

*PLANS FOR THE CONSTRUCTION OF
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION
FOR
VITRUVIAN PARK PUBLIC INFRASTRUCTURE-PHASE 1E
TOWN OF ADDISON, TEXAS
PUBLIC WORKS # 2010-02*



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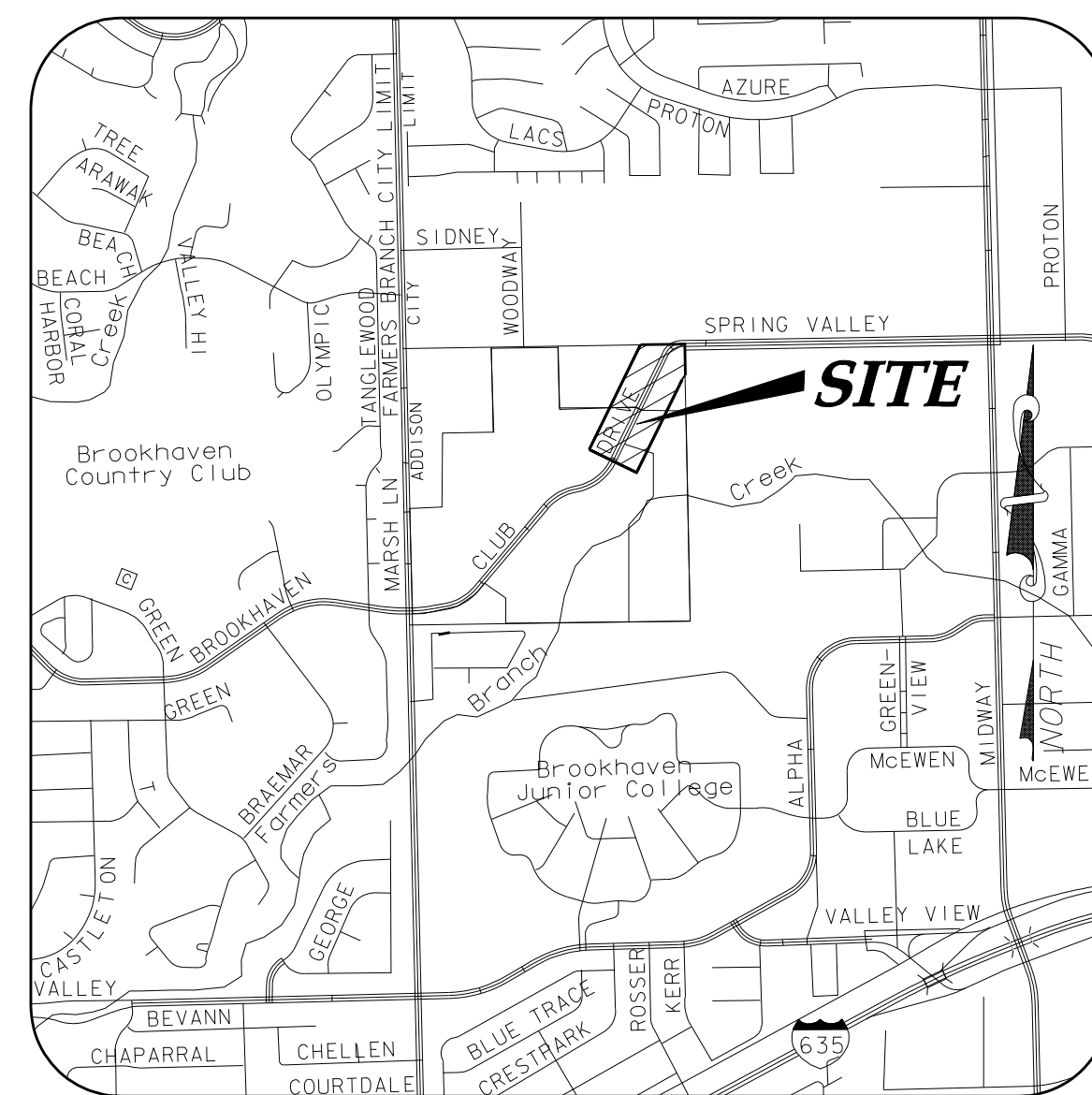
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VICINITY MAP

NOT TO SCALE
(MAPSCO GRID 13 & 14)

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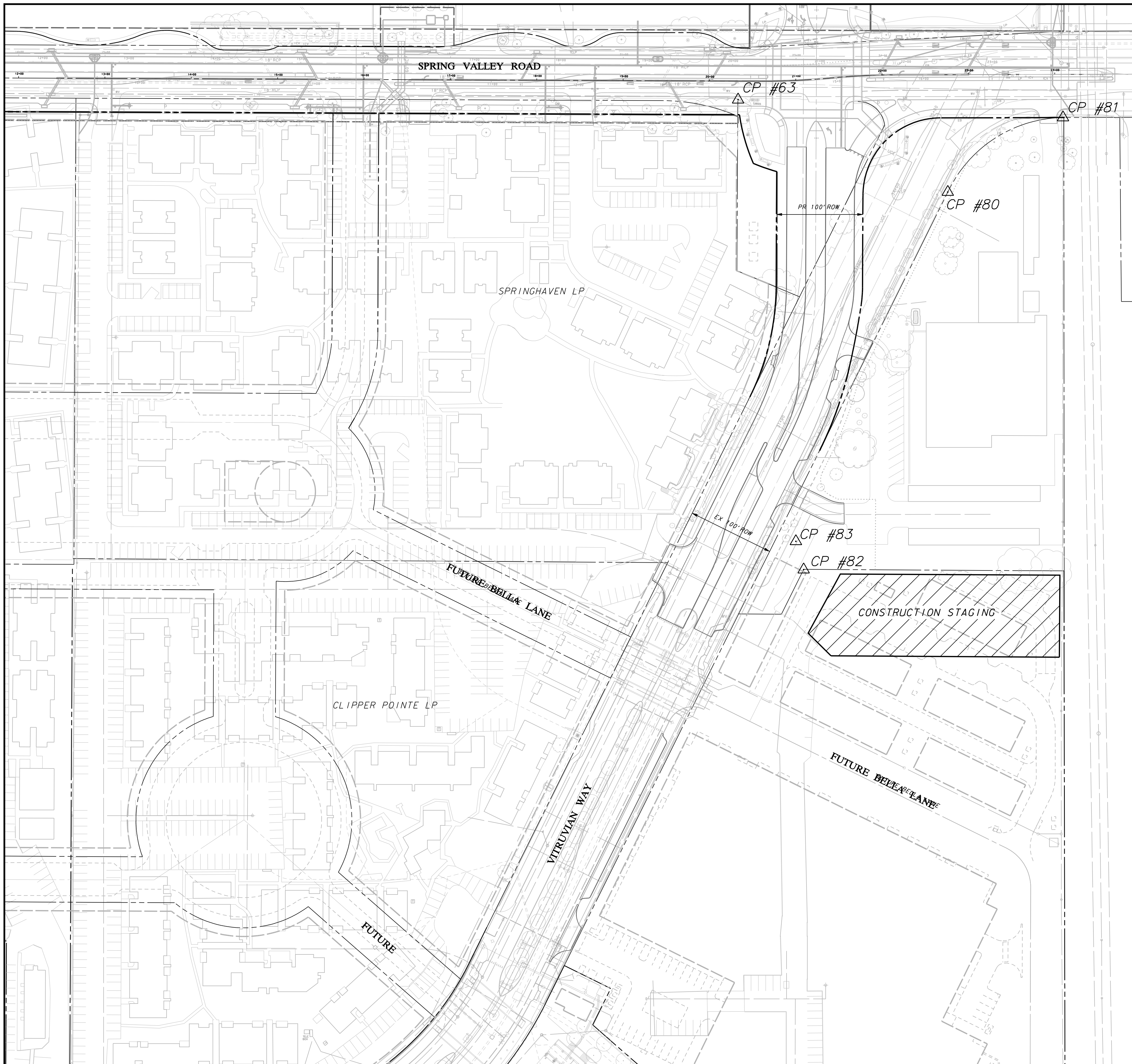
icon Consulting Engineers, Inc.
Civil Engineers- Designers- Planners
ENGINEERING FIRM REGISTRATION NUMBER F-9007

OCTOBER 01, 2010



ICON PROJECT #5029-01

RECORD DRAWINGS 06/13/12



CP #63 IRF 3/8" N 9935.76 E 11998.95 ELEV 583.02	CP #80 IRF 1/2" N 9828.79 E 12241.73 ELEV 582.65	CP #81 IRF 1/2" HZ N 9915.07 E 12375.13 ELEV 584.42
CP #82 IRF 1/2" N 9391.52 E 12074.82 ELEV 573.99	CP #83 CPPK J N 8424.30 E 12065.87 ELEV 573.53	

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
 1127' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF
 VITRUVIAN WAY AND MARSH LANE.



NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION			
OVERALL PLAN & PROJECT CONTROL			
icon Consulting Engineers, Inc. Civil Engineers - Designers - Planners		250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210	
PROJECT	DESIGN	DRAWN	DATE
5029-01	ICE	ICE	OCT 01 2010
			FILE
			PW# 2010-02
			SHEET
			1

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

GENERAL CONSTRUCTION NOTES

1. STANDARDS AND SPECIFICATIONS: ALL MATERIALS, CONSTRUCTION METHODS, WORKMANSHIP, EQUIPMENT, SERVICES AND TESTING FOR ALL PUBLIC IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE GOVERNING AUTHORITIES' ORDINANCES, REGULATIONS, REQUIREMENTS, STATUTES, SPECIFICATIONS AND DETAILS, LATEST PRINTING AND AMENDMENTS THERETO. THE GOVERNING AUTHORITIES' PUBLIC WORKS AND WATER DEPARTMENT REQUIREMENTS, PLUMBING CODES, AND FIRE DEPARTMENT REGULATIONS SHALL TAKE PRECEDENT FOR ALL PUBLIC IMPROVEMENTS WHERE APPLICABLE. ALL OTHER PUBLIC CONSTRUCTION, NOT REGULATED BY THE GOVERNING AUTHORITY, SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS - NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, LATEST PRINTING AND AMENDMENTS THERETO, EXCEPT AS MODIFIED OR AMENDED BY THE PROJECT CONTRACT DOCUMENTS.

2. EXAMINATION OF SITE: THE CONTRACTOR ACKNOWLEDGES THAT HE HAS INVESTIGATED AND SATISFIED HIMSELF AS TO THE CONDITIONS AFFECTING THE WORK, INCLUDING BUT NOT RESTRICTED TO THOSE BEARING UPON TRANSPORTATION, DISPOSAL, HANDLING AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRIC POWER, ROADS AND UNCERTAINTIES OF WEATHER, OR SIMILAR PHYSICAL CONDITIONS AT THE SITE, CONDITIONS OF THE GROUND, THE CHARACTER OF EQUIPMENT AND FACILITIES NEEDED PRELIMINARY TO AND DURING PERFORMANCE OF THE WORK. THE CONTRACTOR ACKNOWLEDGES THAT HE HAS INSPECTED THE SITE OF THE WORK AND IS FAMILIAR WITH THE SOIL CONDITIONS TO BE ENCOUNTERED BY THE CONTRACTOR TO ACQUAINT HIMSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM FROM RESPONSIBILITY FOR ESTIMATING PROPERLY THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK. THE TOWN OF ADDISON ASSUMES NO RESPONSIBILITY FOR ANY CONCLUSIONS OR INTERPRETATIONS MADE BY THE CONTRACTOR ON THE BASIS OF THE INFORMATION MADE AVAILABLE BY THE TOWN OF ADDISON.

3. SUBSURFACE INVESTIGATION: SUBSURFACE EXPLORATION TO ASCERTAIN THE NATURE OF SOILS, INCLUDING THE AMOUNT OF ROCK, IF ANY, IS THE RESPONSIBILITY OF THE CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE SUCH SUBSURFACE INVESTIGATIONS AS HE DEEMS NECESSARY TO DETERMINE THE NATURE OF THE MATERIAL TO BE ENCOUNTERED. SOME SUBSURFACE EXPLORATION HAS BEEN PERFORMED BY THE GEOTECHNICAL ENGINEER OF RECORD ON THE PROJECT AND IS PROVIDED FOR INFORMATIONAL PURPOSES. THE TOWN OF ADDISON AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY, TRUE LOCATION AND EXTENT OF THE SOILS INFORMATION THAT HAS BEEN PREPARED BY OTHERS. THEY FURTHER DISCLAIM RESPONSIBILITY FOR INTERPRETATION OF THAT DATA BY THE CONTRACTOR, AS IN PROJECTING SOIL BEARING VALUES, ROCK PROFILES, SOILS STABILITY AND THE PRESENCE, LEVEL AND EXTENT OF UNDERGROUND WATER.

4. TOPOGRAPHIC SURVEY: TOPOGRAPHIC SURVEY INFORMATION SHOWN ON THE PLANS IS PROVIDED FOR INFORMATIONAL PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE INFORMATION SHOWN IS CORRECT, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY ERRORS, DISCREPANCIES OR OMISSIONS TO THE SURVEY INFORMATION PROVIDED. ANY COSTS INCURRED AS THE RESULT OF NOT CONFIRMING THE ACTUAL SURVEY SHALL BE BORNE BY THE CONTRACTOR.

5. COMPLIANCE WITH LAWS: THE CONTRACTOR SHALL FULLY COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS, INCLUDING ALL CODES, ORDINANCES AND REGULATIONS APPLICABLE TO THIS CONTRACT AND THE WORK TO BE DONE THEREUNDER, WHICH EXIST OR MAY BE ENACTED LATER BY GOVERNMENTAL BODIES HAVING JURISDICTION OR AUTHORITY FOR SUCH ENACTMENT. ALL WORK REQUIRED UNDER THIS CONTRACT SHALL COMPLY WITH ALL REQUIREMENTS OF LAW, REGULATION, PERMIT OR LICENSE. IF THE CONTRACTOR FINDS THAT THERE IS A VARIANCE, HE SHALL IMMEDIATELY REPORT THIS TO THE TOWN OF ADDISON FOR RESOLUTION.

6. PUBLIC CONVENIENCE AND SAFETY: IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

MATERIALS STORED ON THE WORK SITE SHALL BE SO PLACED, AND THE WORK SHALL AT ALL TIMES BE SO CONDUCTED, AS TO CAUSE NO GREATER OBSTRUCTION TO THE TRAVELING PUBLIC THAN IS CONSIDERED ACCEPTABLE BY THE GOVERNING AUTHORITIES. THE MATERIALS EXCAVATED SHALL BE PLACED SO AS NOT TO ENDANGER THE WORK OR PREVENT FREE ACCESS TO ALL FIRE HYDRANTS, WATER VALVES, GAS VALVES, MANHOLES, AND FIRE ALARM OR POLICE CALL BOXES IN THE VICINITY.

THE TOWN OF ADDISON RESERVES THE RIGHT TO REMEDY ANY NEGLIGENCE ON THE PART OF THE CONTRACTOR WITH REGARDS TO THE PUBLIC CONVENIENCE AND SAFETY WHICH MAY COME TO THE TOWN OF ADDISON'S ATTENTION, AFTER 24 HOURS NOTICE IN WRITING TO THE CONTRACTOR. IN CASES OF EMERGENCY, WHEN THE TOWN OF ADDISON SHALL HAVE THE RIGHT TO REMEDY ANY NEGLIGENT WITHOUT NOTICE, AND, IN EITHER CASE, THE COST OF SUCH WORK DONE BY THE TOWN OF ADDISON SHALL BE DEDUCTED FROM THE MONIES DUE OR TO BECOME DUE TO THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE TOWN OF ADDISON AND THE GOVERNING AUTHORITIES WHEN ANY STREET IS TO BE CLOSED OR OBSTRUCTED; SUCH NOTICE SHALL IN THE CASE OF MAJOR THOROUGHFARES OR STREETS UPON WHICH TRANSIT BY THE GOVERNING AUTHORITIES, KEEP ANY STREET OR STREETS IN CONDITION FOR UNOBTSTRUCTED USE BY EMERGENCY SERVICES. WHERE THE CONTRACTOR IS REQUIRED TO CONSTRUCT TEMPORARY BRIDGES OR TO MAKE OTHER ARRANGEMENTS FOR CROSSING OVER DITCHES OR STREAMS, HIS RESPONSIBILITY FOR ACCIDENTS SHALL INCLUDE THE ROADWAY APPROACHES AS WELL AS THE STRUCTURES OF SUCH CROSSINGS.

7. STORM WATER POLLUTION PREVENTION PLAN (SWP3): THE CONTRACTOR SHALL COMPLY WITH THE CONDITIONS OF THE SWP3 WHILE CONDUCTING HIS ACTIVITIES ON THE PROJECT. IN ADDITION TO CONSTRUCTING THOSE ITEMS INDICATED ON THE PLAN SHEETS, COMPLIANCE WITH THE SWP3 INCLUDES CONFORMANCE TO CERTAIN PRACTICES AND PROCEDURES (IDENTIFIED IN THE SWP3) DURING PROJECT CONSTRUCTION.

8. PERMITS AND LICENSES: THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS AND LICENSES NECESSARY FOR THE EXECUTION OF THE WORK AND SHALL FULLY COMPLY WITH ALL THEIR TERMS AND CONDITIONS. THE CONTRACTOR SHALL HAVE THE AUTHORITY TO OBTAINING OF PERMITS FROM THE GOVERNING AUTHORITIES, THE CONTRACTOR SHALL FURNISH DUPLICATE COPIES OF SUCH PERMITS TO THE ENGINEER BEFORE THE WORK COVERED THEREBY IS STARTED. NO WORK WILL BE ALLOWED TO PROCEED BEFORE SUCH PERMITS ARE OBTAINED.

9. BONDS: PERFORMANCE, PAYMENT AND MAINTENANCE BONDS WILL BE REQUIRED FROM THE CONTRACTOR FOR ALL WORK CONSIDERED TO BE "PUBLIC" IMPROVEMENTS. BONDS SHALL BE IN THE FORM AND IN THE AMOUNTS AS REQUIRED BY THE GOVERNING AUTHORITIES.

10. VENDOR'S CERTIFICATION: ALL MATERIALS USED IN CONSTRUCTION SHALL HAVE A VENDOR'S CERTIFIED TEST REPORT. TEST REPORTS SHALL BE DELIVERED TO THE ENGINEER BEFORE PERMISSION WILL BE GRANTED FOR USE OF THE MATERIAL. ALL VENDOR'S TEST REPORTS SHALL BE SUBJECT TO REVIEW BY THE ENGINEER, AND SHALL BE SUBJECT TO VERIFICATION BY TESTING OF SAMPLES OF MATERIALS AS RECEIVED FOR USE ON THE PROJECT. IN THE EVENT ADDITIONAL TESTS ARE REQUIRED, THEY SHALL BE PERFORMED BY AN APPROVED INDEPENDENT TESTING LABORATORY AND SHALL BE PAID FOR BY THE CONTRACTOR.

11. TESTING: THE TESTING AND CONTROL OF ALL MATERIALS USED IN THE WORK SHALL BE DONE BY AN INDEPENDENT TESTING LABORATORY, EMPLOYED AND PAID DIRECTLY BY THE TOWN OF ADDISON. IN THE EVENT THE RESULTS OF INITIAL TESTING DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS, SUBSEQUENT TESTS NECESSARY TO DETERMINE THE ACCEPTABILITY OF MATERIALS OR CONSTRUCTION SHALL BE FURNISHED AND PAID BY THE CONTRACTOR AS DIRECTED BY THE TOWN OF ADDISON. PAYMENT WILL BE MADE BY DEDUCTION FROM PAYMENT DUE THE CONTRACTOR.

12. INSPECTION: INSPECTION OF THE PROPOSED CONSTRUCTION WILL BE PROVIDED BY AND PAID FOR BY THE TOWN OF ADDISON. THE CONTRACTOR SHALL PROVIDE ASSISTANCE BY PROVIDING EXCAVATION, TRENCH SAFETY, OR OTHER WORK NECESSARY TO FACILITATE INSPECTION ACTIVITIES, AND SHALL GIVE SUFFICIENT NOTICE WELL IN ADVANCE OF PENDING CONSTRUCTION ACTIVITIES TO THE TOWN OF ADDISON FOR SCHEDULING OF INSPECTION SERVICES.

13. SHOP DRAWINGS: THE CONTRACTOR SHALL PROVIDE, REVIEW, APPROVE AND SUBMIT ALL SHOP DRAWINGS, PRODUCT DATA AND SAMPLES REQUIRED BY THE GOVERNING AUTHORITIES AND THE PROJECT CONTRACT DOCUMENTS IN ACCORDANCE WITH ITEM 1.2B OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, NORTH CENTRAL TEXAS - NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.

14. SURVEYING: ALL SURVEYING REQUIRED FOR CONSTRUCTION STAKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL EMPLOY A REGISTERED PROFESSIONAL LAND SURVEYOR TO PREFORM ALL SURVEY, LAYOUT AND MEASUREMENT WORK NECESSARY FOR THE COMPLETION OF THE PROJECT.

15. PROTECTION OF PROPERTY CORNERS AND BENCHMARKS: THE CONTRACTOR SHALL PROTECT ALL PROPERTY CORNER MARKERS AND BENCHMARKS, AND WHEN ANY SUCH MARKERS OR MONUMENTS ARE IN DANGER OF BEING DISTURBED, THEY SHALL BE PROPERLY REFERENCED AND IF DISTURBED SHALL BE RESET BY A REGISTERED PUBLIC SURVEYOR AT THE EXPENSE OF THE CONTRACTOR.

16. EXISTING STRUCTURES: THE PLANS SHOW THE LOCATION OF ALL KNOWN SURFACE AND SUBSURFACE STRUCTURES, HOWEVER, THE TOWN OF ADDISON AND ENGINEER ASSUME NO RESPONSIBILITY FOR FAILURE TO SHOW ANY OR ALL OF THESE STRUCTURES ON THE PLANS, OR TO SHOW THEM IN THEIR EXACT LOCATION. SUCH FAILURE SHALL NOT BE CONSIDERED SUFFICIENT BASIS FOR CLAIMS FOR ADDITIONAL COMPENSATION FOR EXTRA WORK OR FOR INCREASING THE PAY QUANTITIES IN ANY MANNER WHATSOEVER, UNLESS THE OBSTRUCTION ENCOUNTERED IS SUCH AS TO REQUIRE CHANGES IN THE LINES OR GRADES, OR REQUIRE THE CONSTRUCTION OF SPECIAL WORK, FOR WHICH PROVISIONS ARE NOT MADE IN THE PLANS.

17. PROTECTION OF EXISTING UTILITIES: AS REQUIRED BY "THE TEXAS UNDERGROUND FACILITY DAMAGE PREVENTION AND SAFETY ACT", TEXAS ONE CALL SYSTEM MUST BE CONTACTED (800-245-4545) AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION OPERATIONS BEING PERFORMED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT TEXAS ONE CALL SYSTEM.

THE LOCATION AND DIMENSIONS SHOWN ON THE PLANS RELATIVE TO EXISTING UTILITIES ARE BASED ON THE BEST RECORDS AND/OR FIELD INFORMATION AVAILABLE AND ARE NOT GUARANTEED BY THE TOWN OF ADDISON OR ENGINEER TO BE ACCURATE AS TO LOCATION AND DEPTH. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF HIS ACTIVITIES IN ORDER THAT HE MAY NEGOTIATE SUCH LOCAL ADJUSTMENTS AS NECESSARY IN THE CONSTRUCTION PROCESS TO PROVIDE ADEQUATE CLEARANCES.

THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL EXISTING UTILITIES, SERVICES AND STRUCTURES ENCOUNTERED, WHETHER OR NOT THEY ARE INDICATED ON THE PLANS. ANY DAMAGE TO UTILITIES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS EXPENSE. TO AVOID UNNECESSARY INTERFERENCE'S OR DELAYS, THE CONTRACTOR SHALL COORDINATE ALL UTILITY REMOVALS, REPLACEMENTS AND CONSTRUCTION WITH THE APPROPRIATE GOVERNING AUTHORITIES, THEN REQUEST WRITTEN AUTHORIZATION FROM THE ENGINEER. THE TOWN OF ADDISON WILL NOT BE LIABLE FOR DAMAGES DUE TO DELAY AS A RESULT OF THE ABOVE.

18. DAMAGE TO EXISTING FACILITIES: ALL UTILITIES, PAVEMENT, SIDEWALKS, WALLS, FENCES, ETC. NOT DESIGNATED TO BE REMOVED BUT THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPLACED TO A CONDITION AS GOOD AS OR BETTER THAN THE CONDITIONS PRIOR TO STARTING THE WORK, SOLELY AT THE EXPENSE OF THE CONTRACTOR.

19. FIRE AND LIFE SAFETY SYSTEMS: CONTRACTOR SHALL NOT REMOVE, DISABLE OR DISRUPT EXISTING FIRE OR LIFE SAFETY SYSTEMS WITHOUT WRITTEN PERMISSION FROM THE GOVERNING AUTHORITY.

20. TRENCH SAFETY: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE AND MAINTAIN A VAILABLE TRENCH SAFETY SYSTEM AT ALL TIMES DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR IS DIRECTED TO BECOME KNOWLEDGEABLE AND FAMILIAR WITH THE STANDARDS AS SET BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) AND THE STATE OF TEXAS LAW CONCERNING TRENCHING AND SHORING. THE CONTRACTOR SHALL PROVIDE TRENCH SAFETY SYSTEM PLANS, PREPARED AND SEALED BY A PROFESSIONAL ENGINEER, LICENSED IN THE STATE OF TEXAS, FOR THE IMPLEMENTATION OF SAFETY CONTROL MEASURES, MEETING THE REQUIREMENTS OF THE GOVERNING AUTHORITIES, THAT WILL BE IN EFFECT DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT.

21. SAFETY RESTRICTIONS - WORK NEAR HIGH VOLTAGE LINES: THE FOLLOWING PROCEDURES WILL BE FOLLOWED REGARDING THE SUBJECT ITEM ON THIS CONTRACT:

- A. A WARNING SIGN NOT LESS THAN FIVE INCHES BY SEVEN INCHES PAINTED YELLOW WITH BLACK LETTERS THAT ARE LEGIBLE AT 12 FEET SHALL BE PLACED INSIDE AND OUTSIDE VEHICLES SUCH AS CRANES, DERRICKS, POWER SHOVELS, DRILLING RIGS, PILE DRIVER, HOSTING EQUIPMENT OR SIMILAR APPARATUS. THE WARNING SIGN SHALL READ AS FOLLOWS: "WARNING - UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN SIX FEET OF HIGH VOLTAGE LINES."
- B. EQUIPMENT THAT MAY BE OPERATED WITHIN TEN FEET OF HIGH VOLTAGE LINES SHALL HAVE AN INSULATING CAGE-TYPE OF GUARD ABOUT THE BOOM OR ARM, EXCEPT BACKHOES OR DIPPERS, AND INSULATOR LINKS ON THE LIFT HOOK CONNECTIONS.
- C. WHEN NECESSARY TO WORK WITHIN SIX FEET OF HIGH VOLTAGE ELECTRIC LINES, NOTIFY THE POWER COMPANY WHO WILL ERECT TEMPORARY MECHANICAL BARRIERS, DE-ENERGIZE THE LINE OR RAISE OR LOWER THE LINE, THE WORK DONE BY THE POWER COMPANY SHALL BE AT THE EXPENSE OF THE CONTRACTOR. THE NOTIFYING DEPARTMENT SHALL MAINTAIN AN ACCURATE LOG OF ALL SUCH CALLS TO THE POWER COMPANY AND SHALL RECORD ACTION TAKEN IN EACH CASE.
- D. THE CONTRACTOR IS REQUIRED TO MAKE ARRANGEMENTS WITH THE POWER COMPANY FOR THE TEMPORARY RELOCATION OR RAISING OF HIGH VOLTAGE LINES AT THE CONTRACTOR'S SOLE COST AND EXPENSE.
- E. NO PERSON SHALL WORK WITHIN SIX FEET OF A HIGH VOLTAGE LINE WITHOUT PROTECTION HAVING BEEN TAKEN AS OUTLINED IN PARAGRAPH C. ABOVE.

22. TRAFFIC CONTROL: IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DEVELOP AND SUBMIT FOR APPROVAL BY THE GOVERNING AUTHORITIES, A TRAFFIC CONTROL PLAN, PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF TEXAS, OUTLINING TRAFFIC MANAGEMENT PROCEDURES TO BE PROVIDED DURING CONSTRUCTION. TRAFFIC CONTROL MEASURES SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING ADDITIONAL REQUIREMENTS:

- A. CONSTRUCTION OF SIGNING AND BARRICADES SHALL CONFORM WITH THE "2003 TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", AS CURRENTLY AMENDED, TEXAS DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION.
- B. THE CONTRACTOR SHALL BE REQUIRED TO FURNISH BARRICADES, FLARES, FLAGMEN, ETC., FOR THE PROTECTION OF THE PUBLIC, EMPLOYEES AND THE WORK.
- C. THE CONTRACTOR SHALL PERFORM HIS WORK IN SUCH A MANNER AS TO CREATE A MINIMUM OF INTERRUPTION TO TRAFFIC ALONG ADJACENT ROADWAYS. TWO WAY TRAFFIC MUST BE MAINTAINED ON ALL ROADWAYS AT ALL TIMES THROUGHOUT CONSTRUCTION UNLESS WRITTEN PERMISSION IS GRANTED BY THE GOVERNING AUTHORITIES.
- D. ALL SIGNAGE, MARKINGS, LIGHTING, BARRICADES, FLAGMEN AND OTHER DEVICES AND PERSONNEL REQUIRED FOR TRAFFIC CONTROL DURING CONSTRUCTION OF THE PROJECT WILL BE INCLUDED IN THE CONTRACT AMOUNT.
- E. ALL TRAFFIC CONTROL DEVICES USED DURING NIGHTTIME SHALL BE REFLECTORIZED, ILLUMINATED FROM WITHIN OR EXTERNALLY ILLUMINATED.
- F. THE CONTRACTOR SHALL NOT REMOVE ANY REGULATORY SIGN, INSTRUCTIONAL SIGN, WARNING SIGN, STREET NAME SIGN OR ANY SIGNAL, WHICH CURRENTLY EXISTS, WITHOUT THE CONSENT OF THE GOVERNING AUTHORITIES.
- G. THE CONTRACTOR SHALL MAINTAIN AND REPLACE WHERE NECESSARY ALL SIGNS, LIGHTS, MARKINGS AND TEMPORARY PAVEMENT THROUGHOUT THE CONSTRUCTION PERIOD.
- H. THE CONTRACTOR SHALL REMOVE ALL TRAFFIC CONTROL MEASURES AT THE END OF CONSTRUCTION AND RESTORE UNIMPROVED PAVEMENT AND OTHER DISTURBED AREAS TO THEIR ORIGINAL CONDITION.

23. ACCESS TO ADJACENT PROPERTIES: ACCESS TO ADJACENT PROPERTIES SHALL BE MAINTAINED AT ALL TIMES UNLESS OTHERWISE DIRECTED BY THE GOVERNING AUTHORITIES.

24. ACCESS ROUTES, STAGING AREAS AND STORAGE AREAS: ALL PRIVATE HAUL ROADS AND ACCESS ROUTES AND THE LOCATION OF ALL STAGING AREAS AND STORAGE AREAS SHALL BE SUBJECT TO THE APPROVAL OF THE TOWN OF ADDISON. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING AND REPAIRING ALL ROADS AND OTHER FACILITIES USED DURING CONSTRUCTION. UPON COMPLETION OF THE PROJECT, ALL HAUL ROADS, ACCESS ROADS, STAGING AREAS AND STORAGE AREAS SHALL BE RESTORED TO A CONDITION EQUAL TO OR BETTER THAN THAT AT THE TIME THE CONTRACTOR COMMENCES WORK ON THE PROJECT.

25. PARKING OF CONSTRUCTION EQUIPMENT: AT NIGHT AND DURING ALL OTHER PERIODS OF TIME WHEN EQUIPMENT IS NOT BEING ACTIVELY USED FOR THE CONSTRUCTION WORK, THE CONTRACTOR SHALL PARK THE EQUIPMENT AT LOCATIONS, WHICH ARE APPROVED BY THE TOWN OF ADDISON. DURING THE CONSTRUCTION OF THE PROJECT, THE CONTRACTOR SHALL COMPLY WITH THE PRESENT ZONING REQUIREMENTS OF THE GOVERNING AUTHORITIES IN THE USE OF VACANT PROPERTY FOR STORAGE PURPOSES. THE CONTRACTOR SHALL ALSO PROVIDE ADEQUATE BARRICADES, MARKERS AND LIGHTS TO PROTECT THE TOWN OF ADDISON, THE GOVERNING AUTHORITIES, THE PUBLIC AND THE OTHER WORK. ALL BARRICADES, LIGHTS, AND MARKERS MUST MEET THE REQUIREMENTS OF THE GOVERNING AUTHORITIES' REGULATIONS.

26. WATER FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR PURCHASING WATER FROM THE GOVERNING AUTHORITY FOR HIS USE ON THE PROJECT SITE. COSTS ASSOCIATED WITH THIS SERVICE SHALL BE INCLUDED IN THE CONTRACT AMOUNT.

27. TEMPORARY ELECTRIC AND COMMUNICATIONS FOR CONSTRUCTION: THE CONTRACTOR SHALL MAKE THE NECESSARY ARRANGEMENTS FOR INSTALLATION AND PURCHASING OF TEMPORARY ELECTRIC AND COMMUNICATIONS SERVICES FROM THE GOVERNING AUTHORITIES FOR HIS USE ON THE PROJECT SITE. COSTS ASSOCIATED WITH THESE SERVICES SHALL BE INCLUDED IN THE CONTRACT AMOUNT.

28. FENCES: ALL FENCES ENCOUNTERED AND REMOVED DURING CONSTRUCTION, EXCEPT THOSE DESIGNATED TO BE REMOVED OR RELOCATED, SHALL BE RESTORED TO THE ORIGINAL OR BETTER THAN CONDITION UPON COMPLETION OF THE PROJECT. WHERE WIRE FENCING, EITHER WIRE MESH OR BARBED WIRE, IS TO BE REMOVED, THE CONTRACTOR SHALL SET CROSS-BRACED POSTS ON EITHER SIDE OF THE CROSSING. TEMPORARY FENCING SHALL BE ERRECTED IN PLACE OF THE FENCING REMOVED WHENEVER THE WORK IS NOT IN PROGRESS, AND WHEN THE SITE IS VACATED OVERNIGHT AND/OR AT ALL TIMES TO PREVENT PERSONS AND/OR LIVESTOCK FROM ENTERING THE CONSTRUCTION AREA. THE COST OF FENCE REMOVAL, TEMPORARY CLOSURES AND REPLACEMENT SHALL BE INCLUDED IN THE CONTRACT.

29. DRAINAGE CHANNELS: WHERE EXISTING DRAINAGE CHANNELS ARE TEMPORARILY DISTURBED OR BLOCKED DURING CONSTRUCTION, IT SHALL BE RESTORED TO THE ORIGINAL CONDITION, GRADE AND CROSS SECTION AFTER CONSTRUCTION IS COMPLETED.

30. COORDINATION WITH OTHERS: IN THE EVENT THAT OTHER CONTRACTORS ARE DOING WORK IN THE SAME AREA SIMULTANEOUSLY WITH THE PROJECT, THE CONTRACTOR SHALL COORDINATE HIS PROPOSED CONSTRUCTION WITH THAT OF THE OTHER CONTRACTORS.

31. CONDITION OF SITE DURING CONSTRUCTION: DURING CONSTRUCTION OF THE WORK, THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE SITE OF THE WORK AND ADJACENT PREMISES AS FREE FROM MATERIAL, DEBRIS AND RUBBISH AS IS PRACTICABLE AND SHALL REMOVE SAME FROM ANY PORTION OF THE SITE IF, IN THE OPINION OF THE TOWN OF ADDISON, SUCH MATERIAL, DEBRIS OR RUBBISH CONSTITUTES A NUISANCE OR IS OBJECTIONABLE. IN CASE OF FAILURE ON THE PART OF THE CONTRACTOR UNDER HIS CONTRACT, OR WHERE SUFFICIENT CONTRACT FUNDS ARE UNAVAILABLE FOR THIS PURPOSE, THE CONTRACTOR OR HIS SURETY SHALL REIMBURSE THE TOWN OF ADDISON FOR ALL SUCH COSTS.

32. EXISTING ROADWAYS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CLEANLINESS OF EXISTING PAVED ROADS. ALL COSTS ASSOCIATED WITH MAINTAINING THE CLEANLINESS OF EXISTING ROADS SHALL BE INCLUDED IN THE CONTRACT AMOUNT.

33. DUST CONTROL: THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO CONTROL DUST ON THE PROJECT SITE BY SPRINKLING OF WATER, OR ANY OTHER METHODS APPROVED BY THE GOVERNING AUTHORITIES, AND SHALL PROVIDE ALL EQUIPMENT AND PERSONNEL REQUIRED TO PREVENT DUST FROM BECOMING A NUISANCE TO THE ADJACENT PROPERTIES.

34. CLEAN-UP FOR FINAL ACCEPTANCE: THE CONTRACTOR SHALL MAKE A FINAL CLEAN UP OF ALL PARTS OF THE WORK BEFORE ACCEPTANCE BY THE TOWN OF ADDISON. THIS CLEAN UP SHALL INCLUDE REMOVAL OF ALL OBJECTIONABLE MATERIALS AND, IN GENERAL, PREPARING THE SITE OF THE WORK IN AN ORDERLY MANNER OF APPEARANCE.

35. REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK: ALL WORK WHICH HAS BEEN REJECTED OR CONDEMNED SHALL BE REPAIRED, OR IF IT CANNOT BE REPAIRED SATISFACTORILY, IT SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. DEFECTIVE MATERIALS SHALL BE IMMEDIATELY REMOVED FROM THE WORK SITE. WORK DONE BEYOND THE LINE OR NOT IN CONFORMITY WITH THE GRADES SHOWN ON THE DRAWINGS OR AS PROVIDED, WORK DONE WITHOUT REQUIRED INSPECTION, OR ANY EXTRA OR UNCLASSIFIED WORK DONE WITHOUT WRITTEN AUTHORITY AND PRIOR AGREEMENT IN WRITING AS TO PRICES, SHALL BE AT THE CONTRACTOR'S RISK, AND WILL BE CONSIDERED UNAUTHORIZED, AND AT THE OPTION OF THE TOWN OF ADDISON MAY NOT BE MEASURED AND PAID FOR AND MAY BE ORDERED REMOVED AT THE CONTRACTOR'S EXPENSE. UPON FAILURE OF THE CONTRACTOR TO REPAIR SATISFACTORILY OR TO REMOVE AND REPLACE, IF SO DIRECTED, REJECTED, UNAUTHORIZED OR CONDEMNED WORK OR MATERIALS IMMEDIATELY AFTER RECEIVING NOTICE FROM THE TOWN OF ADDISON, THE TOWN OF ADDISON WILL, AFTER GIVING WRITTEN NOTICE TO THE CONTRACTOR, HAVE THE AUTHORITY TO CAUSE DEFECTIVE WORK TO BE REMEDIED OR REMOVED AND REPLACED, OR TO CAUSE UNAUTHORIZED WORK TO BE REMOVED AND TO DEDUCT THE COST THEREOF FROM ANY MONIES DUE OR TO BECOME DUE TO THE CONTRACTOR.

36. DISPOSITION AND DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS: ALL MATERIALS TO BE REMOVED FROM THE SITE INCLUDING BUT NOT LIMITED TO EXCESS MATERIAL AND UNSUITABLE MATERIALS SUCH AS LARGE ROCKS, REFUSE, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE LIMITS OF THE PROJECT AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL ALSO COMPLY WITH ALL APPLICABLE LAWS GOVERNING SPILLAGE OF DEBRIS WHILE TRANSPORTING TO A DISPOSAL SITE.

37. SEEDING: THE CONTRACTOR SHALL PROVIDE SEEDING, WATERING, FERTILIZING AND REQUIRED MAINTENANCE FOR THE GRASSING OF ALL UNPAVED AREAS OF DEDICATED RIGHT-OF-WAY, EASEMENTS, AND ALL OTHER DISTURBED AREAS OF CONSTRUCTION FOR THE PROJECT. SEEDING SHALL ALSO BE PROVIDED IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROJECT STORM WATER POLLUTION PREVENTION PLAN IN ORDER TO ESTABLISH A GRASS COVER ON DISTURBED AREAS SUBJECT TO THE EROSION OF THE SOIL SURFACE.

38. RECORD DRAWINGS: THE CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF ALL MATERIALS AND SYSTEMS COVERED BY THE PROJECT CONTRACT DOCUMENTS. THESE RECORD PRINTS WILL BE REVIEWED BY THE ENGINEER EACH MONTH PRIOR TO THE PRELIMINARY REVIEW OF CONTRACTOR'S REQUEST FOR PAYMENT. IF THE DRAWINGS ARE NOT COMPLETE, ACCURATE AND UP-TO DATE, THE ENGINEER WILL NOT ACCEPT THE PAYMENT REQUEST. THE COMPLETED SET OF "RECORD" DRAWINGS MUST BE DELIVERED TO THE ENGINEER BEFORE REQUESTING FINAL PAYMENT.

A B B R E V I A T I O N S

APPROX	APPROXIMATELY	G	GAS	R	RADIUS
ASPH	ASPHALT	GI	GRATE INLET	RCB	REINFORCED CONCRETE BOX
BC	BACK OF CURB	GM	GAS METER	RCI	RECESSED CURB INLET
B-B	BACK TO BACK OF CURB	HOPE	HIGH DENSITY POLYETHYLENE PIPE	RCP	REINFORCED CONCRETE PIPE
BM	BENCHMARK	HOWL	HEADWALL	RCCP	REINFORCED CONCRETE CYLINDRICAL PIPE
BW	BOTTOM OF WALL	HMAC	HOT MIX ASPHALTIC CONCRETE	REC	RECESSED
CATV	CABLE TV	HORIZ	HORIZONTAL	REINF	REINFORCED
CFS	CUBIC FEET PER SECOND	HP	HIGH POINT	RL	RIDGE LINE
CI	CURB INLET	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	ROW	RIGHT OF WAY
CMP	CORRUGATED METAL PIPE	IRR	IRRIGATION	RT	RIGHT
CO	CLEANOUT	JB	JUNCTION BOX	SF	SQUARE FEET
CONC	CONCRETE	JT	JOINT	SD	STORM DRAIN
CONST	CONSTRUCT	LF	LINEAR FEET	SO	SQUARE
CL	CENTER LINE	LP	LOW POINT	SS	SANITARY SEWER
DCO	DOUBLE CLEANOUT	LH	LEFT	STA	STATION
DIA	DIAMETER	MT	MANHOLE	SY	SQUARE YARD
DIP	DUCTILE IRON PIPE	N/A	NOT APPLICABLE	T	TELEPHONE
DW	DOMESTIC WATER	NG	NATURAL GROUND (EXISTING)	TC	TOP OF CURB
EL	ELEVATION	PC	POINT OF CURVATURE	TDUCT	TOP OF DUCT
EMH	ELECTRIC MANHOLE	PCC	POINT OF COMPOUND CURVATURE	TG	TOP OF GROUND
EP	EDGE OF PAVEMENT	PI	POINT OF INTERSECTION	TMH	TELEPHONE MANHOLE
EX	EXISTING	PIV	POST INDICATOR VALVE	TOB	TOP OF BANK
FC	FACE OF CURB	PL	PROPERTY LINE	TOS	TOE OF SLOPE
F-F	FACE TO FACE OF CURB	PP	POWER POLE	TP	TOP OF PAVEMENT
FFE	FINISHED FLOOR ELEVATION	PRC	POINT OF REVERSE CURVATURE	TRPIPE	TOP OF PIPE
FH	FIRE HYDRANT	PR	PROPOSED	TW	TOP OF WALL
FM	FIRE MAIN	PT	POINT OF TANGENCY	TYP	TYPICAL
FO	FIBER OPTICS	PVC	POLYVINYL CHLORIDE PIPE	UGE	UNDERGROUND ELECTRIC
FP	FINISHED PAD	PVMT	PAVEMENT	VCP	VITRIFIED CLAY PIPE
FPS	FEET PER SECOND	OCEW	ON CENTER EACH WAY	W	WATER
FL	FLOW LINE	OHE	OVERHEAD ELECTRIC	WV	WATER VALVE
FUT	FUTURE				
FW	FIRE WATER				

EXISTING	PROPOSED	FUTURE
PROPERTY LINE	--- --	N/A
BUILDING	□	□
FINISH FLOOR ELEVATION	FFE=650.00	N/A
SPOT ELEVATION	x 650.50	N/A
CURB	— — — — —	— — — — —
ASPHALT PAVEMENT	— — — — —	N/A
RIDGE LINE	N/A	RL
SWALE or VALLEY GUTTER	— — — — —	N/A
CONTOUR LINE	675 21"SD	674
STORM DRAIN	— — — — —	— — — — —
STORM DRAIN MANHOLE	□	□
CURB INLET	□	□
RECESSED CURB INLET	□	□
GRATE INLET	□	N/A
WATER LINE	8"W	8"W
FIRE HYDRANT	— — — — —	N/A
WATER VALVE	— — — — —	N/A
WATER METER BOX	□	N/A
IRRIGATION METER	N/A	□

L E G E N D

EXISTING	PROPOSED	FUTURE	EXISTING	PROPOSED	FUTURE
SANITARY SEWER LINE	8"SS	8"SS	ELECTRIC TRANSFORMER	⊡	⊡
SANITARY SEWER MANHOLE	SSMH	SSMH	GAS METER	⊞	⊞
CLEANOUT	CO	CO	GAS LINE	— G —	— G —
LIGHT POLE	☆	☆	AIR CONDITIONING UNIT	⊗	⊗
POWER POLE	⊕	⊕			
DOWN GUY	—	—			
SIGN	▲	▲			
ACCESSIBLE PARKING	♿	♿			
RETAINING WALL	— — — — —	— — — — —			
WOOD FENCE	— □ — □ —	— □ — □ —			
SCREEN WALL FENCE	— □ — □ —	— □ — □ —			
CHAIN LINK FENCE	— ○ — ○ —	— ○ — ○ —			
WIRE FENCE	— x — x —	— x — x —			
TREE	⊙	N/A			
OVERHEAD WRES	— OHW —	N/A			
OVERHEAD ELECTRIC LINE	— OHE —	— OHE —			
OVERHEAD TELEPHONE LINE	— OHT —	— OHT —			
UNDERGROUND ELECTRIC LINE	— UGE —	— UGE —			
UNDERGROUND TELEPHONE LINE	— UGT —	— UGT —			
UNDERGROUND CABLE LINE	— CATV —	— CATV —			
ELECTRIC METER	⊞	⊞			

NO.	REVISION	BY	DATE

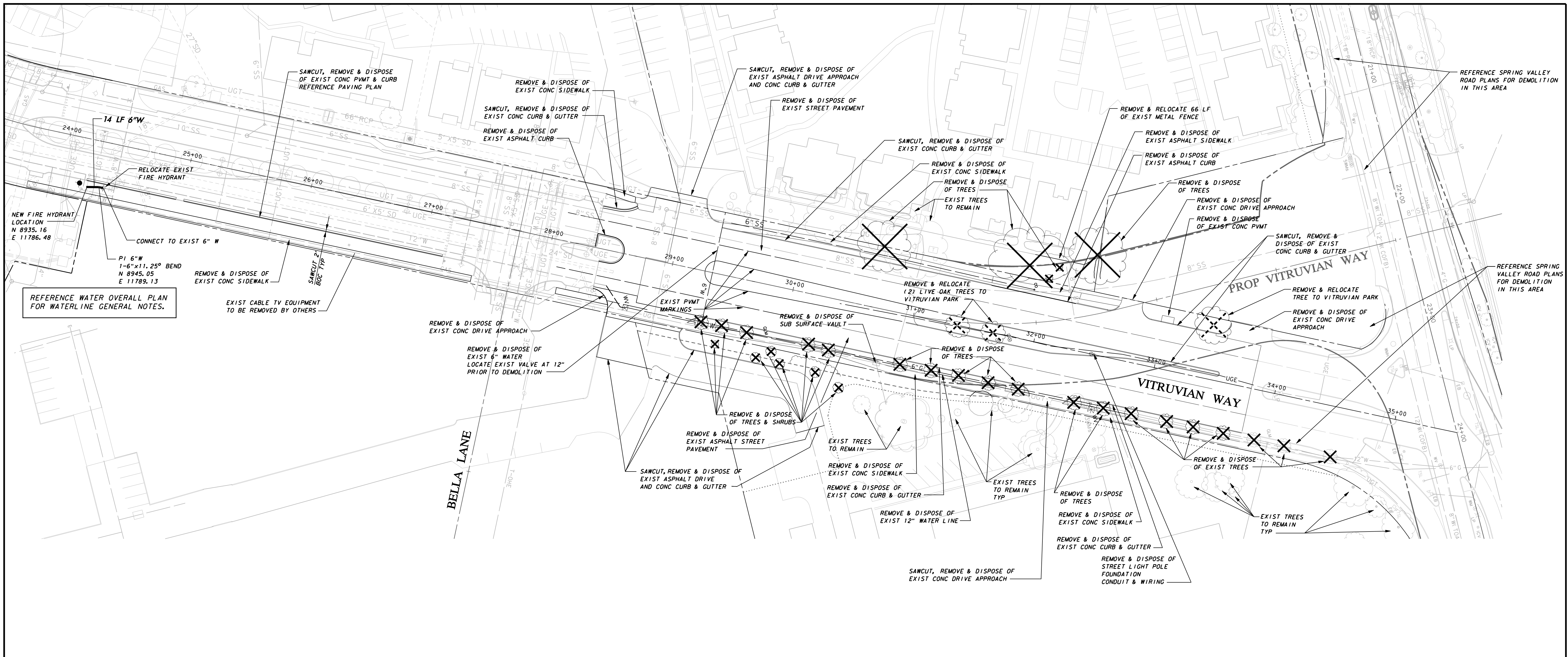
Addison! **TOWN OF ADDISON**
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION

GENERAL CONSTRUCTION NOTES, LEGEND & ABBREVIATIONS

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
Civil Engineers - Designers - Planners Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	2



REFERENCE WATER OVERALL PLAN FOR WATERLINE GENERAL NOTES.

REFERENCE SPRING VALLEY ROAD PLANS FOR DEMOLITION IN THIS AREA

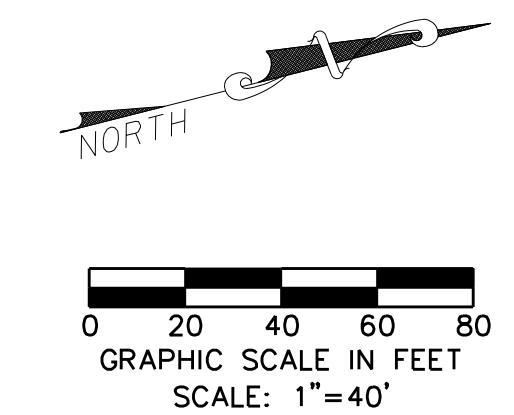
REFERENCE SPRING VALLEY ROAD PLANS FOR DEMOLITION IN THIS AREA

DEMOLITION NOTES:

1. **GENERAL CONSTRUCTION NOTES:** REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THE PROJECT.
2. **INGRESS AND EGRESS:** THE CONTRACTOR SHALL MAINTAIN INGRESS AND EGRESS TO THE SITE AND ADJACENT PROPERTIES AT ALL TIMES AND CONDUCT HIS OPERATIONS WITH MINIMUM INTERFERENCE TO PUBLIC OR PRIVATE ACCESSES.
3. **PROTECTION OF EXISTING FACILITIES:** CONTRACTOR SHALL PROVIDE, ERECT, AND MAINTAIN TEMPORARY BARRIERS, FENCING, BRACING AND SHORING, AND SECURITY DEVICES TO PROTECT EXISTING STRUCTURES, UTILITIES, APPURTENANCES, TREES AND LANDSCAPING, AND TO PREVENT MOVEMENT OR SETTLEMENT OF EXISTING STRUCTURES WHICH ARE NOT TO BE DEMOLISHED AND/OR REMOVED.
4. **STORAGE OF MATERIALS FOR RE-USE:** CONTRACTOR SHALL REMOVE AND STORE ON SITE (WHERE DESIGNATED BY THE DEVELOPER), ALL MATERIALS (SUCH AS ASPHALT AND CONCRETE PAVEMENT & SUITABLE EARTHEN MATERIAL) TO BE SALVAGED OR RE-INSTALLED LATER IN CONSTRUCTION.
5. **FRANCHISE UTILITY COORDINATION:** THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL FRANCHISE UTILITY COMPANIES FOR THE REMOVAL AND/OR RELOCATION OF THE RESPECTIVE UTILITY LINES AND APPARATUS USED BY EACH UTILITY. ALL WORK ASSOCIATED WITH FRANCHISE UTILITY REMOVAL RELOCATION AND/OR MODIFICATIONS ARE TO BE PERFORMED ONLY BY THAT UTILITY PROVIDER UNLESS SPECIFICALLY NOTED OTHERWISE.
6. **TREE REMOVAL:** THE TREES DESIGNATED TO BE REMOVED HAVE A LARGE "X" THROUGH THE TREE SYMBOL. STOCKPILING OF TREES AFTER CUTTING/REMOVAL IS NOT ALLOWED. CONTRACTOR SHALL DISPOSE OF TREE CARCASSES IMMEDIATELY AFTER THEY ARE TAKEN DOWN.
7. **SAWCUTTING OF EXISTING PAVEMENT:** SAWCUTTING, WHERE INDICATED ON THE DRAWINGS FOR REMOVAL OF EXISTING PAVEMENT, SHALL BE A FULL DEPTH CUT THAT IS NEAT AND TRUE IN ALIGNMENT.
8. **BACKFILLING:** THE CONTRACTOR SHALL BACKFILL ALL EXCAVATED AREAS CAUSED AS A RESULT OF DEMOLITION, AND PROVIDE POSITIVE DRAINAGE TO PREVENT PONDING OF WATER.
9. **REMOVAL OF MATERIALS FROM SITE:** ALL MATERIALS TO BE REMOVED FROM THE SITE INCLUDING BUT NOT LIMITED TO UNSUITABLE EARTHEN MATERIAL; UTILITY PIPING; FENCING; ROCK; TRASH; REFUSE AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE LEGALLY DISPOSED OF OUTSIDE THE LIMITS OF THE PROJECT AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL WITH ALL APPLICABLE LAWS GOVERNING SPILLAGE OF DEBRIS WHILE TRANSPORTING TO A DISPOSAL SITE.
10. **REPLACEMENT OF DAMAGED FACILITIES:** ALL STRUCTURES, UTILITIES, PAVEMENT, SIDEWALKS, WALLS, FENCES, ETC. NOT DESIGNATED TO BE REMOVED BUT THAT ARE DAMAGED DURING CONSTRUCTION ACTIVITIES SHALL BE REPLACED TO A CONDITION AS GOOD AS OR BETTER THAN THE CONDITIONS PRIOR TO STARTING THE WORK, SOLELY AT THE EXPENSE OF THE CONTRACTOR.
11. **ACCESS TO PROPERTIES:** STREET AND SIDEWALK ACCESS TO ADJUTING PROPERTIES DURING THE CONSTRUCTION OF THIS PROJECT MUST BE MAINTAINED FOR EMERGING OF LOCAL TRAFFIC.

WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.



BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

DEMOLITION PLAN - VW
STA. 28+35.15 TO STA. 34+38.55

icon Consulting Engineers, Inc.					
Civil Engineers - Designers - Planners			250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210		
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	3

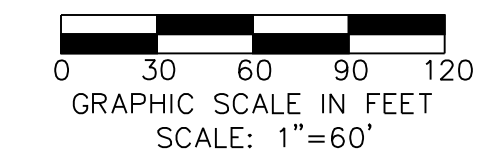
PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



SHEET 5

GRADING & PAVING GENERAL NOTES

1. REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THIS PROJECT.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD SPECIFICATIONS AS PUBLISHED BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, AND ANY AND ALL AMENDMENTS BY THE TOWN OF ADDISON, AS WELL AS STANDARD CONSTRUCTION DETAILS OF THE TOWN OF ADDISON.
3. PRIOR TO COMMENCING CONSTRUCTION, THE TOWN OF ADDISON, THE CONSULTING ENGINEERS, THE SUCCESSFUL CONTRACTOR, UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES SHALL CONVEY FOR A PRE-CONSTRUCTION CONFERENCE AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
4. THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE TOWN OF ADDISON PRIOR TO WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ANY PUBLIC UTILITY COMPANIES FOR LOCATION OF EXISTING FACILITIES IN OR NEAR THE WORK AREAS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - TOWN OF ADDISON (WATER, SEWER, SIGNALS) ATMOS ENERGY (GAS)
 - ONCOR ELECTRIC DELIVERY VERIZON / MCI
 - AT&T (SOUTH-THERN BELL) TIME-WARNER CABLE
6. THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER (SIX SETS EACH), FOR APPROVAL OF ALL MATERIALS TO BE ADDED TO THE PUBLIC INFRASTRUCTURE, PRIOR TO INCORPORATING MATERIALS INTO THE JOB.
7. THE CONTRACTOR SHALL EXECUTE AN "EXCAVATION PERFORMANCE AND MAINTENANCE BOND" PRIOR TO WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
8. THE CONTRACTOR SHALL PROVIDE A MAINTENANCE BOND FOR PUBLIC INFRASTRUCTURE WORK IN THE FOLLOWING AMOUNTS:
 - 100% FOR VALUATIONS LESS THAN OR EQUAL TO \$5,000
 - \$5,000 FOR VALUATION GREATER THAN \$5,000, AND LESS THAN \$50,000
 - 10% FOR VALUATIONS GREATER THAN \$50,000
 BONDS SHALL BE FOR A PERIOD OF TWO YEARS BEGINNING WITH THE DATE OF FINAL ACCEPTANCE BY THE TOWN.
9. THE CONTRACTOR SHALL FULLY COMPLY WITH, AND SUPPLEMENT AS NECESSARY, THE CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN WHILE CONDUCTING HIS ACTIVITIES ON THIS PROJECT.
10. THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT WILL APPROVE AND/OR DETERMINE THE TRAFFIC CONTROL PLAN AND WORKING HOURS. CONTACT THE ASSISTANT CITY ENGINEER AT (972) 450-2877 OR THE PUBLIC WORKS INSPECTOR AT (972) 450-2871. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, AND SUPPLEMENT AS NECESSARY, THE TRAFFIC CONTROL MEASURES ON THIS PROJECT, INCLUDING PROVIDING ADEQUATE FLAGMEN, SIGMA, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE AN ALL-WEATHER DETOUR AROUND THE CONSTRUCTION SITE, INCLUDING PUBLIC NOTIFICATION AND SIGNING.
11. TEMPORARY OR PERMANENT BARRICADES SHALL REMAIN AT ALL POINTS OF INGRESS OR EGRESS TO PREVENT PUBLIC USE UNTIL THE WORK RECEIVES FINAL ACCEPTANCE.
12. THE TOWN OF ADDISON WILL PROVIDE A GEOTECHNICAL LABORATORY TO PERFORM APPROPRIATE TESTING DURING CONSTRUCTION ACTIVITIES. ALL EARTHWORK OPERATIONS SHALL BE OBSERVED AND TESTED ON A CONTINUING BASIS BY THE GEOTECHNICAL ENGINEER FOR CONFORMANCE WITH THE REQUIREMENTS SET FORTH IN THE GEOTECHNICAL STUDY WHICH IS MADE A PART OF THESE CONSTRUCTION DOCUMENTS. ANY TEST THAT FAILS TO MEET CITY REQUIREMENTS SHALL BE RETESTED AT THE CONTRACTOR'S EXPENSE.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION INCLUDING PROVIDING ALL TEMPORARY STRUCTURES OR IMPROVEMENTS AS NECESSARY FOR THE SAFETY OF THE PUBLIC.
14. ANY ADJACENT PROPERTIES AFFECTED BY THE CONTRACTOR'S CONSTRUCTION OPERATIONS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.
15. AREAS TO BE PAVED AND ALL AREAS THAT ARE TO RECEIVE FILL MATERIAL SHALL BE STRIPPED OF VEGETATION, TREES, ROOTS, STUMPS, DEBRIS, AND OTHER ORGANIC MATERIAL. THE DEPTH OF STRIPPING IS ESTIMATED TO BE ON THE ORDER OF FOUR (4) INCHES IN ORDER TO REMOVE THE SURFACE SOIL CONTAINING DRUGS. THE ACTUAL STRIPPING DEPTH SHALL BE BASED ON FIELD OBSERVATIONS. STRIPPED TOPSOIL SHALL BE STOCKPILED IN A LOCATION ON-SITE APPROVED BY THE ENGINEER. ALL TREES, INCLUDING STUMPS AND ROOT SYSTEMS, VEGETATION OR OTHER OBJECTIONABLE MATERIAL SHALL BE REMOVED AND DISPOSED OFF-SITE. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS GOVERNING SPILLAGE OF DEBRIS WHILE TRANSPORTING TO A DISPOSAL SITE. ALL COSTS ASSOCIATED WITH DISPOSAL OF MATERIAL SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
16. BURNING SHALL NOT BE PERMITTED ON THE PROJECT SITE UNLESS APPROVED IN WRITING BY THE GOVERNING AUTHORITIES.
17. UPON COMPLETION OF STRIPPING OPERATIONS, AND PRIOR TO PLACEMENT OF ANY FILL MATERIALS, THE STRIPPED AREAS SHOULD BE OBSERVED TO DETERMINE IF ADDITIONAL EXCAVATION IS REQUIRED TO REMOVE WEAK OR OTHERWISE OBJECTIONABLE MATERIALS THAT WOULD ADVERSELY AFFECT THE FILL PLACEMENT. THE SUBGRADE SHOULD BE FIRM AND ABLE TO SUPPORT CONSTRUCTION EQUIPMENT WITHOUT DISPLACEMENT. SOFT OR YIELDING SUBGRADE SHOULD BE CORRECTED AND MADE STABLE BEFORE CONSTRUCTION PROCEEDS. PROOF ROLLING SHOULD BE PERFORMED USING A HEAVY PNEUMATIC TIRE ROLLER, LOADED DUMP TRUCK, OR SIMILAR PIECE OF EQUIPMENT WEIGHING 25 TONS. THE PROOF ROLLING OPERATIONS SHOULD BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE.
18. WHEN CLAY OR OTHER UNSTABLE MATERIAL IS PRESENT IN AREAS OF PROPOSED PAVED AREAS, THE GEOTECHNICAL ENGINEER SHALL OBSERVE THE STABILITY OF ANY EXISTING CLAY OR WEATHERED MATERIAL THAT IS PRESENT IN THE SUBBASE, AND SHALL DETERMINE WHETHER ADDITIONAL EXCAVATION OF THESE MATERIALS WILL BE REQUIRED. IF THIS MATERIAL IS DEEMED SUITABLE FOR SUBBASE MATERIAL, THE SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF SIX (6) INCHES, ITS MOISTURE CONTENT ADJUSTED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER, AND THEN RE-COMPACTED TO BETWEEN NINETY-FIVE (95) PERCENT TO ONE HUNDRED (100) PERCENT OF THE OPTIMUM DENSITY DETERMINED BY THE STANDARD PROCTOR TEST, ASTM D-698 PRIOR TO PLACEMENT OF FILL MATERIALS.
19. ALL SOILS USED FOR CONTROLLED FILL SHOULD BE FREE OF ROOTS, VEGETATION, AND OTHER DELETERIOUS OR UNDESIRABLE MATTER. ROCKS LESS THAN 3 INCHES IN LARGEST DIMENSION WILL BE ALLOWED AS ACCEPTABLE FILL MATERIAL. SOILS IMPORTED FROM OFF-SITE FOR USE AS FILL SHOULD BE APPROVED BY THE GEOTECHNICAL ENGINEER. THE FILL MATERIAL SHOULD BE PLACED IN LEVEL, UNIFORM LIFTS, WITH EACH LIFT COMPACTED TO THE MINIMUM DRY DENSITY WITHIN THE COMPACTION SOIL MOISTURE RANGES RECOMMENDED. THE LOOSE LIFT THICKNESS SHOULD NOT EXCEED 10 INCHES. EACH LAYER SHOULD BE PROPERLY PLACED, MIXED, SPREAD, AND COMPACTED TO BETWEEN NINETY-FIVE (95) AND ONE HUNDRED (100) PERCENT OF STANDARD PROCTOR DENSITY AT 0% TO 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698.
20. THE PROPOSED CONTOURS INDICATED ON THE GRADING PLAN ARE FINISHED GRADES AND ARE SHOWN AT ONE-FOOT INTERVALS. SPOT ELEVATIONS SHOWN IN PAVED AREAS ARE TOP OF PAVEMENT, UNLESS NOTED OTHERWISE.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MASS GRADING OF THE SITE TO THE FOLLOWING ELEVATIONS:
 - 8" BELOW FINISHED GRADE FOR ALL STREET PAVEMENT AREAS.
 - 4" BELOW FINISHED GRADE FOR ALL SIDEWALK PAVEMENT AREAS.
 - 6" BELOW FINISHED GRADE FOR ALL LANDSCAPE AREAS.
 A TOLERANCE OF +/- 0.10 FEET OF THE FINISHED GRADE WILL BE ALLOWED FOR ALL AREAS UNDER PROPOSED PAVEMENT. ALL LANDSCAPE AREAS ARE TO BE GRADED WITHIN +/- 0.30 FEET OF THE FINISHED GRADE.
22. ALL LANDSCAPE AREAS AND OTHER DISTURBED AREAS WITHIN THE LIMITS OF THE PROPERTY NOT DESIGNATED TO BE PAVED SHALL RECEIVE SIX (6) INCHES OF TOPSOIL. REFER TO THE EROSION AND SEDIMENT CONTROL PLANS AND/OR LANDSCAPE PLANS FOR LIMITS OF TOPSOIL PLACEMENT.
23. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATING THE EARTHWORK QUANTITIES BASED ON THE EXISTING AND PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN ON THESE PLANS. ALL EARTHWORK SHALL BE CONSIDERED UNCLASSIFIED EXCAVATION AND BID ON A LUMP SUM BASIS, UNLESS NOTED OTHERWISE.
24. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE SUPPORT AND PROTECTION OF ALL UTILITY POLES, FENCES, TREES, SHRUBS, UTILITY SERVICES, BUILDING FOUNDATIONS, AND ALL OTHER UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW THE GROUND, THE COST OF WHICH SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
25. THE CONTRACTOR SHALL VERIFY THE ELEVATION, CONFIGURATION, AND ANGLING OF EXISTING PAVEMENT PRIOR TO CONSTRUCTION OF THE IN MATERIALS. WHERE PROPOSED CONCRETE PAVEMENT TO EXISTING CONCRETE PAVEMENT IS TO BE CONSTRUCTED BY THE CONTRACTOR, AT LEAST 15' OF REINFORCING STEEL SHALL BE EXPOSED FROM THE EXISTING PAVEMENT, OR THE CONTRACTOR SHALL PROVIDE HORIZONTAL DOWEL BARS PER THE DETAIL.
26. NO PERSON SHALL OPEN, TURN OFF, INTERFERE WITH, ATTACH ANY HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE TOWN OF ADDISON UNLESS DULY AUTHORIZED TO DO SO BY THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT (972-450-2871).
27. ALL EXISTING AND PROPOSED IMPROVEMENTS (MANHOLE RIMS, CLEAN-OUTS, FIRE HYDRANTS, VALVE BOXES, WATER METERS AND VAULTS, ETC.) SHALL BE ADJUSTED TO FINAL FINISHED GRADE BY THE CONTRACTOR AT THE TIME OF PAVING.
28. PREPARATION OF SUBGRADE UNDER PAVED AREAS SHALL BE PERFORMED IN ACCORDANCE WITH THE TOWN OF ADDISON SPECIFICATIONS OR THE GEOTECHNICAL REPORT. THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY. PREPARATION OF THE SUBGRADE FOR PAVING WITHIN RIGHT-OF-WAY, STREET USE EASEMENTS AND/OR FIRE LANES SHALL NOT BE LIMITED UNTIL ALL TESTING OF UNDERGROUND UTILITIES HAS BEEN COMPLETED AND VERIFIED TO MEET THE SPECIFICATIONS AND AUTHORIZATION TO PROCEED HAS BEEN RECEIVED FROM THE INSPECTOR.
29. ALL FILL UNDER PAVEMENT AREAS SHALL BE COMPACTED TO A DENSITY OF AT LEAST NINETY-FIVE (95) PERCENT STANDARD PROCTOR AS PER ASTM D698 AT OR ABOVE OPTIMUM MOISTURE CONTENT (+/-3%) LIFTS SHALL BE AS SPECIFIED IN THE GEOTECHNICAL REPORT AND AS APPROVED BY THE TOWN OF ADDISON. ALL FILL MATERIAL SHALL BE TESTED AS INSTALLED AND CERTIFIED BY AN APPROVED SOILS LABORATORY.
30. THE SUBGRADE SHALL BE PROOF-ROLLED WITH HEAVY PNEUMATIC EQUIPMENT. ANY SOFT OR PUMPING AREAS SHALL BE EXCAVATED TO FIRM SUBGRADE AND BACKFILLED AND RE-COMPACTED IN CONFORMANCE WITH THE GEOTECHNICAL REPORT. PAVEMENT SUBGRADE SHOULD NOT BE ALLOWED TO RETAIN WATER. WET MATERIAL SHALL BE REMOVED TO DRY, SOUND MATERIAL AND APPROPRIATE DENSITY ACHIEVED PRIOR TO PAVING OPERATIONS.
31. CONCRETE SHOULD BE PORTLAND CEMENT CONCRETE, CONFORMING TO THE REQUIREMENTS OF TxDOT ITEM 421, PORTLAND CEMENT CONCRETE CLASS "P".
32. HYDRATED LIME (IF REQUIRED) SHALL MEET THE REQUIREMENTS OF TxDOT ITEM 260. LIME TREATMENT USED AS SUBGRADE LIME SHALL BE APPLIED AT THE RATE AND THICKNESS AS RECOMMENDED IN THE GEOTECHNICAL REPORT. THOROUGHLY MIXED AND BLENDED WITH THE SUBGRADE AND UNIFORMLY COMPACTED TO A MINIMUM OF 100 PERCENT OF STANDARD PROCTOR (ASTM D698) DETERMINED BY THAT TEST. LIME STABILIZATION SHALL EXTEND ONE (1) FOOT OUTSIDE THE LIMITS OF THE PAVED AREA. IT SHOULD BE PROTECTED AND MAINTAINED IN A MOIST CONDITION UNTIL THE PAVEMENT IS PLACED.
33. THE CONTRACTOR SHALL SCHEDULE AND COORDINATE HIS WORK WITH TRENCHING OPERATIONS FOR OTHER UTILITIES INCLUDING GAS, TELEPHONE, AND ELECTRIC SERVICES, LANDSCAPE IRRIGATION CONDUITS, LIGHTING CONDUITS, STREETScape IMPROVEMENTS, ETC. AND SHALL PROVIDE BLOCKOUTS AND/OR FINAL ADJUSTMENT TO FINISH GRADE FOR ALL IMPROVEMENTS, EXISTING AND PROPOSED, WITHIN THE LIMITS OF THE PAVING WORK.
34. ALL CURB SHOWN IS TO BE SIX (6) INCHES HIGH.
35. EXPANSION JOINT MATERIAL SHALL EXTEND COMPLETELY THROUGH THE CURB.
36. ALL REINFORCING BARS SHALL BE GRADE 40 KSI DEFORMED REINFORCING STEEL. SIZE AND SPACING SHALL BE IN ACCORDANCE WITH THE DETAILS. WHERE BARS ARE SPLICED, A 30" DIAMETER LAP SHALL BE USED.
37. ALL REINFORCING STEEL AND DOWEL BARS IN PAVEMENT SHALL BE SUPPORTED AND MAINTAINED AT THE CORRECT CLEARANCES BY THE USE OF BAR CHAIRS OR OTHER APPROVED SUPPORTS.
38. THE CONTRACTOR SHALL PROCEED WITH PAVING NO MORE THAN SEVENTY-TWO (72) HOURS WITHIN MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY THE TESTING FIRM. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE CITY. IN THE EVENT PAVING OPERATIONS HAVE NOT COMMENCED WITHIN THE SEVENTY-TWO (72) HOUR LIMIT, A RETEST SHALL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.
39. CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT AND FALLING, BUT MAY BE PLACED WHEN THE TEMPERATURE IS ABOVE 38 DEGREES AND RISING. THE TEMPERATURE READING SHALL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT.
40. CONSTRUCTION OF SIDEWALKS, WHEELCHAIR RAMPS AND ACCESSIBLE ROUTES SHALL BE IN ACCORDANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND/OR THE AMERICANS DISABILITY ACT (ADA). ALL CONCRETE FOR HANDICAP RAMPS SHALL HAVE TRUNCATED DOMES.
41. PAVEMENT MARKINGS SHALL BE PROVIDED IN ACCORDANCE WITH THE TEXAS UNIFORM TRAFFIC MANUAL FOR PAVEMENT MARKING. FIRE LANES SHALL BE STRIPED IN ACCORDANCE WITH THE TOWN OF ADDISON'S REQUIREMENTS. ALL HANDICAP SYMBOLS, SIGNAGE AND PAVEMENT MARKINGS SHALL COMPLY WITH TAS AND/OR ADA STANDARDS.
42. MEMBRANE CURING TYPE 2, WHITE PIGMENTED, SHALL BE USED FOR CURING ALL CONCRETE SURFACES IMMEDIATELY AFTER FINISHING OF SURFACES AND SHALL BE IN ACCORDANCE WITH THE TxDOT ITEM 268.
43. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO ALL EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.
44. THE CONTRACTOR SHALL PROVIDE PAVEMENT JOINTING IN ACCORDANCE WITH THE FOLLOWING REQUIREMENTS:
 - A. SAW CUTTING SHALL BE DONE WITHIN EIGHT (8) HOURS OF POUR OR AS SOON AS CONCRETE CAN SUPPORT WEIGHT. PROVIDE A NEAT CUT WHICH IS TRUE IN ALIGNMENT.
 - B. CONTRACTOR SHALL MARK JOINT LOCATIONS AT THE CENTERLINE OF DOWEL LENGTH DURING HIS PAVING OPERATIONS.
 - C. ALL JOINTS ARE TO CONTINUE THROUGH THE CURB.
 - D. RADIAL JOINTS SHALL BE NO SHORTER THAN EIGHTEEN (18) INCHES.
 - E. ALL CONSTRUCTION JOINTS SHALL BE SAWN, CLEANED OF DEBRIS, BLOWN DRY AND IMMEDIATELY SEALED.
 - F. ODD SHAPED PANELS SHALL BE REINFORCED WITH #3 BARS AT 18" EACH WAY. AN ODD SHAPED PANEL IS CONSIDERED TO BE ONE IN WHICH THE SLAB TAPER TO A SHARP ANGLE WHEN THE LENGTH TO WIDTH RATIO EXCEEDS 3 TO 1 OR WHEN A SLAB IS NEITHER SQUARE NOR RECTANGULAR.
 - G. THE CONTRACTOR SHALL SUBMIT HIS DESIRED JOINT LAYOUT PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO BEGINNING WORK.
45. THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ANY AND ALL REQUIRED TESTS TO THE TOWN OF ADDISON.
46. THE CONTRACTOR SHALL CALL (972) 450-2847 TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE PUBLIC INFRASTRUCTURE WORK.



NO.	REVISION	BY	DATE

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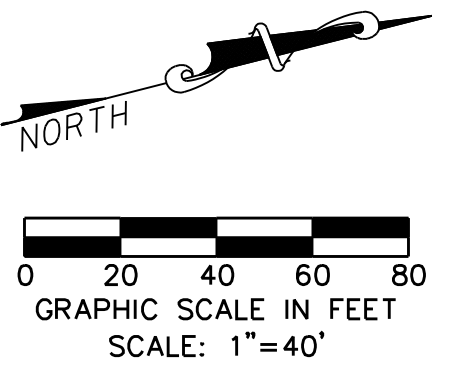
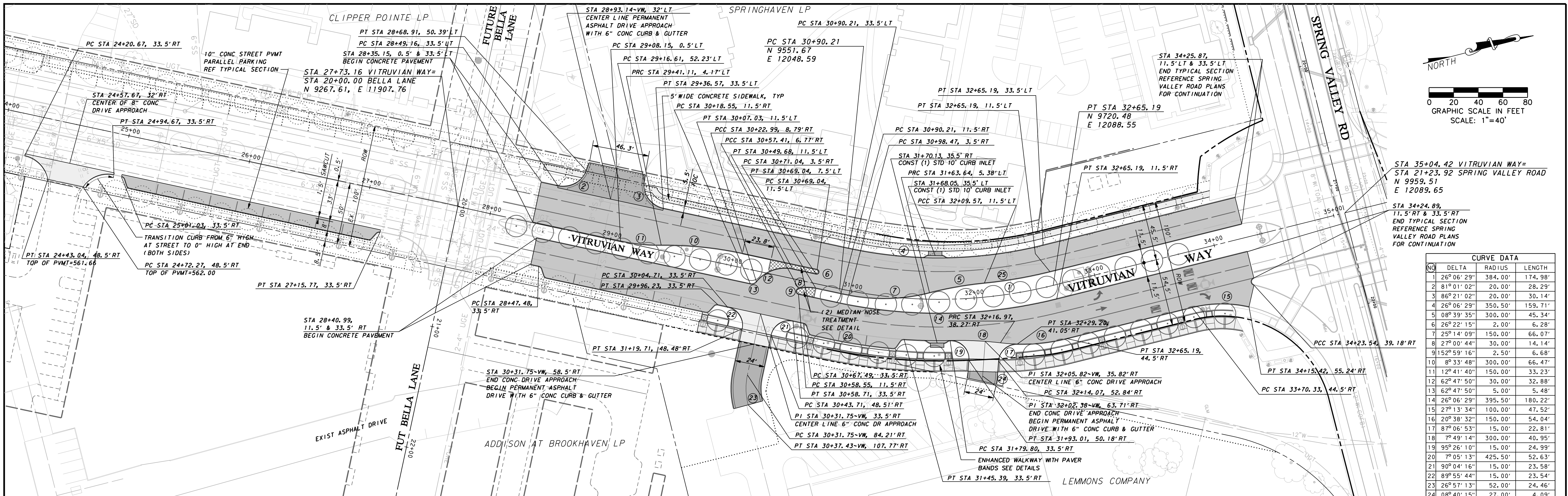
**PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION**

OVERALL PAVING PLAN & NOTES

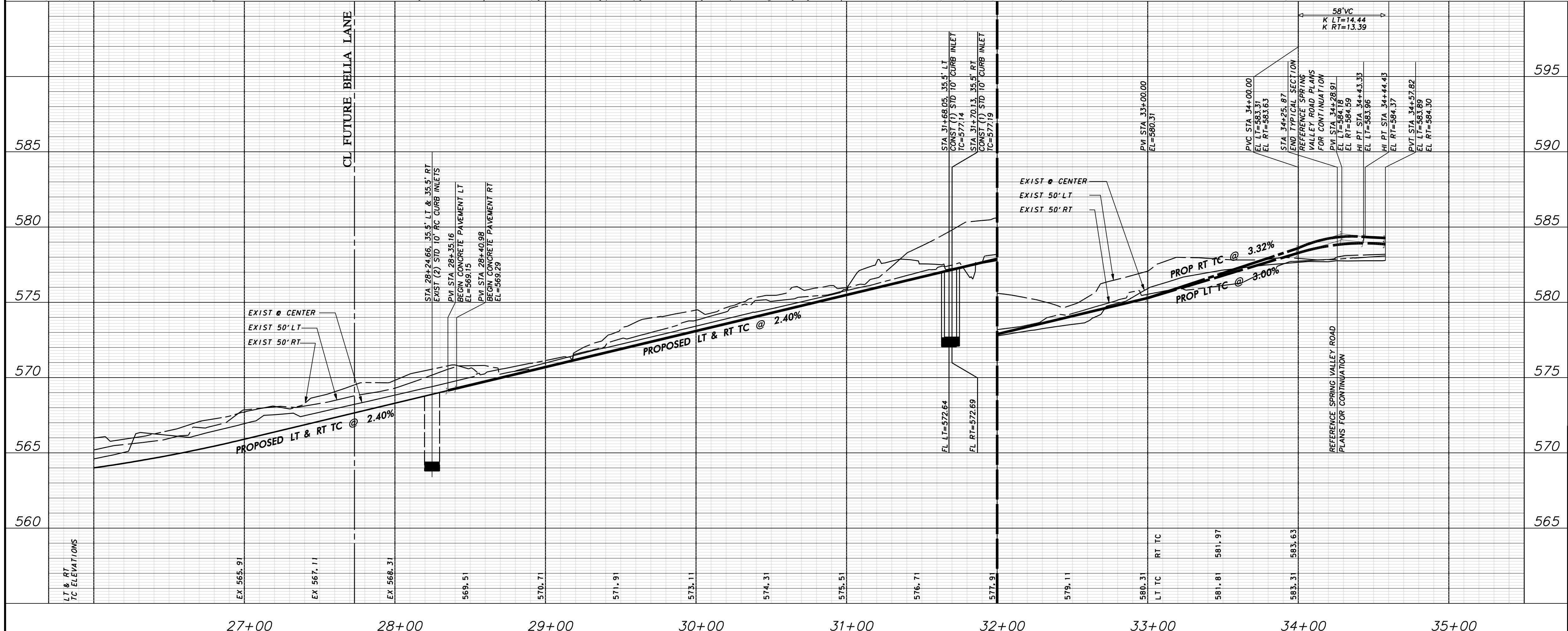
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



CURVE DATA			
NO.	DELTA	RADIUS	LENGTH
1	26°06'29"	384.00'	174.98'
2	81°01'02"	20.00'	28.29'
3	86°21'02"	20.00'	30.14'
4	26°06'29"	350.50'	159.71'
5	08°39'35"	300.00'	45.34'
6	26°22'15"	2.00'	6.28'
7	25°14'09"	150.00'	66.07'
8	2°00'44"	30.00'	14.14'
9	15°25'59"16"	2.50'	6.68'
10	8°33'48"	300.00'	66.47'
11	12°41'40"	150.00'	33.23'
12	62°47'50"	30.00'	32.88'
13	62°47'50"	5.00'	5.48'
14	26°06'29"	395.50'	180.22'
15	2°13'34"	100.00'	47.52'
16	20°38'32"	150.00'	54.04'
17	8°06'53"	15.00'	22.81'
18	7°49'14"	300.00'	40.95'
19	95°26'10"	15.00'	24.99'
20	7°05'13"	425.50'	52.63'
21	90°04'16"	15.00'	23.58'
22	89°55'44"	15.00'	23.54'
23	26°57'13"	52.00'	24.46'
24	08°40'15"	27.00'	4.09'
25	08°17'59"	372.50'	53.96'



WARNING
 CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
 112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

PROFILE SCALE:
 0 20 40 60 80
 SCALE: 1"=40' HORIZ

0 2 4 6 8
 SCALE: 1"=4' VERT



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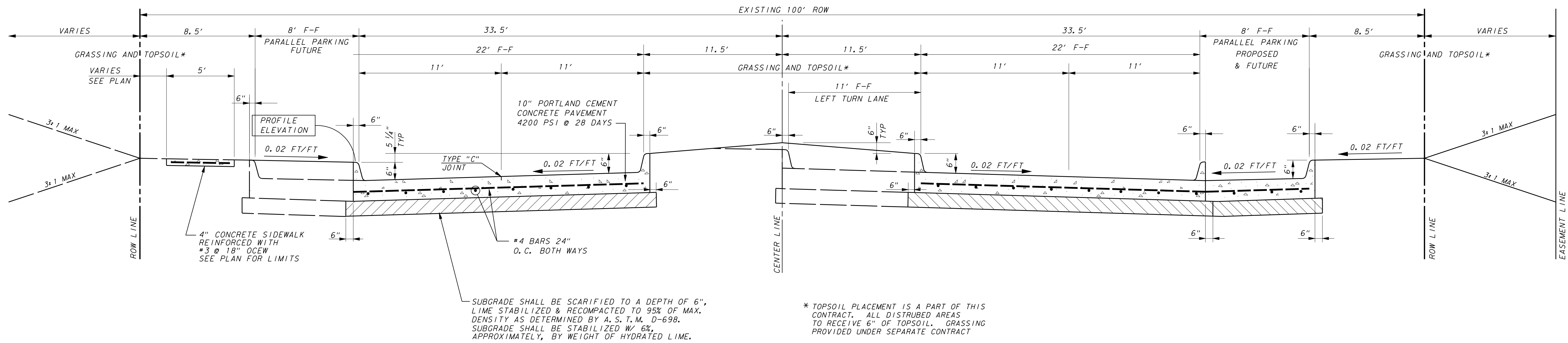
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PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

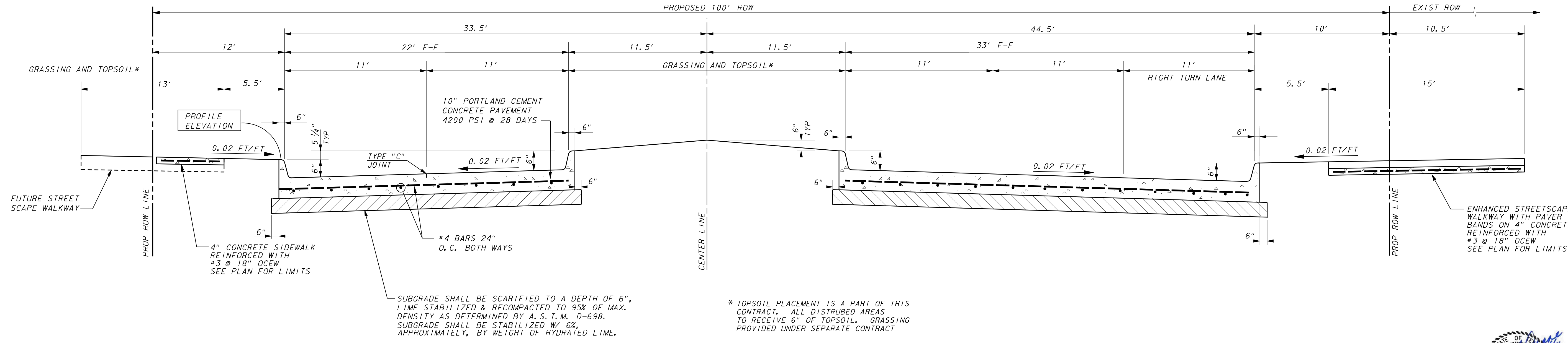
PAVING PLAN & PROFILE - VW
 STA. 28+35.15 TO 34+25.87

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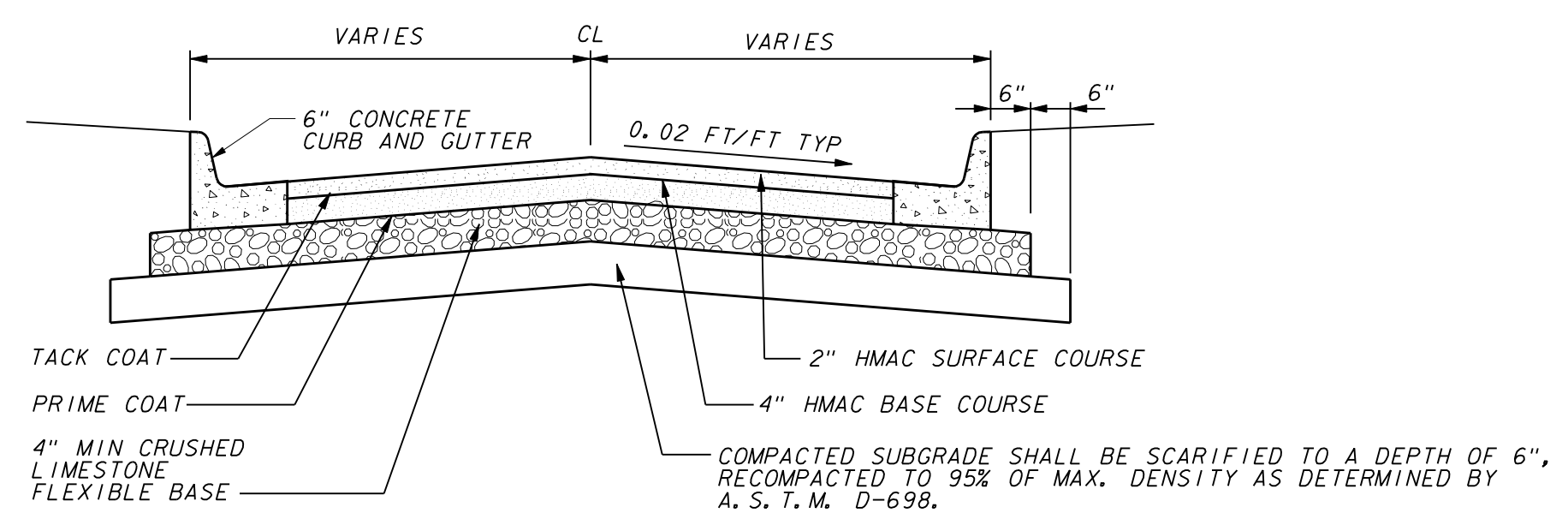
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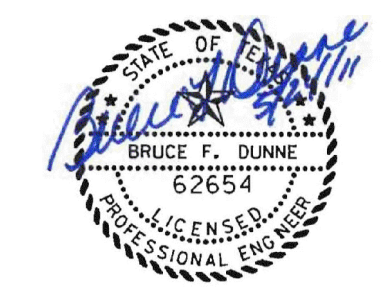
TYPICAL SECTION - VITRUVIAN WAY
STA 28+35.15 TO 30+90.21
 NOT TO SCALE



TYPICAL SECTION - VITRUVIAN WAY
STA 32+65.01 TO 34+25.87
 NOT TO SCALE

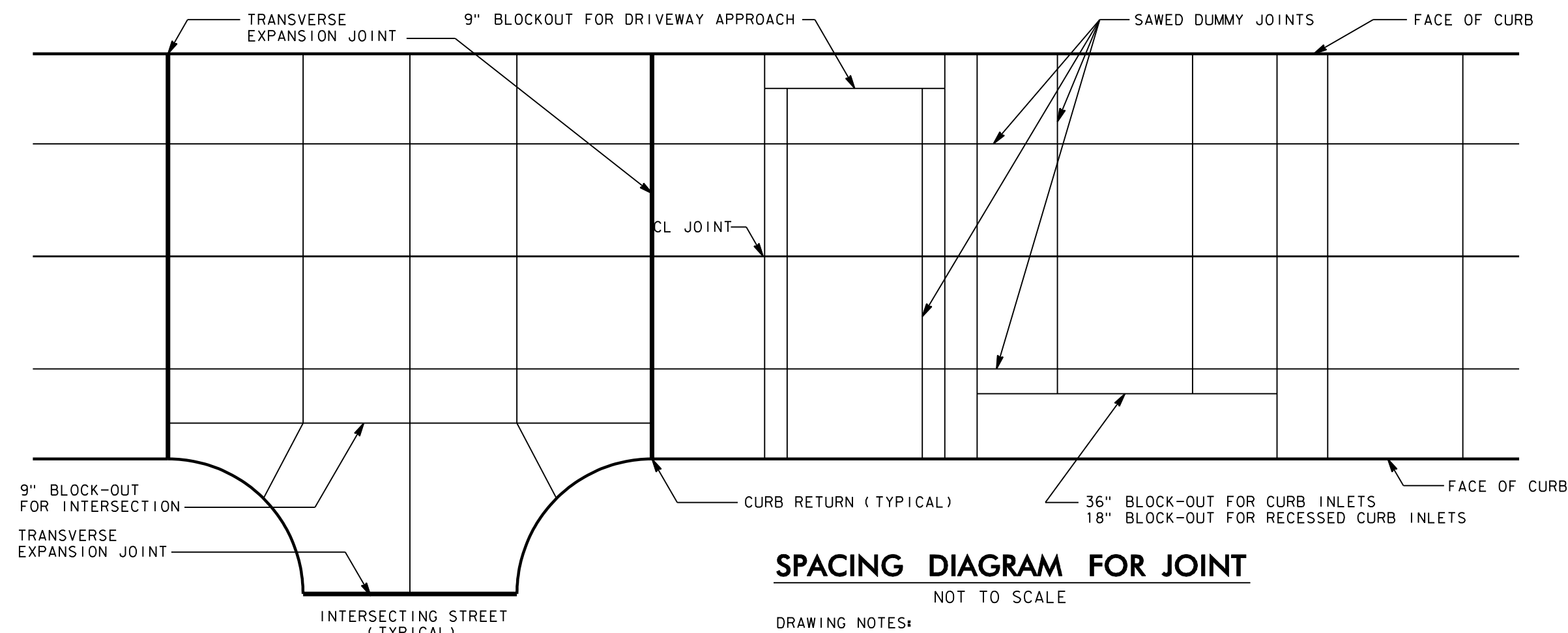


TYPICAL SECTION FOR PERMANENT ASPHALT PAVEMENT
 NOT TO SCALE



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PAVEMENT SECTIONS - VW			
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



SPACING DIAGRAM FOR JOINT
NOT TO SCALE

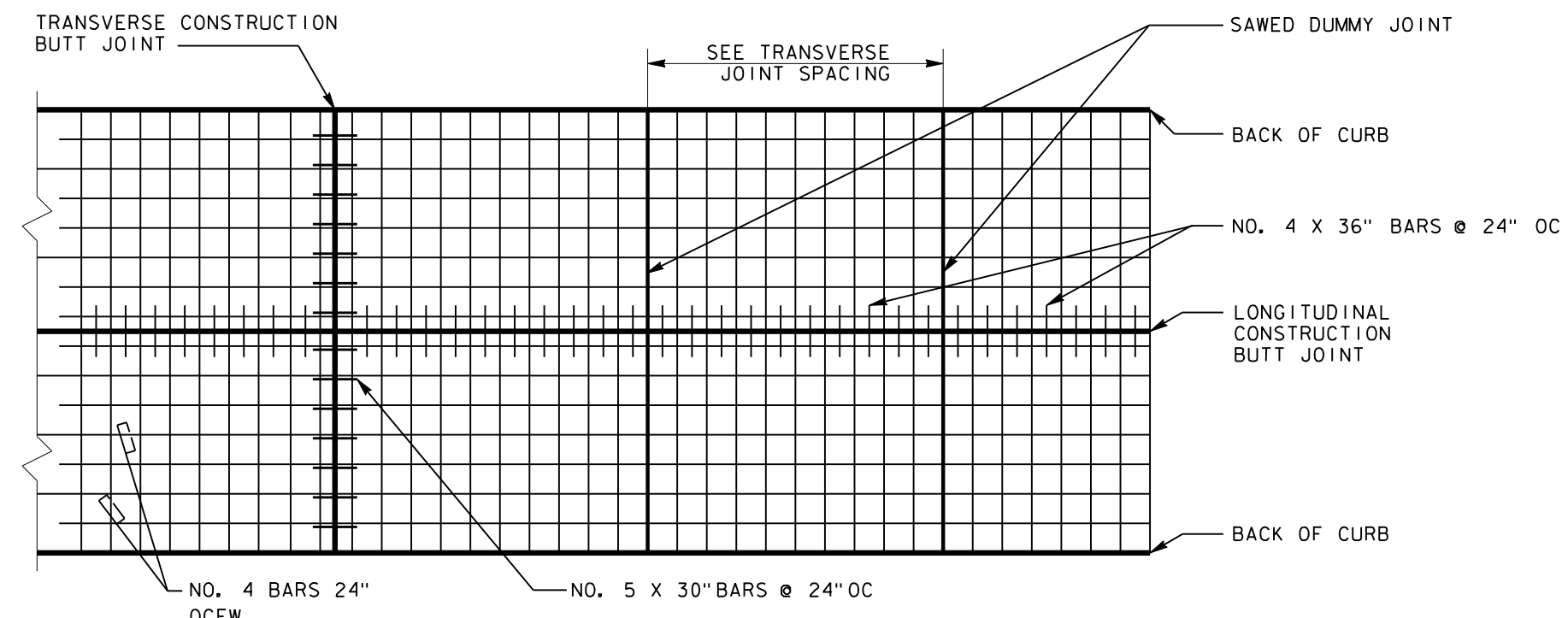
- DRAWING NOTES:
1. ALL BLOCK-OUTS ARE 9" EXCEPT FOR INLETS.
 2. END OF EACH BLOCK-OUT TO HAVE TRANSVERSE JOINT.

TRANSVERSE JOINT SPACING	
PAVEMENT THICKNESS	SPACING
T = 5"	10 FEET
T = 6"	12 FEET
T = 7"	14 FEET
T = 8" OR 10"	16 FEET

LONGITUDINAL JOINT SPACING	
STREET WIDTH	SPACING
22' TO 30'	ON CL
36' & 40'	ON CL & 8' FROM BACK OF CURB
38'	6' LT & RT OFF CL
44'	ON CL AND 11' OFF CL
48'	ON CL AND 12' OFF CL
60'	6' AND 18' OFF CL
76'	8', 20' AND 32' OFF CL

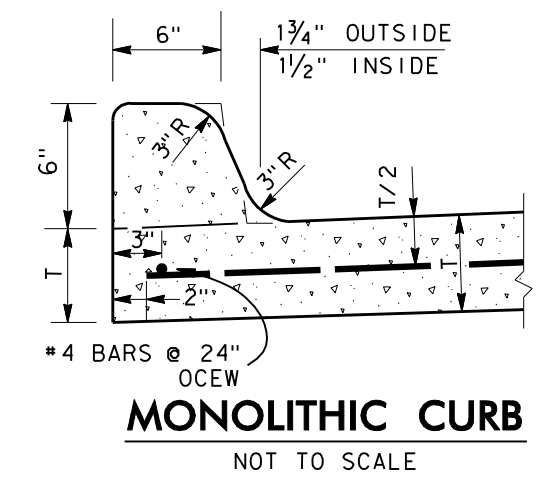
JOINT DEPTH	
PAVEMENT THICKNESS	JOINT DEPTH
T = 5"	1 1/4"
T = 6"	1 1/2"
T = 7"	1 3/4"
T = 8" OR 10"	2"

TRANSVERSE EXPANSION JT SPACING	
VARIES (200' C-C MAXIMUM)	

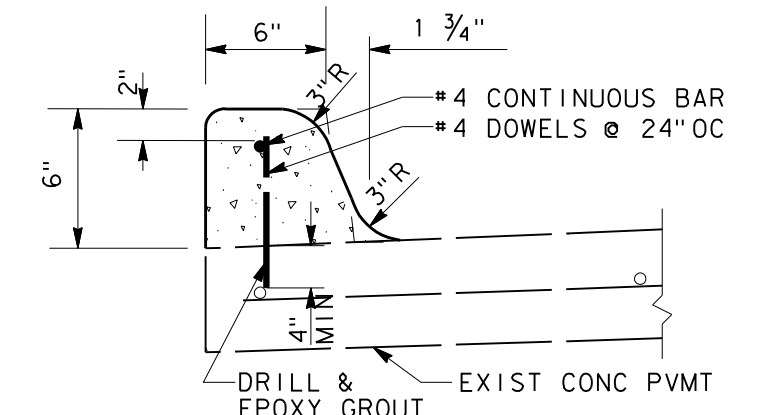


PLAN OF STEEL LAYOUT
NOT TO SCALE

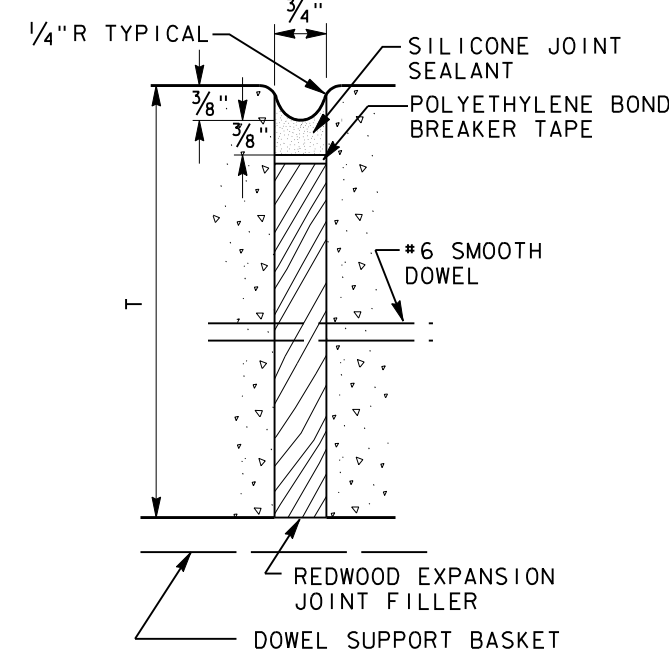
- DRAWING NOTES:
1. THE REINFORCING STEEL WILL EXTEND THROUGH LONGITUDINAL CONSTRUCTION BUTT, SAWED DUMMY, AND TRANSVERSE CONSTRUCTION BUTT JOINTS.



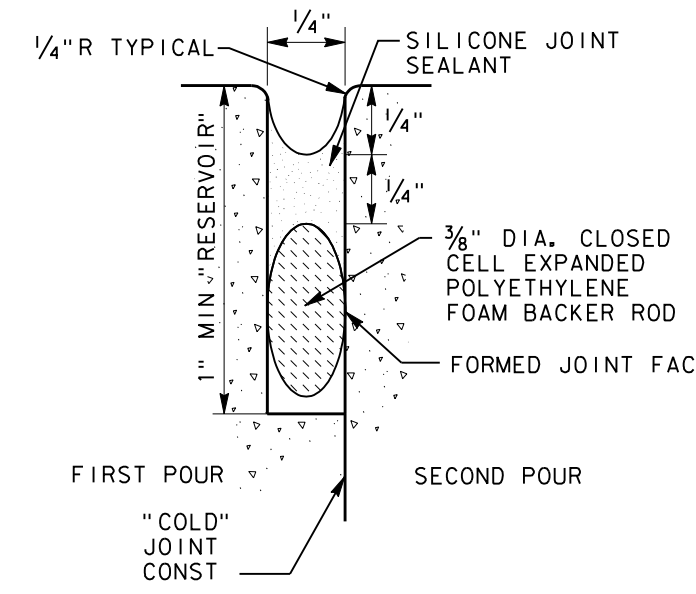
MONOLITHIC CURB
NOT TO SCALE



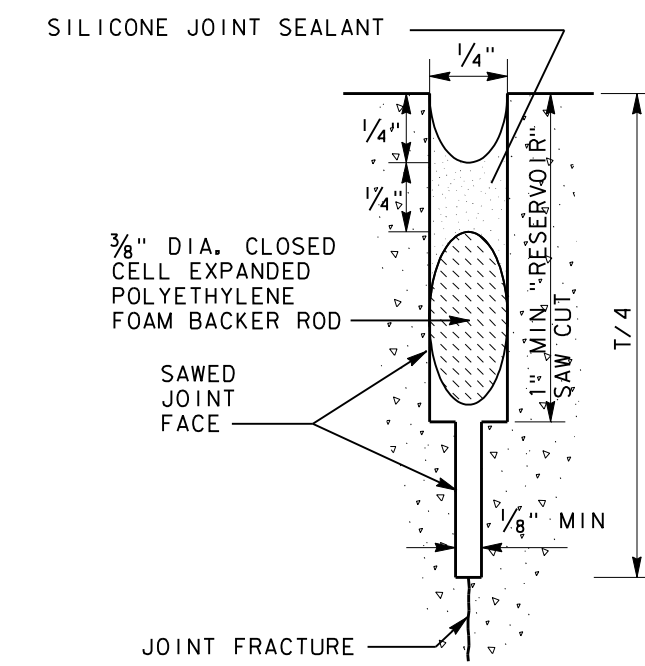
ATTACHED CURB
NOT TO SCALE



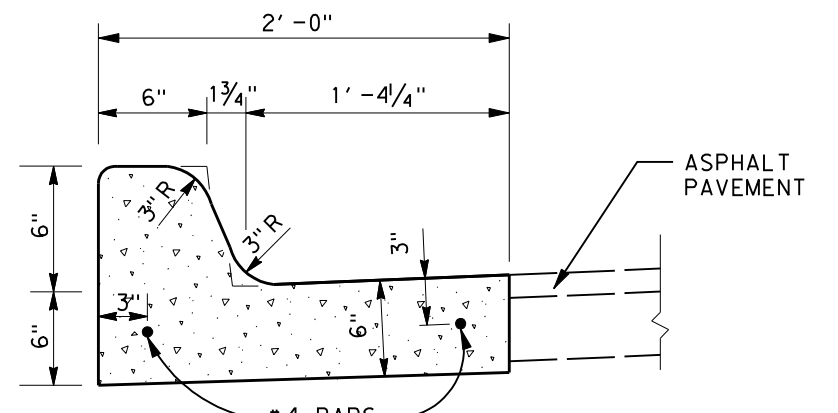
**JOINT DETAIL A
SEAL FOR TRANSVERSE
EXPANSION JOINT**
NOT TO SCALE



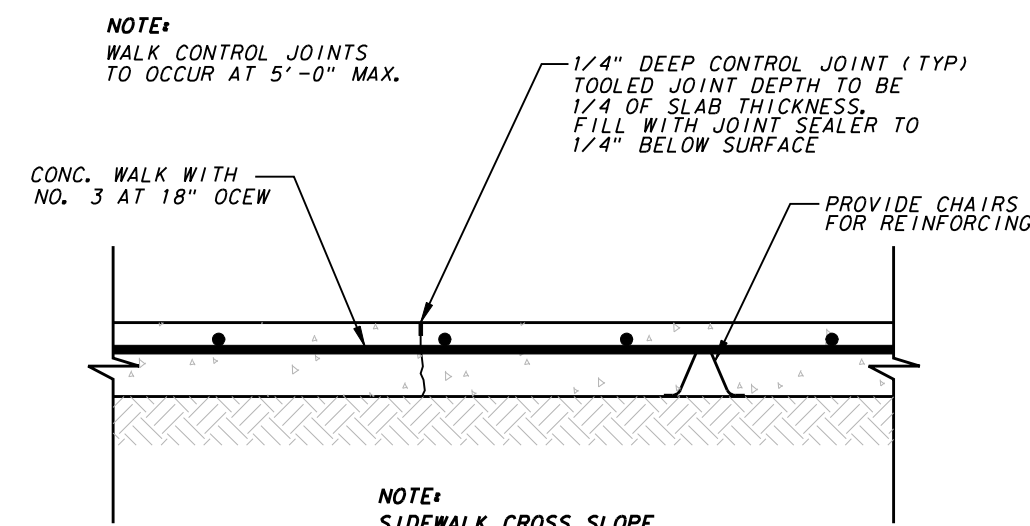
**JOINT DETAIL B
SEAL FOR LONGITUDINAL
AND TRANSVERSE
CONSTRUCTION BUTT JOINT**
NOT TO SCALE



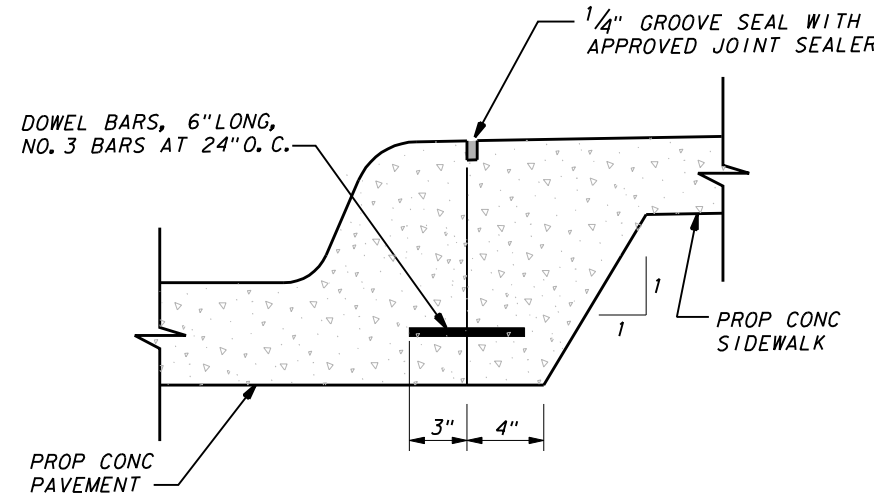
**JOINT DETAIL C
SEAL FOR SAWED
DUMMY JOINT**
NOT TO SCALE



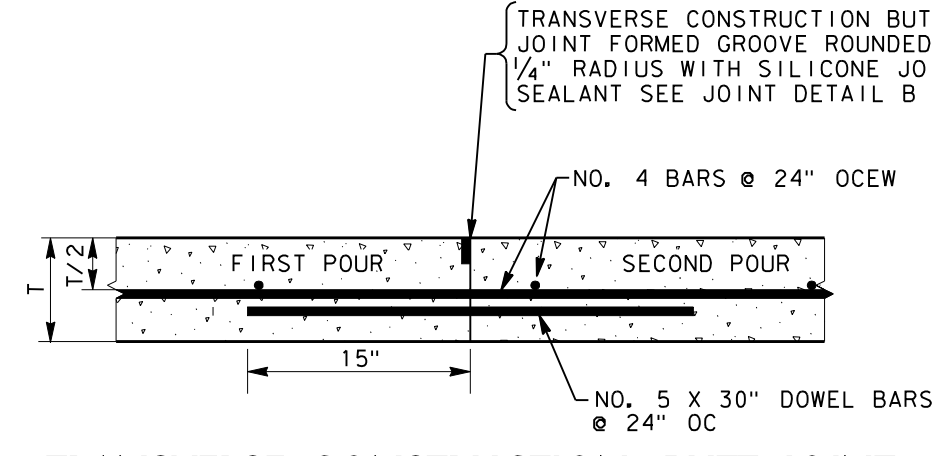
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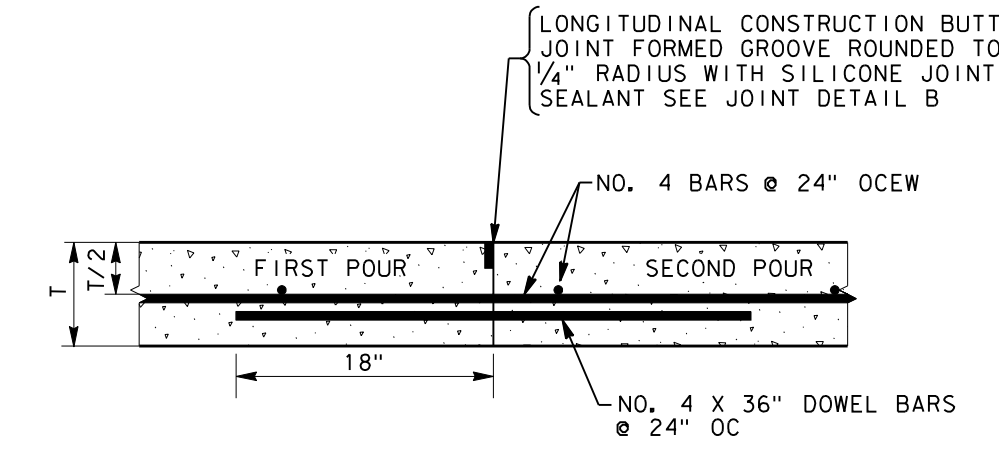
SIDEWALK CONTROL JOINT
NOT TO SCALE



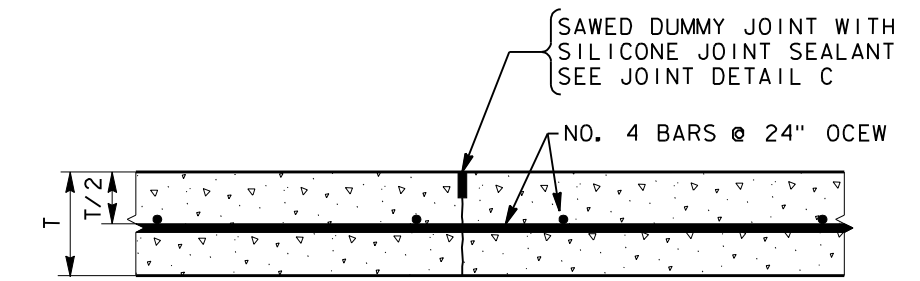
**JOINT DETAIL FOR SIDEWALK
ADJACENT TO CURB**
NOT TO SCALE



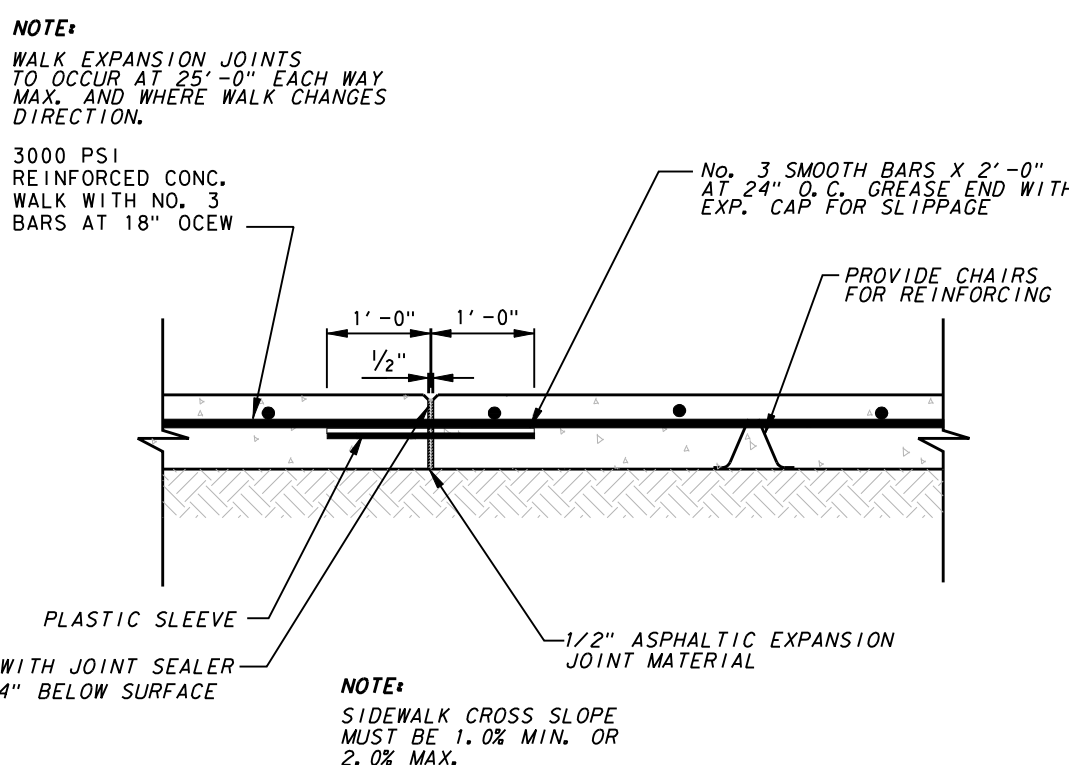
TRANSVERSE CONSTRUCTION BUTT JOINT
NOT TO SCALE



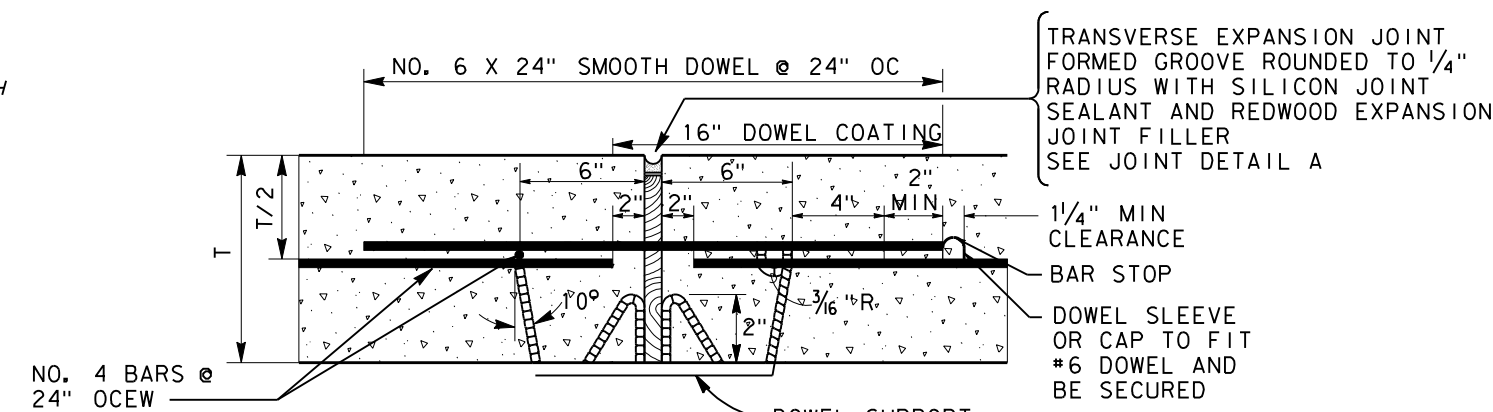
LONGITUDINAL CONSTRUCTION BUTT JOINT
NOT TO SCALE



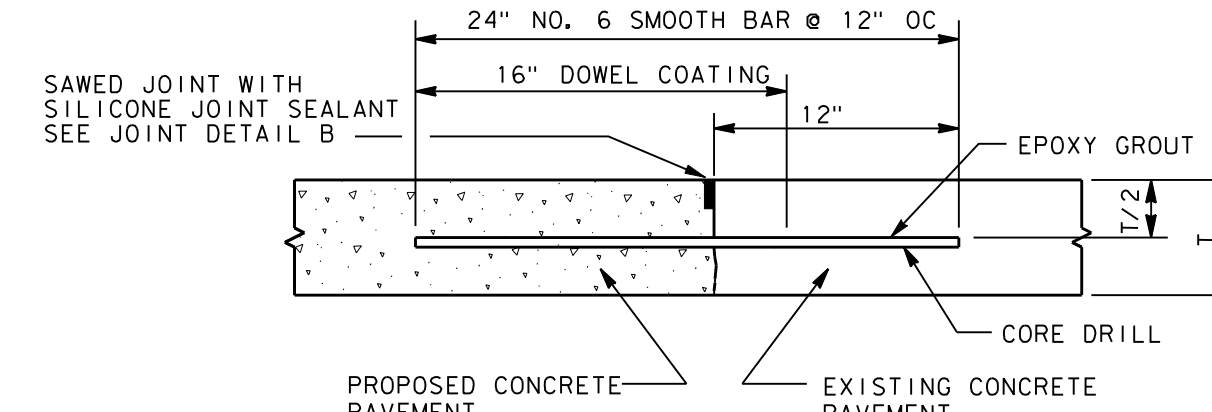
**TRANSVERSE OR LONGITUDINAL
SAWED DUMMY JOINT**
NOT TO SCALE



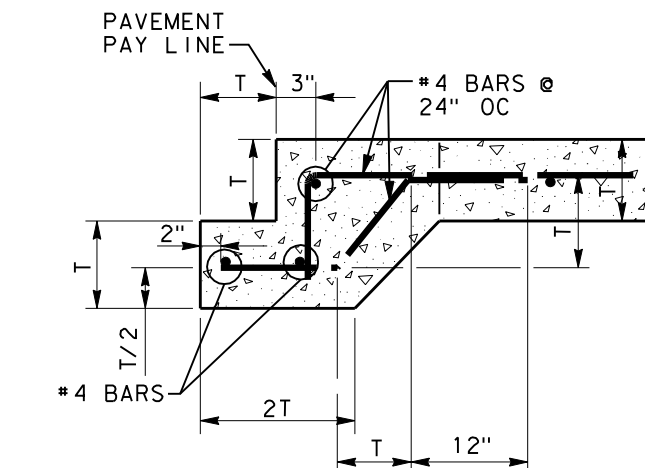
SIDEWALK EXPANSION JOINT
NOT TO SCALE



TRANSVERSE EXPANSION JOINT
NOT TO SCALE



**PROPOSED TO EXISTING
CONCRETE PAVEMENT**
NOT TO SCALE



CONCRETE STREET HEADER
NOT TO SCALE

- NOTE:
PAVEMENT BARS TO BE BENT DOWN INTO HEADER. HEADER & PAVEMENT TO BE MONOLITHIC (CONC HEADER TO BE PAID FOR PER LINEAR FOOT)

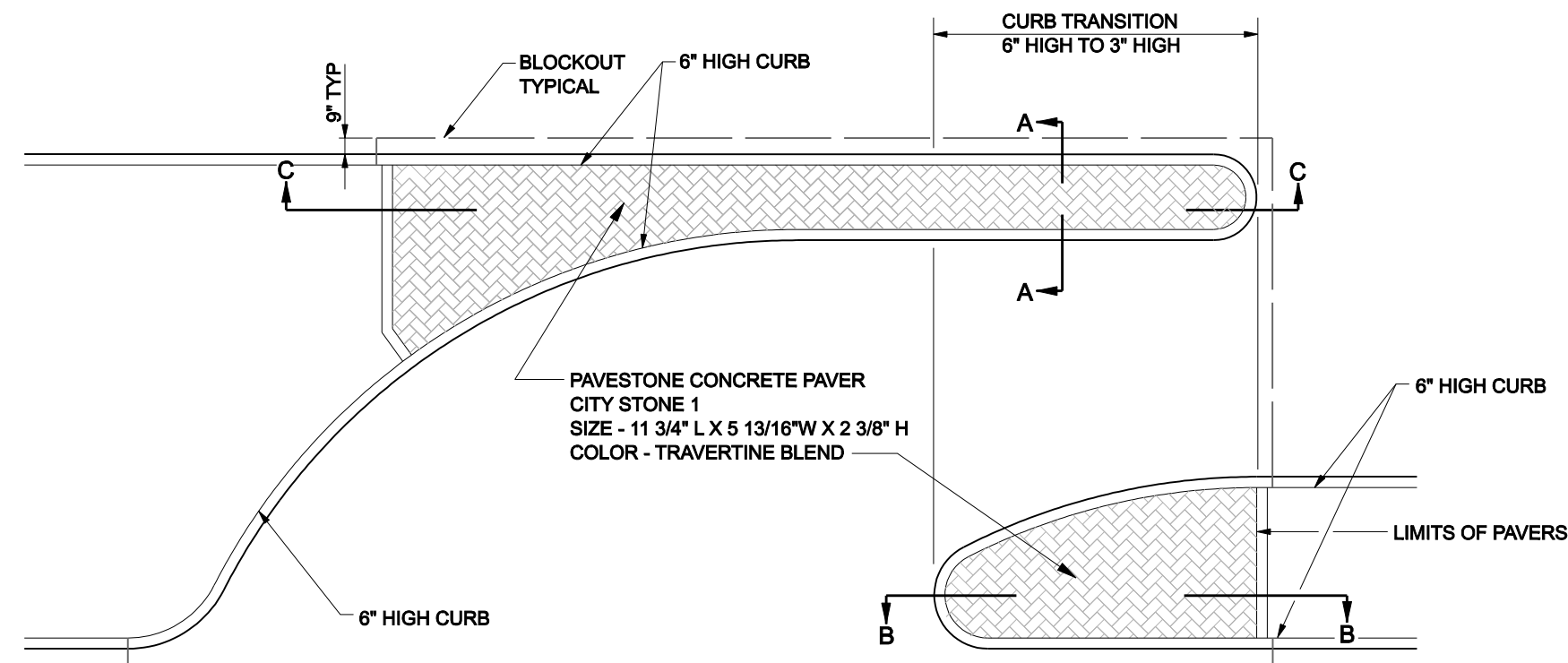


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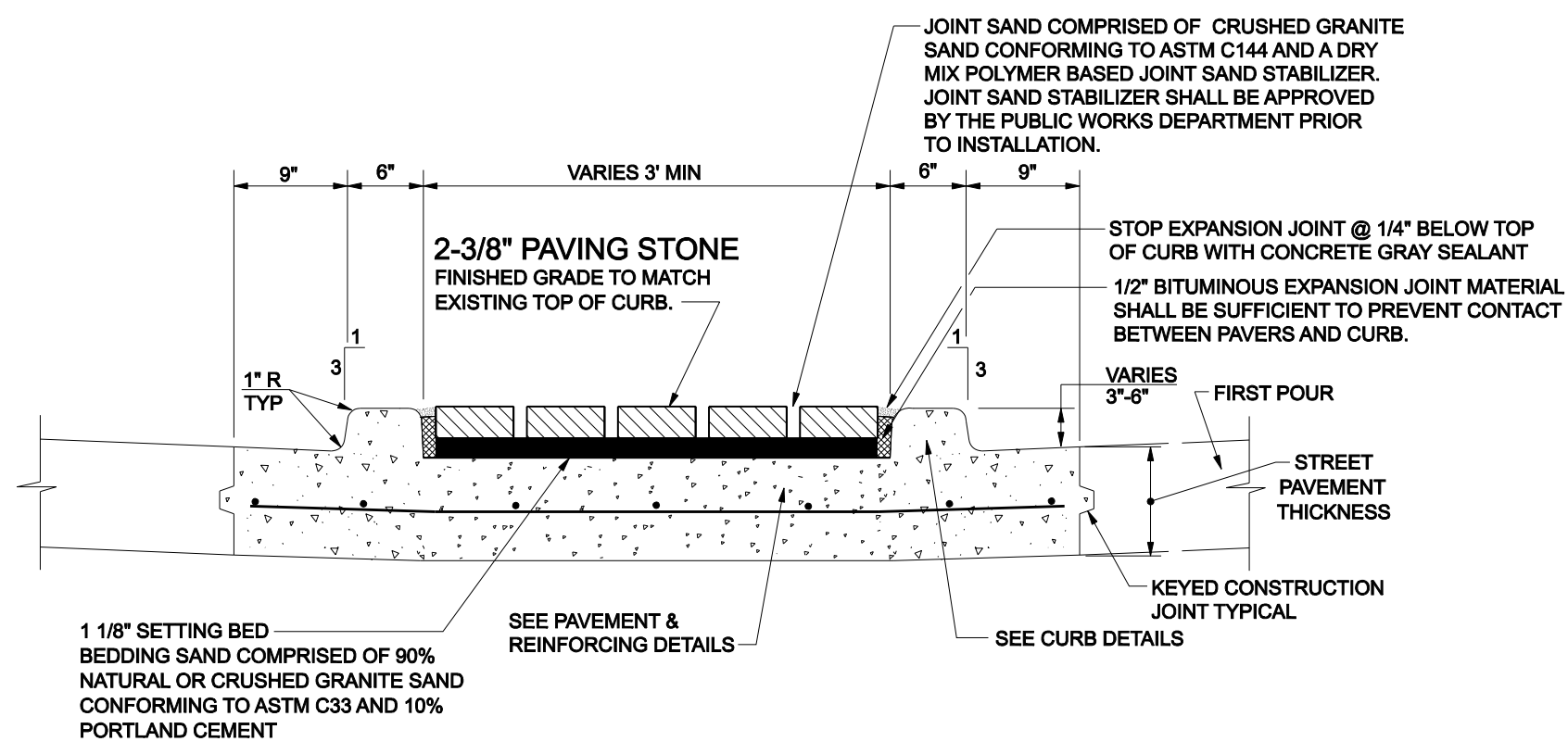
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PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

PAVING DETAILS

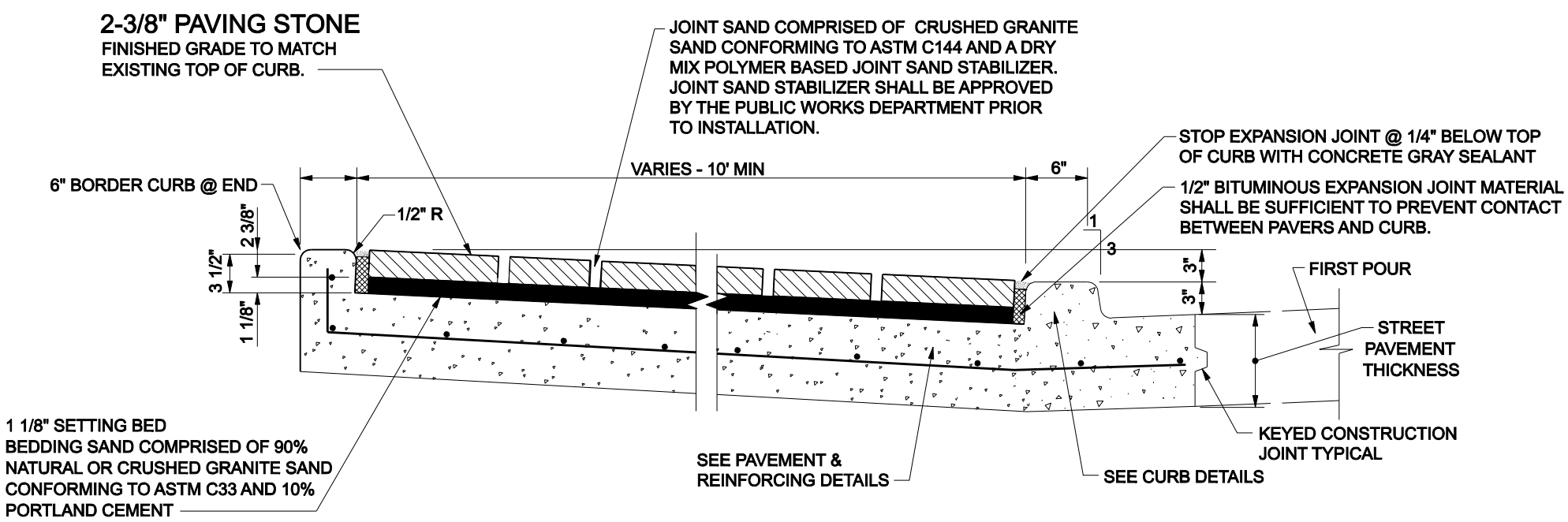
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MEDIAN NOSE TREATMENT PLAN
SCALE: 1"=8'

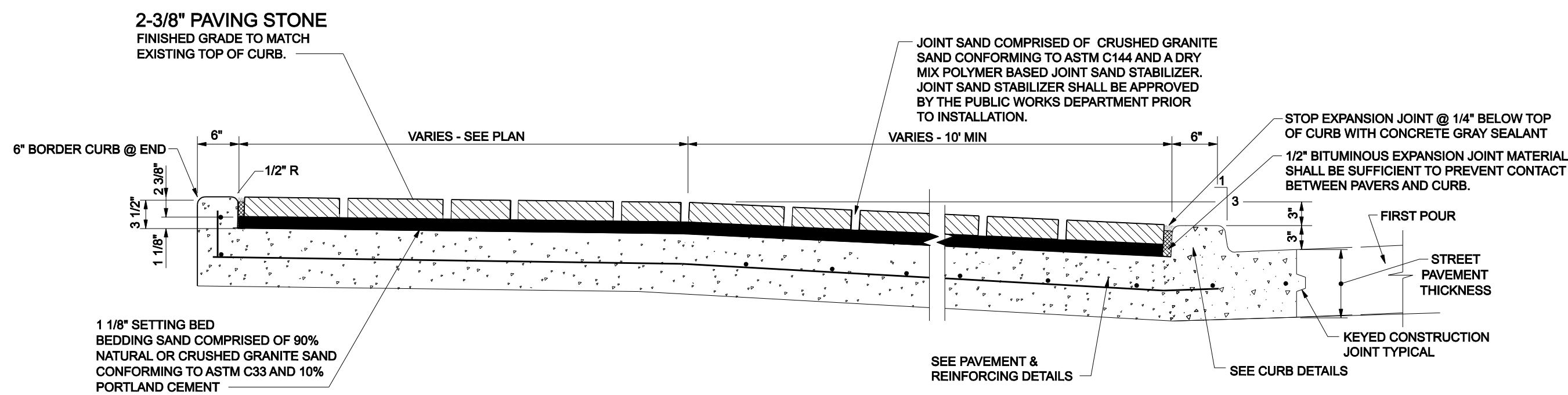


SECTION A-A
NTS



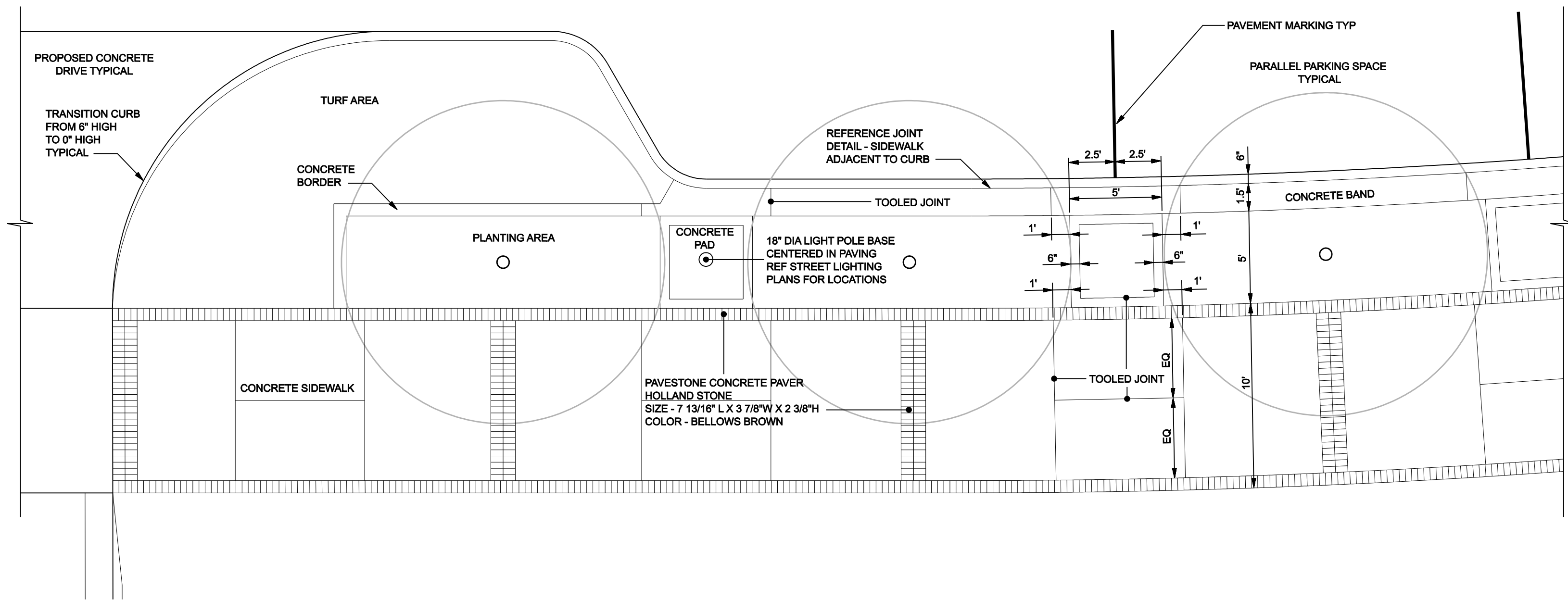
SECTION B-B
NTS

NOTE:
CONTRACTOR SHALL CONFIRM THICKNESS OF FINAL PAVER SELECTION PRIOR TO POURING DROP SLABS IN THE SIDEWALKS OR STREETS

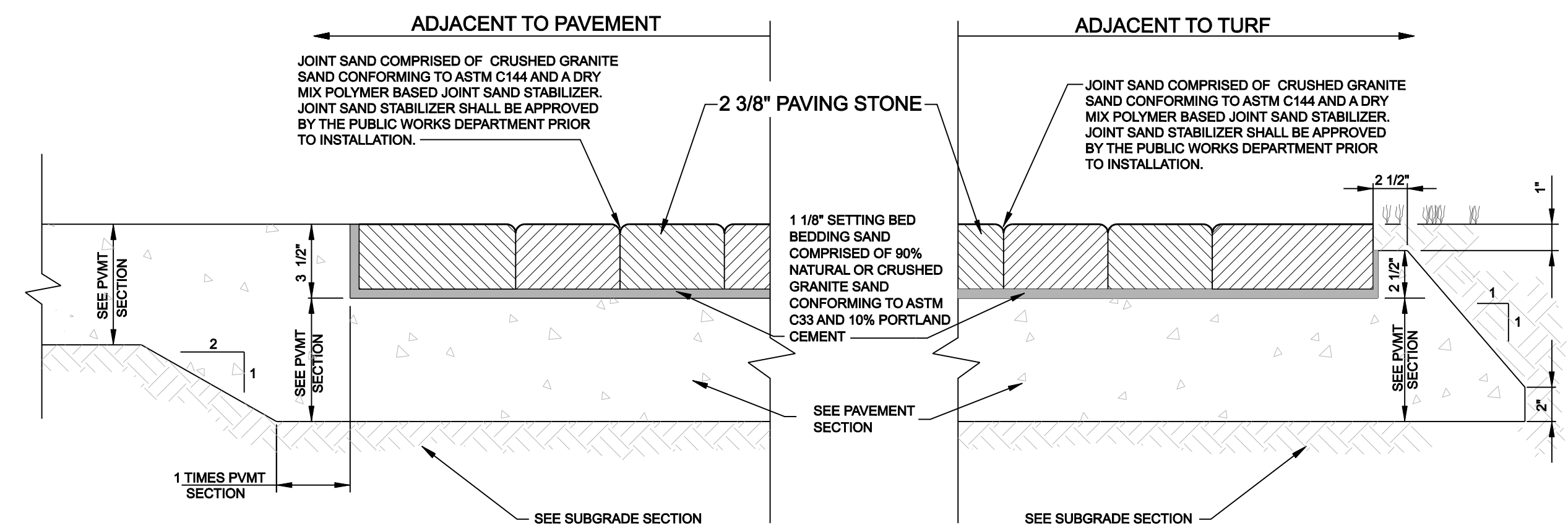


SECTION C-C
NTS

NOTE:
CONTRACTOR SHALL CONFIRM THICKNESS OF FINAL PAVER SELECTION PRIOR TO POURING DROP SLABS IN THE SIDEWALKS OR STREETS

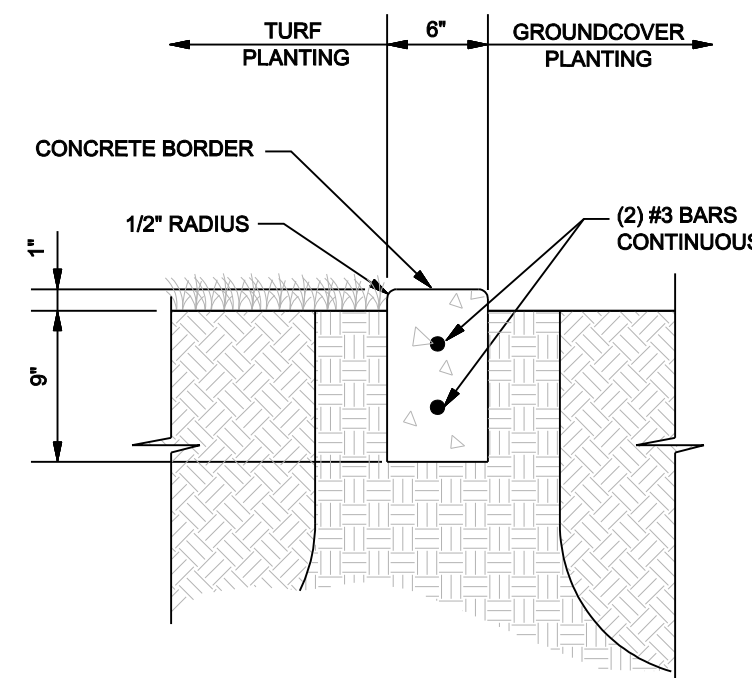


TYPICAL SIDEWALK & PAVER LAYOUT PLAN
SCALE: 1"=5'

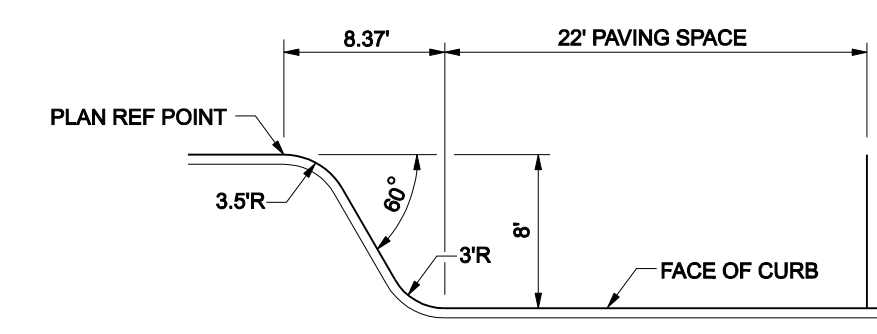


PAVERS ON CONCRETE
NTS

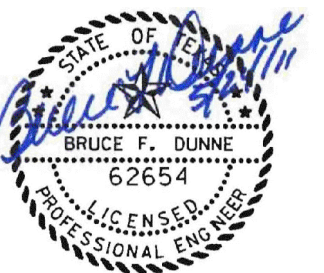
NOTE:
CONTRACTOR SHALL CONFIRM THICKNESS OF FINAL PAVER SELECTION PRIOR TO POURING DROP SLABS IN THE SIDEWALKS



CONCRETE BORDER
NOT TO SCALE



TYPICAL PARALLEL PARKING TRANSITION
NOT TO SCALE



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VITRUVIAN WAY EXTENSION

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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



DRAINAGE AREA CALCULATIONS - PROPOSED																COLLECTION POINT	
AREA NO.	AREA (acres)	RUNOFF COEFF.	CA	Tc (min)	I2 (in/hr)	Q2 (cfs)	I5 (in/hr)	Q5 (cfs)	I10 (in/hr)	Q10 (cfs)	I25 (in/hr)	Q25 (cfs)	I50 (in/hr)	Q50 (cfs)	I100 (in/hr)	Q100 (cfs)	COLLECTION POINT
A21	1.50	0.90	1.35	10.0	5.2	7.1	5.9	7.9	6.5	8.8	7.4	10.0	8.2	11.0	8.9	12.0	Future Storm Drain
A22	0.50	0.95	0.48	10.0	5.2	2.5	5.9	2.8	6.5	3.1	7.4	3.5	8.2	3.9	8.9	4.2	Curb Inlet
A23	0.60	0.95	0.57	10.0	5.2	3.0	5.9	3.4	6.5	3.7	7.4	4.2	8.2	4.7	8.9	5.1	Curb Inlet
A24	0.30	0.50	0.15	10.0	5.2	0.8	5.9	0.9	6.5	1.0	7.4	1.1	8.2	1.2	8.9	1.3	Temp Inlet - Future Storm Drain
A25	0.50	0.90	0.45	10.0	5.2	2.4	5.9	2.6	6.5	2.9	7.4	3.3	8.2	3.7	8.9	4.0	Future Storm Drain
					15.7		17.6		19.4		22.3		24.4		26.6		

STORM DRAIN CALCULATIONS - 100 YR																	
MH or INLET DESIGN POINT	DISTANCE Between Points (ft)	Peak Flow in Pipe "Q" (cfs)	PIPE SIZE (in)	FRICTIONAL SLOPE "Sf" (ft/ft)	HYDRAULIC GRADIENT ELEVATIONS (ft MSL)		HEAD LOSS AT CHANGE IN SECTION						Elev Difference TCFG - HGL at Des Pt		REMARKS		
					UPSTRM	DNSTRM	V1 Flow IN (fps)	V2 Flow OUT (fps)	V2(2) 2g (ft)	V1(2) 2g (ft)	Kj Coeff Of Loss (const)	Kj/V1(2) 2g (ft)	Hj Head Loss Upstream (ft)	Elev of Hyd Grade (ft MSL)		TCFG	TCFG - HGL DIFF.
LINE A5																	
564.03	564.03	0.00	18	0.0061	575.40	575.40	—	0.00	0.00	—	1.25	—	0.00	575.40	579.00	3.60	DROP INLET
564.03	499.53	64.50	18	0.0002	575.40	574.95	0.00	0.74	0.01	0.00	0.50	0.01	0.00	575.40	579.00	3.60	MANHOLE W / 90° BEND
499.53	390.04	109.49	18	0.0002	574.94	570.08	0.74	0.74	0.01	0.01	0.75	0.00	0.01	574.95	579.47	4.52	60° WYE
390.04	343.45	46.59	18	0.0037	570.08	570.12	0.74	3.62	0.20	0.01	0.25	0.20	0.00	570.08	576.95	6.87	MANHOLE W / 60° BRANCH
343.45	220.00	123.45	24	0.0100	569.97	568.74	3.62	7.19	0.80	0.20	0.75	0.65	0.15	570.12	575.92	5.80	60° WYE
220.00	180.00	40.00	24	0.0100	568.74	564.95	3.62	7.19	0.80	0.20	0.00	0.80	0.00	568.74	571.98	3.24	
180.00	175.00	5.00	24	0.0138	564.95	564.88	7.19	8.47	1.11	0.80	0.00	1.11	0.00	564.95	570.69	5.74	
175.00	81.00	94.00	24	0.0138	564.88	563.58	8.47	8.47	1.11	1.11	0.00	1.11	0.00	564.88	569.73	4.85	EXIST 24" RCP

INLET CALCULATIONS														
INLET NO.	STATION	TYPE	DRAINAGE CALCS 100 YR				ROADWAY SECTION				INLET			COMMENTS
			AREA NO.	PEAK FLOW (CFS)	CARRY OVER (CFS)	TOTAL FLOW (CFS)	CROSS SLOPE (FT/FT)	LONG SLOPE (FT/FT)	MAX DEPTH (FT)	SPREAD OF FLOW (FT)	LENGTH (FT)	INLET FLOW (CFS)	CARRY OVER (CFS)	
1	31+61.96, LT	CO-D	A22	4.2	0.00	4.20	0.0208	0.0240	0.20	9.46	10.0	3.06	1.14	
2	31+70.13, RT	CO-D	A23	5.1	0.00	5.10	0.0208	0.0240	0.21	10.17	10.0	3.43	1.67	
3	32+65.19, 81' RT	D-S	A24	1.3	0.00	1.30	0.2500	0.2500	0.13	1.13	8.0	1.13	0.00	TEMPORARY INLET

WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
 112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF
 VITRUVIAN WAY AND MARSH LANE.



LEGEND

- A17 DRAINAGE AREA DESIGNATION
- MAJOR DRAINAGE AREA DIVIDE
- MINOR DRAINAGE AREA DIVIDE
- DIRECTION OF FLOW
- INLET NUMBER

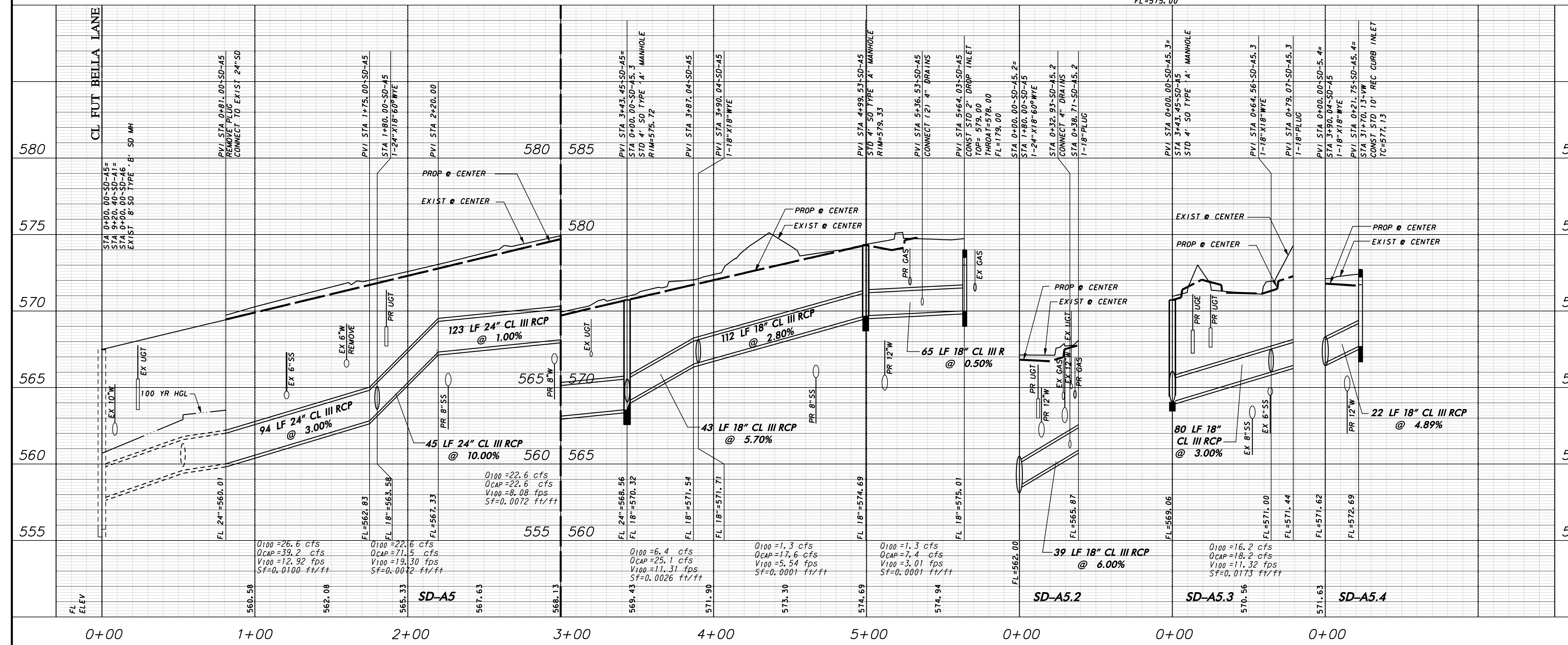
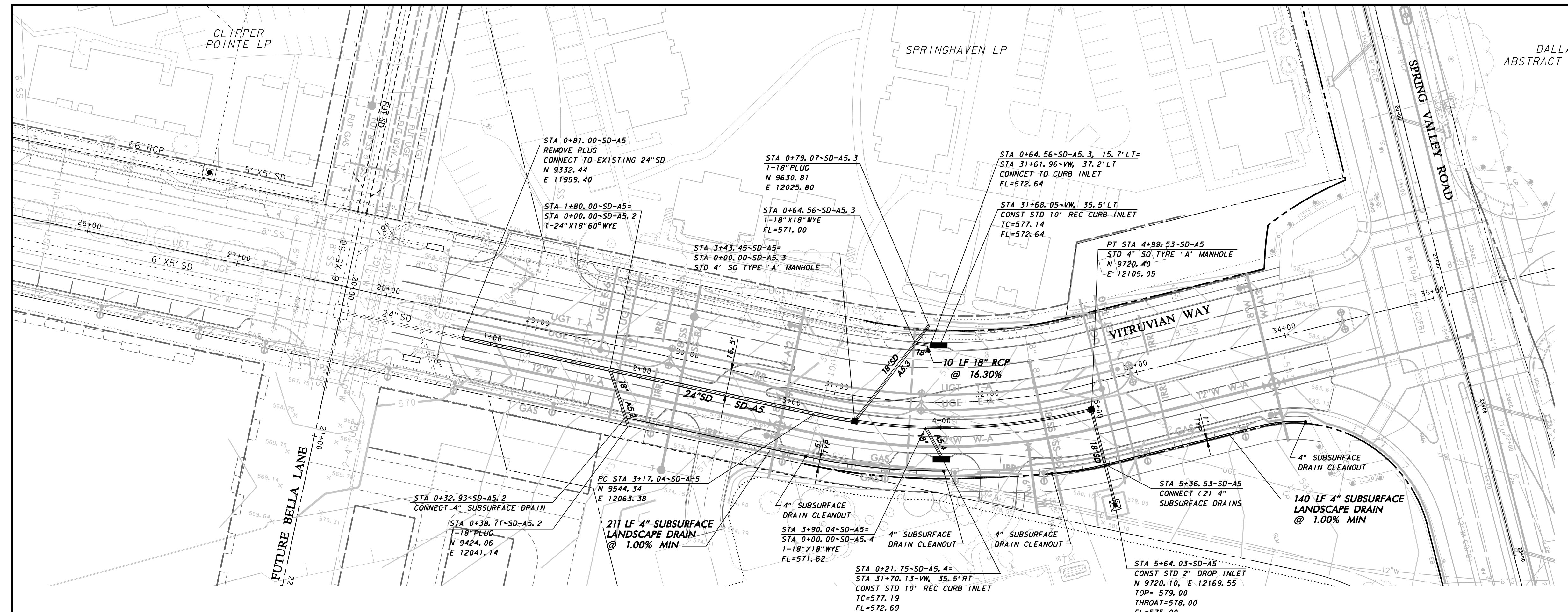
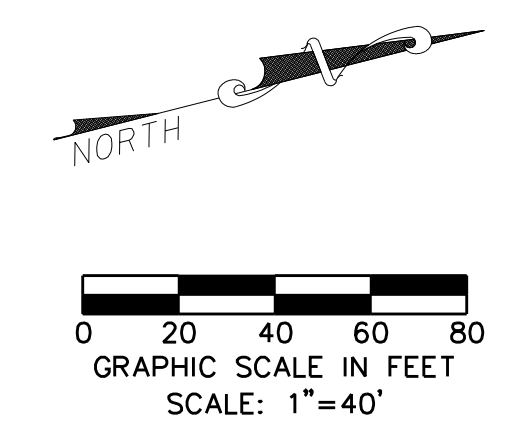
NORTH

0 50 100 150 200
 GRAPHIC SCALE IN FEET
 SCALE: 1"=100'

NO.	REVISION	BY	DATE
TOWN OF ADDISON DALLAS COUNTY, TEXAS			
PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION			
DRAINAGE AREA MAP & CALCULATIONS			
icon Consulting Engineers, Inc. Civil Engineers - Designers - Planners		250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210	
PROJECT	DESIGN	DRAWN	DATE
5029-01	ICE	ICE	OCT 01 2010
FILE	SHEET		
PW# 2010-02	9		

RECORD DRAWINGS 06/13/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
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BM #2 REF. ELEVATION = 547.84
SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

PROFILE SCALE:

SCALE: 1"=40' HORIZ
SCALE: 1"=4' VERT



NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

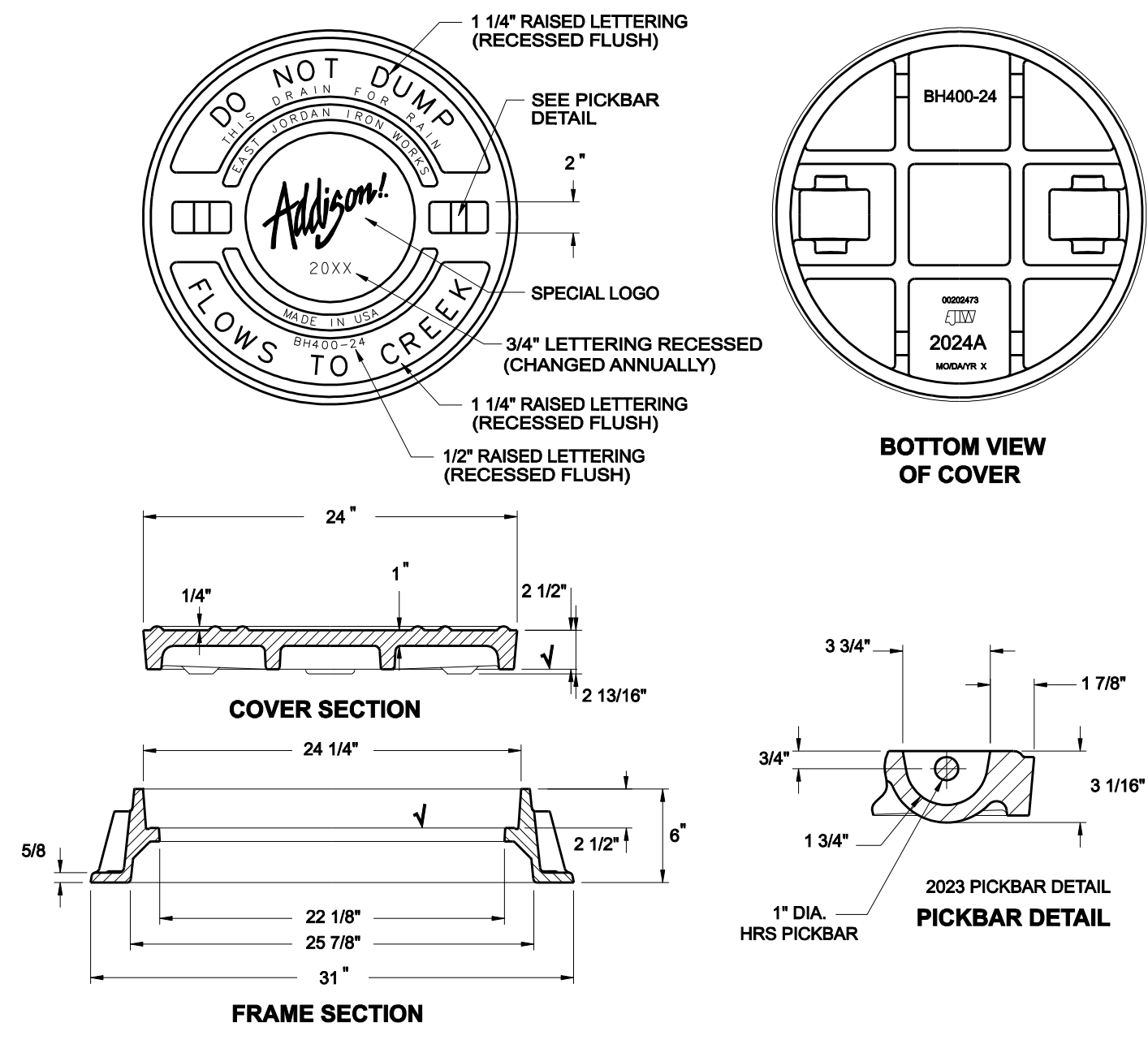
STORM DRAIN PLAN & PROFILE-VW
LINE A5 STA. 0+81.00 TO 5+14.05

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
Civil Engineers - Designers - Planners Southlake, TX 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	10

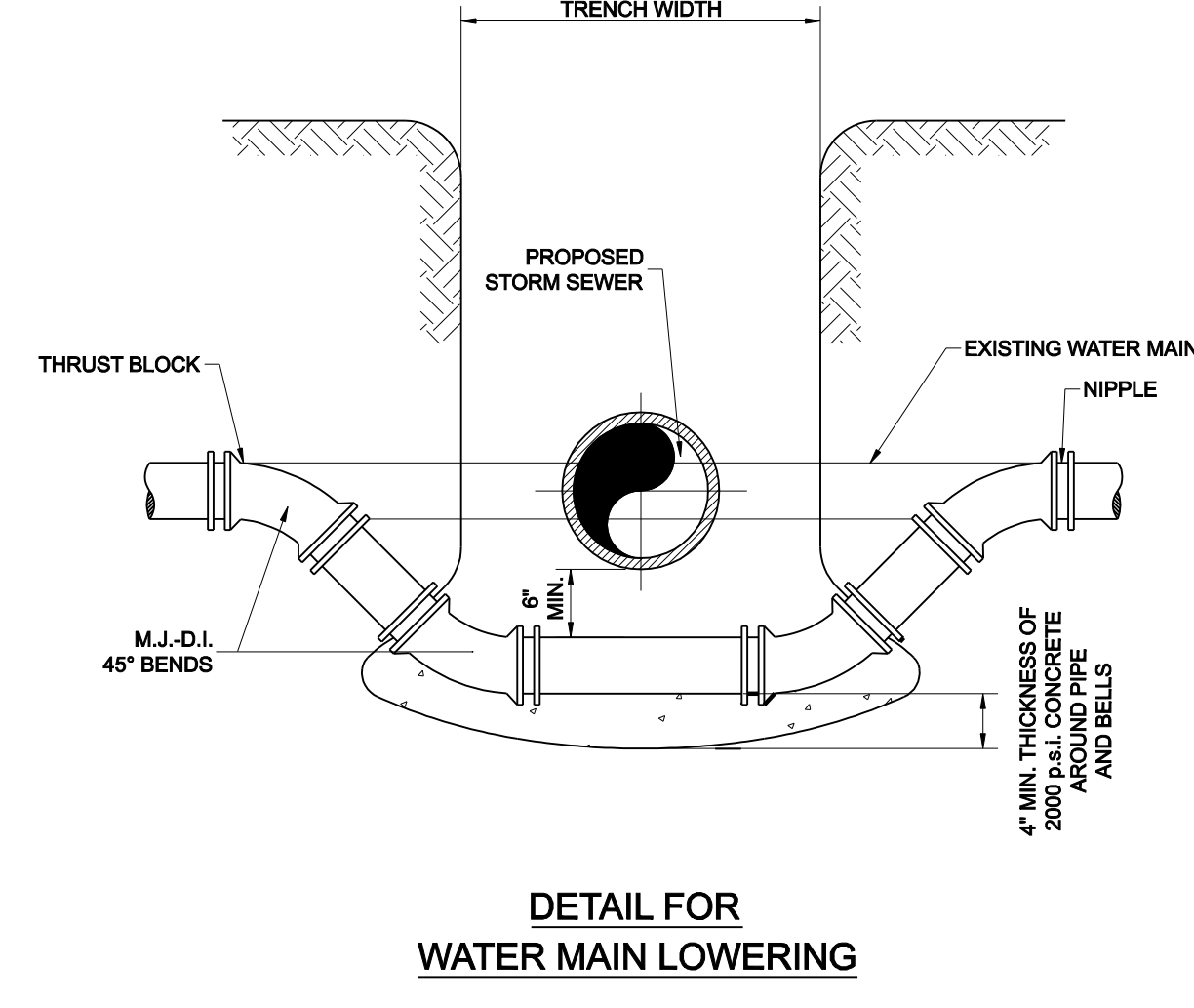
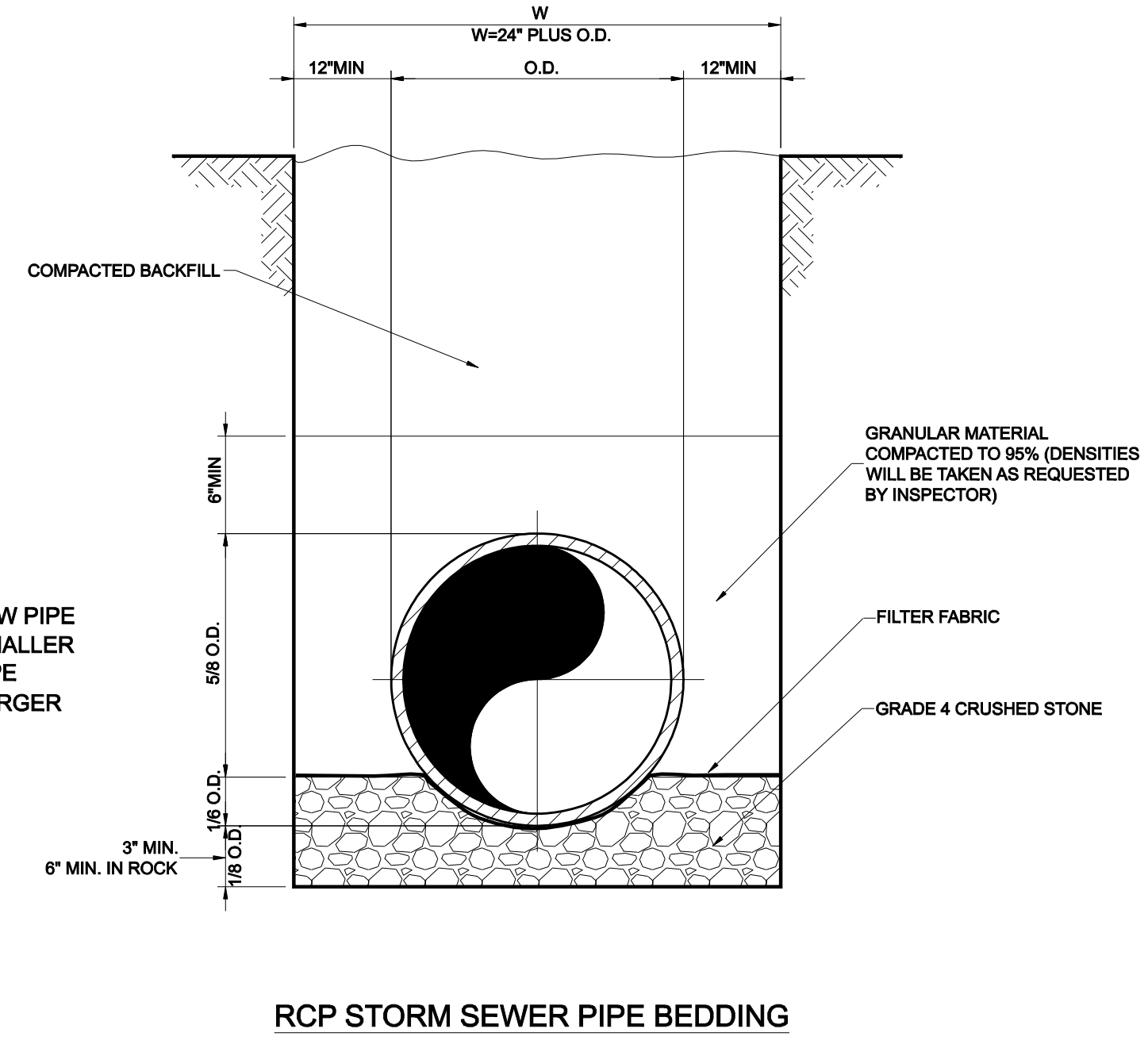
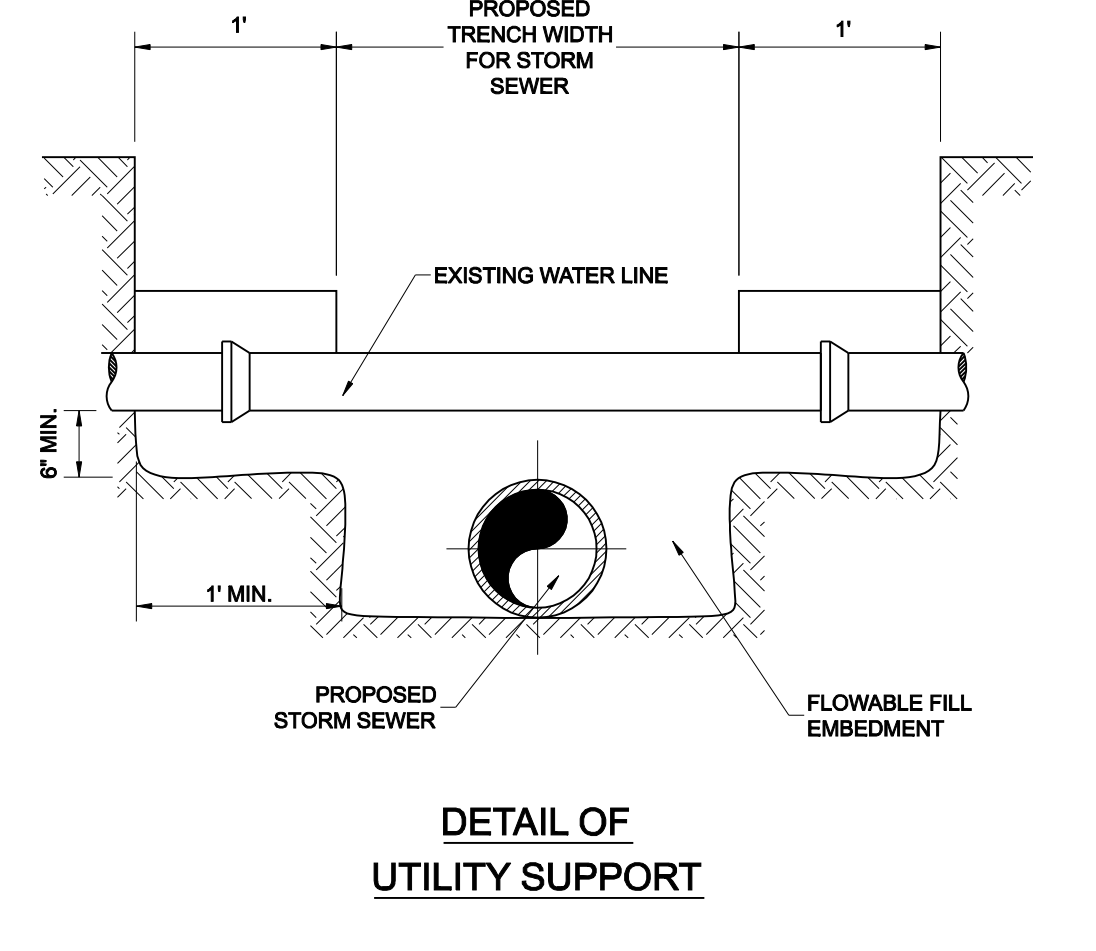
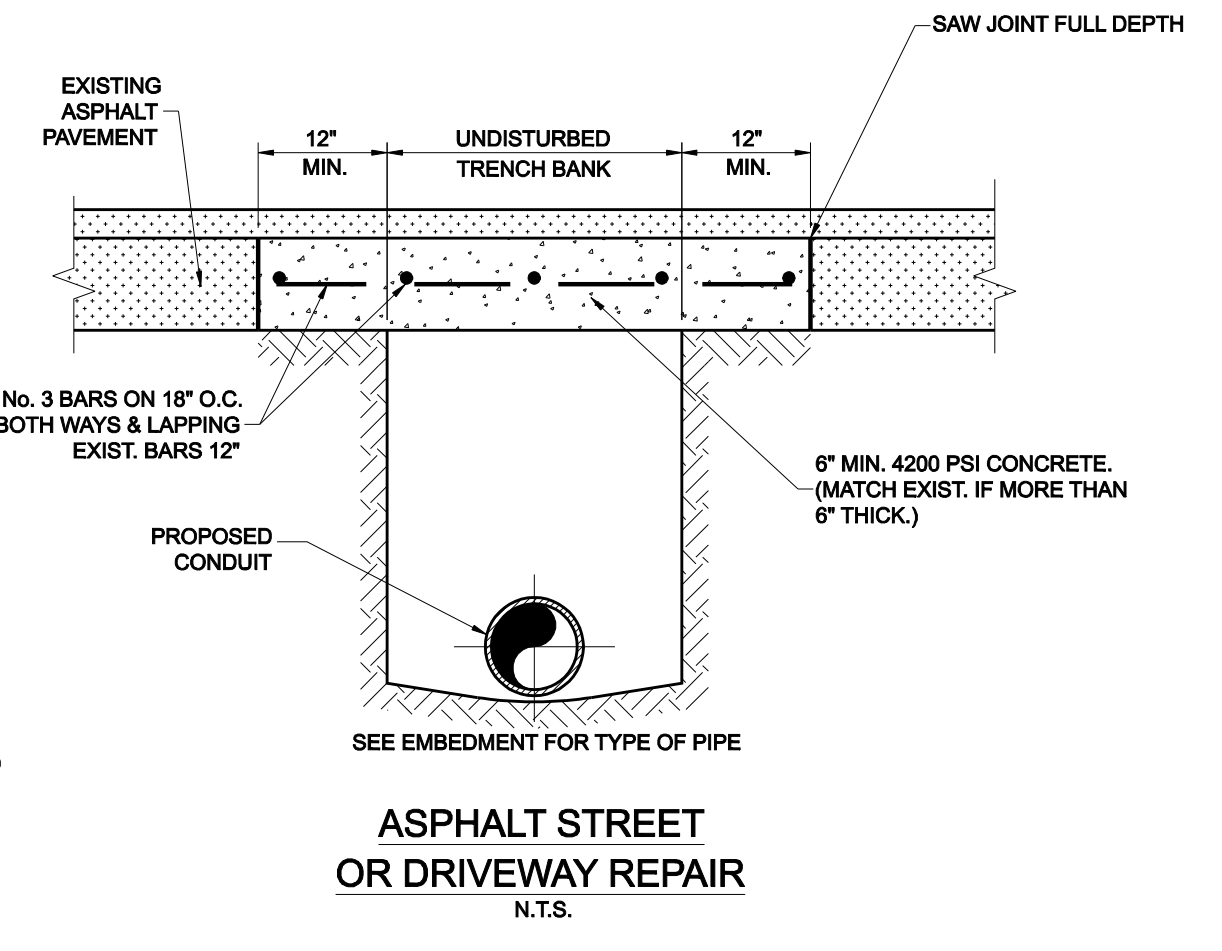
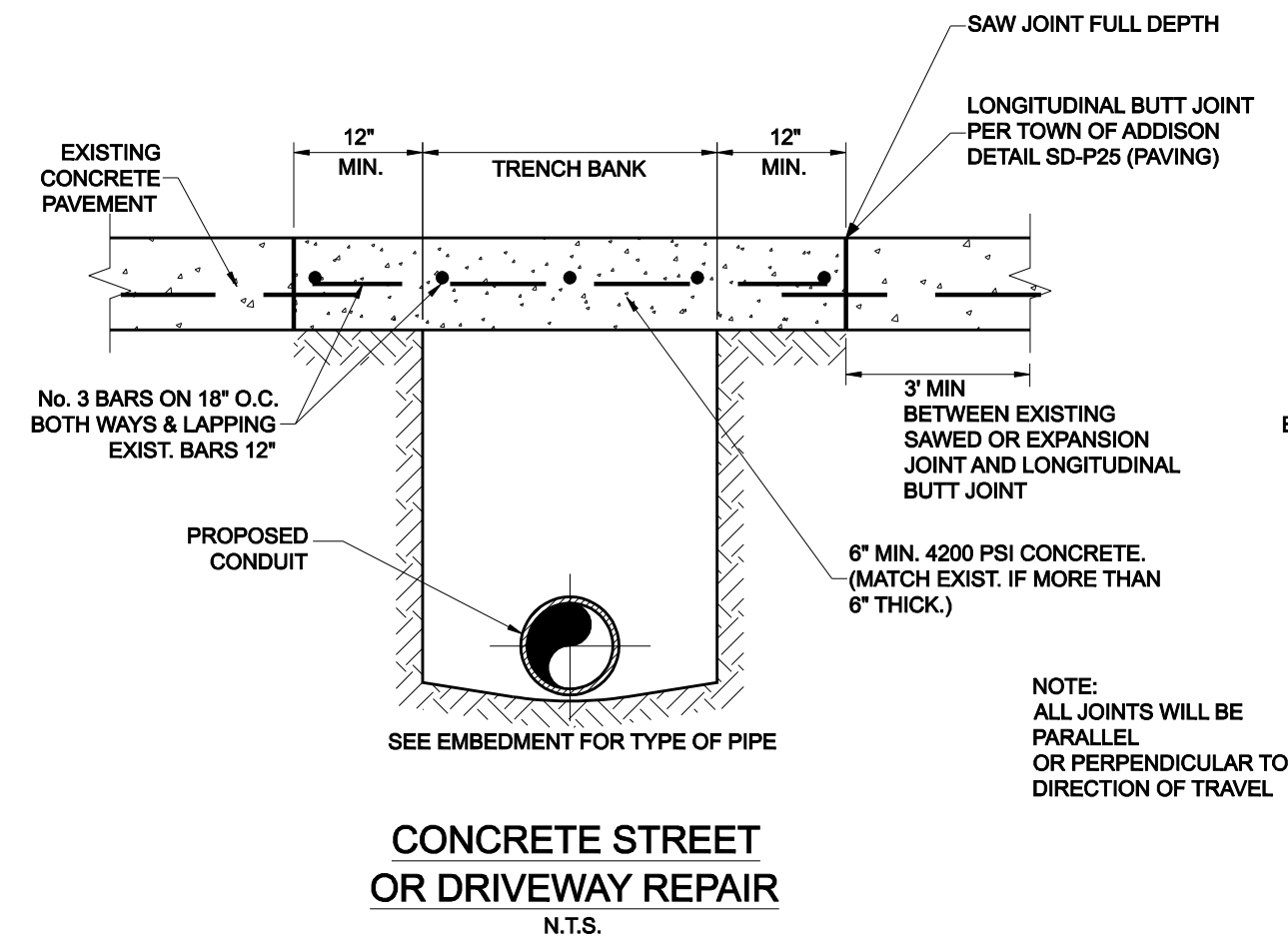
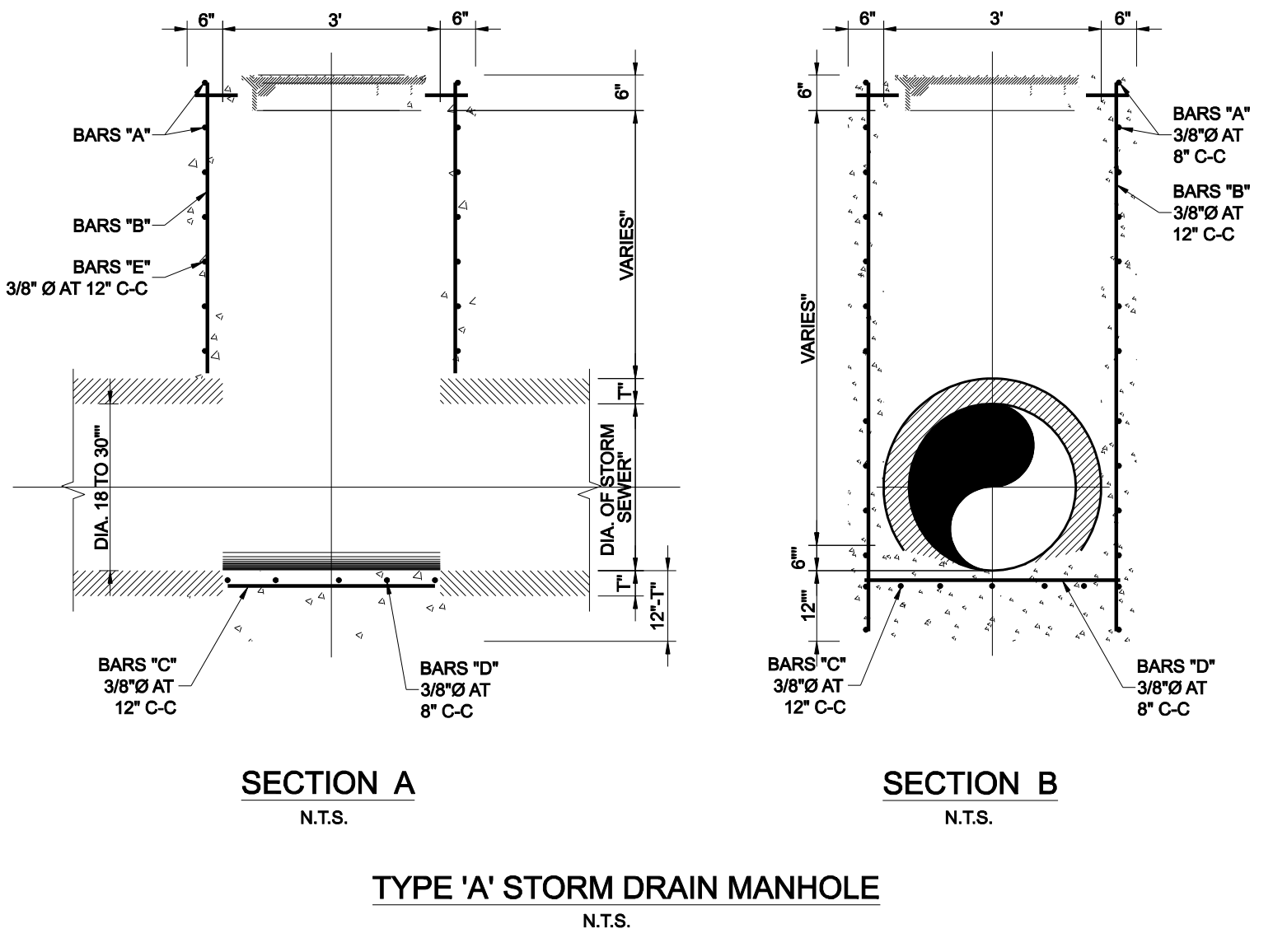
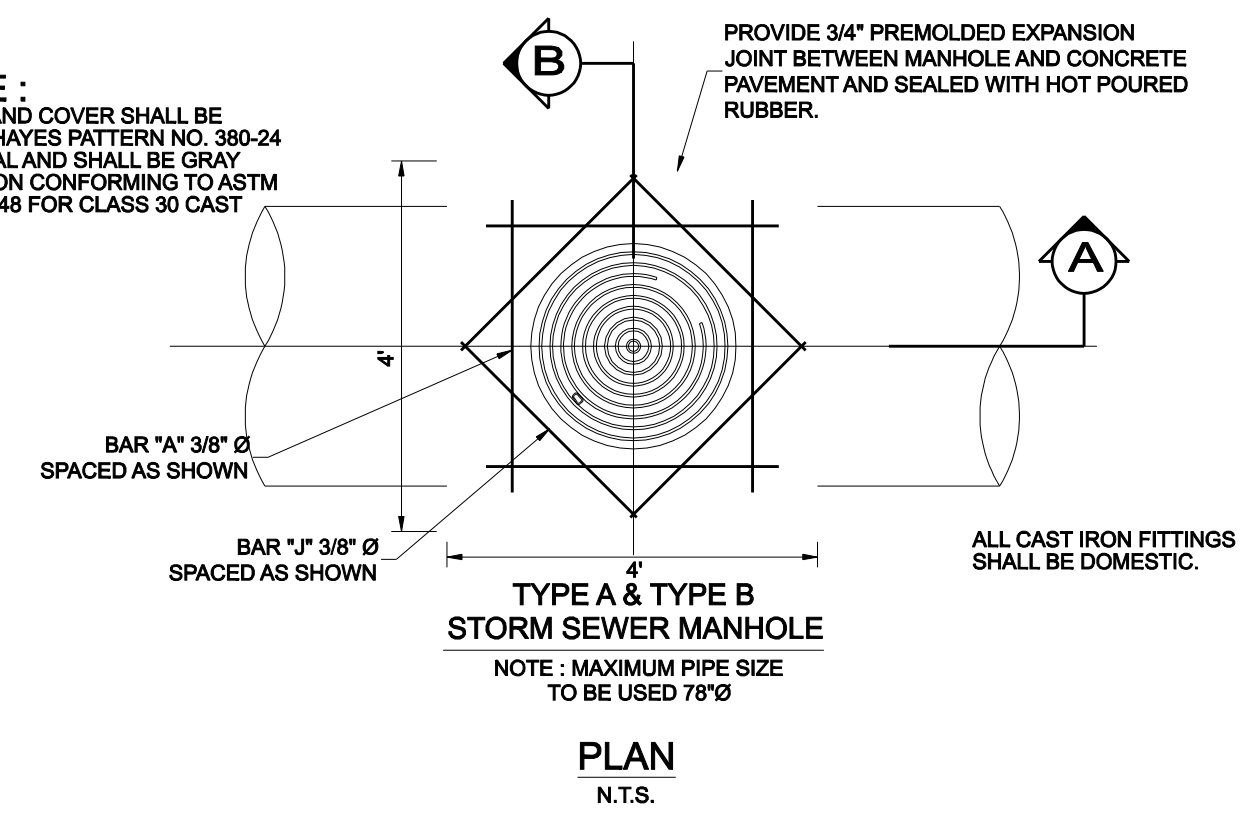
RECORD DRAWINGS 06/13/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



CAST IRON FRAME AND COVER

NOTE :
 FRAME AND COVER SHALL BE BASS & HAYES PATTERN NO. 380-24 OR EQUAL AND SHALL BE GRAY CAST IRON CONFORMING TO ASTM SPEC. A-48 FOR CLASS 30 CAST IRON.



GENERAL NOTES

1. ALL CONCRETE DRAINAGE STRUCTURES SHALL HAVE A MINIMUM COMPRESSED STRENGTH OF 3600 P.S.I.
2. ALL CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE.
3. ALL FIELD JOINTS WILL BE APPROVED BY THE CITY ENGINEER IF NECESSARY. FIELD JOINTS SHALL BE WIPED ON THE INSIDE AND OUTSIDE TO PROVIDE FOR SMOOTH FLOW OF WATER.
4. RAMNECK COMPOUND OR APPROVED EQUAL SHALL BE USED FOR JOINT SEALS.
5. ALL STORM SEWER PIPE SHALL BE CAMERA INSPECTED AFTER THE INSTALLATION OF ALL PAVING, UTILITIES, AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.



NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
 DALLAS COUNTY, TEXAS
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

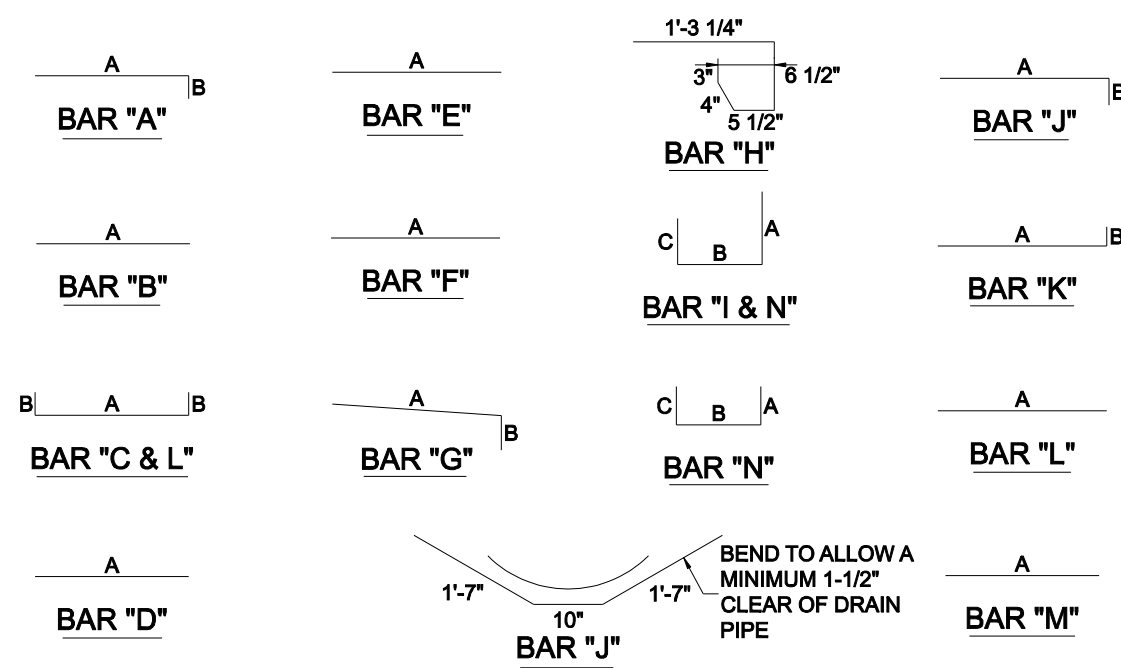
STORM DRAIN DETAILS

icon Consulting Engineers, Inc.		250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210			
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	11

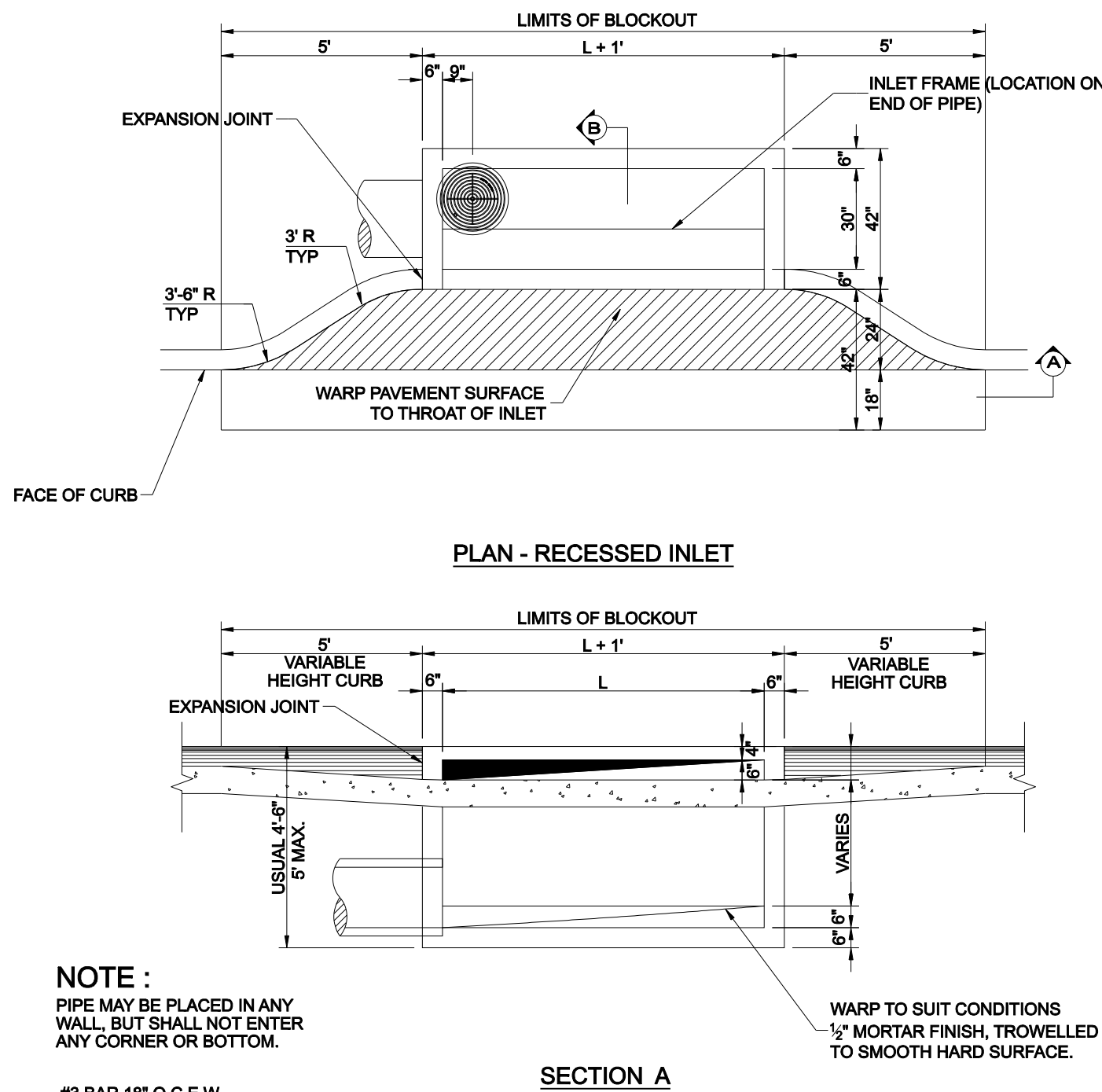
PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

REINFORCING STEEL SCHEDULE													
DIMENSIONS ARE FOR MAXIMUM SIZE INLETS													
INLET LENGTH	BAR TYPE	BAR Ø (1/8")	NO. REQ'D.	BAR DIMENSIONS			INLET LENGTH	BAR TYPE	BAR Ø (1/8")	NO. REQ'D.	BAR DIMENSIONS		
				A	B	C					A	B	C
6'	A	3	15	3'-2"	0'-6"	-	8'	A	3	19	3'-2"	0'-6"	-
	B	3	2	11'-6"	-	-		B	3	2	15'-6"	-	-
	C	4	16	13'-4"	0'-6"	-		C	4	16	17'-4"	0'-6"	-
	D	4	9	4'-8"	-	-		D	4	9	4'-8"	-	-
	E	5	6	13'-4"	-	-		E	5	6	17'-4"	-	-
	F	4	5	1'-2"	-	-		F	4	5	1'-2"	-	-
	G	3	12	2'-0"	1'-3"	-		G	3	12	2'-0"	1'-3"	-
	H	3	26	-	-	-		H	3	26	-	-	-
	I	4	12	4'-8"	3'-2"	3'-2"		I	4	16	4'-8"	3'-2"	3'-2"
	J	5	1	-	-	-		J	5	1	-	-	-
	K	5	6	3'-2"	0'-6"	-		K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-		L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"	-	-		M	4	2	3'-0"	-	-
	N	4	2	4'-8"	3'-2"	4'-8"		N	4	2	4'-8"	3'-2"	4'-8"
7'	A	3	17	3'-2"	0'-6"	-	10'	A	3	23	3'-2"	0'-6"	-
	B	3	2	13'-6"	-	-		B	3	2	19'-6"	-	-
	C	4	16	15'-4"	0'-6"	-		C	4	16	21'-4"	0'-6"	-
	D	4	9	4'-8"	-	-		D	4	9	4'-8"	-	-
	E	5	6	15'-4"	-	-		E	5	6	21'-4"	-	-
	F	4	5	1'-2"	-	-		F	4	5	1'-2"	-	-
	G	3	15	2'-0"	1'-3"	-		G	3	15	2'-0"	1'-3"	-
	H	3	32	-	-	-		H	3	32	-	-	-
	I	4	14	4'-8"	3'-2"	3'-2"		I	4	20	4'-8"	3'-2"	3'-2"
	J	5	1	-	-	-		J	5	1	-	-	-
	K	5	6	3'-2"	0'-6"	-		K	5	6	3'-2"	0'-6"	-
	L	4	11	3'-2"	0'-6"	-		L	4	11	3'-2"	0'-6"	-
	M	4	2	3'-0"	-	-		M	4	2	3'-0"	-	-
	N	4	2	4'-8"	3'-2"	4'-8"		N	4	2	4'-8"	3'-2"	4'-8"

**SEE DIAGRAM FOR DIMENSION
**FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE

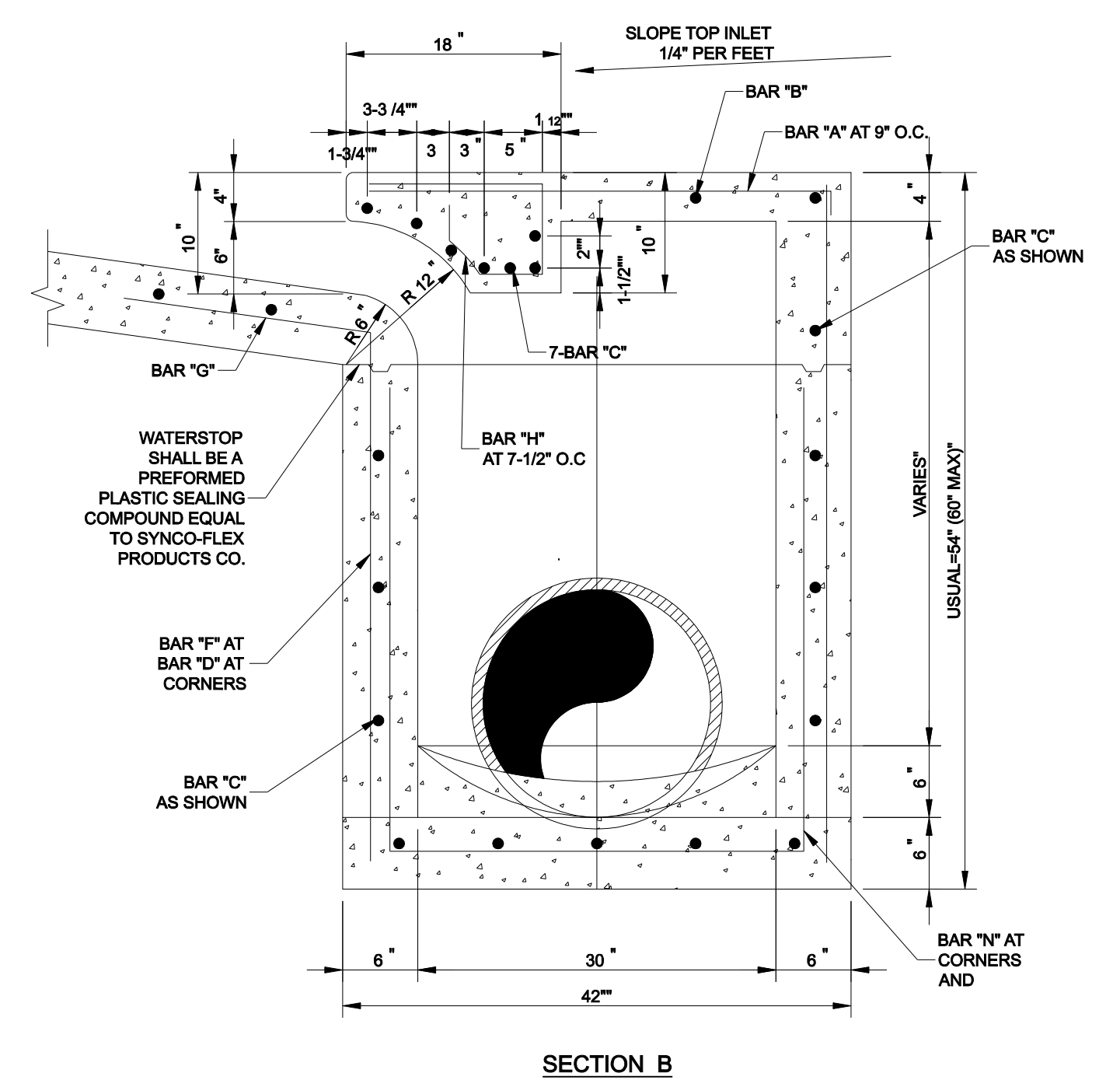


BAR DIAGRAMS



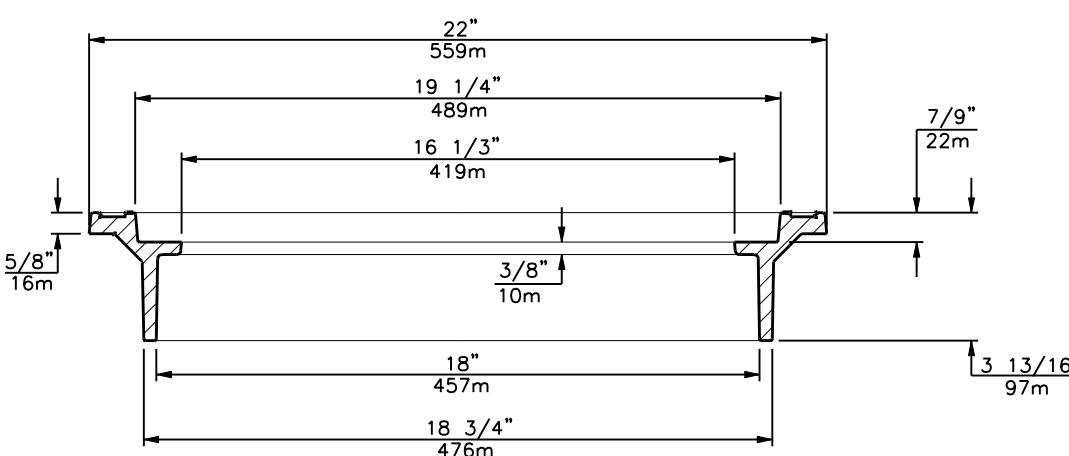
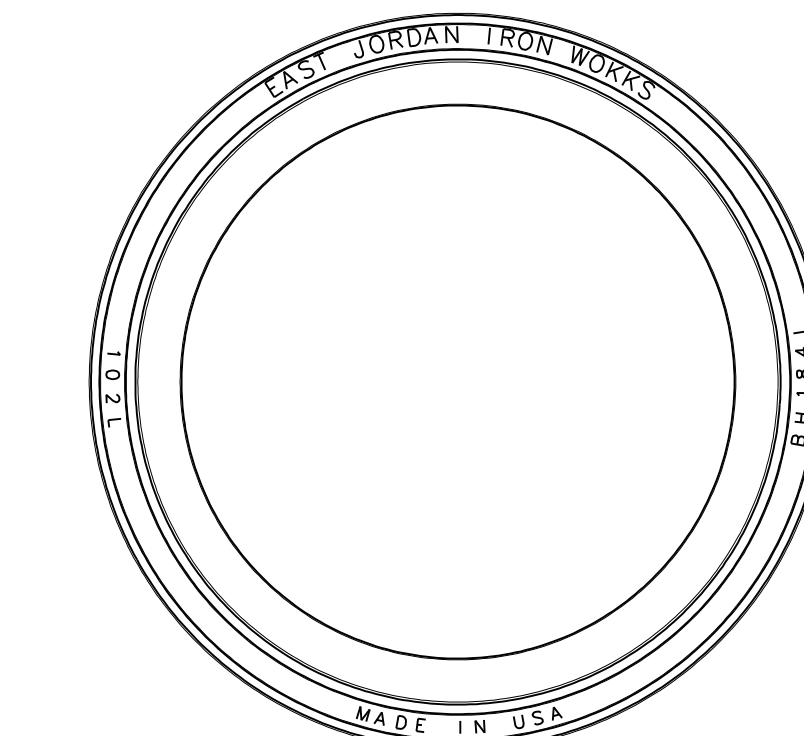
NOTE:
PIPE MAY BE PLACED IN ANY WALL, BUT SHALL NOT ENTER ANY CORNER OR BOTTOM.

#3 BAR 18" O.C.E.W. IN BLOCK OUT DRILLED INTO EXISTING CONCRETE.

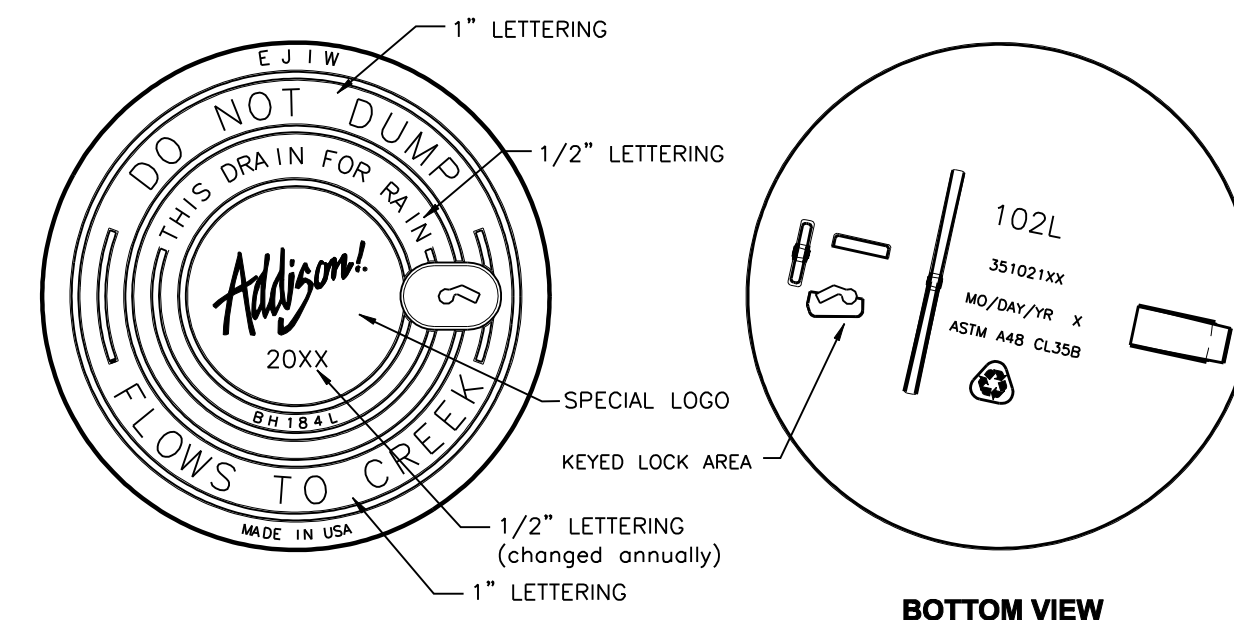


STANDARD RECESSED CURB INLET
4, 6, 8 AND 10 FOOT

- STORM DRAIN GENERAL NOTES**
- REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THIS PROJECT.
 - ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR STORM DRAINAGE CONSTRUCTION AS PUBLISHED BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, AND ANY AND ALL AMENDMENTS BY THE TOWN OF ADDISON, AS WELL AS STANDARD CONSTRUCTION DETAILS OF THE TOWN OF ADDISON.
 - PRIOR TO COMMENCING CONSTRUCTION, THE TOWN OF ADDISON THE CONSULTING ENGINEERS, THE SUCCESSFUL CONTRACTOR, UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES, SHALL CONVIENE FOR A PRE-CONSTRUCTION CONFERENCE AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
 - THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE TOWN OF ADDISON PRIOR TO WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
 - IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ANY PUBLIC UTILITY COMPANIES FOR LOCATION OF EXISTING FACILITIES IN OR NEAR THE WORK AREAS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - TOWN OF ADDISON (WATER, SEWER, SIGNALS)
 - ONCOR ELECTRIC DELIVERY
 - AT&T (SOUTHWESTERN BELL)
 - ATMOS ENERGY (GAS)
 - VERIZON (MC)
 - TIME-WARNER CABLE
 - THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER (SIX SETS EACH), FOR APPROVAL OF ALL MATERIALS TO BE ADDED TO THE PUBLIC INFRASTRUCTURE, PRIOR TO INCORPORATING MATERIALS INTO THE JOB.
 - THE CONTRACTOR SHALL PROVIDE AND SUBMIT TO THE TOWN OF ADDISON (SIX SETS EACH), AN APPROVED TRENCH SAFETY PLAN, SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR THE INSTALLATION OF STORM DRAINAGE FACILITIES GREATER THAN FIVE (5) FEET IN DEPTH.
 - THE CONTRACTOR SHALL FULLY COMPLY WITH, AND SUPPLEMENT AS NECESSARY, THE CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN WHILE CONDUCTING HIS ACTIVITIES ON THIS PROJECT.
 - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, AND SUPPLEMENT AS NECESSARY, THE TRAFFIC CONTROL MEASURES ON THIS PROJECT INCLUDING PROVIDING ADEQUATE FLAGMEN, SIGNAGE, STRIPING AND WARNING DEVICES, ETC. DURING CONSTRUCTION IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE AN ALL-WEATHER DETOUR AROUND THE CONSTRUCTION SITE, INCLUDING PUBLIC NOTIFICATION AND SIGNAGE.
 - THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT WILL APPROVE AND/OR DETERMINE THE TRAFFIC CONTROL PLAN AND WORKING HOURS. CONTACT THE ASSISTANT CITY ENGINEER FOR THE PUBLIC WORKS (817) 450-2871.
 - TEMPORARY OR PERMANENT BARRICADES SHALL REMAIN AT ALL POINTS OF INGRESS OR EGRESS TO PREVENT PUBLIC USE UNTIL THE WORK RECEIVES FINAL ACCEPTANCE.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION, INCLUDING PROVIDING ALL TEMPORARY STRUCTURES OR IMPROVEMENTS AS NECESSARY FOR THE SAFETY OF THE PUBLIC.
 - THE CONTRACTOR SHALL COVER ALL OPEN EXCAVATIONS WITH ANCHORED STEEL PLATING, DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
 - THE TOWN OF ADDISON WILL PROVIDE A GEOTECHNICAL LABORATORY TO PERFORM APPROPRIATE TESTING DURING CONSTRUCTION ACTIVITIES. ANY TEST THAT FAILS TO MEET CITY REQUIREMENTS SHALL BE RETESTED AT THE CONTRACTORS EXPENSE.
 - THE CONTRACTOR SHALL PROVIDE A MAINTENANCE BOND FOR PUBLIC INFRASTRUCTURE WORK IN THE FOLLOWING AMOUNTS:
 - 100% FOR VALUATIONS LESS THAN OR EQUAL TO \$5,000.
 - \$5,000 FOR VALUATION GREATER THAN \$5,000, AND LESS THAN \$50,000.
 - 10% FOR VALUATIONS GREATER THAN \$50,000.
 - BONDS SHALL BE FOR A PERIOD OF TWO YEARS BEGINNING WITH THE DATE OF FINAL ACCEPTANCE BY THE TOWN.
 - THE CONTRACTOR SHALL VERIFY THE SIZE, TYPE, ELEVATION, CONFIGURATION, AND ANGLULATION OF EXISTING STORM DRAIN LINES PRIOR TO CONSTRUCTION OF TIE-IN MATERIALS. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.
 - THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE SUPPORT AND PROTECTION OF ALL UTILITY POLES, FENCES, TREES, SHRUBS, GAS MAINS, TELEPHONE CABLES, ELECTRIC CABLES, DRAINAGE PIPES, UTILITY SERVICES, AND ALL OTHER UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW THE GROUND, THE COST OF WHICH SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
 - ROUGH GRADING SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF STORM DRAIN FACILITIES.
 - ALL STORM DRAIN STRUCTURES INCLUDING MANHOLES, INLETS AND CLEANOUTS MUST BE ADJUSTED TO FINAL FINISHED GRADE BY THE CONTRACTOR.
 - ALL PIPE FOR PUBLIC STORM DRAIN IMPROVEMENTS SHALL BE REINFORCED CONCRETE PIPE (RCP), CLASS III, UNLESS OTHERWISE NOTED. REINFORCED CONCRETE PIPE JOINTS SHALL BE SEALED WITH RAMNECK OR APPROVED EQUAL.
 - ALL STORM SEWER SYSTEMS WITH RADI LESS THAN 100' SHALL UTILIZE 4' LONG PIPE JOINTS WITH BEVELED ENDS (B-2 RADIUS PIPE). ALL JOINTS MUST BE TIGHT AND SHALL NOT GAP MORE THAN 1/4" THE TOUNGE LENGTH.
 - ALL PIPE ENTERING PUBLIC STORM DRAIN STRUCTURES SHALL BE GROUTED TO ASSURE WATERTIGHT CONNECTIONS.
 - EMBEDMENT FOR STORM DRAIN PIPING SHALL CONSIST OF GRADE 4 CRUSHED STONE (3" BELOW PIPE FOR 27" AND SMALLER PIPES, AND 4" BELOW PIPE FOR 30" PIPES AND LARGER) TO THE CRADLE OF THE PIPE, WITH SELECT NATIVE SOIL LESS THAN 3" IN DIAMETER OR GRANULAR MATERIAL TO 6" OVER THE TOP OF PIPE.
 - FINISH BACKFILL SHALL BE NATIVE SOIL FREE OF ALL ROCKS AND CLODS GREATER THAN THREE INCHES IN DIAMETER, COMPACTED TO 95% STANDARD PROCTOR DENSITY, IN SIX (6) INCH MAXIMUM LOOSE LIFTS, WITH ZERO TO PLUS THREE, OPTIMUM MOISTURE.
 - CONCRETE COLLARS SHALL BE INSTALLED AT ALL CHANGES IN CONDUIT SIZE AND AT ALL JOINTS THAT ARE PULLED IN EXCESS OF THAT RECOMMENDED BY THE CONDUIT MANUFACTURER.
 - THE CONTRACTOR SHALL COMPLETELY REMOVE AND DISPOSE OF EXISTING STORM DRAIN FACILITIES, DESIGNATED TO BE REMOVED, UPON COMPLETION AND ACCEPTANCE OF NEW STORM DRAINAGE FACILITIES.
 - ALL STORM DRAIN PIPE SHALL BE CAMERA INSPECTED BY THE CONTRACTOR AFTER THE INSTALLATION OF ALL UTILITIES AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.
 - THE CONTRACTOR SHALL CALL (817) 450-2847 TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE PUBLIC INFRASTRUCTURE WORK.
 - ANY ADJACENT PROPERTIES AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.



RING SECTION



BOTTOM VIEW

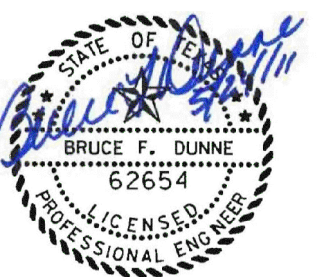
LOAD RATING LIGHT DUTY INLET COVER NON-TRAFFIC INLET RING	COATING DIPPED	ESTIMATED WEIGHT COVER: 60 LBS FRAME: 151 LBS	MATERIAL SPECIFICATION COVER - GRAY IRON ASTM A48 CL35B FRAME - GRAY IRON ASTM A48 CL35B
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DESIGNATES MACHINE SURFACE

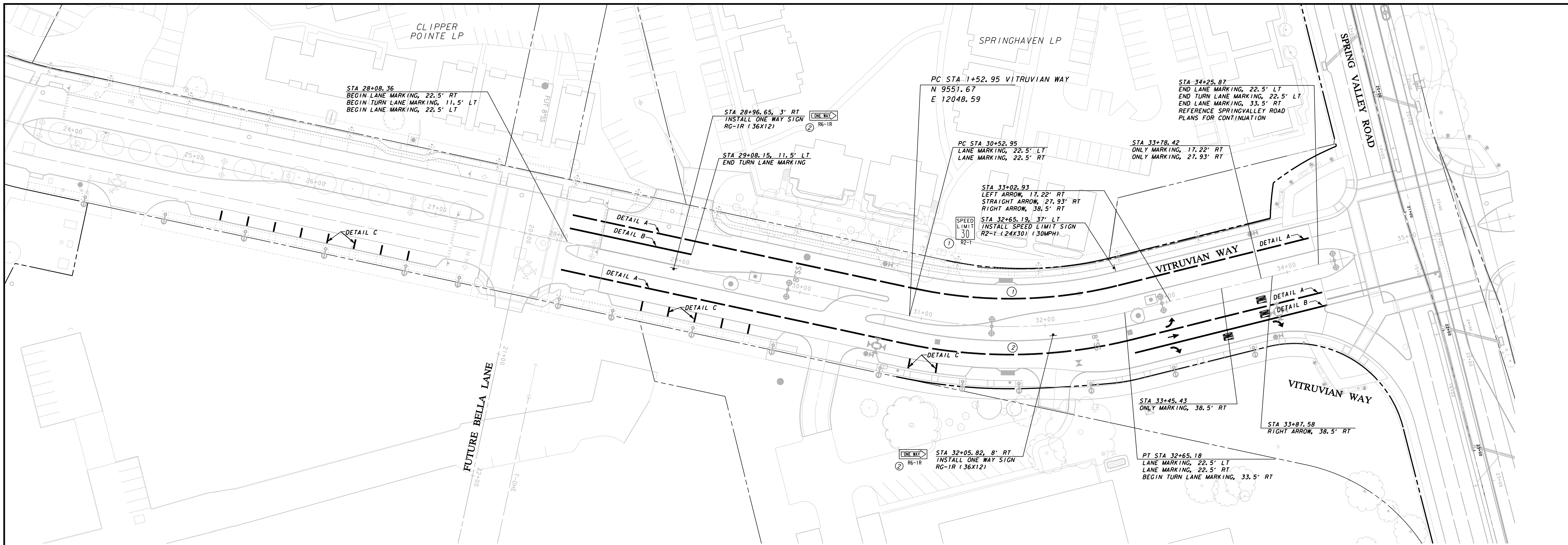
INLET FRAME AND COVER

GENERAL NOTES

- ALL CONCRETE DRAINAGE STRUCTURES SHALL HAVE A MINIMUM COMPRESSED STRENGTH OF 3600 P.S.I.
- ALL CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE.
- ALL FIELD JOINTS WILL BE APPROVED BY THE CITY ENGINEER IF NECESSARY. FIELD JOINTS SHALL BE WIPEO ON THE INSIDE AND OUTSIDE TO PROVIDE FOR SMOOTH FLOW OF WATER.
- RAMNECK COMPOUND OR APPROVED EQUAL SHALL BE USED FOR JOINT SEALS.
- ALL STORM SEWER PIPE SHALL BE CAMERA INSPECTED AFTER THE INSTALLATION OF ALL PAVING, UTILITIES, AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.



ADDISON! TOWN OF ADDISON DALLAS COUNTY, TEXAS				
PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION				
STORM DRAIN DETAILS & GENERAL NOTES				
icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117 Civil Engineers - Designers - Planners Southlake, Tx 76092 (817) 552-6210				
PROJECT	DESIGN	DRAWN	DATE	SHEET
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SUMMARY OF SMALL SIGNS (WITHOUT REMOVABLE COPY)

SIGN NO.	SIGN TYPE	SIGN TEXT	SIGN DIMENSIONS (INCHES)	REFLECTIVE SHEETING	PLYWOOD TYPE A	ALUMINUM TYPE A	TYPE OF MOUNT	QUANTITY
1	R2-1	SPEED LIMIT	20X30	C		X	A	1
2	RG-1R	ONE WAY RIGHT	36X12	C		X	A	2

CURVE DATA

NO.	DELTA	RADIUS	LENGTH
1	26° 06' 29"	361.50'	164.73'
2	26° 06' 29"	406.50'	185.23'

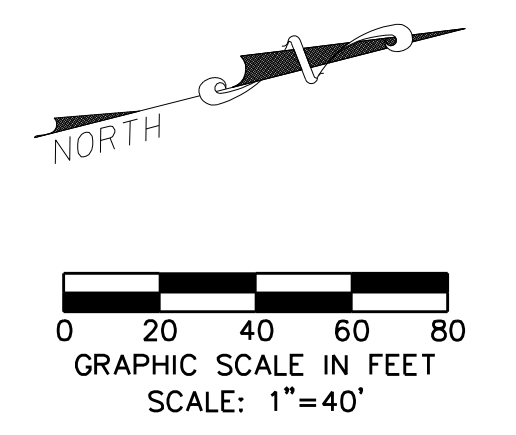
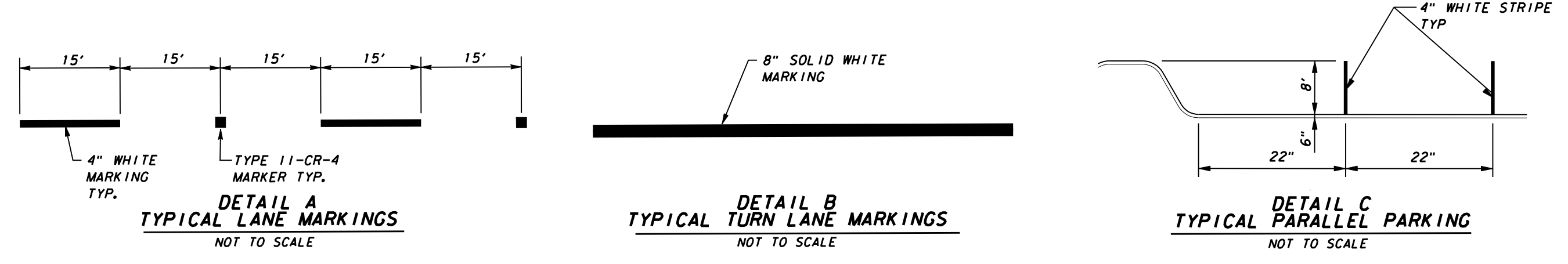
WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 1127' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

- PAVEMENT MARKING & SIGNAGE NOTES:**
- SIGN LOCATIONS SHOWN ON PLANS ARE DIAGRAMMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION.
 - REFLECTIVE SHEETING WILL BE DESIGNATED AS:
 TYPE A=ENGINEER GRADE
 TYPE B=SUPER ENGINEER GRADE
 TYPE C=HIGH INTENSITY PRISMATIC
 - DO NOT REMOVE EXISTING PAVEMENT MARKINGS OR SIGNAGE PRIOR TO NEW ROADWAY OPENING TO TRAFFIC.
 - ALL PAVEMENT MARKINGS TO BE ALKYD THERMOPLASTIC WITH 0.090 INCHES THICKNESS.



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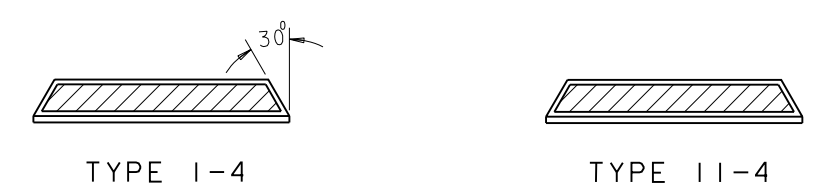
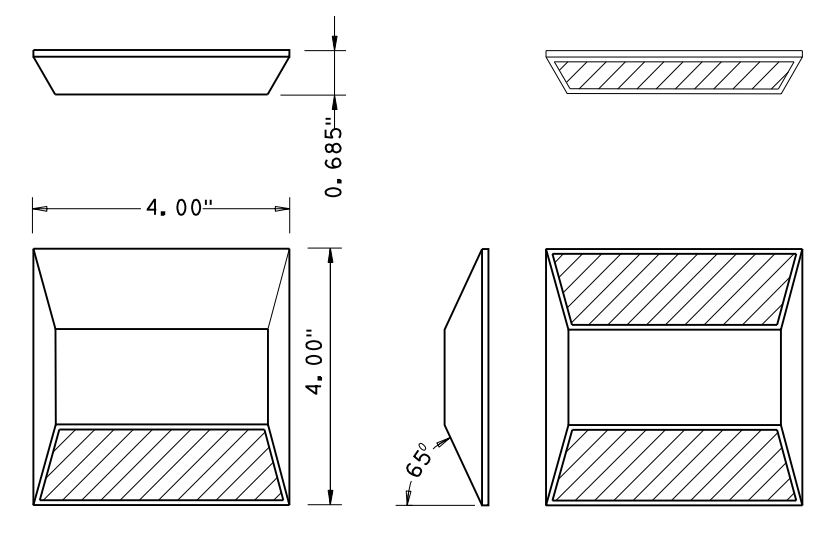
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

PAVEMENT MARKING & SIGNAGE PLAN

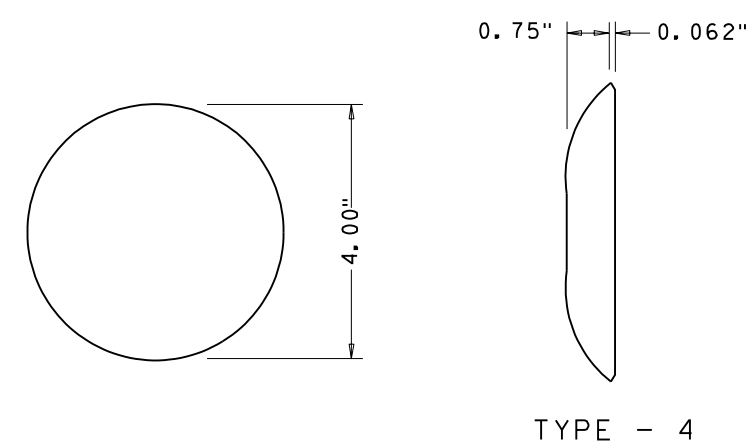
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



TYPE I-4 REFLECTIVE
STIMSONITE OR APPROVED EQUAL



TYPE - 4 NON-REFLECTIVE
AMERICAN CLAY CERAMIC OR APPROVED EQUAL

BUTTON DESIGN

EPOXY ADHESIVE TO BE USED

TYPE III & III-M
(HAND MIX) (MACHINE MIX)

PAVEMENT TEMP., °F	APPROX. SET TIME (HR) TYPE III & III-M
(a) 115	(a) 1
(b) 95	(b) 2
(c) 77	(c) 4
(d) 60	(d) 8
(e) 50	(e) -

NOTES:

- (1) ALL ROADWAY MARKERS SHALL MEET CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICE SPECS & SHALL BE APPROVED BY THE TOWN OF ADDISON PRIOR TO INSTALLATION.
- (2) A 1/16" CHALK LINE SHALL BE USED TO MARK LOCATION OF MARKERS TO BE PLACED ON PAVEMENT. ALL MARKERS SHALL BE IN LINE WITH NO VARIANCES OTHER THAN NECESSARY FOR PROPER ALIGNMENT OF TRAVEL LANES.
- (3) MARKERS SHALL NOT BE PLACED ON SAW JOINTS OF CONCRETE PAVEMENTS, BUT SHALL BE TWO (2) INCHES OFF OF THE SAW JOINT (AS APPROVED BY SIGNS & MARKINGS DIV.).
- (4) THE SURFACES ON WHICH MARKINGS ARE TO BE APPLIED SHALL BE CLEAN, DRY SURFACES & FREE OF LOOSE PARTICLES, DIRT, ACCUMULATIONS OF TAR & GREASE OR OTHER DELETERIOUS MATERIALS.
- (5) WHEN MARKINGS ARE TO BE PLACED ON PORTLAND CEMENT CONCRETE PAVEMENT LESS THAN 1 YEAR OLD, THE PAVEMENT SHALL BE CLEANED OF ALL RESIDUE & CURING COMPOUNDS PRIOR TO THE PLACEMENT OF THE MARKING MATERIAL.
- (6) YELLOW MARKERS PLACED SIDE BY SIDE TO FORM A DOUBLE LINE SHALL HAVE A 4" SPACE BETWEEN MARKERS
- (7) WHITE MARKERS PLACED SIDE BY SIDE TO FORM A DOUBLE LINE SHALL HAVE A 4" SPACE BETWEEN MARKERS
- (8) WHITE MARKERS PLACED SIDE BY SIDE TO FORM A WIDE LINE SHALL BE ADJACENT TO EACH OTHER

NOTE:
CROSSWALKS WITH LONGITUDINAL LINES SHALL BE USED AT MID-BLOCK CROSSINGS AND NON PROTECTED CROSSINGS.

ROADWAY MARKERS SPECIFICATIONS

COLOR OF MARKERS:

A: YELLOW BODY-AMBER REFLECTOR Y: YELLOW BODY-NON REFLECTIVE
C: WHITE BODY-CRYSTAL REFLECTOR W: WHITE BODY-NON REFLECTIVE
R: RED BODY-RED REFLECTOR

REFLECTIVE FACES:

I : ONE FACE REFLECTORIZED
II: BOTH FACES REFLECTORIZED

SIZES & KINDS OF MARKERS:

4 : 4" LANE MARKER

EXAMPLES OF ROADWAY MARKERS:

TYPE II-CR-4 : 4" REFLECTORIZED LANE MARKER, ONE FACE REFLECTS CRYSTAL, ONE FACE REFLECTS RED LIGHT.
TYPE Y-4 : 4" NON-REFLECTIVE YELLOW LANE MARKER

ROADWAY MARKERS TO BE USED

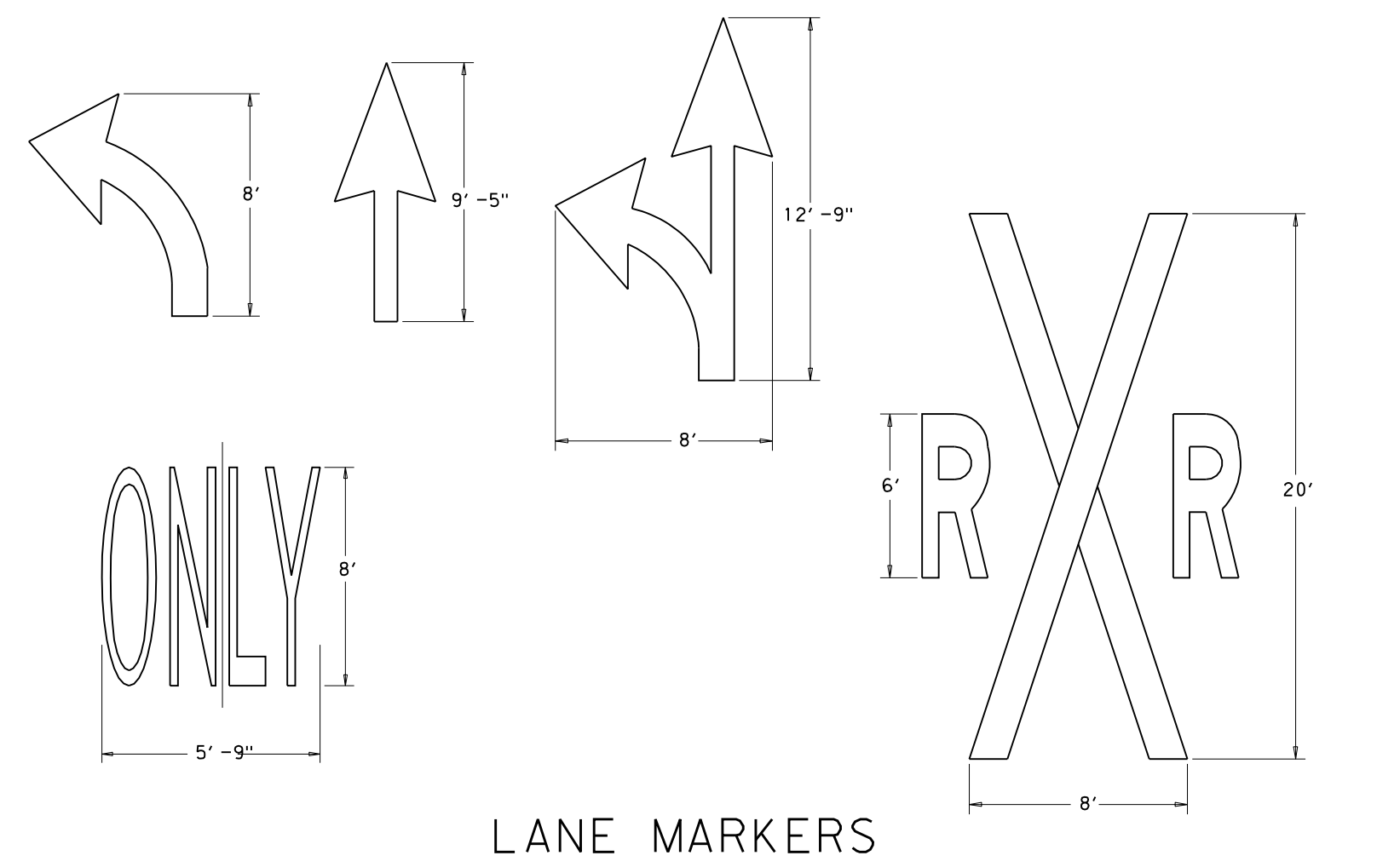
LANE MARKERS:

TYPE Y-4 TYPE I-C-4 TYPE II-AA-4
TYPE W-4 TYPE II-CR-4

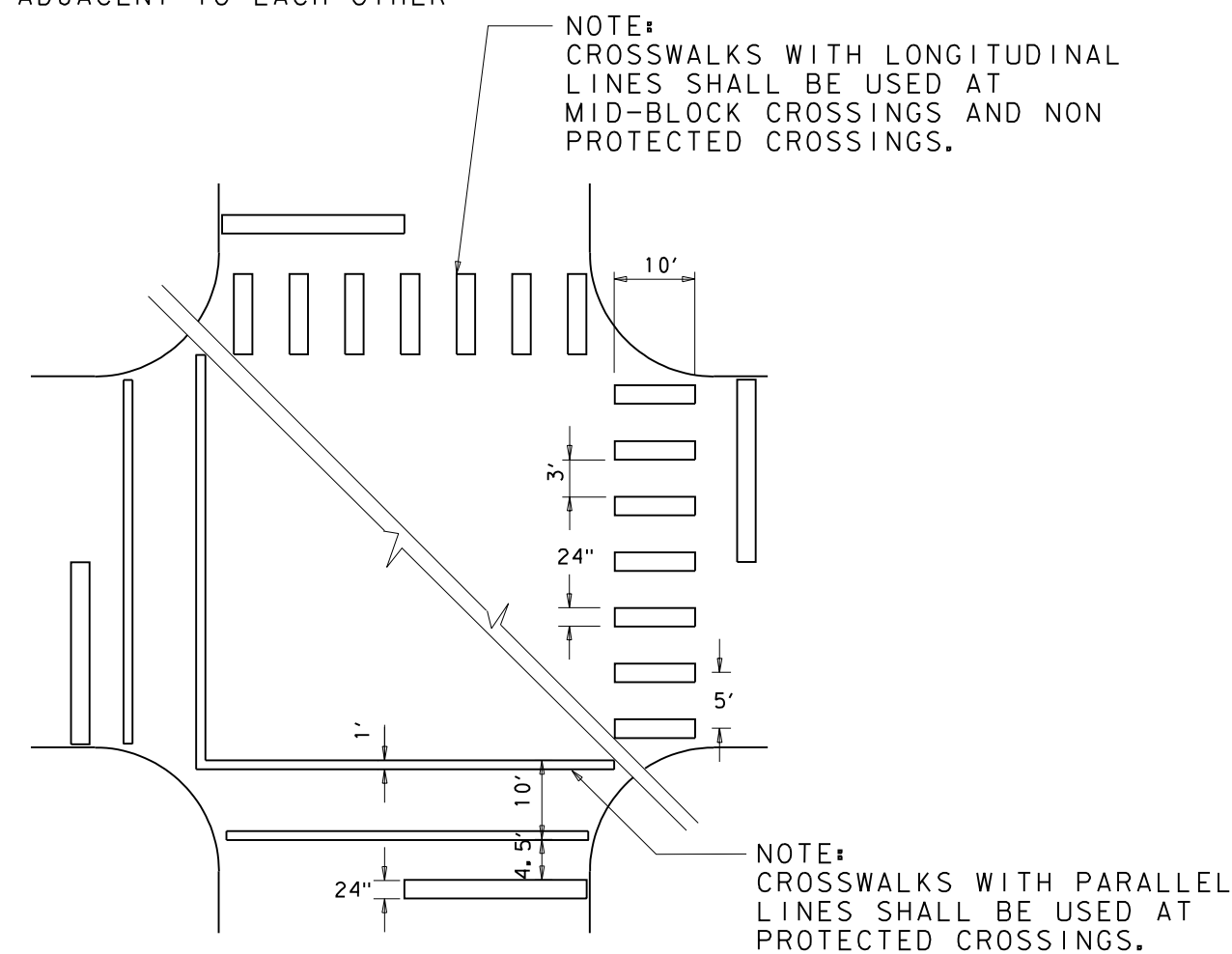
STOP BARS, CROSSWALKS, AND PAVEMENT MESSAGES

ALL STOP BARS, CROSSWALKS, & PAVEMENT MESSAGES SHALL MEET TOWN OF ADDISON SPECIFICATIONS. BEFORE INSTALLATION, CONTACT TOWN OF ADDISON FOR SPECIFICATIONS.

TWENTYFOUR INCH TAPE SHALL BE USED FOR STOP BARS, AND CROSSWALKS WITH LONGITUDINAL LINES. TWELVE INCH TAPE SHALL BE USED AT CROSSWALKS WITH PARALLEL LINES. NO TAPE COMBINATIONS WILL BE ALLOWED. FOUR INCH TAPE WILL BE USED FOR LANE LINES, IF APPLICABLE. TAPE TO BE USED IS 3M STA-MARK, A-420 OR APPROVED EQUAL. PREFORMED THERMOPLASTIC TAPE MAY BE USED DURING COLD WEATHER WITH PRIOR APPROVAL FROM THE TOWN OF ADDISON CONTACT CEMENT E-44 MUST FOLLOW MANUFACTURERS APPLICATION INSTRUCTIONS. ALL PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES PER THE LATEST AMENDMENT.

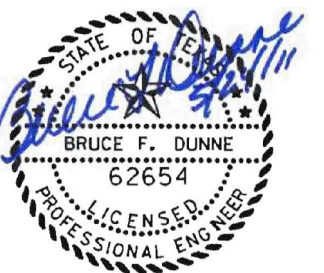


LANE MARKERS



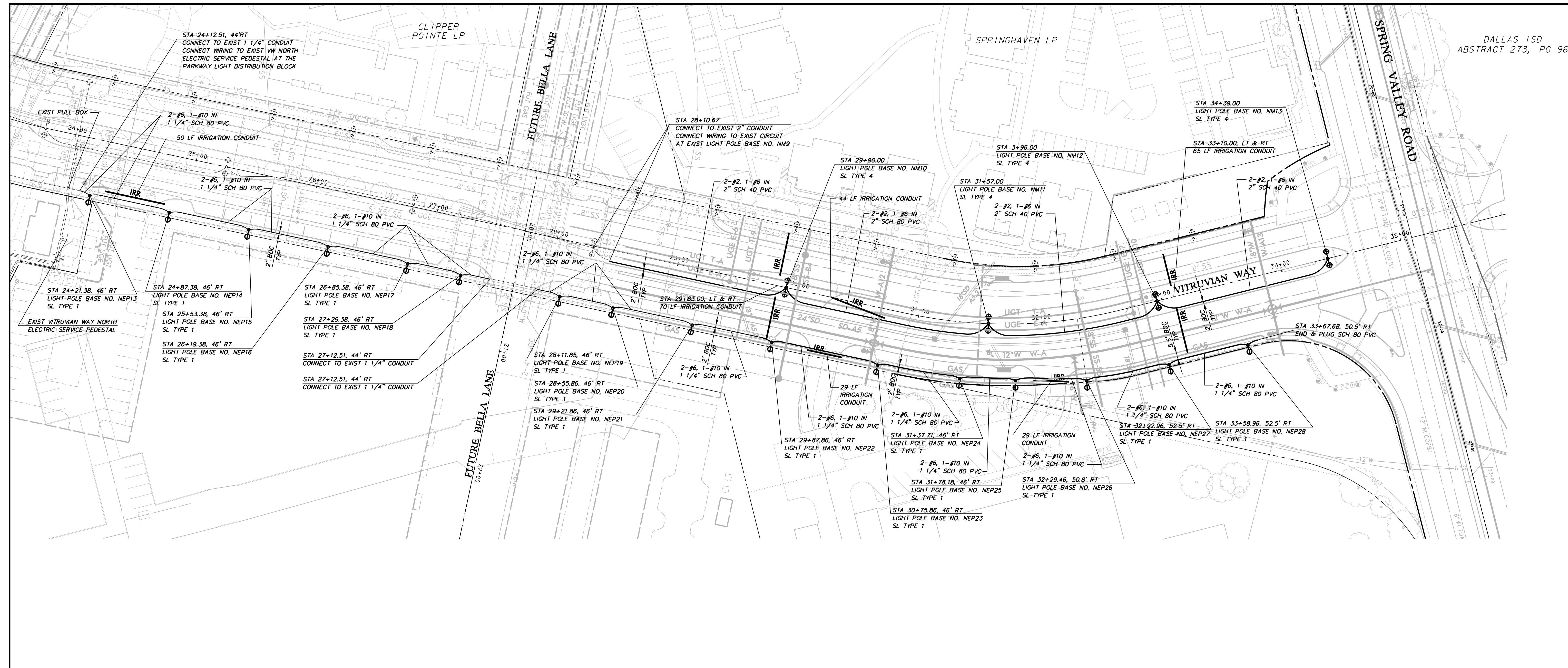
STANDARD CROSSWALKS AND STOP BARS PAVEMENT MARKINGS

TYPICAL PAVEMENT MARKINGS



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PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION			
PAVEMENT MARKING & SIGNAGE DETAILS			
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



STREET LIGHTING & CONDUIT NOTES

- REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THE PROJECT.
- REFER TO SHEET ED(1)-03 FOR ELECTRIC DETAILS - CONDUIT. RIGID METAL CONDUIT ELBOWS ARE NOT REQUIRED.
- REFER TO SHEET ED(2)-03 FOR ELECTRIC DETAILS - CONDUCTORS.
- REFER TO SHEET ED(3)-03 FOR ELECTRIC DETAILS - GROUND BOXES. RIGID METAL CONDUIT ELBOWS ARE NOT REQUIRED. CONCRETE APRON IS NOT REQUIRED.
- WATER, SANITARY SEWER, AND STORM DRAIN LINES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL LOCATE ALL UTILITY LINES IN THE AREA PRIOR TO DIGGING.
- INSTALL SCHEDULE 40 PVC UNDERGROUND (24" MIN COVER). ALL STREET AND DRIVEWAY CROSSINGS (30" MIN COVER). ALL BENDS TO LONG RADIUS.
- ALL CONDUIT AT POLE BASES TO BE WITHIN THE DRILLED SHAFT FOUNDATION. NO EXPOSED CONDUIT AT POLE BASES WILL BE ALLOWED.
- SL TYPE 1 - SINGLE 100W 240V MH LUMINARE ON 11'-8" POLE, COLOR SILVER- REFERENCE SPECIAL PROVISIONS
SL TYPE 4 - TWIN 400 W 240V MH LUMINARE ON 30' POLE, COLOR SILVER- REFERENCE SPECIAL PROVISIONS
- CONNECTION TO POWER COMPANY CIRCUITS TO BE MADE ONLY BY POWER COMPANY.
- UNLESS OTHERWISE INDICATED ALL WORK SHALL CONFORM TO THE 2008 NATIONAL ELECTRICAL CODE (NFPA 70) AND THE 2007 NATIONAL ELECTRICAL SAFETY CODE (ANSI C2).
- ALL EMPTY CONDUIT INSTALLED FOR FUTURE EXTENSION SHALL BE TURNED UP AND EXTENDED UP TO FINISHED GRADE. CAP ENDS OF ALL CONDUITS.
- REFER TO REFERENCED SHEETS FOR STREET LIGHTING DETAILS.
- IRRIGATION SLEEVES "IRR" SHALL CONSIST OF 1-6" SCH 40 PVC AND 1-2" SCH 40 PVC INSTALLED WITH MINIMUM 24" COVER AND EXTENDING 2' BEYOND THE BACKS OF CURB OR EDGE OF PAVEMENT AND UP TO FINISHED GRADE. CAP ENDS OF ALL CONDUITS.

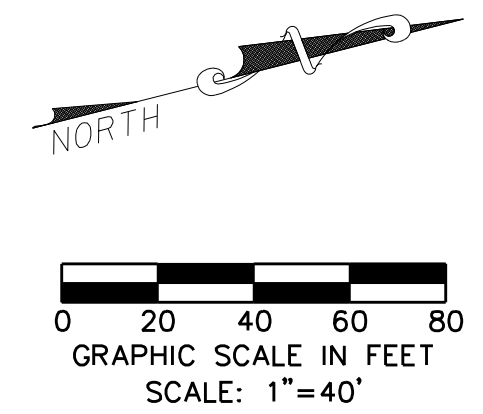
WARNING

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BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 1127' NORTH OF VITRUVIAN WAY.
BM #2 REF. ELEVATION = 547.84
SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

LEGEND

- PULL BOX (GROUND BOX) ■
 - PVC CONDUIT (LIGHTING) —
 - TRANSFORMER ON PAD * ▲
 - STREET LIGHT - 400W ○ ⊕
 - STREET LIGHT - FUTURE 400W ○ ⊕ ⊕ ⊕
 - STREET LIGHT - 100W ○ ⊕
 - STREET LIGHT - FUTURE 100W ○ ⊕ ⊕ ⊕
- * PROVIDED BY POWER COMPANY



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STREET LIGHT & CONDUIT PLAN - VW

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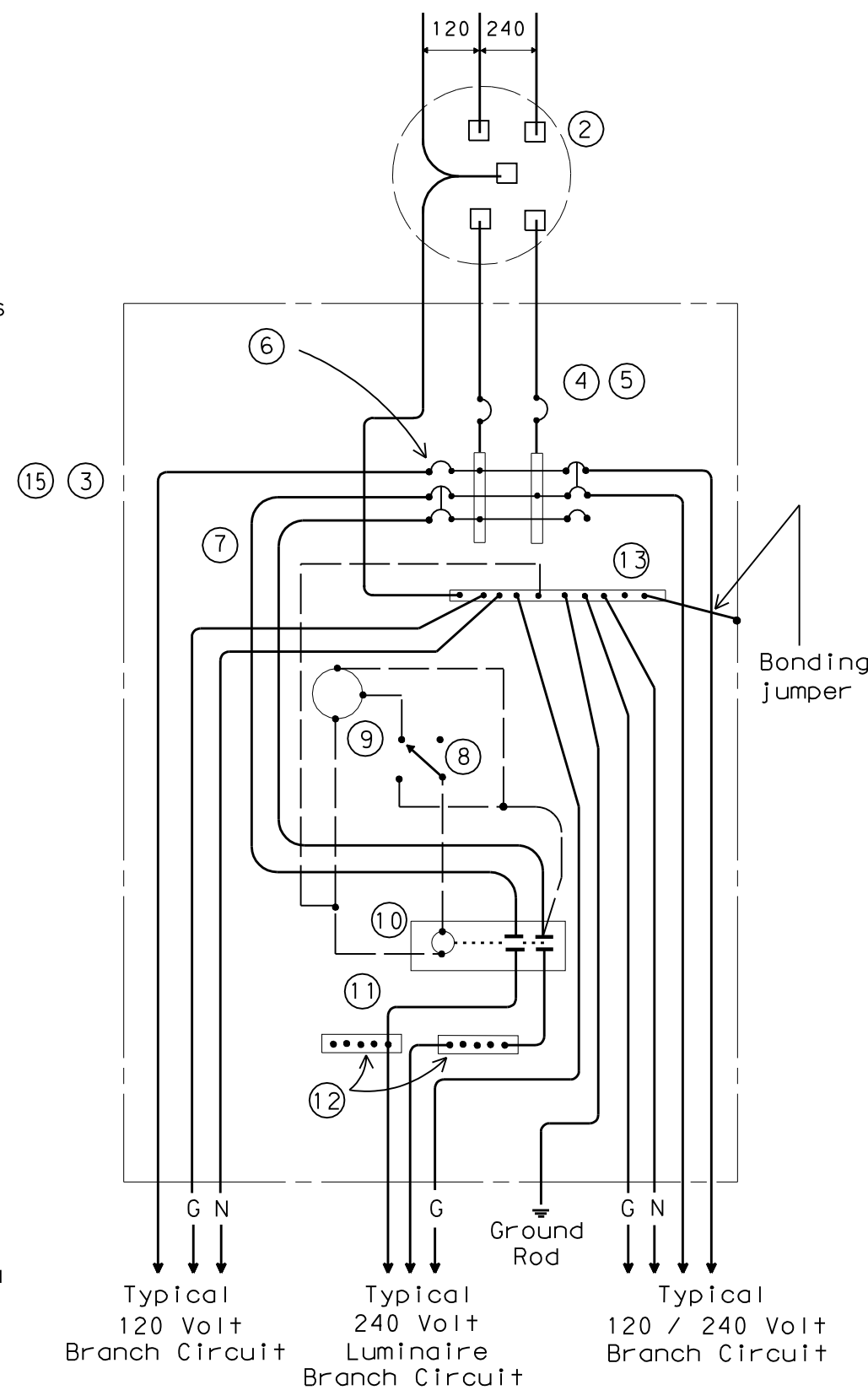
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Two Photocell viewing windows not shown but required when photocell is listed as enclosure mounted.

SCHEMATIC LEGEND

- 1 - Omit
- 2 - Meter
- 3 - Service Assembly Enclosure
- 4 - Main Disconnect Breaker
- 5 - Lightning Arrestor - Delta LA302 or Eq
- 6 - Circuit Breakers
- 7 - Lighting Contactor Feed - 2-#2cu
- 8 - Control Station ("H-O-A" Switch)
- 9 - Photo Electric Control (enclosure-mounted)
- 10 - Lighting Contactor - 100 amp
- 11 - Power Distribution Block Feed - 2-#2cu
- 12 - Power Distribution Terminal Blocks - SqD LBA or Eq
- 13 - Neutral/Ground Bus
- 14 - Omit
- 15 - Load Center

- Control Wiring
- Equipment grounding conductor always required
- N — Neutral Conductor (for 120 volt loads only)
- G — Power Wiring

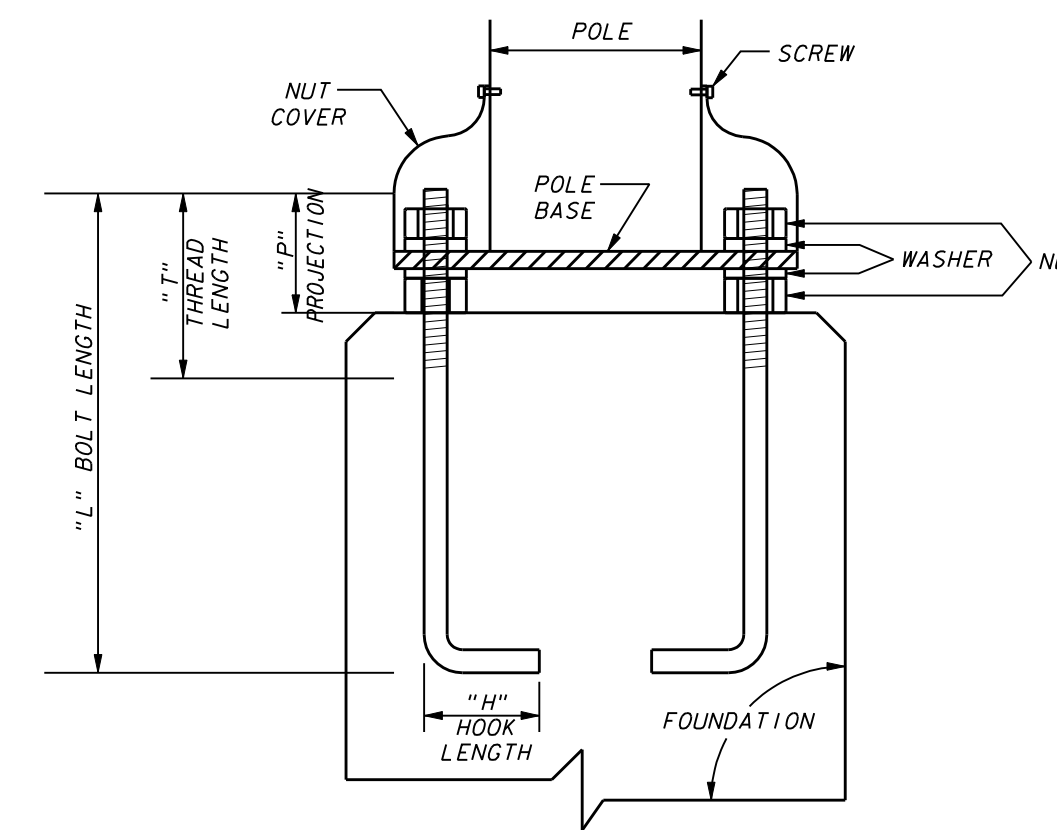


SCHEMATIC TYPE D
120/240 VOLTS - THREE WIRE

TYPE D SERVICE NOTES

Photocell and lighting contactor shall be located in the same UL type 3R enclosure with load center. There shall be a window on each side of enclosure to allow operation of photocell. Both photocell, contactor and breaker area shall have dead front trim. Type D load center with lighting controls shall have power distribution blocks for a minimum of 12, #2 conductors.

EXISTING ELECTRIC SERVICE PEDESTAL SCHEMATIC

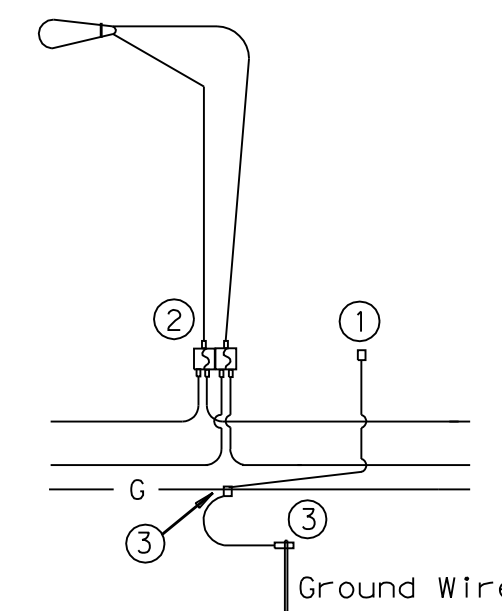


- NOTES:**
- USE ANCHOR BOLT TEMPLATE FURNISHED BY POLE MANUFACTURER FOR ANCHOR BOLT ALIGNMENT.
 - ALL EXPOSED HARDWARE TO BE STAINLESS STEEL.

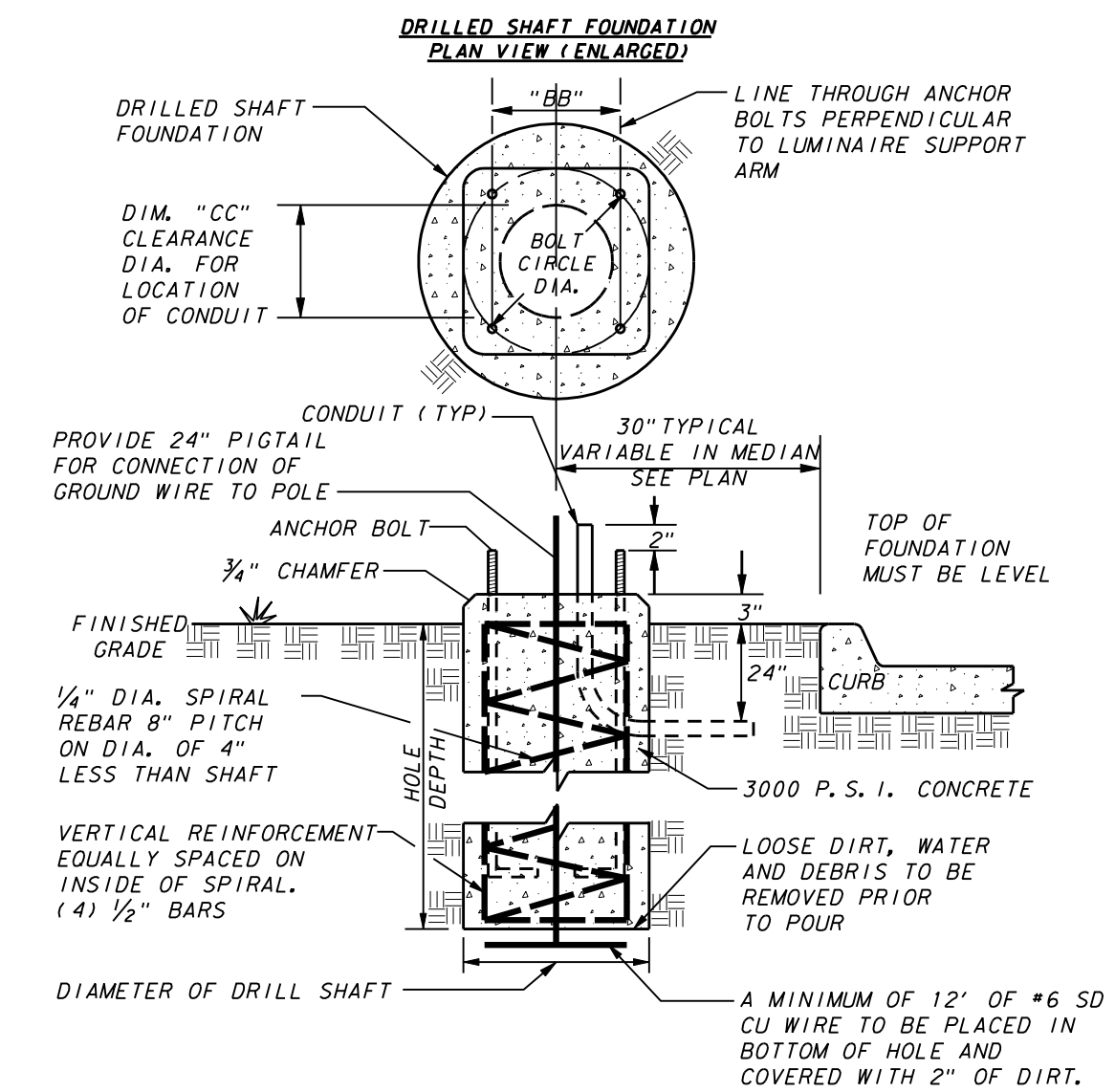
TYPE NO.	BOLT DIA. (IN.)	LENGTH "L" (IN.)	HOOK "H" (IN.)	THREAD "T" (IN.)	PROJECTION "P" (IN.)
45	3/4	17	3 1/2	5 1/2	3 1/2
47	1	36	4	6	4

SUPPLY 2 NUTS & 2 WASHERS WITH EACH BOLT

ANCHOR BOLT DETAIL

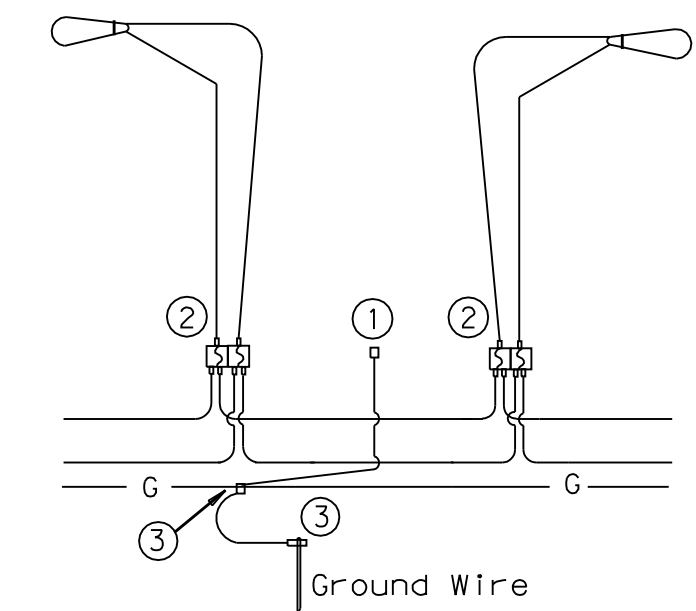


FOR THREE-WIRE CIRCUIT-CENTER GROUNDED LUMINAIRES SERVED AT 240V FOR 120/240 VOLT SERVICE
SINGLE FIXTURE



TYPE NO.	SHAFT DEPTH	SHAFT DIA.	BOLT CIRCLE DIA.	ANCHOR TYPE NO.	CONDUIT CLEARANCE DIM. "CC"	DISTANCE ACROSS BOLTS DIM "BB"
1	60"	18"	9 1/2"	45	4 1/2"	6 3/4"
2	60"	18"	9 1/2"	45	4 1/2"	6 3/4"
3	72"	24"	11 1/2"	47	7 1/2"	8 3/8"
4	72"	24"	11 1/2"	47	7 1/2"	8 3/8"

DRILLED SHAFT FOUNDATION

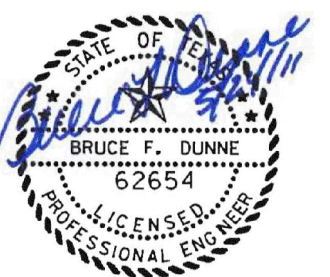


FOR THREE-WIRE CIRCUIT-CENTER GROUNDED LUMINAIRES SERVED AT 240V FOR 120/240 VOLT SERVICE
DOUBLE FIXTURE

NOTES:

- Use threaded, copper or tin-plated copper, pole bonding connector, sized appropriately for conductors.
- Double-Pole in-line fuse and connector, sized appropriately for conductors. Bussmann TRON HEY with 2A0660 & 2A0661 Insulating Boots and LIMITRON KTK-R fast acting fuses or equal - 100W fixture use 1 amp fuses, 400 W fixture use 4 amp fuses.
- Split Bolt or other connector.

ELECTRICAL CONNECTION DETAIL



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STREET LIGHT DETAILS

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I. GENERAL REQUIREMENTS FOR ALL ELECTRICAL WORK

The location of all conductors, conduits, junction boxes, ground boxes, and electrical services is diagrammatic only and may be shifted by the Engineer to accommodate local conditions.

Materials shall be new and unused. Materials and installation shall comply with the applicable provisions of the National Electrical Code (NEC), National Electrical Manufacturers Association (NEMA) standards, and shall be Underwriters Laboratories (UL) Listed unless otherwise shown on the plans or specifications or approved by the Engineer in writing. Faulty fabrication or poor workmanship in any material, equipment, or installation shall be justification for rejection. When reference is made to UL, it can be considered to mean a Nationally Recognized Independent Testing Lab (NRTL). Comparable standards of Canadian Standard Association, Electrical Testing Laboratories or Factory Mutual can be equal to the referenced UL standard. Where reference is made to NEMA listed devices, IEC listed devices shall not be considered to be an acceptable equal to a NEMA listed device. Acceptable devices may have both a NEMA and IEC listing.

With the exception of high strength bolts, miscellaneous nuts, bolts and hardware may be stainless steel when plans specify galvanized, provided that bolts are 1/2 inch or less in diameter. The Contractor shall provide the following electrical test instruments as required by the Engineer to confirm compliance with the contract and the NEC. Those test instruments are voltmeter, amp probe, megger (1000 volt DC) and torque wrenches. All meters shall have been properly calibrated within one year. Calibration certification shall be provided to the Engineer upon request. Calibration certification tag shall also be applied to the meter. The Contractor shall operate meters during inspection as requested by the Engineer. Grounding shall be as shown on the plans and in accordance with the NEC. Metallic conduit, light poles, luminaires on bridge structures, and all metal enclosures shall be bonded to the system-grounding conductor. The ground rod in each ground box or junction box at the bridge ends, and in each ground box installed for underpass lighting will also be bonded to the system grounding conductor. The grounding conductor shall be bare or, if insulated, shall be green. Ground rods, connectors, and bonding jumpers will not be paid for separately, but will be subsidiary to the various bid items.

SUBMITTALS:

The contractor shall submit for approval six (6) copies of catalog cut sheets for each of the following three (3) categories.

Category 1. Electrical services including photocell.

Category 2. Breakaway disconnects, heat shrink tubing, heat shrink filler tape, GelCaps and ground boxes which will include loading capacity certification.

Category 3. Highmast assembly kits, when applicable. See Item 614 "Highmast Illumination Assemblies". Submittals shall be legible and shall be marked to indicate which product on a cut sheet is to be supplied. Where manufacturers provide warranties and guarantees as a customary trade practice, the Contractor shall furnish to the State such warranties and guarantees.

Any deviation from plans or specifications, including deviations due to plan error should be prominently displayed on the submittal. Any changes not prominently noted in submittal and incorporated into the work without proper authorization will constitute grounds for rejection of that portion of the work.

II. CONDUIT

A. MATERIALS

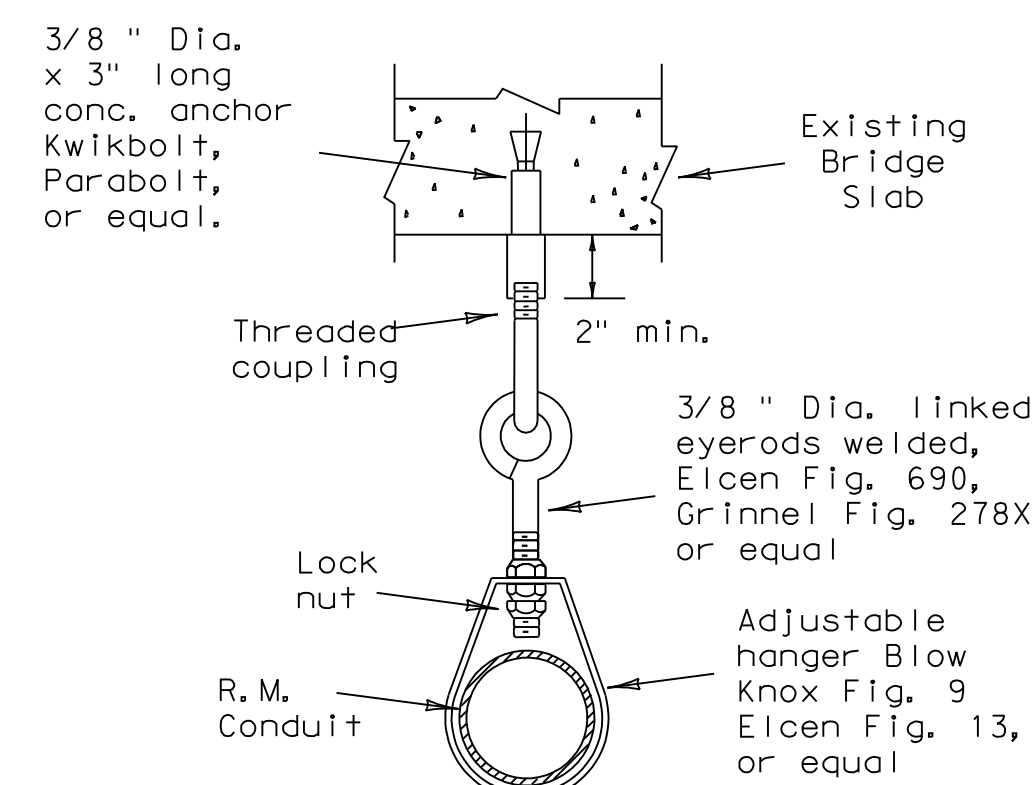
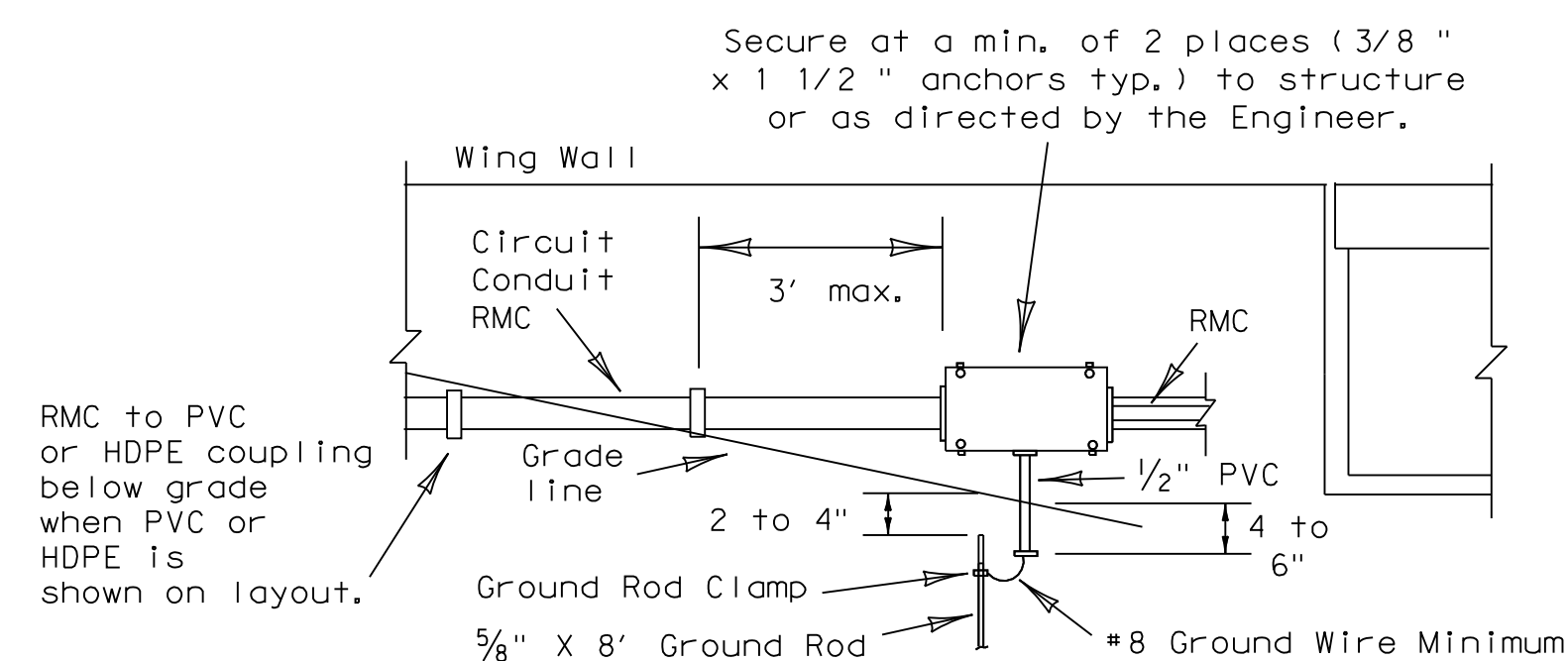
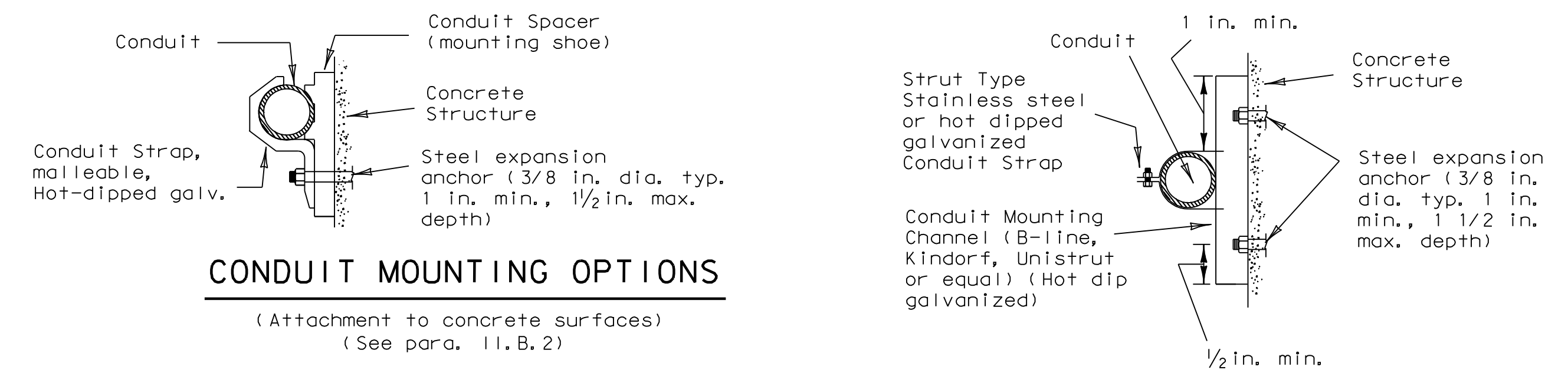
- Conduit and fittings shall be UL Listed for the intended use shown on plan sheets.
- Conduit shall be the type shown by descriptive code or shown elsewhere on the plans. Substitution of the various types of conduits will not be permitted. All flexible conduit in rigid metallic conduit (RMC) systems shall be Liquidtight Flexible Metal (LFMC) conduit. All flexible conduit in PVC systems shall be Liquidtight Flexible Non-metallic conduit (LFNC).
- All exposed conduits shall be RMC, unless otherwise specifically shown on the plans. All metal conduit shall be properly grounded.
- Couplings, connectors, conduit bodies, grounding bushings, and offset nipples for RMC shall be electro-zinc plated steel or hot dipped galvanized malleable iron, threaded or threadless compression type, rain-tight and shall be UL listed for the intended use.
- Expansion joints for metal conduit shall be provided with an internal or external bonding jumper and shall be UL listed.
- Unless otherwise shown on the plans, junction box minimum sizes shall be in accordance with the following table which applies to the greatest number of conductors entering the box through one conduit with no more than four conduits per box. When a mixture of conductor sizes are present, the conductors shall be counted as if all are of the larger size. Situations not applicable to the table shall be sized in accordance with NEC 370-28.

AWG	3 CONDUCTORS	5 CONDUCTORS	7 CONDUCTORS
#1	10" x 10" x 4"	12" x 12" x 4"	16" x 16" x 4"
#2	8" x 8" x 4"	10" x 10" x 4"	12" x 12" x 4"
#4	8" x 8" x 4"	10" x 10" x 4"	10" x 10" x 4"
#6	8" x 8" x 4"	8" x 8" x 4"	10" x 10" x 4"
#8	8" x 8" x 4"	8" x 8" x 4"	8" x 8" x 4"

- RMC system junction boxes equal to or smaller, in any dimension, than 12 x 12 x 6 (HxWxD), surface mounted and containing conductors #8 or larger, shall be hot dipped galvanized cast iron with minimum wall thickness of 3/16 inch, shall have external mounting lugs, and shall be UL listed Crouse-Hinds Type WAB, OZ/Gedney Type YS or approved equal. Unless otherwise shown elsewhere on the plans, RMC system junction boxes larger than the aforementioned boxes but equal to or smaller, in any dimension, than 18 x 18 x 6 (HxWxD) shall be 14-ga. stainless steel; RMC system junction boxes larger than 18 x 18 x 6 (HxWxD) shall be 12-ga. stainless steel. All metal junction boxes shall be equipped with a threaded hole or lug for grounding. Stainless steel boxes 12 x 12 x 6 and larger need not be UL Listed but shall meet the other requirements of the NEC and shall have ribs, stiffeners, or thicker metal and shall have external mounting feet. Junction boxes with an internal volume of more than 100 cu. in. may be supported by connection of two or more rigid metal conduits, where specifically shown on the plans or where approved by the Engineer.
- Junction boxes containing only #10 or #12 AWG conductors shall be Crouse Hinds Type GRFX, Appleton Type JBOX, two-gang FD, or similar approved cast iron box. Boxes shall be sized according to NEC Table 370-16(a).
- IMC and EMT conduit shall not be used unless specifically required by the plan layout sheets. Junction boxes in EMT conduit systems shall be made from galvanized sheeting and shall be UL listed and approved for outdoor use, unless otherwise noted on the plans. Sheet metal junction boxes shall be sized in accordance with the NEC. Junction boxes for IMC conduit systems shall meet the requirements of boxes used with RMC systems.
- Junction boxes in PVC conduit systems shall be PVC, intended for outdoor use, unless otherwise noted on the plans.
- Elbows in PVC conduit systems one inch and larger shall be rigid metal, with the exception of traffic signal systems which may have PVC elbows instead of rigid. If any part of the rigid metal elbow is buried less than 18 inches underground the elbow and rigid metal extension shall be grounded. Grounding shall be accomplished by means of a grounding bushing installed on the extension. Unless specifically shown on the plans, rigid metal elbows containing, or entering ground boxes containing only communications conductors, loop detectors, or other low voltage power limited circuits need not be grounded unless a ground wire is present in the conduit or ground box. The rigid metal elbows located in concrete foundations may be extended with PVC conduit and need not be grounded provided that the end of the elbow nearest the end of the conduit run exiting the foundation is at least 2 inches below the concrete. RMC elbows will not be eliminated. RMC elbows will not be paid for directly, but will be subsidiary to various bid items.
- High-Density Polyethylene (HDPE) conduit shall meet the requirements of Item 622, Duct Cable, except that the HDPE conduit, when bid under Item 618, Conduit, shall not contain factory installed conductors. Fittings for HDPE conduit shall be UL listed as an electrical conduit connector or shall be thermally fused using an electrically heated wound wire resistance welding method. HDPE conduit may be substituted for bored schedule 40 or schedule 80 PVC conduit. When such substitution is made, bored HDPE shall be schedule 40 of the size PVC being replaced. The HDPE conduit shall transition to PVC (or RMC elbow when required) at the bore pit. Size and schedule shall be as shown on the plans. Substituted conduit may not be extended to ground boxes or foundations; RMC elbows shall be installed at ground boxes and foundations. RMC elbows will not be eliminated.
- All conduit support hardware including straps, nuts, bolts, screws, retaining anchors and washers shall be hot dipped galvanized or stainless steel. Strut type conduit straps shall be stainless steel or hot dipped galvanized. Strut type straps need not be made of malleable type material. Stamped-cadmium plated straps will not be allowed. Straps having only one mounting hole shall not be allowed for use on conduits 2 inches and larger with the exception of electrical service poles where stainless steel standoff straps will be allowed. Two piece conduit straps designed to be used with a mounting shoe shall be installed only with the correctly sized shoe.

B. CONSTRUCTION METHODS

- Conduit in structures shall have expansion fittings at structure expansion joints. All straight runs of RMC conduit exposed on structures such as bridges shall have expansion joints installed at maximum intervals of 150 feet. Expansion joints shall be installed so they allow for movement of the conduit. Installation of the joint in such a manner that will not allow for movement shall be repaired at no expense to the state. The method of determining the final setting length of the expansion joint shall be provided to the Engineer upon request.
- Conduit supports shall be spaced at maximum intervals of 5 feet. Conduit spacers shall be used with metal conduit placed on surfaces of concrete structures (See conduit mounting options).
- Conduit supports shall not be attached directly to prestressed concrete beams except as shown specifically in the plans and approved by the Engineer.
- Unless otherwise shown on the plans, conduit placed beneath existing roadways, driveways, or sidewalks, or after the base or surfacing operation has begun, shall be accomplished by jacking or boring. The Contractor shall back fill and compact the bore pits to the bottom of the conduit prior to installing connecting conduit or duct cable to prevent bending of the connection.
- Conduit trenched in the subgrade of new roadways shall be backfilled with excavated material, unless otherwise noted on the plans. Conduit trenched in the sub-base of new roadways shall be backfilled with cement-stabilized base.
- Open ends of all conduit and raceways shall be fitted with temporary caps or plugs to prevent entry of dirt, debris and rodents during construction. The temporary cap may be constructed of duct tape, but in all cases shall be tightly fixed to the conduit and shall be durable. The contractor shall clean out the conduit and prove it clear in accordance with Standard Specifications Item 618.3 prior to installing any conductors.
- Conduit entry into the top of enclosures such as safety switches, meter cans, service enclosures, auxiliary enclosures and junction boxes shall be made weatherproof using conduit sealing hubs, or threaded bosses.
- A bonding jumper shall be installed from each grounding bushing to the nearest grounding rod, grounding lug, and/or equipment grounding conductor. All jumpers shall be the same size as equipment grounding conductor. Conduit used as casing under roadways for duct cable need not be grounded if duct extends full length through the casing. At electrical services, grounding electrode conductor shall be a solid Copper #6 AWG.
- Metal junction boxes shall be bonded to the grounding conductor in accordance with the NEC.
- Conduits entering ground boxes shall be placed so that the conduit ends shall be not less than 3 inches nor more than 6 inches from bottom of box (See ground box detail on sheet ED(3)).
- Conduit ends shall be sealed with heat shrink boots with waterproof sealant, urethane foam, or by other methods approved by the Engineer. Sealing shall be done after completion of any required pull tests. Duct tape shall not be used as a permanent conduit sealant. Silicone caulking shall not be used as a sealant.
- All strut mounting material and hardware shall be hot-dip galvanized or shall be stainless steel. The cut ends of strut and non-galvanized rigid metal conduit threads shall be coated with a zinc rich paint (90% or more zinc content). Zinc rich paint may only be used to touch up galvanized material as allowed under Item 445.6 galvanizing. The painting of non-galvanized material with a zinc rich paint shall not be considered as an approved alternative for galvanized materials.
- All PVC conduit terminations shall be fitted with bushings or bell ends. All metal conduit terminations shall be fitted with a grounding type bushing.



5/03 Revision
Revised notes.

- NOTES
- Ground rod clamp to be UL listed for direct burial.
 - For conduit placed in structure, use flush-mounted box.
 - Bond junction box and metal conduits to equipment grounding conductor and grounding electrode conductor using listed connector.
 - Seal all conduits entering the junction box from underground.
 - Install bell end or bushing on 1/2 inch PVC conduit both ends.
 - Ground rod to be driven within 8 inches of 1/2 inch PVC conduit end.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

**ELECTRICAL DETAILS-
CONDUIT**

ED(1)-03

© TxDOT January 1992		DN-KB	CK-JW	DN-DN	CK-GC	NEC No. 4
REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT			SHEET
4-98		6				17
12-00			COUNTY	CONTROL	SECTION	JOB
3-03						HIGHWAY
5-03						

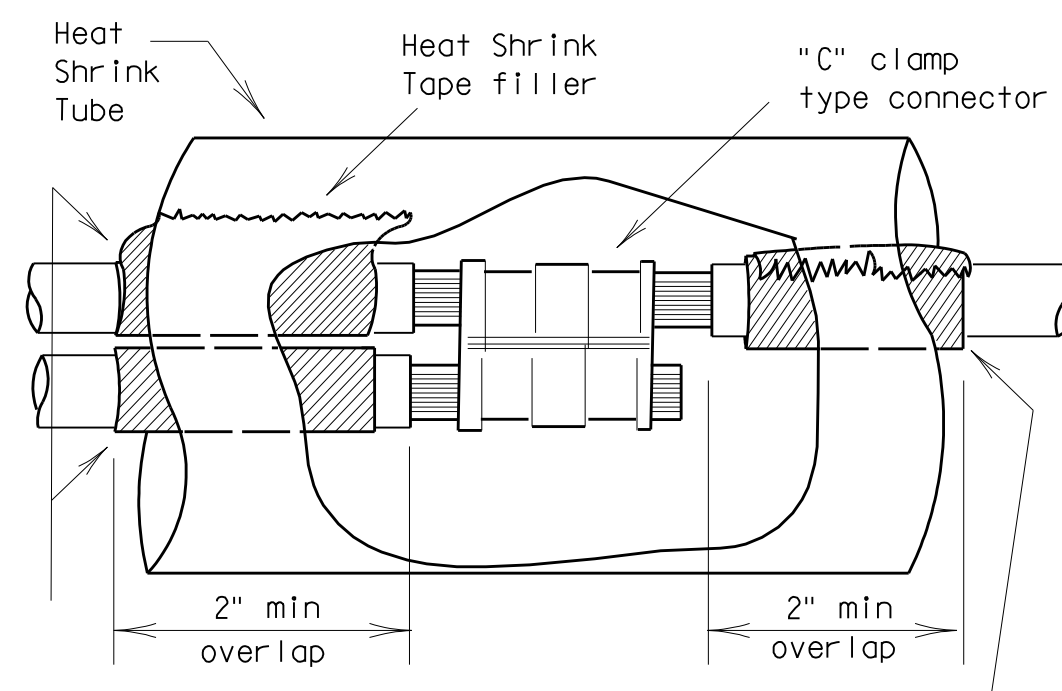
I. ELECTRICAL CONDUCTORS

A. MATERIALS

- Insulated conductors shall be NEC Type XHHW. Insulated conductors shall be color coded in accordance with the NEC, articles 200, 250, and 310; i.e. insulation of grounded conductors (neutrals) shall be white. Grounding conductors (ground wires) shall be bare or insulation shall be green. Insulation of ungrounded conductors (hots) shall be any color except green, white, or gray. Identification of conductors #6 American Wire Gauge (AWG) and smaller shall be by continuous jacket color. Color coding of electrical conductors #4 AWG and larger shall be either by continuous color jacket or by colored tape. Colored tape marker shall consist of a half-lap of tape covering a 6-inch length of conductor.
- Where two or more circuits are present in one conduit or enclosure, the conductors of each circuit shall be identified by a permanent non-metallic tag at each accessible location. The tag shall be fastened to the conductors by two plastic straps. Each tag shall indicate circuit number, letter, or other identification shown in the plans.
- Grounding electrode conductor #6 AWG for bonding to ground rod at electrical service, shall be solid. Connection of conductor to ground rod shall be made using UL Listed connectors designed for such purposes.
- Heat Shrink Tape filler shall be used to seal the ends of heat shrink tubing around two or more conductors that are insulated with heat shrink tubing. Tape material shall have a minimum dielectric strength of 225 volts per mil and shall be cross-linked butyl rubber. Tape shall be supplied in rolls and shall have a backing (release paper) to prevent the tape from sticking to itself.
- Heat shrink tubing shall be heavy wall, UL listed for 600 volts or greater and shall have factory applied internal sealant.
- GelCaps shall be UL listed for 600-volt applications. GelCap shall have see-through elastomer molded cover. Cover shall be filled with high dielectric insulating gel silicone sealant to provide waterseal. Cover shall be held in place by snap-lock, molded clamp made of UV stable polypropylene.
- Splicing materials, insulating materials, breakaway disconnects, GelCaps and fuse holders will not be paid for directly but shall be subsidiary to various bid items.

B. CONSTRUCTION METHODS

- After conductors have been installed in conduit, a pull test shall be made on conductors. When any length of conductor cannot be freely pulled, the Contractor shall make any needed alterations or repairs at no expense to the State.
- The Contractor shall perform insulation resistance tests in accordance with Item 620, "Electrical Conductors." The Contractor shall coordinate with the Engineer to witness the tests.
- A sufficient length of conductor for making up connections shall be left in ground boxes (2 feet minimum, 3 feet maximum, to point of splice, 3 feet minimum, 4 feet maximum, when conductor is pulled through with no splice), enclosures, weatherheads and pole bases (1 foot minimum, 1.5 feet maximum).
- Splices shall be made only in junction boxes, ground boxes, pole bases, or electrical enclosures and shall be made with listed compression or screw type pressure connectors, terminal blocks, bolted lugs, or split bolt connectors. Splices shall be insulated with heavy wall heat shrink tubing or GelCaps and shall be made so as to provide a watertight splice. Heat shrink sleeve shall overlap conductor insulation a minimum of 2 inches on both sides of the splice. Where heat shrink tubing may not shrink sufficiently to provide a watertight seal around the individual conductors, prior to heating the tubing, the Contractor shall increase the diameter of the conductors insulation using heat shrink filler tape to provide a watertight seal between the individual conductors and the heat shrink tubing. Tape shall be visible after completion of all splices. Where filler tape is used but not visible, the Engineer shall approve each individual splice by conducting a physical inspection of each splice. When it appears the tubing has been burned, or overheated the tubing shall be considered to be defective and shall be replaced.
- GelCaps when used in place of heat shrink method of splicing, shall be sized and installed according to manufacturer's specifications. (Raychem GelCap and GelCap SL or equal.)
- Wire nuts may be used for #8 AWG or smaller conductors in above-ground junction boxes, but not in pole bases or ground boxes. Wire nuts shall be positioned upright to prevent the accumulation of water. Wire nuts used at these locations shall have factory applied waterproof sealant.
- Conductors in illumination poles shall be supported by a J-hook in the top of the pole.
- All conductors bid under Item 620 "Electrical Conductors" shall have breakaway electrical disconnects installed anytime conductors pass through a break-away support device.
- For terminating the conductors, insulation-jacketing material shall be removed in such a manner as to not nick any of the individual strands of the conductor. When individual conductor strands are removed, the conductor shall be considered to be damaged.
- When a conductor or cable has been damaged, or fails to pass an insulation resistance test, the conductor shall be replaced.
- Duct tape, black electrical tape, or wire nuts shall not be used in the repair of a damaged conductor.
- For terminations, no more than one wire may be installed under a single pressure connector, unless the device is listed for more than one wire.
- Conductors connected to break-away in line fuse holders must be installed in accordance with the specific manufacturer's installation instructions. Where threaded connections are made, they shall be properly torqued. Where crimp type connections are made, crimps shall be made using properly sized crimping pliers. Proper conductor terminations are critical to the safe operation of break-away devices.
- Waterproofing boots shall be properly trimmed to fit snugly around the conductor so as to provide a water proof connection. No more than one wire may enter a single opening in any one boot. Water proofing boots must provide the correct number of openings. Where only one wire is to be connected to a boot, the boot may not be a two wire type.

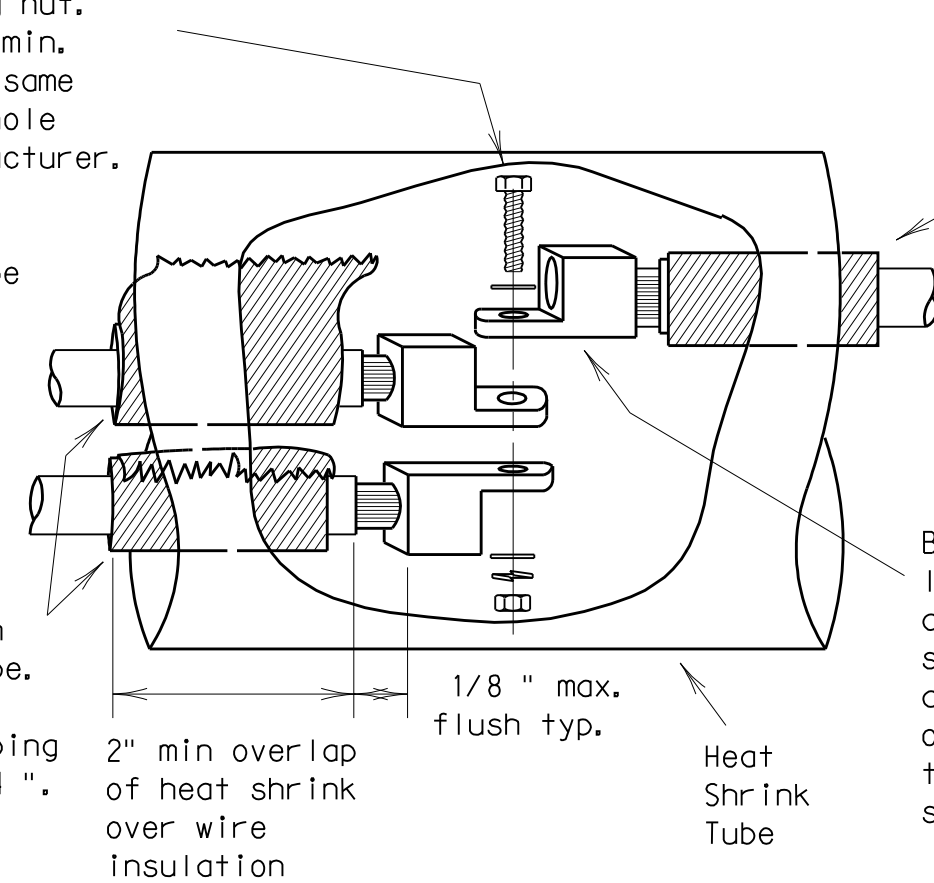


Seal between Conductors with heat shrink tape. Tape to extend past end of tubing by 1/8" to 1/4".

Increase insulation diameter with heat shrink tape if necessary. Tape to extend past end of tubing by 1/8" to 1/4".

SPLICE OPTION 1
C-CLAMP

Stainless steel or brass machine screw, nut, 2 flat washers, lock washer or self locking nut. Machine screw to be a min. of 10-24, 3/16 or the same size as the mounting hole provided by the manufacturer. Secure wrench tight. Movement of lugs after final assembly shall be considered to be a defective connection.



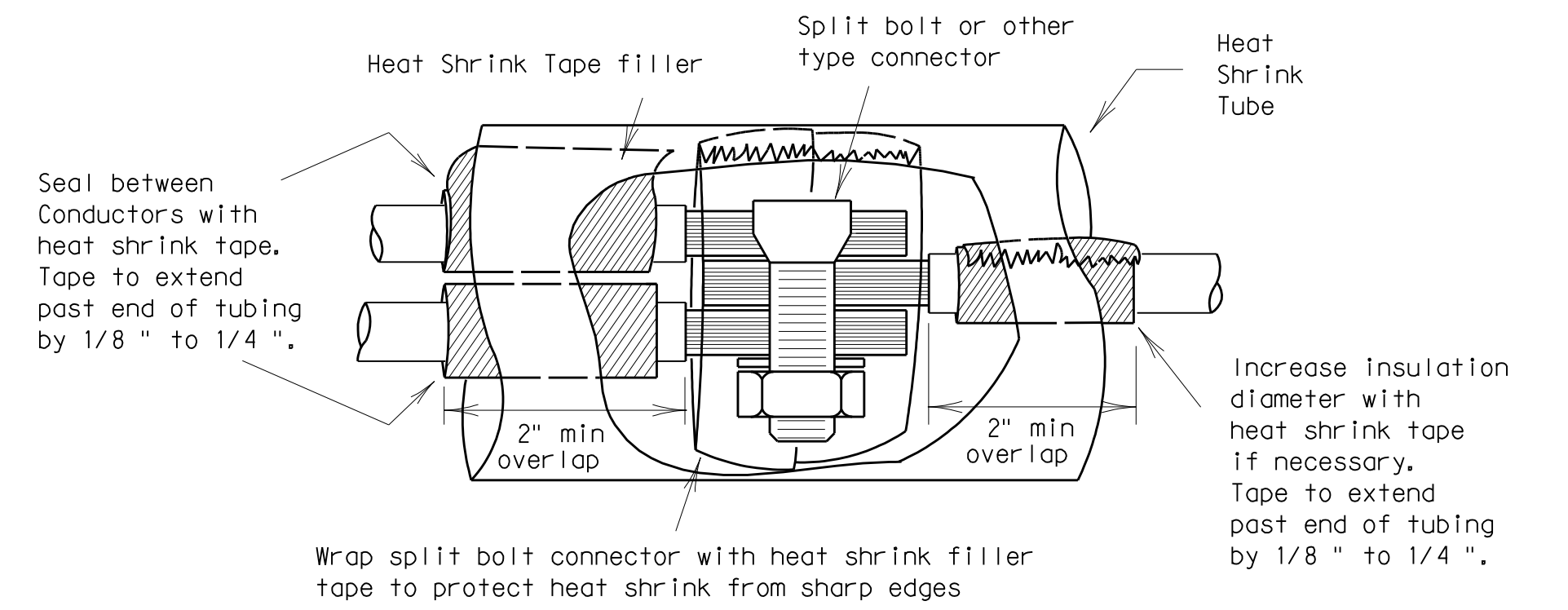
Seal between Conductors with heat shrink tape. Tape to extend past end of tubing by 1/8" to 1/4".

Increase insulation diameter with heat shrink tape if necessary. Tape to extend past end of tubing by 1/8" to 1/4".

Bolt together lugs and prior to applying heat shrink tubing, apply two layers of heat shrink tape to cover sharp edges.

SPLICE OPTION 2
BOLTED WIRE LUGS

SPLICE OPTION 3
SPLIT BOLT



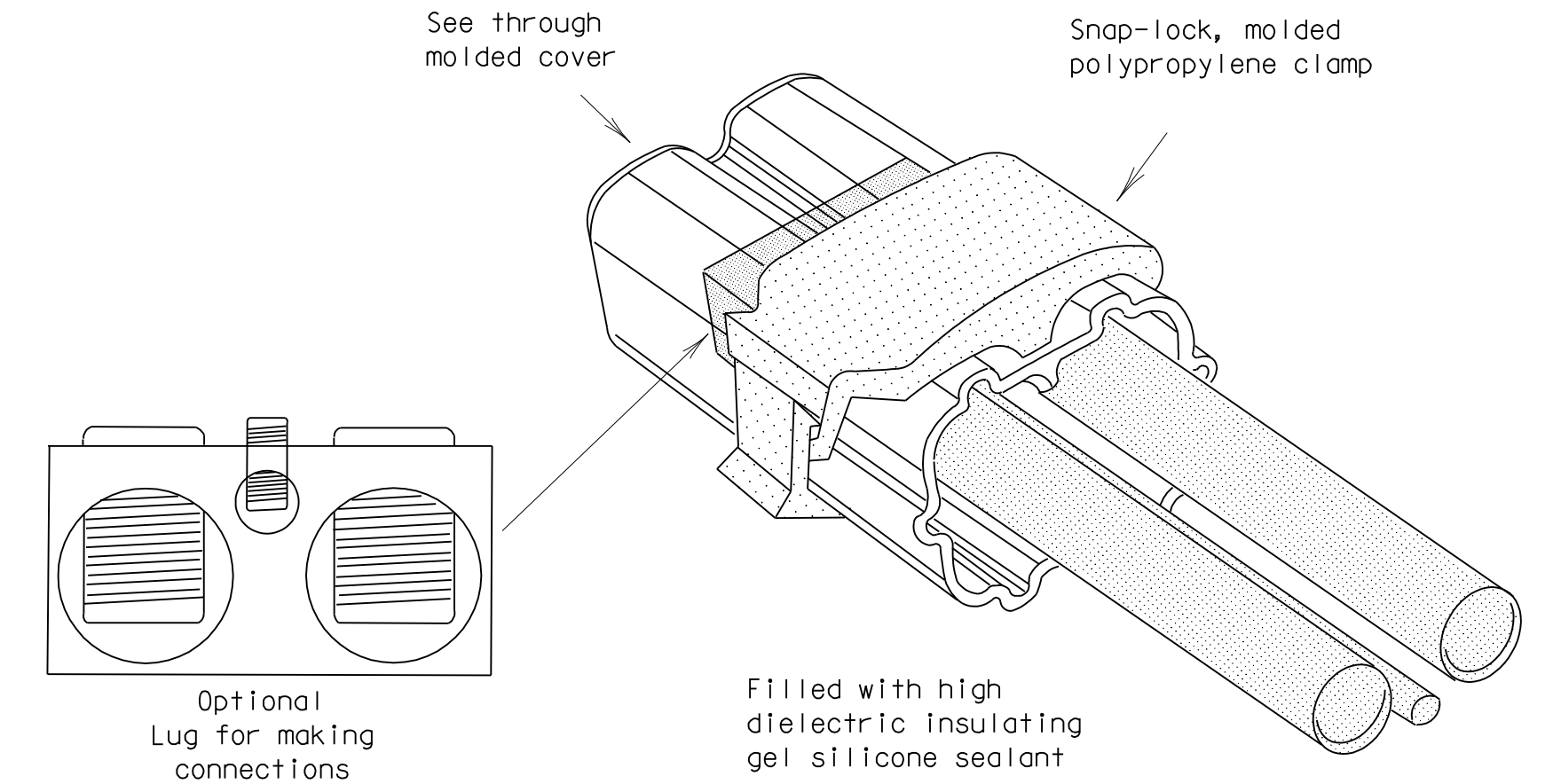
Seal between Conductors with heat shrink tape. Tape to extend past end of tubing by 1/8" to 1/4".

Increase insulation diameter with heat shrink tape if necessary. Tape to extend past end of tubing by 1/8" to 1/4".

Wrap split bolt connector with heat shrink filler tape to protect heat shrink from sharp edges

SPLICE OPTION 4
GELCAP

GelCap shall be sized and installed according to manufacturers specifications



Optional Lug for making connections

Filled with high dielectric insulating gel silicone sealant

- All conduits that contain circuit wiring of 50 volts or more shall contain an equipment grounding conductor (EGC). Conduit for traffic signals shall have an EGC, with a minimum size of #8 AWG stranded. Unless otherwise shown on the plans, the EGC for all other conduits shall be the same AWG size as the largest current carrying conductor contained in that conduit. The EGC shall be paid for Item 620-Electrical Conductors.

C. TEMPORARY WIRING

- Temporary conductors and electrical equipment to provide power for utilization equipment, shall be installed in accordance with the NEC article 305. All temporary wiring materials and methods shall comply with the standard sheets. All power outlets for portable electrical equipment, power tools, ice machines, ice storage bins and refrigerators located outdoors at grade, supplied from a utility power source, shall be provided with a ground fault circuit interrupter.
- Residual current protective devices (GFCI) may be any one of the following: molded cord and plug set, receptacle, or circuit breaker type.
- Where wire nuts are approved for temporary wiring, they shall be of the self-sealing type.
- All conductor splices must be contained within a listed enclosure, ground box or the splices will be more than ten feet above grade vertically and more than five feet horizontally from any metal structure. Where temporary conductors are installed in any area that is likely to be subjected to vehicle traffic, or mobile construction equipment, the vertical clearance to ground shall be at least 18 feet when measured at the lowest point. Where power conductors are to be supported by a span wire, the span wire shall be properly grounded.
- Existing conduit containing service conductors uncovered during the construction process shall be repaired in a timely manner in accordance with the NEC. Existing non-metallic conduit exposed during construction shall not be left exposed above grade, or with less than eighteen inches of cover, without protective methods approved by the Engineer.

ELECTRICAL DETAILS-
CONDUCTORS

ED(2)-03

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REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		SHEET
10-93		6			18
4-98			COUNTY	CONTROL SECTION	JOB HIGHWAY
12-00					
3-03					

II. GROUND RODS

A. MATERIALS

- All ground rods installed at electrical services, including supplemental lightning protection ground rods specified by the plans in other locations such as pole bases, shall be copper clad and UL listed. Rods shall be a minimum diameter of 5/8 inch. The length shall be a minimum of 8 feet. Larger diameter or longer length rods may be called for in some specific locations, see the individual plans sheets.
- Ground rod clamps shall be listed to be in direct contact with the soil. Where concrete encasement is required, the clamp shall be listed for concrete encasement.

B. CONSTRUCTION METHODS

- Ground rods installed in locations such as pole bases, to provide supplemental lightning protection need not be totally in contact with the soil. Where called for in the plans, rods may be encased in soil or concrete or any combination of soil and concrete. When concrete encased, the connection of the conductor to the rod shall be readily accessible for inspection or repairs. When driven into the soil the upper end shall be between 2 to 4 inches below finished grade. Ground rods shall not be placed in the same drilled hole as a timber pole.
- Ground rods shall be installed such that the end imprinted with the rod's part number is installed as being the upper end.
- Non-conductive coatings such as concrete splatter shall be removed from the rod at the clamp location.
- Routing of lightning protection ground rod wires shall be run as short and straight as possible. Where bends are required they shall have a minimum radius of four inches.
- Unless specifically called for by the plans, conduits used for ground rod wires shall be non-metallic. Where metal conduits are specified, a grounding bushing and properly sized bonding jumper shall be provided and properly installed on each end.
- Where rocky soil or a solid rock bottom is encountered when driving a ground rod and the horizontal trench placement method is the only viable solution, written authorization from the Engineer must be obtained.

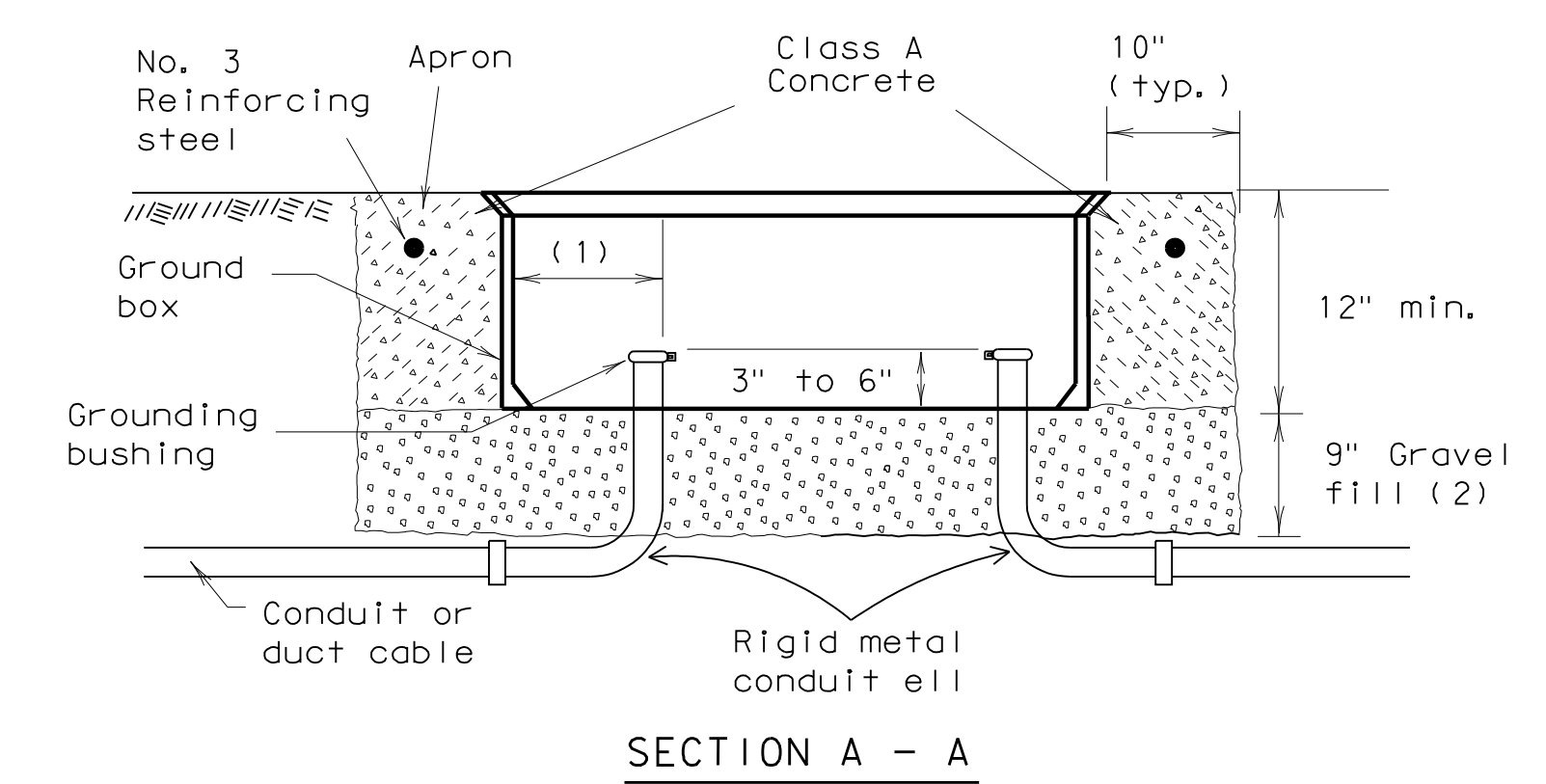
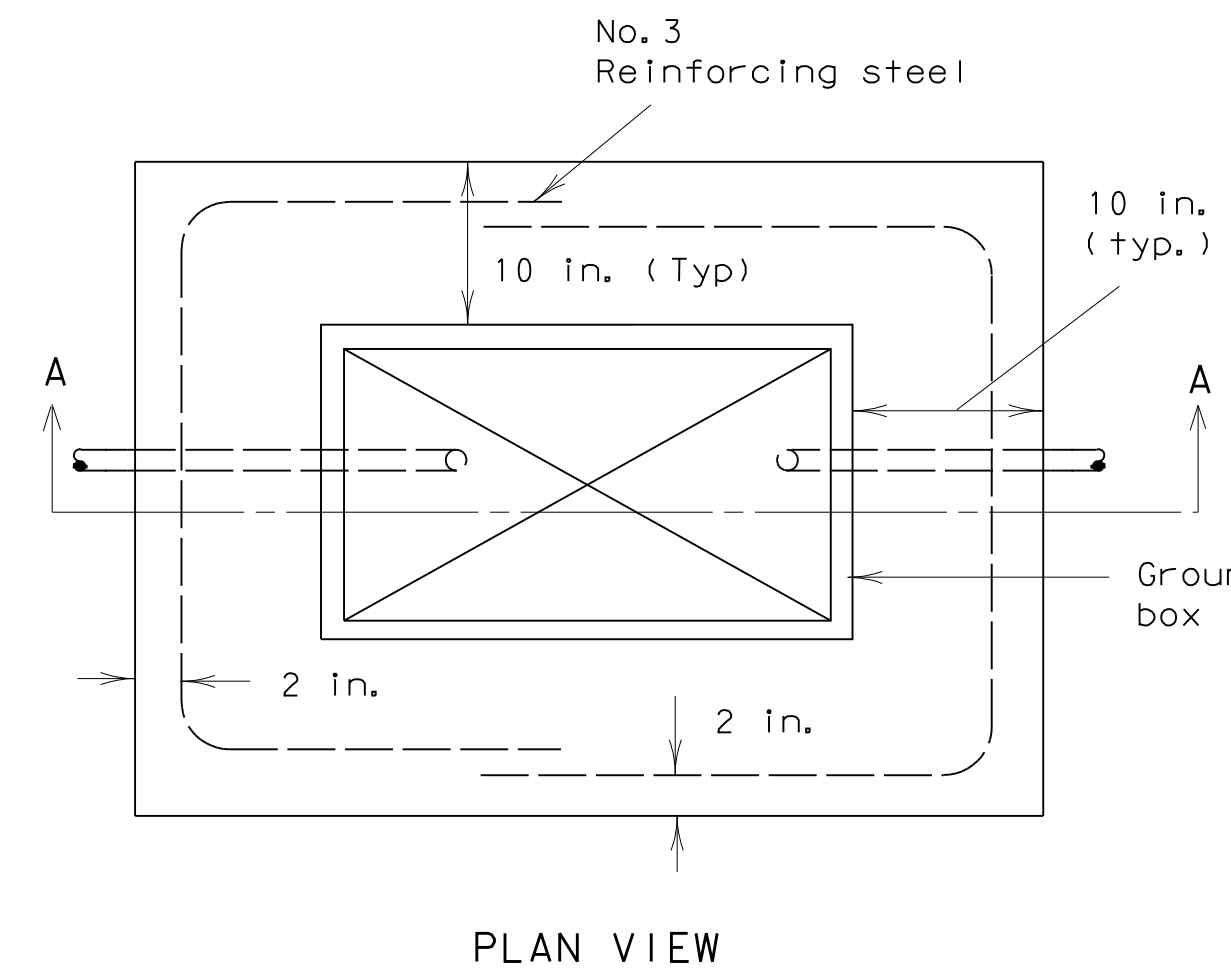
III. GROUND BOX

A. MATERIALS

- Ground boxes 16x30x24 inches (WxLxD) or smaller shall be polymer concrete of the type required by the descriptive code shown elsewhere. Larger ground boxes shall be as shown elsewhere in the plans.
- All ground boxes and covers shall be permanently marked either by impress or by permanent ink, with manufacturer's model number and manufacturer's name or logo.
- Covers shall be bolted down, and bolt holes in the box shall be arranged to drain dirt.
- Ground box Types A, B, C, D & E shall meet the following requirements:
 - Ground boxes and covers be manufactured from polymer concrete reinforced with continuous strands of woven or stitched borosilicate fiberglass cloth. The polymer concrete shall be made from catalyzed polyester resin, sand and aggregate, and shall have a minimum compressive strength of 11,000 psi. Polymer concrete containing chopped fiberglass or fiber-glass reinforced plastic is not acceptable.
 - Minimum inside dimensions shall be as follows (width x length x depth):
 - Type A shall be 11.5 inches x 21 inches x 10 inches, (122311)
 - Type B shall be 11.5 inches x 21 inches x 20 inches, (122322)
 - Type C shall be 15.25 inches x 28.25 inches x 10 inches, (162911)
 - Type D shall be 15.25 inches x 28.25 inches x 20 inches, (162922)
 - Type E shall be 11.5 inches x 21 inches x 16 inches, (122317)
 - Bottom edge of box or extension shall be footed with a minimum 1 1/4 inch flange.
 - Ground boxes shall withstand 600 lbs. per sq. ft. applied over the entire sidewall with less than 1/4 inch deflection per foot length of box. Ground boxes and covers shall withstand a test loading of 20,000 lbs. over a 10 inch by 10 inch area centered on the cover with less than 1/2 inch deflection. Ground boxes and covers shall meet Western Underground Standards 3.6. Manufacturer shall supply certification by an independent laboratory or sealed by a Texas-Licensed Professional Engineer.
 - Covers shall be 2 inch (nominal) thick polymer concrete. All hardware shall be stainless steel. Cover shall be secured with two 1/2 inch stainless steel bolts. Bolts shall be self-retaining and shall withstand a minimum of 70 ft-lbs. torque and shall have a minimum 750 lbs. straight pull out strength. Nuts shall be floating and shall provide a minimum of 1/2 inch movement from the center of the nut. Covers shall be skid resistant, minimum 0.5 coefficient of friction. Covers shall be interchangeable between manufacturers and shall conform to the dimensions shown herein. Unless otherwise approved by the Engineer, cover shall be legibly imprinted with the following words in minimum 1 inch letters:
 - Ground Boxes containing wiring for traffic signals shall be labeled, Danger High Voltage Traffic Signal.
 - Ground boxes containing wiring for illumination systems shall be labeled, Danger High Voltage Illumination.
 - Ground boxes containing wiring for traffic management systems shall be labeled, Danger High Voltage Traffic Management.
 - Ground boxes containing wiring for sign illumination systems shall be labeled, Danger High Voltage Sign Illumination.
 - Ground boxes containing wiring for traffic signals that also contain illumination, powered by the signal electrical service, shall be labeled, Danger High Voltage Traffic Signal.

B. CONSTRUCTION METHODS

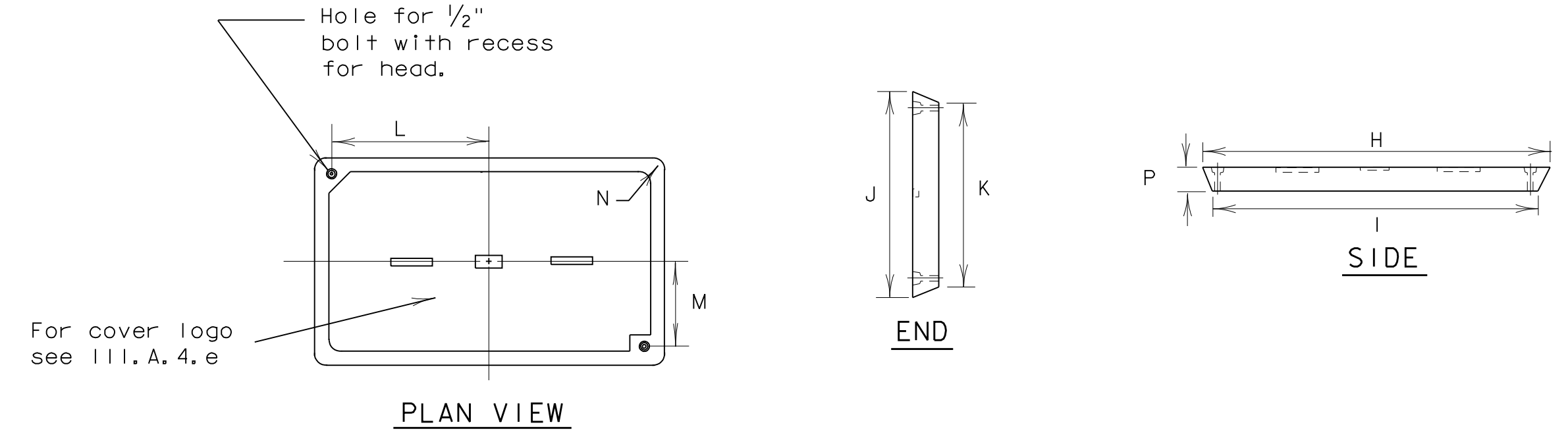
- Ground boxes shall be set on a 9 inch (minimum) bed of aggregate from 3/4 " up to 2" in size. Aggregate shall be in place prior to setting box and conduits shall be capped. Any gravel or dirt in conduit shall be removed.
- When required by item descriptive code, construction of an apron encasing a ground box including concrete and reinforcing steel shall not be paid for directly but shall be subsidiary to the ground box. Reinforcing steel may be field bent. Concrete for aprons shall be considered miscellaneous concrete for testing purposes. Aprons shall be cast in place.
- Conduit holes may be cut in the walls of type B & D boxes at least 18 inches beneath the cover.
- If, within the limits of this project, the Contractor must utilize an existing ground box equipped with a metal cover, the Contractor shall bond the cover to the grounding conductor with a 3 foot long flexible stranded jumper the same size as the grounding conductor. Connection of bonding jumper to metal ground cover shall not be paid for directly but shall be subsidiary to various bid items. The box(es) must be clearly shown on the plans with plan notes fully describing the work required.
- If there are other ground boxes with metal covers within the project limits but not involved in the contract, the Engineer may direct the Contractor to ground the covers, designating and identifying the specific boxes in writing. This work will be paid for separately.
- Termination to metal ground box covers shall be made using a tank ground type lug.



APRON FOR GROUND BOXES

(Where required)

- Final position of end of conduit shall not exceed one-half the distance to the side of box opposite the conduit entry.
- Place gravel "under" the box, not "in" the box. Gravel should not encroach on the interior volume of the box.
- Install bushing on the upper end of all ells.
- Where a ground rod is present in the ground box, connect it to any and all equipment grounding conductors using a listed connector.
- Maintain sufficient space between all conduits so as to allow for proper installation of bushings.
- All conduits shall be installed in a neat and workmanlike manner.
- All conduits installed in the ground box shall be sealed after completion of conductor installation and any required pull tests. Silicone shall not be used as sealant.



GROUND BOX COVER

GROUND BOX COVER DIMENSIONS								
BOX	DIMENSIONS (INCHES)							
SIZE	H	I	J	K	L	M	N	P
A, B & E	23 1/4	23	13 3/4	13 1/2	9 7/8	5 1/8	1 3/8	2
C & D	30 1/2	30 1/4	17 1/2	17 1/4	13 1/4	6 3/4	1 3/8	2

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

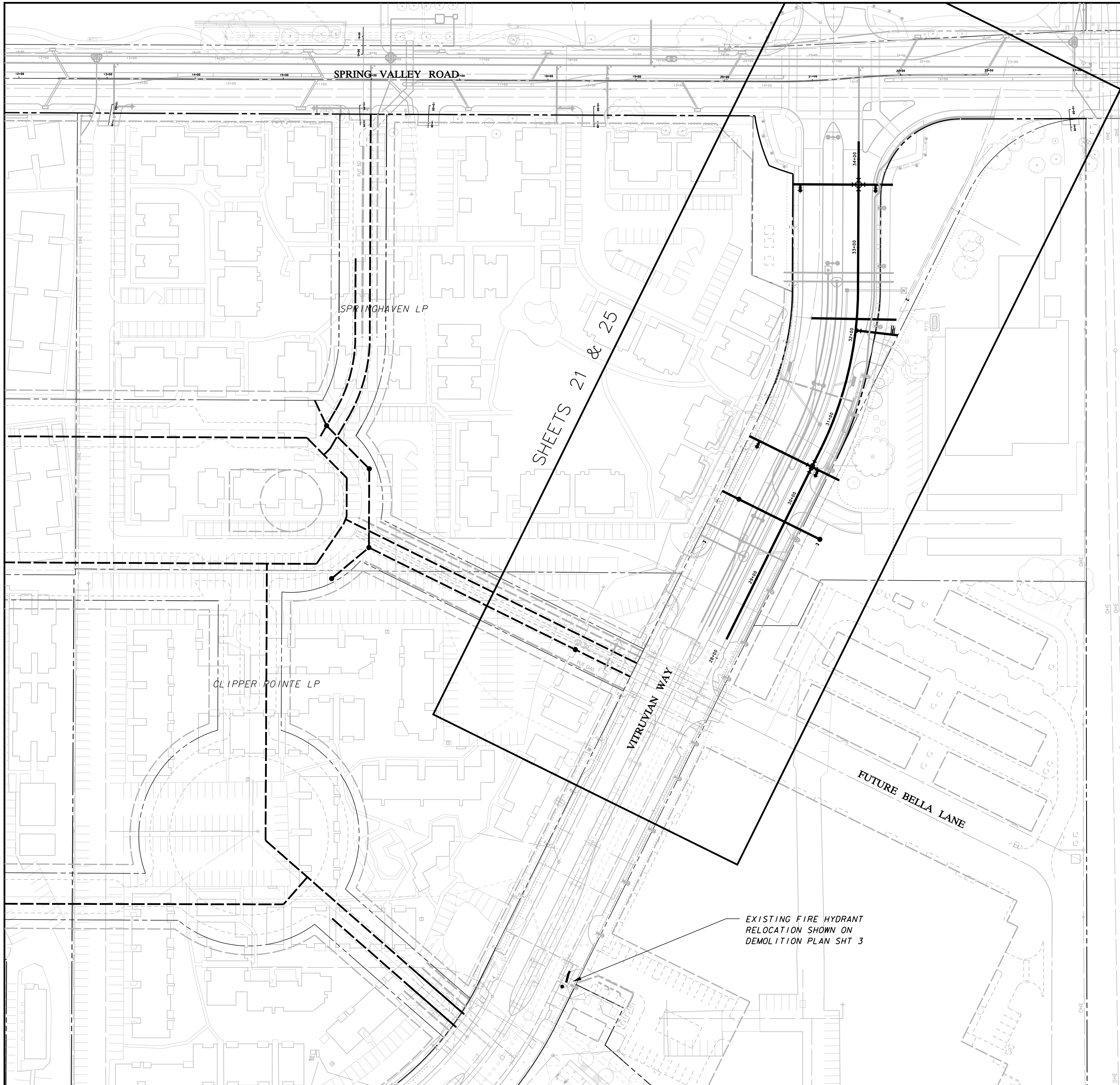
ELECTRICAL DETAILS-
GROUND BOXES

ED(3)-03

5/03 Revision

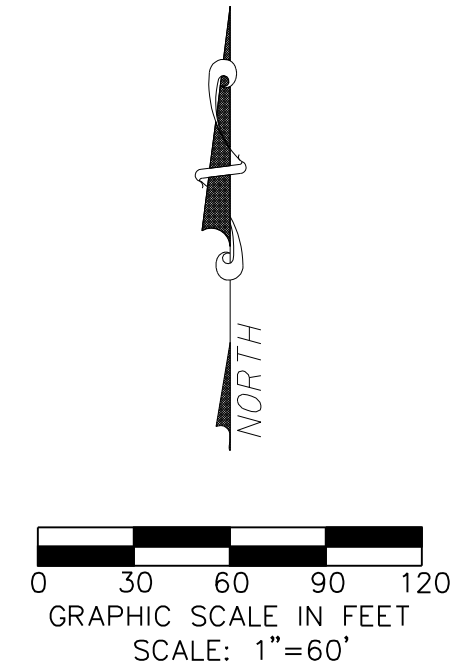
1 Revised notes.

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REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT		
4-98		6			SHEET 19
12-00			COUNTY	CONTROL SECTION	JOB HIGHWAY
3-03					
5-03					



GENERAL WATER & SEWER NOTES:

1. REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THIS PROJECT.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION AS PUBLISHED BY NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS, AND ANY AND ALL AMENDMENTS BY THE TOWN OF ADDISON, AS WELL AS STANDARD CONSTRUCTION DETAILS OF THE TOWN OF ADDISON.
3. PRIOR TO COMMENCING CONSTRUCTION, THE TOWN OF ADDISON, THE CONSULTING ENGINEERS, THE SUCCESSFUL CONTRACTOR, UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES, SHALL CONVENE FOR A PRE-CONSTRUCTION CONFERENCE AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
4. THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE TOWN OF ADDISON PRIOR TO WORKING WITH THE PUBLIC RIGHT-OF-WAY.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ANY PUBLIC UTILITY COMPANIES FOR LOCATION OF EXISTING FACILITIES IN OR NEAR THE WORK AREAS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - TOWN OF ADDISON (WATER, SEWER, SIGNALS) ON/OFF ELECTRIC DELIVERY
 - AT&T (SOUTHWESTERN BELL)
 - ATMOS ENERGY (GAS)
 - VERIZON (MC)
 - TIME-WARNER CABLE
6. THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER (SIX SETS EACH), FOR APPROVAL OF ALL MATERIALS TO BE ADDED TO THE PUBLIC INFRASTRUCTURE, PRIOR TO INCORPORATING MATERIALS INTO THE JOB.
7. THE CONTRACTOR SHALL PROVIDE AND SUBMIT TO THE TOWN OF ADDISON (SIX SETS EACH), AN APPROVED TRENCH SAFETY PLAN, SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF TEXAS, FOR THE INSTALLATION OF UTILITIES GREATER THAN FIVE (5) FEET IN DEPTH.
8. THE CONTRACTOR SHALL PROVIDE A MAINTENANCE BOND FOR PUBLIC INFRASTRUCTURE WORK IN THE FOLLOWING AMOUNTS:
 - 100% FOR VALUATIONS LESS THAN OR EQUAL TO \$5,000.
 - \$5,000 FOR VALUATION GREATER THAN \$5,000, AND LESS THAN \$50,000.
 - 10% FOR VALUATIONS GREATER THAN \$50,000.
 BONDS SHALL BE FOR A PERIOD OF TWO YEARS BEGINNING WITH THE DATE OF FINAL ACCEPTANCE BY THE TOWN.
9. THE CONTRACTOR SHALL FULLY COMPLY WITH, AND SUPPLEMENT AS NECESSARY, THE CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN WHILE CONDUCTING HIS ACTIVITIES ON THIS PROJECT.
10. THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT WILL APPROVE AND/OR DETERMINE THE TRAFFIC CONTROL PLAN AND WORKING HOURS. CONTACT THE ASSISTANT CITY ENGINEER OR THE PUBLIC WORKS INSPECTOR AT (972) 450-2871.
11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, AND SUPPLEMENT AS NECESSARY, THE TRAFFIC CONTROL MEASURES ON THIS PROJECT, INCLUDING PROVIDING ADEQUATE FLAGMEN, SIGNAGE, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION IN ACCORDANCE WITH THE "TEXAS MANUAL OF UNIFORM CONTROL DEVICES". THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE.
23. THE MINIMUM COVER TO THE TOP OF THE PIPE MUST VARY WITH THE VALVE STEM. IN GENERAL, THE MINIMUM COVER BELOW THE TOP OF CURB AT STREET TO TOP OF THE PIPE SHOULD BE AS FOLLOWS:
 - A. LINES LARGER THAN SIXTEEN-INCH (16") SHALL HAVE A MINIMUM OF SIX FEET (6') OF COVER WHICH IS SUFFICIENT TO ALLOW WATER AND SEWER AND OTHER UTILITIES TO GO OVER THE LARGE MAIN.
 - B. SIXTEEN-INCH (16") MAINS SHALL HAVE A MINIMUM COVER OF FIVE FEET (5').
 - C. TWELVE-INCH (12") AND SMALLER MAINS SHALL HAVE A MINIMUM COVER OF FOUR FEET (4').
24. THE CONTRACTOR SHALL SUPPLY AND INSTALL ANY ADDITIONAL BENDS WITH THRUST BLOCKING AND OTHER APPURTENANCES REQUIRED TO ASSURE PROPER INSTALLATION OF WATER MAINS AND LATERALS. THE CONTRACTOR MAY PULL PIPE AS NEEDED AT THE BENDS WHERE THE DEFLECTION ANGLE OF THE PIPE DOES NOT MATCH THE ANGLE OF THE BEND PROVIDED THE PIPE DEFLECTION IS WITHIN TOLERABLE MANUFACTURERS LIMITS. THE COST FOR ADDITIONAL BENDS AND BLOCKING SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
25. ALL VALVES, DUCTILE IRON AND CAST IRON PIPE, FITTINGS AND SPECIALS SHALL BE POLYETHYLENE WRAPPED.
26. HORIZONTAL BLOCKING FOR WATER LINES HAS BEEN OMITTED FOR CLARITY, HOWEVER, BLOCKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GOVERNING AUTHORITIES STANDARD DETAILS.
27. ALL FITTINGS SHALL BE DUCTILE IRON, FULL BODIED, MECHANICAL JOINT TYPE WITH RESTRAINING GLANDS, AND HAVE A MINIMUM RATED WORKING PRESSURE OF 250 PSI. FITTINGS SHALL BE WRAPPED WITH 8-MIL POLY PRIOR TO BACKFILL.
28. ALL VALVES AND FITTINGS SHALL HAVE CONCRETE THRUST BLOCKS INSTALLED. THRUST BLOCKING SHALL BE MINIMUM 3000 PSI CONCRETE AND BE ABLE TO WITHSTAND A MINIMUM 200 PSI TEST PRESSURE.
29. THRUST BLOCKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GOVERNING AUTHORITIES STANDARD DETAILS. DO NOT COVER BELLS OR FLANGES WITH CONCRETE. THE CONTRACTOR SHALL REMOVE EXISTING THRUST BLOCKING OR RESTRAINTS WHERE NECESSARY TO ALLOW THE WORK TO PROCEED, AND SHALL REPLACE THE THRUST BLOCKS WHERE REQUIRED. THE COST TO REMOVE, REPLACE OR PROVIDE THRUST BLOCKING SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
30. TRACER WIRE SHALL BE PLACED ON PIPE PRIOR TO EMBEDMENT. WIRE SHALL BE #12 PLASTIC COATED COPPER WIRE, TIED TO ALL VALVES AND FIRE HYDRANTS, AND EXTENDING TO SIX (6) INCHES ABOVE FINISHED GRADE ALONG THE OUTSIDE OF ALL VALVE STACKS AND HYDRANTS.
31. FINISH BACKFILL SHALL BE NATIVE SOIL, FREE OF ALL ROCKS AND CLODS GREATER THAN THREE INCHES IN DIAMETER, COMPACTED TO 95% STANDARD PROCTOR DENSITY, IN SIX (6) INCH MAXIMUM LOOSE LIFTS, WITH ZERO TO PLUS THREE, OPTIMUM MOISTURE.
32. NO PERSON SHALL OPEN, TURN OFF, INTERFERE WITH, ATTACH ANY HOSE TO, OR TAP ANY WATER MAIN BELONGING TO THE TOWN OF ADDISON UNLESS DULY AUTHORIZED TO DO SO BY THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT (972-450-2871).
33. THE CONTRACTOR WILL REMOVE EXISTING WATER METERS NOT USED FOR PROPOSED DEVELOPMENT. REMOVE METERS AND METER LIDS IN A WAY AS TO NOT DAMAGE THE METER OR LID AND DELIVER SALVAGED METERS TO THE TOWN OF ADDISON. CONTRACTOR SHALL KILL EXISTING DEADHEAD SERVICE FOR REMOVED METERS AT THE MAIN LINE.
34. THE CONTRACTOR SHALL COMPLETELY REMOVE AND DISPOSE OF EXISTING 8" WATER MAIN AFTER FINAL COMPLETION AND ACCEPTANCE OF NEW 12" WATER MAIN.
35. THE CONTRACTOR SHALL REPLACE EXISTING SERVICE LINES DESIGNATED TO REMAIN, FROM EXISTING METERS TO NEW WATER MAIN WITH NEW COPPER (TYPE K ONLY) LINES. NEW SIZES TO BE THE SAME AS EXISTING, WITH A MINIMUM OF 3/4" DIAMETER.
36. ALL WASTEWATER MAIN PIPING SHALL MEET THE EXTRA STRENGTH REQUIREMENTS OF ASTM SPECIFICATION D3034 (SDR-35) FOR INSTALLATIONS LESS THAN TEN FEET DEEP. FOR INSTALLATIONS GREATER THAN TEN FEET, SDR 26 PVO SHALL BE USED. PIPE SHALL HAVE THE BELL AND SPIGOT TYPE JOINTS, CONSISTING OF INTEGRAL WALL SECTION WITH FACTORY INSTALLED COMPRESSION RUBBER RING GASKET, SECURELY LOCKED IN BELL GROOVE TO PROVIDE POSITIVE SEAL UNDER ALL INSTALLATION CONDITIONS. PIPE SHALL BE LAID WITH THE BELL END ON THE UPSTREAM SIDE.
37. ALL SEWER MANHOLES WITH PRESSURE TYPE FRAME AND COVERS SHALL HAVE THE INTERIOR SURFACE COATED WITH AN EPOXY COATING (RAVEN 405 OR APPROVED EQUAL), MINIMUM 40 MILS THICKNESS, INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
38. ALL EXISTING AND PROPOSED IMPROVEMENTS (VALVES, MANHOLES, FIRE HYDRANTS, WATER METERS, ETC.) SHALL BE ADJUSTED TO FINAL FINISHED GRADE BY THE CONTRACTOR.
39. THE CONTRACTOR SHALL STAMP A 2-INCH "W" AND A 2-INCH "S" IN THE CURB AT THE LOCATION OF THE WATER AND SEWER SERVICE LINES, RESPECTIVELY. A 2-INCH "C" SHALL MARK CONDUITS CROSSING PAVEMENT, AND A 2-INCH "V" SHALL MARK WATER VALVES, WITH THE "POINT" OF THE "V" TOWARD THE VALVE.
40. WATERLINES SHALL BE TESTED BOTH BACTERIOLOGICALLY AND HYDROSTATICALLY. WATER MAINS SHALL BE HYDROSTATICALLY TESTED AT 150 PSI FOR FOUR (4) HOURS. FIRE LINES SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR (2) HOURS. ALL BLEEDER LINES SHALL BE REMOVED UPON COMPLETION OF TESTING BY REMOVING THE CORPORATION STOP AND INSTALLING A BRASS PLUG. HEAVILY CHLORINATED WATER (3.5 MGL OR GREATER FREE CHLORINE) RESULTING FROM WATER LINE STERILIZATION SHALL BE DIRECTED TO THE SANITARY SEWER AFTER THE MANDATORY CHLORINE RETENTION TIME (USUALLY 24 HOURS) UNLESS OTHERWISE NOTED.
41. ALL WASTEWATER MAINS SHALL BE CAMERA INSPECTED BY THE CONTRACTOR AFTER THE INSTALLATION OF ALL UTILITIES AND PRIOR TO FINAL ACCEPTANCE OF NEW WASTEWATER FACILITIES.
42. THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ALL REQUIRED TESTS (PRESSURE, BACTERIOLOGICAL, BACKFLOW, VACUUM, MANDREL, VHS VIDEO OF SANITARY SEWER, ETC.) TO THE TOWN OF ADDISON.
43. THE CONTRACTOR SHALL CALL (972) 450-2847 TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE PUBLIC INFRASTRUCTURE WORK.
44. ANY ADJACENT PROPERTIES AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.
45. BLUE REFLECTORIZED BUTTONS ARE TO BE INSTALLED IN THE CENTER OF THE DRIVE LANE NEAREST THE OUTSIDE CURB OPPOSITE ALL FIRE HYDRANTS.



NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
DALLAS COUNTY, TEXAS

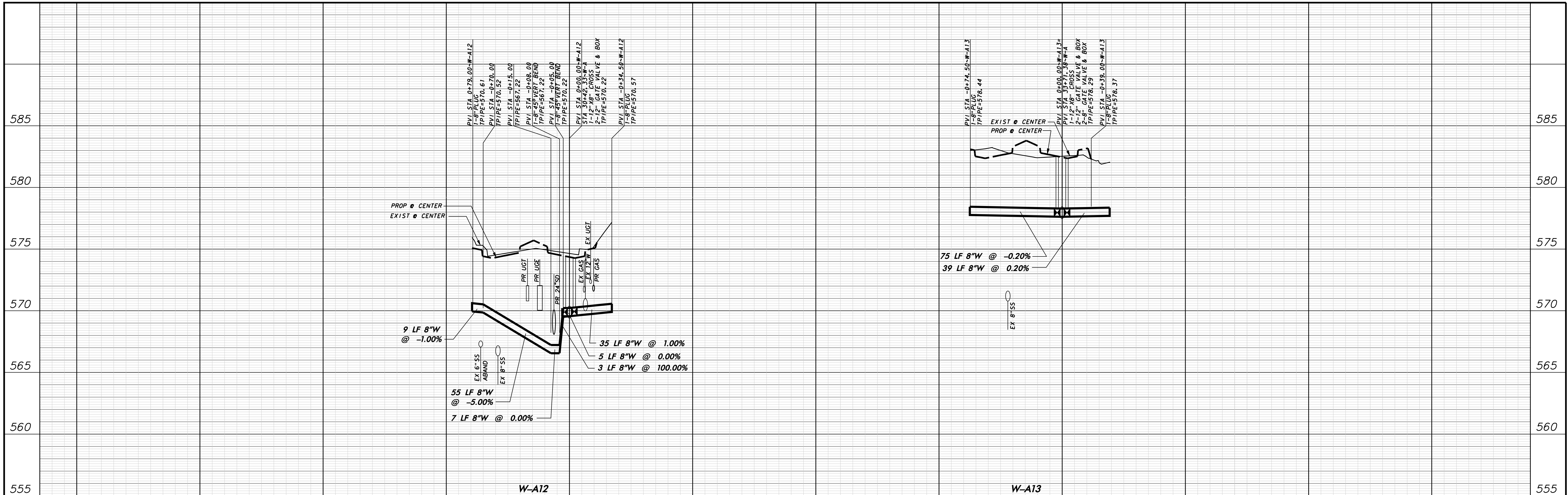
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

OVERALL WATER & SEWER LAYOUT & GENERAL NOTES

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
Civil Engineers - Designers - Planners Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	20

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
 112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

PROFILE SCALE:

 SCALE: 1"=40' HORIZ

 SCALE: 1"=4' VERT

NO.	REVISION	BY	DATE

ADDISON! TOWN OF ADDISON
 DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

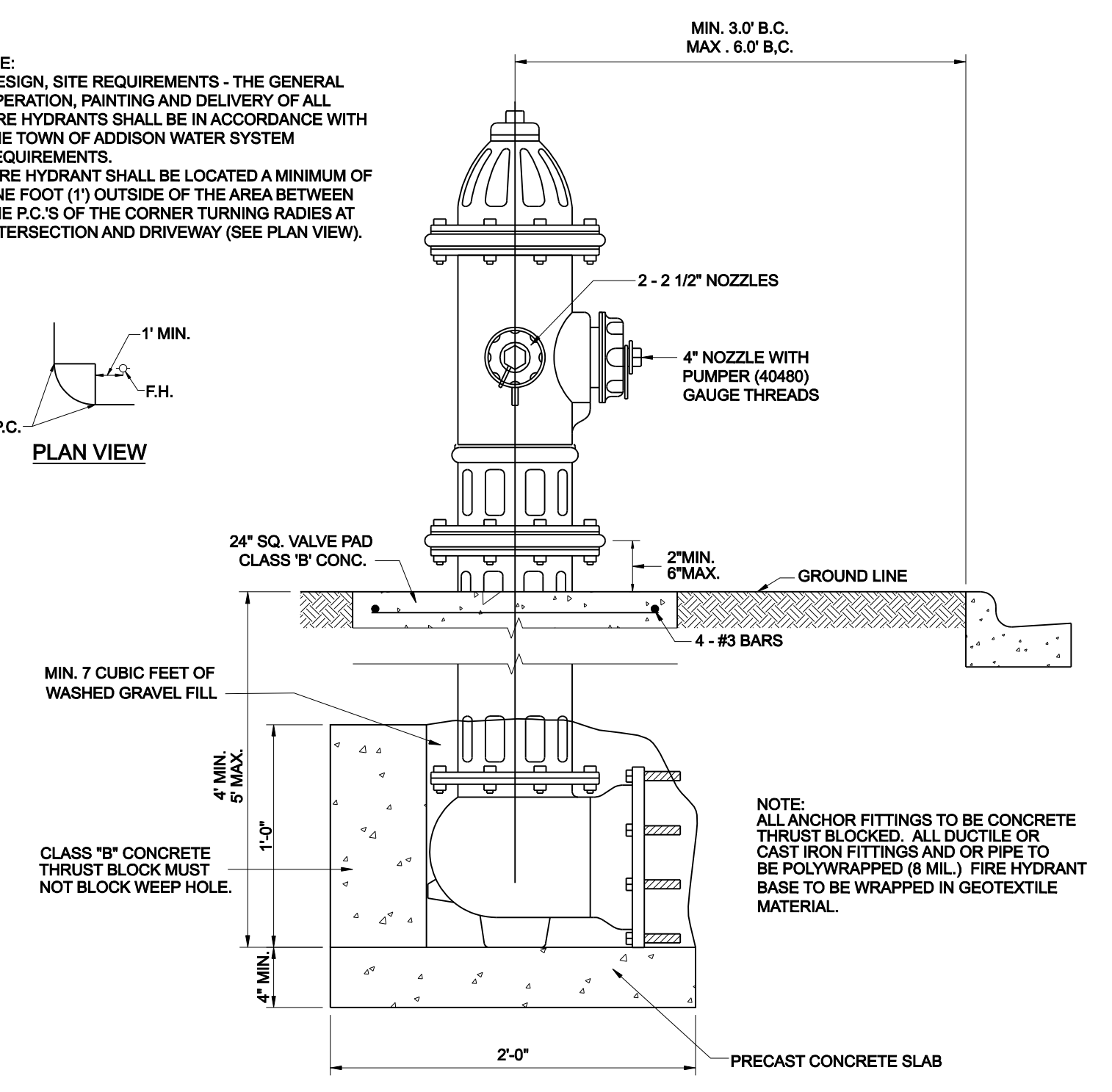
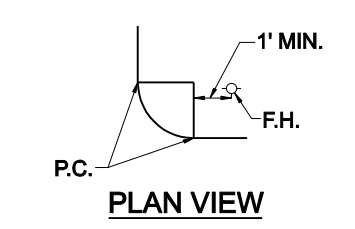
WATER LINE CROSSING PROFILES

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
 Civil Engineers - Designers - Planners Southlake, Tx 76092 (817) 552-6210

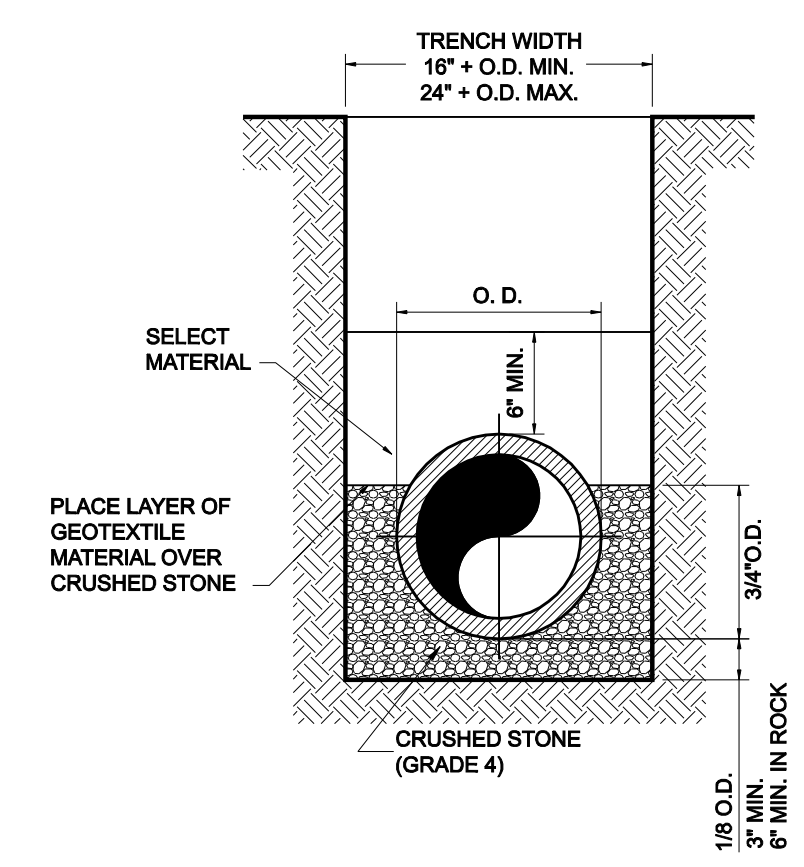
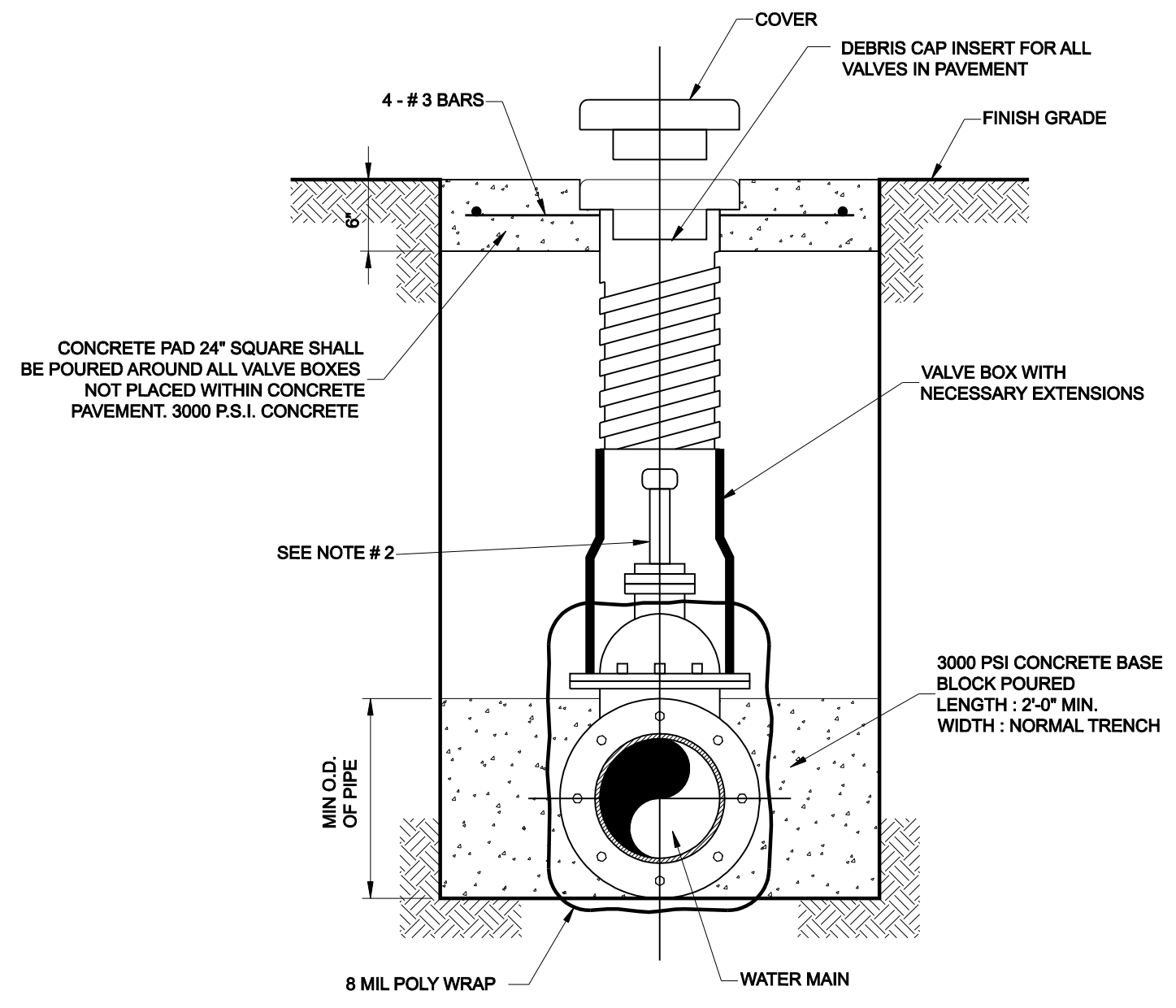
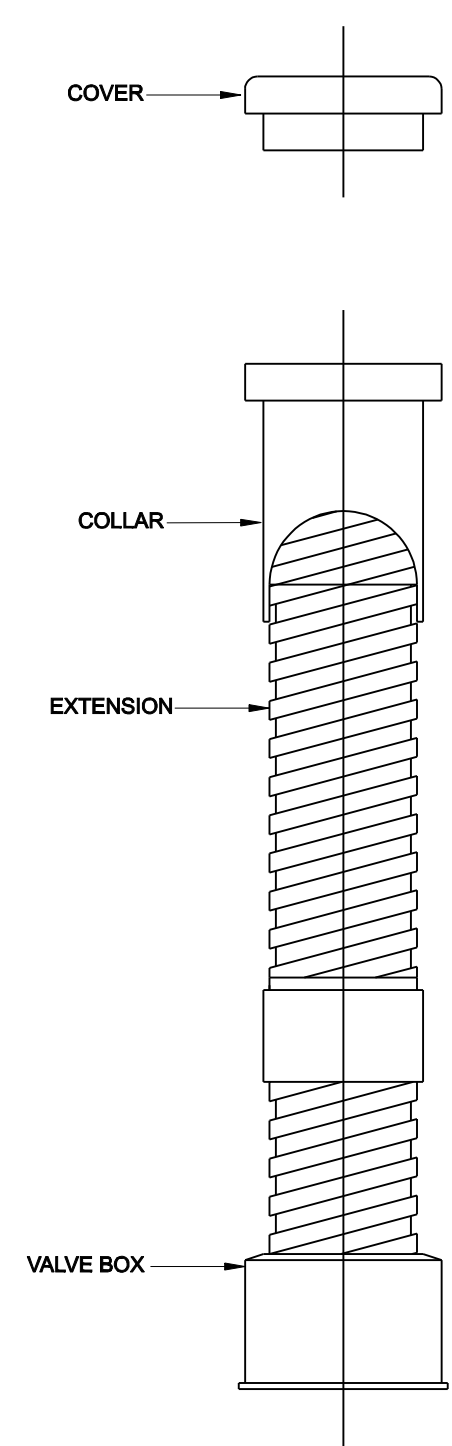
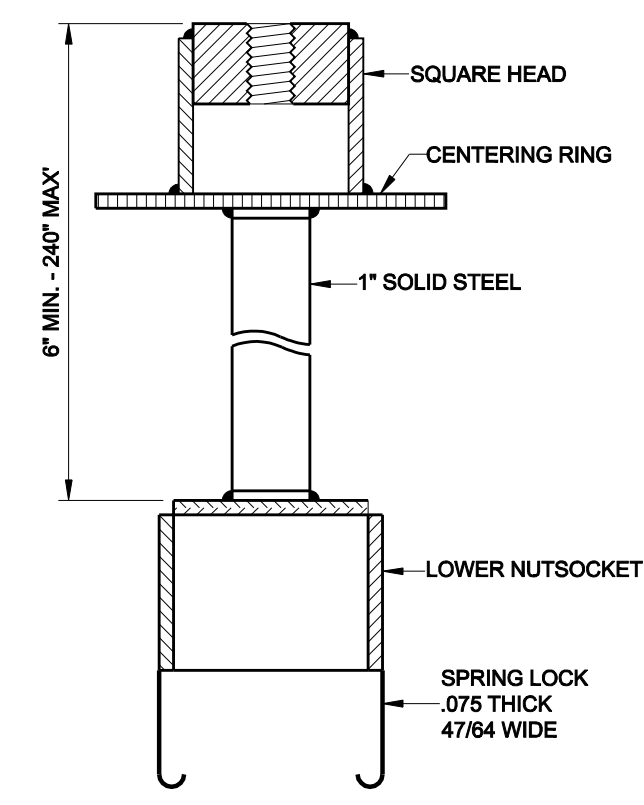
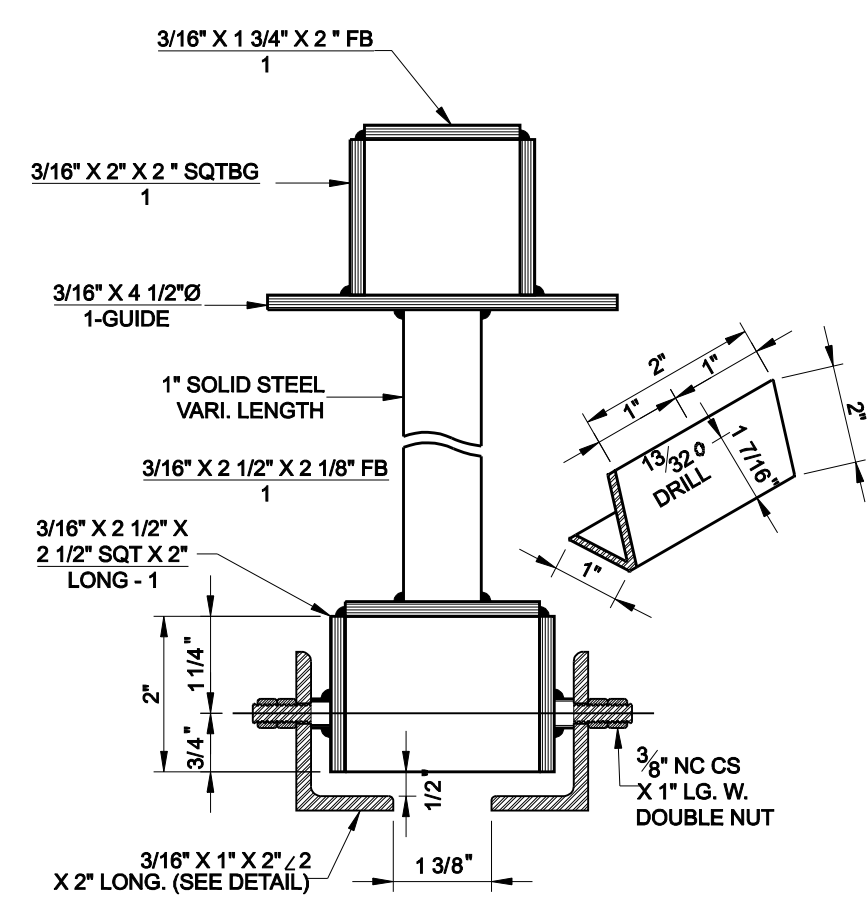
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	22

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

NOTE:
 1. DESIGN, SITE REQUIREMENTS - THE GENERAL OPERATION, PAINTING AND DELIVERY OF ALL FIRE HYDRANTS SHALL BE IN ACCORDANCE WITH THE TOWN OF ADDISON WATER SYSTEM REQUIREMENTS.
 2. FIRE HYDRANT SHALL BE LOCATED A MINIMUM OF ONE FOOT (1') OUTSIDE OF THE AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADIES AT INTERSECTION AND DRIVEWAY (SEE PLAN VIEW).



TYPICAL FIRE HYDRANT INSTALLATION



NOTE:
 1. 4\"/>

NOTE: TO BE USED ON ALL VALVES DEEPER THAN 5'-0\"/>

TYPE - B VALVE EXTENSION

SPRING LOCK VALVE EXTENSION

VALVE BOX WITH EXTENSION

ALL CAST IRON FITTINGS SHALL BE DOMESTIC.



NO.		REVISION		BY		DATE	
TOWN OF ADDISON DALLAS COUNTY, TEXAS PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION							
WATER DETAILS							
icon Consulting Engineers, Inc.		250 W. Southlake Blvd., Suite 117		Southlake, Tx 76092		(817) 552-6210	
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET		
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	23		

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

I.D. (IN.)	$\Delta = 30^\circ$						$\Delta = 45^\circ$										
	G (FT.)	THRUST (TONS)	EARTH			ROCK			G (FT.)	THRUST (TONS)	EARTH			ROCK			
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
4,6.8	1.0	2.6	2.0	1.5	0.2	1.0	1.5	0.1	4,6.8	1.5	3.9	2.0	0.2	1.5	1.5	0.1	
10,12	1.5	5.9	2.5	2.5	0.3	2.0	1.5	0.2	10,12	2.2	8.7	3.5	2.5	0.5	2.0	2.5	0.3
16,18	2.2	13.2	3.5	4.0	0.8	2.5	3.0	0.4	16,18	3.2	19.5	4.5	4.5	1.2	3.0	3.5	0.6
20	2.4	16.3	4.5	4.0	1.0	3.0	3.0	0.5	20	3.6	24.1	5.5	4.5	1.5	3.5	3.5	0.7
24	2.9	23.4	6.0	4.0	1.4	3.5	3.5	0.7	24	4.3	34.6	8.0	4.5	2.3	4.5	4.0	1.1
30	3.6	27.5	6.5	5.0	1.9	3.5	4.0	0.9	30	5.4	40.6	8.5	5.0	3.2	5.5	4.0	1.6
36	4.4	39.5	7.0	6.0	3.4	4.5	4.5	1.6	36	6.5	58.5	10.0	6.0	5.3	6.5	4.5	2.6
42	5.1	53.8	8.0	7.0	5.1	5.5	5.0	2.5	42	7.5	79.6	11.5	7.0	8.1	8.0	5.0	4.2
48	5.8	70.3	9.0	8.0	7.4	6.0	6.0	3.7	48	8.6	104.0	13.0	8.0	11.9	9.0	6.0	6.3
54	6.5	89.0	10.0	9.0	10.3	7.0	6.5	5.3	54	9.7	131.5	15.0	9.0	17.1	10.5	6.5	8.9
60	7.3	110.0	11.0	10.0	13.9	7.5	7.5	7.3	60	10.7	162.4	16.5	10.0	23.1	11.0	7.5	12.0
66	8.0	132.9	12.5	11.0	18.9	8.5	8.0	9.6	66	11.8	196.5	18.0	11.0	30.1	12.0	8.5	16.2
72	8.7	158.2	13.5	12.0	24.0	9.0	9.0	12.3	72	12.9	233.9	19.5	12.0	38.6	14.0	8.5	20.7
78	9.4	185.6	14.5	13.0	30.0	10.0	9.5	15.6	78	13.9	274.5	21.5	13.0	49.8	14.5	9.5	25.9
84	10.1	215.3	15.5	14.0	37.1	10.5	10.5	19.5	84	15.0	318.4	23.0	14.0	61.2	15.5	10.5	32.6
90	10.9	247.1	16.5	15.0	45.0	11.5	11.0	23.9	90	16.1	365.5	24.5	15.0	74.5	17.5	10.5	39.6
96	11.6	281.2	18.0	16.0	55.5	12.5	11.5	28.9	96	17.1	415.6	26.0	16.0	89.5	18.5	11.5	48.5

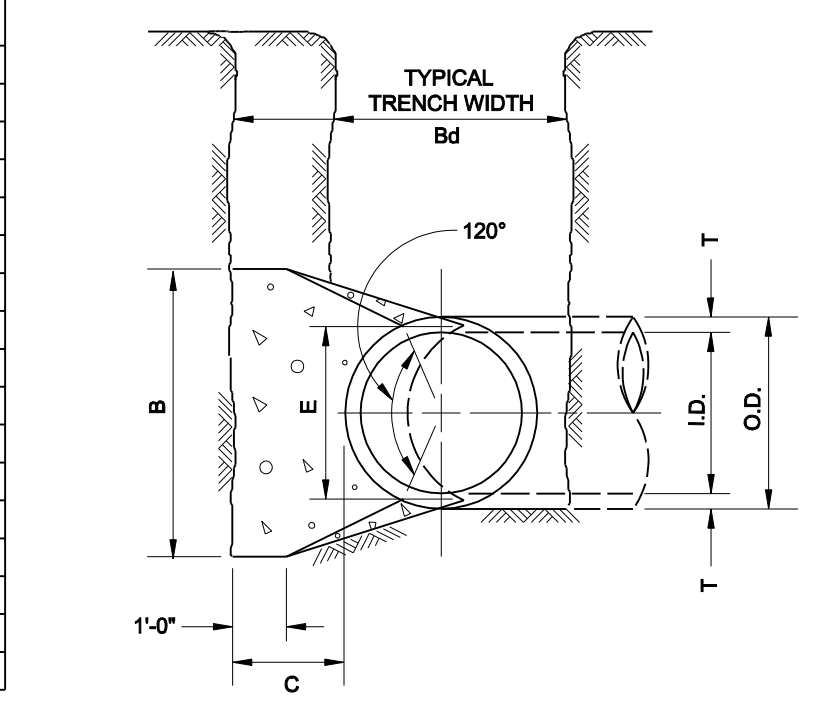
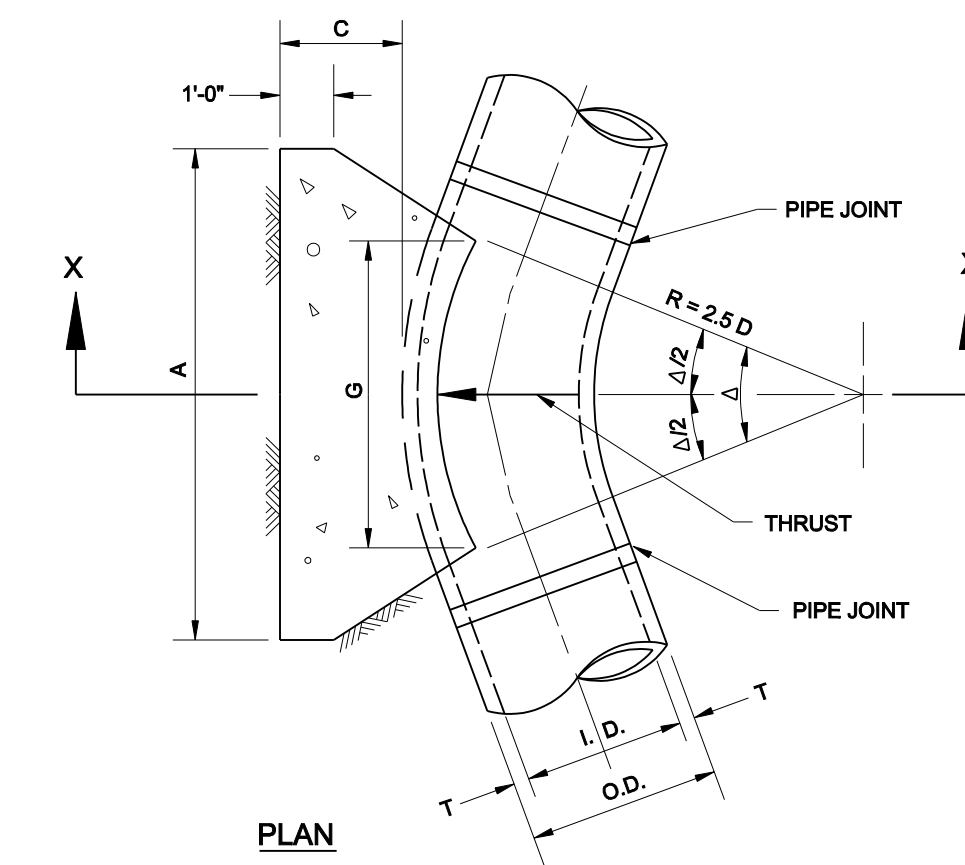
I.D. (IN.)	$\Delta = 67.50^\circ$						$\Delta = 90^\circ$										
	G (FT.)	THRUST (TONS)	EARTH			ROCK			G (FT.)	THRUST (TONS)	EARTH			ROCK			
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
4,6.8	2.1	5.6	3.0	2.0	0.3	2.0	1.5	0.2	4,6.8	2.7	7.1	5.0	1.5	0.4	2.0	2.0	0.2
10,12	3.1	12.6	5.5	2.5	0.8	3.5	2.0	0.4	10,12	4.0	16.0	6.5	2.5	1.0	3.5	2.5	0.5
16,18	4.7	28.3	7.5	4.0	1.9	5.5	3.0	0.9	16,18	6.0	36.0	9.0	4.0	2.4	4.5	4.0	1.0
20	5.2	34.9	9.0	4.0	2.3	5.5	3.5	1.2	20	6.6	44.4	10.0	4.5	3.1	6.0	4.0	1.5
24	6.2	50.3	11.5	4.5	3.5	6.5	4.0	1.6	24	7.9	64.0	14.5	4.5	5.0	8.0	4.0	2.1
30	7.8	58.9	12.0	5.0	4.8	7.5	4.0	2.2	30	9.9	75.0	15.0	5.0	6.7	10.0	4.0	3.3
36	9.4	84.9	14.5	6.0	6.2	9.5	4.5	3.8	36	11.9	108.0	18.0	6.0	11.4	12.0	4.5	5.3
42	10.9	115.5	17.0	7.0	12.8	11.0	5.5	6.3	42	13.9	147.0	21.0	7.0	17.8	14.0	5.5	8.7
48	12.5	150.9	19.0	8.0	18.4	13.0	6.0	9.2	48	15.9	192.0	24.0	8.0	26.2	16.0	6.0	12.4
54	14.0	191.0	21.5	9.0	26.0	15.0	6.5	12.9	54	17.9	243.0	27.0	9.0	36.9	18.0	7.0	18.1
60	15.6	235.8	24.0	10.0	35.6	16.0	7.5	17.6	60	19.9	299.8	30.0	10.0	50.3	20.0	7.5	24.0
66	17.1	285.3	26.0	11.0	46.0	18.0	8.0	23.0	66	21.8	362.8	33.0	11.0	66.2	22.0	8.5	32.5
72	18.7	339.5	28.5	12.0	57.8	19.0	9.0	28.4	72	23.8	431.8	36.0	12.0	85.6	24.0	9.0	41.0
78	20.2	398.5	31.0	13.0	75.7	21.0	9.5	37.4	78	25.7	506.7	39.0	13.0	108.2	26.0	10.0	53.2
84	21.8	462.1	33.5	14.0	94.7	22.0	10.5	46.5	84	27.7	587.7	42.0	14.0	134.4	28.0	10.5	64.8
90	23.3	530.5	35.5	15.0	114.4	24.5	11.0	58.2	90	29.0	674.6	45.0	15.0	164.9	30.0	11.5	81.2
96	24.9	603.6	38.0	16.0	139.9	25.5	12.0	70.0	96	31.6	767.5	48.0	16.0	199.0	32.0	12.0	95.1

TABLES OF DIMENSIONS AND QUANTITIES

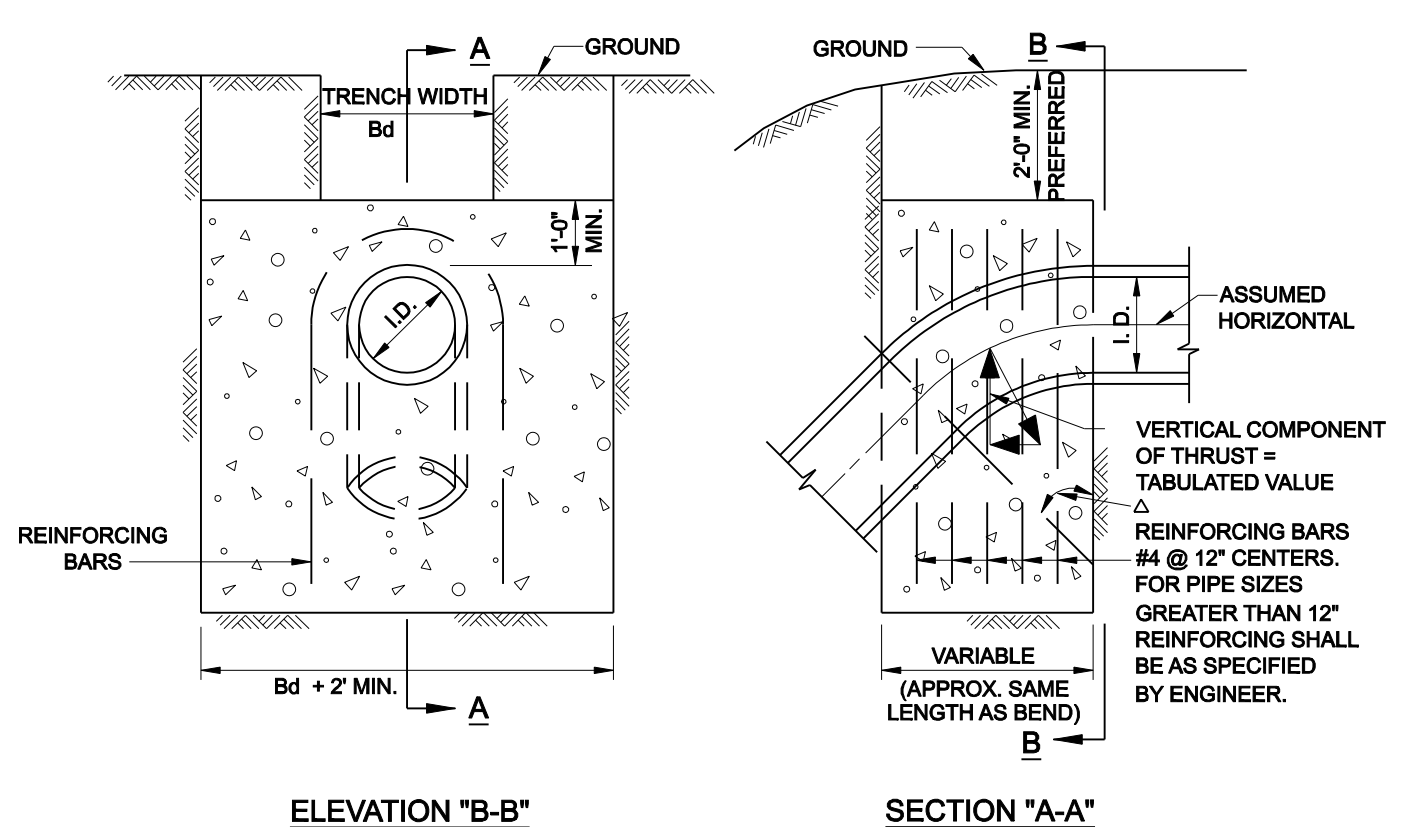
I.D. (IN.)	T (IN.)	$\Delta = 11.25^\circ$ (FT.)	$\Delta = 22.50^\circ$ (FT.)	E (FT.)
4,6.8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	7.5	3.0	4.5	6.3
78	7.5	3.3	4.9	6.7
84	8.0	3.5	5.3	7.2
90	8.5	3.8	5.6	7.7
96	9.0	4.0	6.0	8.2

I.D. (IN.)	$\Delta = 11.25^\circ$						$\Delta = 22.50^\circ$										
	G (FT.)	THRUST (TONS)	EARTH			ROCK			G (FT.)	THRUST (TONS)	EARTH			ROCK			
			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)			A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	
4,6.8	0.4	1.0	1.0	1.5	0.1	1.0	1.0	0.1	4,6.8	0.8	2.0	1.5	1.5	0.1	1.0	1.0	0.1
10,12	0.6	2.2	1.5	1.5	0.1	1.0	1.5	0.1	10,12	1.1	4.4	2.0	2.5	0.3	1.5	1.5	0.1
16,18	0.8	5.0	2.0	2.5	0.3	1.5	2.0	0.2	16,18	1.6	9.9	3.0	3.5	0.6	2.0	2.5	0.3
20	0.9	6.2	2.0	3.5	0.4	1.5	3.0	0.3	20	1.8	12.3	3.5	3.5	0.7	2.0	3.0	0.4
24	1.1	8.9	3.0	3.5	0.5	1.5	3.0	0.3	24	2.2	17.7	4.0	4.5	1.0	3.0	3.5	0.5
30	1.4	10.4	3.0	3.5	0.6	2.0	3.5	0.4	30	2.7	20.7	5.0	5.5	1.5	3.0	4.0	0.8
36	1.7	15.0	3.5	4.5	0.9	2.0	4.0	0.5	36	3.3	29.8	5.5	5.5	2.3	4.0	4.0	1.3
42	1.9	20.4	4.5	5.0	1.5	2.5	5.0	0.8	42	3.8	40.5	7.0	6.0	3.9	4.5	5.0	2.1
48	2.2	26.6	4.5	6.0	2.0	2.5	6.0	1.1	48	4.4	52.9	8.0	7.0	5.7	4.5	6.0	2.8
54	2.5	33.7	6.0	6.0	3.0	3.0	6.0	1.4	54	4.9	67.0	9.0	8.0	8.0	6.0	6.0	4.1
60	2.7	41.6	6.0	7.0	3.8	3.0	7.0	1.8	60	5.5	82.7	9.5	9.0	10.6	6.0	7.0	5.3
66	3.0	50.3	6.5	8.0	5.1	3.5	8.0	2.7	66	6.0	100.1	10.5	10.0	14.1	6.5	8.0	7.2
72	3.3	59.9	7.5	8.0	6.3	4.0	8.0	3.3	72	6.6	119.1	11.0	11.0	17.6	7.5	8.0	9.1
78	3.6	70.2	8.0	9.0	8.1	4.0	9.0	3.9	78	7.1	139.8	12.0	12.0	22.5	8.0	9.0	11.7
84	3.8	81.5	8.5	10.0	10.3	4.5	10.0	5.3	84	7.6	162.1	13.0	12.5	27.2	8.5	10.0	14.8
90	4.1	93.5	9.5	10.0	12.2	5.0	10.0	6.3	90	8.2	186.1	14.0	13.5	33.7	9.5	10.0	17.7
96	4.4	106.4	10.0	11.0	15.0	5.0	11.0	7.4	96	8.7	211.7	15.0	14.5	41.2	10.0	11.0	21.8

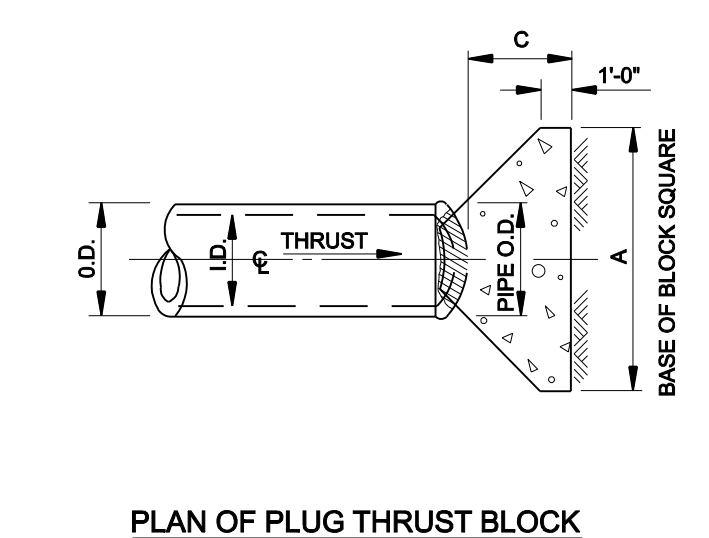
TABLES OF DIMENSIONS AND QUANTITIES



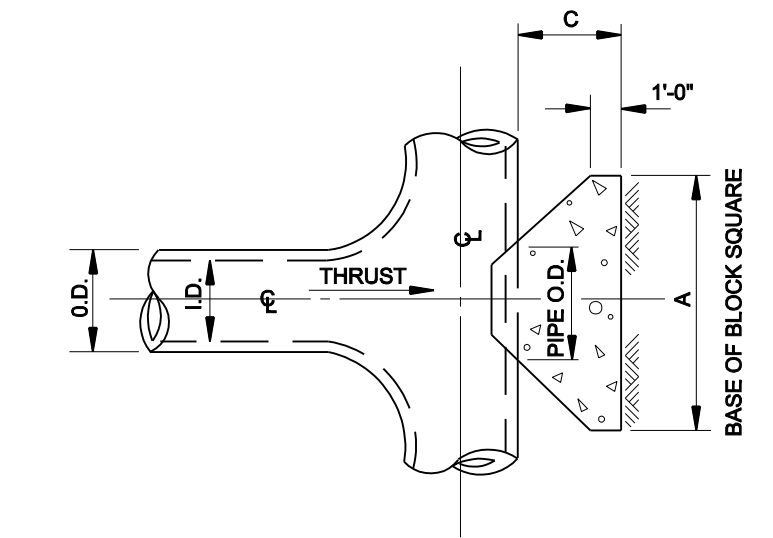
HORIZONTAL THRUST BLOCK



VERTICAL THRUST BLOCK

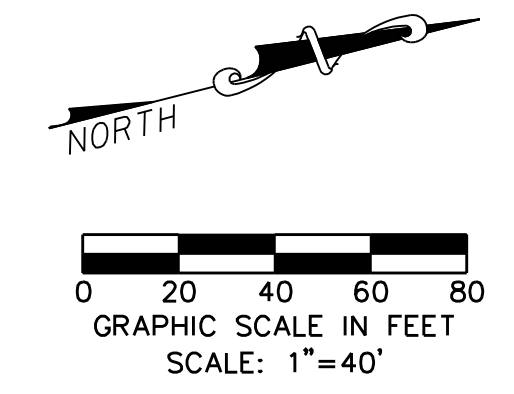
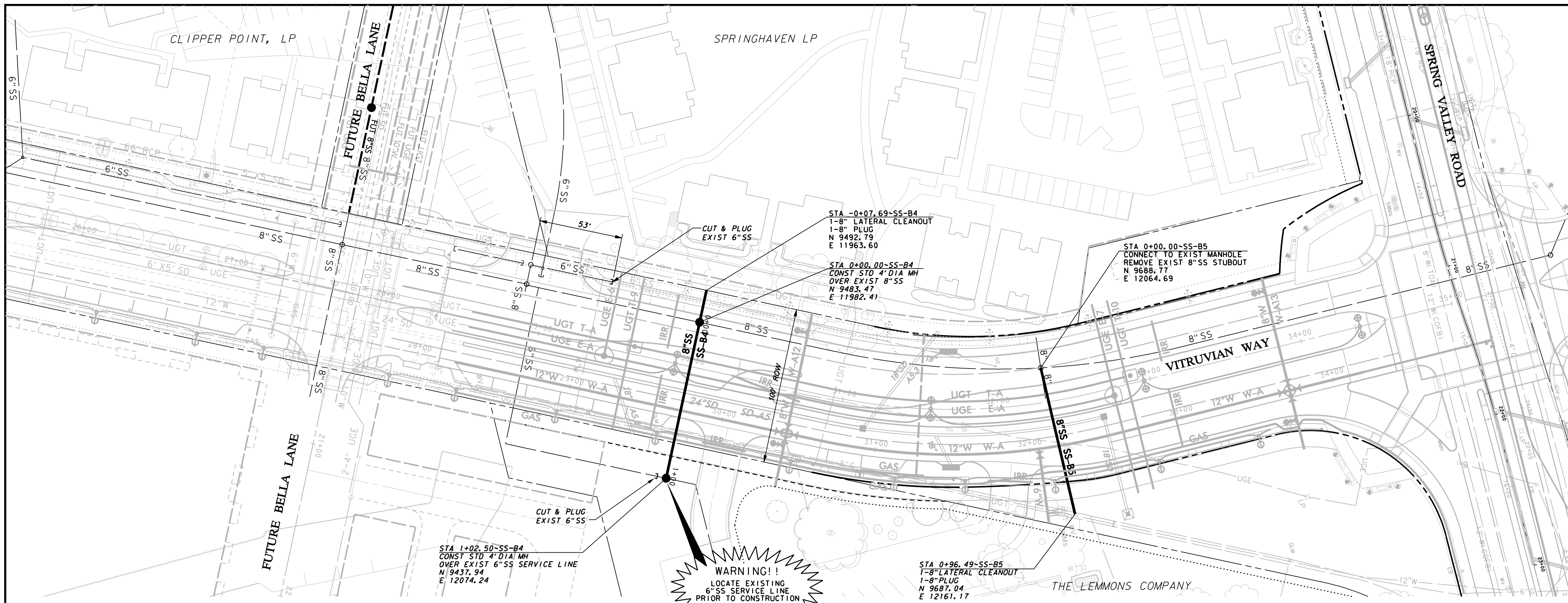


PLAN OF PLUG THRUST BLOCK

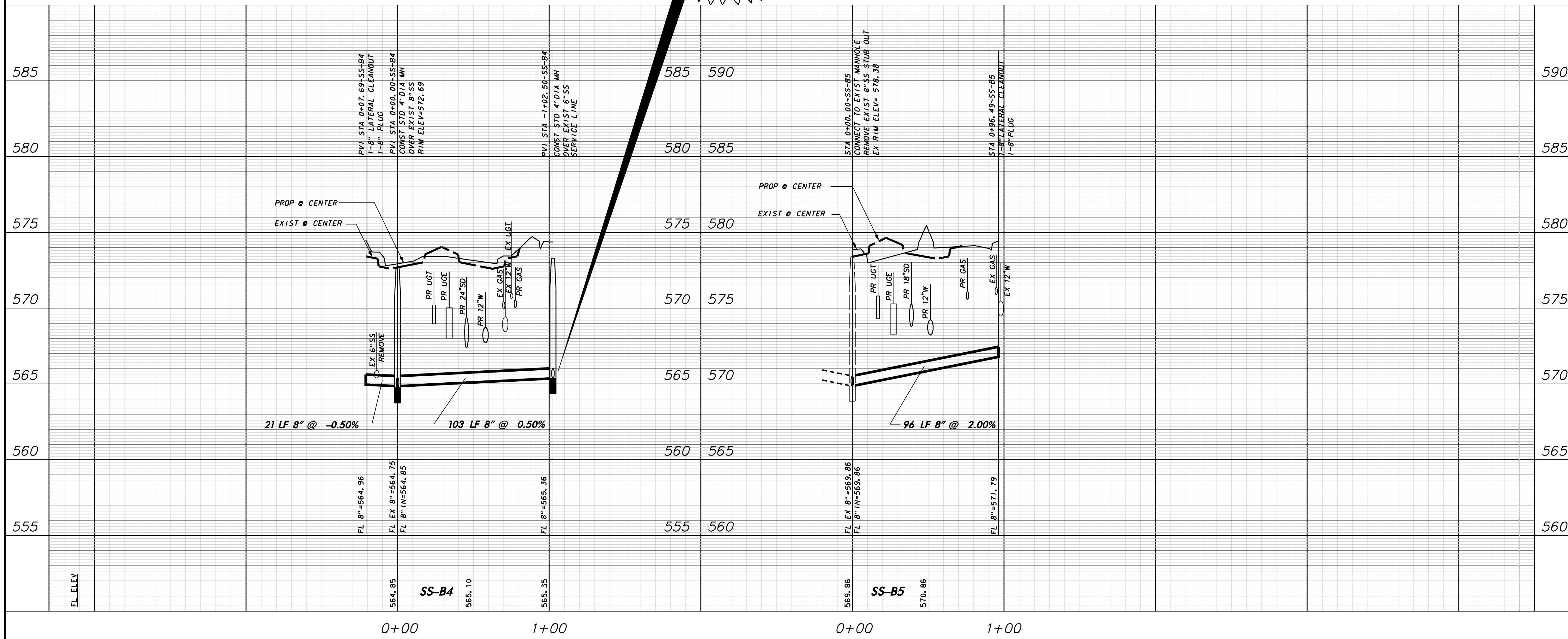


PLAN OF TEE THRUST BLOCK

I.D. (IN.)	11.25°		22.50°		30°		45°		67.50°		90°		I.D. (IN.)
	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	
4,6.8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6.8
10,12	2.2	1.1	4.3	2.2	5.7	2.8	8.0	4.0	10.5	5.2	11.3	5.7	10,12
16,18	5.0	2.5	9.7	4.9	12.7	6.4	18.0	9.0	23.5	11.8	25.5	12.7	16,18
20	6.1	3.1	12.0	6.0	15.7	7.9	22.2	11.1	29.2	14.5	31.4	15.7	20
24	8.2	4.4	17.3	8.7	22.6	11.3	32.0	16.0	41.8	20.9	45.2	22.6	24
30	10.5	5.2	20.3	10.1	26.5	13.3	37.5	18.8	49.0	24.5	53.1	26.5	30
36	14.9	7.5	29.2	14.6	38.2	19.1	54.0	27.0	70.5	35.3	76.4	38.2	36
42	20.3	10.1	39.8	19.9	52.0	26.0	73.5	36.7	96.0	48.0	104.0	52.0	42
48	26.5	13.2	51.9	26.0	67.9	33.9	96.0	48.0	126.0	62.7	136.0	67.9	48
54	33.5	16.8	65.7	32.9	85.9	42.9	122.0	60.7	159.0	79.4	172.0	85.9	54
60	41.4	20.7	81.2	40.6	106.0	53.0	150.0	75.0	196.0	98.0	212.0	106.0	60
66	50.1	25.0	98.2	49.1	128.0	64.2	182.0	90.7	237.0	119.0	257.0	128.0	

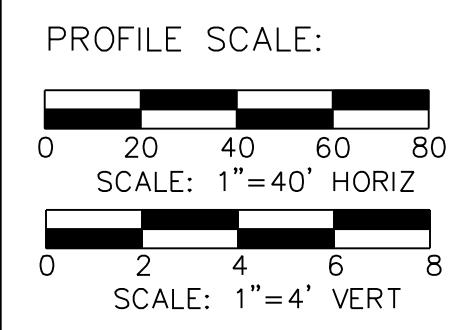


WARNING!!
 LOCATE EXISTING
 6" SS SERVICE LINE
 PRIOR TO CONSTRUCTION



WARNING
 CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
 112' NORTH OF VITRUVIAN WAY.
 BM #2 REF. ELEVATION = 547.84
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.



NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
 DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

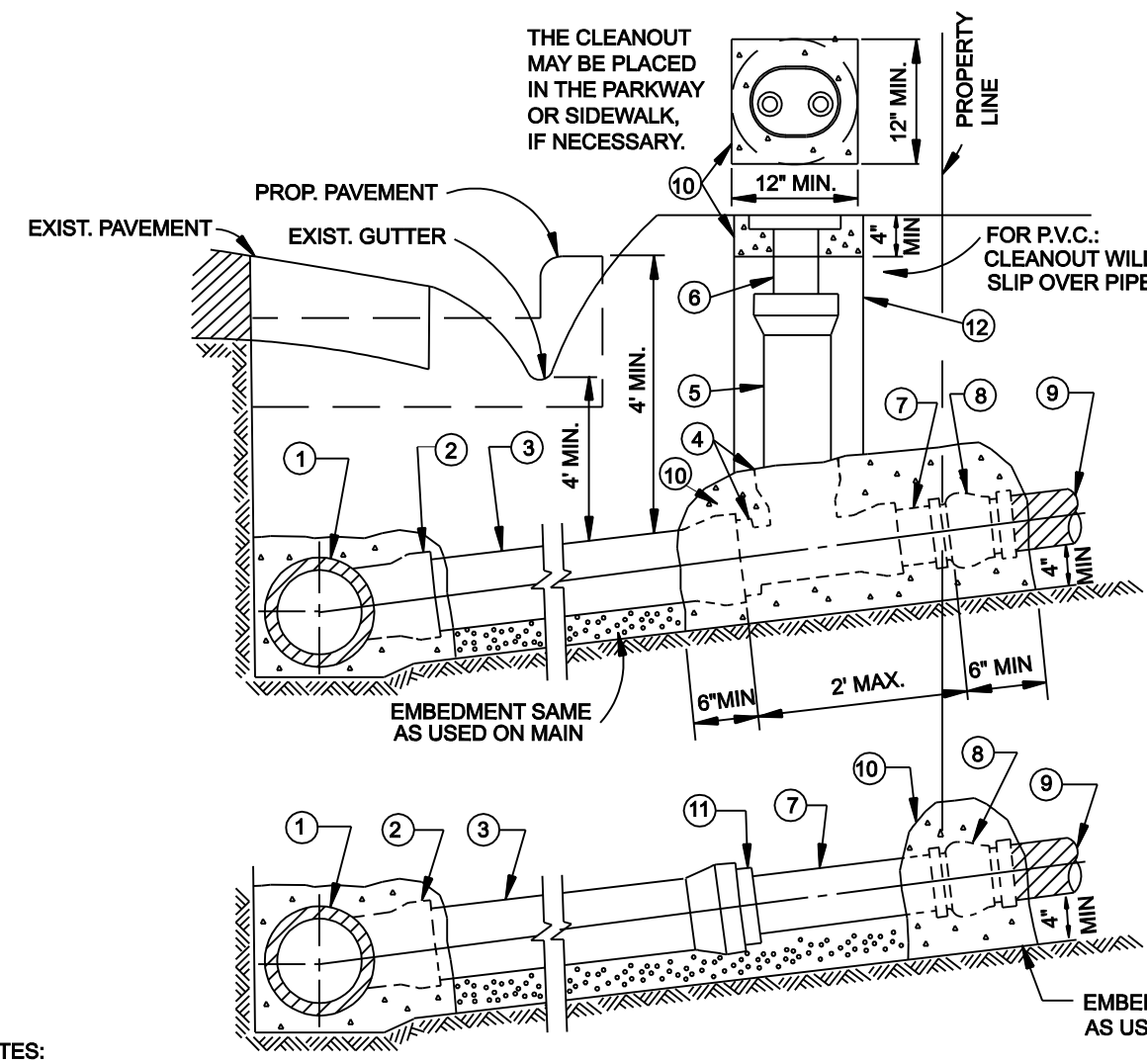
SANITARY SEWER PLAN & PROFILE-VW
 LINES SS-B4 & SS-B5

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
 Civil Engineers - Designers - Planners Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	25

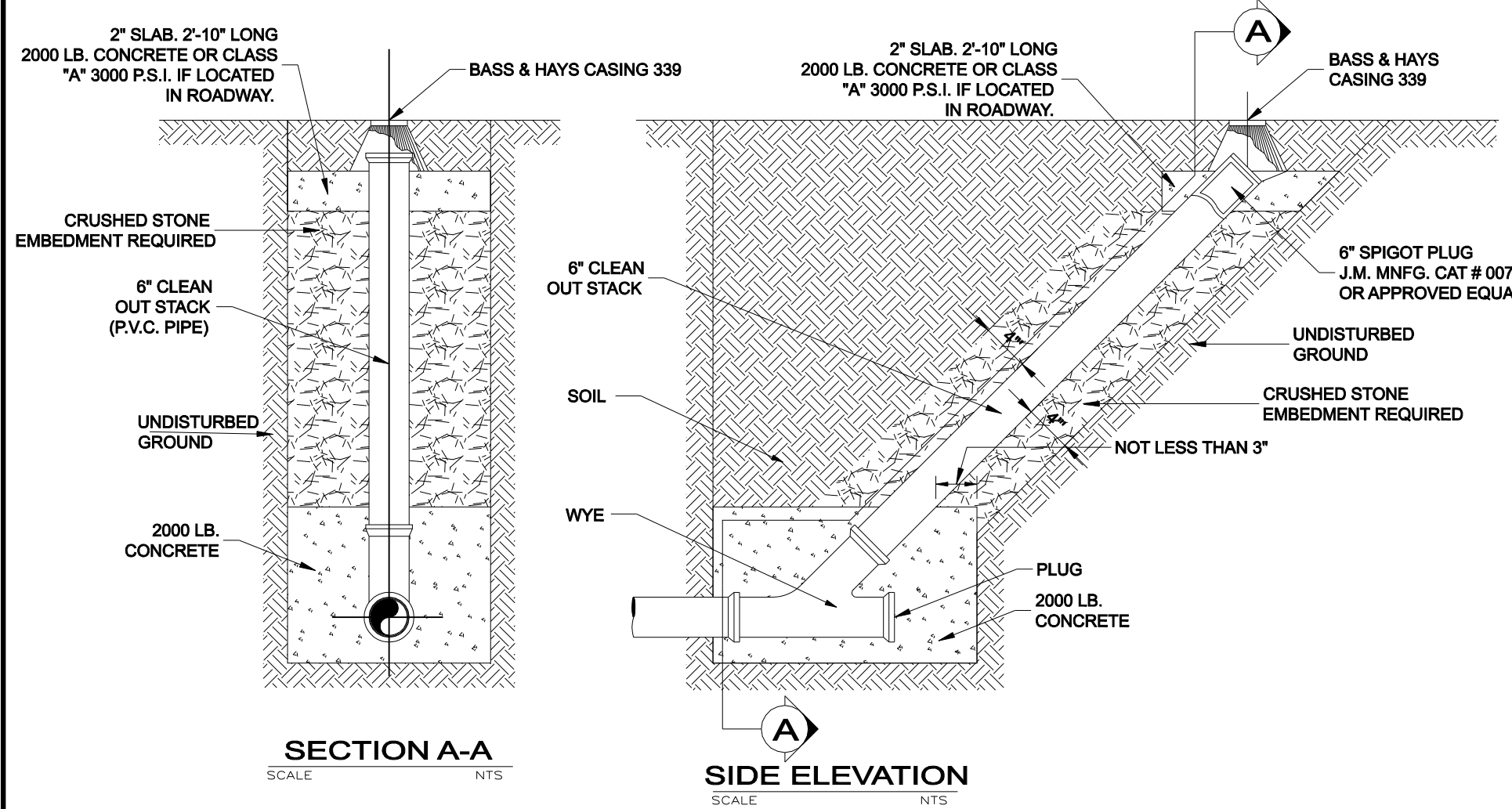
PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

- KEY:
- 1) WASTEWATER MAIN
 - 2) 6" WYE
 - 3) 6" WASTEWATER LAT. (LENGTH VARIES)
 - 4) 6" X 4" RED. AND 4" X 4" TEE OR WYE, OR 6" X 4" TEE OR WYE, AS REQD. BY OWNER.
 - 5) 4" STACK (LENGTH VARIES)
 - 6) 4" WASTEWATER LAT. CLEANOUT CASTING
 - 7) 4" WASTEWATER PIPE (LENGTH VARIES)
 - 8) ADAPTOR
 - 9) BUILDING SEWER LAT.
 - 10) CLASS "B" CONCRETE
 - 11) 6" X 4" REDUCER
 - 12) COMPACTED AS SPECIFIED, OR INUNDATED SAND

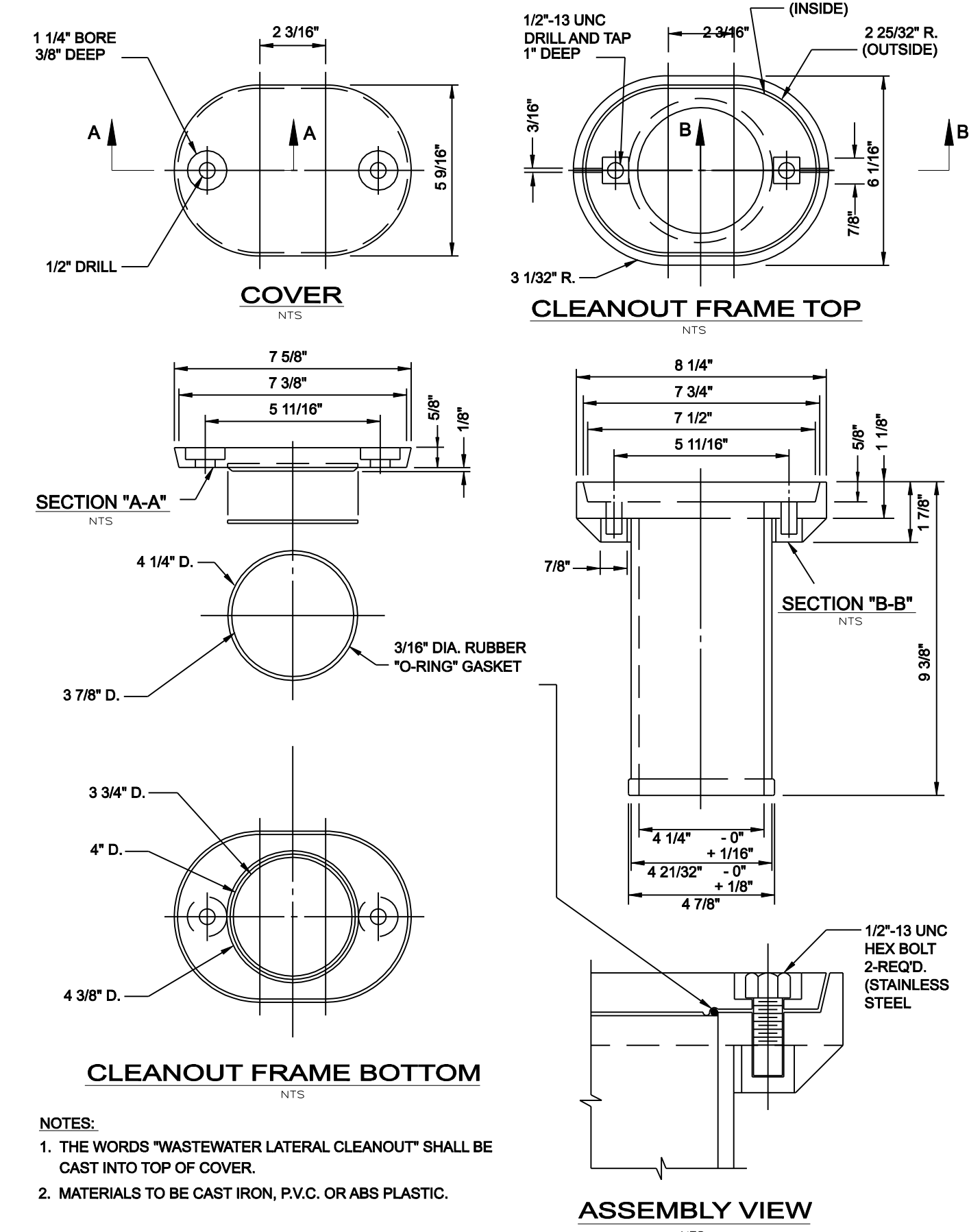


- NOTES:
- CLEANOUT CASTING TO BE FURNISHED AND PLACED PER SPECIAL CONDITIONS. IN VEHICLE TRAFFIC AREAS AND FOR COMMERCIAL MAINLINE LATERALS, WASTEWATER CLEANOUT SHALL BE OF CAST IRON.
 - SLOPE OF LATERAL TO BE 1% MIN., 2% MAX. UNLESS INSTRUCTED OTHERWISE BY OWNER.
 - THE WASTEWATER LATERAL SHALL BE CONNECTED TO BUILDING LATERAL AND CONSTRUCTED IN SUCH MANNER AS TO CLEAR EXISTING UTILITIES AND PROPOSED FACILITIES SUCH AS STORM SEWER MAINS, PAVING, SIDEWALKS, RETAINING WALLS, ETC. VERTICAL BENDS (22.5° MAX.) MAY BE USED IF APPROVED BY OWNER.
 - THE MAINLINE LATERAL CONNECTION TO THE PRIVATE BUILDING LATERAL SHALL BE AS CLOSE TO THE PROPERTY LINE AS POSSIBLE.
 - INSTALL 4" STOPPER OR CAP AT PROPERTY LINE IF BUILDING LATERAL DOES NOT EXIST.
 - SUBSTITUTE 4" FOR 6" FITTINGS IF PLANS OR SPEC. COND. CALL FOR 4" LATERALS.
 - THE CLEANOUT STACK & CASTING MAY BE PLACED IN THE PARKWAY, VEHICLE TRAFFIC AREAS, OR SIDEWALK, IF NECESSARY.

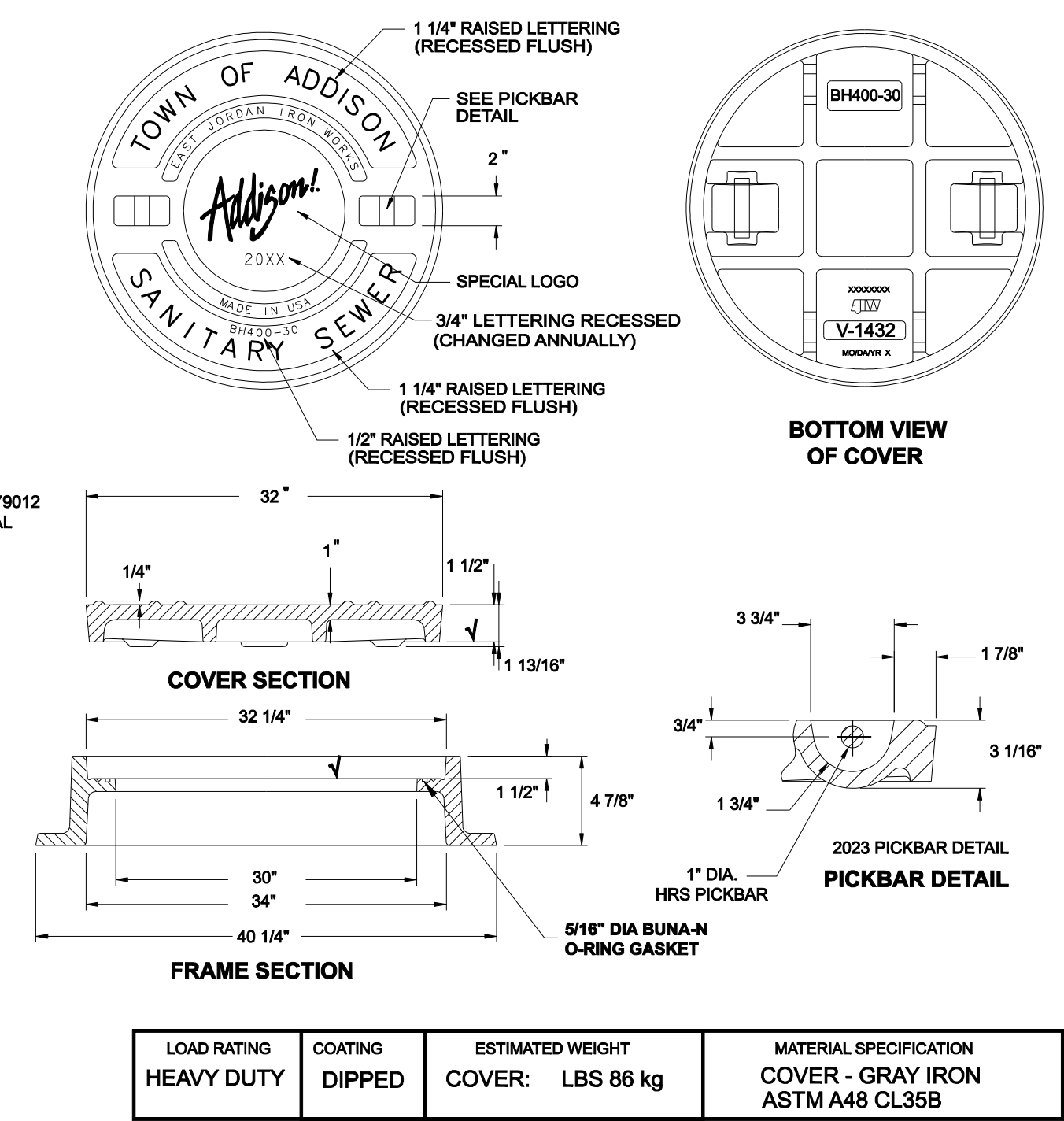
SANITARY SEWER LATERAL WITH & WITHOUT CLEANOUT



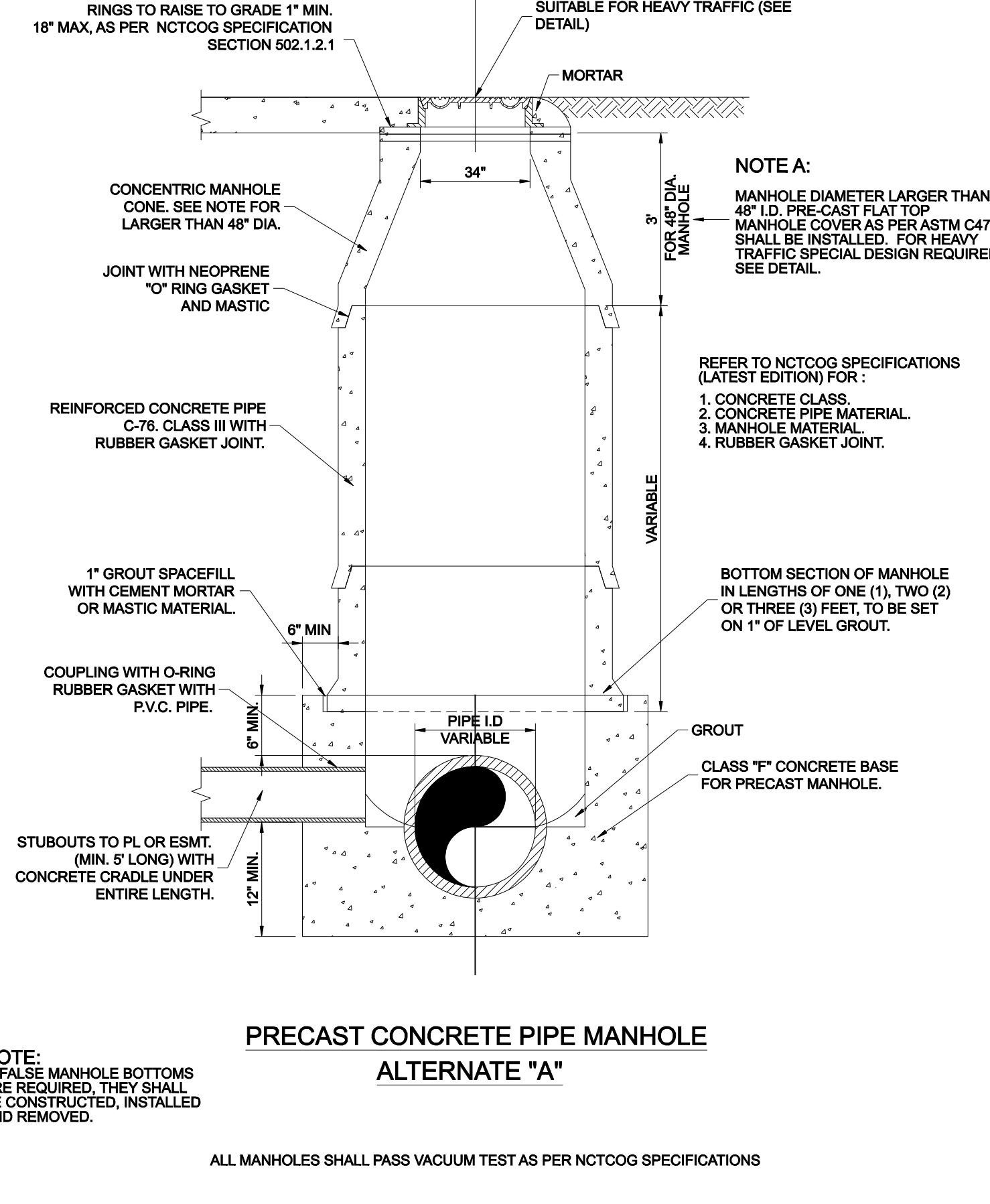
STANDARD CLEANOUT



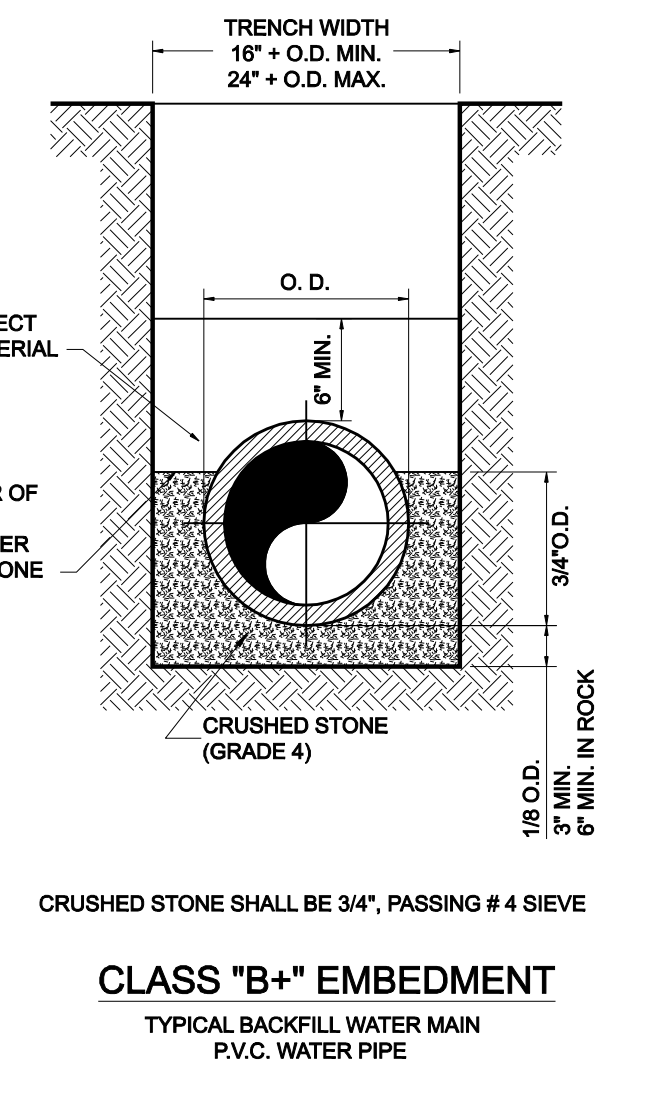
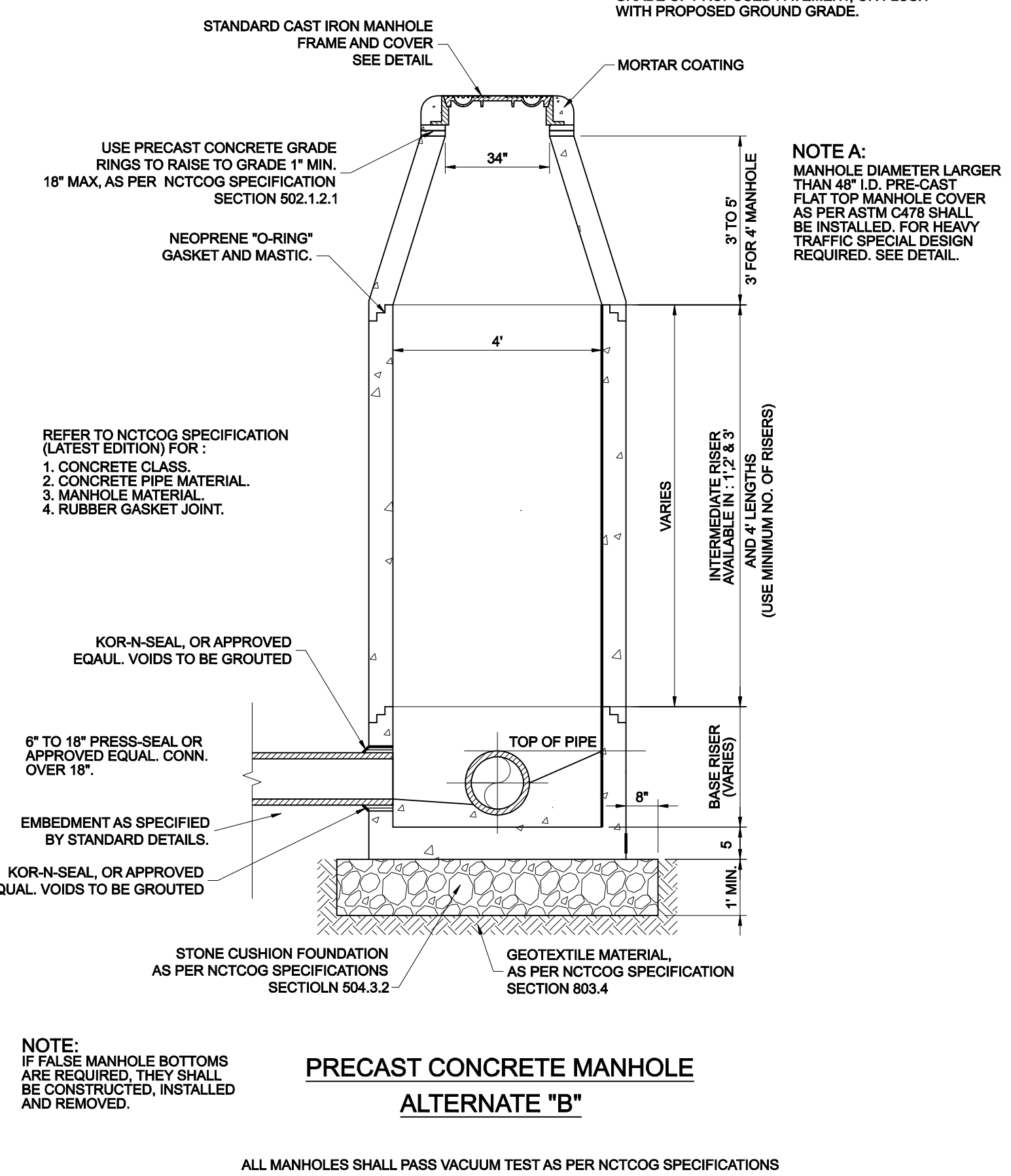
SANITARY SEWER LATERAL CLEANOUT FRAME & COVER



CAST IRON FRAME AND COVER



EXTERIOR MANHOLE DROP CONNECTION



NO.	REVISION	BY	DATE

ADDISON TOWN OF ADDISON DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION

SANITARY SEWER DETAILS

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	26

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION

ADDITIONAL TELEPHONE DUCT NOTES

- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MANHOLE AND DUCT STRUCTURE FACILITIES AS ESTABLISHED BY AT&T, LATEST EDITION, AND ANY AND ALL APPLICABLE SPECIFICATIONS AND REQUIREMENTS BY THE TOWN OF ADDISON.
- THE CONTRACTOR MUST BE AN AT&T APPROVED CONTRACTOR OR BECOME AN AT&T APPROVED CONTRACTOR PRIOR TO CONSTRUCTION.
- AT&T SHALL SUPPLY ALL UGT MANHOLES, MANHOLE NECKS, FRAME AND COVERS, MANHOLE RACKING AND 4" DUCT FOR THIS PROJECT. MATERIALS WILL BE DELIVERED TO A DESIGNATED ON-SITE STORAGE AREA FOR INSTALLATION BY THE CONTRACTOR.
- THE CONTRACTOR SHALL SUPPLY ALL OTHER MATERIALS FOR THIS PROJECT NOT LISTED ABOVE INCLUDING BUT NOT LIMITED TO STEEL CASING, TIE-WRAPS, CONDUIT SPACERS, PVC ADHESIVE, CONCRETE, SELECT BACKFILL, PULL ROPES, ETC., PER AT&T SPECIFICATIONS UNLESS OTHERWISE SPECIFIED, IN WRITING.
- THE CONTRACTOR SHALL INSTALL THE AT&T FURNISHED MANHOLE RACKING IN EACH MANHOLE.
- THE AT&T INSPECTOR IS TO INSPECT ALL MANHOLE INSTALLATIONS PRIOR TO THE PLACING OF BACKFILL AND ALL CONDUIT INSTALLATIONS PRIOR TO THE PLACEMENT OF CONCRETE.
- THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ANY AND ALL REQUIRED TESTS TO THE SATISFACTION OF AT&T.
- THE CONTRACTOR SHALL CONTACT AT&T TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE TELEPHONE DUCT BANK INFRASTRUCTURE WORK.
- AT&T INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 2 HOURS PRIOR TO THE DELIVERY OF CONCRETE AND SHALL BE PRESENT DURING PLACEMENT.

DUCT BANK GENERAL AND ELECTRICAL NOTES

- REFER TO CIVIL SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THIS PROJECT.
- ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MANHOLE AND DUCT STRUCTURE FACILITIES AS ESTABLISHED BY ONCOR ELECTRIC DELIVERY, LATEST EDITION, AND ANY AND ALL APPLICABLE SPECIFICATIONS AND REQUIREMENTS BY THE TOWN OF ADDISON. ONCOR SPECIFICATIONS INCLUDE THE FOLLOWING: DSS-4 SPECIFICATIONS FOR ELECTRICAL UNDERGROUND DISTRIBUTION SYSTEMS FROM PADMOUNTED TRANSFORMATION, SECONDARY SERVICE ACCOUNTS, MANS SPECIFICATIONS FOR MANHOLE AND DUCT STRUCTURE FACILITIES, AND ONCOR UNDERGROUND DISTRIBUTION CONSTRUCTION STANDARD DRAWINGS 205-460, 205-465, 205-470, 205-475, 205-480, 205-485, AND 205-490. THE ONCOR STANDARD DRAWINGS SHALL TAKE PRECEDENCE OVER THE OMISSION OF OR CONFLICT WITH INFORMATION IN THE DSS-4 OR MMD-5 SHEETS.
- PRIOR TO COMMENCING CONSTRUCTION, THE TOWN OF ADDISON, THE CONSULTING ENGINEERS, THE SUCCESSFUL CONTRACTOR, UTILITY COMPANIES, AND ANY OTHER AFFECTED PARTIES, SHALL CONVENE FOR A PRE-CONSTRUCTION CONFERENCE AT LEAST 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION. THE APPLICABLE ONCOR STANDARD DRAWINGS, MMD-5 SHEETS, AND DSS-4 SHEETS SHALL BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION CONFERENCE BY THE ONCOR REPRESENTATIVE.
- THE CONTRACTOR SHALL OBTAIN A RIGHT-OF-WAY PERMIT FROM THE TOWN OF ADDISON PRIOR TO WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT ANY UTILITY COMPANIES FOR LOCATION OF EXISTING FACILITIES IN OR NEAR THE WORK AREAS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:
 - TOWN OF ADDISON (WATER, SEWER, SIGNALS)
 - AT&T (SOUTHWESTERN BELL)
 - ATMOS ENERGY (GAS)
 - VERIZON / MCI
 - TIME-WARNER CABLE
- THE CONTRACTOR SHALL PROVIDE SUBMITTALS TO THE ENGINEER (SIX SETS EACH), FOR APPROVAL OF ALL MATERIALS TO BE ADDED TO THE PUBLIC INFRASTRUCTURE, PRIOR TO INCORPORATING MATERIALS INTO THE JOB.
- THE CONTRACTOR SHALL PROVIDE A MAINTENANCE BOND FOR PUBLIC INFRASTRUCTURE WORK IN THE FOLLOWING AMOUNTS:
 - 100% FOR VALUATIONS LESS THAN OR EQUAL TO \$5,000.
 - \$5,000 FOR VALUATIONS GREATER THAN \$5,000 AND LESS THAN \$50,000.
 - 10% FOR VALUATIONS GREATER THAN \$50,000.
 BONDS SHALL BE FOR A PERIOD OF TWO YEARS BEGINNING WITH THE DATE OF FINAL ACCEPTANCE BY THE TOWN.
- THE CONTRACTOR SHALL FULLY COMPLY WITH AND SUPPLEMENT AS NECESSARY, THE CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN WHILE CONDUCTING HIS ACTIVITIES ON THIS PROJECT.
- THE TOWN OF ADDISON PUBLIC WORKS DEPARTMENT WILL APPROVE AND/OR DETERMINE THE TRAFFIC CONTROL PLAN AND WORKING HOURS. CONTACT THE ASSISTANT CITY ENGINEER AT (972) 450-2857 OR THE PUBLIC WORKS INSPECTOR AT (972) 450-2871.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT, AND SUPPLEMENT AS NECESSARY, THE TRAFFIC CONTROL MEASURES ON THIS PROJECT, INCLUDING PROVIDING ADEQUATE FLAGMEN, SIGNAGE, STRIPING, AND WARNING DEVICES, ETC. DURING CONSTRUCTION IN ACCORDANCE WITH THE TEXAS MANUAL OF UNIFORM CONTROL DEVICES. THE CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE AN ALL-WEATHER DETOUR AROUND THE CONSTRUCTION SITE, INCLUDING PUBLIC NOTIFICATION AND SIGNING.
- TEMPORARY OR PERMANENT BARRICADES SHALL REMAIN AT ALL POINTS OF INGRESS OR EGRESS TO PREVENT PUBLIC USE UNTIL THE WORK RECEIVES FINAL ACCEPTANCE.
- THE CONTRACTOR SHALL COVER ALL OPEN EXCAVATIONS WITH ANCHORED STEEL PLATING, DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION, INCLUDING PROVIDING ALL TEMPORARY STRUCTURES OR IMPROVEMENTS AS NECESSARY FOR THE SAFETY OF THE PUBLIC.
- THE TOWN OF ADDISON WILL PROVIDE A GEOTECHNICAL LABORATORY TO PERFORM APPROPRIATE TESTING DURING CONSTRUCTION ACTIVITIES. ANY TEST THAT FAILS TO MEET ONCOR AND/OR TOWN OF ADDISON REQUIREMENTS SHALL BE RETESTED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS FOR THE SUPPORT AND PROTECTION OF ALL UTILITY POLES, FENCES, TREES, SHRUBS, UTILITY SERVICES, BUILDING FOUNDATIONS AND ALL OTHER UTILITIES AND STRUCTURES BOTH ABOVE AND BELOW THE GROUND, THE COST OF WHICH SHALL BE INCLUDED IN THE CONTRACT AMOUNT.
- ALL APPLICABLE CODES AND ORDINANCES SHALL BE FOLLOWED IN THE DESIGN AND CONSTRUCTION OF THE MANHOLE AND CONDUIT LINE SYSTEM. INCLUDED, BUT NOT LIMITED TO, ARE THE FOLLOWING:
 - A. LOCAL TOWN OF ADDISON BUILDING CODES
 - B. THE NATIONAL ELECTRIC SAFETY CODE (NECS)
 - C. THE CONTRACTOR SHALL BE FAMILIAR WITH AND SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THESE SPECIFICATIONS AND WITH OSHA REQUIREMENTS. IF THERE ARE ANY CONFLICTS OR OMISSIONS, THE OSHA REQUIREMENTS SHALL BE MET. ANY CONFLICT OR OMISSION SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY OF COMPLYING WITH OSHA REQUIREMENTS.
 - D. LOCAL TOWN OF ADDISON LOCATION AND COORDINATION POLICY (IF APPLICABLE).
 - E. THE AMERICAN CONCRETE INSTITUTE (ACI).
 - F. THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
 - G. TEXAS STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION - UTILITY ACCOMMODATION POLICY.
 - H. LOCAL CITY, STATE AND FEDERAL ENVIRONMENTAL REGULATIONS.
- THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES, WHETHER INDICATED ON THE DESIGN DRAWINGS OR DISCOVERED DURING THE WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ONCOR'S AUTHORIZED REPRESENTATIVE WHEN ANY UTILITY NOT PREVIOUSLY INDICATED OR INACCURATELY INDICATED ON THE DESIGN DRAWING IS DISCOVERED.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND IMPLEMENTING A TRENCH SAFETY PROGRAM. THREE COPIES OF A TRENCH SAFETY SPECIFICATION (PREPARED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF TEXAS) SHALL BE SUPPLIED TO ONCOR ELECTRIC DELIVERY BEFORE CONSTRUCTION BEGINS.
- THE CONTRACTOR SHALL SUPPLY ALL MATERIALS FOR THIS JOB INCLUDING MANHOLES, NECKS, FRAMES AND COVERS, CON-SEAL GROUND RODS, PVC CONDUIT, PVC BENDS, PVC COUPLINGS, TIE-WRAPS, CONDUIT SPACERS, PVC ADHESIVE, CONCRETE, SELECT BACKFILL, PULL ROPES, PRE-CAST SWITCHGEAR PADS, ELECTRONIC CABLE MARKERS, MANHOLE LADDER RUNGS, ETC., PER ONCOR ELECTRIC DELIVERY SPECIFICATIONS UNLESS OTHERWISE SPECIFIED, IN WRITING.
- CONCRETE ENCASED DUCT STRUCTURE INSTALLATION SHALL BE PERFORMED AS FOLLOWS:
 - ALL CONDUITS SHALL BE CONCRETE ENCASED WITH A MINIMUM OF 3" OF CONCRETE. THE TOP CONDUITS OF ANY DUCT STRUCTURE SHALL HAVE A 3" OR 6" MINIMUM COVER DEPENDING ON LOCATION SITE. REFER TO CONSTRUCTION DRAWINGS FOR CONCRETE ENCASEMENT. ALL CONCRETE ENCASEMENT SHALL HAVE A PATTERN FINISH.
 - CONCRETE SHOULD BE 5 SACK, PORTLAND TYPE 1 CEMENT, 3/4" MAXIMUM SIZE AGGREGATE, 3000 PSI AT 28 DAYS. THE SLUMP OF THE CONCRETE MAY BE INCREASED BY THE CONTRACTOR WITH THE APPROVAL OF THE ONCOR INSPECTOR IN ORDER TO FACILITATE A WETTER MIX TO INSURE TOTAL ENCASEMENT OF THE DUCT. HOWEVER, THE SLUMP SHOULD NOT BE INCREASED TO THE POINT WHERE THE ULTIMATE YIELD STRENGTH OF THE CONCRETE IS COMPROMISED.
 - ALL CONCRETE SHALL BE INSTALLED BY THE USE OF A HOPPER, TRIMMIE, CHUTE, OR PUMP TRUCK UNLESS OTHERWISE SPECIFIED BY ONCOR ELECTRIC DELIVERY INSPECTOR. AT AND TIME SHALL CONCRETE BE PLACED WITH A FRONT-END LOADER OR ANY OTHER SIMILAR TYPE OF MACHINERY.
 - THE DUCT LINE SHALL BE SECURED TO EARTH AT EACH SPACER LOCATION PRIOR TO POURING CONCRETE TO PREVENT FLOATING OR RACKING OF THE DUCT DURING PLACEMENT OF THE CONCRETE.
 - CONDUIT, BENDS, ELBOWS AND COUPLINGS SHALL BE PVC CONDUIT, MINIMUM 6" TYPE DB-10 TO DB-60ASTM #512, AND 90 DEGREE CENTERLINE RATED OR GREATER UNLESS OTHERWISE SPECIFIED. ALL PVC 6" BENDS AND ELBOWS SHALL HAVE A 36" RADIUS.
 - SPACERS SHALL BE CARLON #288RLN (BASE) AND #289 RLN (INTERMEDIATE), SPACED AT 5 FOOT INTERVALS (MAX). SPACERS WILL BE REQUIRED AND TIED TOGETHER WITH NON-METALLIC TIE-WRAPS. SPACERS SHALL ALSO BE USED TO "HOLD-DOWN" THE TOP ROW OF DUCTS.
 - FINISH BACKFILL SHOULD BE PLACED IN LEVEL, UNIFORM LIFTS, WITH EACH LIFT COMPACTED TO THE MINIMUM DRY DENSITY WITHIN THE COMPACTION SOIL MOISTURE RANGES RECOMMENDED. THE LOOSE LIFT THICKNESS SHOULD NOT EXCEED SIX (6) INCHES. EACH LAYER SHOULD BE PROPERLY PLACED, MIXED, SPREAD, AND COMPACTED TO BETWEEN NINETY-FIVE (95) AND ONE HUNDRED (100) PERCENT OF STANDARD PROCTOR DENSITY AT 0% TO 3% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 698.
 - WHEN COMPLETE, EACH CONDUIT INSTALLED WILL BE CHECKED BY PULLING BOTH A MANDEL AND A SWAB THROUGH THE ENTIRE LENGTH OF CONDUIT.
 - DUCT SPACERS ARE TO PROVIDE 3 INCHES OF VERTICAL AND HORIZONTAL SEPARATION BETWEEN CONDUITS.
 - RED POWDER CONCRETE DYE IS TO BE PLACED ON THE DUCT ENCASEMENT CAP IMMEDIATELY AFTER THE CONCRETE POUR HAS TAKEN PLACE TO AID WITH FUTURE LOCATION OF PRIMARY DUCT.
 - CONDUITS FOR INCOMPLETE DUCT LINES (STUBS) ARE TO REMAIN EXPOSED FROM THE ENCASEMENT FOR FUTURE RETRIEVAL, BE CAPPED WATER TIGHT AND HAVE AN ELECTRONIC MARKER INSTALLED.
 - EACH CONDUIT OF AN ENCASED DUCT IS TO HAVE A 6000 POUND PULL TAPE INSTALLED FOR FUTURE CABLE PULLING.
- CONCRETE MANHOLE INSTALLATION SHALL BE PERFORMED AS FOLLOWS:
 - PRECAST TYPE, UNLESS OTHERWISE NOTED, SHOULD BE SUPPLIED BY BROOKS/OLD CASTLE (OR OTHER APPROVED SUPPLIER) AND BE OCTAGONAL SHAPE, 3-SECTIONS 15,000 LBS./SECTION UNLESS OTHERWISE SPECIFIED.
 - 8 INCHES MINIMUM PEA GRAVEL OF CUSHION SHALL BE INSTALLED IN THE BOTTOM OF THE EXCAVATED AREA PRIOR TO THE MANHOLE INSTALLATION. SAND BASE MAY BE USED WITH PRIOR ONCOR APPROVAL.
 - SELECT BACKFILL SHOULD BE INSTALLED AROUND ALL MANHOLES AND COMPACTED TO 95% MINIMUM. FLOWABLE MATERIAL MAY BE USED AS SELECT BACKFILL WHEN REQUESTED.
 - CONTRACTOR SHALL INSTALL THE FRAME/COVER AND NECK. ONCOR ELECTRIC DELIVERY CONSTRUCTION PLANS SHOW THE APPROXIMATE ENTRANCE ELEVATION. HOWEVER IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL THE NECESSARY AMOUNT OF NECK TO BRING THE TOP OF THE COVER 2" ABOVE FINISHED GRADE (OR FLUSH WITH STREET GRADE WHEN COVER IS IN STREET). SAW CUTTING OR GROUT-FILL MAY BE REQUIRED TO OBTAIN THE APPROPRIATE ENTRANCE ELEVATION.
 - THE CONTRACTOR SHALL SUPPLY FOUR (4) 8" X 58" COPPER CLAD GROUND ROD, WELD TYPE IN EACH MANHOLE. GROUND ROD SHALL BE VERTICALLY DRIVEN INTO UNDISTURBED SOIL. IF ROCK IS ENCOUNTERED, GROUNDING SHALL BE AS DIRECTED BY ONCOR ELECTRIC DELIVERY INSPECTOR.
 - THE CONTRACTOR SHALL INSTALL A 9' X 5' X 6" CONCRETE PAD AROUND ALL MANHOLE ENTRANCES IN ALL NON-PAVED AREAS. SEE STANDARD DETAIL DRAWINGS FOR REINFORCED STEEL REQUIREMENTS.
 - ALL JOINTS BETWEEN MANHOLE SECTIONS SHALL BE MADE WATER TIGHT AT THE TIME OF INITIAL INSTALLATION.
 - DO NOT REMOVE THE "KNOCK OUT" MEMBRANES OF ANY UNUSED TERMINATOR POSITION. DUCT PLUGS SHOULD BE INSTALLED IN ALL CONDUITS THAT ARE UNOCCUPIED BY CABLE.
 - FINAL SLOPE OF TOP OF MANHOLE SHALL BE 2" MINIMUM TO DRAIN WATER FROM TOP OF MANHOLE.
 - ANY MANHOLE WITH GREATER THAN 4" NECK SHALL HAVE LADDER RUNGS FIELD INSTALLED PER ONCOR STANDARD DRAWING 205-480. OLD CASTLE IS AN APPROVED SUPPLIER OF LADDER RUNGS.
 - THE ONCOR ELECTRIC DELIVERY INSPECTOR IS TO INSPECT ALL MANHOLE INSTALLATIONS PRIOR TO THE PLACING OF BACKFILL AND ALL CONDUIT INSTALLATIONS PRIOR TO THE PLACEMENT OF CONCRETE.
 - THE CONTRACTOR SHALL SCHEDULE AND COORDINATE HIS WORK WITH TRENCHING OPERATIONS FOR OTHER UTILITIES INCLUDING GAS AND TELECOMMUNICATION SERVICES, LANDSCAPE IRRIGATION CONDUITS, LIGHTING CONDUITS, STREETSCAPE IMPROVEMENTS, ETC.
 - CONCRETE SHALL NOT BE PLACED WHEN THE TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT AND FALLING, BUT MAY BE PLACED WHEN THE TEMPERATURE IS ABOVE 35 DEGREES FAHRENHEIT AND RISING. THE TEMPERATURE READING SHALL BE TAKEN IN THE SHADE AND AWAY FROM ARTIFICIAL HEAT.
 - THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO ALL EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.
 - THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ANY AND ALL REQUIRED TESTS TO THE SATISFACTION OF ONCOR ELECTRIC DELIVERY.
 - THE CONTRACTOR SHALL CONTACT ONCOR ELECTRIC DELIVERY TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE ELECTRIC DUCT BANK INFRASTRUCTURE WORK.
 - ANY ADJACENT PROPERTIES AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.
 - ONCOR ELECTRIC DELIVERY INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 2 HOURS PRIOR TO THE DELIVERY OF CONCRETE AND SHALL BE PRESENT DURING PLACEMENT.
 - CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE APPROPRIATE ONCOR ELECTRIC DELIVERY AUTHORIZED PERSONNEL PRIOR TO ANY MODIFICATION TO THE ORIGINAL DESIGN DRAWINGS THAT WILL CHANGE THE NUMBER OF BENDS OR ADD 10 PERCENT OR MORE TO THE OVERALL CONDUIT LENGTH FOUND ON THE ORIGINAL DESIGN PLAN. THIS WRITTEN REQUEST MUST BE PROVIDED PRIOR TO IMPLEMENTATION OF CHANGES.
 - EQUIPMENT PADS SHALL BE INSTALLED PER DSS-4 SPECIFICATIONS. PIERS AND BEAMS ARE REQUIRED ON ALL EQUIPMENT PADS UNLESS WAIVED BY COMPANY INSPECTOR. IF REQUIRED, STABILIZATION METHODS WILL BE DETERMINED BY THE COMPANY INSPECTOR. THE DEPTH SHALL EXTEND TO ROCK OR A CHANGE IN SOIL CONDITIONS SUFFICIENT TO BEAR THE LOAD OF PAD AND TRANSFORMER TO PREVENT SETTLEMENT DUE TO UNDERCUTTING FOR CONDUIT BEND INSTALLATION OR WASHING DUE TO DRAINAGE.

SPRING VALLEY ROAD

SPRINGHAVEN LP

CLIPPER POINTE LP

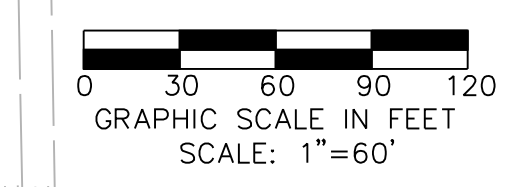
FUTURE BELLA LANE

SHEET 28

UGT 5
T-10
UGE
E-7

UGT 11
E-6
T-4
UGE

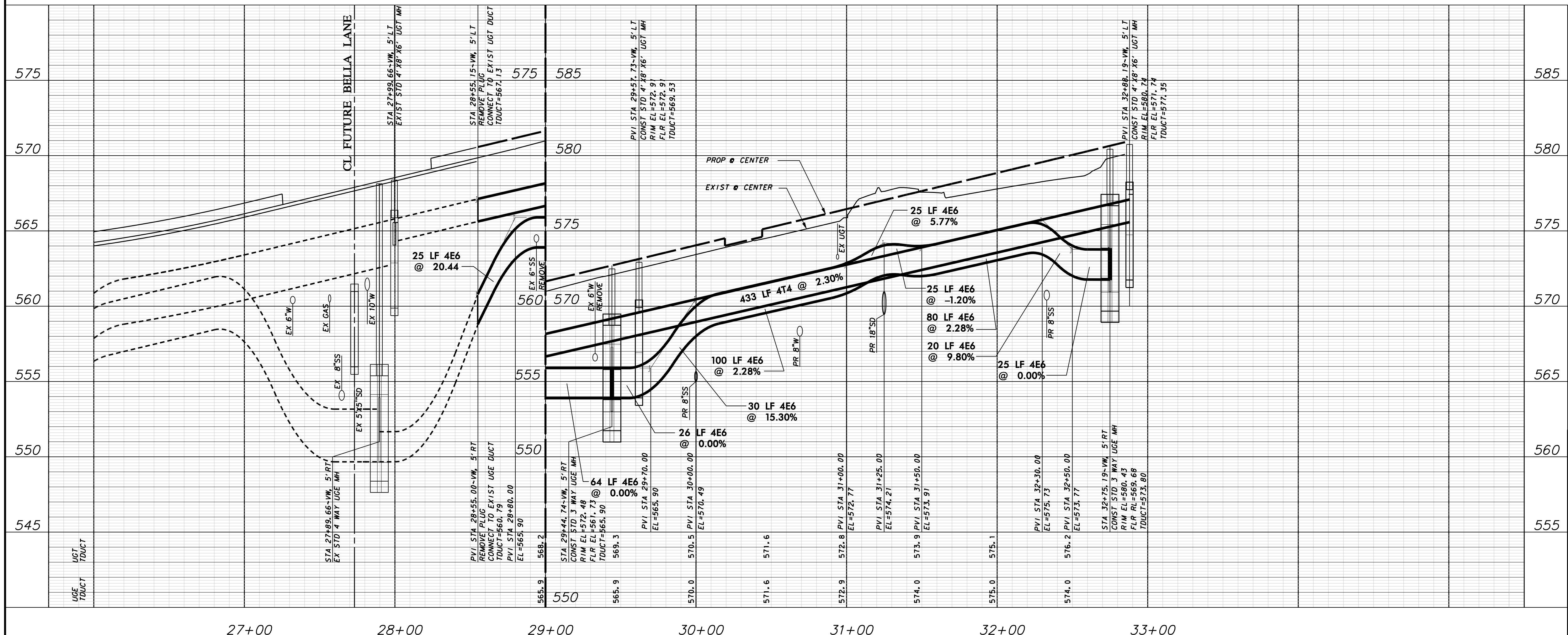
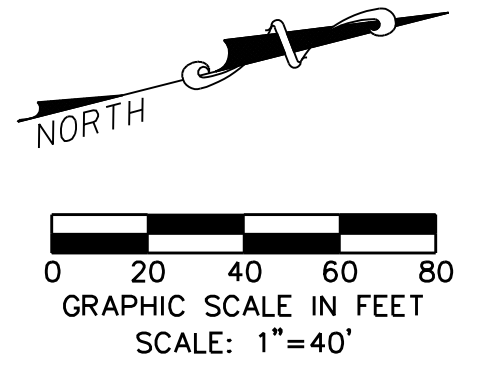
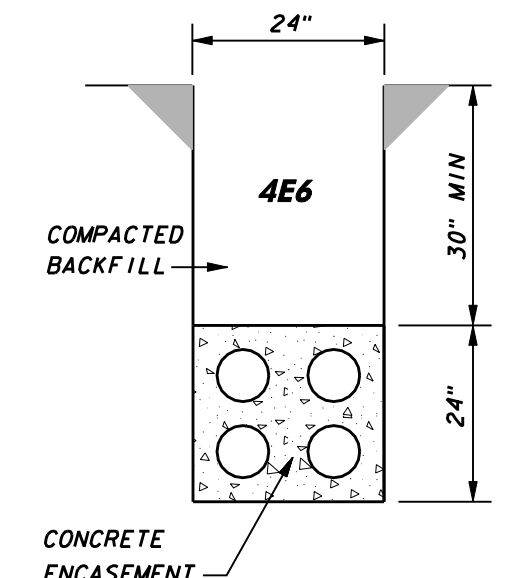
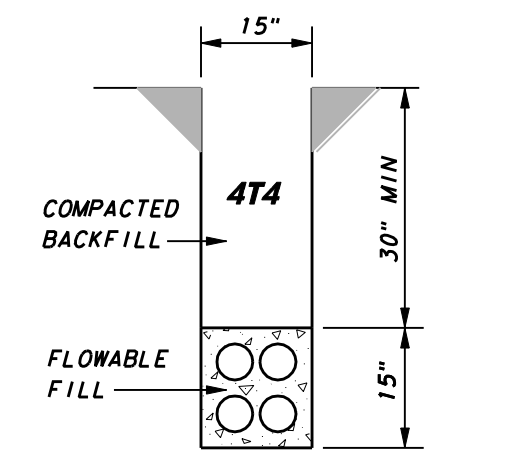
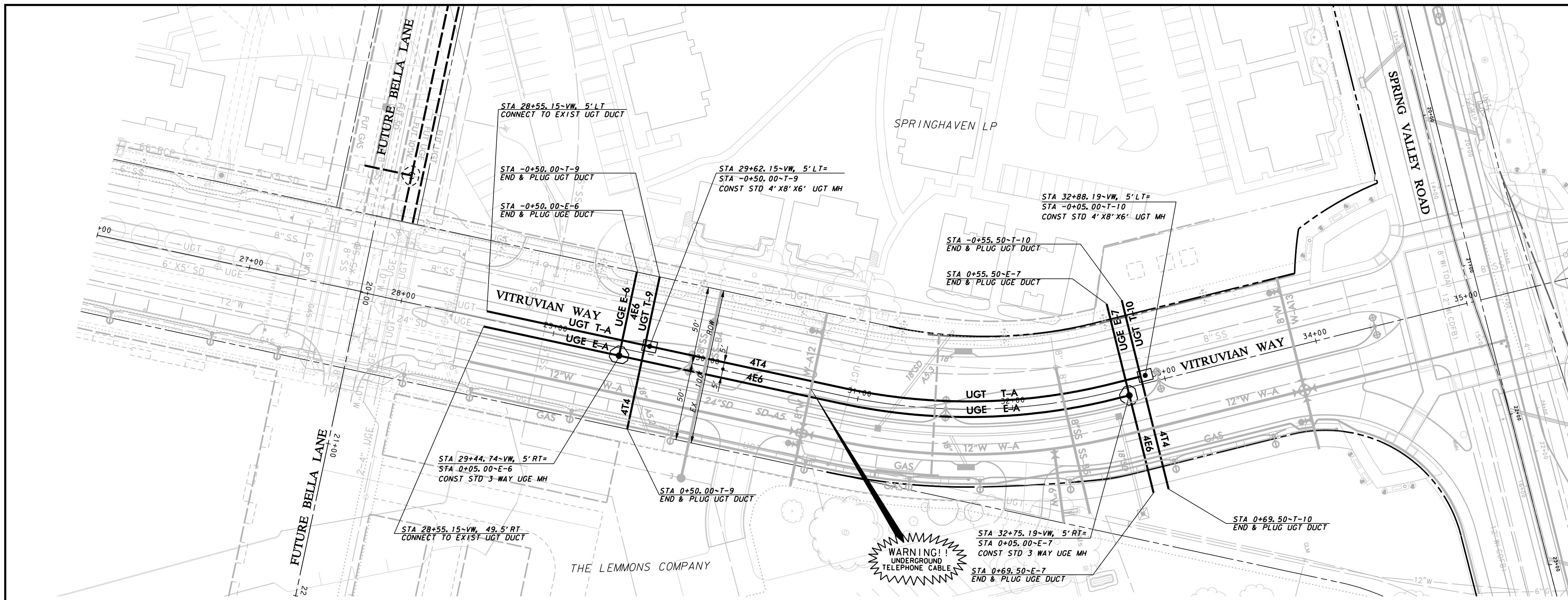
UGE
UGE



NO.	REVISION	BY	DATE
<p>TOWN OF ADDISON DALLAS COUNTY, TEXAS</p> <p>PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION</p> <p>OVERALL DUCT BANK LAYOUT & NOTES</p>			
<p>icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117 Civil Engineers - Designers - Planners Southlake, TX 76092 (817) 552-6210</p>			
PROJECT	DESIGN	DRAWN	DATE
5029-01	ICE	ICE	OCT 01 2010
			FILE
			PW# 2010-02
			SHEET
			27

RECORD DRAWINGS 06/13/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



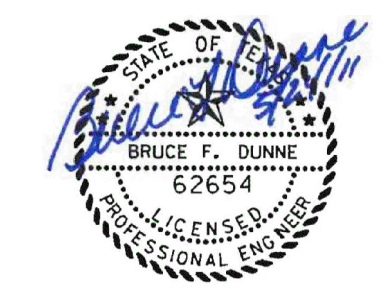
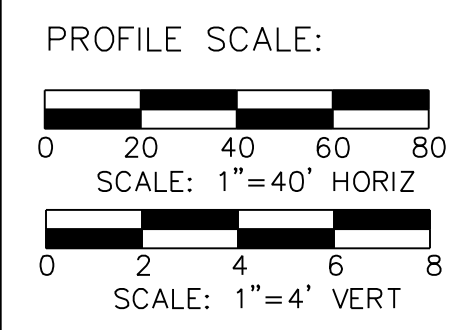
NOTE:
1. SEE OVERALL DUCT BANK PLAN LAYOUT SHEET FOR UGE AND UGT GENERAL NOTES.

WARNING

CONTRACTOR IS TO CONTACT TEXAS ONE-CALL SYSTEM (1-800-245-4545) OR OTHER UTILITY LOCATING SERVICES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION ACTIVITIES. ICON CONSULTING ENGINEERS, INC. IS NOT RESPONSIBLE FOR KNOWING ALL EXISTING UTILITIES IN THE PROJECT AREA NOR FOR DEPICTING THE EXACT LOCATIONS OF UTILITIES ON THESE DRAWINGS.

BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
112' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.



NO.	REVISION	BY	DATE

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DALLAS COUNTY, TEXAS

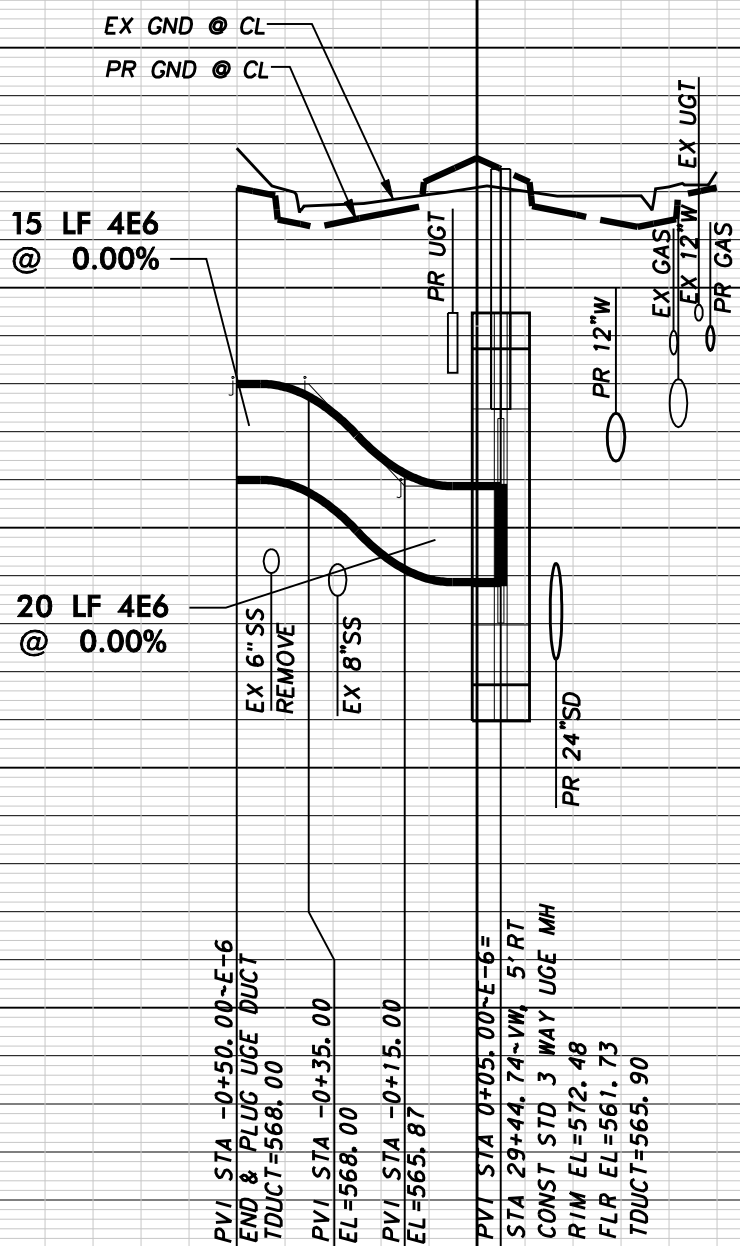
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

DUCT BANK PLAN & PROFILE - VW
LINE A-STA. 28+55.15 TO 32+82.00

icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

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5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	28

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



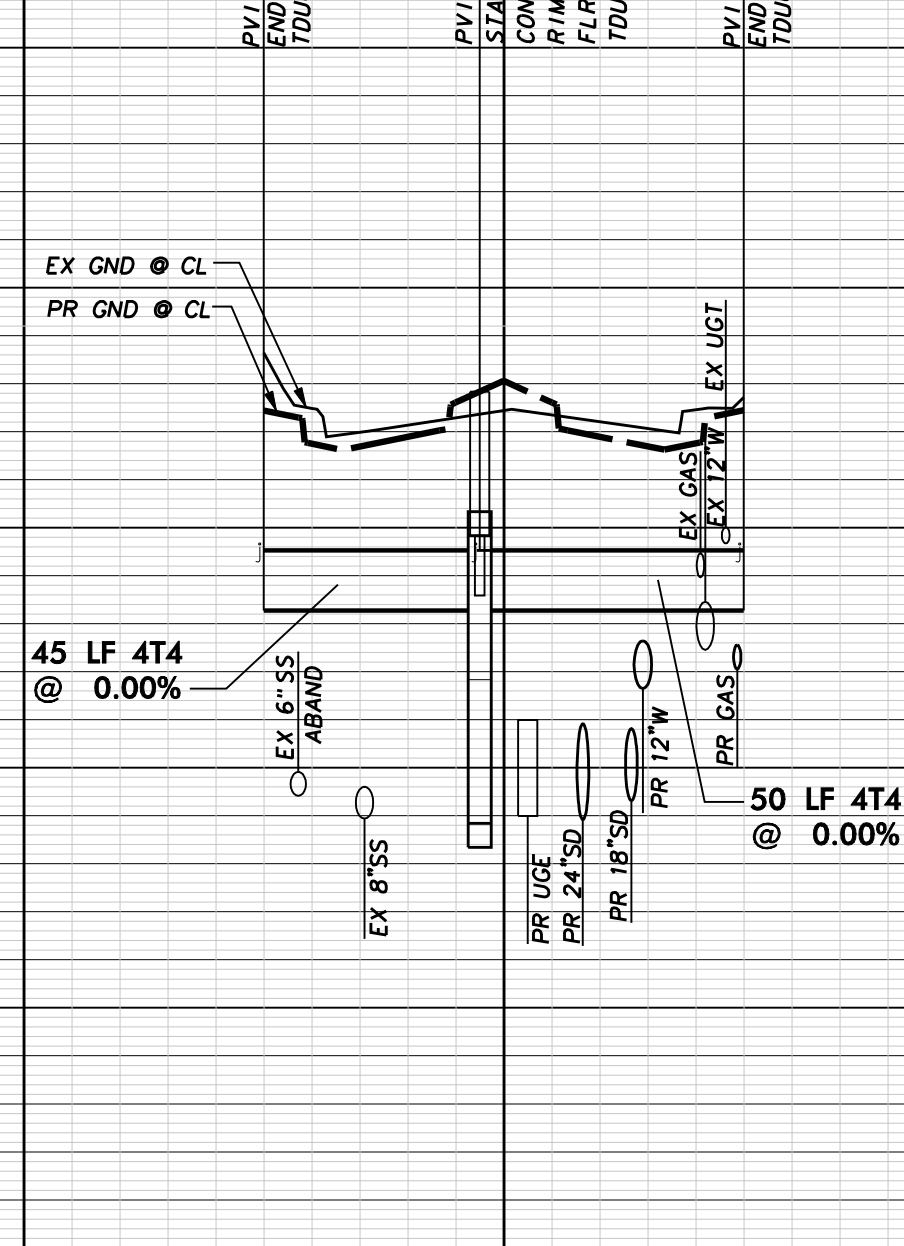
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END & PLUG UGT DUCT
STA 568.00
TODUCT=568.00

PVI STA -0+35.00
FLR EL=566.00
EL=566.00

PVI STA -0+15.00
EL=565.87

PVI STA 0+05.00-T-6
CONST STD 1 WAY UGE MH
RIM EL=572.48
FLR EL=561.73
TODUCT=565.90

TOP OF DUCT 568.0
E-6
565.9

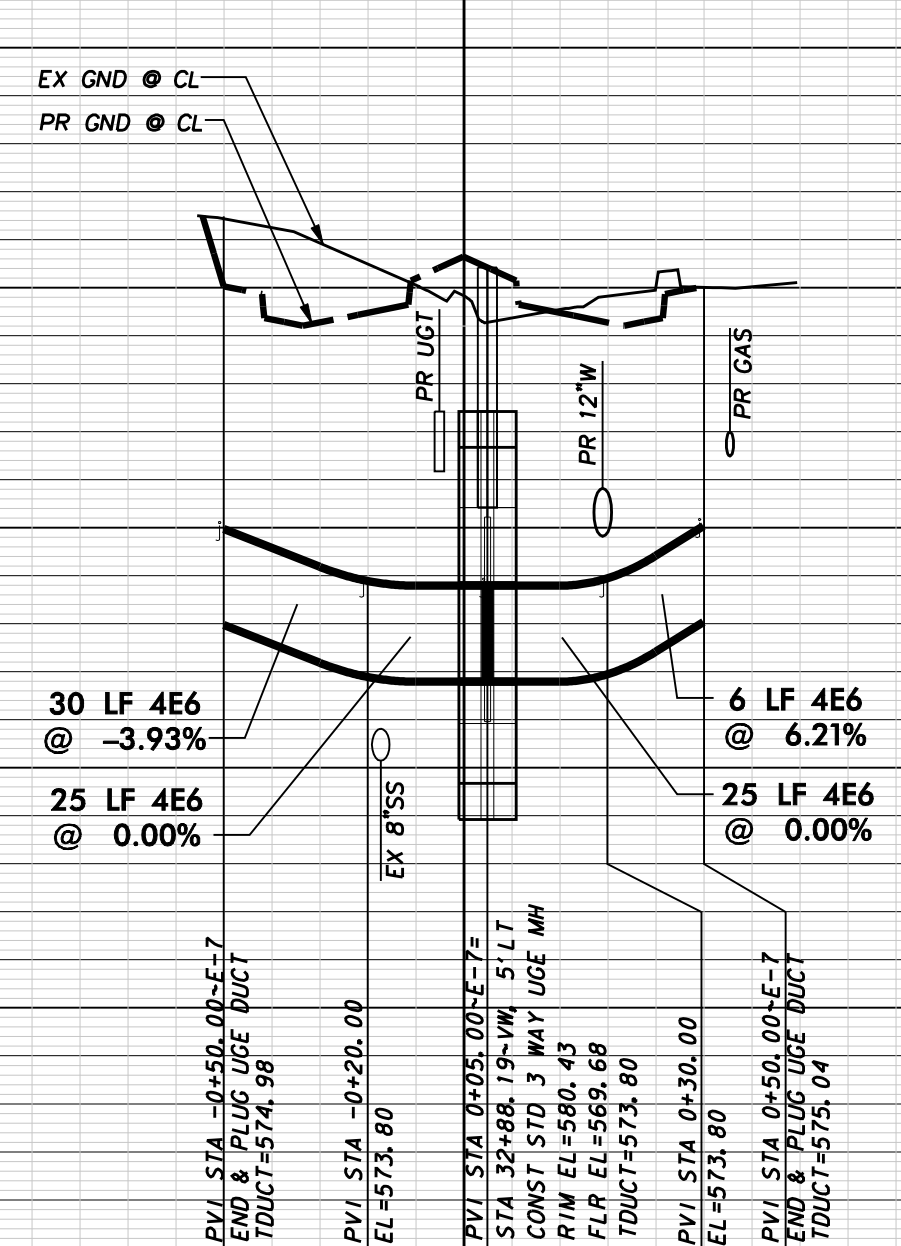


PVI STA -0+50.00-T-9
END & PLUG UGT DUCT
TODUCT=569.53

PVI STA -0.05-0+T-9
STA 569.53
CONST STD 1 WAY UGT
RIM EL=572.91
FLR EL=569.53
TODUCT=569.53

PVI STA 0+05.00-T-9
END & PLUG UGT DUCT
TODUCT=569.53

TOP OF DUCT 569.5
T-9
569.5



PVI STA -0+50.00-E-7
END & PLUG UGT DUCT
TODUCT=574.98

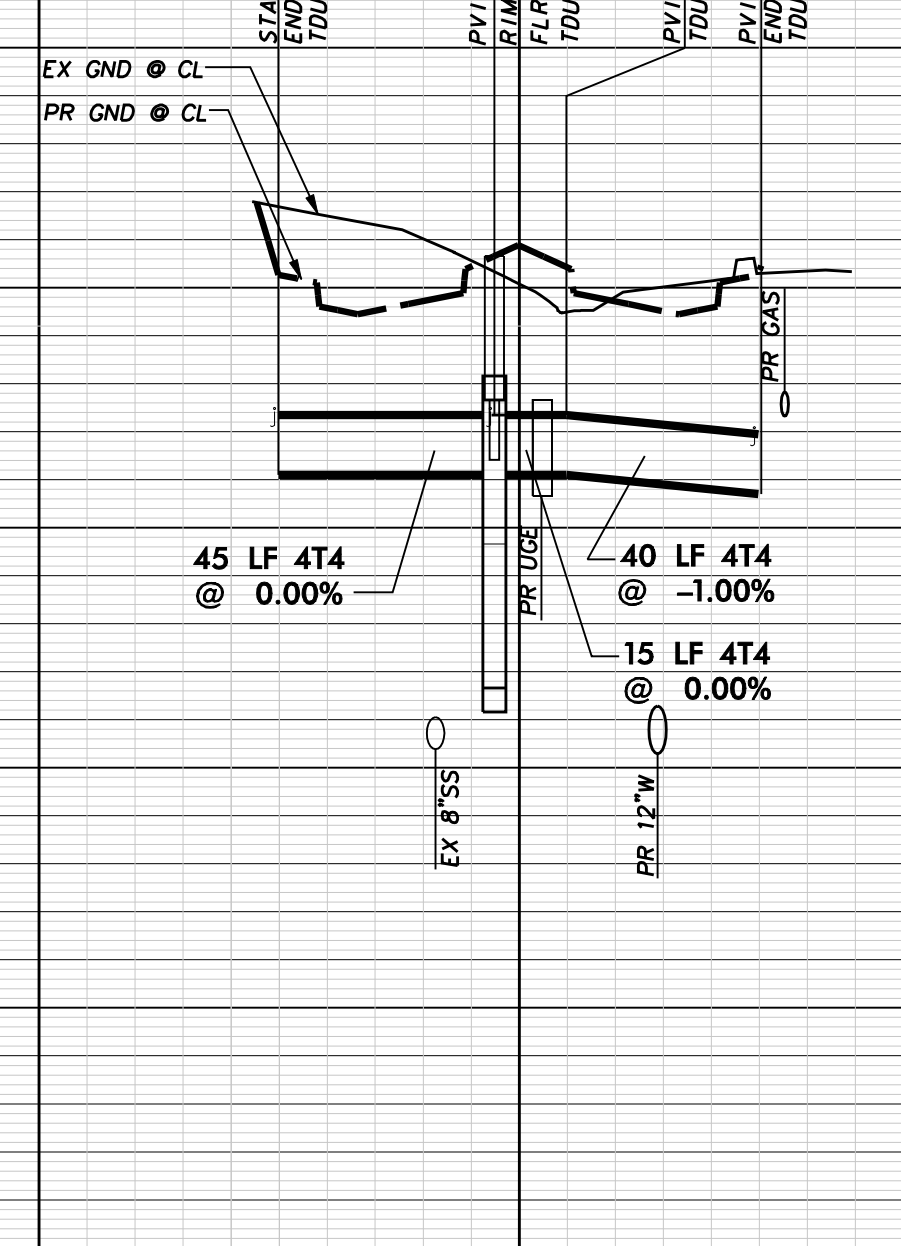
PVI STA -0+20.00
EL=573.80

PVI STA 0+30.00
EL=573.80

PVI STA 0+05.00-T-7
CONST STD 1 WAY UGE MH
RIM EL=580.43
FLR EL=569.69
TODUCT=573.90

PVI STA 0+50.00-T-7
END & PLUG UGT DUCT
TODUCT=575.04

TOP OF DUCT 575.0
E-7
573.8
575.0



STA -0+50.00-T-10
END & PLUG UGT DUCT
TODUCT=577.35

PVI STA -0+05.00-T-10
RIM EL=580.74
FLR EL=571.74
TODUCT=577.35

PVI STA 0+10.00
TODUCT=577.35

PVI STA 0+50.00-T-10
END & PLUG UGT DUCT
TODUCT=576.95

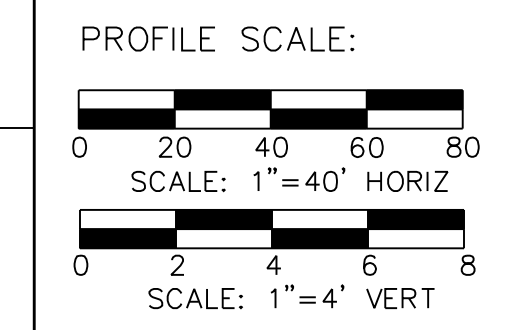
TOP OF DUCT 577.4
T-10
577.4

WARNING

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SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE
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NO.	REVISION	BY	DATE

Addison! TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

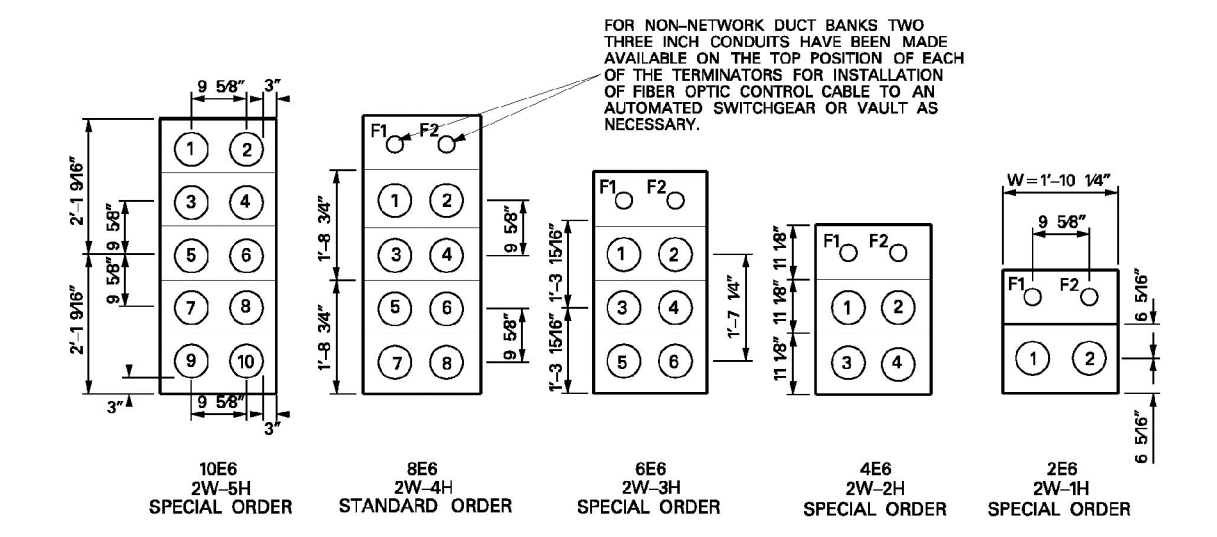
DUCT BANK CROSSING PROFILES

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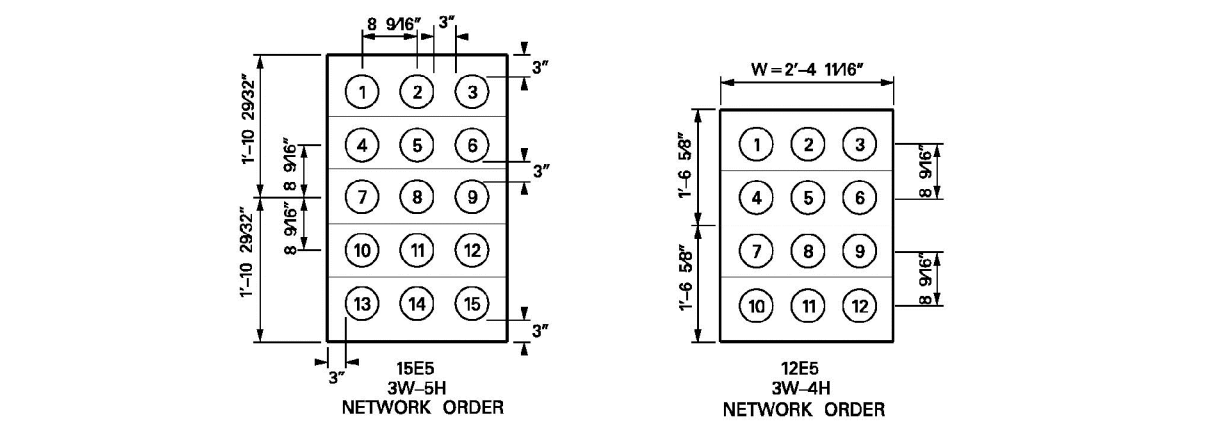
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	29

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



ALIGNMENT FOR NON-NETWORK MANHOLE DUCT TERMINATION FOR 6" CONDUIT (TYPICAL)



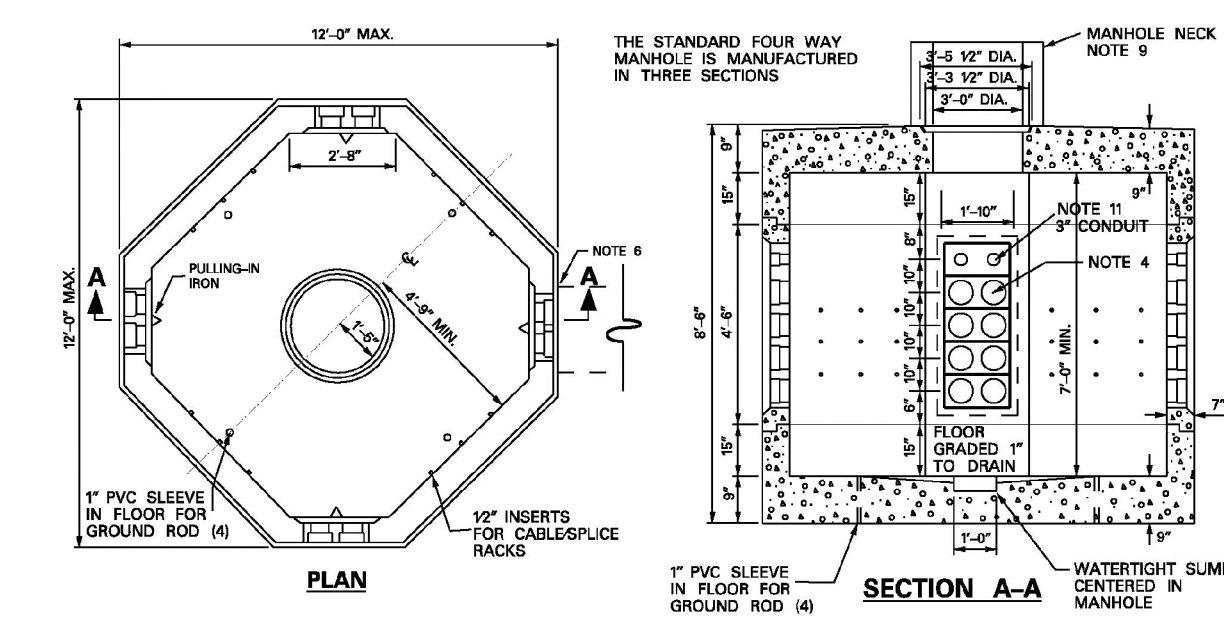
ALIGNMENT FOR NETWORK MANHOLE DUCT TERMINATION FOR 5" CONDUIT (TYPICAL)

NOTES:

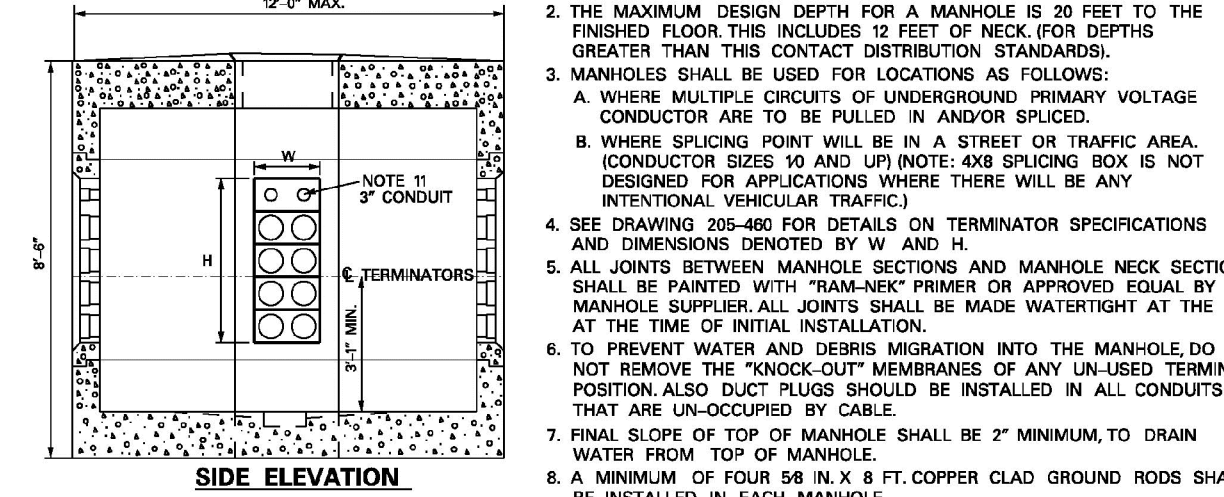
1. THE NUMBERING SYSTEM SHOWN ASSUMES ONE IS STANDING IN THE CENTER OF THE MANHOLE FACING THE TERMINATOR WALL.
2. IN THE EVENT THAT ALL OF THE AVAILABLE CONDUIT POSITIONS OF THE TERMINATOR ARE NOT NEEDED FOR AN INSTALLATION, THE BOTTOM CONDUIT POSITIONS SHOULD BE USED FIRST TO ALLOW FOR FUTURE CONDUIT EXITS FROM THE MANHOLE.
3. TO PREVENT WATER AND DEBRIS MIGRATION INTO THE MANHOLE, DO NOT REMOVE THE "KNOCK-OUT" MEMBRANES OF ANY UNUSED TERMINATOR POSITION. ALSO DUCT PLUGS SHOULD BE INSTALLED IN ALL CONDUITS THAT ARE UN-OCCUPIED BY CABLE.
4. 5 INCH CONDUIT IS TO BE USED FOR DUCT PROJECTS WITHIN THE NETWORK DISTRIBUTION SYSTEMS ONLY.
5. CABLE SIZES NECESSARY FOR NON-NETWORK DUCT SYSTEMS WILL REQUIRE 8 INCH CONDUIT/DUCT INSTALLATIONS.
6. THE SYSTEMS DEPICTED ABOVE ARE MANHOLE FACING CONDUIT/DUCT SYSTEM TERMINATORS ONLY, AND SHOULD NOT BE MISTAKEN FOR DUCT SECTION DETAILS.
7. THE THREE INCH CONDUIT FOR FIBER OPTIC CABLE HAS BEEN OMITTED ON THE 1065 DUCT DUE TO A LACK OF WALL SPACE.

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 4-WAY PRE-CAST CONCRETE WITH COVER AND FRAME.	316942	MANHOLE4W	
2	2	ROD, GROUND, COPPER CLAD, STEEL, 5/8 INCH X 8 FOOT	300524	GSSPB021M	

APPROVED BY



MANHOLE LARGE FOUR WAY PRECAST REINFORCED CONCRETE

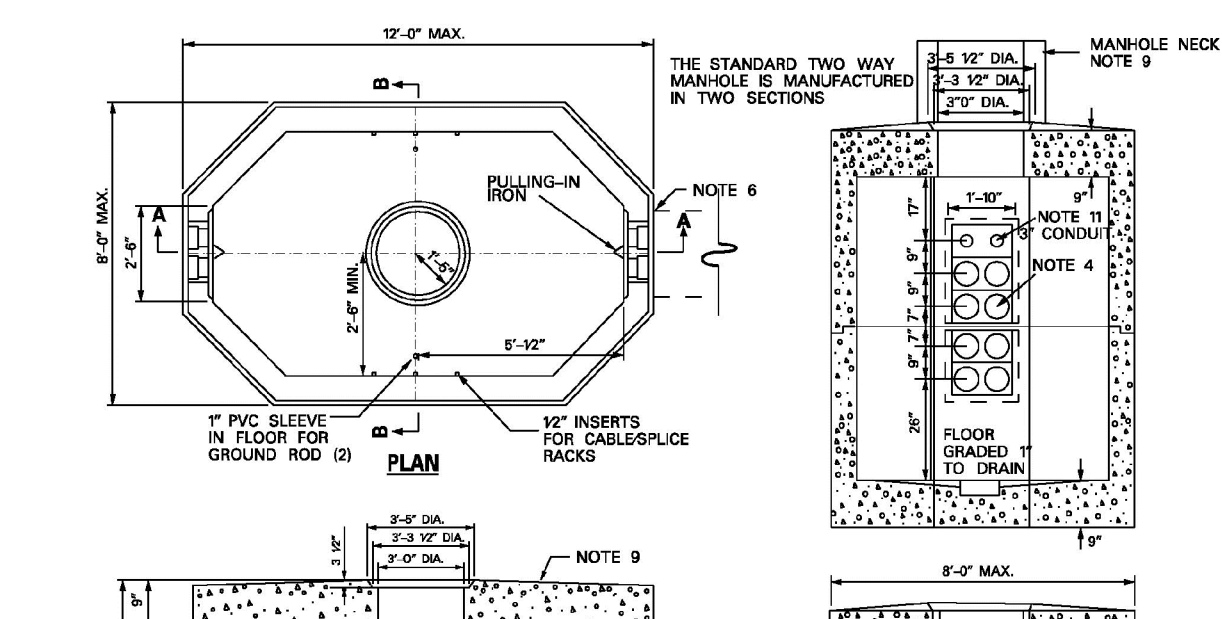


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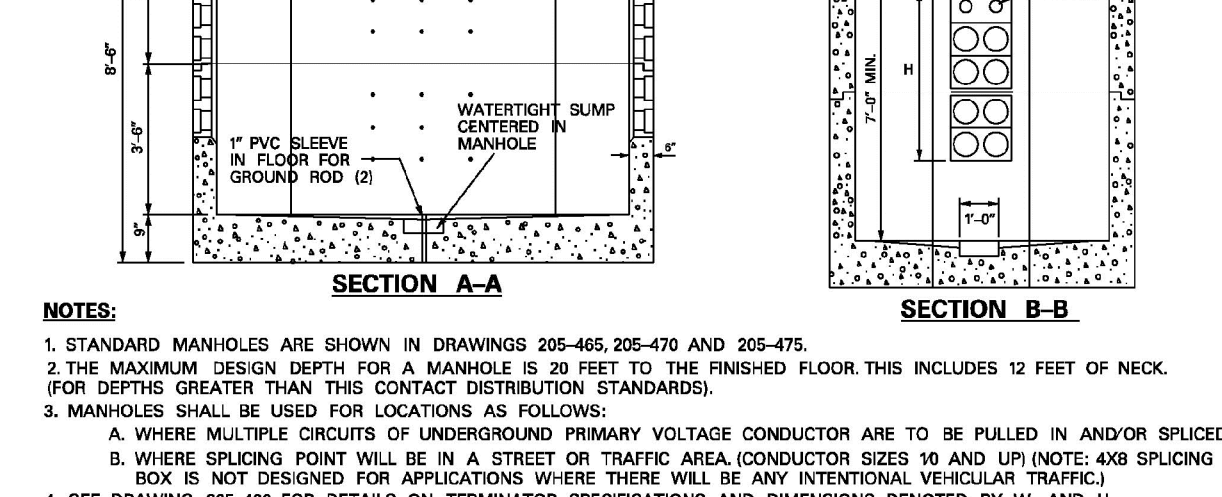
1. STANDARD MANHOLES ARE SHOWN IN DRAWINGS 205-465, 205-470 AND 205-475.
2. THE MAXIMUM DESIGN DEPTH FOR A MANHOLE IS 20 FEET TO THE FINISHED FLOOR. THIS INCLUDES 12 FEET OF NECK (FOR DEPTHS GREATER THAN THIS CONTACT DISTRIBUTION STANDARDS).
3. MANHOLES SHALL BE USED FOR LOCATIONS AS FOLLOWS:
 - A. WHERE MULTIPLE CIRCUITS OF UNDERGROUND PRIMARY VOLTAGE CONDUCTOR ARE TO BE PULLED IN AND/OR SPliced.
 - B. WHERE SPLICING POINT WILL BE IN A STREET OR TRAFFIC AREA. (CONDUCTOR SIZES 10 AND UP) (NOTE: 4X8 SPLICING BOX IS NOT DESIGNED FOR APPLICATIONS WHERE THERE WILL BE ANY INTENTIONAL VEHICULAR TRAFFIC.)
4. SEE DRAWING 205-460 FOR DETAILS ON TERMINATOR SPECIFICATIONS AND DIMENSIONS DENOTED BY W AND H.
5. ALL JOINTS BETWEEN MANHOLE SECTIONS AND MANHOLE NECK SECTIONS SHALL BE PAINTED WITH "RAM-NEK" PRIMER OR APPROVED EQUAL BY MANHOLE SUPPLIER. ALL JOINTS SHALL BE MADE WATER TIGHT AT THE TIME OF INITIAL INSTALLATION.
6. TO PREVENT WATER AND DEBRIS MIGRATION INTO THE MANHOLE, DO NOT REMOVE THE "KNOCK-OUT" MEMBRANES OF ANY UN-USED TERMINATOR POSITION. ALSO DUCT PLUGS SHOULD BE INSTALLED IN ALL CONDUITS THAT ARE UN-OCCUPIED BY CABLE.
7. FINAL SLOPE OF TOP OF MANHOLE SHALL BE 2" MINIMUM TO DRAIN WATER FROM TOP OF MANHOLE.
8. A MINIMUM OF FOUR 5/8 IN. X 8 FT. COPPER CLAD GROUND RODS SHALL BE INSTALLED IN EACH MANHOLE.
9. PRE-CAST CONCRETE MANHOLES ARE TO BE INSTALLED ON A MINIMUM OF AN 18" GRAVEL BASE TO AID IN LEVELING.
10. IF FIBER OPTIC CONTROL CABLE IS TO BE INSTALLED IN THE DUCT SYSTEM, ONE OF THE TOP 6" CONDUITS SHOULD BE USED IF AVAILABLE. (SEE DRAWING 205-450 FOR FIBER OPTIC CABLE RACKING REQUIREMENTS). FOR FIBER OPTIC CONTROL CABLE INSTALLED FROM MANHOLE TO SWITCHGEAR PAD USE 3" CONDUIT TERMINATION ABOVE 6" CONFIGURATION. (SEE DRAWING 205-342).

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 4-WAY PRE-CAST CONCRETE WITH COVER AND FRAME.	316942	MANHOLE4W	
2	2	ROD, GROUND, COPPER CLAD, STEEL, 5/8 INCH X 8 FOOT	300524	GSSPB021M	

APPROVED BY



MANHOLE LARGE TWO WAY PRECAST REINFORCED CONCRETE

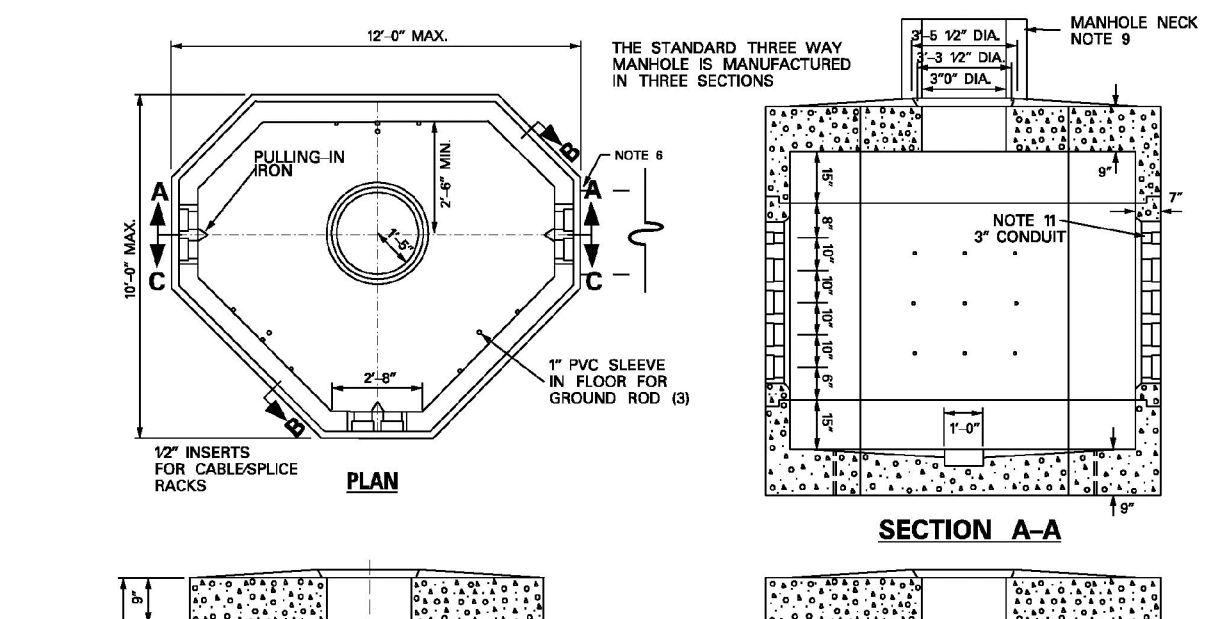


NOTES:

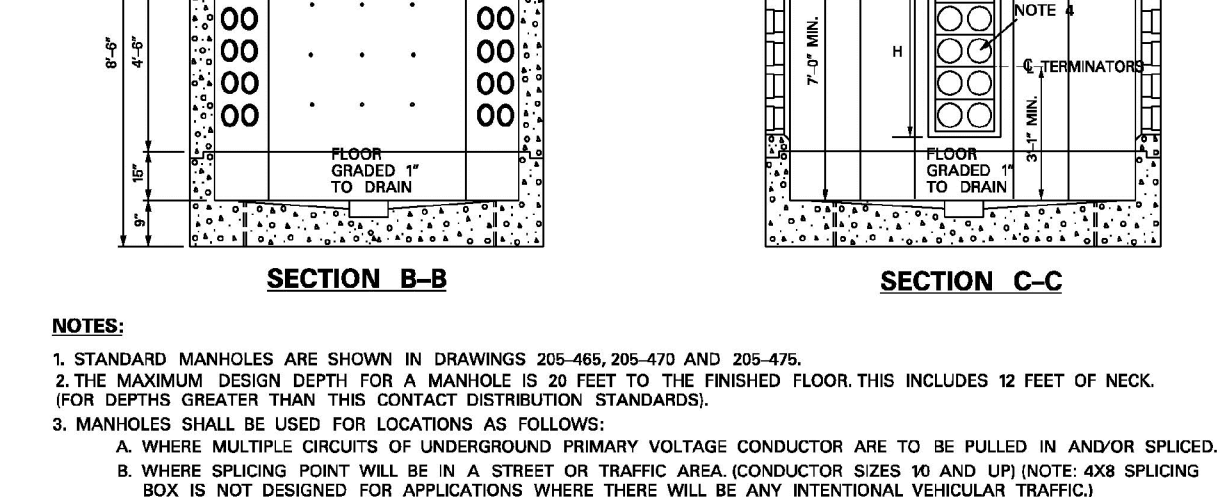
1. STANDARD MANHOLES ARE SHOWN IN DRAWINGS 205-465, 205-470 AND 205-475.
2. THE MAXIMUM DESIGN DEPTH FOR A MANHOLE IS 20 FEET TO THE FINISHED FLOOR. THIS INCLUDES 12 FEET OF NECK (FOR DEPTHS GREATER THAN THIS CONTACT DISTRIBUTION STANDARDS).
3. MANHOLES SHALL BE USED FOR LOCATIONS AS FOLLOWS:
 - A. WHERE MULTIPLE CIRCUITS OF UNDERGROUND PRIMARY VOLTAGE CONDUCTOR ARE TO BE PULLED IN AND/OR SPliced.
 - B. WHERE SPLICING POINT WILL BE IN A STREET OR TRAFFIC AREA. (CONDUCTOR SIZES 10 AND UP) (NOTE: 4X8 SPLICING BOX IS NOT DESIGNED FOR APPLICATIONS WHERE THERE WILL BE ANY INTENTIONAL VEHICULAR TRAFFIC.)
4. SEE DRAWING 205-460 FOR DETAILS ON TERMINATOR SPECIFICATIONS AND DIMENSIONS DENOTED BY W AND H.
5. ALL JOINTS BETWEEN MANHOLE SECTIONS AND MANHOLE NECK SECTIONS SHALL BE PAINTED WITH "RAM-NEK" PRIMER OR APPROVED EQUAL BY MANHOLE SUPPLIER. ALL JOINTS ARE TO BE MADE WATER TIGHT AT THE TIME OF INITIAL INSTALLATION.
6. TO PREVENT WATER AND DEBRIS MIGRATION INTO THE MANHOLE, DO NOT REMOVE THE "KNOCK-OUT" MEMBRANES OF ANY UN-USED TERMINATOR POSITION. ALSO DUCT PLUGS SHOULD BE INSTALLED IN ALL CONDUITS THAT ARE UN-OCCUPIED BY CABLE.
7. FINAL SLOPE OF TOP OF MANHOLE SHALL BE 2" MINIMUM TO DRAIN WATER FROM TOP OF MANHOLE.
8. A MINIMUM OF TWO 5/8 IN. X 8 FT. COPPER CLAD GROUND RODS SHALL BE INSTALLED IN EACH MANHOLE.
9. SEE DRAWING 205-480 FOR NECK DETAILS AND 205-485 FOR LID AND FRAME SPECIFICATION.
10. PRE-CAST CONCRETE MANHOLES ARE TO BE INSTALLED ON A MINIMUM OF AN 18" GRAVEL BASE TO AID IN LEVELING.
11. IF FIBER OPTIC CONTROL CABLE IS TO BE INSTALLED IN THE DUCT SYSTEM, ONE OF THE TOP 6" CONDUITS SHOULD BE USED IF AVAILABLE. (SEE DRAWING 205-450 FOR FIBER OPTIC CABLE RACKING REQUIREMENTS). FOR FIBER OPTIC CONTROL CABLE INSTALLED FROM MANHOLE TO SWITCHGEAR PAD USE 3" CONDUIT TERMINATION ABOVE 6" CONFIGURATION. (SEE DRAWING 205-342).

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 2-WAY PRE-CAST CONCRETE WITH COVER AND FRAME	323109	MANHOLE2W	
2	2	ROD, GROUND, COPPER CLAD, STEEL, 5/8 INCH X 8 FOOT	300524	MHWUC1ST	
					GSSPB021M

APPROVED BY



MANHOLE LARGE THREE WAY PRECAST REINFORCED CONCRETE

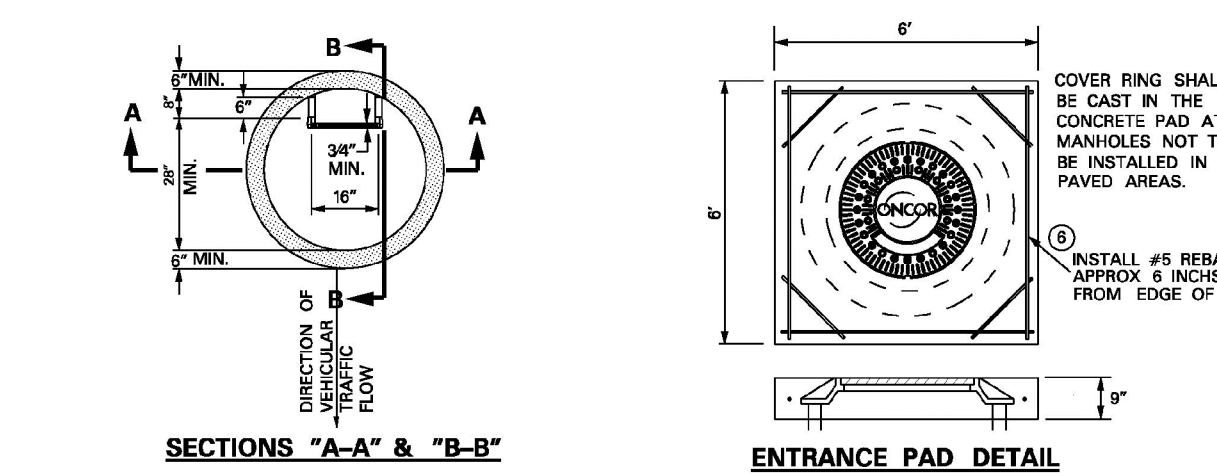


NOTES:

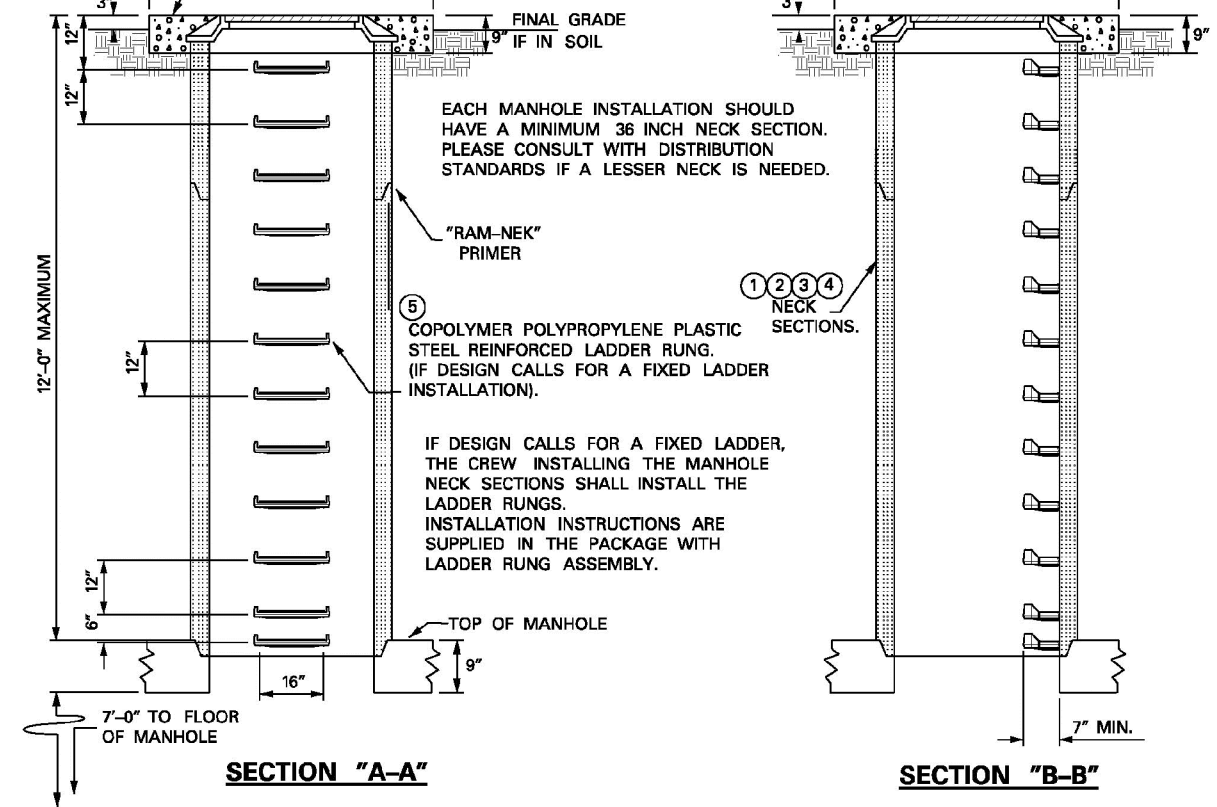
1. STANDARD MANHOLES ARE SHOWN IN DRAWINGS 205-465, 205-470 AND 205-475.
2. THE MAXIMUM DESIGN DEPTH FOR A MANHOLE IS 20 FEET TO THE FINISHED FLOOR. THIS INCLUDES 12 FEET OF NECK (FOR DEPTHS GREATER THAN THIS CONTACT DISTRIBUTION STANDARDS).
3. MANHOLES SHALL BE USED FOR LOCATIONS AS FOLLOWS:
 - A. WHERE MULTIPLE CIRCUITS OF UNDERGROUND PRIMARY VOLTAGE CONDUCTOR ARE TO BE PULLED IN AND/OR SPliced.
 - B. WHERE SPLICING POINT WILL BE IN A STREET OR TRAFFIC AREA. (CONDUCTOR SIZES 10 AND UP) (NOTE: 4X8 SPLICING BOX IS NOT DESIGNED FOR APPLICATIONS WHERE THERE WILL BE ANY INTENTIONAL VEHICULAR TRAFFIC.)
4. SEE DRAWING 205-460 FOR DETAILS ON TERMINATOR SPECIFICATIONS AND DIMENSIONS DENOTED BY W AND H.
5. ALL JOINTS BETWEEN MANHOLE SECTIONS AND MANHOLE NECK SECTIONS SHALL BE PAINTED WITH "RAM-NEK" PRIMER OR APPROVED EQUAL BY MANHOLE SUPPLIER. ALL JOINTS ARE TO BE MADE WATER TIGHT AT THE TIME OF INITIAL INSTALLATION.
6. TO PREVENT WATER AND DEBRIS MIGRATION INTO THE MANHOLE, DO NOT REMOVE THE "KNOCK-OUT" MEMBRANES OF ANY UN-USED TERMINATOR POSITION. ALSO DUCT PLUGS SHOULD BE INSTALLED IN ALL CONDUITS THAT ARE UN-OCCUPIED BY CABLE.
7. FINAL SLOPE OF TOP OF MANHOLE SHALL BE 2" MINIMUM TO DRAIN WATER FROM TOP OF MANHOLE.
8. A MINIMUM OF THREE 5/8 IN. X 8 FT. COPPER CLAD GROUND RODS SHALL BE INSTALLED IN EACH MANHOLE.
9. SEE DRAWING 205-480 FOR NECK DETAILS AND 205-485 FOR LID AND FRAME SPECIFICATION.
10. PRE-CAST CONCRETE MANHOLES ARE TO BE INSTALLED ON A MINIMUM OF AN 18" GRAVEL BASE TO AID IN LEVELING.
11. IF FIBER OPTIC CONTROL CABLE IS TO BE INSTALLED IN THE DUCT SYSTEM, ONE OF THE TOP 6" CONDUITS SHOULD BE USED IF AVAILABLE. (SEE DRAWING 205-450 FOR FIBER OPTIC CABLE RACKING REQUIREMENTS). FOR FIBER OPTIC CONTROL CABLE INSTALLED FROM MANHOLE TO SWITCHGEAR PAD USE 3" CONDUIT TERMINATION ABOVE 6" CONFIGURATION. (SEE DRAWING 205-342).

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 3-WAY PRE-CAST CONCRETE WITH COVER AND FRAME	323109	MANHOLE3W	
2	2	ROD, GROUND, COPPER CLAD, STEEL, 5/8 INCH X 8 FOOT	300524	MHWUC1ST	
					GSSPB021M

APPROVED BY

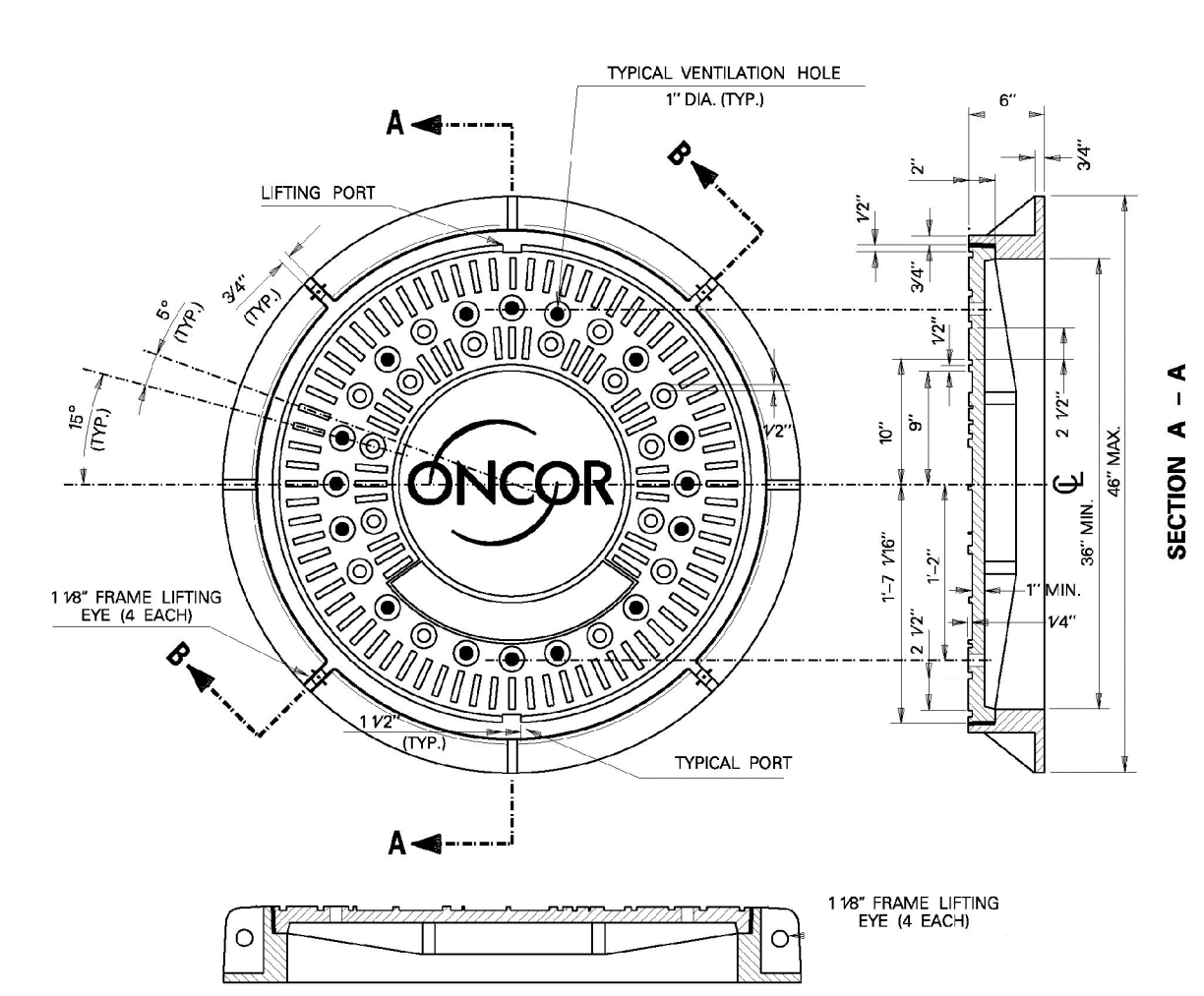


MANHOLE NECK, LADDER AND ENTRANCE PAD INSTALLATION

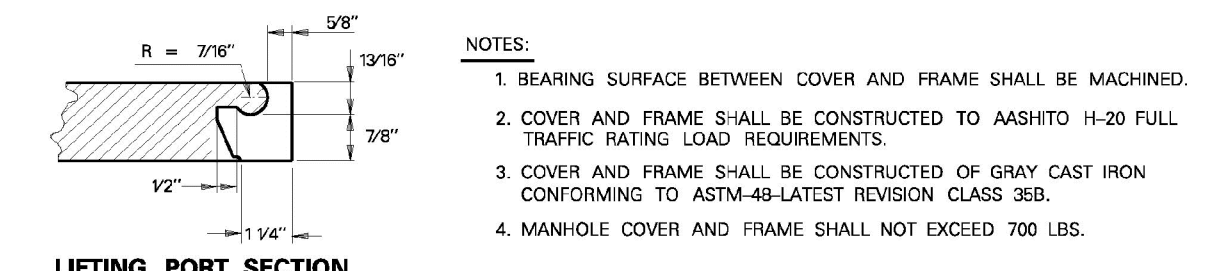


ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	AS REQ.	12 IN. X 36 IN. PRECAST CONCRETE NECK SECTION.	320774	MN36X12	
2	AS REQ.	18 IN. X 36 IN. PRECAST CONCRETE NECK SECTION.	320775	MN36X18	
3	AS REQ.	24 IN. X 36 IN. PRECAST CONCRETE NECK SECTION.	320776	MN36X24	
4	AS REQ.	36 IN. X 36 IN. PRECAST CONCRETE NECK SECTION.	320777	MN36X36	
5	AS REQ.	COPOLYMER POLYPROPYLENE PLASTIC STEEL REINFORCED LADDER RUNGS.	482911	MH-STEP	
6	AS REQ.	BAR, STEEL, REINFORCING, DEFORMED, 30 X 2 FT. ASTM A-615, GRADE 60.	303750		

APPROVED BY



MANHOLE COVER AND FRAME DETAIL

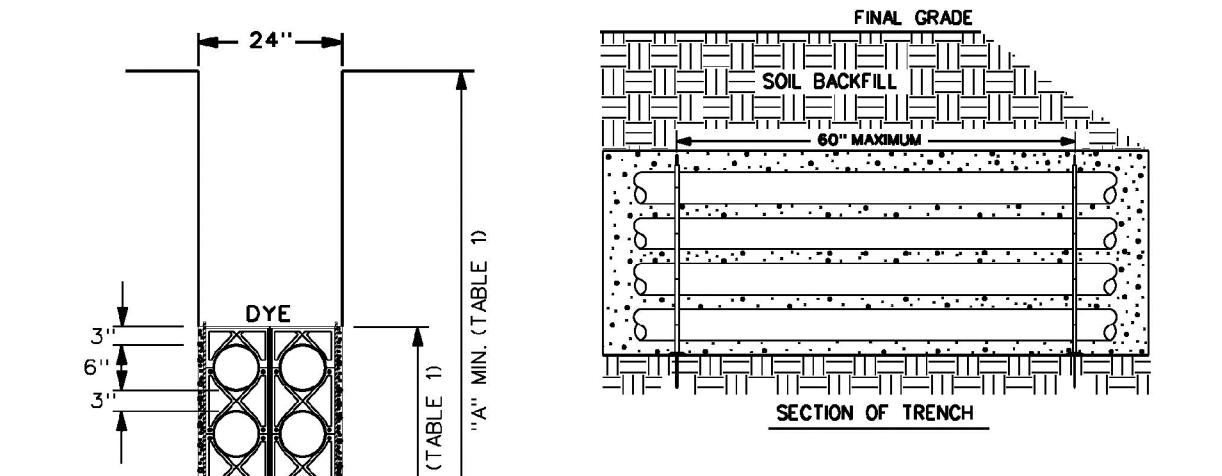


NOTES:

1. BEARING SURFACE BETWEEN COVER AND FRAME SHALL BE MACHINED.
2. COVER AND FRAME SHALL BE CONSTRUCTED TO AASHTO H-20 FULL TRAFFIC RATING LOAD REQUIREMENTS.
3. COVER AND FRAME SHALL BE CONSTRUCTED OF GRAY CAST IRON CONFORMING TO ASTM A-48 LATEST REVISION CLASS 60.
4. MANHOLE COVER AND FRAME SHALL NOT EXCEED 700 LBS.

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE COVER AND FRAME, INTENTIONAL TRAFFIC RATED.	327663		

APPROVED BY



GENERAL GUIDELINES FOR CONCRETE ENCASED DUCTBANK INSTALLATIONS (NON-NETWORK)

SYSTEM	NON NETWORK DUCT				
	2E6	4E6	6E6	8E6	10E6
A (MIN.)	3'-7"	4'-5"	5'-2"	6'-0"	6'-9"
B (MIN.)	1'-1"	2'-8"	3'-6"	4'-3"	

TABLE 1

1 CU. YD. OF CONCRETE	2E6	4E6	6E6	8E6	10E6
COVERS IN LINEAR FT.	16.875'	8.438'	6.819'	4.956'	3.99'

TABLE 2

NORMAL DUCT SIZE	MAX. DISK DIAMETER	TOTAL WEIGHT
6 INCH DUCT CONDUIT	5 7/8" O.D.	6.20 LB.

TABLE 3

MANDREL SIZES
POLYURETHANE DISK MANDREL

- NOTES:
1. CONDUIT IS TO BE PVC TYPE DB-66 FOR CONCRETE ENCASEMENT.
 2. ALL CONCRETE OF THE ENCASEMENT IS TO HAVE A COMPRESSION TEST STRENGTH OF 3000 PSIA TWENTY EIGHT DAYS.
 3. INSTALL DUCT SPACERS "CARLON (SNAP-LOC) TYPE" OR EQUAL EVERY 5 FEET ALONG THE ENTIRE LENGTH OF THE DUCT.
 4. THE DUCT SPACERS ARE TO PROVIDE 3 INCHES OF VERTICAL AND HORIZONTAL SEPARATION BETWEEN CONDUITS FOR NON-NETWORK SYSTEM INSTALLATIONS.
 5. THE DUCT SPACERS ARE TO PROVIDE 1 1/2 INCHES OF VERTICAL AND HORIZONTAL SEPARATION BETWEEN CONDUITS FOR NETWORK SYSTEM INSTALLATIONS.
 6. THE DUCT LINE SHALL BE SECURED TO EARTH AT EACH SPACER LOCATION PRIOR TO POURING CONCRETE TO PREVENT THE CONDUIT FROM FLOATING.
 7. ALL CONDUIT/DUCT SPANS SHOULD BE INSTALLED WITH A SLOPE TOWARD EACH OF THE MANHOLES TO PROVIDE DRAINAGE OF WATER TO A PUMPABLE LOCATION.
 8. ALL BACKFILL OF A CONDUIT/DUCT TRENCH SHALL BE REPLACED TO A MINIMUM COMPACTION OF 95%.
 9. RED POWDER CONCRETE DYE IS TO BE PLACED ON THE DUCT ENCASEMENT CAP IMMEDIATELY AFTER THE CONCRETE POUR HAS TAKEN PLACE TO AID WITH FUTURE LOCATES OF PRIMARY DUCT.
 10. CONDUITS FOR INCOMPLETE DUCT LINES (STUBS), ARE TO REMAIN EXPOSED FROM THE ENCASEMENT FOR FUTURE RETRIEVAL, BE CAPPED WATER TIGHT AND HAVE AN ELECTRONIC MARKER INSTALLED.
 11. EACH CONDUIT OF A CONCRETE ENCASED DUCT SHALL BE INSPECTED BY PULLING A DISK MANDREL OF PROPER SIZE THRU ITS ENTIRE LENGTH AS SOON AS POSSIBLE AFTER ITS ENCASEMENT HAS BEEN POURED TO INSURE ITS INTEGRITY.
 12. EACH 6 OR 8 INCH CONDUIT OF AN ENCASED DUCT IS TO HAVE A 6000 LB. PULL TAPE INSTALLED FOR FUTURE CABLE PULLING.

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	AS REQ.	DUCT BANK, CONDUIT, 6 IN., LESS SPACERS & CONCRETE, NON-NETWORK.	316997	DBX2	
2	AS REQ.	FITTING, CONDUIT, PVC, SPACER, 8 INCH, NON-NETWORK EACH.	320772	CSPR68	
3	AS REQ.	FITTING, CONDUIT, PVC, SPACER, INTERMEDIATE, 6 INCH, NON-NETWORK(4 EACH).	320773	CSPR68	
4	AS REQ.	ROPE, PULL TAPE, 6000 LB STRENGTH, PRELUBRICATED, (PER FOOT)	397616	PTAPE60	
5	AS REQ.	DUCT MARKER, BURIED, DEVICE, ELEM. TUNED, RED, (EACH).	307391	ELECMKRC	
6	AS REQ.	CONDUIT PROOFING MANDREL			

APPROVED BY



REVISION

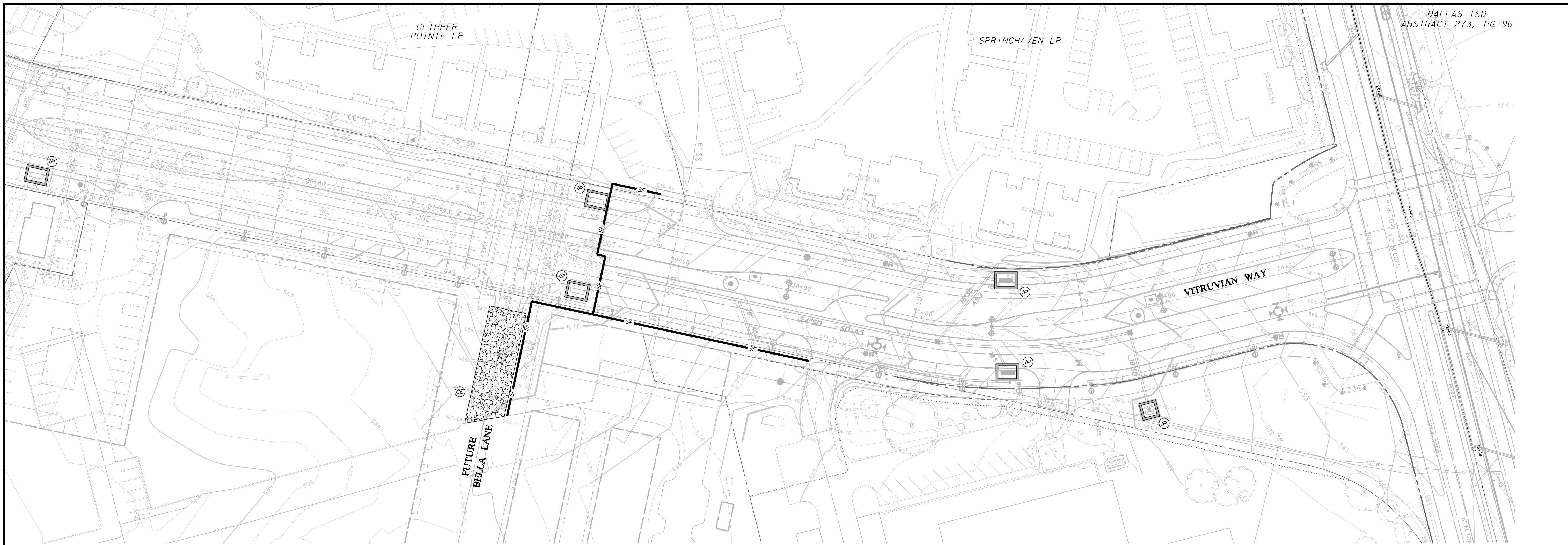
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Addison TOWN OF ADDISON DALLAS COUNTY, TEXAS
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

ELECTRICAL DUCT BANK DETAILS

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
Civil Engineers - Designers - Planners Southlake, TX 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	ICE	ICE	OCT 01 2010	PW# 2010-02	30

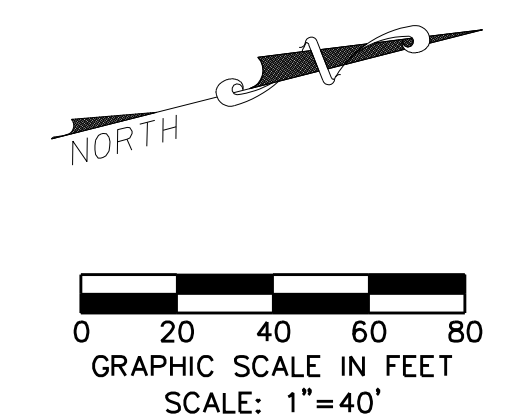


EROSION CONTROL NOTES

- GENERAL CONSTRUCTION NOTES:** REFER TO SHEET 2 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THE PROJECT.
- SWPPP COMPLIANCE:** THE CONTRACTOR SHALL BE REQUIRED TO COMPLY WITH THE CONDITIONS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) WHILE CONDUCTING HIS ACTIVITIES ON THIS PROJECT. IN ADDITION TO CONSTRUCTING THOSE ITEMS INDICATED ON THE PLAN SHEETS, COMPLIANCE WITH THE SWPPP INCLUDES CONFORMANCE TO CERTAIN PRACTICES AND PROCEDURES (IDENTIFIED IN THE SWPPP) DURING PROJECT CONSTRUCTION. THE SWPPP PLANS AND DOCUMENTS ARE PROVIDED FOR THE SOLE BENEFIT OF THE CONTRACTOR AS A PLANNING TOOL FOR COMPLYING WITH THE ENVIRONMENTAL REGULATIONS OF THIS PROJECT. THE CONTRACTOR IS EXPECTED TO PROVIDE, EXPAND, SUBMIT AND MONITOR A FULL COMPREHENSIVE SWPPP BEYOND WHAT IS HEREIN PROVIDED.
- BMP INSTALLATION:** PRIOR TO COMMENCING GRADING OPERATIONS, THE CONTRACTOR SHALL INSTALL ALL SWPPP MEASURES AND DEVICES AS INDICATED ON THE EROSION & SEDIMENT CONTROL PLAN. ALL SWPPP MEASURES AND DEVICES SHALL BE IN ACCORDANCE WITH SPECIFICATIONS AND DETAILS SHOWN IN THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS CONSTRUCTION "BEST MANAGEMENT PRACTICES" (BMP) MANUAL, OR AS MODIFIED BY THE CONTRACT DOCUMENTS.
- CLEANING, REPAIR AND MAINTENANCE:** THE CONTRACTOR SHALL REFER TO THE SWPPP FOR SEQUENCING OF CONSTRUCTION, INSTALLATION OF NEW EROSION CONTROL DEVICES AND CLEANING, REPAIR AND MAINTENANCE OF EXISTING EROSION CONTROL DEVICES. THE CONTRACTOR SHALL RELOCATE AND/OR ADD DEVICES TO REFLECT ACTUAL SITE CONDITIONS AND TO ACCOMMODATE LOCATIONS FOR CONSTRUCTION TRAILER AREAS, STORAGE AREAS, FUELING AREAS, TOILETS, TRASH RECEPTACLES AND WASHOUT AREAS. ANY ACCIDENTAL RELEASE OF SEDIMENT OR POLLUTANTS FROM THE SITE SHALL BE CLEANED BY THE CONTRACTOR.
- SITE ENTRY/EXIT LOCATIONS:** SITE ENTRY AND EXIT LOCATIONS SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAYS MUST BE REMOVED IMMEDIATELY. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO ENTRANCE TO A PUBLIC ROADWAY, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT BASIN. ALL FINES IMPOSED FOR TRACKING ONTO PUBLIC ROADS SHALL BE PAID BY THE CONTRACTOR.
- PROTECTION OF ADJACENT PROPERTY:** CONTRACTOR SHALL ASSUME FULL LIABILITY FOR DAMAGE TO ADJACENT PROPERTIES AND/OR PUBLIC RIGHT-OF-WAY RESULTING FROM FAILURE TO FULLY IMPLEMENT AND EXECUTE ALL EROSION CONTROL METHODS AND PROCEDURES SHOWN AND NOTED IN THE PLANS AND SWPPP.
- RE-VEGETATION:** AT THE COMPLETION OF CONSTRUCTION OPERATIONS, ALL DISTURBED AREAS SHALL BE VEGETATED IN ACCORDANCE WITH THE SWPPP. THE CONTRACTOR SHALL PROVIDE HYDROMULCH SEEDING AND/OR SODDING FOR ALL DISTURBED AREAS IN ACCORDANCE WITH ALL GOVERNING AUTHORITIES' SPECIFICATIONS.
- BMP REMOVAL:** THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SEDIMENT BARRIERS AND INLET PROTECTION AFTER VEGETATION HAS BEEN COMPLETED AND ALL AREAS OF THE SITE HAVE BEEN STABILIZED AND ACCEPTED BY THE GOVERNING AUTHORITIES AND THE ENGINEER.

WARNING

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BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 1127' NORTH OF VITRUVIAN WAY.

BM #2 REF. ELEVATION = 547.84
SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

LEGEND

SILT FENCE	
EXISTING SILT FENCE	
INLET PROTECTION	
STABILIZED CONSTRUCTION ENTRANCE	

NO.	REVISION	BY	DATE

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DALLAS COUNTY, TEXAS

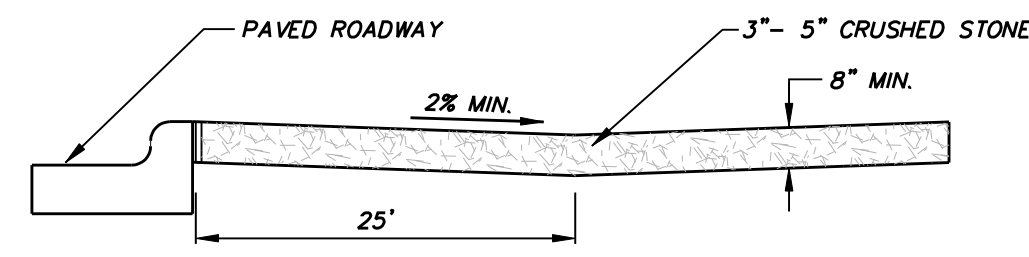
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VITRUVIAN WAY EXTENSION

EROSION & SEDIMENT CONTROL PLAN

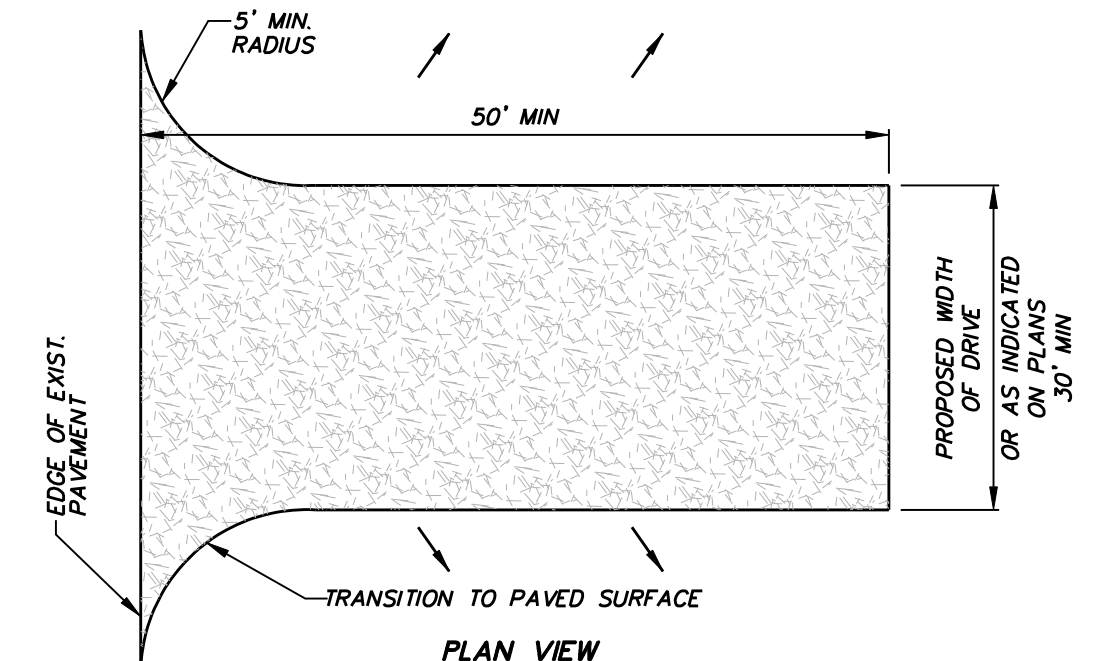
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PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



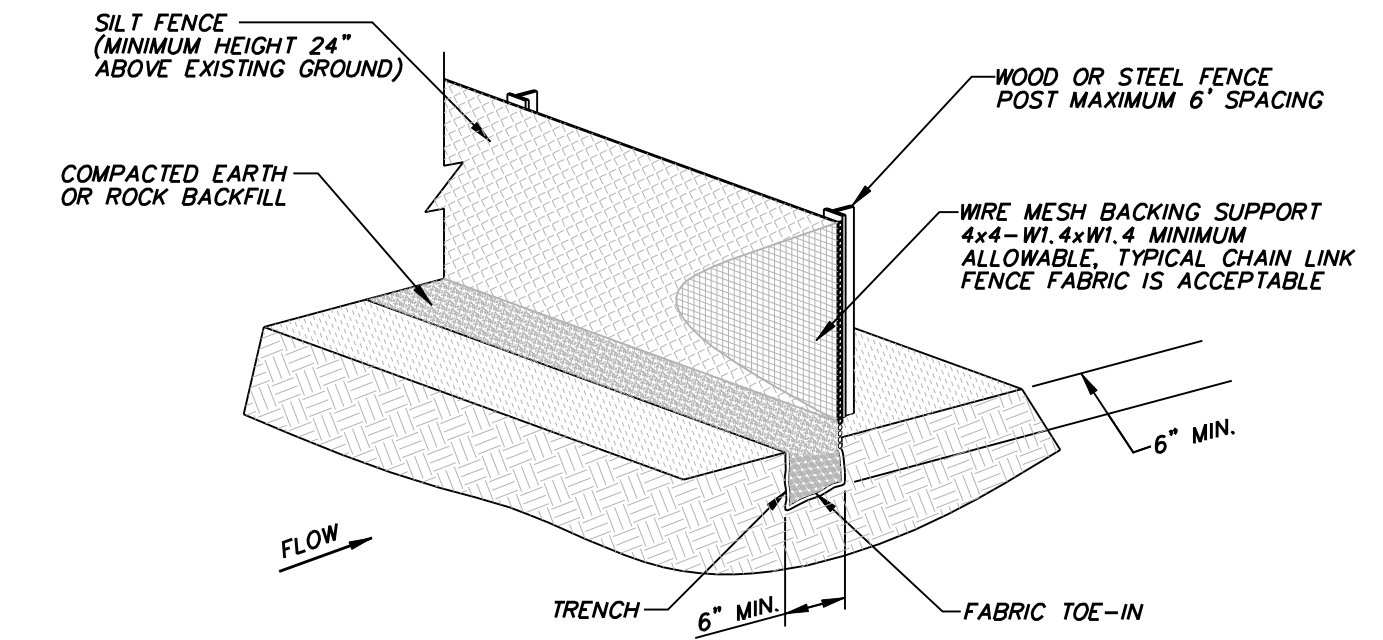
CROSS SECTION



PLAN VIEW

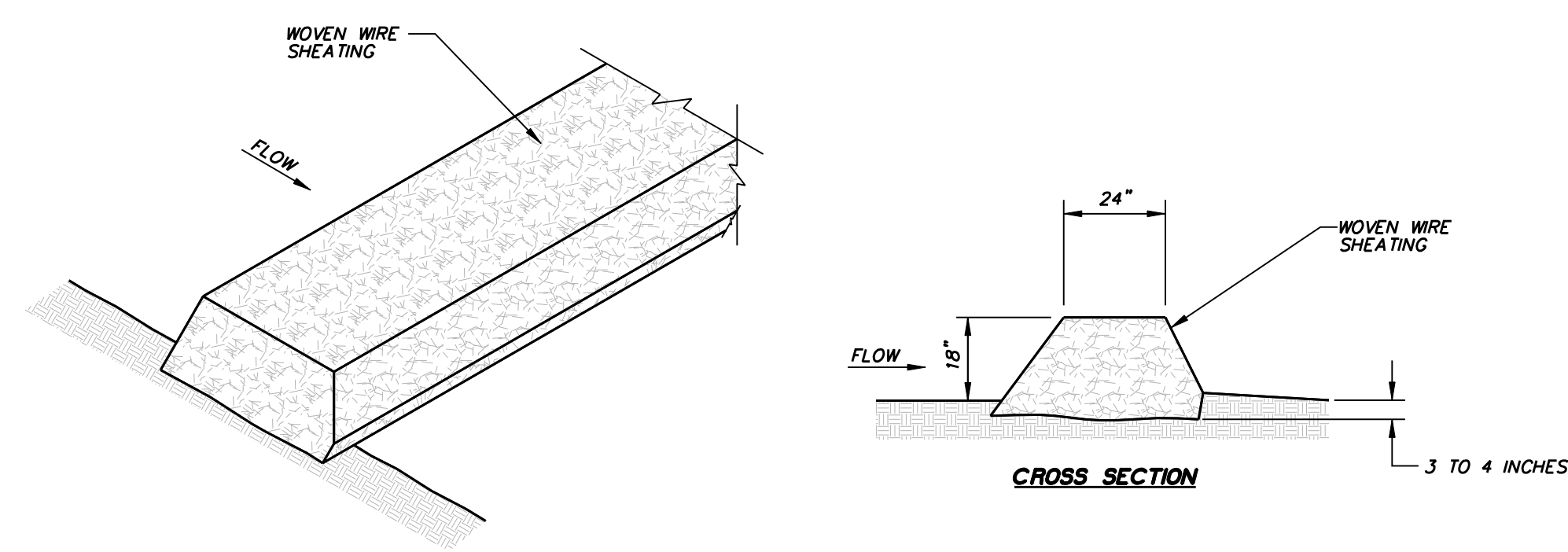
- NOTES:
1. STONE SIZE: 3"-5" CRUSHED ROCK OR ACCEPTABLE CRUSHED PORTLAND CEMENT CONCRETE.
 2. LENGTH: AS EFFECTIVE, BUT NOT LESS THAN 30 FEET.
 3. THICKNESS: NOT LESS THAN 6".
 4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
 5. WASHING: WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
 6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAY, MUST BE REMOVED IMMEDIATELY.
 7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
 8. CONTRACTOR TO COORDINATE EXACT LOCATION OF THIS DETAIL.

STABILIZED CONSTRUCTION ACCESS
NOT TO SCALE



- NOTE:
1. WOOD OR STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. THE POSTS MUST BE EMBEDDED A MINIMUM OF ONE FEET FOR STEEL OR TWO FEET FOR WOOD.
 2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT), WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON THE UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
 3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
 4. SILT FENCE SHALL BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL SUPPORT POST. THERE SHALL BE A 6 INCH DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
 5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
 6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
 7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHED A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.
 8. CONTRACTOR SHALL PROVIDE TRIANGULAR SEDIMENT FILTER DIKE WHERE SILT FENCE IS REQUIRED BUT NOT INSTALLABLE.

SILT FENCE
NOT TO SCALE

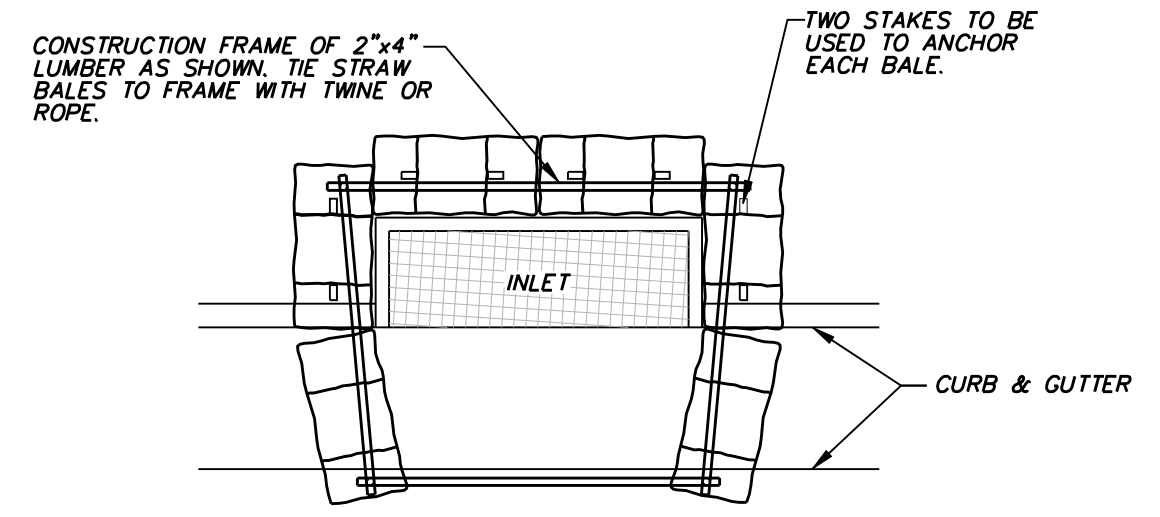


ISOMETRIC PLAN VIEW

CROSS SECTION

- NOTES:
1. USE OPEN GRADED ROCK 4-8 INCHES IN DIAMETER FOR STREAM FLOW CONDITION. USE OPEN GRADED ROCK 3-5 INCHES IN DIAMETER FOR OTHER CONDITIONS.
 2. THE ROCK DAM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING A MAXIMUM OPENING OF 1 INCH AND A MINIMUM WIRE SIZE OF 20 GAUGE AND SHALL BE BURIED IN A TRENCH APPROXIMATELY 3 TO 4 INCHES DEEP.
 3. THE ROCK DAM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN EVENT AND SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
 4. WHEN SILT REACHES DEPTH EQUAL TO ONE-THIRD OF THE HEIGHT OF THE DAM OR ONE FOOT, WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF PROPERLY.
 5. WHEN THE SITE IS COMPLETELY STABILIZED, THE DAM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

ROCK CHECK DAM
NOT TO SCALE

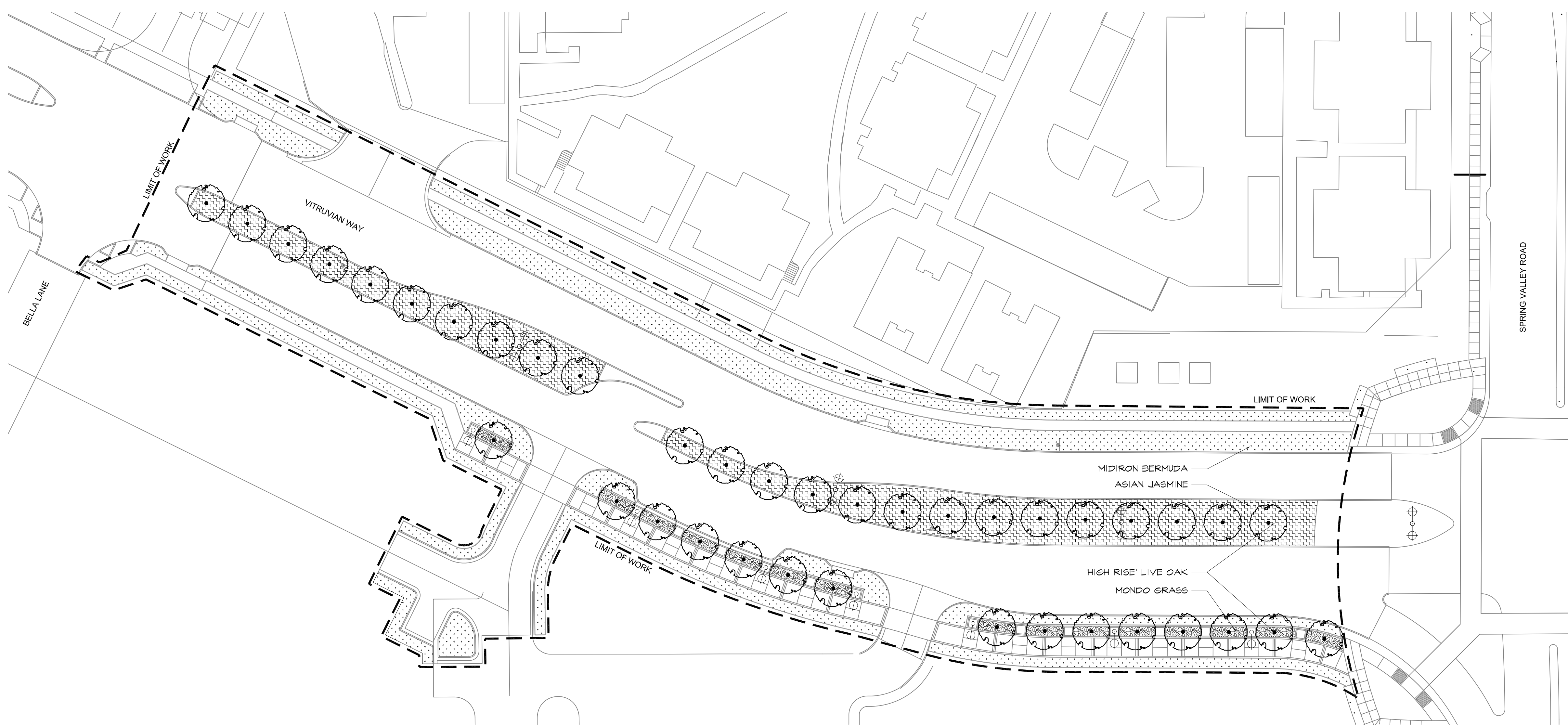
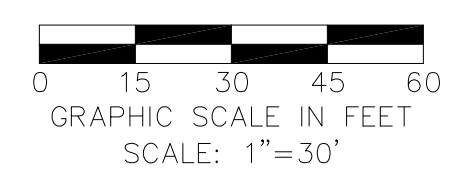


CURB INLET PROTECTION
NOT TO SCALE



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TOWN OF ADDISON DALLAS COUNTY, TEXAS							
PAVING, DRAINAGE & UTILITY IMPROVEMENTS VITRUVIAN WAY EXTENSION							
EROSION & SEDIMENT CONTROL DETAILS							
icon Consulting Engineers, Inc. Civil Engineers - Designers - Planners				250 W. Southlake Blvd., Suite 117 Southlake, Tx 76092 (817) 552-6210			
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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - VITRUVIAN WAY EXTENSION



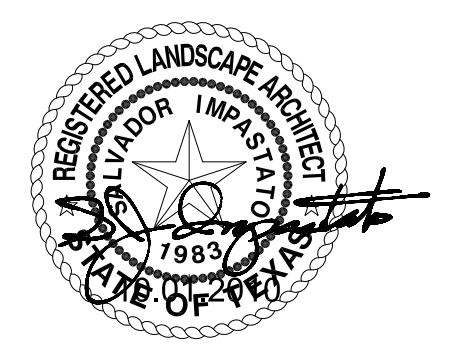
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 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE

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 1127' NORTH OF VITRUVIAN WAY.
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

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Seal



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PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

PLANTING LAYOUT PLAN


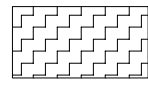
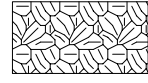
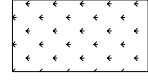
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PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
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Planting Layout Plan **A**
 SCALE: 1" = 30'-0" **L5.01**

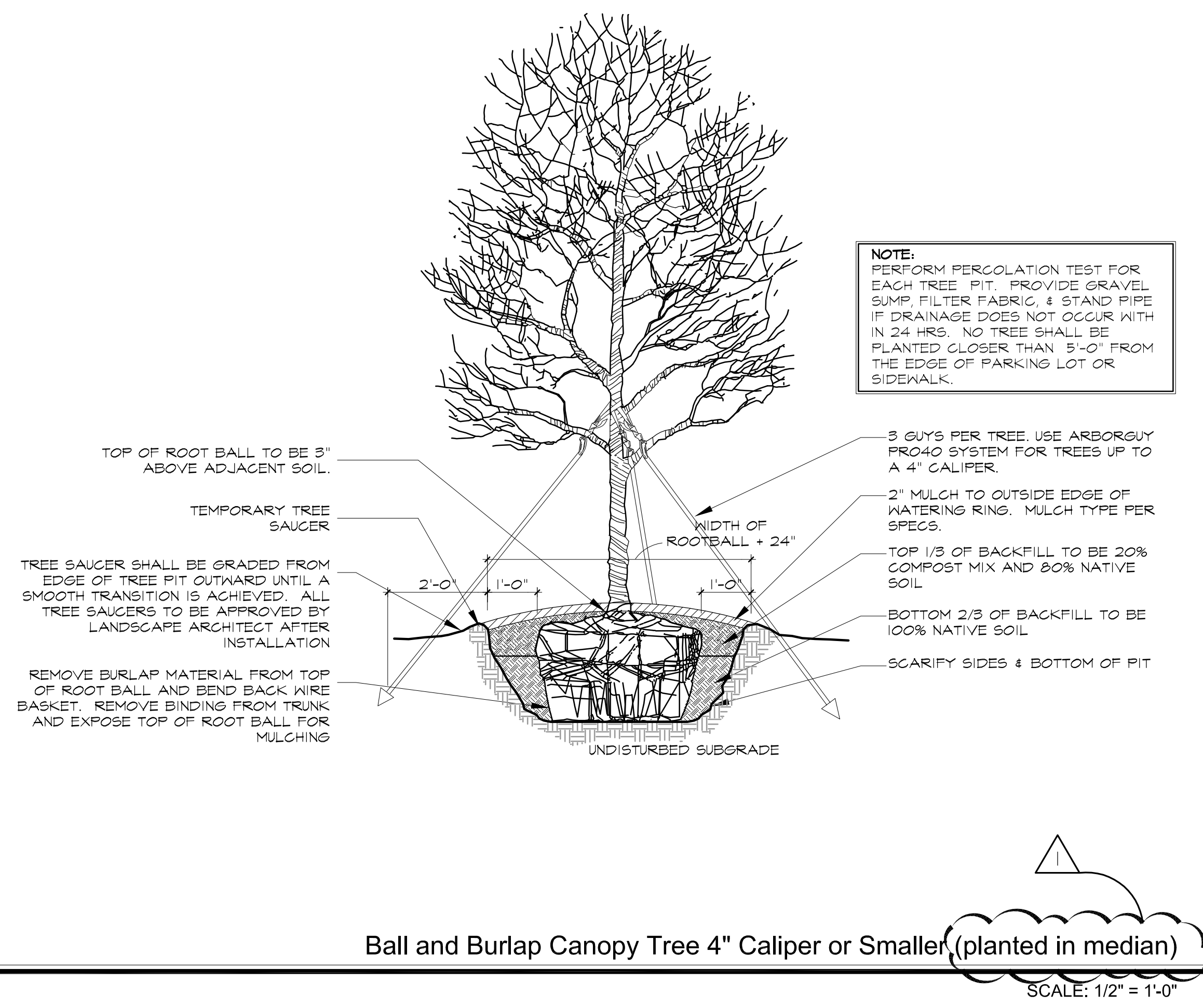
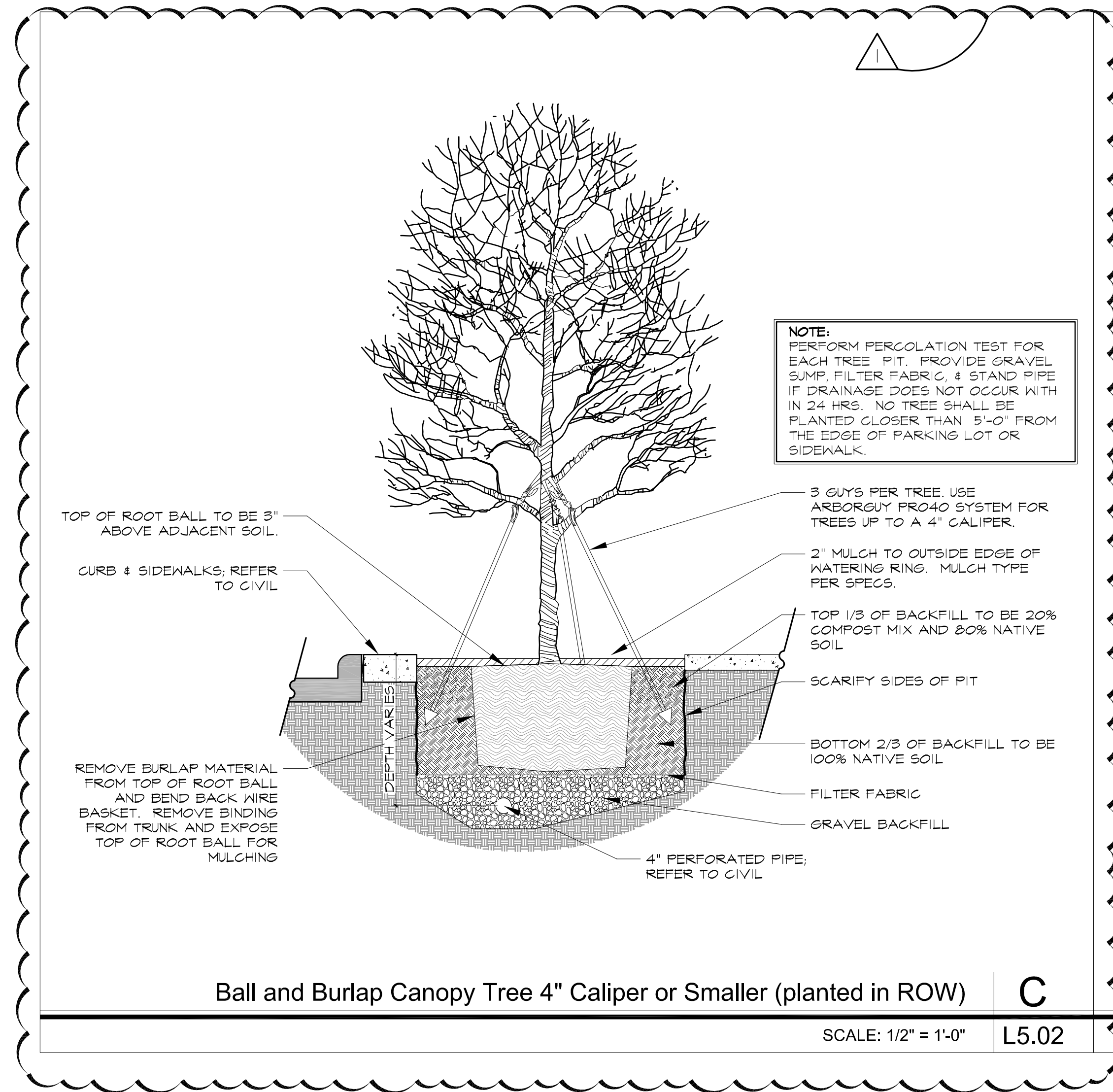
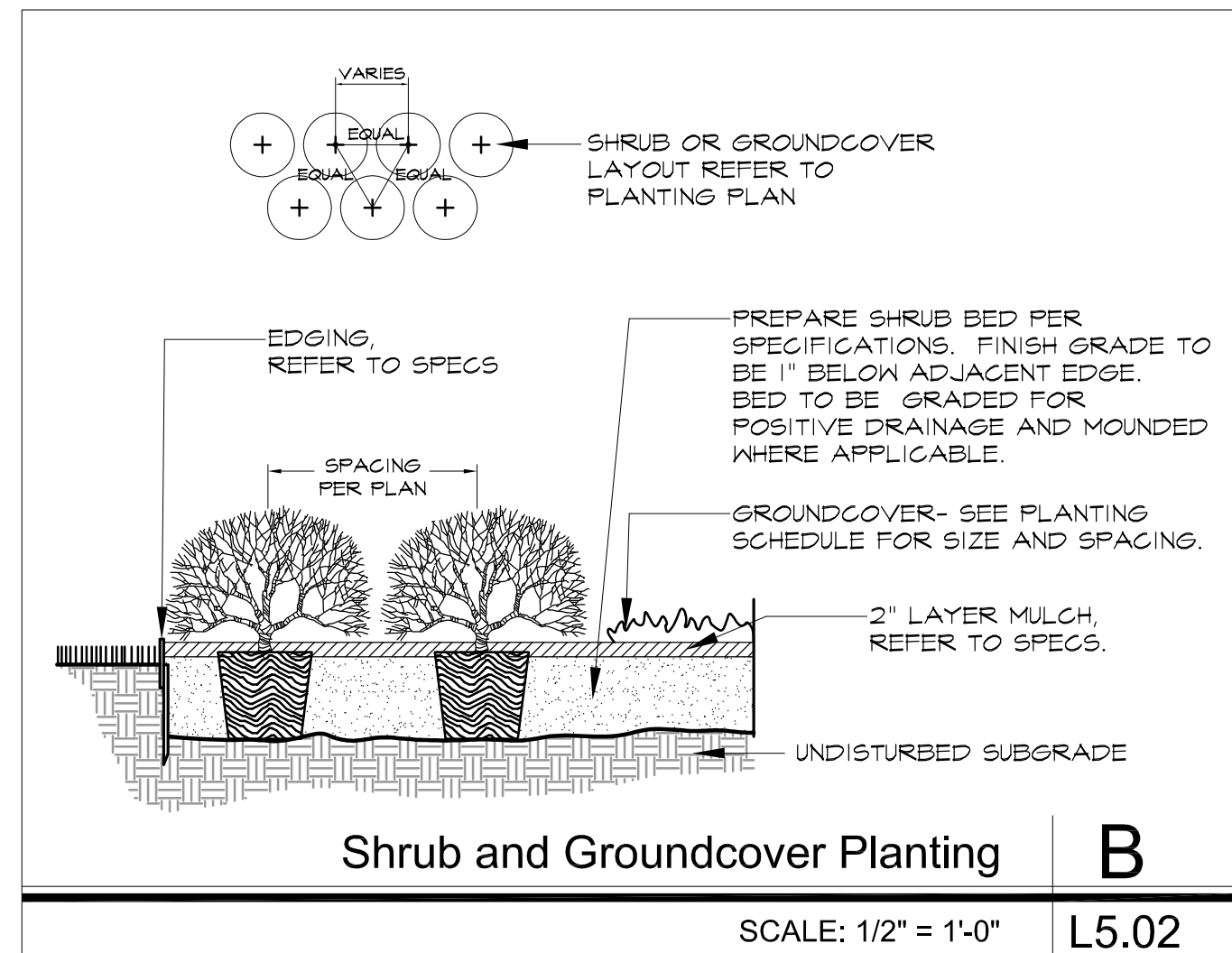
STREETSCAPE IMPROVEMENTS - VITRUVIAN WAY EXTENSION

PLANT SCHEDULE

PLANT ID	COMMON NAME BOTANICAL NAME	SIZE MIN.	HEIGHT MIN.	SPREAD MIN.	COMMENTS	QTY
TREES						
	'HIGH RISE' LIVE OAK <i>Quercus virginiana</i> 'QVTIA'	4" CAL.	14'-16'	7'-8'	NURSERY GROWN, SINGLE TRUNK, MATCHED, FULL, WELL BRANCHED, STRONG CENTRAL LEADER	39
SHRUBS AND GROUNDCOVER						
	ASIAN JASMINE <i>Trachelopermum asiaticum</i>	1 GAL.	12"	12"	NURSERY GROWN, FULL AND WELL ROOTED PLANT. PLANT SPACING 18" O.C.	8,839 SQ FT
	MONDO GRASS <i>Ophiopogon japonicus</i>	4" POT	6"	6"	NURSERY GROWN, FULL AND WELL ROOTED PLANT. PLANT SPACING 8" O.C., DIAMOND PATTERN.	1,327 SQ FT
	MIDIRON BERMUDA <i>Cynodon dactylon</i> 'Midiron'	SOD	N/A	N/A	PINNED ON SLOPES GREATER THAN 6:1.	14,165 SQ FT

PLANTING NOTES:

- CONTRACTOR SHALL STAKE OUT ALL INFORMAL TREE LOCATIONS IN FIELD FOR REVIEW BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING L.A. RESERVES THE RIGHT TO ADJUST PLANTS TO EXACT LOCATION IN FIELD.
- PLANTING BEDS SHALL BE STAKED FOR REVIEW BY LANDSCAPE ARCHITECT PRIOR TO EXCAVATION.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL UNDERGROUND UTILITIES, PIPES, STRUCTURES, AND LINE RUNS IN THE FIELD PRIOR TO THE INSTALLATION OF ANY PLANT MATERIAL.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADVISE THE LANDSCAPE ARCHITECT OF ANY CONDITION FOUND ON THE SITE WHICH PROHIBITS INSTALLATION AS SHOWN ON THESE DRAWINGS.
- TREES OVERHANGING WALKS AND PARKING SHALL HAVE A MINIMUM CLEAR TRUNK HEIGHT OF SEVEN (7) FEET. TREES OVERHANGING PUBLIC STREET PAVEMENT DRIVE AISLES AND FIRE LANES SHALL HAVE A MINIMUM CLEAR TRUNK HEIGHT OF FOURTEEN (14) FEET.
- ALL PLANT MATERIAL SHALL BE MAINTAINED IN A HEALTHY AND GROWING CONDITION AND MUST BE REPLACED WITH PLANT MATERIAL OF SAME VARIETY AND SIZE IF DAMAGED, DESTROYED, OR REMOVED.
- LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING AND REMOVAL OF DEBRIS PRIOR TO PLANTING IN ALL AREAS.
- FINAL FINISH GRADING SHALL BE REVIEWED BY THE LANDSCAPE ARCHITECT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL TOPSOIL REQUIRED TO CREATE A SMOOTH CONDITION PRIOR TO PLANTING.
- ALL QUANTITIES ON THIS PLAN ARE FOR INFORMATION ONLY. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE FULL COVERAGE IN ALL PLANTING AREAS AS SPECIFIED IN THE PLANT SCHEDULE.
- LANDSCAPE CONTRACTOR TO PROVIDE STEEL EDGING BETWEEN ALL PLANTING BEDS AND LAWN AREAS.
- AN AUTOMATIC IRRIGATION SYSTEM SHALL BE PROVIDED FOR ALL PLANTING AREAS. OVER SPRAY ON STREETS AND WALKS IS PROHIBITED.
- ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS AND SIZES GIVEN IN THE PLANT LIST AND SHALL BE NURSERY GROWN IN ACCORDANCE WITH THE U.S.A. STANDARD FOR NURSERY STOCK. LATEST EDITION AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS. ANY PLANT SUBSTITUTION SHALL BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO PURCHASE.
- CONTRACTOR IS REQUIRED TO PERFORM A PERCOLATION TEST FOR EACH TREE PIT PRIOR TO INSTALLATION. IF DRAINAGE DOES NOT OCCUR WITHIN 24 HOURS THE CONTRACTOR WILL BE REQUIRED TO PROVIDE A GRAVEL SUMP, FILTER FABRIC, AND STAND PIPE. ALL SUMPS SHOULD BE INCLUDED IN THE BASE BID AND PROVIDED AS A DEDUCT ALTERNATE IF NOT REQUIRED AFTER THE PERCOLATION TEST IS PERFORMED.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS ON SITE AS REQUIRED TO ACCOMPLISH ALL PLANTING OPERATIONS.



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Seal
REGISTERED LANDSCAPE ARCHITECT
MESA
1983
STATE OF TEXAS
01.19.2011

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△	TREE DRAINAGE REVISION	BNG	01.19.2011

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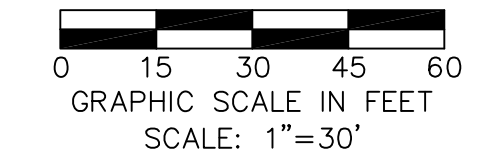
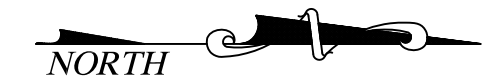
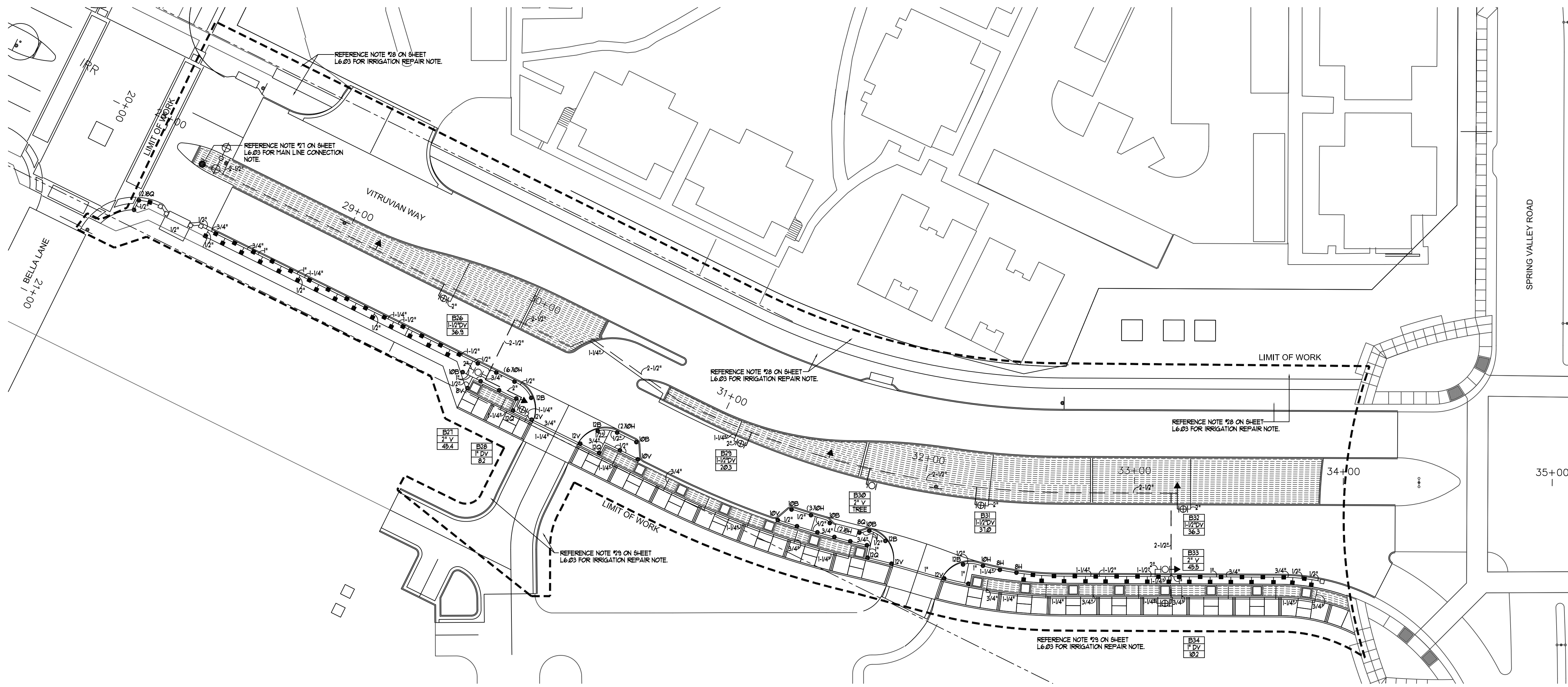
PAVING, DRAINAGE & UTILITY IMPROVEMENTS
VITRUVIAN WAY EXTENSION

PLANTING DETAILS AND NOTES

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	BG	AO	OCT 01 2010	PW# 2010-02	5.02

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STREETSCAPE IMPROVEMENTS - VITRUVIAN WAY EXTENSION



WARNING

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BM #1 REF. ELEVATION = 559.47
 SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE

BM #2 REF. ELEVATION = 547.84
 112' NORTH OF VITRUVIAN WAY.
 SQUARE CUT IN TOP OF CURB, NORTH MEDIAN END NOSE, AT INTERSECTION OF VITRUVIAN WAY AND MARSH LANE.

IRRIGATION LEGEND:

SYMBOL	DESCRIPTION
●	LAWN SPRAY HEAD
⊕	TREE BUBBLER HEAD
⊙	TREE BUBBLER HEAD
■	LAWN CENTER STRIP HEAD
□	LAWN END STRIP HEAD
▲	QUICK COUPLING VALVE
⊖	REMOTE CONTROL VALVE
●	GATE VALVE
—	MAINLINE PIPING
—	LATERAL PIPING
⊖	REMOTE CONTROL DRIP VALVE
⊖	PLANTING BED TECHLINE TUBING
□	STATION NUMBER VALVE SIZE GPM (APPROX.)

PIPE SIZE CHART

FLOW/GPM:	PIPE SIZE:
0 - 4.0	1/2"
4.1 - 9.5	3/4"
9.6 - 14.5	1"
14.6 - 27.0	1-1/4"
27.1 - 35.0	1-1/2"
35.1 - 55.0	2"
55.1 - 70.0	2-1/2"
70.1 - 110.0	3"
110.1 - 190.0	4"

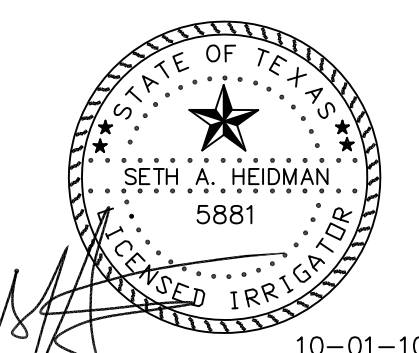
RADIUS LEGEND

F = 360°
E = 270°
D = 240°
C = 225°
H = 180°
B = 135°
A = 120°
G = 90°
V = VARIABLE / ADJUSTABLE

SHEET NOTES:
 1. REFERENCE SHEET 6.02 FOR TREE IRRIGATION.
 2. REFERENCE SHEET 6.03 FOR IRRIGATION DETAILS.

Seal

IRRI*TECH.
 Irrigation Technology



1330 N. HIRSHBERGER RD. DALLAS, TEXAS 75243
 TEL: 972.231-5151 FAX: 972.231-5172
 FT. JOB #: 10202
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 TCEQ website is: www.tceq.state.tx.us

NO.	REVISION	BY	DATE

Addison **TOWN OF ADDISON**
 DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

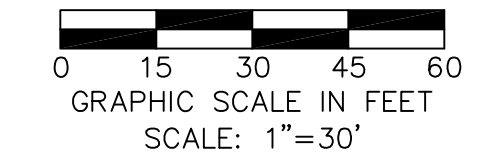
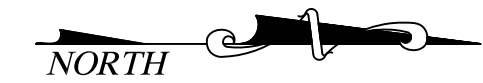
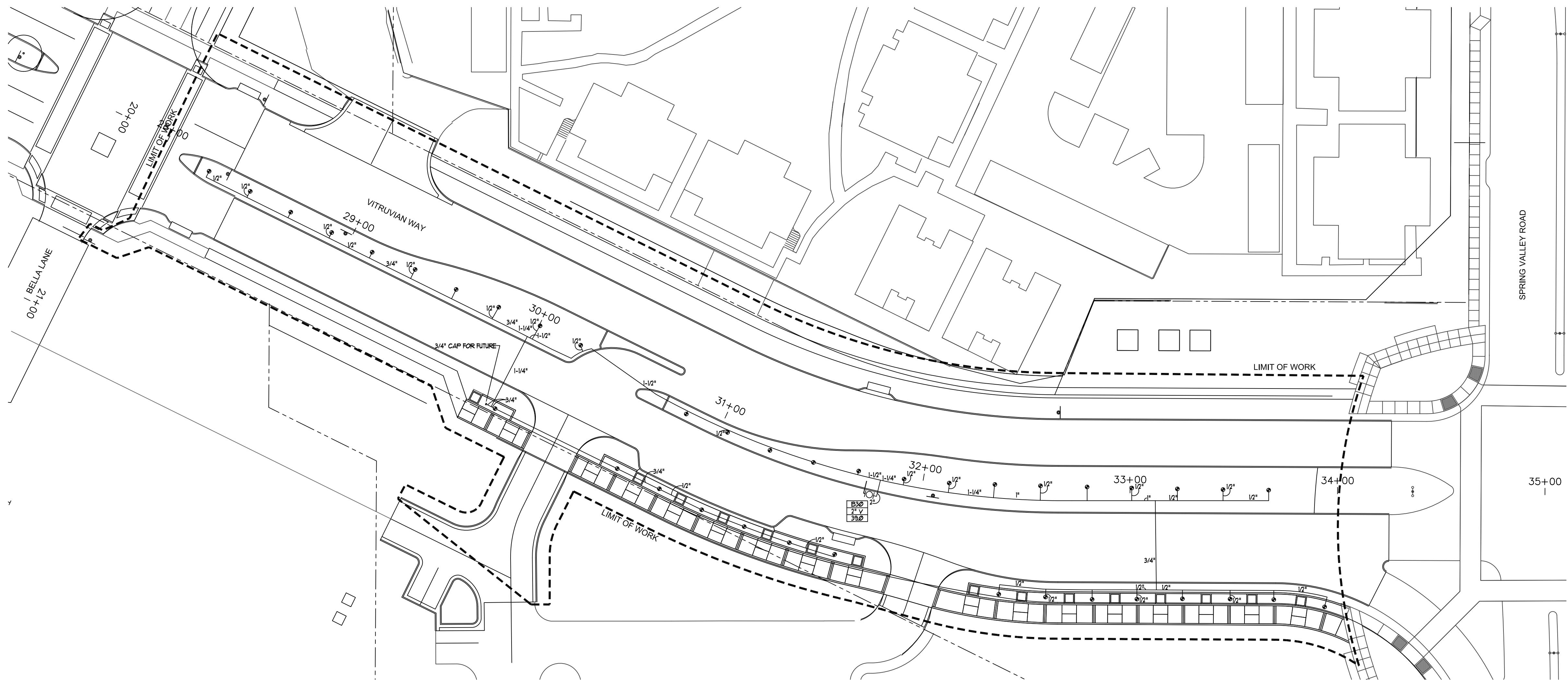
IRRIGATION LAYOUT PLAN

icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
 Civil Engineers - Designers - Planners Southlake, TX 76092 (817) 552-8210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	SAH	ASH	OCT 01 2010	PW# 2010-02	6.01

Irrigation Layout Plan | **A**
 SCALE: 1" = 30'-0" | **L6.01**

STREETSCAPE IMPROVEMENTS - VITRUVIAN WAY EXTENSION



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⊙	REMOTE CONTROL VALVE
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—	MAINLINE PIPING
---	LATERAL PIPING
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10-01-10

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 DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
 VITRUVIAN WAY EXTENSION

IRRIGATION TREE LAYOUT PLAN

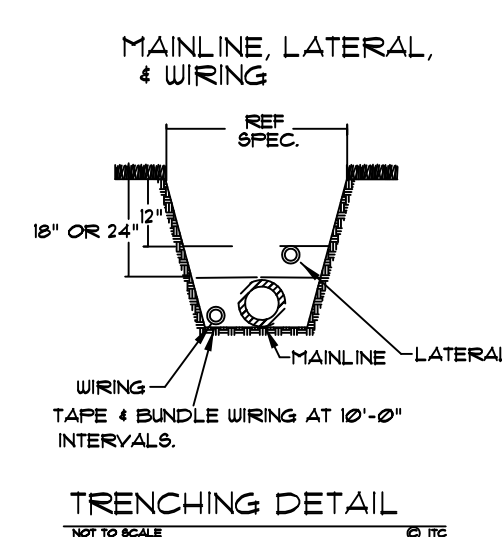
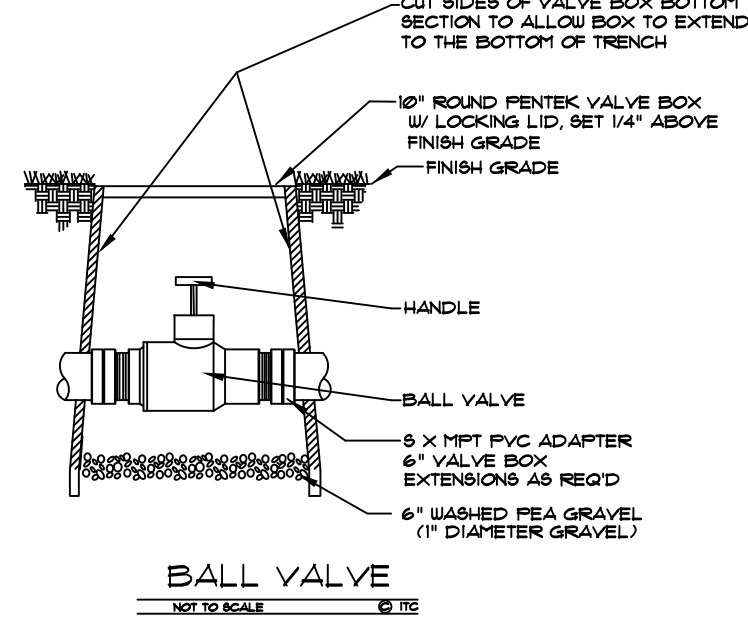
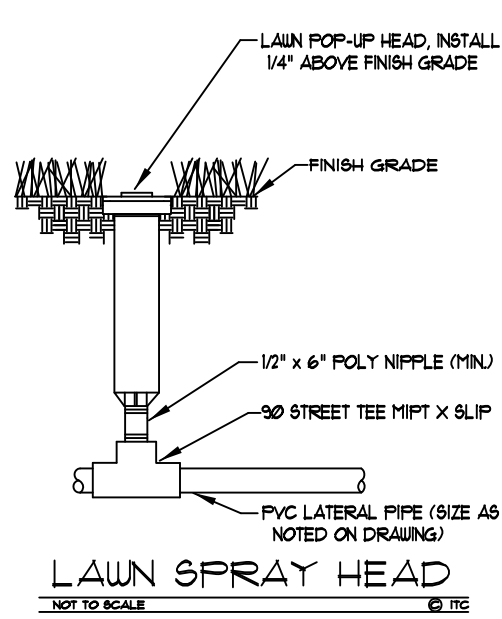
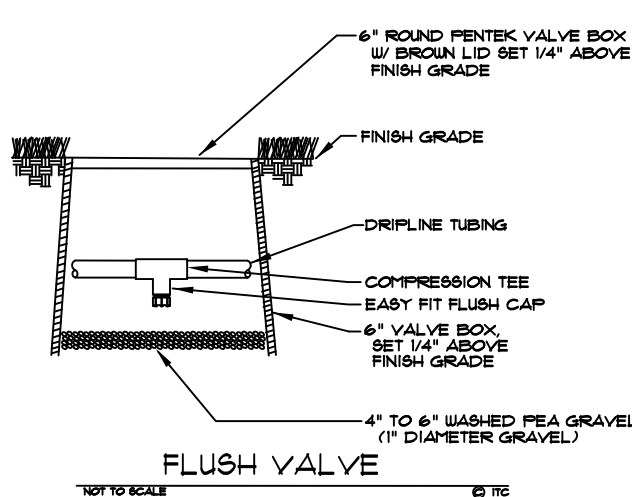
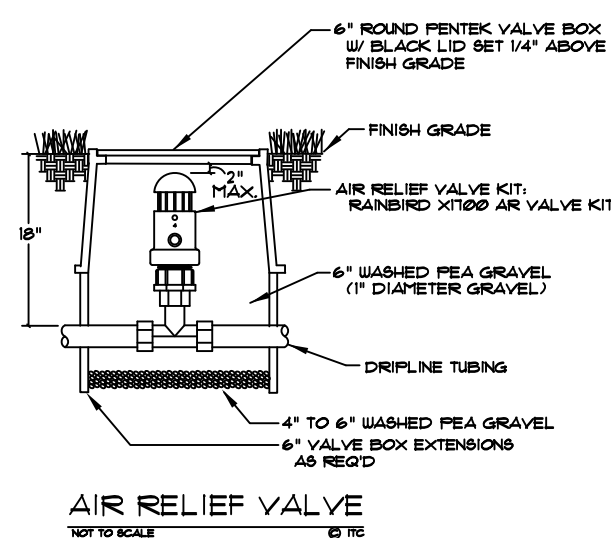
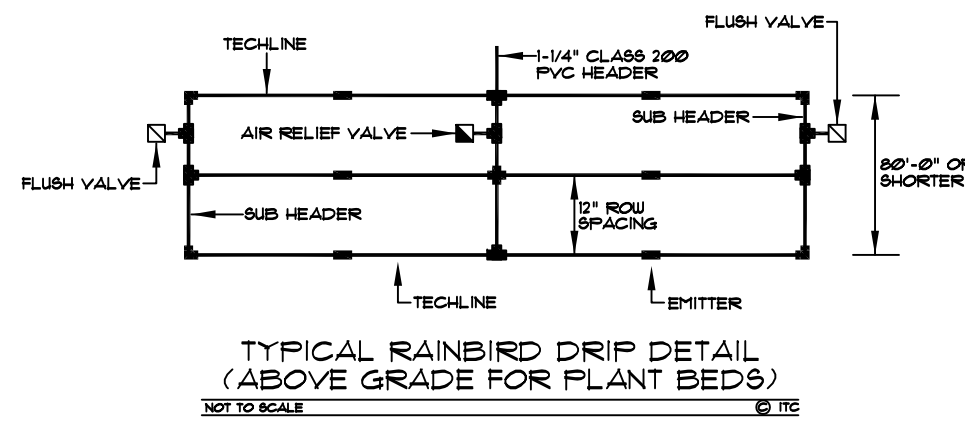
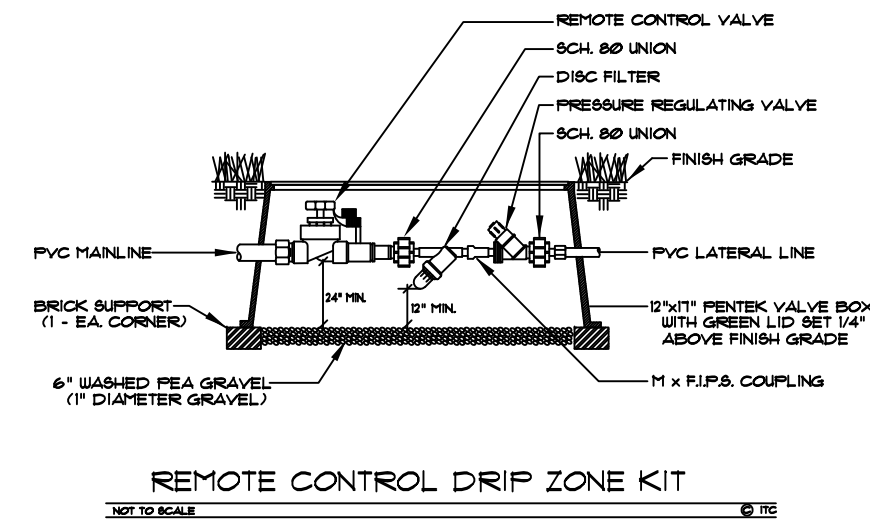
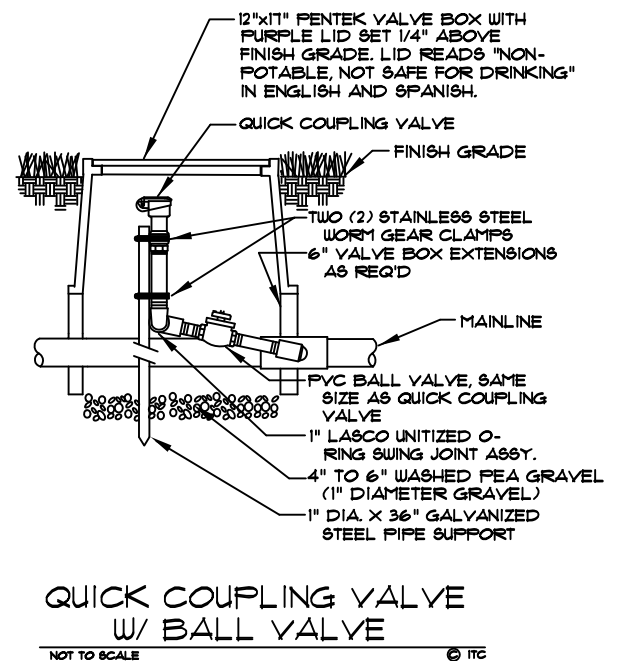
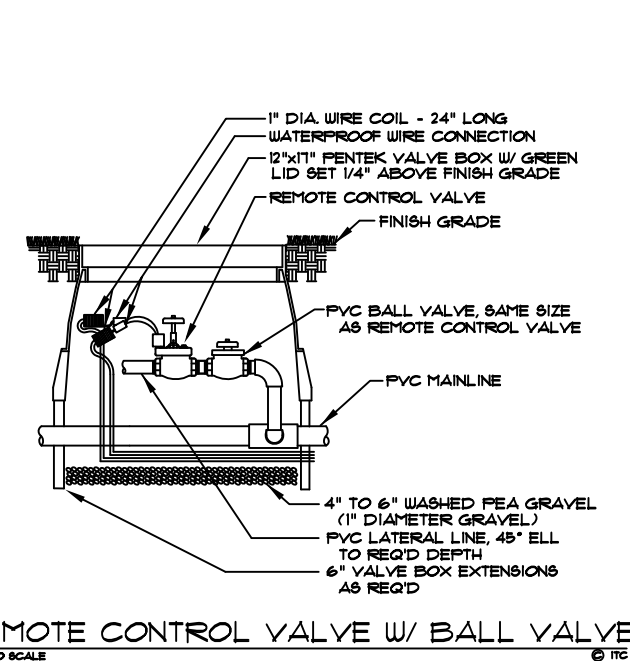
icon Consulting Engineers, Inc. 250 W. Southlake Blvd., Suite 117
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PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5029-01	SAH	ASH	OCT 01 2010	PW# 2010-02	6.02

Irrigation Tree Layout Plan | **A**

SCALE: 1" = 30'-0" | **L6.02**

STREETSCAPE IMPROVEMENTS - VITRUVIAN WAY EXTENSION



NOTES:

- ALL 24 VOLT LEAD AND COMMON VALVE WIRING SHALL BE A MINIMUM OF UF-14 GA. SINGLE CONDUCTOR. REFER TO MANUFACTURER'S RECOMMENDATIONS FOR PROPER WIRE SIZE. WIRE SPLICES SHALL BE PERMANENT AND WATERPROOF.
- COORDINATE INSTALLATION OF IRRIGATION SYSTEM WITH LANDSCAPE CONTRACTOR TO ENSURE ALL PLANT MATERIAL WILL BE WATERED IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS.
- LATERAL PIPING SHALL HAVE A MINIMUM OF 12" OF COVER. MAINLINE AND PIPING UNDER PAVING SHALL HAVE A MINIMUM OF 18" OF COVER. USE WELD-ON #105 SOLVENT AND #P-68 PRIMER FOR PVC CONNECTIONS.
- PIPING AND VALVES IN PAVING SHOWN FOR CLARITY, INSTALL IN ADJACENT PLANTING BED OR LAWN AREA.
- CONNECT LAWN SPRAY HEADS TO LATERAL PIPING WITH 1/2" THREADED GREEN POLY NIPPLE AS REQUIRED, PER DETAIL SHOWN. USE TURF-TITE SOLVENT AND TURF-TITE PRIMER ON THESE CONNECTIONS.
- INSTALL QUICK COUPLING VALVES IN TWELVE BY SEVENTEEN (12"x17") INCH PENTEK VALVE BOX PER DETAIL SHOWN. CONNECT QUICK COUPLING VALVES TO MAINLINE PIPE WITH LASCO "UNITIZED", O-RING SWING JOINTS PER DETAIL SHOWN. #T12-212. SUPPLY OWNER WITH ONE (1) COUPLER KEY WITH SWIVEL HOSE BIBB EACH, #33DK-10 AND #SH-0 RESPECTIVELY. VALVES TO BE INSTALLED SO THAT TOP OF QUICK COUPLER IS 2" BELOW BOTTOM OF VALVE BOX TOP, PURPLE LID READS "NON-POTABLE, NOT SAFE FOR DRINKING" IN ENGLISH AND SPANISH.
- INSTALL ALL REMOTE CONTROL VALVES IN A TWELVE BY SEVENTEEN (12"x17") INCH PENTEK VALVE BOXES PER DETAIL SHOWN.
- ALL SLEEVES ARE EXISTING UNLESS OTHERWISE NOTED.
- INSTALL ALL REMOTE CONTROL DRIP VALVES IN A TWELVE BY SEVENTEEN (12"x17") INCH PENTEK VALVE BOXES PER DETAIL SHOWN.
- CONTRACTOR TO INSTALL AND ADJUST VAN SERIES NOZZLES FOR SITUATIONS THAT REQUIRE LESS THAN 90° DEGREE RADIUS SPRAY.
- TEN DAYS PRIOR TO START OF CONSTRUCTION, VERIFY STATIC PRESSURE. IF STATIC PRESSURE IS LESS THAN 81.0 PSI, DO NOT START WORK UNTIL NOTIFIED TO PROCEED BY OWNER. DESIGN PRESSURE IS 64.0 PSI.
- MINIMUM DISTANCE BETWEEN MAIN LINE AND LATERAL LINE FITTINGS (EXCEPT FOR REDUCER BUSHINGS) TO BE 18".
- MINIMUM HORIZONTAL DISTANCE OF 36" TO BE MAINTAINED BETWEEN ANY VALVES THAT ARE INSTALLED SIDE BY SIDE.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO STAKE TREE BUBBLER HEAD LOCATIONS AND RECEIVE APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
- TOWN OF ADDISON IRRIGATION SPECIFICATIONS DATED 05/31/07 WILL SUPERCEDE THE PLANS, DETAILS, AND/OR SPECIFICATIONS FOR THIS PROJECT.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO STAKE DRIP TECHLINE AND RECEIVE APPROVAL FROM OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE DISTRIBUTION TUBING, STAKES, EMITTERS, TRANSFER FITTINGS, DIFFUSER BUG CAP, CONTROL ZONE KITS, TECHLINE FLAGS, ETC. NECESSARY FOR PROPER INSTALLATION OF THE BEDS. ALL PVC HEADER PIPING TO BE 1-1/4" CLASS 200 PVC SOLVENT WELD PIPE.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO INSERT ALL BARBED FITTINGS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL TECHLINE AND DISTRIBUTION TUBING TO BE INSTALLED AT FINISH GRADE AND BELOW MULCH LAYER. ALL TECHLINE TO BE INSTALLED ON ONE FOOT ROW SPACING. TUBING TO BE STAKED WITH NETAFIM STAPLES #TL56 SERIES. INSTALL STAKES AT 3'-0" ON CENTER ALONG LENGTH OF TUBING AND A MINIMUM OF 36" FROM ANY FITTINGS.
- AIR/VACUUM RELIEF VALVES TO BE NETAFIM MODEL #TLAVRY INSTALLED IN A SIX-INCH (6") PENTEK ROUND VALVE BOX WITH BLACK LID.
- LINE FLUSH VALVES TO BE NETAFIM MODEL #TLFV-1 INSTALLED IN A SIX-INCH (6") PENTEK ROUND VALVE BOX WITH BROWN LID AND GRAVEL GUMP.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO INCLUDE THE FOLLOWING ALLOWANCES FOR PROVIDING AND INSTALLING AIR RELIEF VALVES AND FLUSH VALVES FOR THE DRIP SYSTEM. EXACT QUANTITY AND LOCATION OF THESE DEVICES WILL BE DETERMINED AT THE TIME OF INSTALLATION. IN GENERAL, ALL AIR RELIEF VALVES WILL BE INSTALLED AT THE HIGH POINTS AND FLUSH VALVES WILL BE INSTALLED AT THE LOW POINTS. ALLOW FOR APPROXIMATELY TEN (10) AIR RELIEF VALVES AND APPROXIMATELY TEN (10) FLUSH VALVES FOR THIS PROJECT.
- PROVIDE NETAFIM REPRESENTATIVE WITH A SOIL SAMPLE FOURTEEN (14) DAYS PRIOR TO BEGINNING OF THE PROJECT. NETAFIM TO TEST SOIL AND PROVIDE LANDSCAPE IRRIGATION CONTRACTOR WITH EXACT TECHLINE SPACING IN BED AREAS DUE TO SOIL SAMPLE RESULTS.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO HAND DIG WITHIN ALL EXISTING TREE ROOT ZONES. L.I.C. TO STAKE DITCH LOCATIONS AND RECIEVE APPROVAL FROM TOWN OF ADDISON AND LANDSCAPE ARCHITECT PRIOR TO DIGGING.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO INSTALL ALL VALV BOX WIRE SPLICES IN 12"x17" PENTEK VALVE BOX WITH GREEN LID. L.I.C. TO INSTALL ALL FIELD SPLICES IN 10" ROUND PENTEK VALVE BOX WITH GREEN LID.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE ALL LABOR AND MATERIAL NECESSARY TO CONNECT BALL GATE VALVE AND MAINLINE TO EXISTING MAINLINE. L.I.C. IS RESPONSIBLE TO VERIFY EXACT LOCATION PRIOR TO BEGINNING OF PROJECT.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE ALL LABOR AND MATERIAL NECESSARY TO CONNECT NEW REMOTE CONTROL VALVE WIRES TO EXISTING NINE (9) VALVES WIRES. L.I.C. IS RESPONSIBLE TO VERIFY EXACT LOCATION PRIOR TO BEGINNING OF PROJECT.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE ALL LABOR AND MATERIAL NECESSARY TO REPAIR EXISTING IRRIGATION SYSTEM WITHIN THE LIMIT OF WORK AT SPRINGHAVEN APARTMENT COMPLEX DUE TO NEW SIDEWALK. L.I.C. IS RESPONSIBLE TO COORDINATE THIS WORK WITH ALL DISCIPLINES PRIOR TO BEGINNING OF PROJECT.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE ALL LABOR AND MATERIAL NECESSARY TO REPAIR EXISTING IRRIGATION SYSTEM WITHIN THE LIMIT OF WORK AT LEMMON'S COMPANY PROPERTY DUE TO NEW SIDEWALK. L.I.C. IS RESPONSIBLE TO COORDINATE THIS WORK WITH ALL DISCIPLINES PRIOR TO BEGINNING OF PROJECT.

IRRIGATION LEGEND:

SYMBOL	DESCRIPTION	MANUFACTURER	MODEL NO.
●	LAWN SPRAY HEAD	RAINBIRD (30 F81)	1804 WITH U-SERIES PLASTIC NOZZLES UNLESS NOTED OTHERWISE
⊕	TREE BUBBLER HEAD	HUNTER (30 F81)	#1804 W/ HUNTER PCN-10 NOZZLE UNLESS OTHERWISE NOTED
⊙	TREE BUBBLER HEAD	HUNTER (30 F81)	#1804 W/ HUNTER PCN-10 NOZZLE UNLESS OTHERWISE NOTED
■	LAWN CENTER STRIP HEAD	RAINBIRD (30 F81)	1804 W/ #568TT NOZZLE
□	LAWN END STRIP HEAD	RAINBIRD (30 F81)	1804 W/ #BRC6 OR #BLC6 NOZZLE
▲	QUICK COUPLING VALVE	BUCKNER	#V015-DNP WITH SPEARS BALL VALVE, PURPLE LID READS "NON-POTABLE, NOT SAFE FOR DRINKING" IN ENGLISH AND SPANISH.
⊖	REMOTE CONTROL VALVE	IRRITROL	200B OMNI REG WITH SPEARS BALL VALVE REFER TO PLANS FOR SIZE AND LOCATION
●	BALL VALVE	SPEARS	COMPACT "T-HANDLE" - LINE SIZE
—	MAINLINE PIPING	REFER TO SPEC.	4" AND LARGER - CLASS 200 PVC-GASKET JOINTS 3" AND 2-1/2" - CLASS 200 PVC-SOLVENT WELD JOINTS 2" AND SMALLER - SCHEDULE 40 PVC-SOLVENT WELD JOINTS
—	LATERAL PIPING	REFER TO SPEC.	3/4" 4 LARGER - CLASS 200 PVC 1/2" - CLASS 315 PVC
⊖	REMOTE CONTROL DRIP VALVE	IRRITROL	200B SERIES W/ 1-1/2" SPEARS BALL VALVE, 1-1/2" NETAFIM PRESSURE REGULATOR AND 1-1/2" NETAFIM LONG FILTER (SIZE FOR 40GPM)
⋮	PLANTING BED TECHLINE TUBING	NETAFIM	TLCV9-12 WITH TECHLINE BARBED FITTINGS, TL96 SOIL STAPLES, AND 10-F-01 TECHLINE FLAGS
⊖	STATION NUMBER VALVE SIZE GPM (APPROX.)		

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IRRIGATION DETAILS AND NOTES

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