PLANS FOR THE CONSTRUCTION OF

PAVING, DRAINAGE & UTILITY IMPROVEMENTS

PONTE AVENUE CIRCLE

FOR

VITRUVIAN PARK PUBLIC INFRASTRUCTURE - PHASE 2

TOWN OF ADDISON, TEXAS

PUBLIC WORKS # 2011-03

Addison!®

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VICINITY MAP

NOT TO SCALE
(MAPSCO GRID 13 & 14)

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ENGINEERING FIRM REGISTRATION NUMBER F-9007

JULY 22, 2011

ICON PROJECT #5019-09

RECORD DRAWINGS 06/15/12

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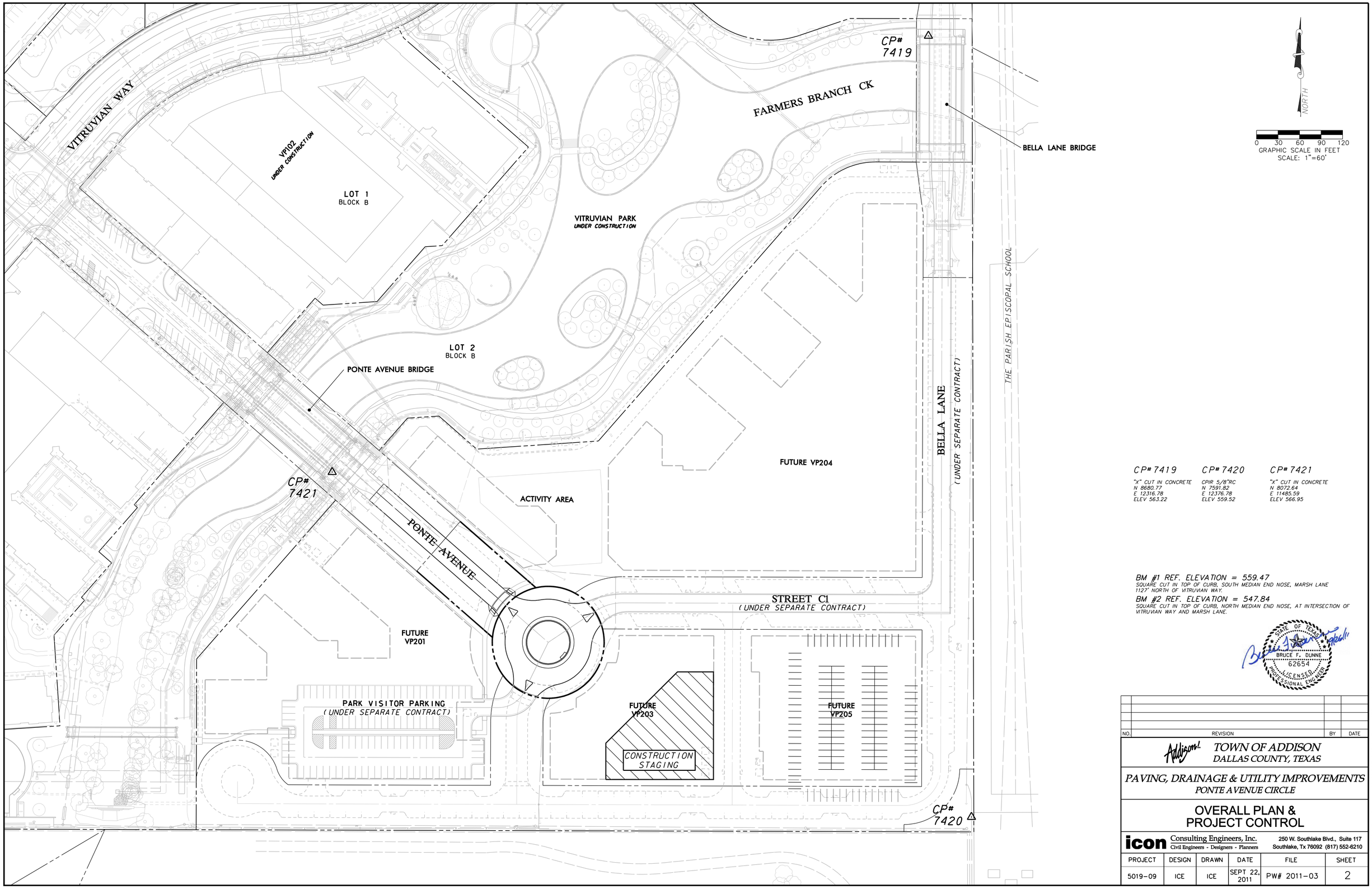
PAVING, DRAINAGE & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE



CP# 7419	CP# 7420	CP# 7421
"X" CUT IN CONCRETE	CPIR 5/8"RC	"X" CUT IN CONCRETE
N 8680.77	N 7591.82	N 8072.64
E 12316.78	E 12376.78	E 11485.59
ELEV 563.22	ELEV 559.52	ELEV 566.95

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.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

OVERALL PLAN & PROJECT CONTROL

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PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	2

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12

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. ANY FAILURE 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 ANY SUCH 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 NEGLECT 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, SAVE IN CASES OF EMERGENCY, WHEN THE TOWN OF ADDISON SHALL HAVE THE RIGHT TO REMEDY ANY NEGLECT 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 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 UNOBSTRUCTED 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. WHENEVER THE WORK UNDER THIS CONTRACT REQUIRES THE 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 1.28 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION – 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 VIABLE 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, HOISTING 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, LIGHTS AND MARKERS AS REQUIRED BY 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 CROSSED, THE CONTRACTOR SHALL SET CROSS–BRACED POSTS ON EITHER SIDE OF THE CROSSING. TEMPORARY FENCING SHALL BE ERECTED 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 THE CONTRACTOR.

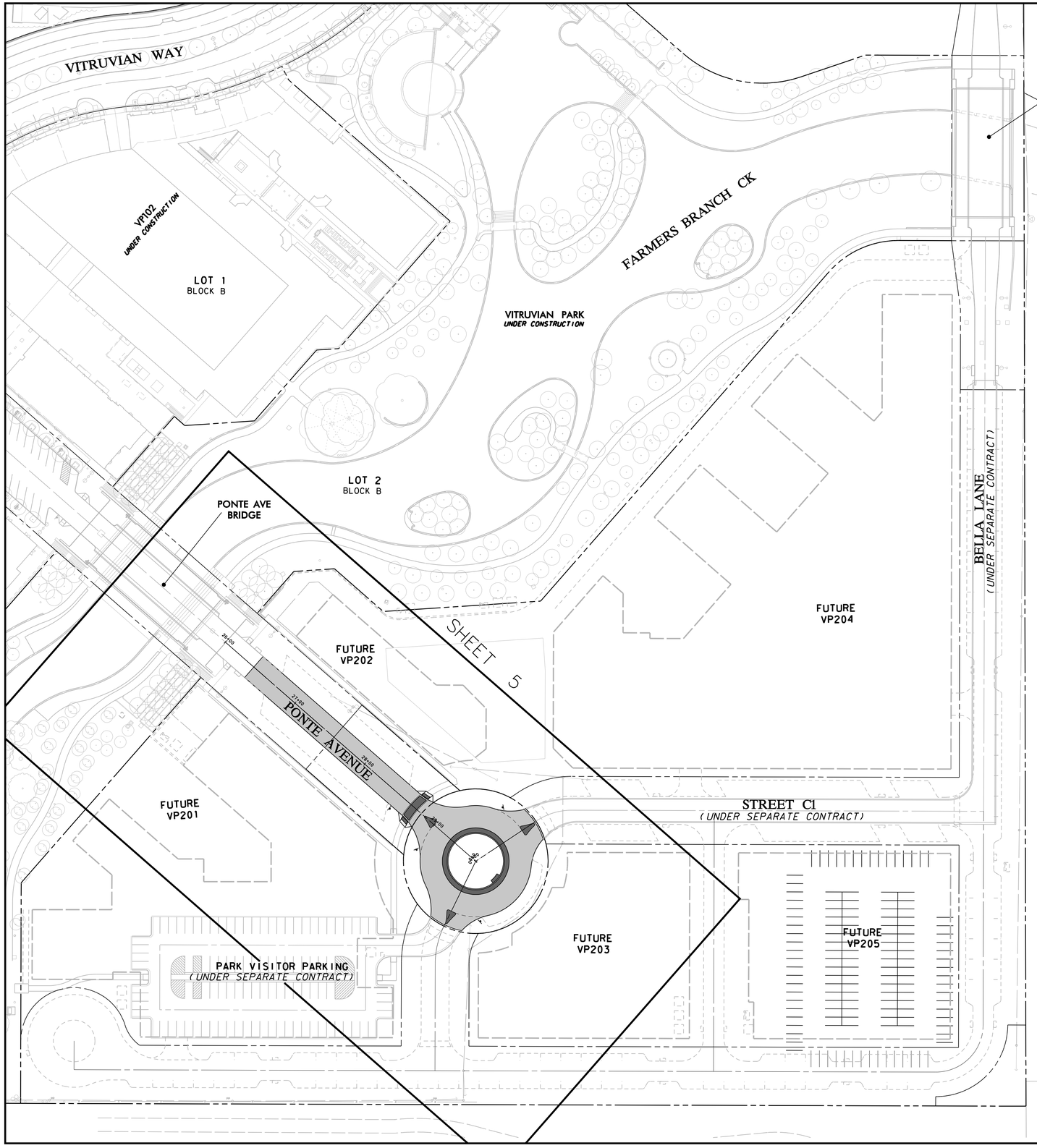
36. DISPOSITION AND DISPOSAL OF EXCESS AND UNSUITABLE MATERIALS: ALL MATERIALS TO BE REMOVED FROM THE SITE INCLUDING BUT NOT LIMITED TO EXCESS MATERIAL AND UNSUITABLE MATERIALS SUCH AS LARGE ROCKS, REFUSE, AND OTHER DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OUTSIDE THE 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 SUBJECTED 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.

ABBREVIATIONS

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	HDPE	HIGH DENSITY POLYETHYLENE PIPE	RCP	REINFORCED CONCRETE PIPE
BM	BENCHMARK	HDWL	HEADWALL	RCCP	REINFORCED CONCRETE CYLINDRICAL PIPE
BW	BOTTOM OF WALL	HMAC	HOT MIX ASPHALTIC CONCRETE		
CATV	CABLE TV	HORIZ	HORIZONTAL	REC	RECESSED
CFS	CUBIC FEET PER SECOND	HP	HIGH POINT	REINF	REINFORCED
CI	CURB INLET	HVAC	HEATING, VENTILATION AND AIR CONDITIONING	RL	RIDGE LINE
CMP	CORRUGATED METAL PIPE			ROW	RIGHT OF WAY
CO	CLEANOUT	IRR	IRRIGATION	RT	RIGHT
CONC	CONCRETE	JB	JUNCTION BOX	SF	SQUARE FEET
CONST	CONSTRUCT	JT	JOINT	SD	STORM DRAIN
CL	CENTER LINE	LF	LINEAR FEET	SQ	SQUARE
DCO	DOUBLE CLEANOUT	LP	LOW POINT	SS	SANITARY SEWER
DIA	DIAMETER	LT	LEFT	STA	STATION
DIP	DUCTILE IRON PIPE	MH	MANHOLE	SY	SQU



GRADING & PAVING GENERAL NOTES

1. REFER TO SHEET 3 "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 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 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 FOLOWING:

TOWN OF ADDISON (WATER, SEWER, SIGNALS)	ATMOS ENERGY (GAS)
ONCOR ELECTRIC DELIVERY	VERIZON / MCI
AT&T (SOUTHWESTERN 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 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 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 NESCESSARY 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 ORGANIC MATERIAL. 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, DEBRIS AND 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.
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:
   - 10" 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 ANGULATION OF EXISTING PAVEMENT PRIOR TO CONSTRUCTION OF TIE-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 DETAILS.
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 INITIATED 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 AFTER DENSITY/MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY THE TESTING FIRM. COMPIES 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 35 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 DISIBILITY 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 MARKINGS". 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 #526.
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 TAPERS 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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

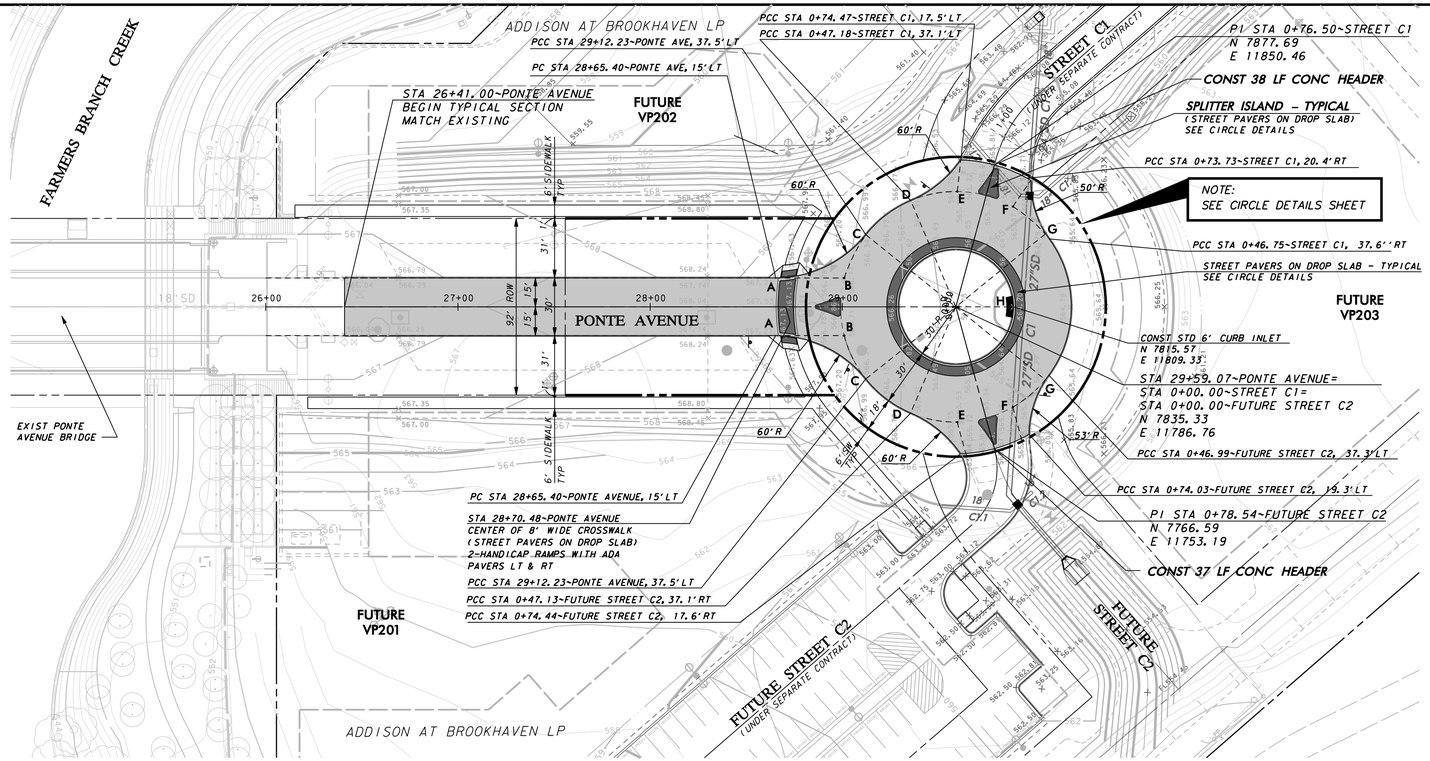
OVERALL PAVING PLAN & NOTES

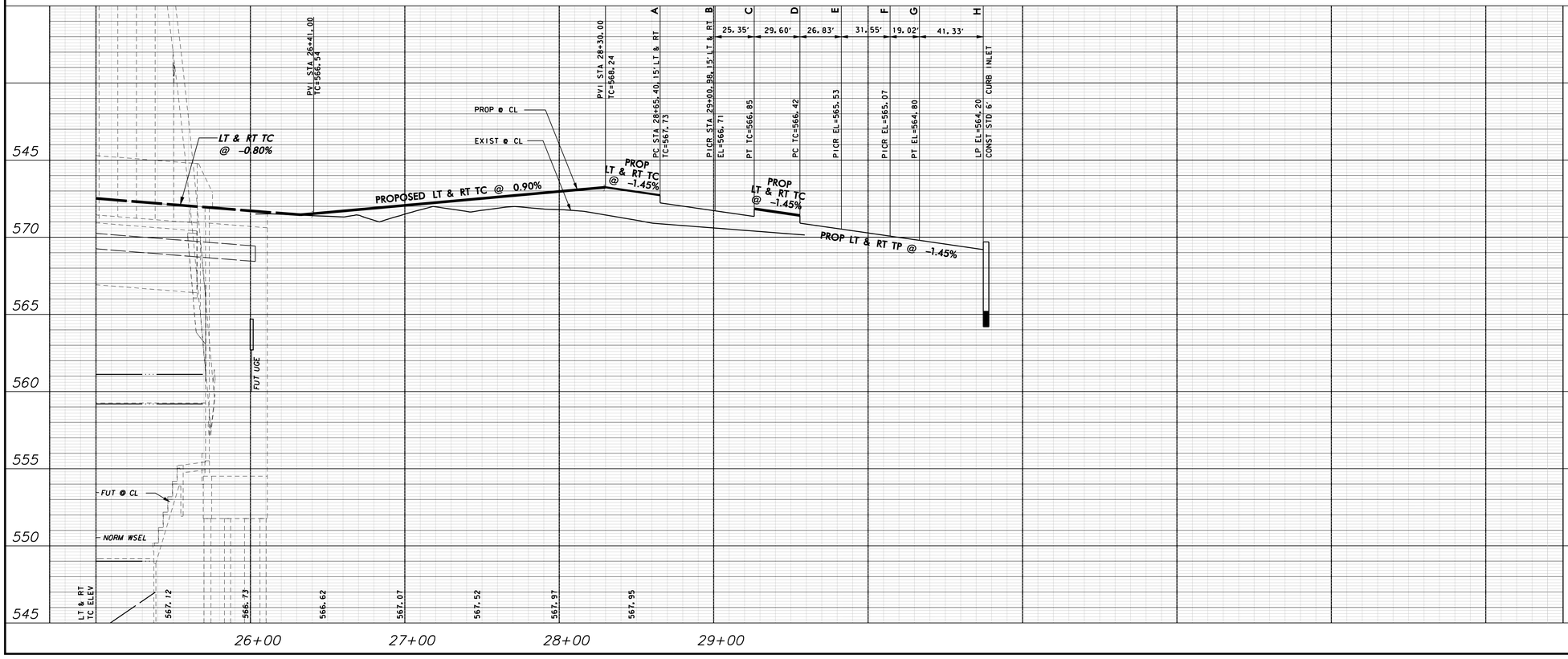
icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	4

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12





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.

PROFILE SCALE:

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

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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

PAVING PLAN & PROFILE
STA 26+41.00 TO STA 29+59.07

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Civil Engineers - Designers - Planners
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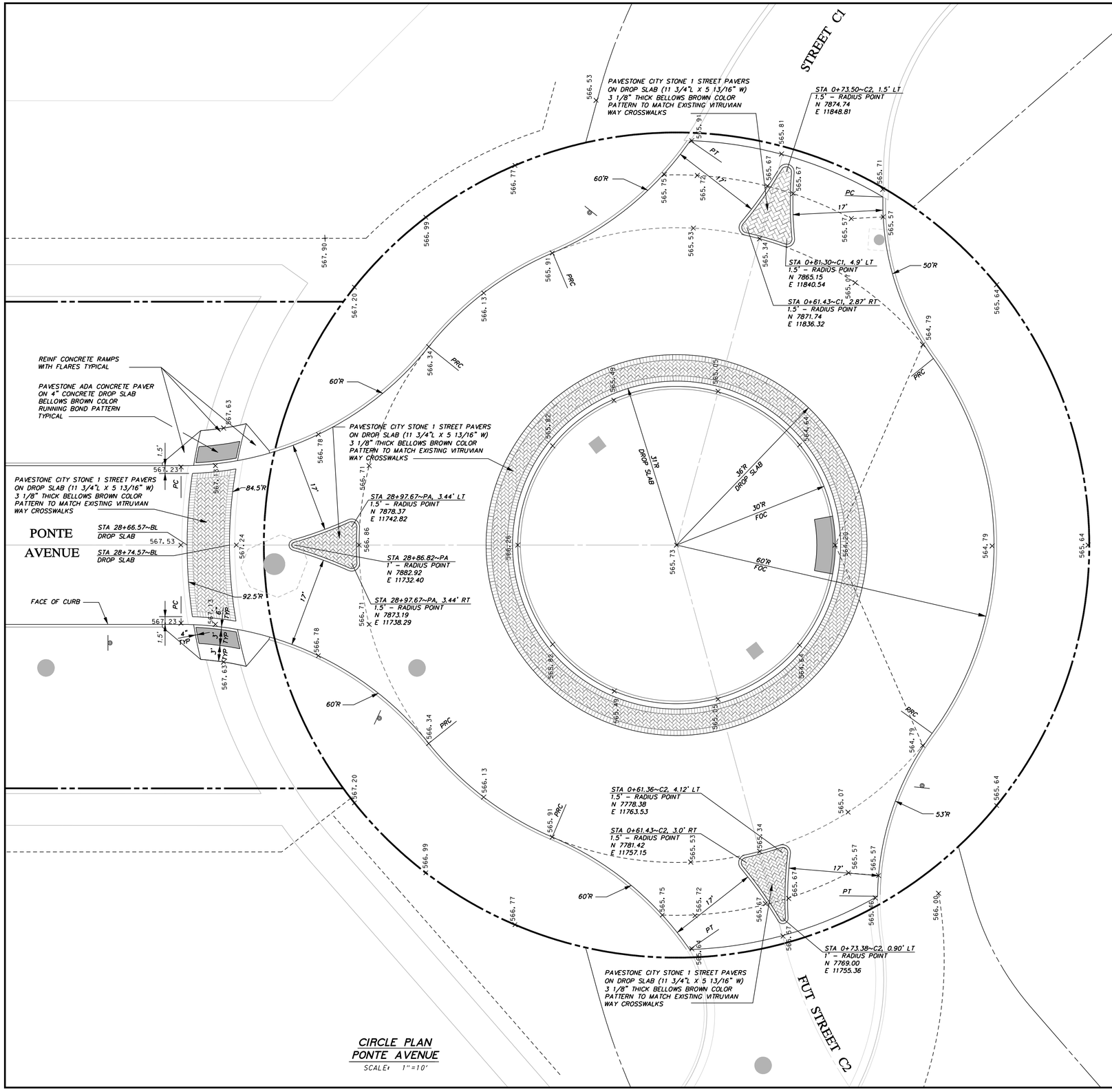
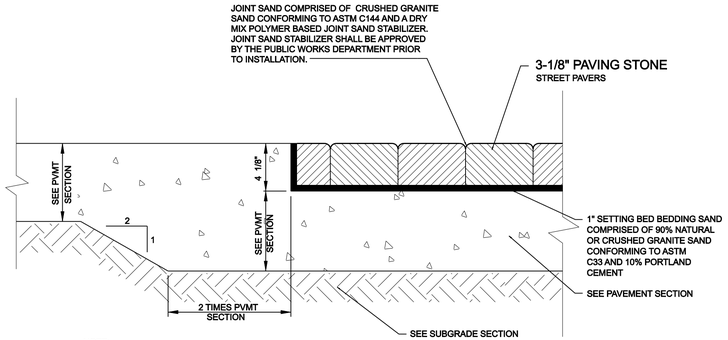
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	5

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

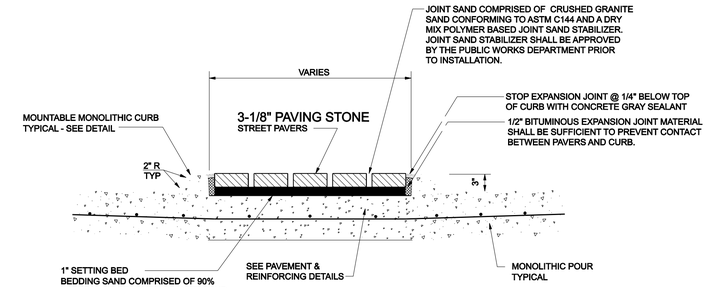


CIRCLE PLAN
PONTE AVENUE
SCALE: 1"=10'

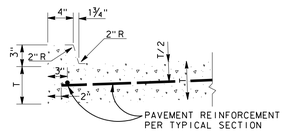


NOTE:
CONTRACTOR SHALL CONFIRM THICKNESS OF FINAL PAVER SELECTION PRIOR TO POURING DROP SLABS IN THE SIDEWALKS OR STREETS

STREET PAVERS ON CONCRETE DROP SLAB
NTS



TYPICAL SECTION
SPLITTER ISLAND
NTS



MOUNTABLE MONOLITHIC CURB
NTS

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

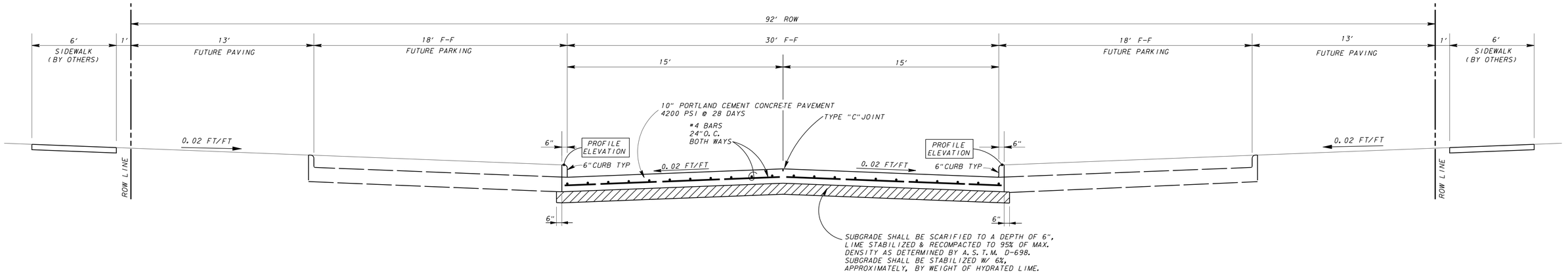
CIRCLE DETAILS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	6

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



TYPICAL SECTION – PONTE AVENUE

NOT TO SCALE

STATE OF TEXAS
BRUCE F. DUNNE
62654
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TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

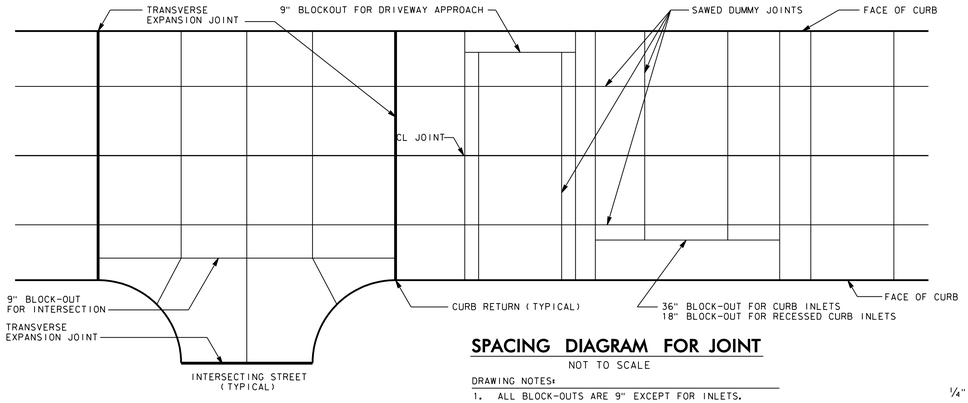
PAVEMENT SECTIONS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	7

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



SPACING DIAGRAM FOR JOINT

NOT TO SCALE

DRAWING NOTES:

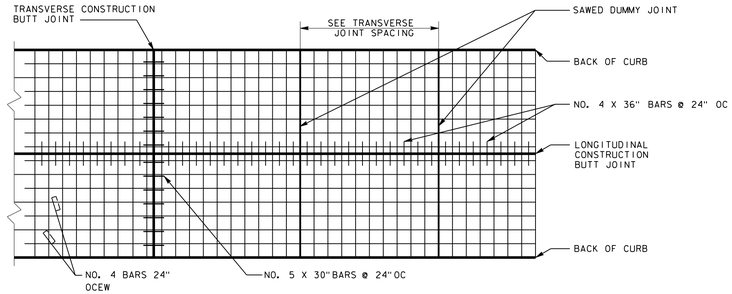
1. ALL BLOCK-OUTS ARE 9" EXCEPT FOR INLETS.
2. END OF EACH BLOCK-OUT TO HAVE TRANSVERSE JOINT.

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

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

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"

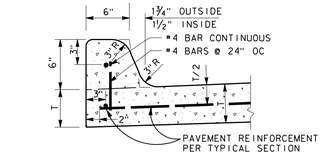


PLAN OF STEEL LAYOUT

NOT TO SCALE

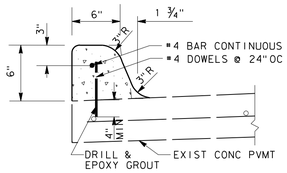
DRAWING NOTES:

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



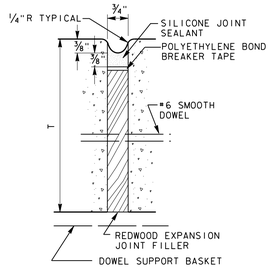
MONOLITHIC CURB

NOT TO SCALE



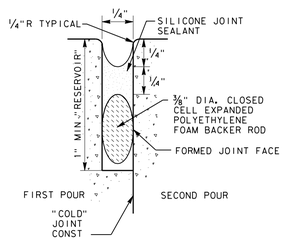
ATTACHED CURB

NOT TO SCALE



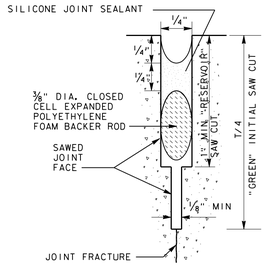
JOINT DETAIL A SEAL FOR TRANSVERSE EXPANSION JOINT

NOT TO SCALE



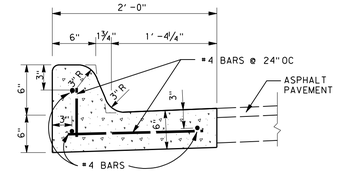
JOINT DETAIL B SEAL FOR LONGITUDINAL AND TRANSVERSE CONSTRUCTION BUTT JOINT

NOT TO SCALE



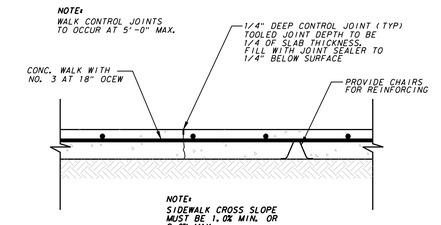
JOINT DETAIL C SEAL FOR SAWED DUMMY JOINT

NOT TO SCALE



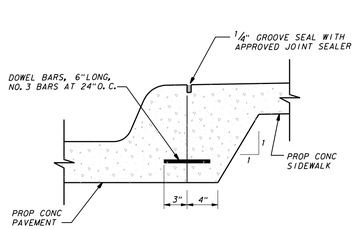
6" CURB AND GUTTER

NOT TO SCALE



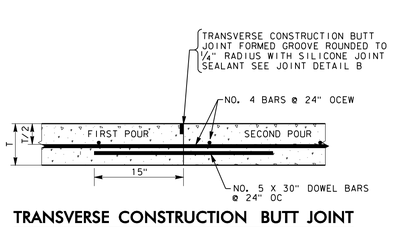
SIDEWALK CONTROL JOINT

NOT TO SCALE



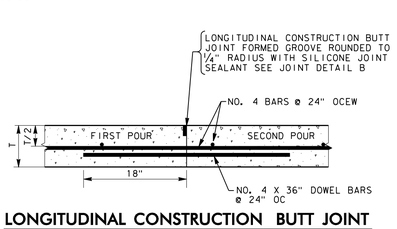
JOINT DETAIL FOR SIDEWALK ADJACENT TO CURB

NOT TO SCALE



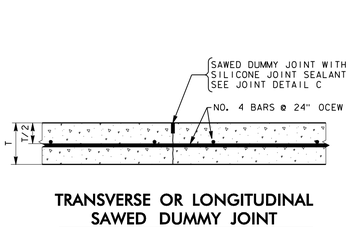
TRANSVERSE CONSTRUCTION BUTT JOINT

NOT TO SCALE



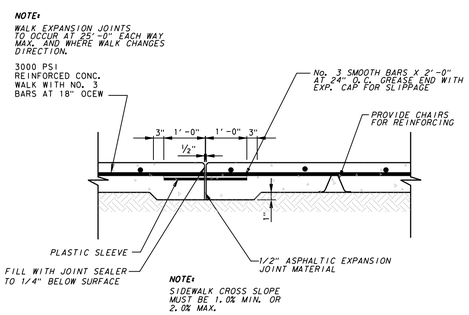
LONGITUDINAL CONSTRUCTION BUTT JOINT

NOT TO SCALE



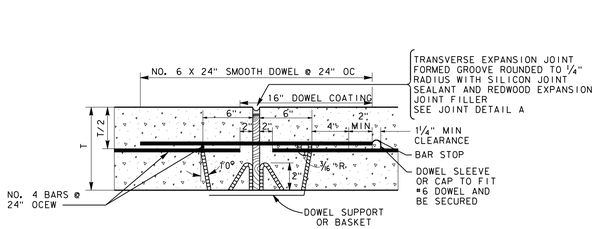
TRANSVERSE OR LONGITUDINAL SAWED DUMMY JOINT

NOT TO SCALE



SIDEWALK EXPANSION JOINT

NOT TO SCALE



TRANSVERSE EXPANSION JOINT

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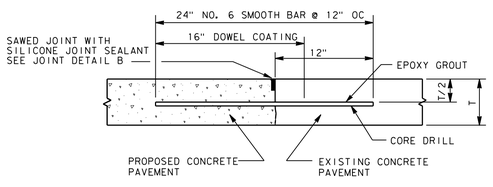
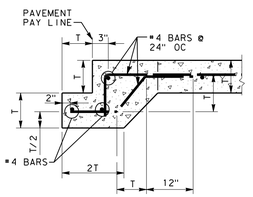


PROPOSED TO EXISTING CONCRETE PAVEMENT

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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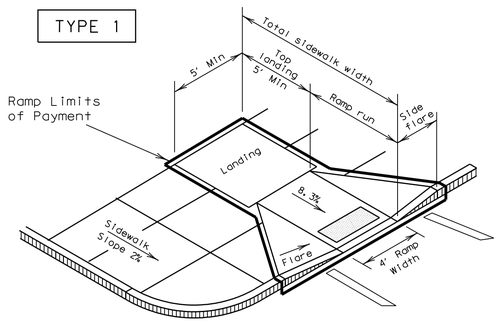
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	8

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

TYPE 1



PERPENDICULAR CURB RAMP

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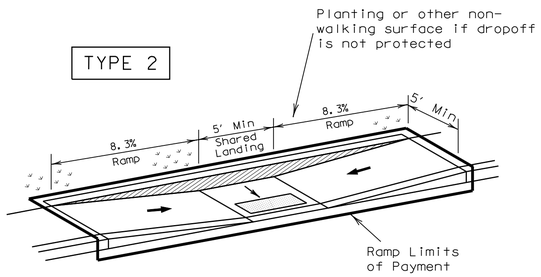
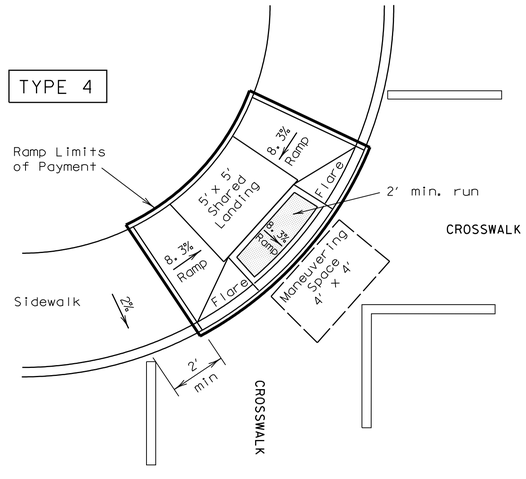


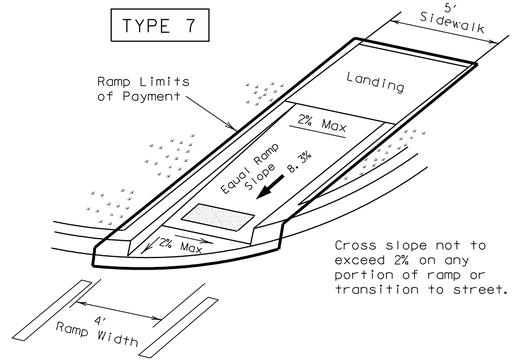
PARALLEL CURB RAMP
(Use only where water will not pond in the landing.)

TYPE 4



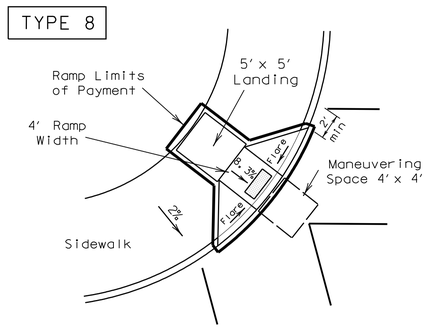
DIAGONAL COMBINATION CURB RAMP
Perpendicular to the Tangent of the Curb Radius and Contained in Crosswalk

TYPE 7



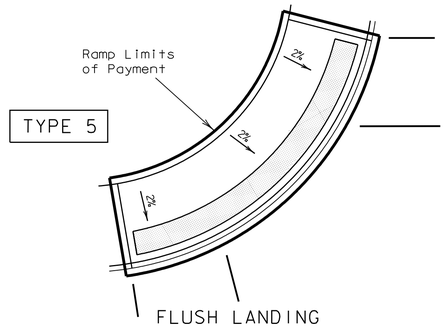
DIRECTIONAL RAMP WITHIN RADIUS
(Sidewalk set back from curb)

TYPE 8



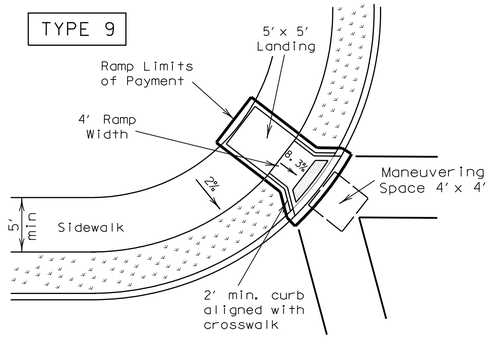
DIAGONAL CURB RAMP (FLARED SIDES)

TYPE 5

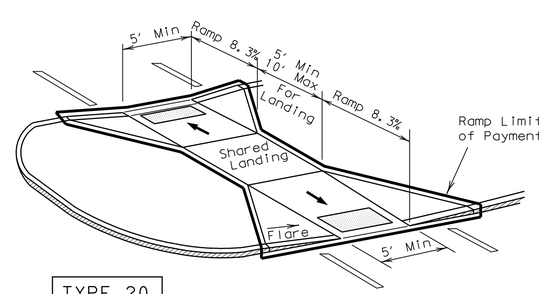


FLUSH LANDING

TYPE 9



DIAGONAL CURB RAMP (RETURNED CURB)



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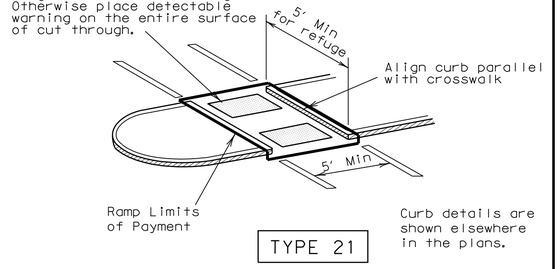
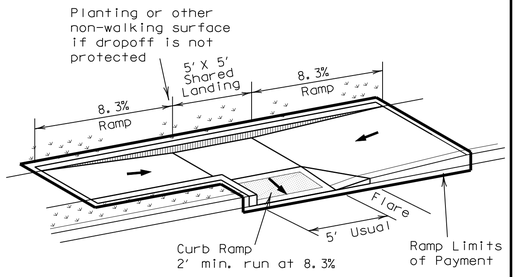


TYPE 21

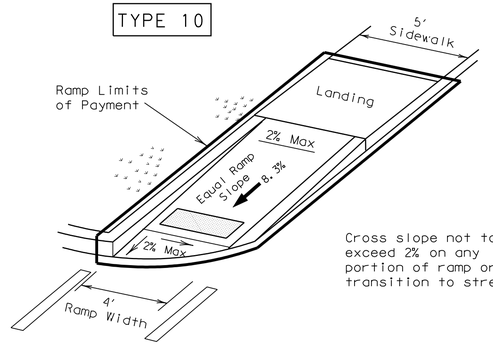
Curb details are shown elsewhere in the plans.

CURB RAMPS AT MEDIAN ISLANDS

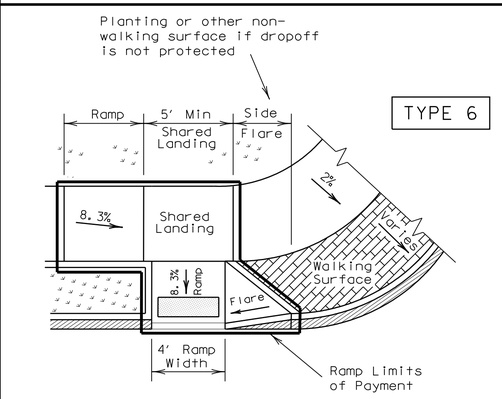


TYPE 3

TYPE 10



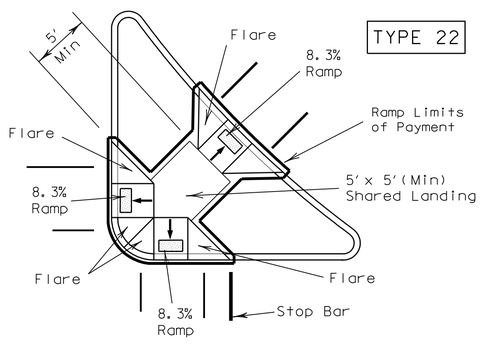
DIRECTIONAL RAMP WITHIN RADIUS
(Sidewalk adjacent to curb)



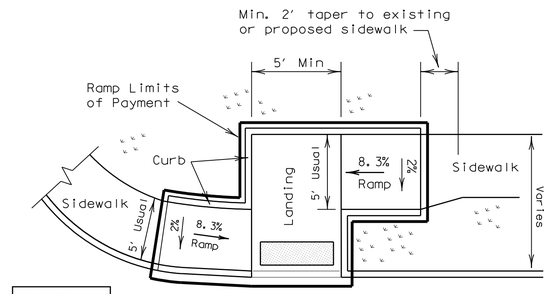
TYPE 6

COMBINATION CURB RAMPS

TYPE 22



COMBINATION ISLAND RAMPS



TYPE 11

OFFSET PARALLEL CURB RAMP

NOTES:

See General Notes on sheet 2 of 4 for more information.

Denotes planting or non-walking surface.

Texas Department of Transpo
Design Division (Roadway)

PEDESTRIAN FACILITIES
CURB RAMPS

PED-05

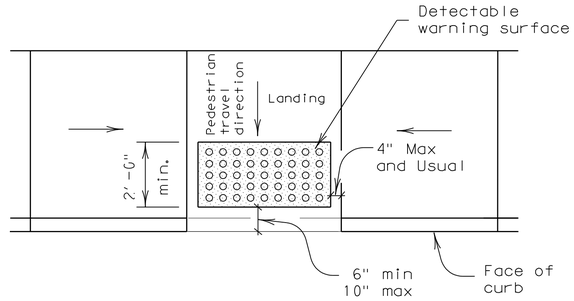
SHEET 1 OF 4

FILE: ped05.dgn	DN: EH	CK:	DW: BGD	CK:	
© TxDOT March 2002	DIST	FEDERAL AID PROJECT			SHEET
REVISIONS					9
	COUNTY		CONTROL	SECT	JOB	HIGHWAY

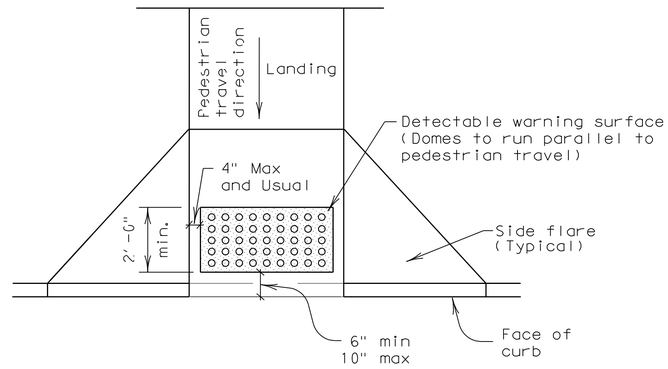
DETECTABLE WARNINGS

General Notes for Detectable Warnings

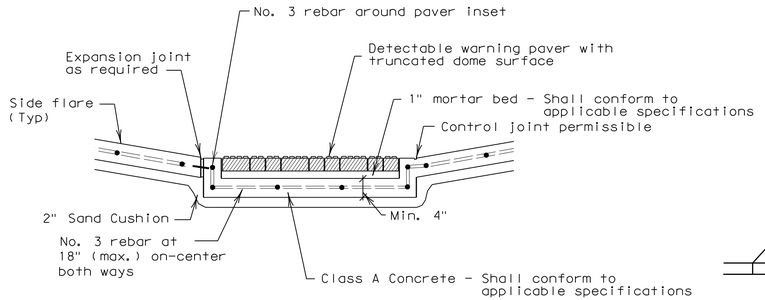
1. Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 4.29 of the Texas Accessibility Standards (TAS). The surface must contrast visually with adjoining surfaces, including side flares. Furnish dark brown or dark red detectable warning surface adjacent to uncolored concrete, unless specified elsewhere in the plans.
2. Detectable warning surfaces must be slip resistant and not allow water to accumulate.
3. Align truncated domes in the direction of pedestrian travel when entering the street.
4. Shaded areas on Sheet 1 of 4 indicate the approximate location for the detectable warning surface for each curb ramp type.
5. Detectable warning surfaces shall be a minimum of 24" in depth in the direction of pedestrian travel, and extend the full width of the curb ramp or landing where the pedestrian access route enters the street.
6. Detectable warning surfaces shall be located so that the edge nearest the curb line is a minimum of 6" and a maximum of 10" from the extension of the face of curb. Detectable warning surfaces may be curved along the corner radius.
7. TxDOT maintains a list of Qualified Detectable Warning Materials. Details are provided herein for the placement of landscape pavers. For other materials, refer to the manufacturer's product manual for proper installation.



Typical placement of detectable warning surface on landing at street edge.



Typical placement of detectable warning surface on sloping ramp run.

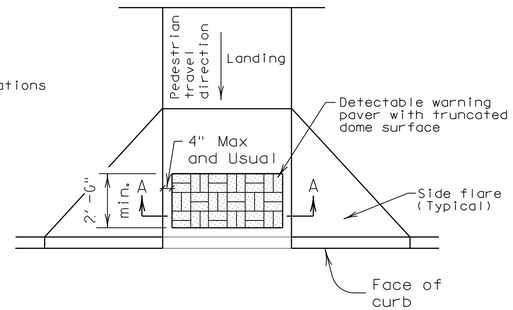


Section A-A

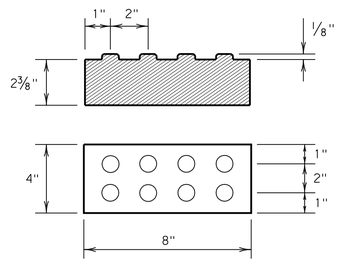
General Notes (Pavers)

Furnish detectable warning paver units meeting all requirements of ASTM C-936, C-33. Lay in a two by two unit basket weave pattern or as directed.

Lay full-size units first followed by closure units consisting of at least 25 percent of a full unit. Cut detectable warning paver units using a power saw.



Truncated Dome Pattern Curb Ramp



Detectable Warning Paver

DETECTABLE WARNING PAVER (OPTION)

Pedestrian Facilities General Notes

1. All slopes are maximum allowable. The least possible slope that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
2. The minimum sidewalk width is 5'. Where the sidewalk is adjacent to the back of curb, a 6' sidewalk width is encouraged. Where a 5' sidewalk can not be provided due to site constraints, a minimum 3' sidewalk with 5'x 5' passing areas at intervals not to exceed 200' is required.
3. Landings shall be 5'x 5' minimum with a maximum 2% slope in any direction.
4. Maneuvering space at the bottom of curb ramps shall be a minimum of 4'x 4' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
5. Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
6. Curb ramps with returned curbs may be used only where pedestrians would not normally walk across the ramp, either because the adjacent surface is planting or other non-walking surface or because the side approach is substantially obstructed. Otherwise, provide flared sides.
7. Additional information on curb ramp location, design, light reflective value and texture may be found in the current edition of the Texas Accessibility Standards (TAS) and 16 TAC §68.102.
8. To serve as a pedestrian refuge area, the median should be a minimum of 5' wide. Medians should be designed to provide accessible passage over or through them.
9. Small channelization islands, which do not provide a minimum 5'x 5' landing at the top of curb ramps, shall be cut through level with the surface of the street.
10. Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps shall be aligned with theoretical crosswalks, or as directed by the Engineer.
11. Existing features that comply with TAS may remain in place unless otherwise shown on the plans.
12. Handrails are not required on curb ramps. Provide curb ramps wherever on accessible route crosses (penetrates) a curb.
13. Curb ramps and landings shall be constructed and paid for in accordance with Item 531 "Sidewalks".
14. Separate curb ramp and landings from adjacent sidewalk and any other elements with premold or board joint of ¾" unless otherwise directed by the Engineer.
15. Provide a smooth transition where the curb ramps connect to the street.
16. Curbs shown on sheet 1 within the limits of payment are considered part of the curb ramp for payment, whether it is concrete curb, gutter, or combined curb and gutter.
17. Flare slope shall not exceed 10% measured along curb line.

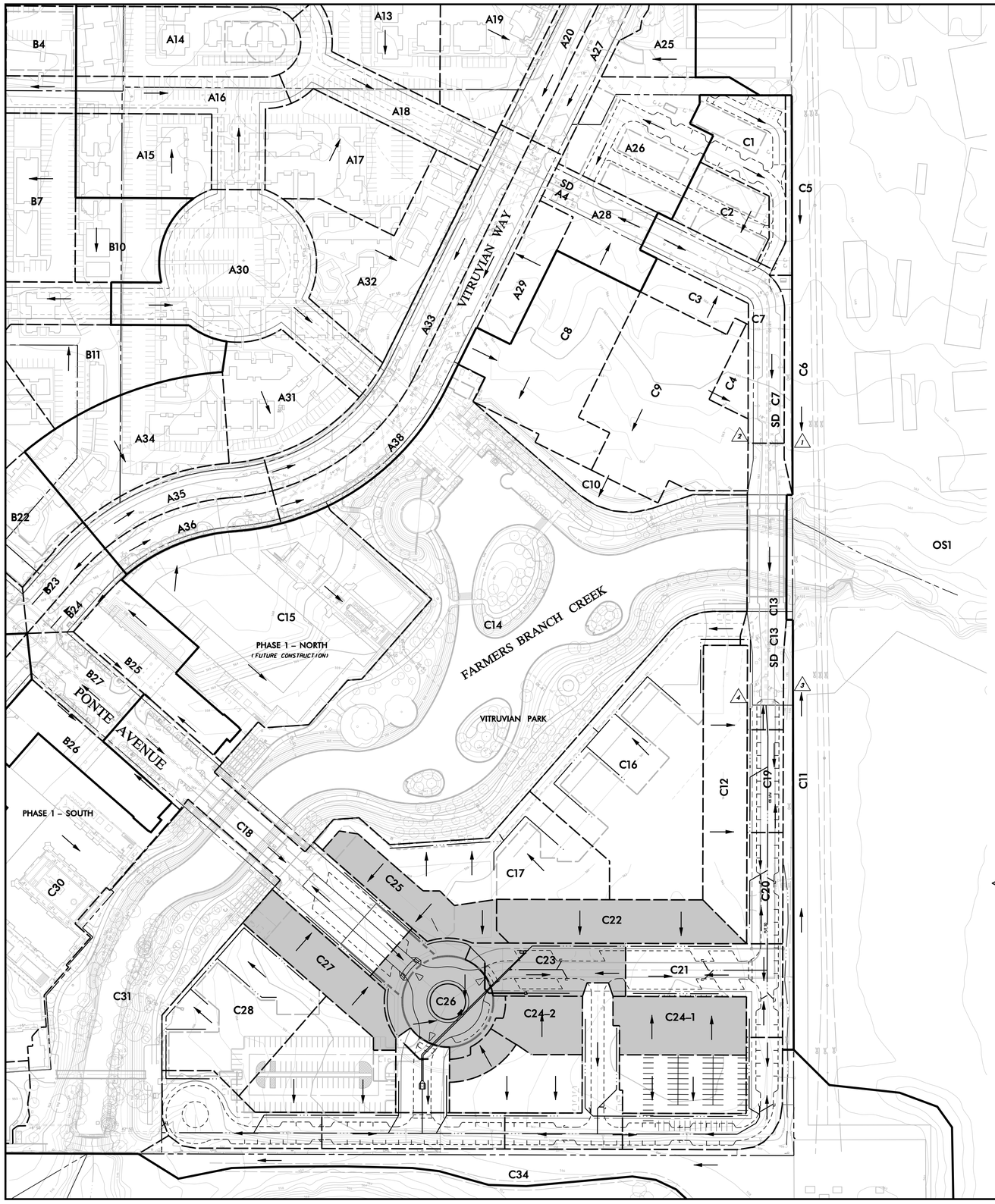
Texas Department of Transpo
Design Division (Roadway)

PEDESTRIAN FACILITIES

GENERAL NOTES AND DETECTABLE WARNINGS

PED-05

FILE: ped05.dgn	DN: EH	CK:	DW: BGD	CK:	
© TxDOT March 2002	DIST	FEDERAL AID PROJECT			SHEET
REVISIONS					10
	COUNTY		CONTROL	SECT	JOB	HIGHWAY



DRAINAGE AREA CALCULATIONS - PROPOSED

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
C22	0.67	0.90	0.60	10.0	5.2	3.2	5.9	3.5	6.5	3.9	7.4	4.5	8.2	4.9	8.9	5.4	FUTURE STORM DRAIN
C23	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	FUTURE INLETS & STORM DRAIN
C24-1	0.51	0.90	0.46	10.0	5.2	2.4	5.9	2.7	6.5	3.0	7.4	3.4	8.2	3.7	8.9	4.1	FUTURE STORM DRAIN
C24-2	0.30	0.90	0.27	10.0	5.2	1.4	5.9	1.6	6.5	1.8	7.4	2.0	8.2	2.2	8.9	2.4	FUTURE STORM DRAIN
C25	0.49	0.90	0.44	10.0	5.2	2.3	5.9	2.6	6.5	2.9	7.4	3.3	8.2	3.6	8.9	3.9	FUTURE STORM DRAIN
C26	0.72	0.95	0.68	10.0	5.2	3.6	5.9	4.0	6.5	4.4	7.4	5.1	8.2	5.6	8.9	6.1	CURB INLET
C27	0.52	0.90	0.47	10.0	5.2	2.4	5.9	2.8	6.5	3.0	7.4	3.5	8.2	3.8	8.9	4.2	FUTURE STORM DRAIN
	3.7					**17.8**		**20.0**		**22.1**		**25.3**		**27.7**		**30.2**	

STORM DRAIN CALCULATIONS - 100 YR

MH or INLET DESIGN POINT		DISTANCE Between	Peak Flow in Pipe	PIPE	FRICTIONAL SLOPE	HYDRAULIC GRADIENT ELEVATIONS		HEAD LOSS AT CHANGE IN SECTION: V1 Flow	V2 Flow	V2(^2)/2g	V1(^2)/2g	Kj Coeff of Loss	KjV1(^2)/2g	Hj Head Loss Upstream	Elev of Hyd Grade	Elev Difference TC/FG - HGL at Des Pt		REMARKS
UPSTRM STATION	DNSTRM STATION	Points	"Q"	SIZE	"Sf"	UPSTRM	DNSTRM	IN	OUT							TC/FG	TC/FG - HGL	
		(ft)	(cfs)	(in)	(ft / ft)	(ft MSL)	(ft MSL)	(fps)	(fps)	(ft)	(ft)	(const)	(ft)	(ft)	(ft MSL)		DIFF.	
LINE C1																		
384.80	384.80	0.00	5.4	18	0.0061	559.85	559.85	---	3.06	0.14	---	1.25	---	0.18	560.03	560.49	0.46	GRATE INLET
384.80	342.37	42.43	5.4	18	0.0026	559.85	559.74	0.00	3.06	0.14	0.00	0.75	0.14	0.00	559.85	565.20	5.35	45° WYE
342.37	290.09	52.28	9.6	24	0.0018	559.70	559.61	3.06	3.06	0.14	0.14	0.25	0.11	0.04	559.74	565.93	6.19	MANHOLE W / 90° BEND
290.09	229.47	60.62	19.9	27	0.0041	559.50	559.25	3.06	5.00	0.39	0.14	0.75	0.28	0.11	559.61	564.70	5.09	45° WYE
229.47	127.36	102.11	26.0	27	0.0070	559.15	558.43	5.00	6.54	0.66	0.39	0.25	0.57	0.10	559.25	564.58	5.33	MANHOLE W / 90° BEND
127.36	90.00	37.36	30.2	27	0.0095	556.38	556.02	6.54	7.60	0.90	0.66	0.00	0.90	0.00	556.38	562.75	6.37	TEMPORARY HEADWALL
90.00	0.00	90.00	30.2	27	0.0095	555.46	554.60	7.60	7.60	0.90	0.90	0.75	0.22	0.67	556.13	559.60	3.47	45° WYE

INLET CALCULATIONS

INLET NO.	INLET STATION	INLET TYPE	DRAINAGE CALCS 100 YR AREA NO.	DRAINAGE CALCS 100 YR PEAK FLOW (CFS)	CARRY OVER (CFS)	TOTAL FLOW (CFS)	ROADWAY SECTION CROSS SLOPE (FT/FT)	ROADWAY SECTION LONG. SLOPE (FT/FT)	ROADWAY SECTION MAX DEPTH (FT)	ROADWAY SECTION SPREAD OF FLOW (FT)	INLET LENGTH PROV. (FT)	INLET INLET FLOW (CFS)	INLET CARRY OVER (CFS)	COMMENTS
1	PONTE CIRCLE	CO-S	C26	6.10	0.00	6.10	0.0208	0.0208	0.34	16.7	10.0	6.10	0.00	

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.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

LEGEND

- A17 — DRAINAGE AREA DESIGNATION
- MAJOR DRAINAGE AREA DIVIDE
- MINOR DRAINAGE AREA DIVIDE
- DIRECTION OF FLOW
- 1 — 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
PONTE AVENUE CIRCLE

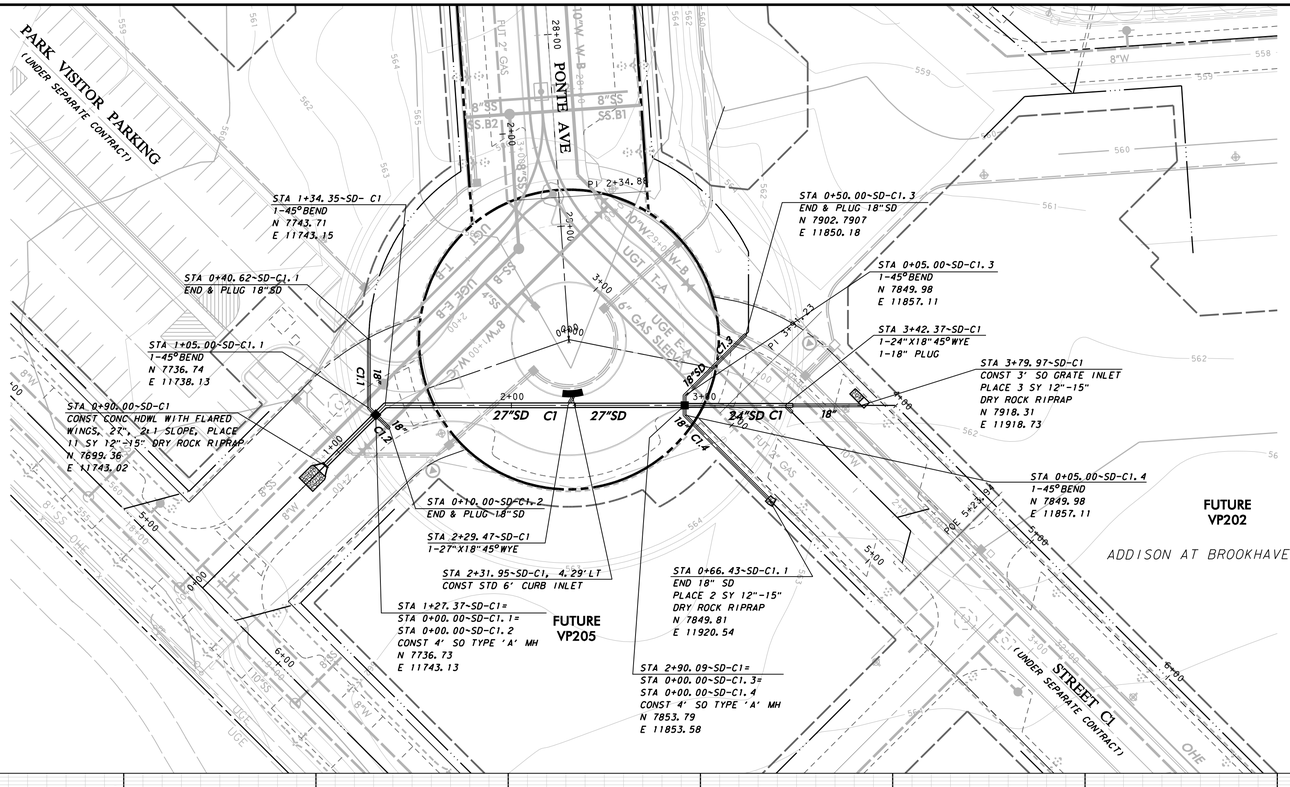
DRAINAGE AREA MAP & CALCULATIONS

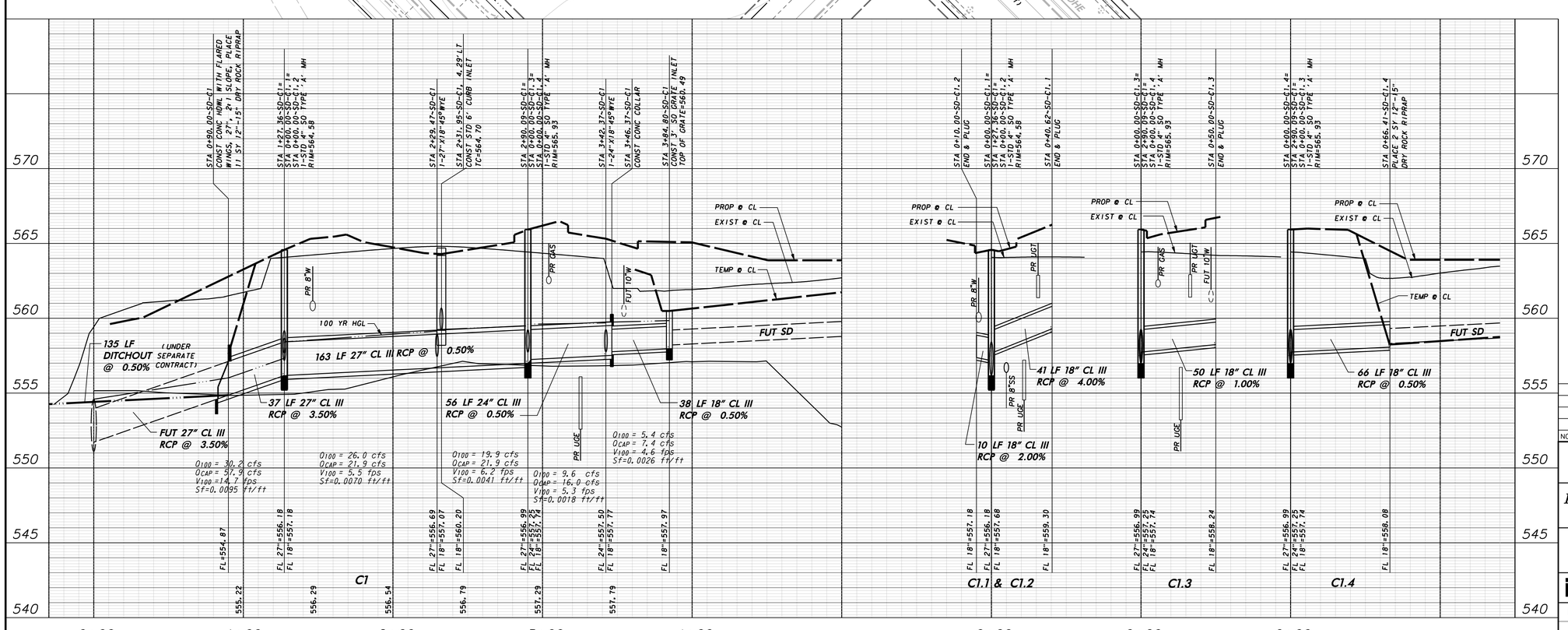
icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	11

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12





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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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

STORM DRAIN PLAN & PROFILE
LINE C1, C1.1, C1.2, C1.3, C1.4

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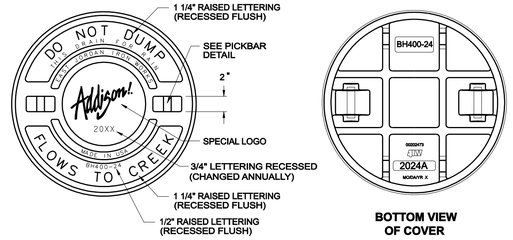
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

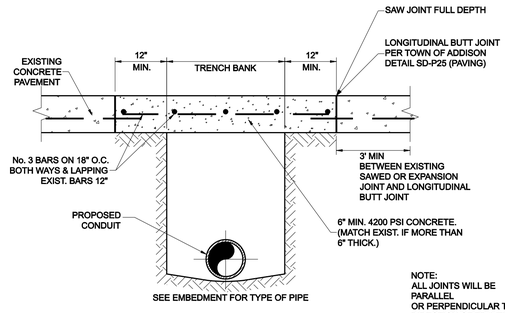
RECORD DRAWINGS 06/15/12



LOAD RATING	COATING	ESTIMATED WEIGHT	MATERIAL SPECIFICATION
HEAVY DUTY	DIPPED	COVER: 193 LBS FRAME: 151 LBS	COVER - GRAY IRON ASTM A48 CL35B FRAME - GRAY IRON ASTM A48 CL35B

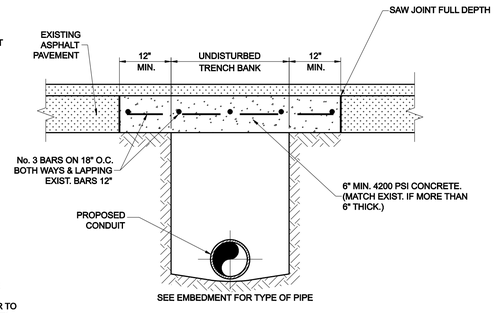
√ DESIGNATES MACHINE SURFACE

CAST IRON FRAME AND COVER

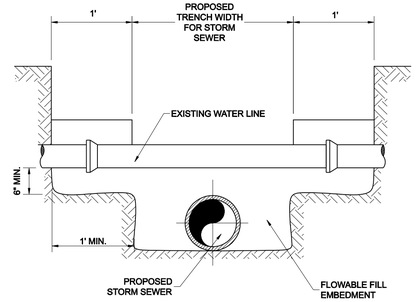


NOTE:
ALL JOINTS WILL BE PARALLEL OR PERPENDICULAR TO DIRECTION OF TRAVEL

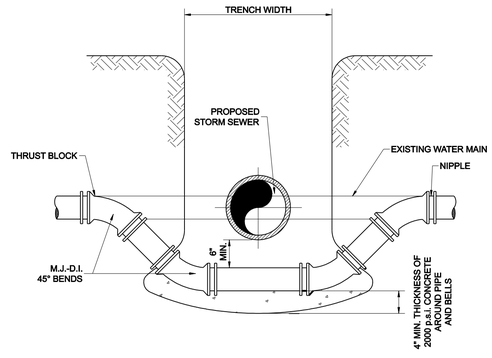
CONCRETE STREET OR DRIVEWAY REPAIR
N.T.S.



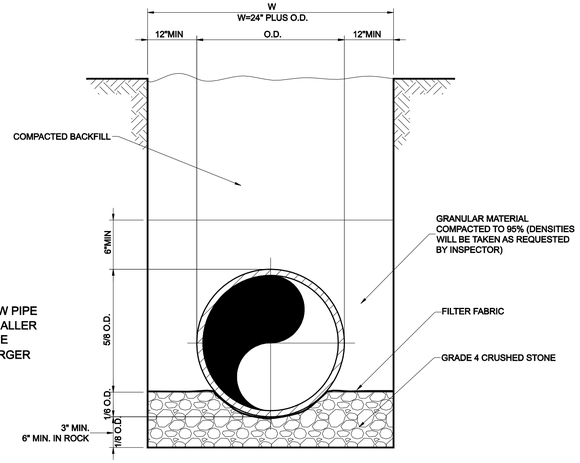
ASPHALT STREET OR DRIVEWAY REPAIR
N.T.S.



DETAIL OF UTILITY SUPPORT



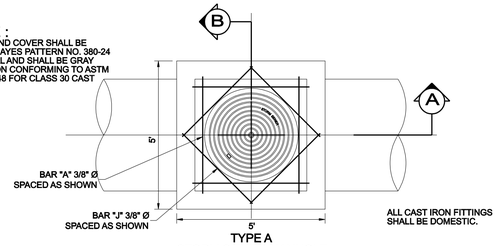
DETAIL FOR WATER MAIN LOWERING



NOTE :
DEPTH OF TRENCH BELOW PIPE
3" MIN. FOR 27" PIPE & SMALLER
4" MIN. FOR 30" TO 60" PIPE
6" MIN. FOR 66" PIPE & LARGER

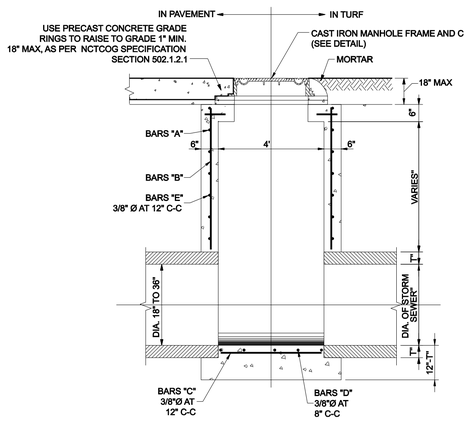
RCP STORM SEWER PIPE BEDDING

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.

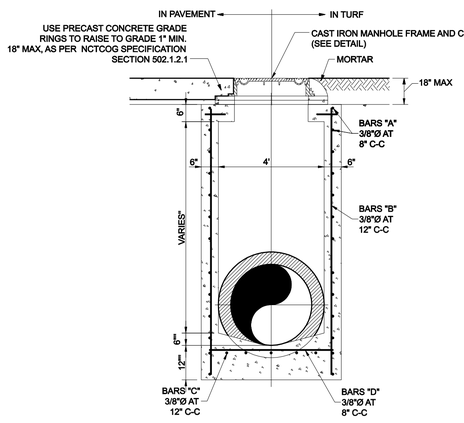


TYPE A
STORM SEWER MANHOLE
NOTE : MAXIMUM PIPE SIZE TO BE USED 36"Ø

PLAN
N.T.S.

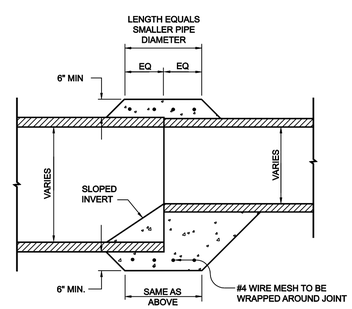


SECTION A
N.T.S.



SECTION B
N.T.S.

TYPE 'A' STORM DRAIN MANHOLE
N.T.S.



PIPE COLLAR DETAIL

NOTES
1. THIS PROCEDURE/DETAIL WILL ONLY BE USED WHEN 1 PREFAB REDUCTION IS NOT POSSIBLE.
2. CONCRETE FOR COLLAR WILL NOT BE PAID FOR DIRECTLY, BUT WILL BE CONSIDERED SUBSIDIARY TO THE VARIOUS OTHER BIDS.
3. CONCRETE SHALL BE 5 SACK 3000 PSI.

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.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

STORM DRAIN DETAILS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	13

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12

STORM DRAIN GENERAL NOTES

1. *REFER TO SHEET 3 "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 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.*
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 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 FOLOWING:*

TOWN OF ADDISON (WATER, SEWER, SIGNALS)	*ATMOS ENERGY (GAS)*
ONCOR ELECTRIC DELIVERY	*VERIZON / MCI*
AT&T (SOUTHWESTERN 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 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.*
8. *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.*
9. *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.*
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. *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 CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION, INCLUDING PROVIDING ALL TEMPORARY STRUCTURES OR IMPROVEMENTS AS NESCESSARY FOR THE SAFETY OF THE PUBLIC.*
13. *THE CONTRACTOR SHALL COVER ALL OPEN EXCAVATIONS WITH ANCHORED STEEL PLATING, DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.*
14. *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.*
15. *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.*

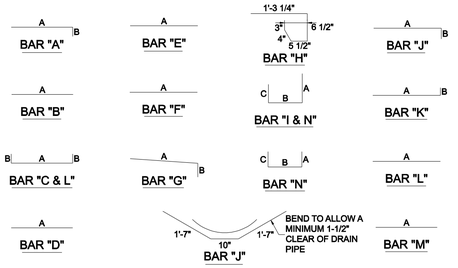
    BONDS SHALL BE FOR A PERIOD OF TWO YEARS BEGINNING WITH THE DATE OF FINAL ACCEPTANCE BY THE TOWN.
16. *THE CONTRACTOR SHALL VERIFY THE SIZE, TYPE, ELEVATION, CONFIGURATION, AND ANGULATION OF EXISTING STORM DRAIN LINES PRIOR TO CONSTRUCTION OF TIE-IN MATERIALS. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.*
17. *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.*
18. *ROUGH GRADING SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF STORM DRAIN FACILITIES.*
19. *ALL STORM DRAIN STRUCTURES INCLUDING MANHOLES, INLETS AND CLEANOUTS MUST BE ADJUSTED TO FINAL FINISHED GRADE BY THE CONTRACTOR.*
20. *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.*
21. *ALL STORM SEWER SYSTEMS WITH RADII LESS THAN 100' SHALL UTILIZE 4' LONG PIPE JOINTS WITH BEVELED ENDS (6-2 RADIUS PIPE). ALL JOINTS MUST BE TIGHT AND SHALL NOT GAP MORE THAN ¼ THE TOUNGE LENGTH.*
22. *ALL PIPE ENTERING PUBLIC STORM DRAIN STRUCTURES SHALL BE GROUTED TO ASSURE WATERTIGHT CONNECTIONS.*
23. *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.*
24. *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.*
25. *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.*
26. *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.*
27. *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.*
28. *THE CONTRACTOR SHALL CALL (972) 450-2847 TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE PUBLIC INFRASTRUCTURE WORK.*
29. *ANY ADJACENT PROPERTIES AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.*

REINFORCING STEEL SCHEDULE

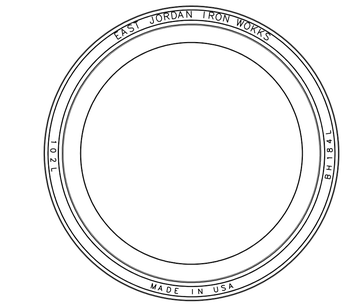
DIMENSIONS ARE FOR MAXIMUM SIZE INLETS

INLET LENGTH	BAR TYPE	BAR DIA (1/8")	NO. REQ'D.	BAR DIMENSIONS A	B	C	INLET LENGTH	BAR TYPE	BAR DIA (1/8")	NO. REQ'D.	BAR DIMENSIONS 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"

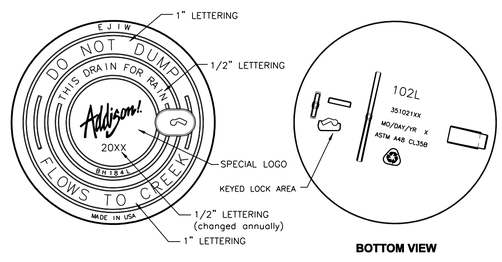
* SEE DIAGRAM FOR DIMENSION
** FIELD CUT AS REQUIRED TO ACCOMMODATE DRAIN PIPE



BAR DIAGRAMS



RING SECTION



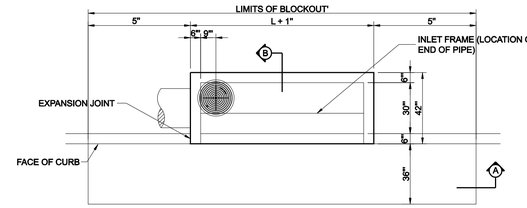
BOTTOM VIEW

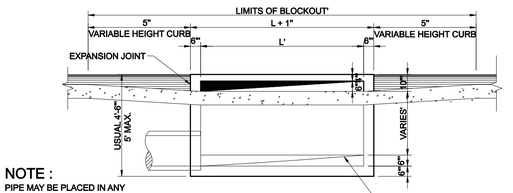
COVER SECTION

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

√ DESIGNATES MACHINE SURFACE

INLET FRAME AND COVER





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 CURB INLET
6, 8 AND 10 FOOT
N.T.S.

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
PONTE AVENUE CIRCLE

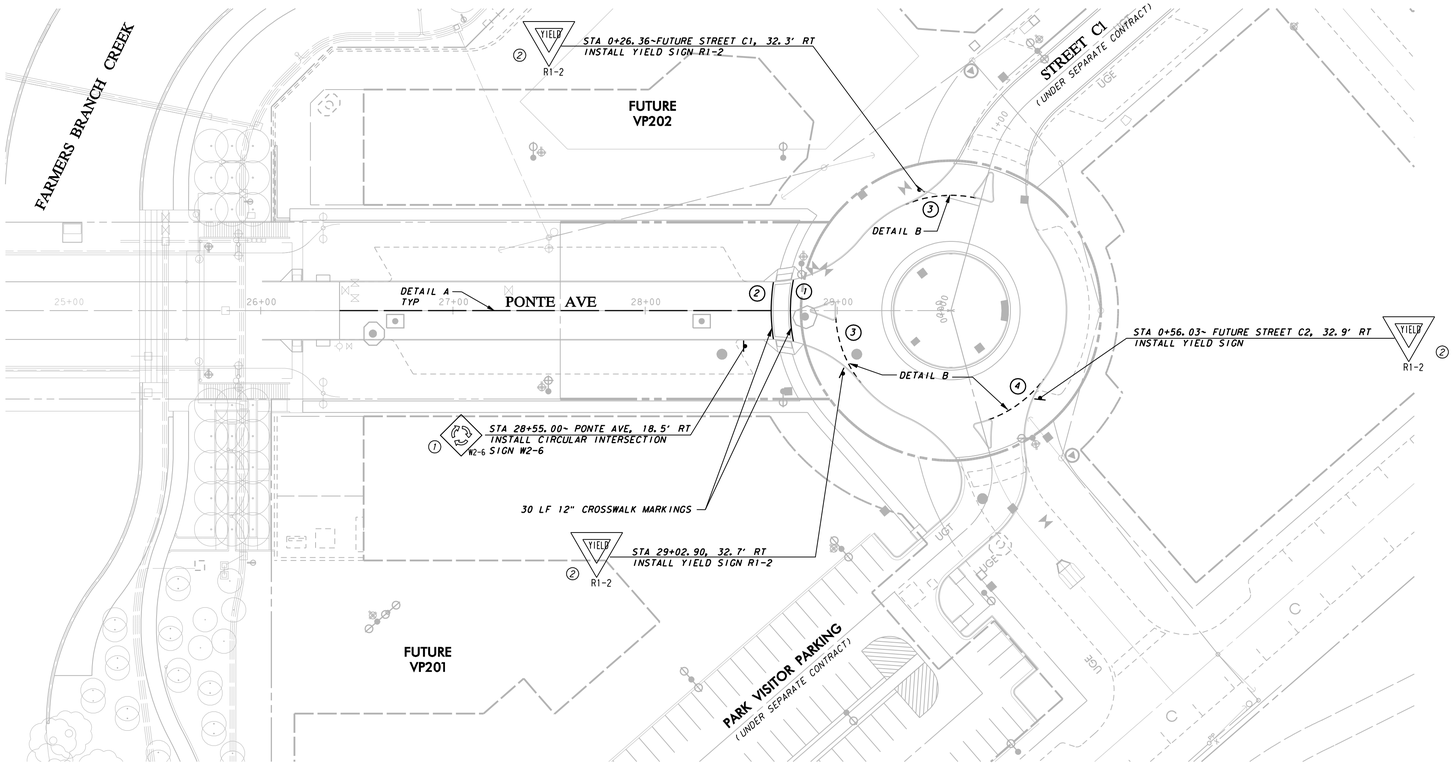
STORM DRAIN DETAILS & GENERAL NOTES

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	14

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



CURVE DATA			
NO	RADIUS	DELTA	LENGTH
1	77.5'	22°24'45"	30.32'
2	87.5'	19°44'30"	30.15'
3	60.0'	35°28'32"	37.15'
4	60.0'	34°36'22"	36.24'

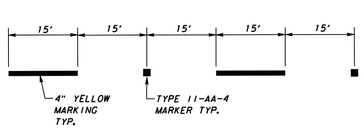
NORTH

0 20 40 60 80
GRAPHIC SCALE IN FEET
SCALE: 1"=40'

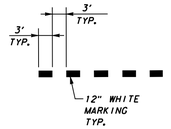
PAVEMENT MARKING & SIGNAGE NOTES:

1. SIGN LOCATIONS SHOWN ON PLANS ARE DIAGRAMMATIC. SIGNS WILL BE PLACED IN CONFORMANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST ADDITION.
2. REFLECTIVE SHEETING WILL BE DESIGNATED AS:
   TYPE A=ENGINEER GRADE
   TYPE B=SUPER ENGINEER GRADE
   TYPE C=HIGH INTENSITY PRISMATIC
3. DO NOT REMOVE EXISTING PAVEMENT MARKINGS OR SIGNAGE PRIOR TO NEW ROADWAY OPENING TO TRAFFIC.
4. ALL PAVEMENT MARKINGS TO BE ALKYD THERMOPLASTIC WITH 0.090 INCHES THICKNESS.
5. SIGN POSTS AND MOUNTING PER TOWN OF ADDISON AND VITRUVIAN DEVELOPMENT REQUIREMENTS.

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	W2-6	CIRCULAR INSECTION	30X30	C		X	A	1
2	R1-2	YIELD	30x30x30	C		X	A	3



DETAIL A
TYPICAL CENTERLINE MARKINGS
NOT TO SCALE



DETAIL B
TYPICAL YIELD MARKINGS
NOT TO SCALE

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.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

PAVEMENT MARKING AND SIGNAGE PLAN

icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
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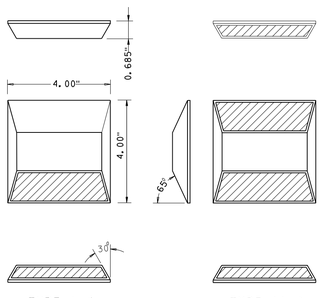
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	15

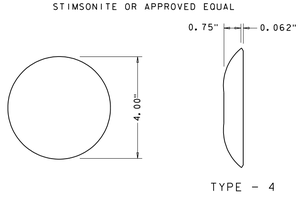
PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



REFLECTIVE

STIMSONITE OR APPROVED EQUAL



NON-REFLECTIVE

AMERICAN CLAY CERAMIC OR APPROVED EQUAL

BUTTON DESIGN

EPOXY ADHESIVE TO BE USED

TYPE III & III-M

(HAND MIX) PAVEMENT TEMP., °F	(MACHINE MIX) 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 TRAFIC 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

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:

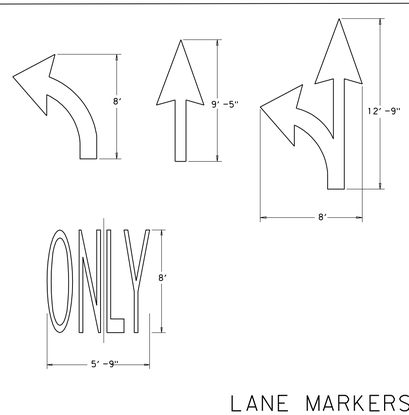
TYPE Y-4 TYPE I-C-4 TYPE II-AA-4
TYPE W-4 TYPE II-CR-4

STOP BARS, CROSSWALKS, AND PAVEMENT MESSAGES

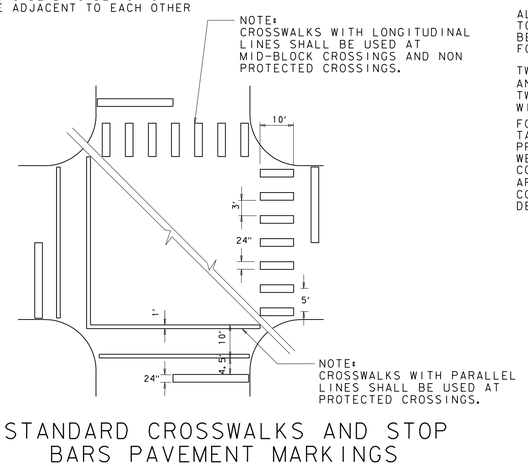
ALL STOP BARS, CROSSWALKS, & PAVEMENT MESSAGES SHALL MEET TOWN OF ADDISON SPECIFICATIONS. BEFORE INSTALLATION, CONTACT TOWN OF ADDISON FOR SPECIFICATIONS.

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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

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Addison TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

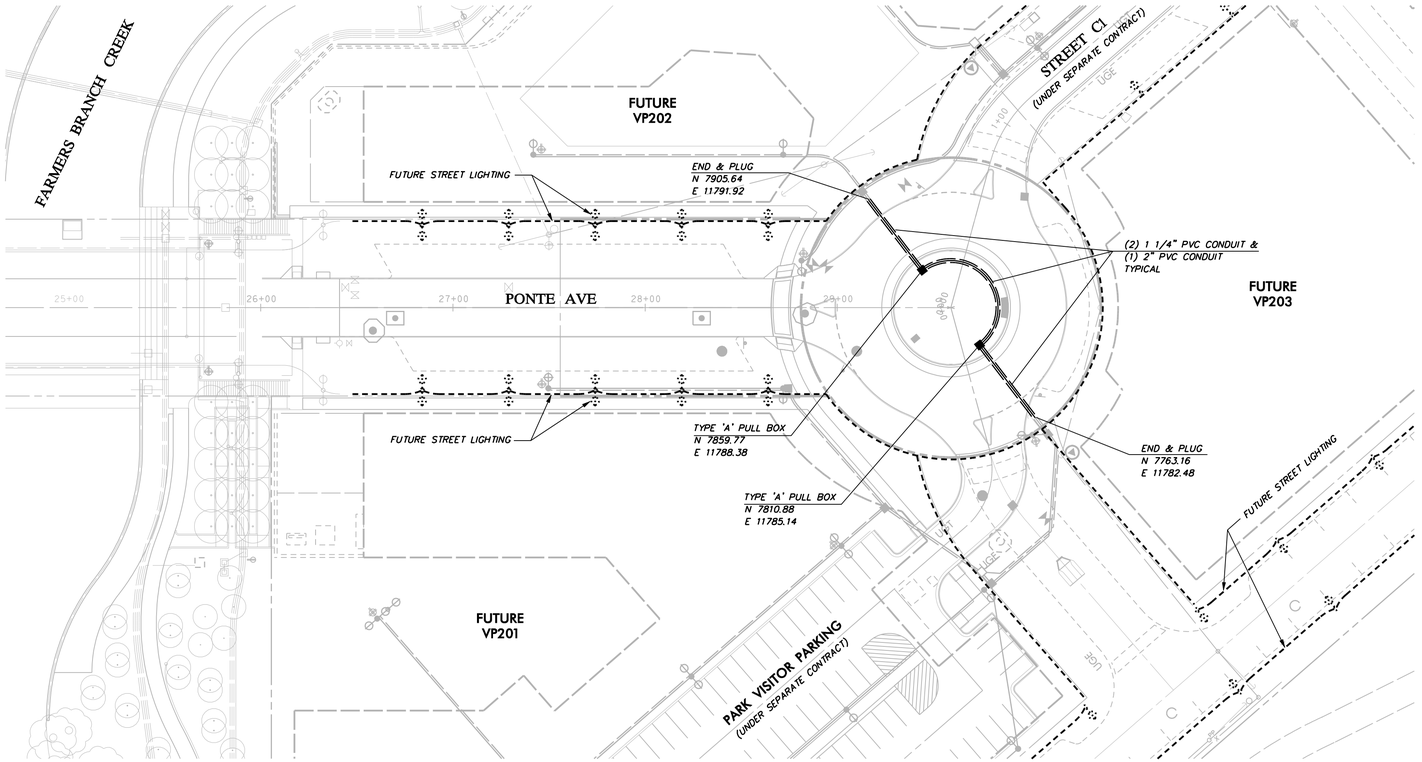
PAVEMENT MARKING & SIGNAGE DETAILS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	16

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



LEGEND

- PULL BOX (GROUND BOX)
- PVC CONDUIT (LIGHTING)
- PVC CONDUIT (POWER)
- TRANSFORMER ON POLE *
- STREET LIGHT – 100W
- STREET LIGHT – FUTURE 100W

* PROVIDED BY POWER COMPANY

NORTH

0 20 40 60 80
GRAPHIC SCALE IN FEET
SCALE: 1"=40'

STREET LIGHTING & CONDUIT NOTES

1. REFER TO SHEET 3 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THE PROJECT.
2. REFER TO SHEET ED(1)-03 FOR ELECTRIC DETAILS – CONDUIT. RIGID METAL CONDUIT ELBOWS ARE NOT REQUIRED.
3. REFER TO SHEET ED(3)-03 FOR ELECTRIC DETAILS – GROUND BOXES. RIGID METAL CONDUIT ELBOWS ARE NOT REQUIRED. CONCRETE APRON IS NOT REQUIRED.
4. WATER, SANITARY SEWER, AND STORM DRAIN LINES ARE SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL LOCATE ALL UTILITY LINES IN THE AREA PRIOR TO DIGGING.
5. INSTALL SCHEDULE 40 PVC UNDERGROUND (24" MIN COVER) . ALL STREET AND DRIVEWAY CROSSINGS (36" MIN COVER). ALL BENDS TO BE LONG RADIUS.
6. UNLESS OTHERWISE INDICATED ALL WORK SHALL CONFORM TO THE 2008 NATIONAL ELECTRICAL CODE (NFPA 70) AND THE 2007 NATIONAL ELECTRICAL SAFETY CODE (ANSI C2).
7. ALL EMPTY CONDUIT INSTALLED FOR FUTURE EXTENSION SHALL BE TURNED UP AND EXTENDED UP TO FINISHED GRADE. CAP ENDS OF ALL CONDUITS. ALL EMPTY CONDUIT SHALL CONTAIN A PULL LINE – 200 LB TEST NYLON.
8. 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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TOWN OF ADDISON
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PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

STREET LIGHT & CONDUIT PLAN

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PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12

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.
Catagory 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 shauld 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

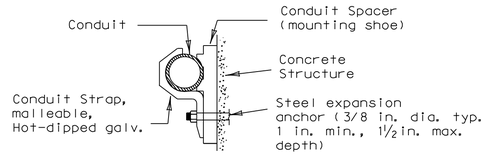
1. Conduit and fittings shall be UL Listed for the intended use shown on plan sheets.
2. Conduit shall be the type shown by descriptive code or shown elsewhere on the plans. Substitution of the various types of conduits will not be permitted. All flexible conduit in rigid metallic conduit (RMC) systems shall be Liquidtight Flexible Metal (LFMC) conduit. All flexible conduit in PVC systems shall be Liquidtight Flexible Non-metallic conduit (LFNC).
3. All exposed conduits shall be RMC, unless otherwise specifically shown on the plans. All metal conduit shall be properly grounded.
4. 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.
5. Expansion joints for metal conduit shall be provided with an internal or external bonding jumper and shall be UL listed.
6. 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"

7. 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.
8. 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).
9. 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.
10. Junction boxes in PVC conduit systems shall be PVC, intended for outdoor use, unless otherwise noted on the plans.
11. 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.
12. 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.
13. 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.

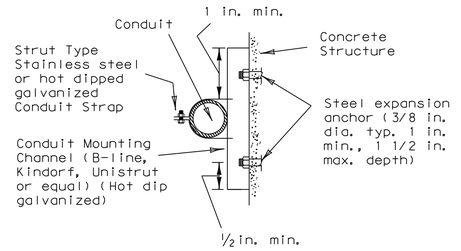
B. CONSTRUCTION METHODS

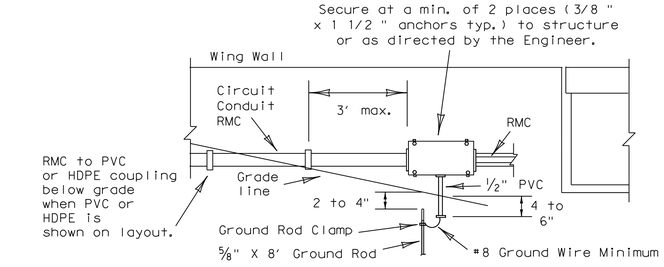
1. Conduit in structures shall have expansion fittings at structure expansion joints. All straight runs of RMC conduit exposed on structures such as bridges shall have expansion joints installed at maximum intervals of 150 feet. Expansion joints shall be installed so they allow for movement of the conduit. 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.
2. 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).
3. Conduit supports shall not be attached directly to prestressed concrete beams except as shown specifically in the plans and approved by the Engineer.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. Metal junction boxes shall be bonded to the grounding conductor in accordance with the NEC.
10. 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).
11. 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.
12. 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.
13. All PVC conduit terminations shall be fitted with bushings or bell ends. All metal conduit terminations shall be fitted with a grounding type bushing.



CONDUIT MOUNTING OPTIONS

(Attachment to concrete surfaces)
(See para. II.B.2)

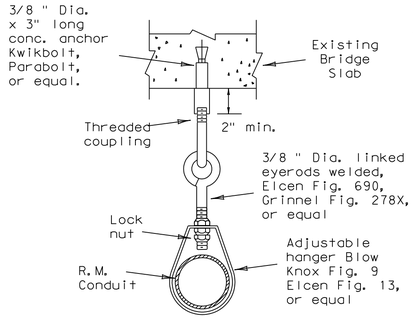




TYPICAL CONDUIT ENTRY TO BRIDGE STRUCTURE DETAIL

NOTES

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



CONDUIT HANGER DETAIL

(Attachment to horizontal surfaces)
Hangers need not be UL listed for electrical use
ie: plumber pipe hangers are acceptable

5/03 Revision

1 Revised notes.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS-CONDUIT

ED(1)-03

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DN: KB	CK: JW	DW: DN	CK: GC	NEG NO.:

REVISIONS	STATE DISTRICT	FEDERAL REGION	FEDERAL AID PROJECT	SHEET
4-98		6		18
12-00	COUNTY		CONTROL / SECTION / JOB	HIGHWAY
3-03				
5-03				

II. GROUND RODS

A. MATERIALS

1. 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.
2. 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

1. 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.
2. Ground rods shall be installed such that the end imprinted with the rod's part number is installed as being the upper end.
3. Non-conductive coatings such as concrete splatter shall be removed from the rod at the clamp location.
4. 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.
5. 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.
6. 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.

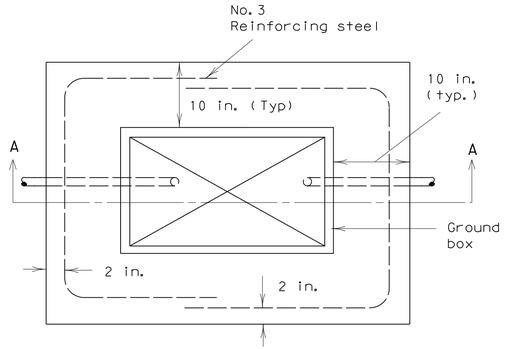
III. GROUND BOX

A. MATERIALS

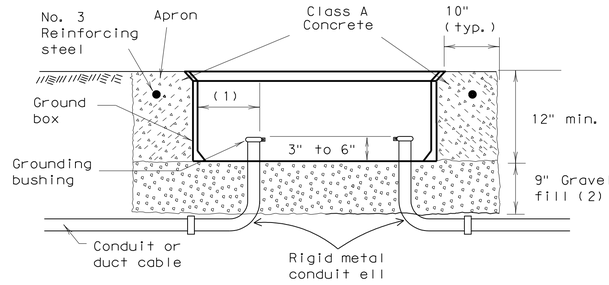
1. Ground boxes 16x30x24 inches (WxLxD) or smaller shall be polymer concrete of the type required by the descriptive code shown elsewhere. Larger ground boxes shall be as shown elsewhere in the plans.
2. All ground boxes and covers shall be permanently marked either by impress or by permanent ink, with manufacturer's model number and manufacturer's name or logo.
3. Covers shall be bolted down, and bolt holes in the box shall be arranged to drain dirt.
4. Ground box Types A, B, C, D & E shall meet the following requirements:
   a. 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 fiberglass reinforced plastic is not acceptable.
   b. 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)
   c. Bottom edge of box or extension shall be footed with a minimum 1 1/4 inch flange.
   d. 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.
   e. 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

1. 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.
2. 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.
3. Conduit holes may be cut in the walls of type B & D boxes at least 18 inches beneath the cover.
4. 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.
5. 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.
6. Termination to metal ground box covers shall be made using a tank ground type lug.



PLAN VIEW

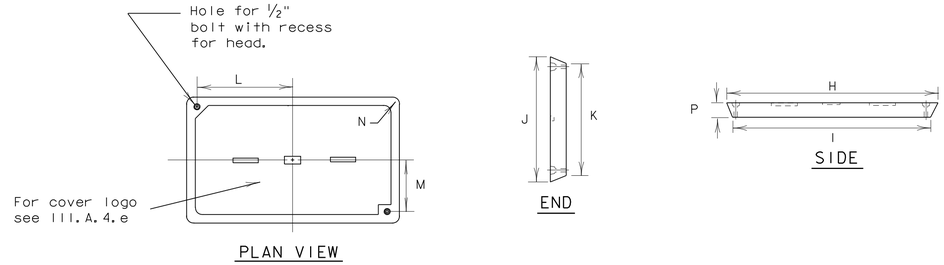


SECTION A - A

APRON FOR GROUND BOXES

(Where required)

(1) Final position of end of conduit shall not exceed one-half the distance to the side of box opposite the conduit entry.
(2) Place gravel "under" the box. not "in" the box. Gravel should not encroach on the interior volume of the box.
(3) Install bushing on the upper end of all ells.
(4) Where a ground rod is present in the ground box, connect it to any and all equipment grounding conductors using a listed connector.
(5) Maintain sufficient space between all conduits so as to allow for proper installation of bushings.
(6) All conduits shall be installed in a neat and workmanlike manner.
(7) 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.



PLAN VIEW

END

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

5/03 Revision

1 Revised notes.

STANDARD PLANS
TEXAS DEPARTMENT OF TRANSPORTATION
Traffic Operations Division

ELECTRICAL DETAILS- GROUND BOXES

ED(3)-03

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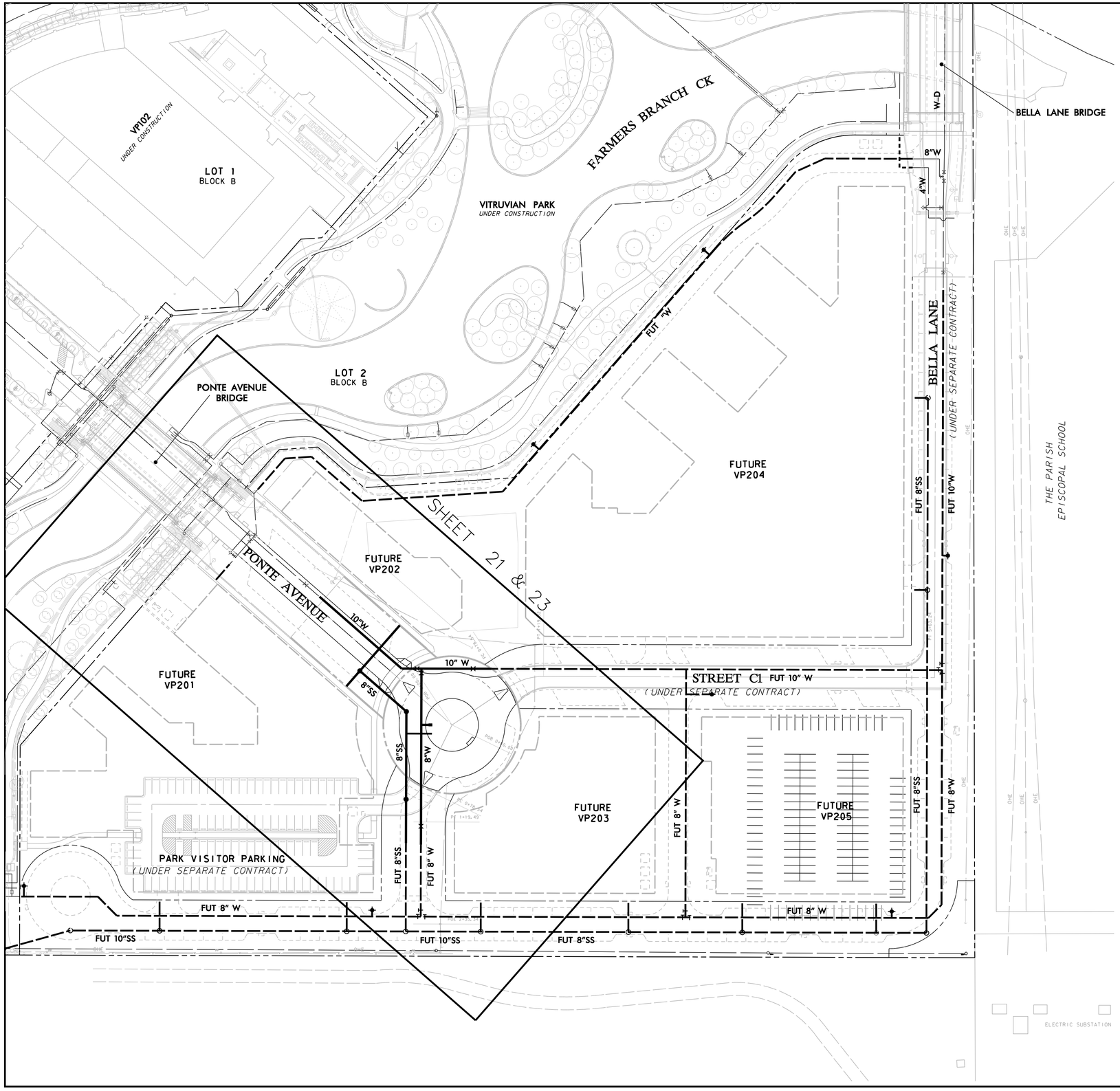
DN: KB	CK: JW	DW: DN	CK: GC	MEG NO.:

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



GENERAL WATER & SEWER NOTES:

1. *REFER TO SHEET 3 "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 FOLOWING:*

TOWN OF ADDISON (WATER, SEWER, SIGNALS)	*ATMOS ENERGY (GAS)*
ONCOR ELECTRIC DELIVERY	*VERIZON / MCI*
AT&T (SOUTHWESTERN 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 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 OF TRAFFIC IN EACH DIRECTION DURING WORKING HOURS OR PROVIDE AN ALL-WEATHER DETOUR AROUND THE CONSTRUCTION SITE, INCLUDING PUBLIC NOTIFICATION AND SIGNING.*
12. *TEMPORARY OR PERMANENT BARRICADES SHALL REMAIN AT ALL POINTS OF INGRESS OR EGRESS TO PREVENT PUBLIC USE UNTIL THE WORK RECEIVES FINAL ACCEPTANCE.*
13. *THE CONTRACTOR SHALL COVER ALL OPEN EXCAVATIONS WITH ANCHORED STEEL PLATING, DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.*
14. *THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE AT ALL TIMES DURING CONSTRUCTION, INCLUDING PROVIDING ALL TEMPORARY STRUCTURES OR IMPROVEMENTS AS NESCESSARY FOR THE SAFETY OF THE PUBLIC.*
15. *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.*
16. *ROUGH GRADING SHALL BE COMPLETED PRIOR TO CONSTRUCTION OF WATER AND SANITARY SEWER FACILITIES.*
17. *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.*
18. *THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES IN SUCH A MANNER AS TO AVOID CONFLICTS AND TO ASSURE PROPER DEPTHS ARE ACHIEVED. IN THE EVENT OF A CONFLICT BETWEEN WATER LINES AND STORM DRAIN OR SANITARY SEWER PIPING, THE CONTRACTOR SHALL ADJUST THE WATER LINE DOWNWARDS IN SUCH A MANNER SO THAT THE PIPE MANUFACTURER'S RECOMMENDATIONS ON THE PIPE DEFLECTION AND JOINT STRESS ARE NOT EXCEEDED.*
19. *THE CONTRACTOR SHALL VERIFY THE SIZE, TYPE, ELEVATION, CONFIGURATION, AND ANGULATION OF EXISTING WATER, SANITARY SEWER AND UTILITY LINES PRIOR TO CONSTRUCTION OF TIE-IN MATERIALS. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.*
20. *ALL WATER MAIN MATERIALS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWN OF ADDISON'S WATER SYSTEM REQUIREMENTS.*
21. *ALL WATER MAINS TWELVE-INCH (12") DIAMETER AND SMALLER SHALL BE ANSI/AWWA C-900 PVC PRESSURE PIPE WITH CAST IRON O.D. OR WHEN PIPE PENETRATES METER VAULT WALLS IT SHALL BE DUCTILE IRON. PIPE JOINTS SHALL BE RUBBER RING AND INTEGRAL THICKENED BELL ASSEMBLED WITH A FACTORY SUPPLIED LUBRICANT. WATER MAINS SHALL HAVE A MINIMUM CLASS RATING OF 150-PSI FOR DOMESTIC USE AND A MINIMUM CLASS RATING OF 200-PSI FOR FIRE LINE APPLICATIONS. JOINT MATERIAL FOR PVC SHALL CONFORM TO ASTM F477.*
22. *EMBEDMENT FOR WATER AND SEWER MAINS SHALL COMPLY WITH NCTCOG CLASS "B+" EMBEDMENT OF CRUSHED STONE TO THE SPRING LINE OF THE PIPE, WITH SAND (12" MIN.) OVER THE PIPE. A LAYER OF GEO-TEXTILE FABRIC SHALL BE PLACED ON TOP OF THE STONE PRIOR TO THE PLACEMENT OF THE SAND.*
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). 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 MANUFACTURE'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 HYROSTATICALLY TESTED AT 150 PSI FOR FOUR (4) HOURS. FIRE LINES SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR (2) HOURS. ALL BLEEDER CORPORATION STOP AND INSTALLING A BRASS PLUG. HEAVILY CHLORINATED WATER (3.5 MG/L 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.*

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

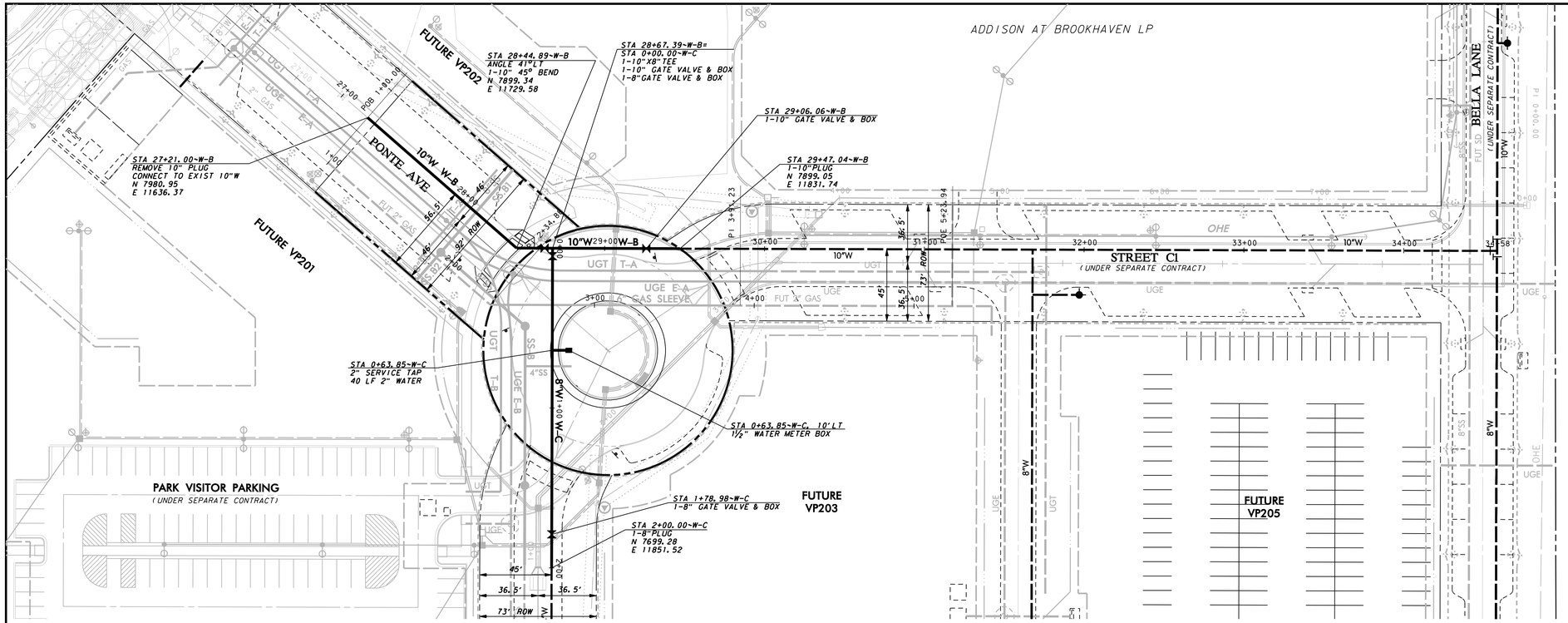
OVERALL WATER & SANITARY SEWER LAYOUT & NOTES

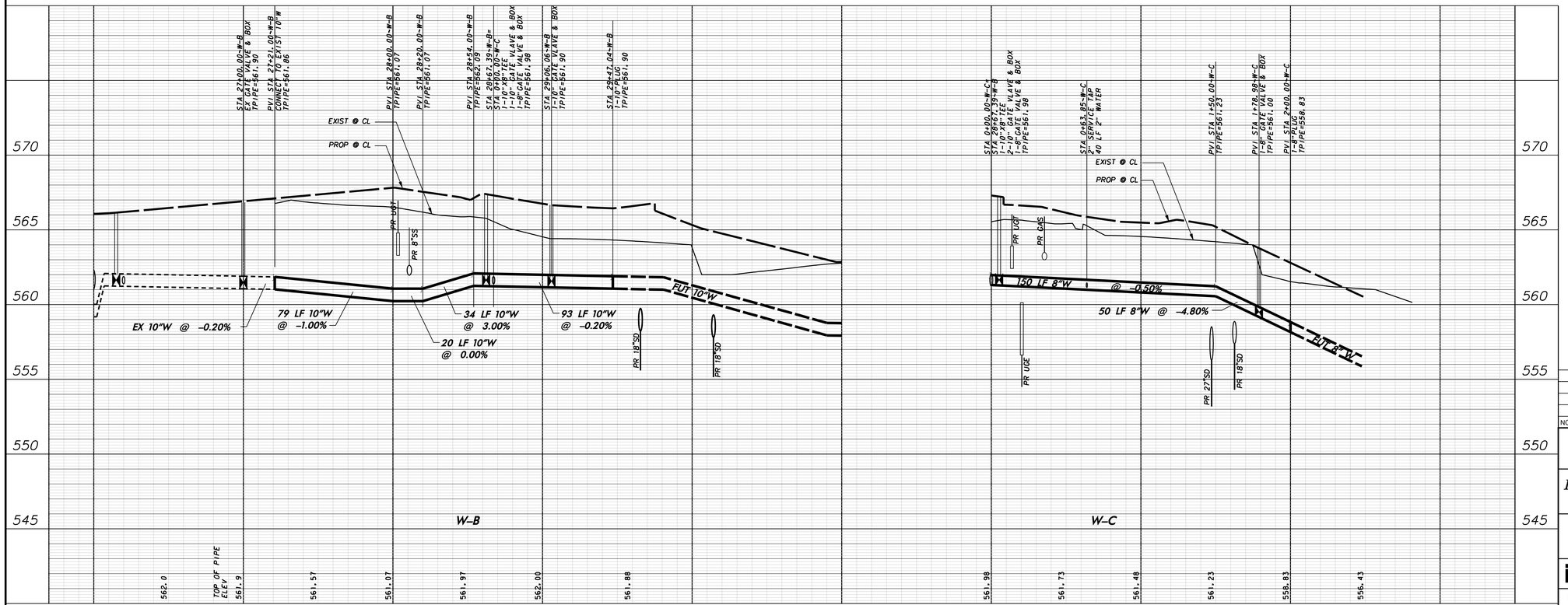
icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	20

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE





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.

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

BRUCE F. DUNNE 62654 LICENSED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

WATER LINE PLAN & PROFILE LINES W-B & W-C

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	21

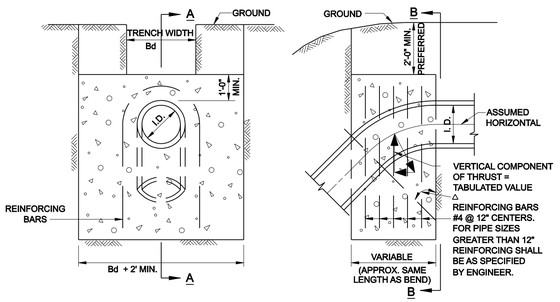
RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

	Δ= 30°								Δ= 45°							
			EARTH			ROCK					EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	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	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

	Δ= 67.50°								Δ= 90°							
			EARTH			ROCK					EARTH			ROCK		
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	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	8.2	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	138.9	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



ELEVATION "B-B"

SECTION "A-A"

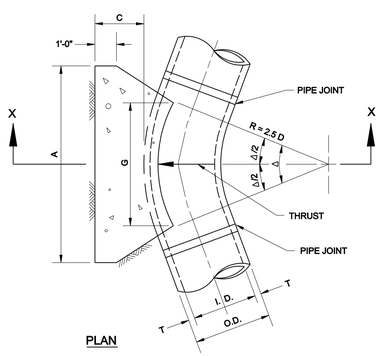
Δ	11.25°		22.50°		30°		45°		67.50°		90°		Δ
I.D. (IN.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	THRUST (TONS)	VOL. (C.Y.)	I.D. (IN.)
4,6,8	1.0	0.5	2.0	1.0	2.5	1.3	3.6	1.8	4.6	2.3	5.0	2.5	4,6,8
10,12	2.2	1.1	4.3	2.2	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	66
72	59.6	29.8	117.0	58.4	153.0	76.3	216.0	108.0	282.0	141.0	305.0	153.0	72
78	69.9	35.0	137.0	68.6	179.0	90.0	254.0	127.0	331.0	166.0	358.0	179.0	78
84	81.1	40.5	159.0	79.5	208.0	104.0	294.0	147.0	384.0	192.0	416.0	208.0	84
90	93.1	46.5	183.0	91.3	239.0	119.0	337.0	169.0	441.0	221.0	477.0	239.0	90
96	106.0	53.0	208.0	104.0	272.0	136.0	384.0	192.0	502.0	251.0	543.0	272.0	96

VERTICAL THRUST BLOCK

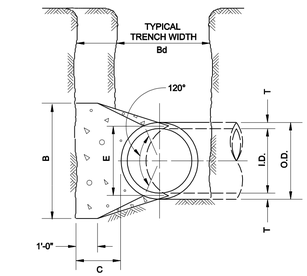
I.D. (IN.)	T (IN.)	Δ = 11.25° (FT.)	Δ = 22.50° (FT.)	E (FT.)
4,6,8	0.4	1.5	1.5	0.9
10,12	0.5	1.5	1.5	1.2
16,18	0.6	1.5	1.5	1.6
20	0.7	1.5	1.5	1.8
24	0.9	1.5	1.5	2.1
30	2.9	1.5	1.9	2.6
36	4.5	1.5	2.3	3.3
42	5.0	1.8	2.6	3.8
48	5.5	2.0	3.0	4.3
54	6.0	2.3	3.4	4.8
60	6.5	2.5	3.8	5.3
66	6.8	2.8	4.1	5.7
72	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

	Δ= 11.25°						Δ= 22.50°					
		EARTH			ROCK			EARTH			ROCK	
I.D. (IN.)	G (FT.)	THRUST (TONS)	A (FT.)	B (FT.)	VOL. (C.Y.)	A (FT.)	B (FT.)	VOL. (C.Y.)	I.D. (IN.)	G (FT.)	THRUST (TONS)	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	4.5	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

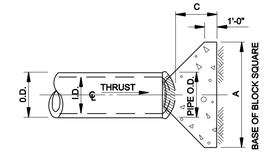


PLAN

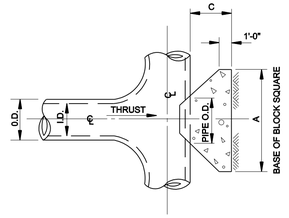


SECTION X-X

HORIZONTAL THRUST BLOCK



PLAN OF PLUG THRUST BLOCK



PLAN OF TEE THRUST BLOCK

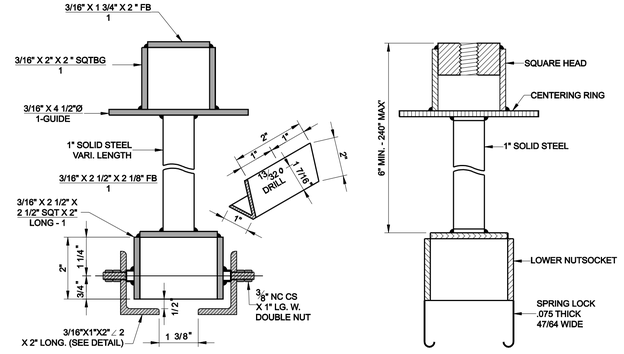
I.D. (IN.)	THRUST (TONS)	C (FT.)	EARTH A (FT.)	EARTH VOL. (C.Y.)	ROCK A (FT.)	ROCK VOL. (C.Y.)
4,6,8	5.1	1.5	2.5	0.3	2.0	0.2
10,12	11.3	1.5	3.5	0.6	2.5	0.3
16,18	25.5	2.0	5.5	1.6	4.0	0.9
20	31.5	2.0	6.0	1.9	4.0	0.9
24	45.2	2.5	7.0	3.1	5.0	1.7
30	53.0	3.0	7.5	4.1	5.5	2.4
36	76.3	4.0	9.0	7.3	6.5	4.2
42	104.0	4.5	10.5	11.0	7.5	6.2
48	136.0	5.0	12.0	15.6	8.5	8.7
54	172.0	5.5	13.5	21.4	9.5	11.9
60	212.0	6.0	15.0	28.4	10.5	15.7
66	257.0	6.5	16.5	36.8	11.5	20.5
72	305.0	7.5	17.5	47.2	12.5	27.2
78	358.0	8.0	19.0	58.9	13.5	33.7
84	416.0	8.5	20.5	72.3	14.5	41.2
90	477.0	9.0	22.0	87.7	15.5	49.7
96	543.0	9.5	23.5	104.8	16.5	61.0

TABLES OF DIMENSIONS AND QUANTITIES

GENERAL NOTES FOR ALL THRUST BLOCKS:

1. CONCRETE FOR BLOCKING SHALL BE CLASS "B".
2. ALL CALCULATIONS ARE BASED ON INTERNAL PRESSURE OF 200 PSI FOR DUCTILE IRON, P.V.C., AND 150 PSI FOR CONCRETE PIPE.
3. VOLUMES OF THRUST BLOCKS ARE NET VOLUMES OF CONCRETE TO BE FURNISHED. THE CORRESPONDING WEIGHT OF THE CONCRETE (CLASS "B") IS EQUAL TO OR GREATER THAN THE VERTICAL COMPONENT OF THE THRUST ON THE VERTICAL BEND.
4. WALL THICKNESS (T) ASSUMED HERE FOR ESTIMATING PURPOSES ONLY.
5. POUR CONCRETE FOR BLOCK AGAINST UNDISTURBED EARTH.
6. DIMENSIONS MAY BE VARIED AS REQUIRED BY FIELD CONDITIONS WHERE AND AS DIRECTED BY THE ENGINEER. THE VOLUME OF CONCRETE BLOCKING SHALL NOT BE LESS THAN SHOWN HERE.
   2000 LBS./S.F. IN ROCK.
7. THE SOIL BEARING PRESSURES ARE BASED ON 1000 LBS./S.F. IN SOIL AND
8. ALL ANCHOR FITTINGS TO BE CONCRETE THRUST BLOCKED. ALL DUCTILE OR CAST IRON FITTINGS AND / OR PIPE TO BE POLY WRAPPED PRIOR TO POURING THE THRUST BLOCK.
9. CONCRETE SHALL NOT EXTEND BEYOND JOINTS.

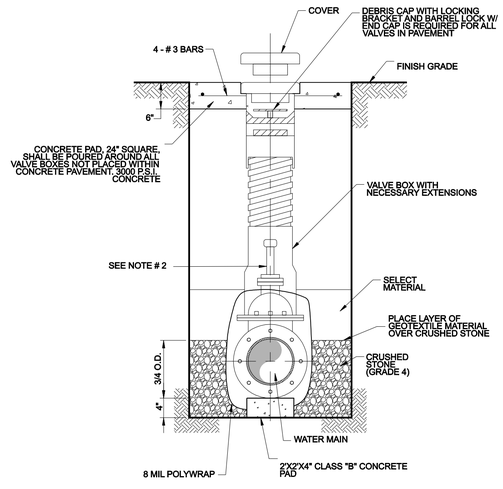
HORIZONTAL THRUST BLOCK



NOTE: TO BE USED ON ALL VALVES DEEPER THAN 5'-0".

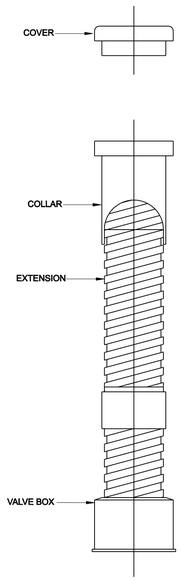
TYPE - B
VALVE EXTENSION

SPRING LOCK
VALVE EXTENSION



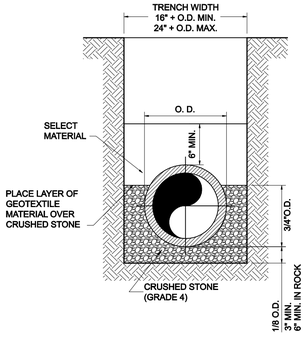
TYPICAL VALVE SETTING & BOX

NOTE:
1. 4"-12" R.S. GATE VALVES SHALL BE IN ACCORDANCE WITH TOWN OF ADDISON WATER SYSTEM REQUIREMENTS.
2. A PERMANENTLY ATTACHED VALVE EXTENSION STEM SHALL BE REQUIRED FOR ANY VALVE WHERE THE OPERATING NUT IS LOCATED IN EXCESS OF 5 FEET BELOW THE TOP OF VALVE BOX. THIS EXTENSION SHALL BE OF SUFFICIENT LENGTH TO INSURE THAT ITS TOP IS WITHIN 5 FEET OF VALVE BOX LID.
3. BLUE "V" (3") CUT INTO FACE OF NEAREST CURB AND POINTING TOWARD THE VALVE.
4. ALL IRON MATERIALS SHALL BE DOMESTIC. (MADE IN USA)
5. CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE.



VALVE BOX WITH EXTENSION

ALL CAST IRON FITTINGS SHALL BE DOMESTIC.



CRUSHED STONE SHALL BE 3/4", PASSING # 4 SIEVE

CLASS "B+" EMBEDMENT

TYPICAL BACKFILL WATER MAIN
P.V.C. WATER PIPE

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

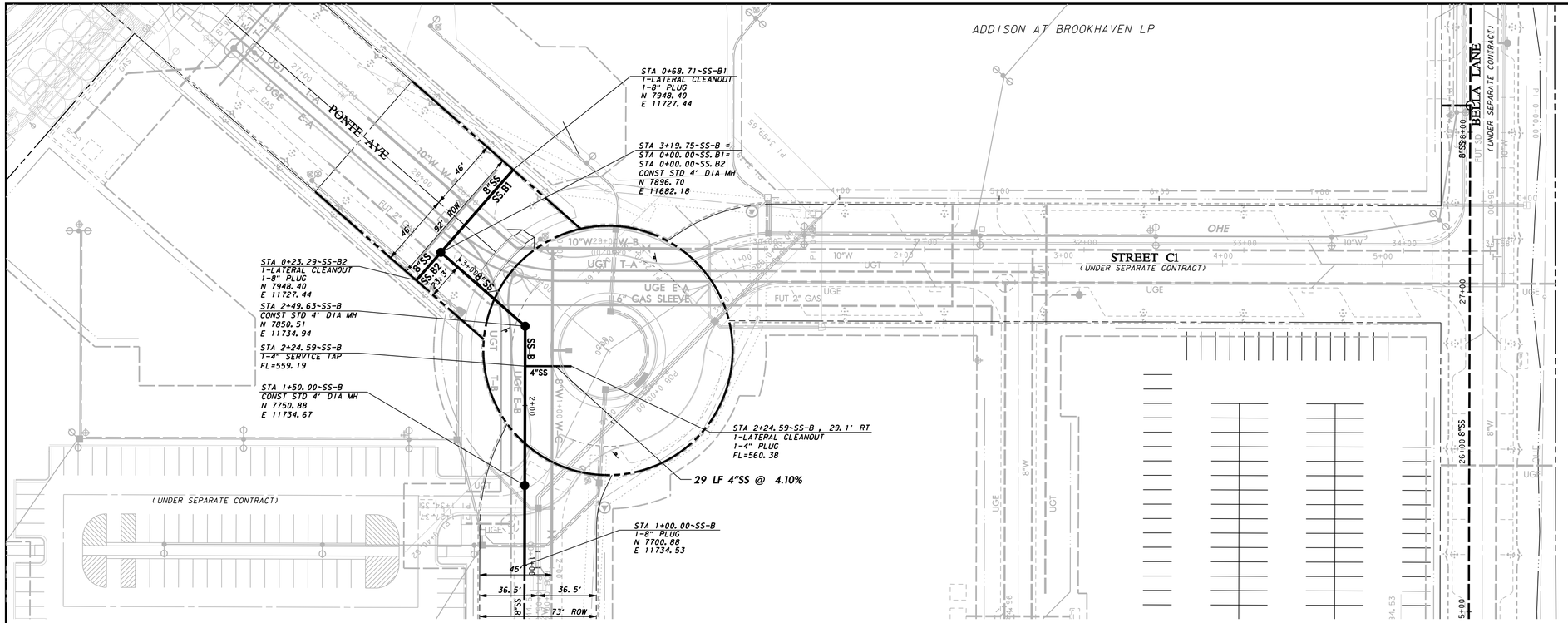
WATER DETAILS

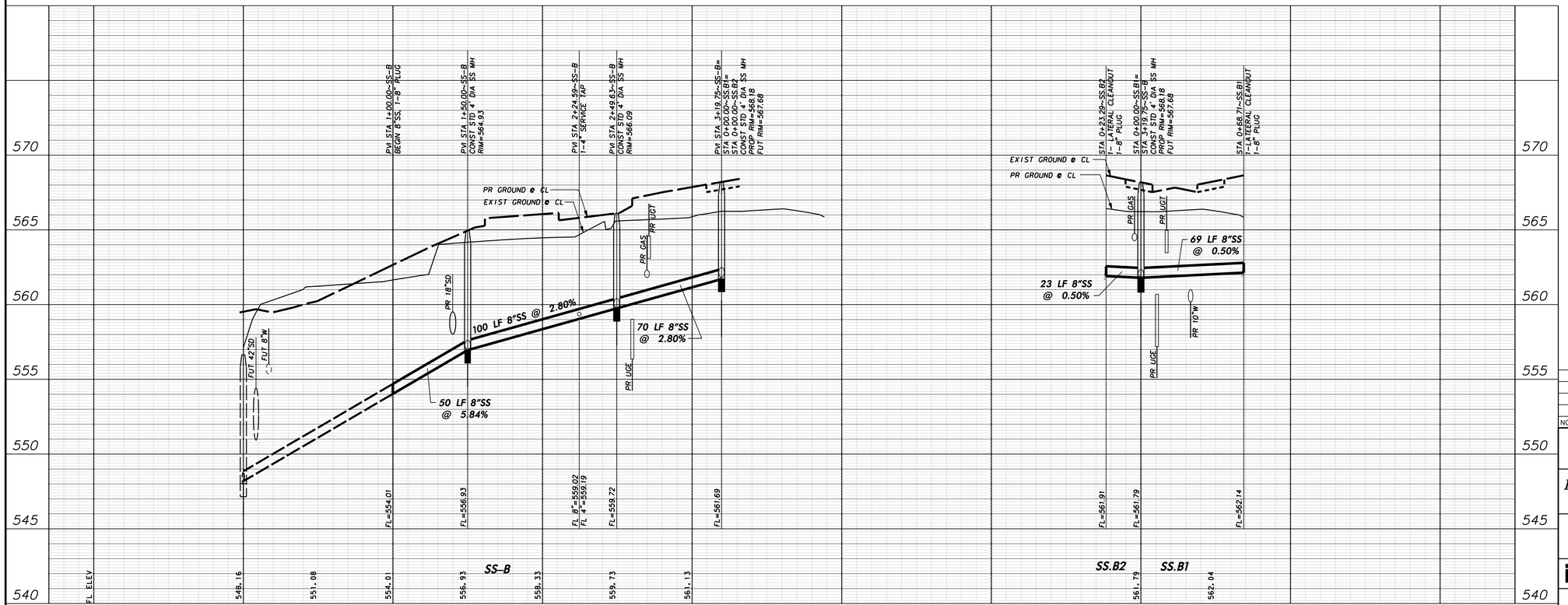
icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	22

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12





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.

PROFILE SCALE:
0 20 40 60 80
SCALE: 1"=40' HORIZ
0 2 4 6 8
SCALE: 1"=4' VERT

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

SANITARY SEWER PLAN & PROFILE LINE B

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

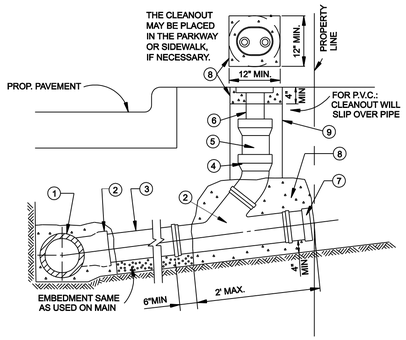
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	23

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

KEY:

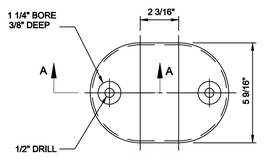
1. WASTEWATER MAIN
2. WYE
3. WASTEWATER LAT. (LENGTH VARIES)
4. 4" LONG RADIUS 45° BEND
5. 4" STACK (LENGTH VARIES)
6. 4" WASTEWATER LAT. CLEANOUT CASTING
7. PLUG
8. CLASS "B" CONCRETE
9. COMPACTED AS SPECIFIED, OR INUNDATED SAND



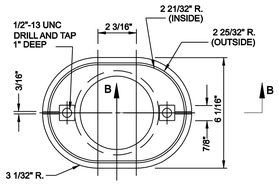
NOTES:

1. 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.
2. SLOPE OF LATERAL TO BE 1% MIN., 2% MAX. UNLESS SHOWN OTHERWISE ON THE PLAN & PROFILE.
3. THE CLEANOUT STACK & CASTING MAY BE PLACED IN THE PARKWAY, VEHICLE TRAFFIC AREAS, OR SIDEWALK, IF NECESSARY.

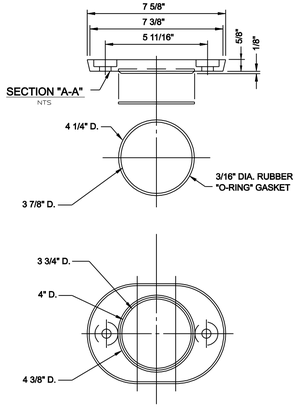
SANITARY SEWER LATERAL CLEANOUT



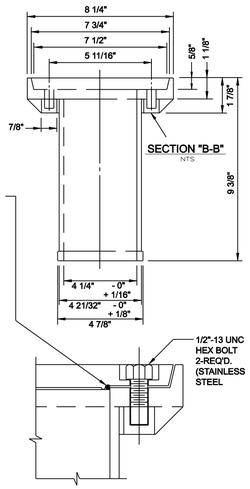
COVER
NTS



CLEANOUT FRAME TOP
NTS



CLEANOUT FRAME BOTTOM
NTS

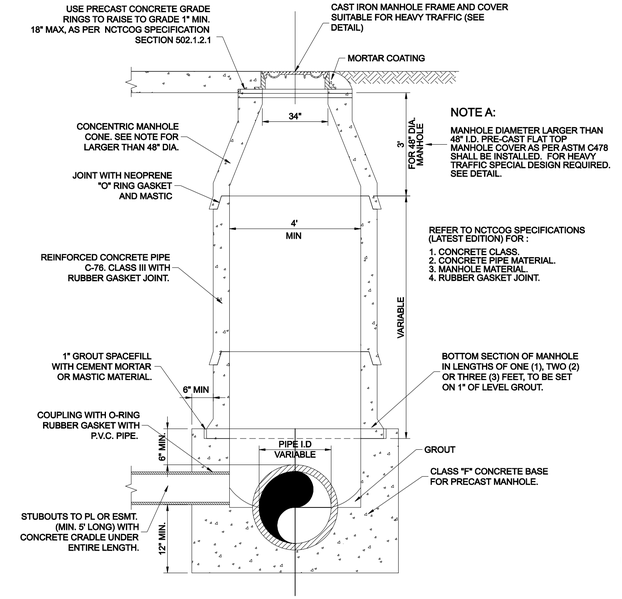


ASSEMBLY VIEW
NTS

NOTES:

1. THE WORDS "WASTEWATER LATERAL CLEANOUT" SHALL BE CAST INTO TOP OF COVER.
2. MATERIALS TO BE CAST IRON.

SANITARY SEWER LATERAL CLEANOUT FRAME & COVER

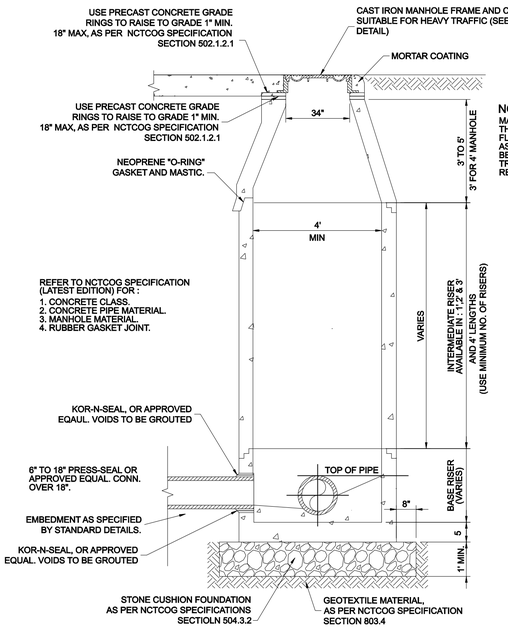


NOTE A:
MANHOLE DIAMETER LARGER THAN 48" I.D. PRE-CAST FLAT TOP MANHOLE COVER AS PER ASTM C478 SHALL BE INSTALLED. FOR HEAVY TRAFFIC SPECIAL DESIGN REQUIRED. SEE DETAIL.

NOTE:
IF FALSE MANHOLE BOTTOMS ARE REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED AND REMOVED.

PRECAST CONCRETE PIPE MANHOLE ALTERNATE "A"

ALL MANHOLES SHALL PASS VACUUM TEST AS PER NCTCOG SPECIFICATIONS

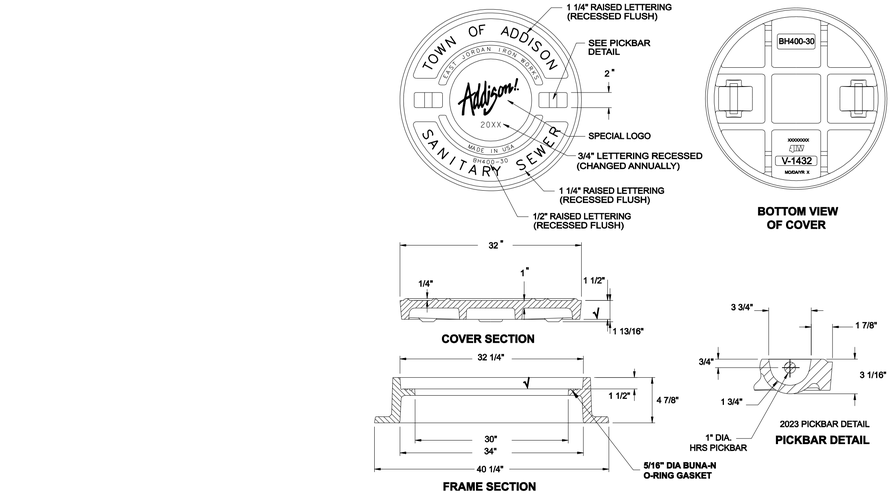


NOTE A:
MANHOLE DIAMETER LARGER THAN 48" I.D. PRE-CAST FLAT TOP MANHOLE COVER AS PER ASTM C478 SHALL BE INSTALLED. FOR HEAVY TRAFFIC SPECIAL DESIGN REQUIRED. SEE DETAIL.

NOTE:
IF FALSE MANHOLE BOTTOMS ARE REQUIRED, THEY SHALL BE CONSTRUCTED, INSTALLED AND REMOVED.

PRECAST CONCRETE MANHOLE ALTERNATE "B"

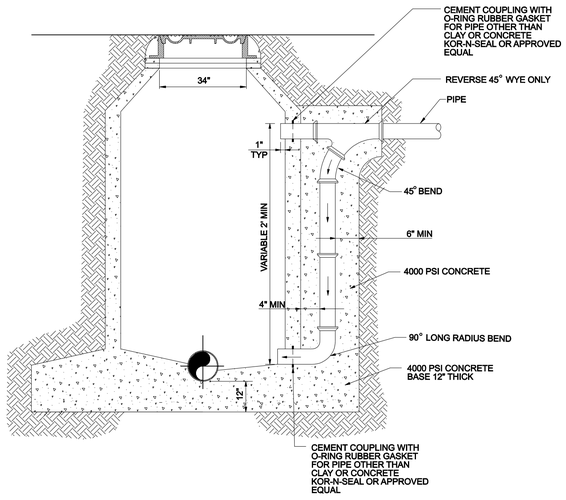
ALL MANHOLES SHALL PASS VACUUM TEST AS PER NCTCOG SPECIFICATIONS



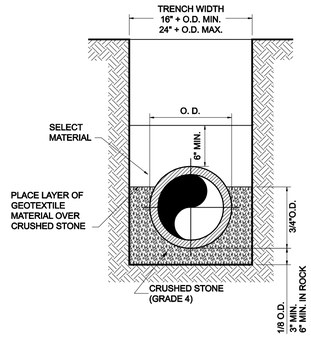
LOAD RATING	COATING	ESTIMATED WEIGHT	MATERIAL SPECIFICATION
HEAVY DUTY	DIPPED	COVER: LBS 86 kg	COVER - GRAY IRON ASTM A48 CL35B

√ DESIGNATES MACHINE SURFACE

CAST IRON FRAME AND COVER



EXTERIOR MANHOLE DROP CONNECTION



CRUSHED STONE SHALL BE 3/4", PASSING # 4 SIEVE

CLASS "B+" EMBEDMENT

TYPICAL BACKFILL WATER MAIN
P.V.C. WATER PIPE

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

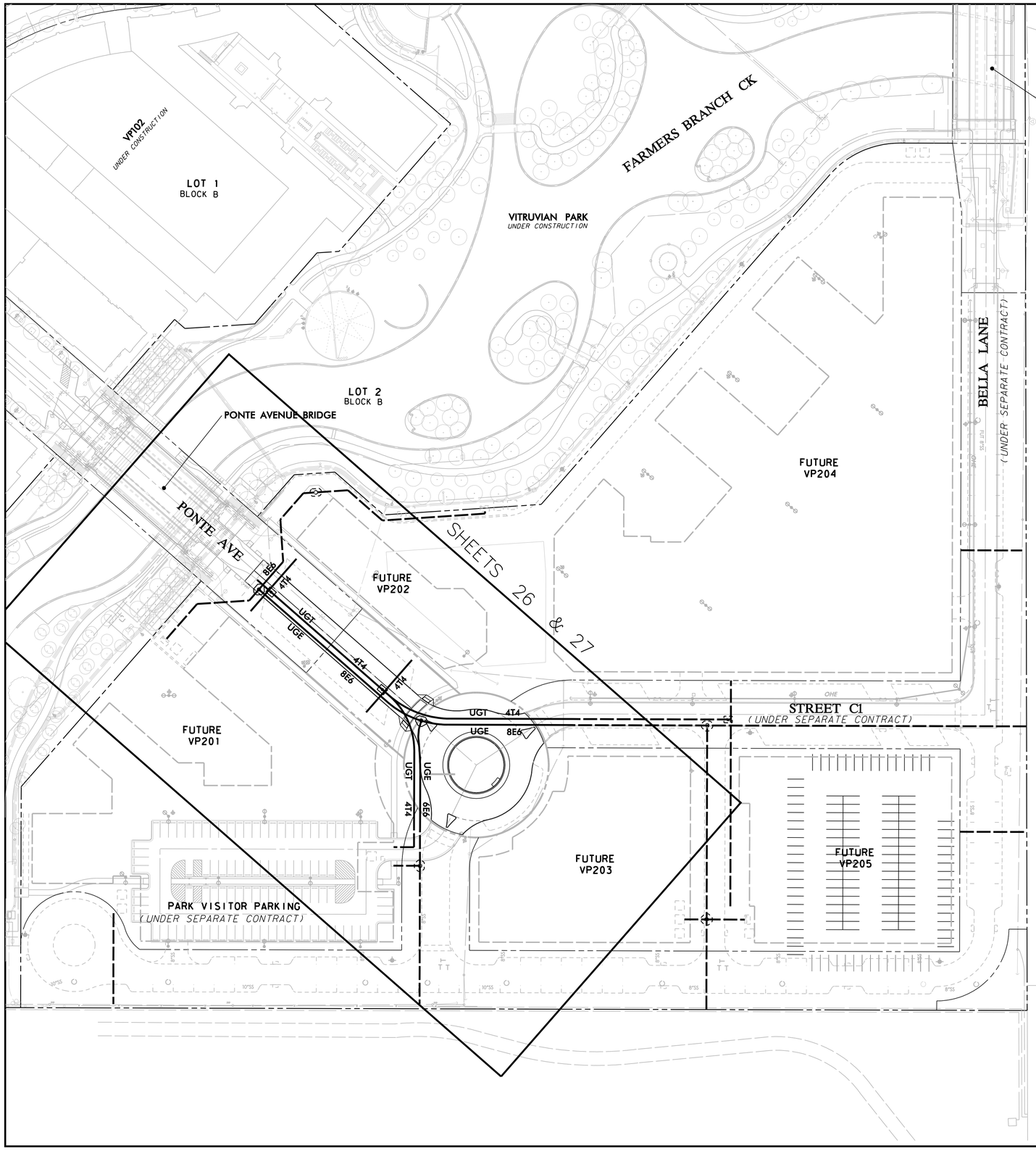
SANITARY SEWER DETAILS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	24

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



DUCT BANK GENERAL AND ELECTRICAL NOTES

1. REFER TO CIVIL SHEET 3 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THIS PROJECT.
2. 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: DDS4 "SPECIFICATIONS FOR ELECTRICAL UNDERGROUND DISTRIBUTION SYSTEMS FROM PADMOUNTED TRANSFORMATION, SECONDARY SERVICE ACCOUNTS", MMD5 "SPECIFICATIONS FOR MANHOLE AND DUCT STRUCTURE FACILITIES"; AND ONCOR UNDERGROUND DISTRIBUTION CONSRUCTION 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 DDS-4 OR MMD-5 SHEETS.
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. THE APPLICABLE ONCOR STANDARD DRAWINGS, MMD-5 SHEETS, AND DDS-4 SHEETS SHALL BE PROVIDED TO THE CONTRACTOR AT THE PRE-CONSTRUCTION CONFERENCE BY THE ONCOR REPRESENTATIVE.
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 FOLOWING:

TOWN OF ADDISON (WATER, SEWER, SIGNALS)	ATMOS ENERGY (GAS)
ONCOR ELECTRIC DELIVERY	VERIZON / MCI
AT&T (SOUTHWESTERN 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 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.
8. 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.
9. 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.
10. 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.
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 CONTRACTOR SHALL COVER ALL OPEN EXCAVATIONS WITH ANCHORED STEEL PLATING, DURING NON-WORKING HOURS, ALONG EXISTING ROADWAYS AND TRAFFIC AREAS.
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. 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 CONTRACTORS EXPENSE.
15. 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.
16. 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 (NESC)
   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.
17. 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.
18. 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.
19. 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.
20. CONCRETE ENCASED DUCT STRUCTURE INSTALLATION SHALL BE PERFORMED AS FOLLOWS:
   A. 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 DUCT SECTION. ALL CONCRETE ENCASEMENT SHALL HAVE A PATTERN FINISH.
   B. CONCRETE SHOULD BE 5 SACK, PORTLAND TYPE 1 CEMENT, ¾" MAXIMUM SIZE AGGREGATE, 3000 PSI AT 28 DAYS. THE SLUMP OF THE CONCRETE MAY BE INCREASED BY THE CONTRACTOR, WITH THE APPROVAL BY 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 JEOPARDIZED.
   C. 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 NO TIME SHALL CONCRETE BE PLACED WITH A FRONT-END LOADER OR ANY OTHER SIMILAR TYPE OF MACHINERY.
   D. 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.
   E. CONDUIT, BENDS, ELBOWS AND COUPLINGS SHALL BE PVC CONDUIT, MINIMUM 6" TYPE DB, TC-6 DB-90/ASTM F-512, AND 90 DEGREES CENTIGRADE RATED OR GREATER UNLESS OTHERWISE SPECIFIED. ALL PVC 6" BENDS AND ELBOWS SHALL HAVE A 36" RADIUS.
   F. 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.
   G. 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.
   H. WHEN COMPLETE, EACH CONDUIT INSTALLED WILL BE CHECKED BY PULLING BOTH A MANDREL AND A SWAB THROUGH THE ENTIRE LENGTH OF CONDUIT.
   I. DUCT SPACERS ARE TO PROVIDE 3 INCHES OF VERTICAL AND HORIZONTAL SEPARATION BETWEEN CONDUITS.
   J. 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.
   K. CONDUITS FOR INCOMPLETE DUCT LINES (STUBS) ARE TO REMAIN EXPOSED FROM THE ENCASEMENT FOR FUTURE RETRIEVAL, BE CAPPED WATERTIGHT AND HAVE AN ELECTRONIC MARKER INSTALLED.
   L. EACH CONDUIT OF AN ENCASED DUCT IS TO HAVE A 6000 POUND PULL TAPE INSTALLED FOR FUTURE CABLE PULLING.
21. CONCRETE MANHOLE INSTALLATION SHALL BE PERFORMED AS FOLLOWS:
   A. 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.
   B. 6 INCHES MINIMUM PEA GRAVEL OR CUSHION SHALL BE INSTALLED IN THE BOTTOM OF THE EXCAVATED AREA PRRIOR TO THE MANHOLE INSTALLATION. SAND BASE MAY BE USED WITH PRIOR ONCOR APPROVAL.
   C. SELECT BACKFILL SHOULD BE INSTALLED AROUND ALL MANHOLES AND COMPACTED TO 95% MINIMUM. FLOWABLE MATERIAL MAY BE USED AS SELECT BACKFILL WHEN REQUESTED.
   D. 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.
   E. THE CONTRACTOR SHALL SUPPLY FOUR (4) 8' X 5/8" 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.
   F. THE CONTRACTOR SHALL INSTALL A 5' X 5' X 6" CONCRETE PAD AROUND ALL MANHOLE ENTRANCES IN ALL NON-PAVED AREAS. SEE STANDARD DETAIL DRAWINGS FOR REINFORCED STEEL REQUIREMENTS.
   G. ALL JOINTS BETWEEN MANHOLE SECTIONS SHALL BE MADE WATERTIGHT AT THE TIME OF INITIAL INSTALLATION.
   H. 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.
   I. FINAL SLOPE OF TOP OF MANHOLE SHALL BE 2" MINIMUM TO DRAIN WATER FROM TOP OF MANHOLE.
   J. 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.
22. 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.
23. 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.
24. 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.
25. THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR REPAIRS TO ALL EXISTING FACILITIES DAMAGED BY HIS ACTIVITIES.
26. THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ANY AND ALL REQUIRED TESTS TO THE SATISFACTION OF ONCOR ELECTRIC DELIVERY.
27. THE CONTRACTOR SHALL CONTACT ONCOR ELECTRIC DELIVERY TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE ELECTRIC DUCT BANK INFRASTRUCTURE WORK.
28. ANY ADJACENT PROPERTIES AFFECTED BY THE CONSTRUCTION SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS, OR BETTER.
29. ONCOR ELECTRIC DELIVERY INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 2 HOURS PRIOR TO THE DELIVERY OF CONCRETE AND SHALL BE PRESENT DURING PLACEMENT.
30. 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.
31. EQUIPMENT PADS SHALL BE INSTALLED PER DDS-4 SPECIFICATIONS. PIERS AND BEAMS ARE REQUIRED ON ALL EQUIPMENT PADS UNLESS WAIVED BY COMPANY INSPECTOR. IF REQUIRED, STABILIZATION METHOD(S) 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.

ADDITIONAL TELEPHONE DUCT NOTES

1. 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.
2. THE CONTRACTOR MUST BE AN AT&T APPROVED CONTRACTOR OR BECOME AN AT&T APPROVED CONTRACTOR PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL INSTALL AT&T FURNISHED MANHOLE RACKING IN EACH MANHOLE.
4. 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.
5. THE CONTRACTOR SHALL PROVIDE VERIFICATION OF COMPLETION AND COMPLIANCE OF ANY AND ALL REQUIRED TESTS TO THE SATISFACTION OF AT&T.
6. THE CONTRACTOR SHALL CONTACT AT&T TO REQUEST A FINAL WALK-THROUGH INSPECTION OF THE TELEPHONE DUCT BANK INFRASTRUCTURE WORK.
7. AT&T INSPECTOR SHALL BE NOTIFIED A MINIMUM OF 2 HOURS PRIOR TO THE DELIVERY OF CONCRETE AND SHALL BE PRESENT DURING PLACEMENT.

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

OVERALL DUCT BANK LAYOUT & NOTES

STATE OF TEXAS
BRUCE F. DUNNE
62654
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PROFESSIONAL ENGINEER

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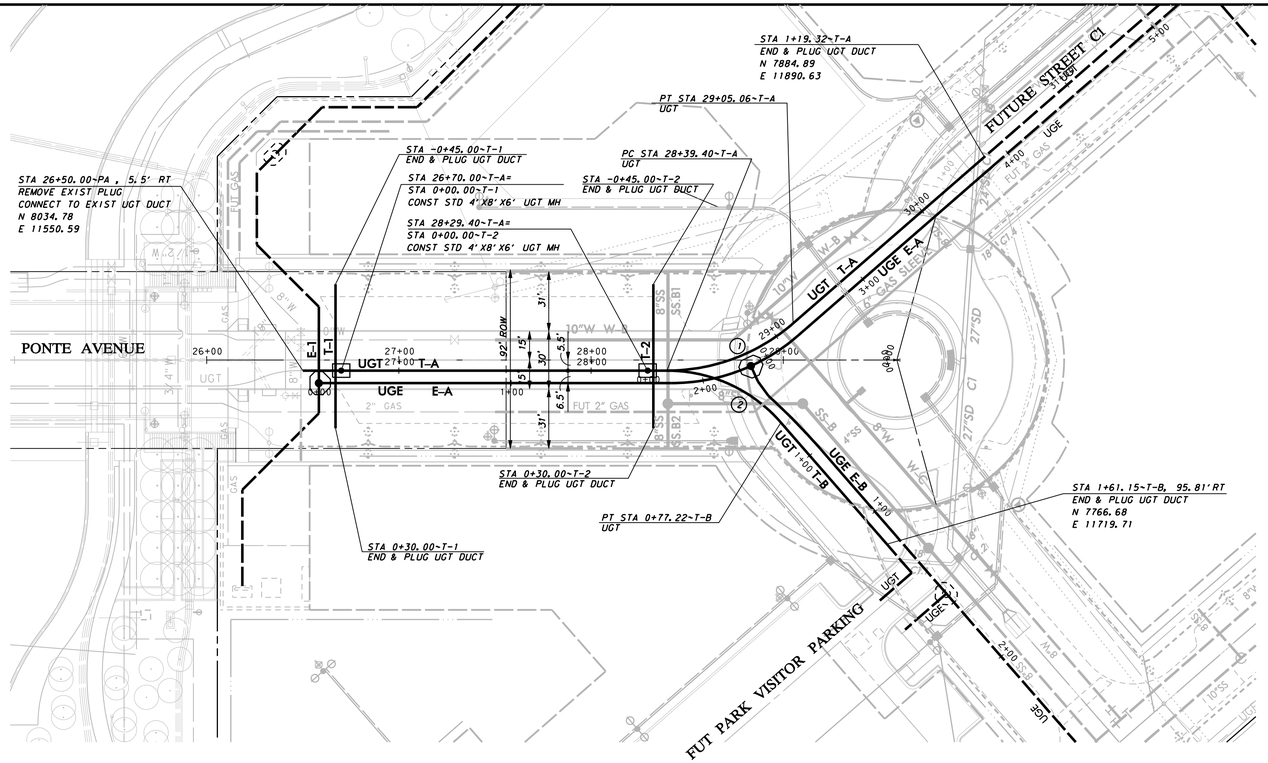
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	25

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



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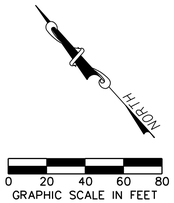
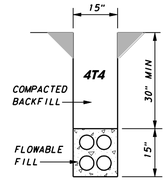




NOTE:

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.

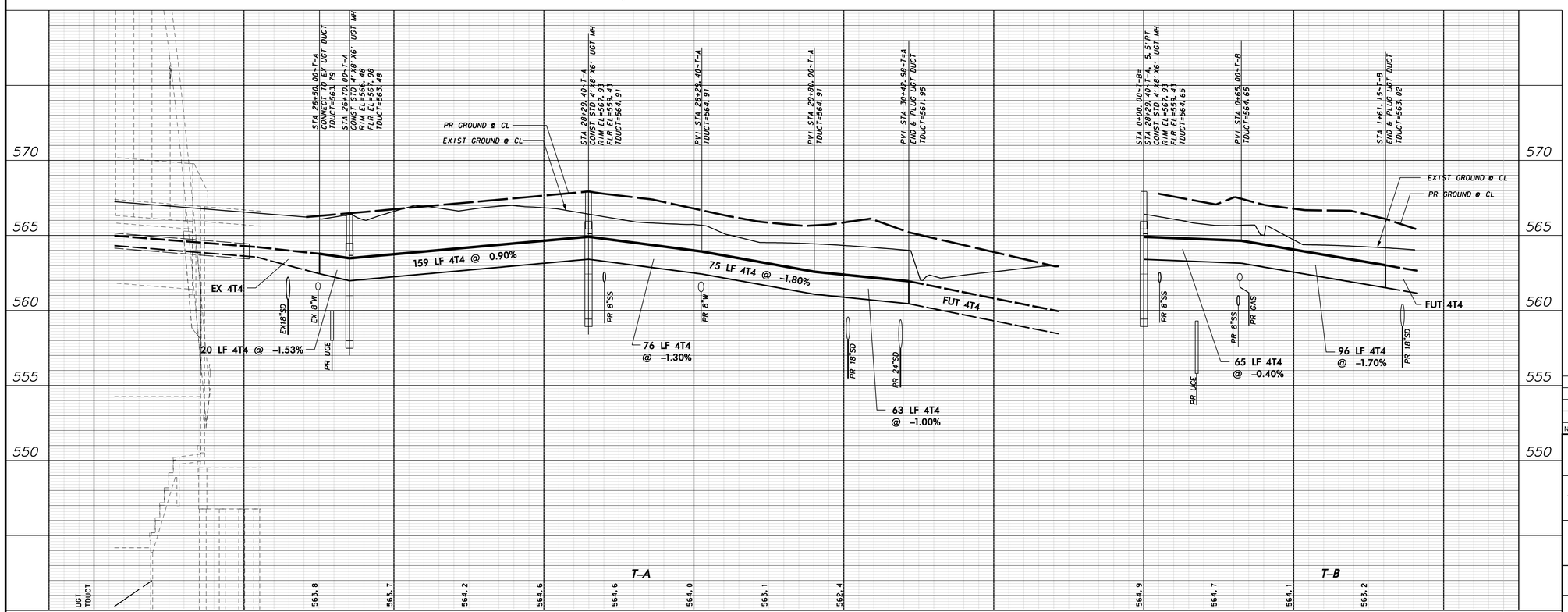
BM #1 REF. ELEVATION = 559.47
SQUARE CUT IN TOP OF CURB, SOUTH MEDIAN END NOSE, MARSH LANE 1127' NORTH OF VITRUVIAN WAY.

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

PROFILE SCALE:

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

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



NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

DUCT BANK PLAN & PROFILE TELEPHONE

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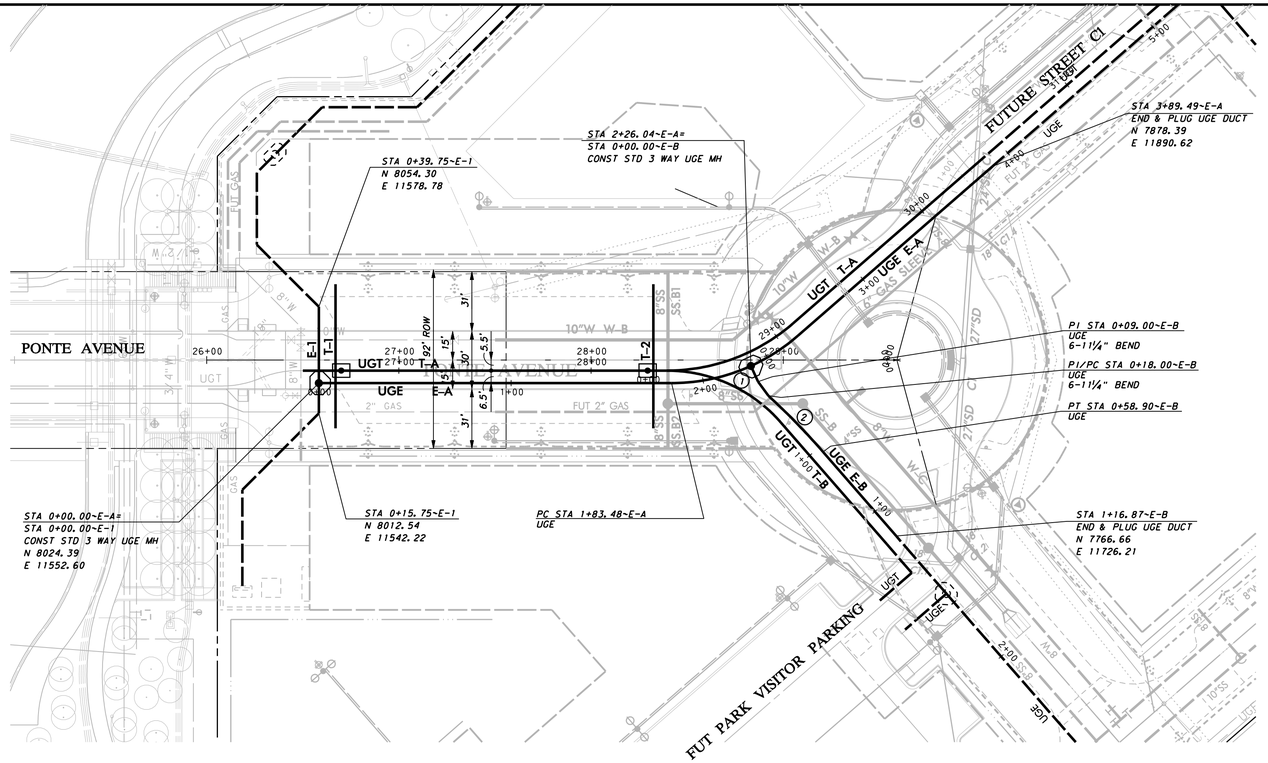
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	26

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE



CURVE DATA			
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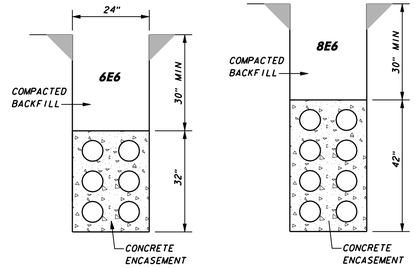
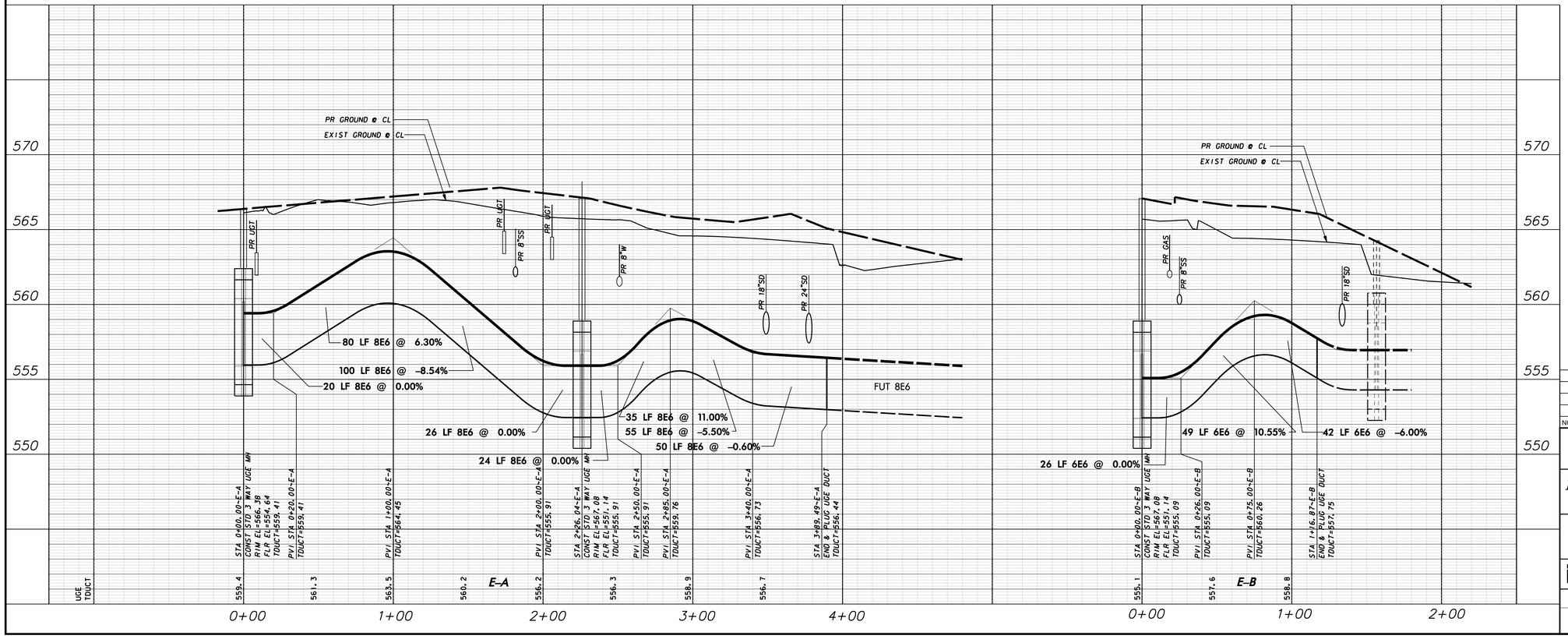
2	06° 24' 55"	365.31'	40.90'





NOTE:

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

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PROFILE SCALE:

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

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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

DUCT BANK PLAN & PROFILE ELECTRIC

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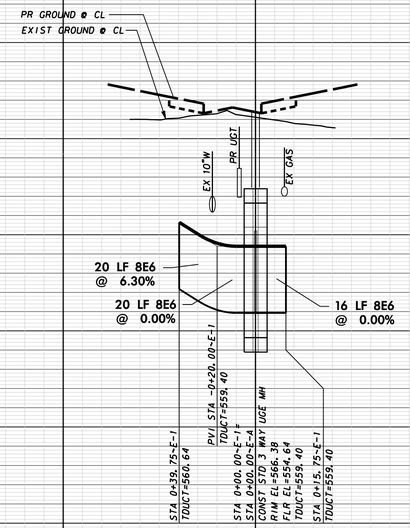
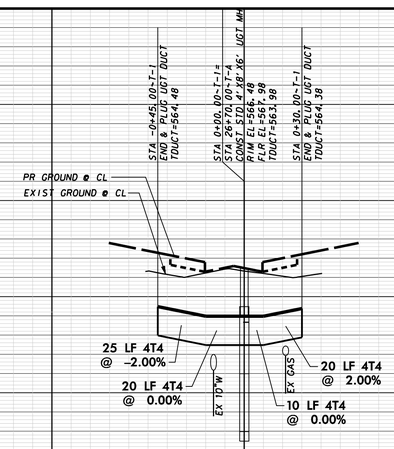
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	27

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE



E-1



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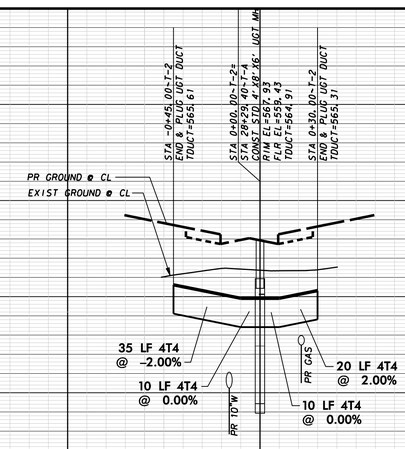

T-2

WARNING

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PROFILE SCALE:

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

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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

DUCT BANK CROSSING PROFILES

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PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	28

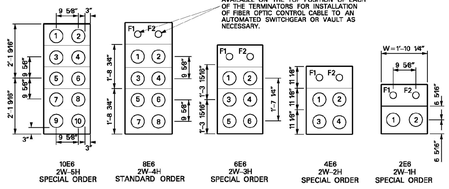
PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12

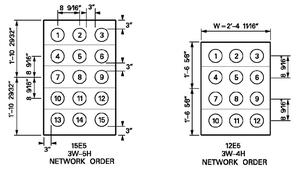
205 – 460
03 – 08

DUCT TERMINATOR ALIGNMENTS FOR PRECAST CONCRETE MANHOLES

205 – 460
03 – 08



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 IN 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. CABLE SIZES NECESSARY FOR NON-NETWORK DUCT SYSTEMS WILL REQUIRE 6 INCH CONDUIT/DUCT INSTALLATIONS.
5. THE SYSTEMS DEPICTED ABOVE ARE MANHOLE FACING CONDUIT/DUCT SYSTEM TERMINATORS ONLY, AND SHOULD NOT BE MISTAKEN FOR DUCT SECTION DETAILS.
6. THE THREE INCH CONDUIT FOR FIBER OPTIC CABLE HAS BEEN OMITTED ON THE 10E6 DUCT DUE TO A LACK OF WALL SPACE.

ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU

APPROVED BY ONCOR

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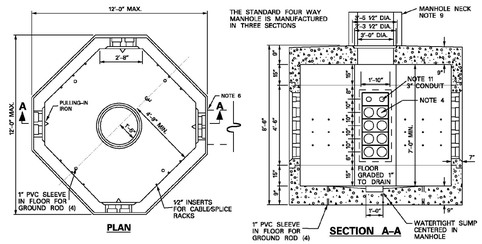
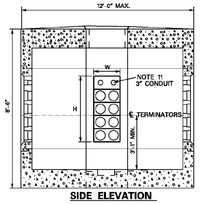
205 – 465
05 – 08

MANHOLE LARGE FOUR WAY PRECAST REINFORCED CONCRETE

205 – 465
05 – 08





SIDE ELEVATION

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 1/0 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 WATERTIGHT 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. SEE DRAWING 205-480 FOR NECK DETAILS AND 205-485 FOR LID AND FRAME SPECIFICATIONS.
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).

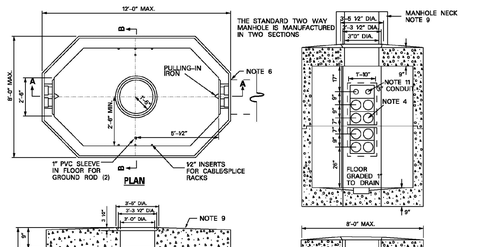
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 4-WAY PRE-CAST CONCRETE WITH COVER AND FRAME.	316942	MANHOLE4W	
				MH4WCUST	
2	2	ROD, GROUND, COPPER CLAD STEEL, 5/8 INCH X 8 FOOT	300524	GSSPB1021M	

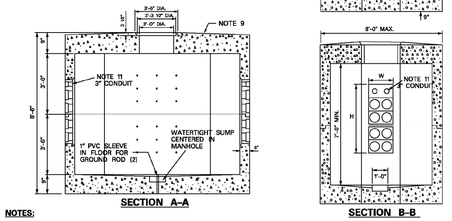
APPROVED BY ONCOR

205 – 470
03 – 08

MANHOLE LARGE TWO WAY PRECAST REINFORCED CONCRETE

205 – 470
03 – 08





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 1/0 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 WATERTIGHT 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).

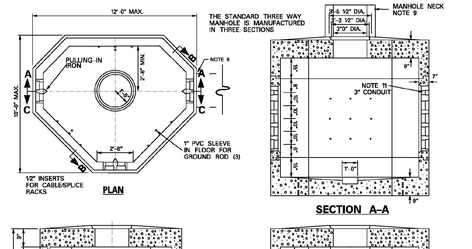
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 2-WAY PRE-CAST CONCRETE WITH COVER AND FRAME	323109	MANHOLE2W	
				MH2WCUST	
2	2	ROD, GROUND, COPPER CLAD STEEL, 5/8 INCH X 8 FOOT	300524	GSSPB1021M	

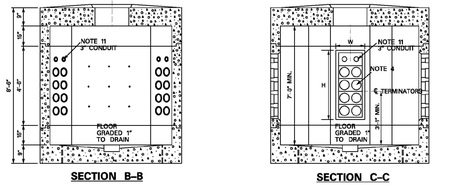
APPROVED BY ONCOR

205 – 475
05 – 08

MANHOLE LARGE THREE WAY PRECAST REINFORCED CONCRETE

205 – 475
05 – 08





NOTES:

1. STANDARD MANHOLES ARE SHOWN IN DRAWINGS 205-465, 205-470 AND 205-475.
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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.
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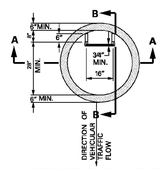
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE 3-WAY PRE-CAST CONCRETE WITH COVER AND FRAME	323108	MANHOLE3W	
				MH3WCUST	
2	2	ROD, GROUND, COPPER CLAD STEEL, 5/8 INCH X 8 FOOT	300524	GSSPB1021M	

APPROVED BY ONCOR

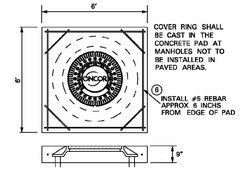
205 – 480
01 – 09

MANHOLE NECK, LADDER AND ENTRANCE PAD INSTALLATION

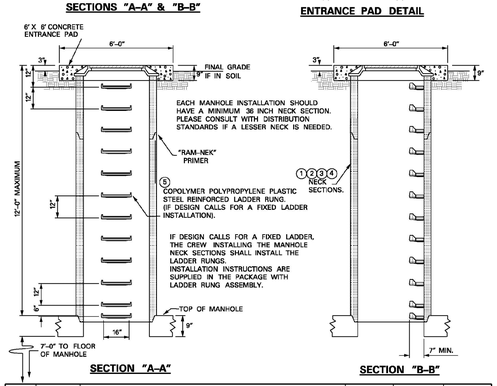
205 – 480
01 – 09



SECTIONS "A–A" & "B–B"



ENTRANCE PAD DETAIL



SECTION "A–A" SECTION "B–B"

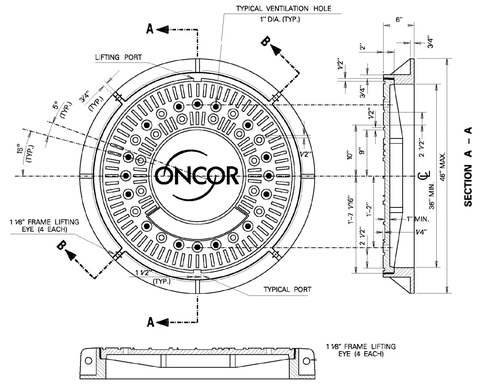
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	AS REQ.	12 IN.X 36 IN.PRECAST CONCRETE NECK SECTION.	320774	MN36X12	
2	AS REQ.	18 IN.X 36 IN.PRECAST CONCRETE NECK SECTION.	320775	MN36X18	
3	AS REQ.	24 IN.X 36 IN.PRECAST CONCRETE NECK SECTION.	320776	MN36X24	
4	AS REQ.	36 IN.X 36 IN.PRECAST CONCRETE NECK SECTION.	320777	MN36X36	
5	AS REQ.	COPOLYMER POLYPROPYLENE PLASTIC STEEL REINFORCED LADDER RUNG.	482911	MHSTEP	
6	AS REQ.	BAR, STEEL, REINFORCING, DEFORMED, 36 X 20 FT, ASTM A-615, GRADE 60.	303750		

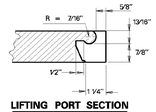
APPROVED BY ONCOR

205 – 485
02 – 08

MANHOLE COVER AND FRAME DETAIL

205 – 485
02 – 08





LIFTING PORT SECTION 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-48-LATEST REVISION CLASS 35B.
4. MANHOLE COVER AND FRAME SHALL NOT EXCEED 700 LBS.

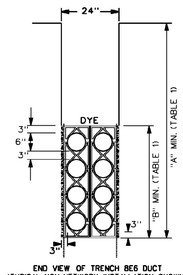
ITEM	QTY	DESCRIPTION	TSN/REF	CU	MU
1	1	MANHOLE COVER AND FRAME, INTENTIONAL TRAFFIC RATED.	327563		

APPROVED BY ONCOR

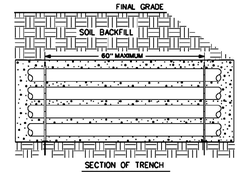
205 – 490
01 – 09

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

205 – 490
01 – 09



END VIEW OF TRENCH 8E6 DUCT (TYPICAL NON-NETWORK INSTALLATION SHOWN)



SECTION OF TRENCH

SYSTEM	NON NETWORK DUCT				
DIMENSION	2E6	4E6	6E6	8E6	10E6
A (MIN.)	3'-7"	4'-5"	5'-2"	6'-0"	6'-9"
B (MIN.)	1'-1"	1'-11"	2'-8"	3'-5"	4'-3"

TABLE 1

1 CU. YD. OF CONCRETE	2E6	4E6	6E6	8E6	10E6
COVERS IN LINEAR FT.	16.875'	8.438'	6.819'	4.556'	3.99'

TABLE 2

POLYURETHANE DISK MANDREL

NORMAL DUCT SIZE NON-NETWORK	MAX. DISK DIAMETER	TOTAL WEIGHT
6 INCH DUCT CONDUIT	5½INCH	6.20 LB.

MANDREL SIZES

NOTES:

1). CONDUIT IS TO BE PVC TYPE DB-60 FOR CONCRETE ENCASEMENT.
2). ALL CONCRETE OF THE ENCASEMENT IS TO HAVE A COMPRESSION TEST STRENGTH OF 3000 PSI AT TWENTY EIGHT DAYS.
3). INSTALL DUCT SPACERS "CARLON (SNAP-LOC) TYPE" OR EQUIAL 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 WATERTIGHT 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 IT'S ENTIRE LENGTH AS SOON AS POSSIBLE AFTER ITS ENCASEMENT HAS BEEN POURED TO INSURE IT'S INTEGRITY.
12). EACH 6 OR 5 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.	315090	DB2X_	
2	AS REQ.	FITTING, CONDUIT, PVC, SPACER, BASE/TOP, 6 INCH, NON-NETWORK(4 EACH).	320772	CSPR6B	
3	AS REQ.	FITTING, CONDUIT, PVC, SPACER, INTERMEDIATE, 6 INCH, NON-NETWORK(4 EACH).	320773	CSPR6M	
4	AS REQ.	ROPE, PULL TAPE, 6000 LB STRENGTH, PRELUBRICATED, (PER FOOT)	397615	PTAPE6C	
5	AS REQ.	DUCT MARKER, BURIED, DEVICE, ELEK TUNED, RED, (EACH).	307391	ELECMKRC	
6	AS REQ.	CONDUIT PROOFING MANDREL			

APPROVED BY ONCOR

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

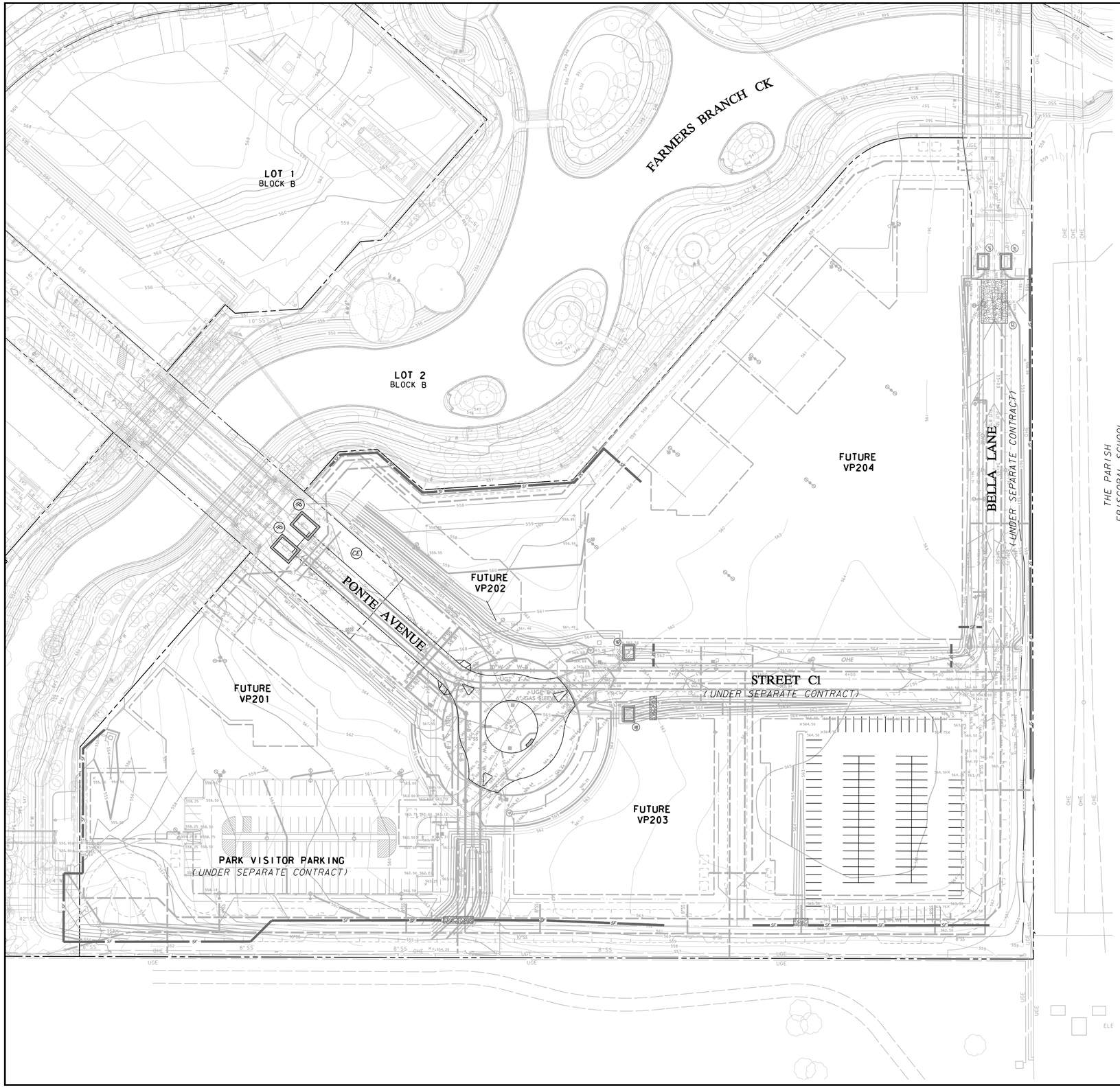
DUCT BANK ELECTRIC DETAILS

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
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	29

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12



LEGEND

SILT FENCE — SF

EXISTING SILT FENCE — SF

INLET PROTECTION — IP

STABILIZED CONSTRUCTION ENTRANCE — CE

NORTH

0 30 60 90 120
GRAPHIC SCALE IN FEET
SCALE: 1"=60'

EROSION CONTROL NOTES

1. **GENERAL CONSTRUCTION NOTES:** REFER TO SHEET 3 "GENERAL CONSTRUCTION NOTES, LEGEND AND ABBREVIATIONS" FOR THE GENERAL CONSTRUCTION NOTES FOR THE PROJECT.

2. **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.

3. **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.

4. **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 REVISE, 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.

5. **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.

6. **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.

7. **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.

8. **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

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.

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison
TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

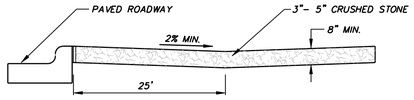
EROSION & SEDIMENT CONTROL PLAN

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

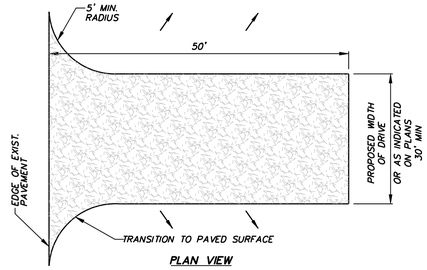
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	30

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE



CROSS SECTION

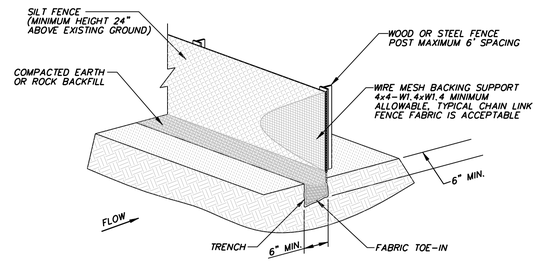


PLAN VIEW

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

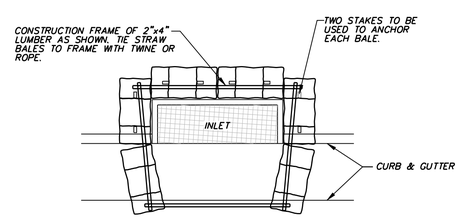
NOT TO SCALE



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



CURB INLET PROTECTION

NOT TO SCALE

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

Addison

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

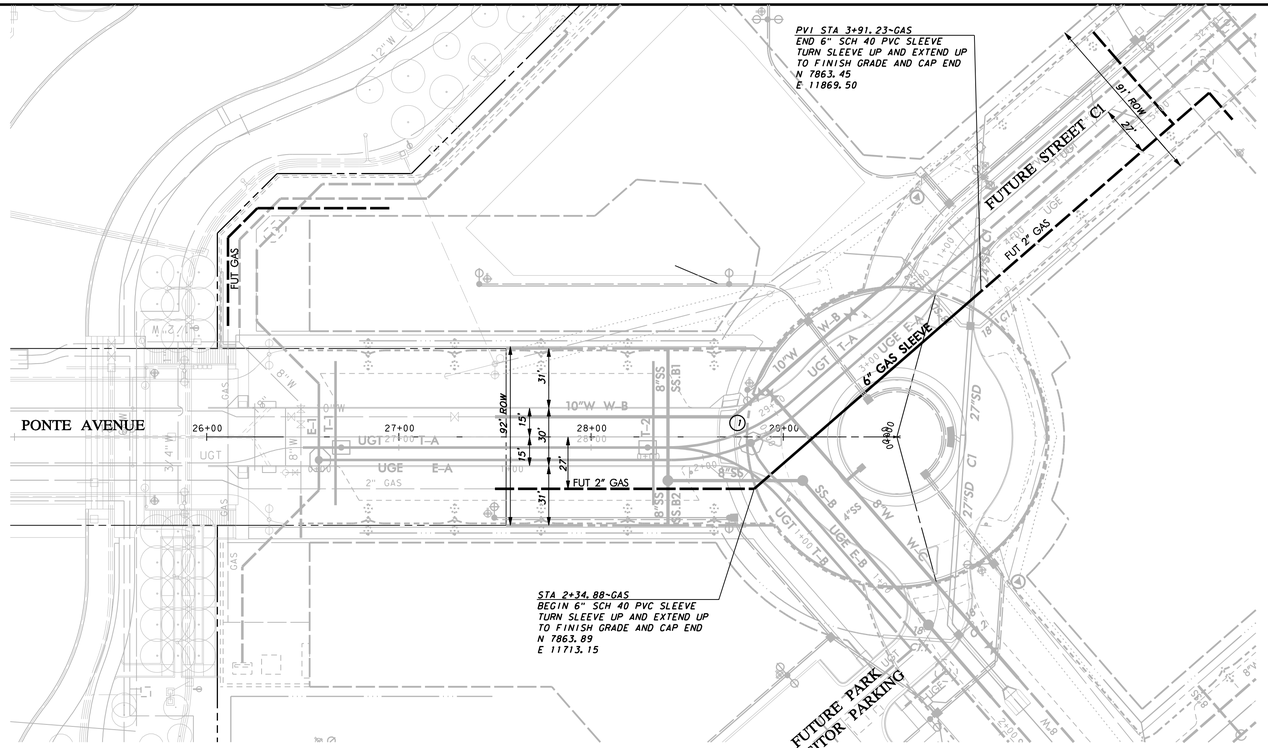
EROSION & SEDIMENT CONTROL DETAILS

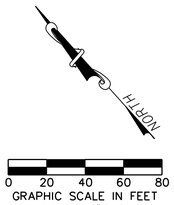
icon Consulting Engineers, Inc.
Civil Engineers - Designers - Planners
250 W. Southlake Blvd., Suite 117
Southlake, Tx 76092 (817) 552-6210

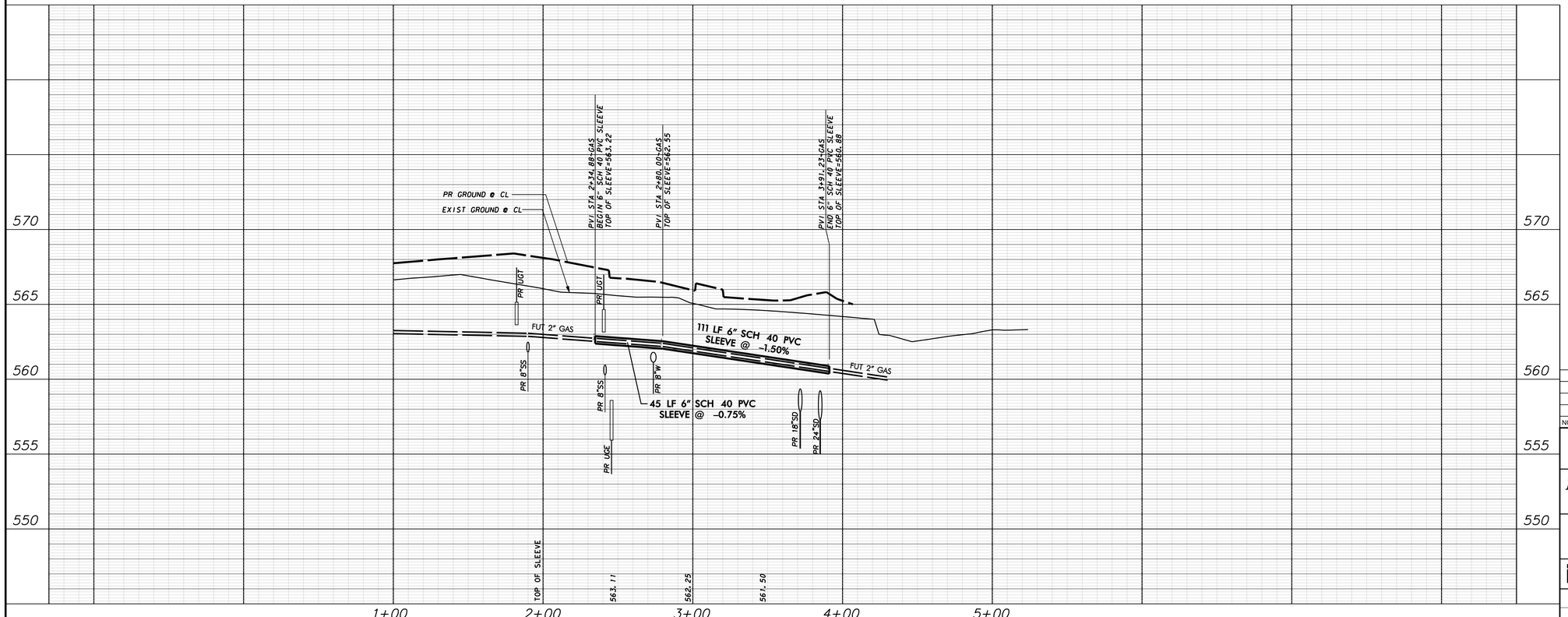
PROJECT	DESIGN	DRAWN	DATE	FILE	SHEET
5019–09	ICE	ICE	SEPT 22, 2011	PW# 2011–03	31

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS – PONTE AVENUE CIRCLE

RECORD DRAWINGS 06/15/12







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.

PROFILE SCALE:

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

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

STATE OF TEXAS
BRUCE F. DUNNE
62654
LICENSED
PROFESSIONAL ENGINEER

NO.	REVISION	BY	DATE

TOWN OF ADDISON
DALLAS COUNTY, TEXAS

PAVING, DRAINAGE & UTILITY IMPROVEMENTS
PONTE AVENUE CIRCLE

GAS SLEEVE PLAN & PROFILE

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5019-09	ICE	ICE	SEPT 22, 2011	PW# 2011-03	32

RECORD DRAWINGS 06/15/12

PAVING, DRAINAGE, & UTILITY IMPROVEMENTS - PONTE AVENUE CIRCLE