVATION CHANGE MINIMUM ONE CHECK VALVE FOR EACH DRIP LINE IN SYSTEM TO PREVENT ANY LOW EMITTER DRAINAGE.
- FOR ALL IN-LINE DRIP TUBING AREAS ON SLOPE THE CONTRACTOR SHALL BE HELD ACCOUNTABLE FOR CREATING A TRIANGULAR WETTING PATTERN ACROSS ANY SLOPE. OFFSET THE EMITTERS BY HALF THE EMITTER SPACING WHEN INSTALLING TUBING TO CREATE A TRIANGULAR WETTING PATTERN ACROSS THE SLOPE. DO NOT INSTALL TUBING WHERE THE EMITTERS ARE DIRECTLY IN LINE (PERPENDICULAR) WITH EACH OTHER.
- TYPICAL, GRID LINE/HATCHING SHOWN ON PLANS OF DRIP TUBING SYSTEMS DOES NOT REPRESENT ACTUAL NUMBER OF DRIP TUBING LAYOUT/ROWS. EXACT LAYOUT/ROWS TO BE DETERMINED ON SITE. INSTALL DRIP TUBING PER MANUFACTURER RECOMMENDATION.
- DRIP TUBING SPIRAL RING SPACING AND LAYOUT TO BE DETERMINED AND APPROVED BY LANDSCAPE ARCHITECT ON SITE. ADDITIONAL TUBING MAY BE REQUIRED FOR SUFFICIENT IRRIGATION.

HYDROZONE LEGEND	
H	HIGH WATER USE PLANTS
M	MEDIUM WATER USE PLANTS
L	LOW WATER USE PLANTS

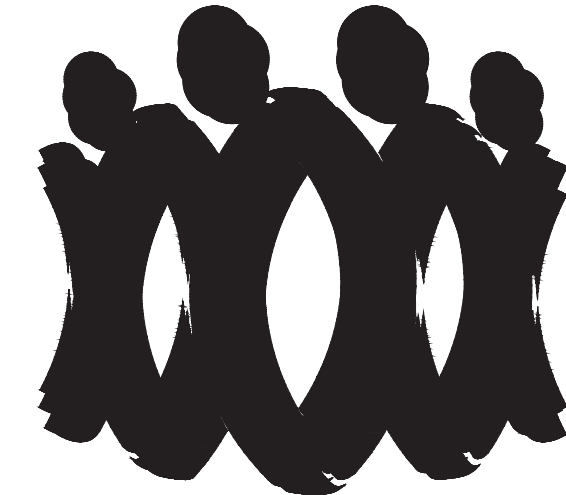
VALVE SEQUENCE	→ ADD 1-1/2"	→ VALVE SIZE
FLOW (GPM)	→ 00 30	→ OPER. PRESS.
PLANT FACTOR	→ L D	→ IRR. TYPE
HYDRO. S.F.	→ 0000 0.00	→ PRECIP. RATE/DRIP SPACING

PIPE SIZING LEGEND	
PIPE SIZE	SCH 40 GPM
A 3/4"	1 - 6
B 1"	7 - 12
C 1-1/4"	13 - 20
D 1 1/2"	21 - 30
E 2"	31 - 45
F 2 1/2"	46 - 55
G 3"	56 - 70
H 4"	71 - 125

SLEEVE SIZING LEGEND	
SLEEVE SIZE	SCH 40 PIPE SIZE
(2") 2"	1 1/2" TO 1"
(3") 3"	1 1/4" TO 1 1/2"
(4") 4"	2"
(6") 6"	2 1/2" TO 3"

Rogue Irrigation Consultants, LLC
 8573 S. Orlando Avenue - L.A. - CA. 90056-1632
 Ph: 310. 923. 1885
 E-mail: irrigue@rogue-irrigation.com

IDENTIFICATION STAMP
 DIV. OF THE STATE ARCHITECT
 APP: 03-124766 INC:
 REVIEWED FOR
 SS ☒ FLS ☒ ACS ☒
 DATE: 12/04/2024



FLEWELLING &

02-BID FORM - BID CLARIFICATION 01

NAME OF BIDDER _____

PROJECT TITLE SKUSD-TROPICO MIDDLE SCHOOL LANDSCAPE, DRAINAGE & PARKING LOT UPGRADE PROJECT

TO SOUTHERN KERN UNIFIED SCHOOL DISTRICT referred to as "Owner".

- A.** In compliance with your Notice to Contractors Calling for Bids and related documents, the undersigned bidder, having familiarized itself with the terms of the contract, the local conditions affecting the performance of the contract, the cost of the work at the place where the work is to be done, and the drawings and specifications and other contract documents, proposes and agrees to perform the contract within the time stipulated, including all of its component parts and everything required to be performed, and to provide and furnish any and all of the labor, materials, tools, expendable equipment, and all applicable taxes, utility, and transportation services necessary to perform the contract and complete in a workmanlike manner all of the work required in connection with the above-referenced project, including sheeting, shoring, and bracing, or equivalent method for protection of life and limb in trenches and open excavation in conformance with applicable safety orders, within the time limits set for completion of all work, all in strict conformity with the drawings and specifications and other contract documents, including Addenda/Clarification Nos. _____ [list all] on file at the office of OWNER for the Base Bid sum of:

DOLLARS

[written in words]

\$

[written in numbers]

- B.** If any of the following alternate bids are utilized and awarded, the undersigned agrees to make price adjustments, as indicated, to the Base Bid:

ALTERNATE 01– All parking lot scope as defined in Bid Clarification 01.

State the amount to be ☒ **added** ☐ **deducted to / from the Base Bid [select one]**

Dollars \$

SKUSD-TROPICO MIDDLE SCHOOL LANDSCAPE, DRAINAGE & PARKING LOT UPGRADE PROJECT

**REFER TO ANY ATTACHMENTS TO THIS BID FORM
FOR ADDITIONAL ALTERNATES**

- C. The Bidder agrees that upon written notice of acceptance of this bid, he will execute the contract and provide all bonds and other required documents within 10-working days after contract award.
- D. Attached is bid security not less than 10-percent of the bid, in the amount of _____
_____ in the form of ☐cash ☐bid bond ☐certified check ☐cashier's check. ***[circle one]***
- E. The Bidder acknowledges that OWNER reserves the right to accept or reject any and/or all Base Bids and alternate bids. This entire bid shall remain open and active for 60-days after bid opening, and any alternate bids not initially awarded shall remain active, as an irrevocable offer by the Bidder to enter into either a change order or separate contract, for up to six months after award of the contract.
- F. It is understood and agreed that if written notice of the acceptance of this bid is mailed, telegraphed, or delivered to the Bidder after the opening of the bid, and within the time this bid is required to remain open, or at any time after that before this bid is withdrawn, the Bidder will execute and deliver to OWNER the Agreement and will also furnish and deliver to OWNER the Performance Bond and a separate Payment Bond as specified, certificates of insurance, and other required documents.
- G. It is understood and agreed that should the Bidder fail or refuse to return executed copies of the Construction Agreement, bonds, insurance certificates, and other required documents to OWNER within the time specified, the bid security shall be forfeited to OWNER.
- H. In submitting this bid, the Bidder offers and agrees that if the bid is accepted it will assign to OWNER all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Business & Professions Code Section 16700 and following sections) arising from purchases of goods, materials, or services by the Bidder for sale to OWNER pursuant to the bid. Such assignment shall be made and become effective at the time OWNER tenders final payment under the contract. (Public Contract Code Section 7103.5; Government Code Section 4552.)
- I. The Bidder hereby certifies that it is, and at all times during the performance of work under the Contract Documents shall be, in full compliance with the provisions of the Immigration Reform and Control Act of 1986 ("IRCA") in the hiring of its employees, and the Bidder shall indemnify, hold harmless, and defend OWNER against any and all actions, proceedings, penalties, or claims arising out of the Bidder's failure to comply strictly with the IRCA.

CONSTRUCTION OF PRE-K AND T-K CLASSROOMS AT WESTPARK ELEMENTARY SCHOOL

J. The Bidder understands that a licensed contractor shall not submit a bid to a public agency unless the Bidder's contractor's license number appears clearly on the bid, the license expiration date is stated, and the bid contains a statement that the representations made therein are made under penalty of perjury. Any bid not containing this information, or a bid containing information which is subsequently proven false, may be considered non-responsive and may be rejected by the public agency.

K. Bidder's contractor's license is _____
[number] [class] [expires]

L. The undersigned hereby declares that all of the representations of this bid, including all documents comprising the bid package, are true and are made under penalty of the perjury laws of the State of California.

INDIVIDUAL/DBA

Print Name _____ **Signature** _____

Business Address _____

Date: _____ **Telephone:** _____

PARTNERSHIP

Partnership Name _____

Signed by _____ **Partner**

Print Name _____

Business Address _____

Date _____ **Telephone** _____

Names of Other Partners _____

SKUSD-TROPICO MIDDLE SCHOOL LANDSCAPE, DRAINAGE & PARKING LOT UPGRADE PROJECT

CORPORATION

Corporation Name _____

a _____ Corporation.
(State of Incorporation)

Business Address _____

Date _____ **Telephone** _____

By _____ *[Required]* *[Seal]*
(☐ President ☐ Chief Executive Officer ☐ Vice President) *[Circle One]*

Print Name _____

By: _____ *[Required]*
(☐ Secretary ☐ Treasurer ☐ Chief Financial Officer ☐ Assistant Treasurer)
[Circle One]

Print Name: _____

JOINT VENTURE

Joint Venturer Name _____

Signed by _____ **(Joint Venturer)**

Print Name _____

Business Address _____

Date _____ **Telephone** _____

SKUSD-TROPICO MIDDLE SCHOOL LANDSCAPE, DRAINAGE & PARKING LOT UPGRADE PROJECT

Other Parties to Joint Venture:

If an individual joint venture _____ (Signature)

Print Name _____

If a DBA joint venture: _____ (Signature)

Print Name _____

If a partnership joint venture:

By _____
(Name)

Signed by _____ , Partner
(Signature)

Print Name _____

If a Corporation joint venture: *[Seal]*

(Name)

A _____ Corporation
(State of Incorporation)

Signed By _____

Print Name _____

Title _____

SKUSD-TROPICO MIDDLE SCHOOL LANDSCAPE, DRAINAGE & PARKING LOT UPGRADE PROJECT