City of Deer Park

DOW PARK PAVILION

610 E. SAN AUGUSTINE ST

75% Review of Construction Documents

OCTOBER 24, 2016

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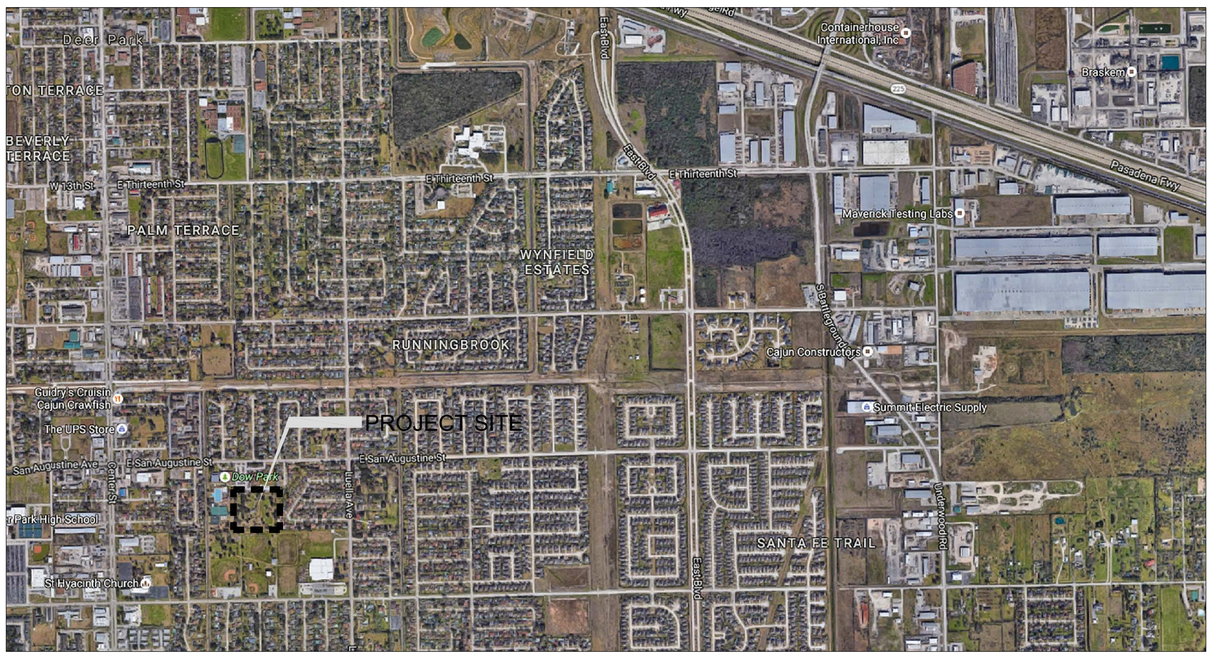

LOCATION MAP
NOT TO SCALE

THE SEAL(S) TO APPEAR ON THIS CONSTRUCTION SET WILL BE AUTHORIZED BY:

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ON --/--/2016.

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THESE DOCUMENTS ARE FOR INTERIM REVIEW AND NOT INTENDED FOR REGULATORY APPROVAL, PERMITTING, BIDDING OR CONSTRUCTION PURPOSES. THEY WERE PREPARED BY OR UNDER THE SUPERVISON OF:
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AVO: 31558 - PHASE 002

HALFF GENERAL NOTES:

1. TOPOGRAPHICAL MAPPING SHOWN PER JUNE 2016 SURVEY COMPLETED BY HALFF ASSOCIATES. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES BETWEEN THE PLAN TOPOGRAPHY AND THE CURRENT EXISTING CONDITIONS.

2. CONTRACTOR SHALL VERIFY THE LOCATION, SIZE AND MATERIAL OF ALL UTILITIES AFFECTED BY CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION. CONTRACTOR SHALL CONTACT ALL AFFECTED UTILITIES 48 HOURS PRIOR TO CONSTRUCTION.

3. CONTRACTOR TO NOTIFY THE OWNER WHEN ANY DISCREPANCY IS FOUND BETWEEN PLANS AND EXISTING CONDITIONS. IN THE EVENT A DISCREPANCY IS FOUND THE CONTRACTOR WILL MAKE FIELD ADJUSTMENTS TO CORRECT ANY PROBLEM.

4. THE CONTRACTOR IS RESPONSIBLE FOR SECURING ACCESS TO THE CONSTRUCTION SITE, SUBJECT TO APPROVAL FROM THE CITY OF DEER PARK.

5. WHERE EXISTING UTILITIES OR SERVICE LINES ARE CUT, BROKEN OR DAMAGED, THE CONTRACTOR SHALL REPLACE OR REPAIR THE UTILITIES OR SERVICE LINES WITH THE SAME TYPE OF ORIGINAL MATERIAL AND CONSTRUCTION, OR BETTER, UNLESS OTHERWISE SHOWN OR NOTED ON THE PLANS, AT HIS OWN COST AND EXPENSE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AT ONCE OF ANY CONFLICTS IN GRADES AND ALIGNMENT.

6. EXISTING UTILITIES SHOWN ARE TAKEN FROM AVAILABLE RECORDS PROVIDED BY THE UTILITY OWNER AND FIELD LOCATIONS OF SURFACE APPURTENANCES. LOCATIONS SHOWN ARE GENERALLY SCHEMATIC IN NATURE AND MAY NOT ACCURATELY REFLECT THE SIZE AND LOCATION OF EACH PARTICULAR UTILITY. SOME UTILITY LINES MAY NOT BE SHOWN. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ACTUAL FIELD LOCATION AND PROTECTION OF EXISTING FACILITIES WHETHER SHOWN OR NOT. CONTRACTOR SHALL ALSO ASSUME RESPONSIBILITY FOR REPAIRS TO EXISTING FACILITIES, WHETHER SHOWN OR NOT, IF DAMAGED BY CONTRACTOR'S ACTIVITIES. DIFFERENCES IN HORIZONTAL OR VERTICAL LOCATION OF EXISTING UTILITIES SHALL NOT BE A BASIS FOR ADDITIONAL EXPENSE.

7. THE CONTRACTOR IS RESPONSIBLE FOR KEEPING SIDEWALKS AND ROADS ADJACENT TO THE PROJECT SITE FREE FROM MUD AND DEBRIS FROM THE SITE CONSTRUCTION.

8. THE CONTRACTOR SHALL ADOPT APPROPRIATE CONSTRUCTION SITE MANAGEMENT PRACTICES TO PREVENT THE DISCHARGE OF OILS, GREASE, PAINTS, GASOLINE AND OTHER POLLUTANTS TO STORM WATER. APPROPRIATE PRACTICES CAN INCLUDE:

DESIGNATING AREAS FOR EQUIPMENT MAINTENANCE AND REPAIR:
REGULAR COLLECTION OF WASTE:
CONVENIENTLY LOCATED TRASH RECEPTACLES: AND
DESIGNATING AND CONTROLLING EQUIPMENT WASHDOWN.

9. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE/EXIT AT ALL TRAFFIC EXIT POINTS PRIOR TO EXITING ONTO ANY PAVED ROADWAY.

10. THE ACCESS AND WORK AREAS SHALL BE SECURED DURING NON-WORKING HOURS.

11. CONTRACTOR IS RESPONSIBLE FOR, AND MUST OBTAIN PRIOR TO CONSTRUCTION, ALL NECESSARY CONSTRUCTION PERMITS REQUIRED BY THE CITY OF DEER PARK.

12. ADEQUATE MEASURES SHALL BE TAKEN TO PREVENT EROSION. IN THE EVENT THAT SIGNIFICANT EROSION OCCURS AS A RESULT OF CONSTRUCTION, THE CONTRACTOR SHALL RESTORE THE ERODED AREAS TO ORIGINAL CONDITION OR BETTER.

13. PRIOR TO CONSTRUCTION, A PRE-CONSTRUCTION MEETING SHALL BE HELD WITH REPRESENTATIVES FROM ALL CONTRACTORS, THE ARCHITECT AND THE CITY OF DEER PARK.

14. BARRICADING AND TRAFFIC CONTROL DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", PART VI IN PARTICULAR. TRAFFIC FLOW AND ACCESS SHALL BE MAINTAINED DURING ALL PHASES OF THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC SAFETY MEASURES FOR WORK ON PROJECT.

15. ANY DAMAGES THAT MAY OCCUR TO REAL PROPERTY OR EXISTING IMPROVEMENTS SHALL BE RESTORED BY THE CONTRACTOR TO AT LEAST THE SAME CONDITION THAT THE REAL PROPERTY OR EXISTING IMPROVEMENTS WERE IN PRIOR TO THE DAMAGES. THIS RESTORATION SHALL BE SUBJECT TO THE OWNER'S APPROVAL: MOREOVER, THIS RESTORATION SHALL NOT BE A BASIS FOR ADDITIONAL COMPENSATION TO THE CONTRACTOR. RESTORATION SHALL INCLUDE, BUT NOT BE LIMITED TO, REGRASSING, REVEGETATION, REPLACING FENCES, REPLACING TREES, ETC.

16. CONSTRUCTION TRAFFIC ROUTES SHALL BE COORDINATED WITH CITY OF DEER PARK PRIOR TO CONSTRUCTION. ALL COMPACTED AREAS DUE TO CONSTRUCTION SHALL BE AERATED AND REVEGETATED TO ORIGINAL CONDITION AT NO EXPENSE TO THE CLIENT.

17. PRIOR TO CONSTRUCTION, THE OWNER OR OWNER'S REPRESENTATIVE SHALL APPROVE THE LOCATION OF ALL SILT FENCES.

18. THE CONTRACTOR SHALL USE THE LIMITS OF SILT FENCE AS THE LIMITS OF DISTURBANCE AND ACCESS UNLESS OTHERWISE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE.

19. OWNER ASSUMES NO RESPONSIBILITY FOR ACTUAL CONDITION OF AREAS TO BE DEMOLISHED.

20. CONTRACTOR SHALL PERFORM WORK IN A MANNER TO ELIMINATE HAZARDS TO PERSONS OR PROPERTY AND AVOID INTERFERENCEWITH ADJACENT AREAS, UTILITIES, AND STRUCTURES.

21. LOT LINES SHOWN ON THE SURVEY CONTROL PLAN AND SHEET INDEXES ARE SHOWN FOR SCHEMATIC PURPOSES ONLY.

DEMOLITION NOTES:

1. INFORMATION PROVIDED ON THIS PLAN DOES NOT DELINEATE ANY UNDERGROUND FOUNDATIONS OR OBJECTS THAT CURRENTLY MAY BE COVERED.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER REMOVAL AND DISPOSAL OF MATERIALS AS REQUIRED BY THE CITY OF DEER PARK.

3. CONTRACTOR SHALL INSTALL APPLICABLE EROSION CONTROL MEASURES PRIOR TO SITE WORK COMMENCEMENT. REF. EROSION CONTROL SHEETS.

4. QUANTITIES PROVIDED ON THE DEMOLITION SHEETS ARE ESTIMATES ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE REMOVAL AND DISPOSAL OF PAVEMENTS, LANDSCAPING, AND UTILITIES IN CONFLICT WITH THE PROPOSED IMPROVEMENTS.

5. CONTRACTOR TO REMOVE PAVEMENT TO THE NEAREST JOINT. WHERE EXISTING CONCRETE AND PROPOSED CONCRETE MEET, THE CONTRACTOR IS TO PROVIDE AN EXPANSION JOINT UNLESS OTHERWISE NOTED.

6. CONTRACTOR TO NOTIFY THE OWNER OF ANY SITE ELEMENTS SUCH AS TRASH RECEPTACLES, DRINKING FOUNTAINS, SITE FURNISHINGS THAT MAY BE IN CONFLICT WITH CONSTRUCTION PRIOR TO REMOVING ANY SITE ELEMENT.

7. CONTRACTOR SHALL MARK TREES TO BE REMOVED PER PLANS. CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO REMOVAL TO CONFIRM REMOVAL OF MARKED TREES.

8. ALL EXISTING POWER POLES AND OVERHEAD ELECTRICAL LINES TO BE REMOVED BY THE CITY, NOT IN CONTRACT.

9. FOR BELOW GRADE UTILITY REMOVAL REF. SHEETS C1.00.

10. CONTRACTOR TO MARK THE LIMITS OF FENCE REMOVAL AND NOTIFY THE OWNER FOR REVIEW AND APPROVAL.

CITY OF DEER PARK GENERAL NOTES:

1. NOTES APPEAR ON VARIOUS DRAWINGS FOR DIFFERENT SYSTEMS AND MATERIALS. REVIEW ALL SHEETS AND APPLY NOTES TO RELATED BUILDING COMPONENTS.

2. REFER TO COMPLETE SET OF ISSUED CONTRACT DOCUMENTS FOR OTHER APPLICABLE NOTES, ABBREVIATIONS, AND SYMBOLS.

3. WHERE MATERIALS ARE APPLIED TO, OR ARE IN DIRECT CONTACT WITH WORK INSTALLED BY ANOTHER SUBCONTRACTOR, COMMENCEMENT OF WORK IMPLIES ACCEPTANCE OF THE SUBSTRATE AS SUITABLE FOR THE APPLICATION INTENDED.

4. ISSOLATE DISSIMILAR METALS TO PREVENT GALVANIC CORROSION.

5. PARTITION TYPES AND FIRE RESISTIVE RATINGS INDICATED ON A WALL ARE TO BE CONTINUOUS FOR THE LENGTH AND HEIGHT OF A PARTITION.

6. OPENINGS AND RATED WALL, FLOOR, CEILING AND ROOF ASSEMBLIES SHALL BE SEALED WITH PENETRATION SEALANT SYTEMS MEETING OR EXCEEDING THE REQUIRED FIRE RESISTIVE RATINGS.

7. MAINTAIN THE FIRE RATING OF CONSTRUCTION AROUND CABINETS, PANELS, AND BOXES RECESSED IN FIRE RATED WALL, FLOOR, AND CEILING ASSEMBLIES.

8. PROVIDE CONTINUOUS PERIMETER FIRE SAFING BETWEEN FLOORS AND COORDINATE THE INSTALLATION WITH THE EXTERIOR WALL. FIRE RATING OF SAFING SHALL MATCH FIRE RATING OF FLOOD CONSTRUCTION.

9. DO NOT SCALE THE DRAWINGS.

10. FIELD MEASURE AND CONFIRM DIMENSIONS FOR OWNER PROVIDED EQUIPMENT AND FURNISHINGS.

11. PROVIDE STIFFENERS, BRACING, BACKING PLATES AND BLOCKING REQUIRED FOR SECURE INSTALLATION OF TOILET PARTITIONS, DOORS, AND DOOR HARDWARE INCLUDING WALL-MOUNTED DOOR STOPS, HANDRAILS, WALL-MOUNTED SHELVES, OPERABLE PARTITIONS, MISCELLANEOUS EQUIPMENT, AND SUSPENDED MECHANICAL AND ELECTRICAL EQUIPMENT.

12. COORDINATE ALL BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING, AND ELECTRICAL EQUIPMENT.

13. LOCATE ACCESS PANELS AS INDICATED ON DRAWINGS. FOR ACCESS PANELS NOT SHOWN BUT REQUIRED BY PROVISIONS OF THE CONTRACT DOCUMENTS, LOCATE IN ACCORDANCE WITH APPLICABLE CODES. SUBMIT PROPOSED LOCATIONS TO THE ARCHITECT FOR REVIEW AND ACCEPTANCE PRIOR TO INSTALLATION.

14. DO NOT OBSTRUCT ACCESS THE EXISTING EXITS, OR REDUCE THE WIDTH OF PUBLIC CORRIDORS.

15. PENETRATIONS IN THE EXTERIOR BUILDING WALL ARE NOT ALLOWED, INCLUDING THOSE REQUIRED FOR OUTLETS AND BLOCKING.

16. FULLY LAY OUT GRID, WALL, AND OPENING PLACEMENT IN AN AREA PRIOR TO START OF PARTITION CONSTRUCTION. VERIFY THAT DIMENSIONS ARE CONSISTENT WITH REQUIREMENTS INDICATED IN THE DOCUMENTS. REFER ANY DIMENSIONAL INCONSISTENCIES TO THE ARCHITECT FOR RESOLUTION PRIOR TO THE START OF PARTITION CONSTRUCTION.

17. FINISH FLOOR ELEVATIONS ARE TO TOP OF CONCRETE UNLESS OTHERWISE NOTED.

18. LEVEL FLOOR THAT EXCEEDS ¼"VARIANCE IN A 10'-0"RADIUS.

19. COORDINATE EXACT SIZE AND PLACEMENT OF EQUIPMENT BASE AND HOUSEKEEPING PADS WITH EQUIPMENT TO BE PROVIDED.

20. COORDINATE INSTALLATION OF DIFFUSERS, SPEAKERS, SPRINKLER HEADS, AND ACCESS PANELS WITH LIGHTING LAYOUT. REPORT ANY CONFLICTS TO THE ARCHITECT PRIOR TO INSTALLATION.

21. EXITS SIGNS AND SMOKE DETECTORS LOCATED IN HARD CEILINGS SHALL BE POSITIONED AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION, AND SHALL BE CENTERED IN CORRIDORS AND LOCATED A DISTANCE OF 1'-0"FROM THE WALL TO THE CENTER OF THE FIXTURE UNLESS OTHERWISE NOTED.

22. PROVIDE ACCESS PANELS IN GYPSUM BOARD CEILINGS AT LOCATIONS SHOWN, OR IF NOT SHOWN, AS REQUIRED TO ACCESS ALL MECHANICAL EQUIPMENT IN THE CEILING CAVITY REQUIRING NORMAL MAINTENANCE OR OPERATION, INCLUDING BUT NOT LIMITED TO CONSTANT AIR, OR VARIABLE AIR BOXES, REHEAT COILS, VALVES, EXHAUST FANS, BALANCING DAMPERS, FIRE DAMPERS, SMOKE DAMPERS, FIRE/SMOKE DETECTORS, CLEAN OUTS, OR IF NOT SHOWN, AS REQUIRED TO ACCESS ALL MECHANICAL EQUIPMENT AND JUNCTION BOXES, SUBMIT LAYOUT OF ALL REQUIRED CEILING ELEMENTS, INCLUDING ACCESS PANELS, FOR ARCHITECTS' REVIEW PRIOR TO INSTALLATION. LOCATE EQUIPMENT AND VALVES TO MINIMIZE THE NEED FOR ACCESS PANELS.

23. GANG MULTIPLE SWITCHES TOGETHER INTO ONE BOX WITH A SINGLE COVER PLATE WHENEVER POSSIBLE. MULTIPLE SWITCHES, WHICH CANNOT BE GANGED TOGETHER IN THE SAME BOX, SHALL BE RELOCATED AS CLOSE TOGETHER AS POSSIBLE AND MOUNTED AT THE SAME HEIGHT.

24. APPROVE FLOOR OUTLET LOCATIONS WITH ARCHITECT AND BUILDING MANAGEMENT PRIOR TO CORE DRILLING.

25. WALL OUTLETS SHALL BE INSTALLED AT 18"AFF AND INSTALL SWITCH PLATES AT 44"AFF UNO UNLESS OTHERWISE NOTED.

26. DO NOT INSTALL OUTLETS OR J-BOXES BACK-TO-BACK ON OPPOSITE SIDES OF WALL. BOXES MUST BE SEPARATED BY A STUD.

27. CAULK FLOOR AND WALL OUTLETS WITH AN ACOUSTIC SEALANT.

PAVEMENT NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

2. ALL TEMPORARY AND PERMANENT SIGNAGE MUST COMPLY WITH THE LATEST REVISION OF THE "TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".

3. ALL DISTURBED AREAS WITHIN STREET RIGHT-OF-WAY AND EASEMENTS NOT COVERED BY PAVEMENT OR STRUCTURES SHALL BE HYDRO-MULCHED AND WATERED UNTIL VEGETATION ESTABLISHMENT.

4. ALL EXISITING UTILITIES ARE SHOWN SCHEMATICALLY AND ARE FOR THE CONTRACTORS GUIDANCE ONLY. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE, AND MATERIAL OF ALL UTILITIES EFFECTED BY CONSTRUCTION PRIOR TO BEGINNING CONSTRUCTION.

5. ALL WORK AND MATERIAL SHALL BE IN ACCORDANCE WITH CITY OF DEER PARK STANDARD SPECIFICATIONS AND GENERAL DESIGN STANDARDS.

6. RIGID PAVEMENT IS TO BE 4, 5, 6, OR 7-INCH THICK, 3500 PSI CONCRETE PAVEMENT REINFORCED AS NOTED IN LEGEND. PAVEMENT FOR ACCESS RAMP AND PILOT CHANNEL IS TO BE 3000 PSI CONCRETE PAVEMENT REINFORCED AS NOTED IN LEGEND.

   a. SUBGRADE- STABILIZE TOP 6-INCHES WITH HYDRATED LIME 6% BY WEIGHT OF SUBGRADE SOIL. STABILIZED SUBGRADE SHALL BE COMPACTED TO A MINIMUM OF95% OF STANDARD PROCTOR (ASTM D 698) DENSITY AT OR UP TO 3% ABOVE OPTIMUM MOISTURE CONTENT.

7. CONTRACTOR IS REQUIRED TO MAINTAIN TRAFFIC FLOW DURING CONSTRUCTION.

8. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.

9. SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES IN, OR OMISSIONS FROM THE PLANS, HE SHALL NOTIFY THE ENGINEER AT ONCE TO OBTAIN CLARIFICATION PRIOR TO STARTING CONSTRUCTION.

10. ADJUST ALL MANHOLE RIMS, WATER VALVES, CLEANOUTS, ETC. TO NEW PAVEMENT GRADES.

11. CONTRACTOR SHALL PLACE EXPANSION JOINTS ALONG THE PROPOSED & EXISTING WATER LINE EASEMENT LINES.

12. THE PROJECT WAS DESIGNED WITHOUT THE BENEFIT OF A GEOTECHNICAL RECOMMENDATION FOR PAVEMENT DESIGN.

CONCRETE CONSTRUCTION NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-89 (REV. 92).

2. STEEL REINFORCING BARS SHALL CONFORM TO ASTM A-615. NO. 3 BARS SHALL BE GRADE 40. NO. 4 AND LARGER BARS SHALL BE GRADE 60.

3. STEEL REINFORCEMENT AND ACCESSORIES SHALL BE DETAILED AND FABRICATED IN ACCORDANCE WITH ACI SP-66.

4. PORTLAND CEMENT SHALL BE A SINGLE BRAND CONFORMING TO ASTM C-150, TYPE I OR TYPE III.

5. NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C-33. ALL CONCRETE SHALL USE NORMAL WEIGHT AGGREGATES, UNLESS NOTED OTHERWISE.

6. ALL ADDITIVES FOR AIR ENTRAINMENT, WATER REDUCTION, AND SET CONTROL SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S DIRECTIONS.

7. CONCRETE MIXES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

8. CONCRETE MIXES SHALL BE DESIGNED TO PROVIDE A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS OF 3000 PSI. THE MAXIMUM WATER-TO-CEMENTITIOUS MATERIALS RATIO SHALL BE 0.57.

9. THE MAXIMUM NOMINAL SIZE OF COARSE AGGREGATE SHALL BE 1 1/2 INCH.

10. ALL CONCRETE SHALL BE AIR ENTRAINED AT 3% TO 6% BY VOLUME.

11. CONCRETE SLUMPS SHALL BE AS FOLLOWS:
   - CONCRETE PAVEMENT NOT LESS THAN 2" NOR MORE THAN 5", ASTM C143.

12. STEEL REINFORCEMENT SHALL BE PLACED AND SECURED IN ACCORDANCE WITH CRSI "RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS." METAL OR PLASTIC CHAIRS OR SPACERS (NOT WOOD BLOCKS OR BRICK BATS) TO PROVIDE SUPPORT FOR REINFORCING BARS.

13. MINIMUM CONCRETE PROTECTION FOR ALL REINFORCEMENT SHALL BE 2-INCH CLEAR COVER BETWEEN ANY CONCRETE SURFACE AND NEAREST EDGE OF ANY REBAR.

14. REINFORCING BARS SHALL BE CONTACT LAP SPLICED UNLESS SHOWN OTHERWISE. LAP SPLICES SHALL CONFORM TO ACI REQUIREMENTS, BUT SHALL IN NO CASE BE LESS THAN 40 BAR DIAMETERS LONG.

15. EXPANSION JOINTS SHALL BE SPACED A MAXIMUM OF 90 FEET.

16. WEAKENED PLANE JOINTS SHALL BE SPACED AT A MAXIMUM OF 15 FEET. SAWCUT CONTROL JOINTS SHALL BE CUT WITHIN 6 TO 12 HOURS OF CONCRETE PAVEMENT.

17. ALL SAWCUT SURFACES OF THE EXISTING PAVEMENT SHALL BE CLEANED AND COATED WITH AN APPROVED BONDING COMPOUND IMMEDIATELY BEFORE THE NEW CONCRETE IS PLACED.

18. THE NEW PAVEMENT SHALL BE FINISHED TO MATCH THE SURROUNDING PAVEMENT.

19. THE PAVEMENT SURFACE SHALL BE MOIST-CURED WITH A MEMBRANE OR CURING COMPOUND FOR NOT LESS THAN 7 DAYS.

20. PROVIDE CONSTRUCTION JOINTS AT END OF EACH DAY'S WORK OR WHEN CONCRETE PLACEMENT IS STOPPED MORE THAN 1/2 HOUR.

21. EXPANSION JOINT FILLER SHALL BE "SONOFLEX F EXPANSION JOINT FILLER" BY SONNEBORN OR "CERAMAR" BY W.R. MEADOWS.

22. SEALANT SHALL BE DOW CORNING 888-SL OR APPROVED EQUAL.

23. CONCRETE PLACED IN HOT WEATHER SHALL BE POURED IN THE EARLY MORNING SO THAT THE CONCRETE CAN ACHIEVE ITS INITIAL SET BY 9:00 AM..

24. SIDEWALKS SHALL BE LOCATED AS SHOWN ON THE PLANS. SIDEWALK RAMP CONSTRUCTION SHALL BE IN COMFORMANCE WITH THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND PER CITY REQUIREMENTS.

PAVING IMPROVEMENT NOTES:

1. CONTRACTOR'S WORK SHALL INCLUDE PAVEMENT REMOVAL AND PROPER LEGAL DISPOSAL OF DEBRIS REQUIRED FOR NEW WALKS, DRIVES, CURBS, GUTTERS AND OTHER PAVING AND CONCRETE FEATURES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, INSPECTION AND TESTING REQUIRED BY THE OWNER AND/OR THE CITY OF DEER PARK.

2. ALL SIDEWALKS AND TRAILS SHALL MEET ADA REQUIREMENTS UNLESS NOTED SPECIFICALLY OTHERWISE ON THE PLANS. MAXIMUM CROSS SLOPE SHALL BE 2% AND MAXIMUM LONGITUDINAL SLOPE SHALL BE 5%. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF ANY ADA ACCESSIBLE FLATWORK THAT DOES NOT MEET THE MINIMUM ADA ACCESSIBILITY REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.

3. ALL GRADES SHOWN ON GRADING PLAN ARE FINISH GRADE ELEVATIONS UNLESS OTHERWISE NOTED ON THE DRAWINGS.

4. ALL FILL SHALL BE COMPACTED TO A DENSITY OF AT LEAST NINETY-FIVE (95%) PERCENT STANDARD PROCTOR AS PER ASTM D 698 RANGING FROM TWO (2) PERCENTAGE POINTS BELOW OPTIMUM TO FIVE (5) PERCENTAGE POINTS ABOVE OPTIMUM (-2 TO +5). LIFTS SHALL BE AS SPECIFIED PER THE SOILS LAB RECOMMENDATION AND AS APPROVED BY THE CITY. ALL FILL SHALL BE TESTED AS INSTALLED AND CERTIFIED BY AN APPROVED SOILS LABORATORY.

5. THE CONTRACTOR SHALL PROCEED WITH PAVING NO MORE THAN SEVENTY-TWO (72) HOURS AFTER DENSITY / MOISTURE TESTS HAVE BEEN TAKEN AND PASSED BY A TESTING FIRM TO BE ASSIGNED BY THE CITY. COPIES OF THE TEST RESULTS SHALL BE FURNISHED TO THE CITY. IN THE EVENT PAVING OPERATIONS HAVE NOT COMMENCED WITHIN THE SEVENTY-TWO-(72) HOUR LIMIT, A RETEST SHALL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

6. THE PAVING CONTRACTOR SHALL BE RESPONSIBLE FOR ALL "PERMANENT SURVEY REFERENCE MONUMENTS" AS DESCRIBED IN THE SUBDIVISION ORDINANCE INCLUDING CONCRETE MONUMENTS AND ALL BOUNDARY CORNERS.

7. THE CONTRACTOR SHALL PROTECT EXISTING PROPERTY MONUMENTATION AND PRIMARY CONTROL. ANY SUCH POINTS WHICH THE CONTRACTOR BELIEVES WILL BE DESTROYED SHALL HAVE OFFSET POINTS ESTABLISHED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. ANY MONUMENTATION DESTROYED BY THE CONTRACTOR SHALL BE REESTABLISHED AT HIS/HER EXPENSE.

8. CONTRACTOR SHALL LOCATE AND ADJUST EXISTING UTILITY MANHOLE LIDS, CLEANOUTS, WATER VALVES AND OTHER SURFACE APPURTENANCES AS REQUIRED FOR NEW CONSTRUCTION. CONTRACTOR SHALL COORDINATE UTILITY ADJUSTMENTS WITH OTHER DISCIPLINES AND THE APPROPRIATE UTILITY AGENCIES AND PROVIDE FOR ALL FEES FOR PERMITS, CONNECTIONS, INSPECTIONS, ETC.

9. CONTRACTOR SHALL PROTECT EXISTING DRAINAGE OUTFALL STRUCTURES.

10. CONTRACTOR'S WORK SHALL INCLUDE PAVEMENT REMOVAL AND DISPOSAL REQUIRED FOR NEW WALK, DRIVE, CURB, GUTTER AND OTHER PAVING FEATURES. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, INSPECTION AND TESTING REQUIRED BY THE OWNER AND/OR THE CITY OF DEER PARK.

11. FOR CONCRETE AND PAVEMENT, USE MINIMUM 3,500 P.S.I. REINFORCED CONCRETE PAVEMENT WITH #3 BARS AT 18" ON CENTER. REFERENCE GEOTECHNICAL REPORT FOR FINAL PAVEMENT DESIGN.

12. CONCRETE PAVING JOINTS SHALL BE CONSTRUCTED AS SHOWN ON THE DRAWINGS AND DETAILS, EXPANSION JOINTS SHALL BE PLACED AT CHANGES IN DIRECTION OF PAVING, AT DRIVEWAYS AND/OR AS SHOWN ON THE DRAWINGS. SEAL ALL JOINTS AS SHOWN ON THE DRAWINGS.

13. CONTRACTOR SHALL STAKE TRAIL CENTERLINES AND NOTIFY THE OWNER PRIOR TO TRAIL INSTALLATION FOR APPROVAL OF TRAIL ALIGNMENT.

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

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Revision No.	Date	Description

PRELIMINARY
FOR INTERIM REVIEW ONLY

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KRISTIN M. LEBLANC — 101145
NAME — P.E. NO.
DATE — 10/14/2016
TBPE FIRM #F-312

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GENERAL NOTES

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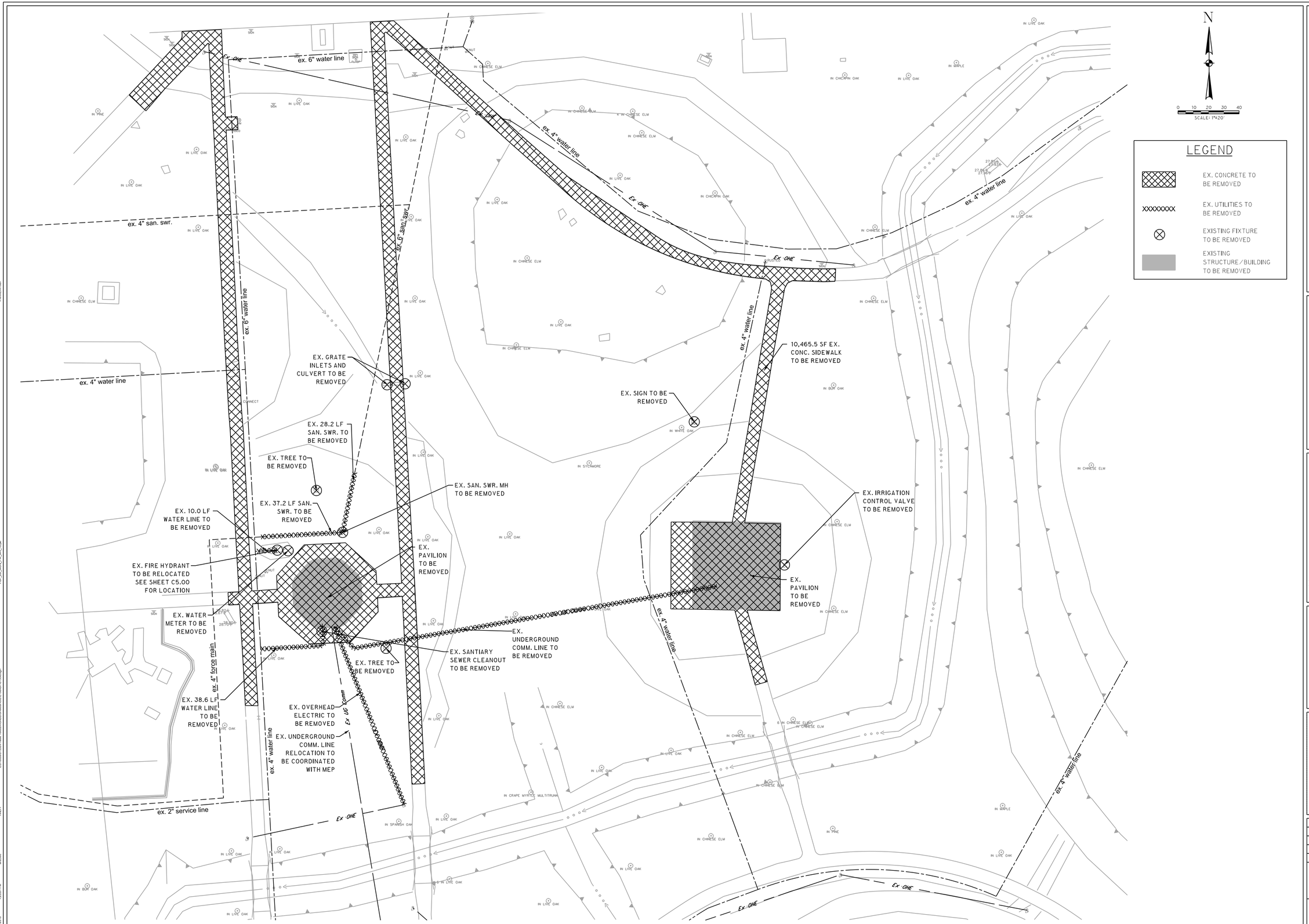

DOW PARK

NEW PAVILIONS

DEER PARK, TEXAS

HALFF
TBPE FIRM # F-312
1900 WEST LOOP SOUTH, SUITE 160
HOUSTON, TEXAS 77079-2943
TEL (281) 370-0400
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KRISTIN M. LEBLANC	101145
NAME	P.E. NO.
DATE	10/14/2016

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Project No.:	31558 PH 16002A
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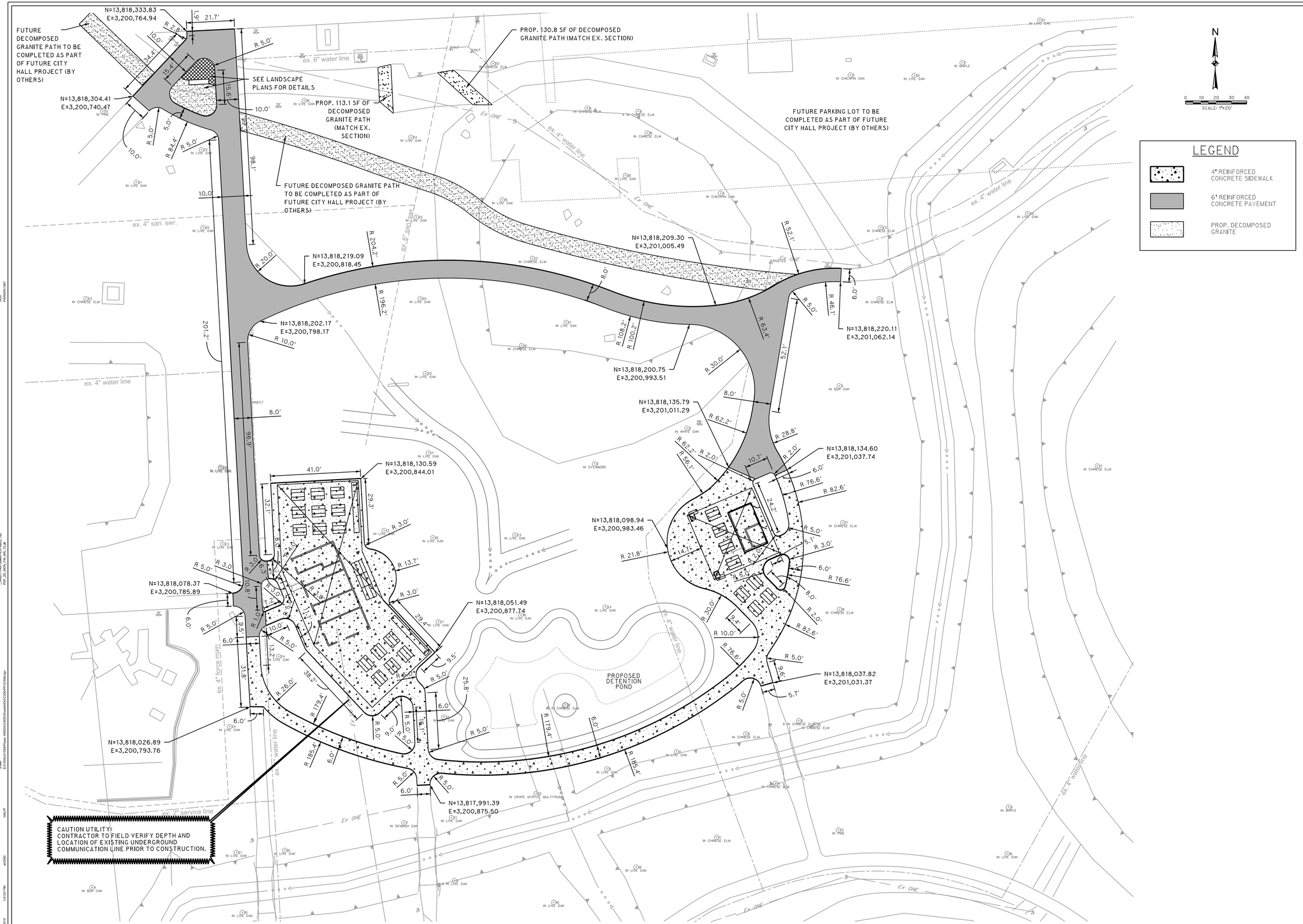
Sheet Title

DEMOLITION PLAN

C1.00

Sheet Number



DOW PARK

NEW PAVILIONS

DEER PARK, TEXAS

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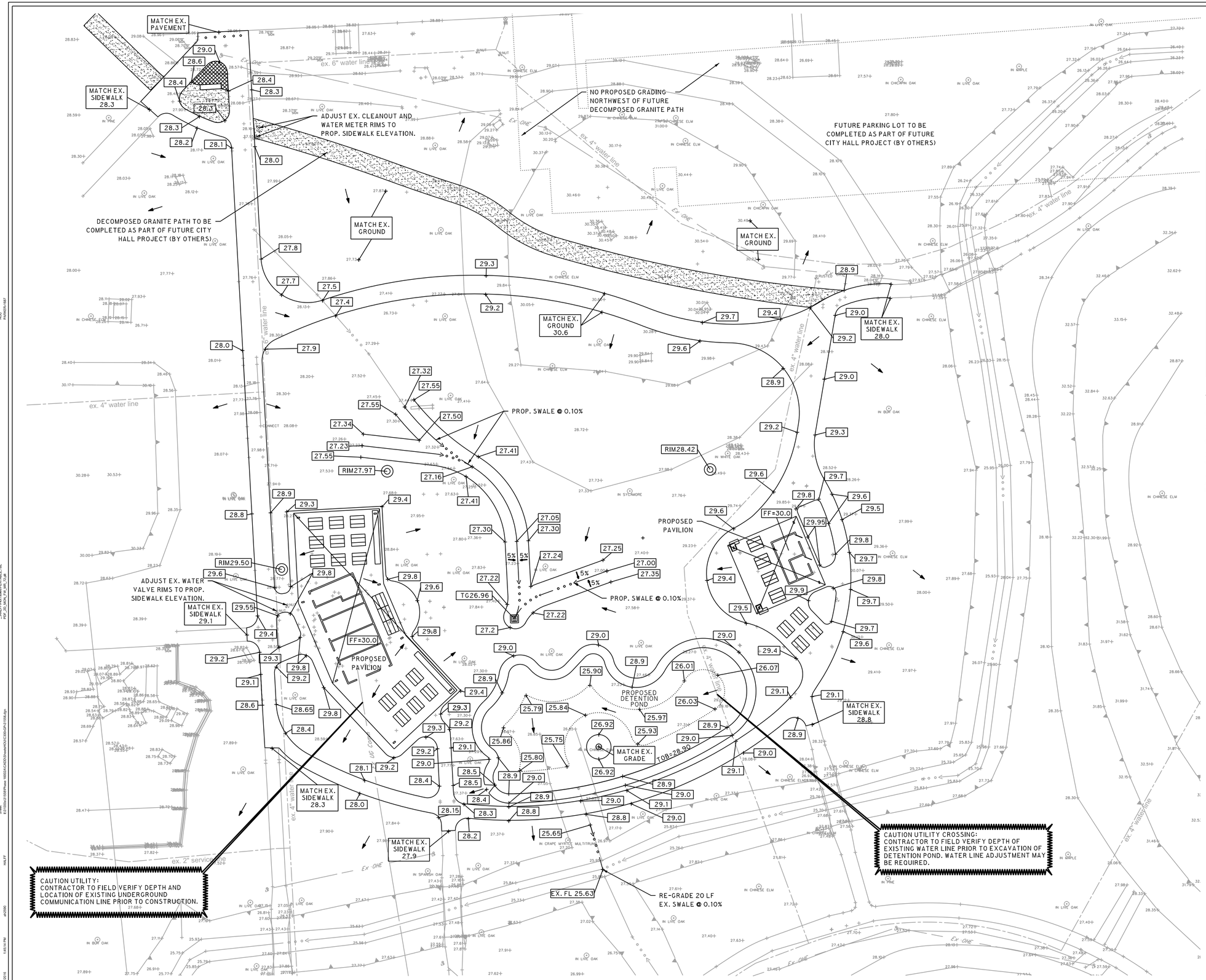
Sheet Title
PAVING AND DIMENSIONAL CONTROL PLAN

C2.00
Sheet Number



N

SCALE: 1"=20'

LEGEND

101.8 +	PROPOSED TOP OF PVMT/GUTTER ELEV.
× 103.9	EXISTING ELEVATION
	PROPOSED CONTOURS
	EXISTING CONTOURS
	SWALE FLOWLINE
	STORM WATER FLOW ARROW
	PROPOSED STORM DRAIN AND INLET
	BOTTOM OF POND
	TOP OF POND

GRADING NOTES:

1. ALL GRADES ARE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

2. TOP OF CURB ELEVATIONS ARE 0.5 FEET HIGHER THAN TOP OF PAVEMENT ELEVATIONS UNLESS OTHERWISE NOTED.

3. SEE SHEETS C6.00-C6.04 FOR ALL APPLICABLE CITY OF HOUSTON STANDARD DETAILS.

4. SIDEWALKS ALONG ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND A MAXIMUM RUNNING SLOPE OF 5%.

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

HALFF
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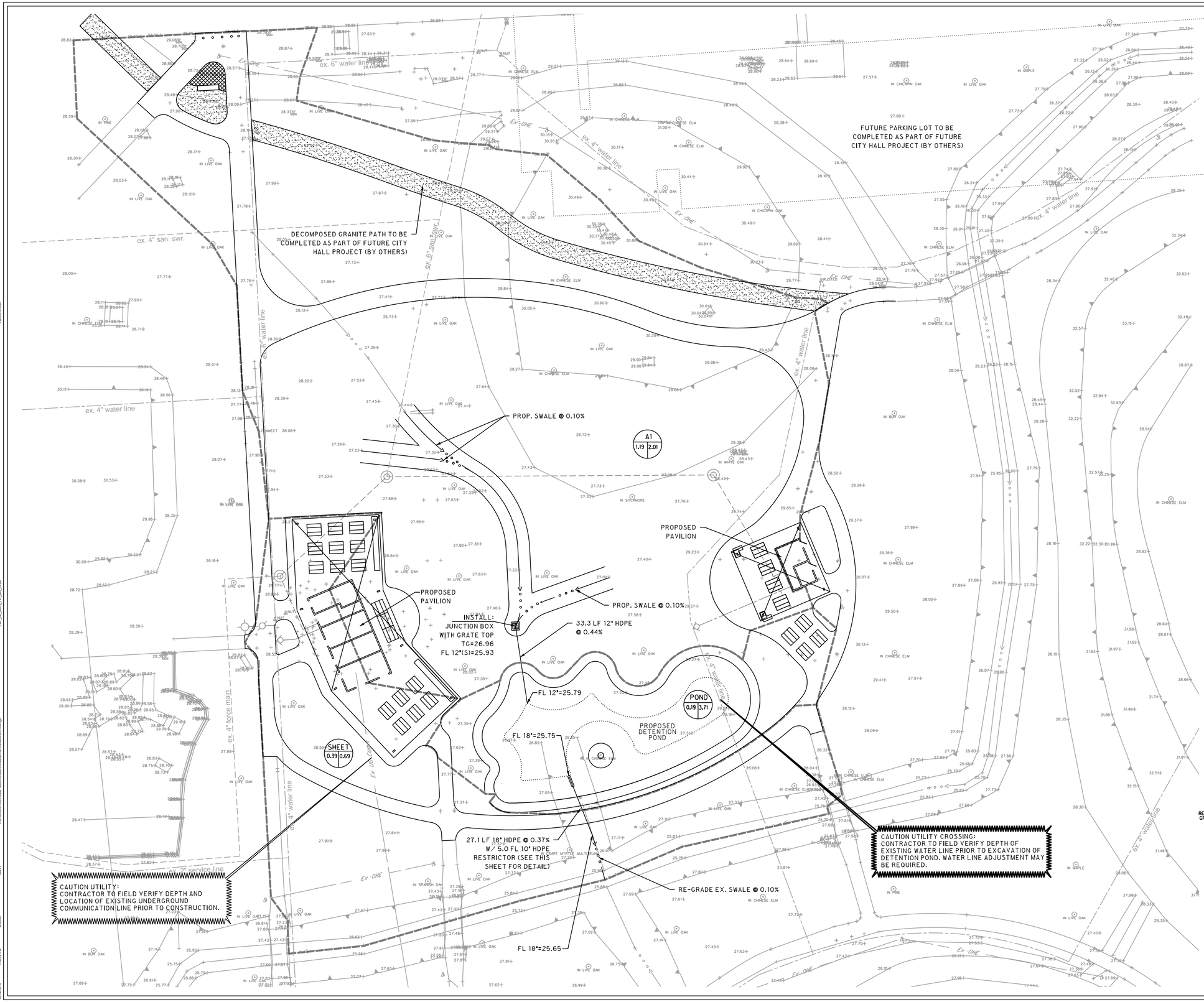
GRADING PLAN

C3.00

Sheet Number



N

SCALE: 1"=20'

LEGEND

DRAINAGE AREA (AC)	A1 0.28 | 0.79 — DRAINAGE AREA CUMULATIVE FLOW (CFS)
	DRAINAGE DIVIDE
	PROPOSED STORM DRAIN AND INLET
	PROPERTY LINE
	PROPOSED STORM DRAIN INLET
	BOTTOM OF POND
	TOP OF POND

STORM DRAINAGE NOTES:

1. SEE SHEET C7.01 FOR STORM DRAINAGE DETAILS AND CALCULATIONS.

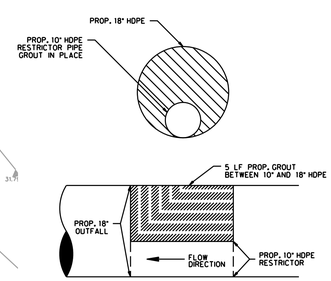
2. RIM ELEVATIONS SHALL BE PROPERLY ADJUSTED TO GRADE IN PAVEMENT AND SIDEWALKS. APPROVED BLOCKOUTS SHALL BE USED IN PAVEMENT.

3. ALL STORM SEWERS UNDER OR WITHIN 1 FT. OF PROPOSED OR FUTURE PAVEMENTS SHALL BE BACKFILLED WITH 1-1/2 SACK CEMENT STABILIZED SAND TO WITHIN 1 FT. OF SUBGRADE.

4. ALL STORM SEWER MANHOLES SHALL BE AS PER CITY OF DEER PARK STANDARDS UNLESS OTHERWISE NOTED. RACK OVER MANHOLE TO MISS PROPOSED CURB IF CONFLICT EXISTS (MAXIMUM RACK OF 1 FT. PER COURSE OF BRICK).

5. RIM ELEVATIONS SHOWN ON PLANS ARE APPROXIMATELY ONLY. RIM ELEVATIONS SHALL BE ADJUSTED TO THE FINISH GRADE AT EACH MANHOLE LOCATION AFTER FINAL GRADING OF PAVING HAS BEEN COMPLETED.

6. CONTRACTORS SHALL PROVIDE 12 INCHES MINIMUM CLEARANCE AT STORM SEWER AND WATER LINE CROSSINGS.



RESTRICTOR DETAIL
(NOT TO SCALE)

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

HALFF
TBPE FIRM # F-312
1825 SPEARS LANE, SUITE 160
HOUSTON, TEXAS 77079-2843
TEL (281) 370-0250
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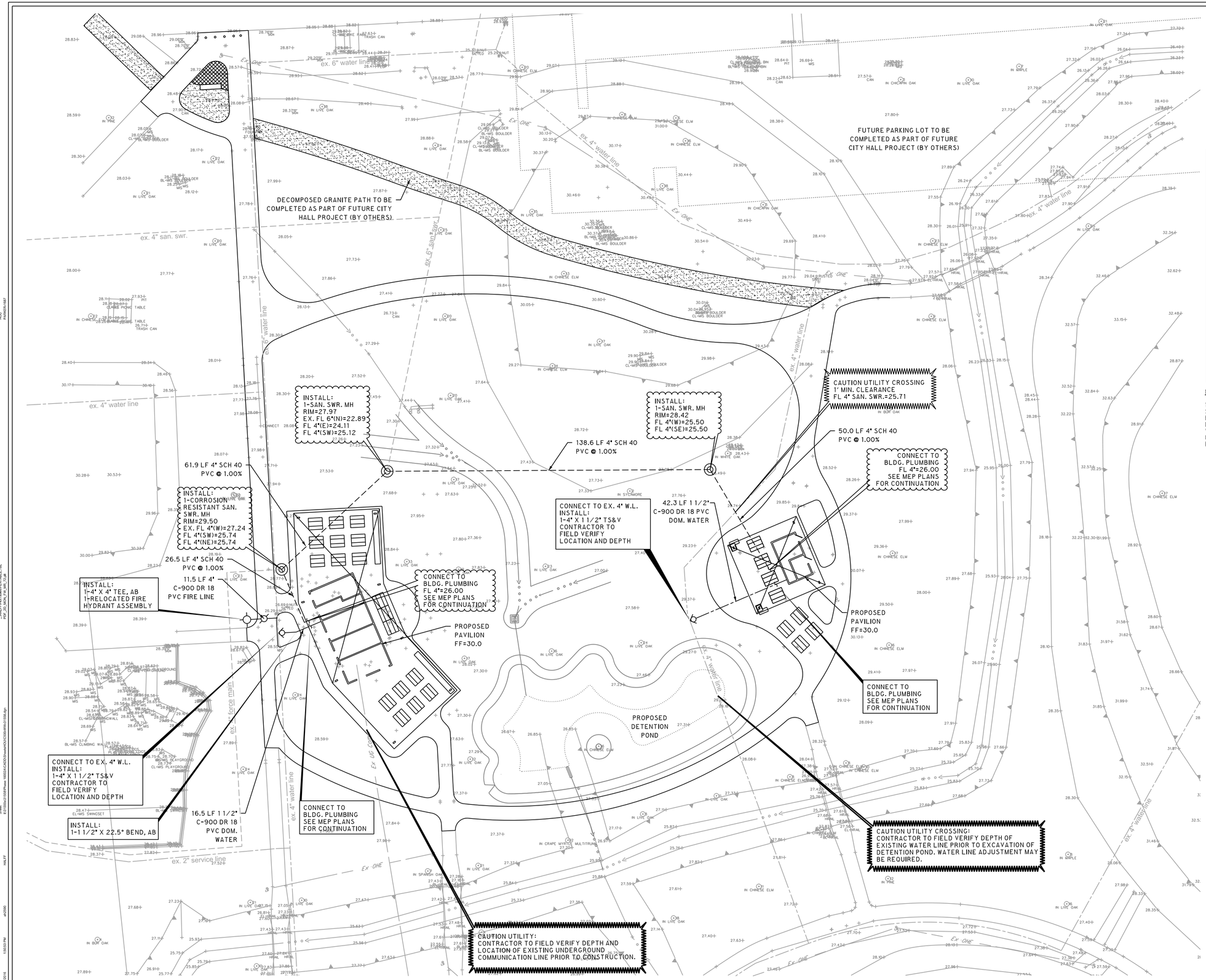
Sheet Title
STORM DRAINAGE PLAN

C4.00
Sheet Number



LEGEND

SSMH	EXISTING SS MANHOLE
CO	EXISTING CLEAN OUT
WV	EXISITNG WATER VALVE
	PROPOSED CLEAN OUT
	PROPOSED MANHOLE
	PROPOSED WATER VALVE
	PROPOSED WATER METER
	PROPOSED TS&V
	PROPOSED WATER LINE
	PROPOSED SANITARY SEWER

NOTES:

1. ALL UTILITIES PRESENTED ON THESE DRAWINGS ARE SHOWN AT THE APPROXIMATE LOCATIONS BASED ON THE BEST AVAILABLE INFORMATION PROVIDED BY THE CITY OF DEER PARK. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER OF ANY DISCREPANCIES

DOW PARK
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DEER PARK, TEXAS

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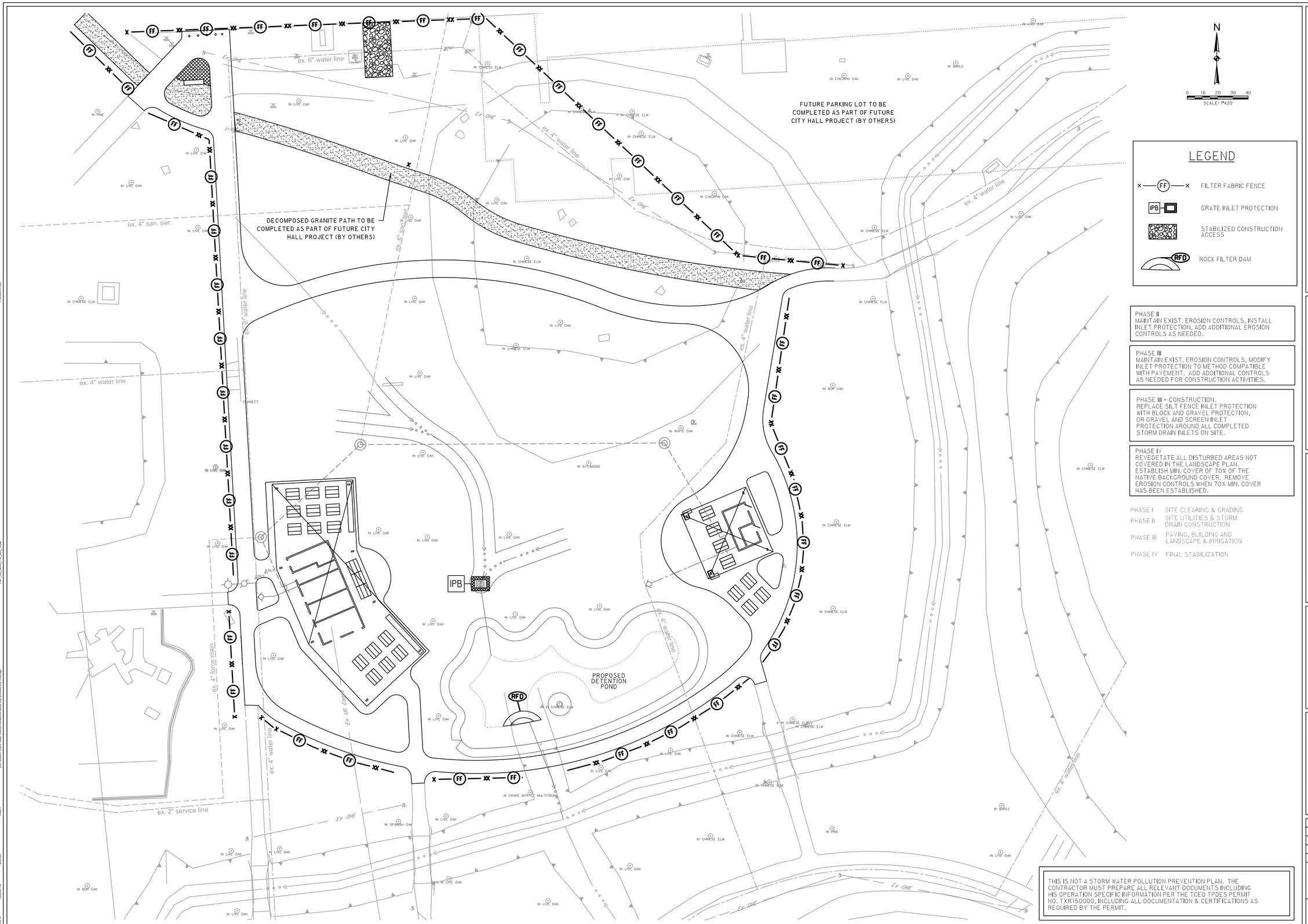
Sheet Title

WATER AND SEWER PLAN

C5.00

Sheet Number



PHASE II
MAINTAIN EXIST. EROSION CONTROLS, INSTALL INLET PROTECTION, ADD ADDITIONAL EROSION CONTROLS AS NEEDED.

PHASE III
MAINTAIN EXIST. EROSION CONTROLS, MODIFY INLET PROTECTION TO METHOD COMPATIBLE WITH PAVEMENT. ADD ADDITIONAL CONTROLS AS NEEDED FOR CONSTRUCTION ACTIVITIES.

PHASE III - CONSTRUCTION.
REPLACE SILT FENCE INLET PROTECTION WITH BLOCK AND GRAVEL PROTECTION, OR GRAVEL AND SCREEN INLET PROTECTION AROUND ALL COMPLETED STORM DRAIN INLETS ON SITE.

PHASE IV
REVEGETATE ALL DISTURBED AREAS NOT COVERED IN THE LANDSCAPE PLAN. ESTABLISH MIN. COVER OF 70% OF THE NATIVE BACKGROUND COVER. REMOVE EROSION CONTROLS WHEN 70% MIN. COVER HAS BEEN ESTABLISHED.

PHASE I	SITE CLEARING & GRADING
PHASE II	SITE UTILITIES & STORM DRAIN CONSTRUCTION
PHASE III	PAVING, BUILDING AND LANDSCAPE & IRRIGATION
PHASE IV	FINAL STABILIZATION

THIS IS NOT A STORM WATER POLLUTION PREVENTION PLAN. THE CONTRACTOR MUST PREPARE ALL RELEVANT DOCUMENTS INCLUDING HIS OPERATION SPECIFIC INFORMATION PER THE TCEQ TPDES PERMIT NO. TXR150000, INCLUDING ALL DOCUMENTATION & CERTIFICATIONS AS REQUIRED BY THE PERMIT.

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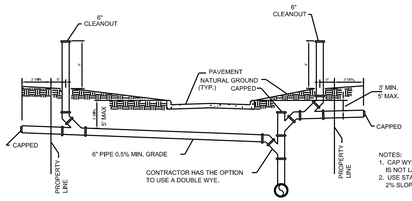
Sheet Title
EROSION CONTROL PLAN

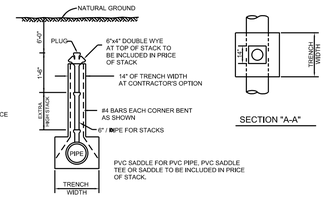
C6.00
Sheet Number



NOTES:
1. CAP WYE IN STACK OR MAIN WHEN SERVICE IS NOT LAID TO PROPERTY LINE.
2. USE STACK OR STEEPEN AT MAIN WHEN 2% SLOPE IS EXCEEDED.

SANITARY SEWER CONNECTION with STACK - DETAIL (D)

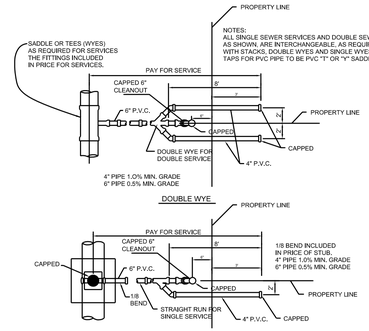
SCALE: NONE



SANITARY SEWER SERVICE DETAIL

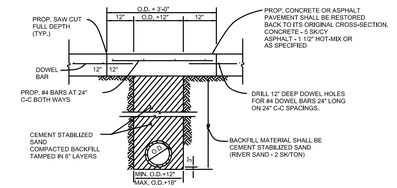
SCALE: NONE

SECTION "A-A"



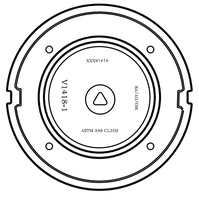
SEWER SERVICE PLAN

SCALE: NONE



CONCRETE PAVEMENT

BOTTOM VIEW



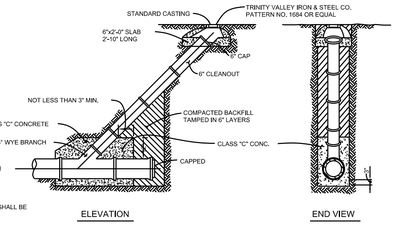
NOTE:
23" MANHOLE COVER CAN BE USED ONLY FOR REPLACEMENT OF EXISTING MANHOLE COVER.

TOP VIEW

PLAN

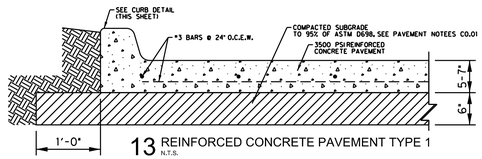
MANHOLE FRAME AND COVER

(NOT TO SCALE)



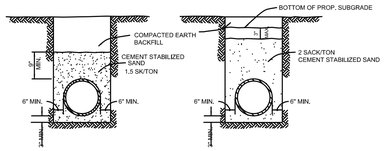
CLEANOUT DETAILS

SCALE: NONE



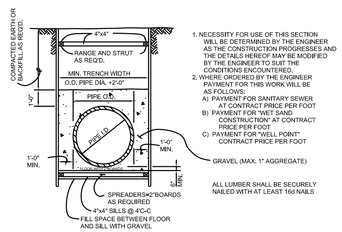
13 REINFORCED CONCRETE PAVEMENT TYPE 1

N.T.S.



BEDDING DETAILS

SCALE: NONE

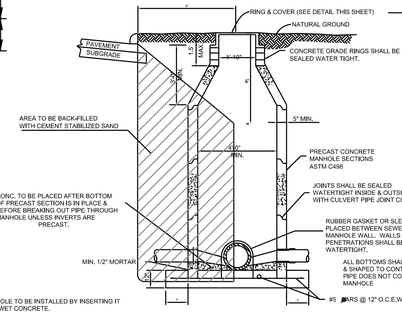


1. NECESSITY FOR USE OF THIS SECTION WILL BE DETERMINED BY THE ENGINEER AS THE CONSTRUCTION PROGRESSES AND THE DETAILS HEREOF MAY BE MODIFIED BY THE ENGINEER TO SUIT THE CONDITIONS ENCOUNTERED.
2. WHERE ORDERED BY THE ENGINEER PAYMENT FOR THIS WORK WILL BE AS FOLLOWS:
   A) PAYMENT FOR SANITARY SEWER AT CONTRACT PRICE PER FOOT
   B) PAYMENT FOR "WET SAND CONSTRUCTION" AT CONTRACT PRICE PER FOOT
   C) PAYMENT FOR "WELL POINT" CONTRACT PRICE PER FOOT

ALL LUMBER SHALL BE SECURELY NAILED WITH AT LEAST 16d NAILS

WET SAND CONSTRUCTION DETAIL

SCALE: NONE



MANHOLE TO BE INSTALLED BY INSERTING IT INTO WET CONCRETE.

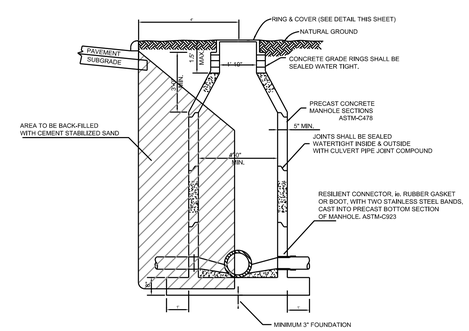
CONCRETE BASE TO BE CLASS "A" CONCRETE.

TIE NEW SANITARY MAIN TO AN EXISTING SANITARY LINE WITH A NEW MANHOLE

SCALE: NONE

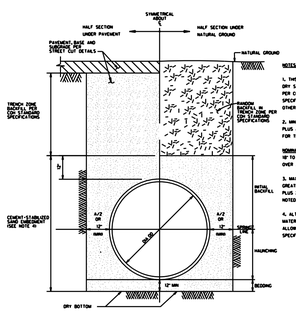
NOTES

1. BACKFILL UNIFORMLY AROUND MANHOLE UNLESS MH IS UNDER PAVEMENT, THEN 2 SK/TON CEMENT STABILIZED SAND WILL BE REQUIRED.
2. ALL MANHOLES SHALL HAVE STAINLESS STEEL MANHOLE COVER INSERTS.
3. ALL EXCAVATIONS WITHIN 4' OF BACK-OF-CURB SHALL BE BACKFILLED & COMPACTED WITH CEMENT STABILIZED SAND 1.5 SK/TON.
4. MANHOLES SHALL BE SET ON A SOLID LEVEL, & STABLE FOUNDATION, EITHER CEMENT STABILIZED SAND 1.5 SK/TON, MIN. 2", (KEPT DRY UNTIL IT HAS SET UP), UNSTABLE SUBGRADE TREATMENT SHALL BE APPROVED BY THE CITY ENGINEER.



PRECAST MANHOLE DETAIL

SCALE: NONE



NOTES:

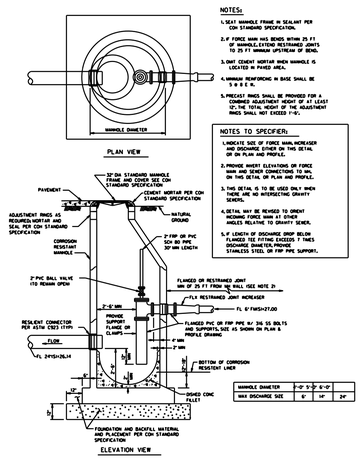
1. THIS DETAIL MAY BE USED ONLY FOR DRY STABLE TRENCH CONDITIONS PER CDH STANDARD. SEE CDH STANDARD SPECIFICATION FOR REQUIREMENTS IN OTHER CONDITIONS.
2. MIN TRENCH WIDTH SHALL BE PIPE OD PLUS AN ALLOWANCE "W" FOR THE NOMINAL PIPE SIZE:

NOMINAL PIPE SIZE	"W"
12" TO 30"	24"
OVER 30"	36"

3. MAX TRENCH WIDTH SHALL BE NOT GREATER THAN MIN TRENCH WIDTH PLUS 24 INCHES, UNLESS OTHERWISE NOTED.
4. ALTERNATIVE EMBEDMENT BACKFILL MATERIALS FOR FORCE MAINS MAY BE ALLOWED. SEE CDH STANDARD SPECIFICATIONS.

SANITARY OR STORM SEWER BEDDING AND BACKFILL FOR DRY STABLE TRENCH

SCALE: NTS



NOTES:

1. SEAT MANHOLE FRAME IN SEALANT PER CDH STANDARD SPECIFICATION.
2. IF FORCE MAIN HAS BENDS WITHIN 25 FT OF MANHOLE, EXTEND RESTRAINED JOINTS TO 25 FT MINIMUM UPSTREAM OF BEND.
3. OMIT CEMENT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREA.
4. MINIMUM REINFORCING IN BASE SHALL BE 5 @ 5 E.W.
5. PRECAST RINGS SHALL BE PROVIDED FOR A COMBINED ADJUSTMENT HEIGHT OF AT LEAST 12", THE TOTAL HEIGHT OF THE ADJUSTMENT RINGS SHALL NOT EXCEED 1'-0".

NOTES TO SPECIFIER:

1. INDICATE SIZE OF FORCE MAIN, INCREASER AND DISCHARGE EITHER ON THIS DETAIL OR ON PLAN AND PROFILE.
2. PROVIDE INVERT ELEVATIONS OF FORCE MAIN AND SEWER CONNECTIONS TO MH, ON THIS DETAIL OR PLAN AND PROFILE.
3. THIS DETAIL IS TO BE USED ONLY WHEN THERE ARE NO INTERFERING GRAVITY SEWERS.
4. DETAIL MAY BE REVISED TO DIRECT FLOW FROM FORCE MAIN AT OTHER ANGLES RELATIVE TO GRAVITY SEWER.
5. IF LENGTH OF DISCHARGE DROP BELOW FLANGED TEE FITTING EXCEEDS 7 TIMES DISCHARGE DIAMETER, PROVIDE STAINLESS STEEL OR FRP PIPE SUPPORT.

MANHOLE DIAMETER	4'-0"	5'-0"	6'-0"	
MAX DISCHARGE SIZE	6"	14"	24"	

STORM SEWER CORROSION RESISTANT MANHOLE FOR FORCE MAIN DISCHARGE

SCALE: NTS

DOW PARK

NEW PAVILIONS

DEER PARK, TEXAS

HALFF

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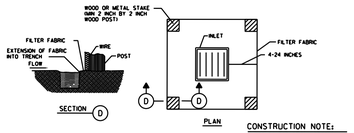
DETAILS

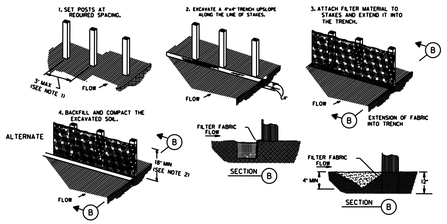
C7.00

Sheet Number



CONSTRUCTION NOTE:
1. SEE CONSTRUCTION NOTES FOR INFB.

INLET PROTECTION BARRIER
SCALE:NTS



CONSTRUCTION NOTES:
1. 2 INCH THICK BY 2 INCH WOODEN STAKES TO BE SET AT MAX SPACING OF 3 FEET AND EMBEDDED A MIN OF 8 INCHES. IF PREASSEMBLED FENCE WITH SUPPORT METING IS USED, SPACING BETWEEN SUPPORTS SHALL NOT EXCEED 10 FEET.
2. ATTACH FILTER FABRIC TO WOODEN STAKES. THE FILTER FABRIC FENCE SHALL HAVE A MIN HEIGHT OF 18 INCHES AND MAX HEIGHT OF 36 INCHES ABOVE NATURAL GROUND.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHOULD BE OVERLAPPED 6 INCHES AT THE POSTS, AND FOLDED.
4. SEE COH STANDARD SPECIFICATION FOR FILTER FABRIC FENCE.

FILTER FABRIC FENCE
SCALE:NTS

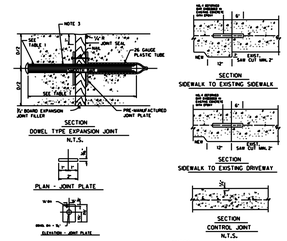


TABLE 1

PAVEMENT THICKNESS (IN)	DOWEL SIZES AND SPACINGS		
	DIAMETER (IN)	LENGTH (IN)	SPACING (IN)
< 7 1/2	1/2	18	12
7	5/8	18	12
8	3/4	18	12
9	7/8	18	12

NOTES:
1. STEEL TO MEET ASTM STANDARD SPECIFICATIONS FOR CONCRETE REINFORCING BARS.
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 90 FEET.
3. CENTER DOWEL HORIZONTALLY ON JOINT.
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN 2" MIN COVER

SIDEWALK
EXPANSION AND CONSTRUCTION
JOINT DETAILS
N.T.S.

Inlet or MH from	Inlet or MH to	Area (acres)	2 yr 100 yr Sum of A	75.01 125.4 C	16.2 21.8 Intensity I (in/hr)	0.8315 0.75 Sum of Flows (cfs)	Time of Conc. (min)	Reach Length (ft)	Diameter or Rise (inches)	Slope (ft/ft)	Manning's n	Design Capacity (cfs)	Design Velocity (ft/s)	Fall (ft)	Manhole Drop (feet)	Flowline Elevation Upstream (feet)	Flowline Elevation Downstream (feet)	Actual Velocity (ft/s)	Friction loss (ft)	Hydraulic Gradient %	Change in head (ft)	Elevation of Hyd. Grad. Upstream (ft)	Elevation of Hyd. Grad. Downstream (ft)
Dow Park																							
A1	POND	1.19	1.19	0.5	3.39	2.01	25.31	33.3	12	0.0044	0.013	2.37	3.02	0.15	0.00	25.99	25.84	2.56	0.04	0.0032	0.106	26.95	26.84
POND	OUT	0.19	1.38	0.8	3.37	3.71	25.58	27.1	18	0.0026	0.013	5.37	3.04	0.07	0.00	25.72	25.65	2.10	0.02	0.0012	0.034	27.18	27.15
SHEET	FLOW	0.39	0.39	0.5	3.51	0.69	23.48																

DETENTION VOLUME:

TOTAL DISTURBED AREA: 1.77 ACRES
IMPERVIOUS COVER REMOVED: 0.24 ACRES
PROPOSED IMPERVIOUS COVER: 0.48 ACRES

INCREASE IN IMPERVIOUS COVER: 0.24 ACRES

DETENTION RATE: 0.55 AC-FT/ACRE OF INCREASED IMPERVIOUS COVER

REQUIRED DETENTION VOLUME: 0.13 AC-FT = 213.0 CY

DETENTION VOLUME PROVIDED (WSEL=28.21): 0.15 AC-FT = 242.2 CY

DETENTION POND RELEASE RATE: 4.6 cfs

RELEASE RATE:

TOTAL SITE AREA = 1.77 ac

ALLOWABLE RELEASE RATE PER HCFCD PCPM 2010:
1% PRE-DEVELOPMENT FLOW = 5.49 cfs
1% POST-DEVELOPMENT FLOW = 6.73 cfs

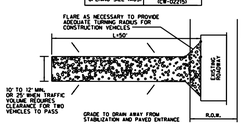
PROVIDED RELEASE RATE THRU 10" RESTRICTOR:

$Q = CA\sqrt{2gh}$
C = 0.8
A = 0.545 sf (AREA OF 10")
g = 32.2
h = 1.71 ft (28.21-(25.75+0.75)
$Q = (0.8)(0.545)\sqrt{2(32.2)(1.71)}$
Q = 4.58 cfs

ELEVATION

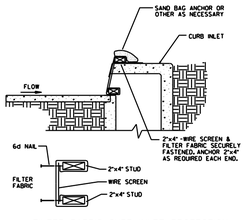
MINIMUM FILTER FABRIC SPECS.

GRAB TENSILE STRENGTH	200 LBS. (ASTM D1682)
ELONGATION FAILURE	30% (ASTM D1682)
MULLEN BURST STRENGTH	400 PSI. (ASTM D3786)
PUNCTURE STRENGTH	125 LBS. (ASTM D751) MANDRED
APPARENT OPENING SIZE (AOS)	GREATER THAN #50. (US STD.SIEVE) (CW-02215)

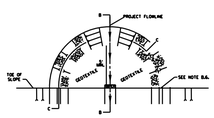


PLAN VIEW

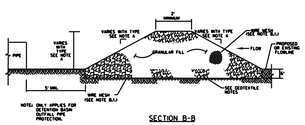
STABILIZED CONSTRUCTION ENTRANCE
SCALE:NTS



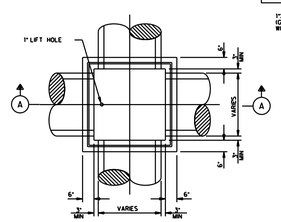
FILTER FABRIC CURB INLET PROTECTION
(NOT TO SCALE)



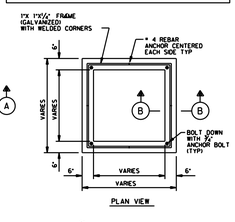
FILTER DAM AT DETENTION BASIN OUTFALL PIPE
PLAN



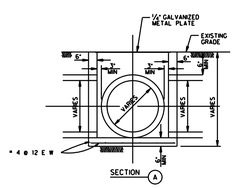
SECTION B-B



PLAN VIEW

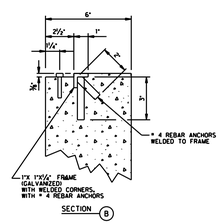


PLAN VIEW



SECTION A

JUNCTION BOX DETAIL



SECTION B

LID FRAME DETAIL

STORM SEWER
JUNCTION BOX WITH LID FOR A
MAXIMUM OF 24" DIAMETER STORM SEWER
(NOT TO SCALE)

NOTES:
1. DETAIL TO BE USED WHERE STORM SEWER SIZE IS 24" DIA OR LESS.
2. FOR SEWERS GREATER 24" DIA USE TYPE "C" MANHOLE.

NOTES TO SPECIFIER:
1. WALLS TO BE 6" CONCRETE (WALLS TO BE 8" THICK IF CONSTRUCTED OF BRICK).
2. NOT TO BE USED IN STREET. FOR AREA BETWEEN CURB AND PROPERTY LINE ONLY.

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

HALFF

Revision No.	Date	Description

PRELIMINARY
FOR INTERIM REVIEW ONLY

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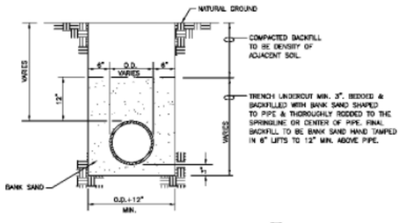
KRISTIN M. LEBLANC — 101145
NAME — P.E. NO.
DATE — 10/14/2016
TBPE FIRM #F-312

Project No.:	31558 PH 16002A
Issued:	10/14/2016
Drawn By:	SEP
Checked By:	KML
Scale:	AS NOTED

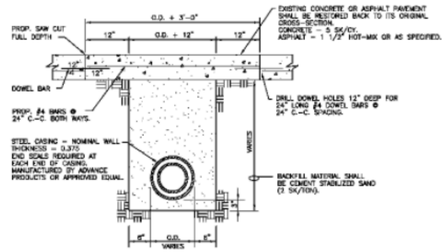
Sheet Title
DETAILS

C7.01
Sheet Number

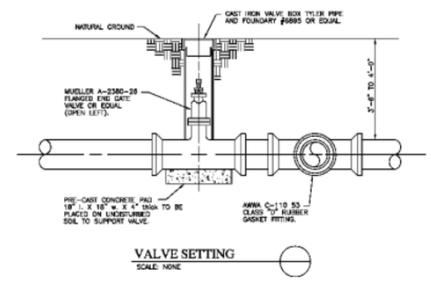


TYPICAL TRENCH DETAIL
SCALE: NONE

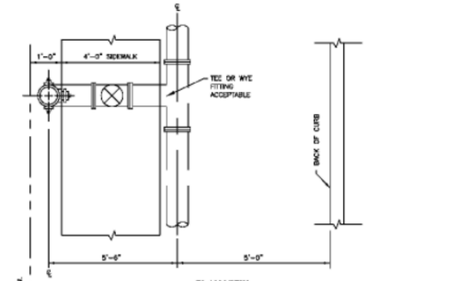
PVC PIPE BEDDING



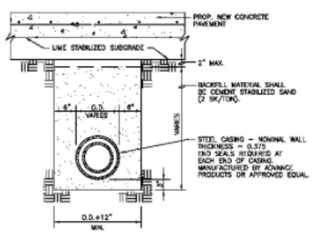
CONCRETE OR ASPHALT PVM'T ROADWAY TRENCH
SCALE: NONE



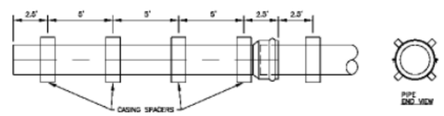
VALVE SETTING
SCALE: NONE



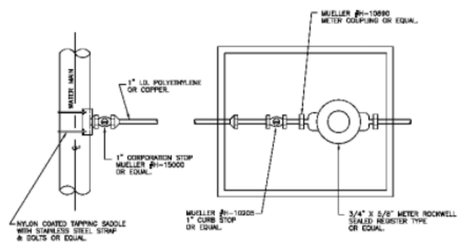
PLAN VIEW
SCALE: NONE



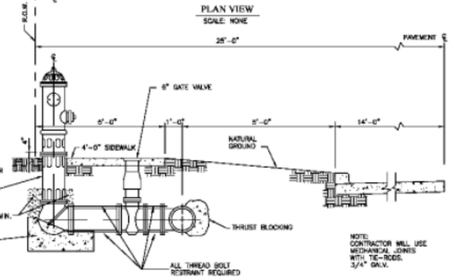
TYPICAL TRENCH DETAIL FOR NEW SUBDIVISION
SCALE: NONE



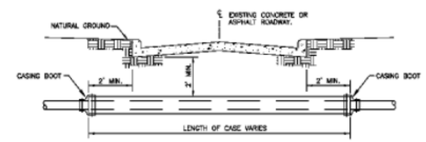
MANUFACTURED CASING SPACERS DETAIL
SCALE : NONE



SINGLE WATER SERVICE CONNECTION PLAN
SCALE : NONE



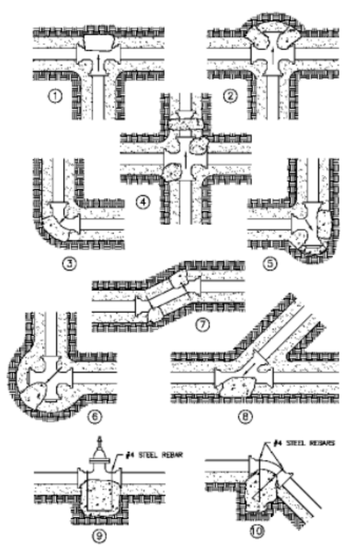
FIRE HYDRANT DETAIL FOR 50' R.O.W.
SCALE: NONE



TYPICAL BORE AND CASE FOR CURB AND GUTTER
SCALE : NONE

GENERAL NOTES:

1. FIRE HYDRANTS SHALL BE PAINTED WITH INDUSTRIAL ENAMEL:
   A. BODY : SAFETY YELLOW
   B. BONNET & CAPS ON 6" MAINS : SAFETY ORANGE
   C. BONNET & CAPS ON 8" & LARGER MAINS : JOHN DEER GREEN
2. FIRE HYDRANTS SHALL BE , "OPEN LEFT".

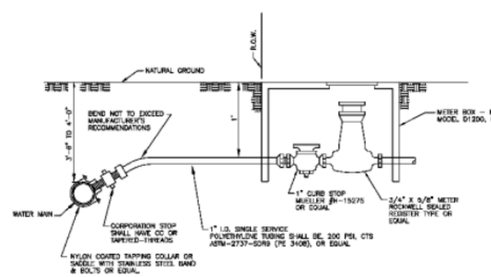


THRUST BLOCKING DETAIL
SCALE: NONE

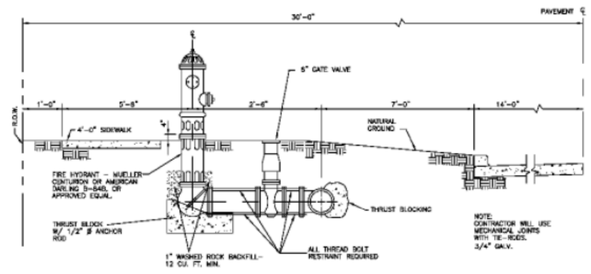
MINIMUM SIZE OF THRUST BLOCK				
PIPE SIZE	6"	8"	10"	12"
90° BEND	1 CU. FT.	2 CU. FT.	3 CU. FT.	4 CU. FT.
45° BEND	1 CU. FT.	1 CU. FT.	2 CU. FT.	3 CU. FT.
22 1/2°	1 CU. FT.	1 CU. FT.	1 CU. FT.	1 CU. FT.
11 1/4°	1 CU. FT.	1 CU. FT.	1 CU. FT.	1 CU. FT.

NOTES:

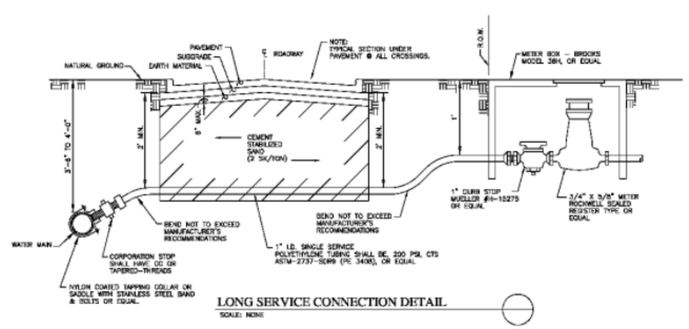
1. RESTRAINS OR THRUST BLOCKING SHALL BE INSTALLED ON ALL SIZES OF CITY WATER MAINS.
2. THRUST BLOCKING SHALL BE INSTALLED ON WATER MAIN LINES OF 8" DIA. & LARGER IN THE MANNER SHOWN AND WITH THE REQUIRED SIZE OF CONCRETE THRUST BLOCKING- SEE TABLE ABOVE.
3. ALL BENDS, TEES, WYES, OR CROSSES SHALL HAVE THRUST BLOCKING, GALVANIZED ALL-THREAD RODS WITH CLAMPS. ALSO, OTHER RESTRAINT SYSTEMS MAY BE ALLOWED WITH THE APPROVAL OF THE CITY ENGINEER.



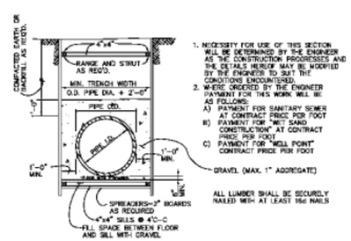
SHORT SERVICE CONNECTION DETAIL
SCALE: NONE



FIRE HYDRANT DETAIL FOR 60' R.O.W.
SCALE: NONE

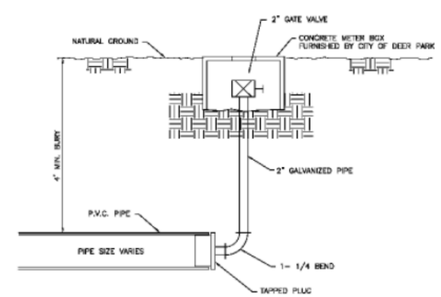


LONG SERVICE CONNECTION DETAIL
SCALE: NONE



1. NECESSITY FOR USE OF THIS SECTION WILL BE DETERMINED BY THE ENGINEER AS THE CONSTRUCTION PROGRESSES AND THE DETAILS HEREON MAY BE MODIFIED BY THE ENGINEER TO SUIT THE CONDITIONS ENCOUNTERED.
2. WHERE ORDERED BY THE ENGINEER PAYMENT FOR THIS WORK WILL BE AS FOLLOWS:
   A) PAYMENT FOR SANITARY SEWER AT CONTRACT PRICE PER FOOT
   B) PAYMENT FOR "WET SAND CONSTRUCTION" AT CONTRACT PRICE PER FOOT
   C) PAYMENT FOR "NULL POINT" CONTRACT PRICE PER FOOT

WET SAND CONSTRUCTION DETAIL
SCALE: NONE



BLOW-OFF VALVE DETAIL
SCALE: NONE

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1			
2			
3			
4			
5			
6			
7			

REVISIONS

DATE: 05/02/05
PROJECT NO.:
DRAWN BY: JDMENDEZ
CHECKED BY:
SCALE: AS SHOWN
CAD FILE: STD WATER DETAILS (10KA.5)

CITY OF DEER PARK

STANDARD WATER DETAILS

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

HALFF

Revision		
No.	Date	Description

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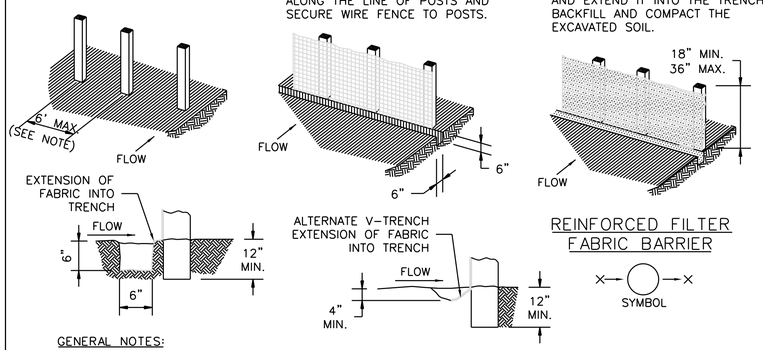
KRISTIN M. LEBLANC 101145
NAME P.E. NO.
DATE 10/14/2016
TBPE FIRM #F-312

Project No.:	31558 PH 16002A
Issued:	10/14/2016
Drawn By:	SEP
Checked By:	KML
Scale:	AS NOTED

Sheet Title
DETAILS

C7.02
Sheet Number

1. SET POSTS AT REQUIRED SPACING
2. EXCAVATE A 6"x6" TRENCH UPSLOPE ALONG THE LINE OF POSTS AND SECURE WIRE FENCE TO POSTS.
3. ATTACH FILTER FABRIC TO POSTS AND EXTEND IT INTO THE TRENCH. BACKFILL AND COMPACT THE EXCAVATED SOIL.

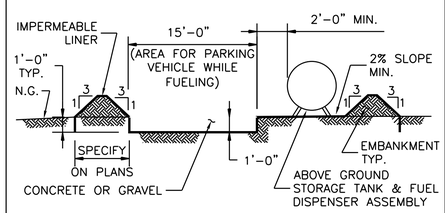


REINFORCED FILTER FABRIC BARRIER

SYMBOL

GENERAL NOTES:

1. SECURELY FASTEN MESH FENCING TO POSTS WITH STAPLES OR TIE WIRES.
2. SECURELY FASTEN FILTER FABRIC TO MESH FENCING.
3. WHEN TWO SECTIONS OF FILTER FABRIC ADJOIN EACH OTHER, OVERLAP 6 INCHES AT A POST, FOLD TOGETHER, AND ATTACH TO A POST.
4. REMOVE SEDIMENT DEPOSITS WHEN SILT REACHES ONE-THIRD OF THE HEIGHT OF THE FENCE IN DEPTH.

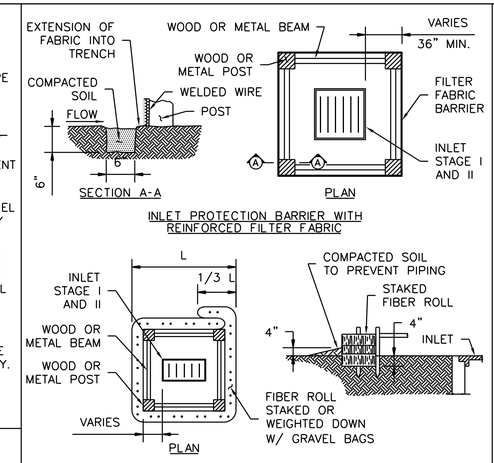


ABOVE GROUND TEMP. VEHICLE & EQUIPMENT FUELING AREA WITH TANK

TFA SYMBOL

GENERAL NOTES:

1. THE SIZE OF TANK FOUNDATION AREA DEPENDS ON THE SIZE OF ABOVE GROUND STORAGE TANK AND DISPENSER ASSEMBLY.
2. PROVIDE A MINIMUM SLOPE OF 2 % TOWARD THE SUMP PIT.
3. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS.

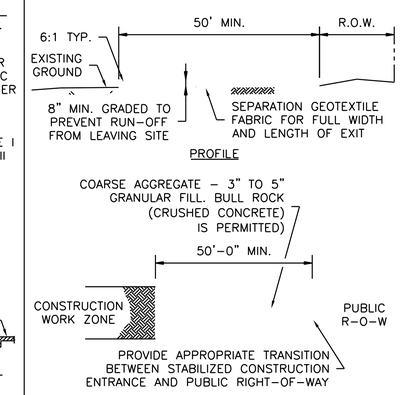


GENERAL NOTES:

1. FIBER ROLLS WILL BE UTILIZED ONLY WHEN SITE CONDITIONS DO NOT PERMIT THE USE OF FILTER FABRIC BARRIER, AND AS APPROVED BY THE ENGINEER.

INLET PROTECTION BARRIERS FOR STAGE I INLETS

IPB SYMBOL

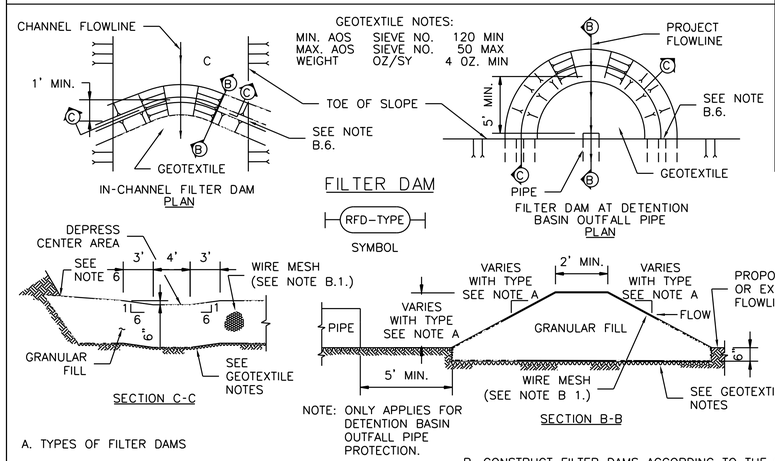


STABILIZED CONSTRUCTION ACCESS

SC-1 SYMBOL

GENERAL NOTES:

1. MINIMUM LENGTH IS AS SHOWN ON CONSTRUCTION DRAWINGS OR 50 FEET, WHICHEVER IS MORE.
2. CONSTRUCT AND MAINTAIN CONSTRUCTION EXIT WITH CONSTANT WIDTH ACROSS ITS LENGTH, INCLUDING ALL POINTS OF INGRESS OR EGRESS.
3. UNLESS SHOWN ON THE CONSTRUCTION DRAWINGS, STABILIZATION FOR OTHER AREAS WILL HAVE THE SAME AGGREGATE THICKNESS AND WIDTH REQUIREMENTS AS THE STABILIZED CONSTRUCTION EXIT.
4. WHEN SHOWN ON THE CONSTRUCTION DRAWINGS, WIDEN OR LENGTHEN STABILIZED AREA TO ACCOMMODATE A TRUCK WASHING AREA. PROVIDE OUTLET SEDIMENT TRAP FOR THE TRUCK WASHING AREA.
5. PROVIDE PERIODIC TOP DRESSING WITH ADDITIONAL COARSE AGGREGATE TO MAINTAIN THE REQUIRED DEPTH OR WHEN SURFACE BECOMES PACKED WITH MUD.
6. PERIODICALLY TURN AGGREGATE TO EXPOSE A CLEAN DRIVING SURFACE.
7. MINIMUM 14' WIDTH FOR ONE WAY TRAFFIC AND 20' WIDTH FOR TWO WAY TRAFFIC.



FILTER DAM

RFD-TYPE SYMBOL

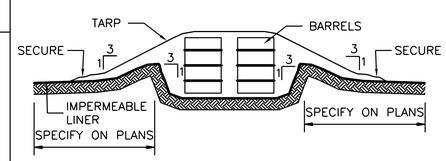
NOTE: ONLY APPLIES FOR DETENTION BASIN OUTFALL PIPE PROTECTION.

A. TYPES OF FILTER DAMS

1. TYPE 1 (NON-REINFORCED)
   a. HEIGHT - 18-24 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH - 2 FEET (MINIMUM)
   c. SLOPES - 2:1 (MAXIMUM).
2. TYPE 2 (REINFORCED).
   a. HEIGHT - 18-36 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH - 2 FEET (MINIMUM).
   c. SLOPES - 2:1 (MAXIMUM).
3. TYPE 3 (REINFORCED)
   a. HEIGHT - 36-48 INCHES. MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH - 2 FEET (MINIMUM).
   c. SLOPES - 3:1 (MAXIMUM).
4. TYPE 4 (GABION)
   a. HEIGHT - 30 INCHES (MINIMUM). MEASURE VERTICALLY FROM EXISTING GROUND TO TOP OF FILTER DAM.
   b. TOP WIDTH - 2 FEET (MINIMUM).
5. TYPE 5. AS SHOWN ON THE PLANS.

B. CONSTRUCT FILTER DAMS ACCORDING TO THE FOLLOWING CRITERIA UNLESS SHOWN OTHERWISE ON THE PLANS.

1. TYPE 2 AND 3 FILTER DAMS: SECURE WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1 INCH DIAMETER HEXAGONAL OPENINGS.
2. PLACE GRANULAR FILL ON THE WIRE MESH TO HEIGHT AND SLOPES SHOWN ON PLANS OR AS SPECIFIED BY THE ENGINEER.
   a. 3-5 INCHES FOR ROCK FILTER DAM TYPES 1, 2 AND 4.
   b. 4-8 INCHES FOR ROCK FILTER DAM TYPE REFER TO GRANULAR FILL IN SPECIFICATION SECTION No. 02378 RIPRAP AND GRANULAR FILL.
3. FOLD WIRE MESH AT UPSTREAM SIDE OVER GRANULAR FILL AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS.
4. IN STREAMS: SECURE OR STAKE MESH TO STREAM BED PRIOR TO AGGREGATE PLACEMENT.
5. SEE HCFCD SPECIFICATION SECTION NO. 02364-FILTER DAMS.
6. EMBED ONE FOOT MINIMUM INTO SLOPE AND RAISE ONE FOOT HIGHER THAN CENTER OF DEPRESSED AREA AT SLOPE.

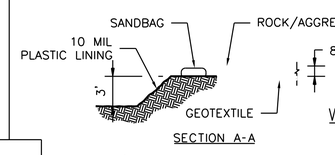


BARREL STORAGE AREA

BSA SYMBOL

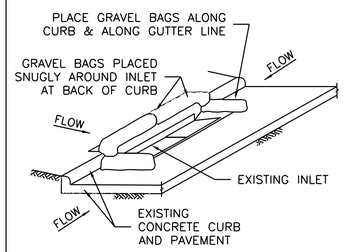
GENERAL NOTES:

1. ALTERNATIVELY, STORE BARRELS IN AN ENCLOSED BUILDING OR SHED.
2. INSTALL IMPERMEABLE LINER AS PER MANUFACTURER'S RECOMMENDATIONS. 60 mil MINIMUM.
3. CONSTRUCT BERMED AREA WITH VOLUME GREATER THAN OR EQUAL TO 110% VOLUME OF BARRELS.



CONCRETE TRUCK WASHOUT AREA

CTW SYMBOL

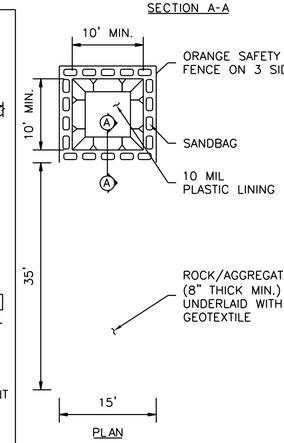


INLET PROTECTION BARRIERS FOR STAGE II INLETS

IPB-II SYMBOL

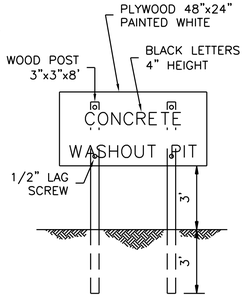
GENERAL NOTES:

1. REMOVE SEDIMENT DEPOSIT WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-THIRD THE HEIGHT OF THE BARRIER.
2. GRAVEL BAGS SHALL NOT BLOCK THROAT OF INLET UNLESS DIRECTED BY ENGINEER.



GENERAL NOTES:

1. POST A SIGN READING "CONCRETE WASHOUT PIT" NEXT TO THE PIT.
2. VERBALLY INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASHOUT THEIR TRUCKS IN THE PIT AND NOWHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASHOUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASHOUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.



SIGN DETAIL
(OR EQUIVALENT)

NO.	REVISIONS	DATE	NAME
1	UPDATED DEPARTMENT NAME	2/15/15	RS

HARRIS COUNTY
ENGINEERING DEPARTMENT

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ENGINEER:
P.E. SERIAL No.
DATE:

PROJECT TITLE:

DRAWN BY: JDZ		HCED STANDARD
CK'D BY: NR	SHEET DESCRIPTION: STORM WATER POLLUTION	29
SCALE: NONE	PREVENTION PLAN DETAILS	SHEET NO:
DATE:	APPROVED BY:	/

DOW PARK
NEW PAVILIONS
DEER PARK, TEXAS

HALFF

Revision No.	Date	Description

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KRISTIN M. LEBLANC 101145
NAME P.E. NO.
DATE 10/14/2016
TBPE FIRM #F-312

Project No.:	31558 PH 16002A
Issued:	10/14/2016
Drawn By:	SEP
Checked By:	KML
Scale:	AS NOTED

Sheet Title
DETAILS

C7.03
Sheet Number

u:\harris county\29 - storm water pollution prevention plan details.dwg

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Sheet Key

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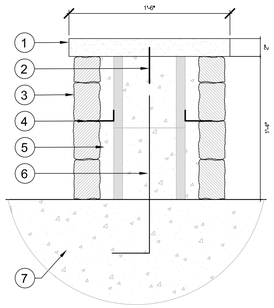
Checked By:	CM

SITE PLAN

L1.00



KEY

1. 2" x 18" x 24" CAST STONE CAP
2. 3/8" x 4" THREADED GALVANIZED STEEL PIN (TYP.) MORTAR SET INTO CAST STONE CAP. SPACE EVERY OTHER CMU CELL.
3. STONE VENEER (TYP.) VENEER TO BE 3" DEEP, BETWEEN 2" AND 8" IN HEIGHT, AND BETWEEN 8" AND 24" IN LENGTH.
4. MASONRY TIES SPACED EVERY 18" O.C.
5. CMU BLOCK STRUCTURE (TYP.) FILL ALL CELLS WITH MORTAR.
6. #3 STEEL REBAR, SPACED EVERY OTHER CMU CELL. TIE INTO PAVING REBAR.
7. CONCRETE PAVING, SEE LAYOUT PLANS.

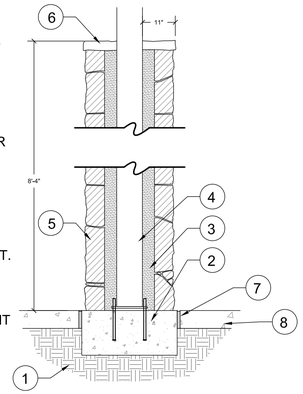
3 TYP. SEAT WALL

1 1/2" = 1'-0"

P-TR-DOW-58

KEY:

1. COMPACTED SUBGRADE TO MAX. 95% DENSITY
2. CONCRETE FOOTING. REFER TO CIVIL.
3. FILL CAVITY BEHIND VENEER WITH GROUT
4. VERTICAL SUPPORT FOR PAVILION. SEE AX.X.
5. 3" STONE VENEER. STACKED AROUND SUPPORT.
6. STONE CAP. MATERIAL
7. TYPICAL 1" EXPANSION JOINT
8. 4" CONCRETE PAD, REFER TO CIVIL

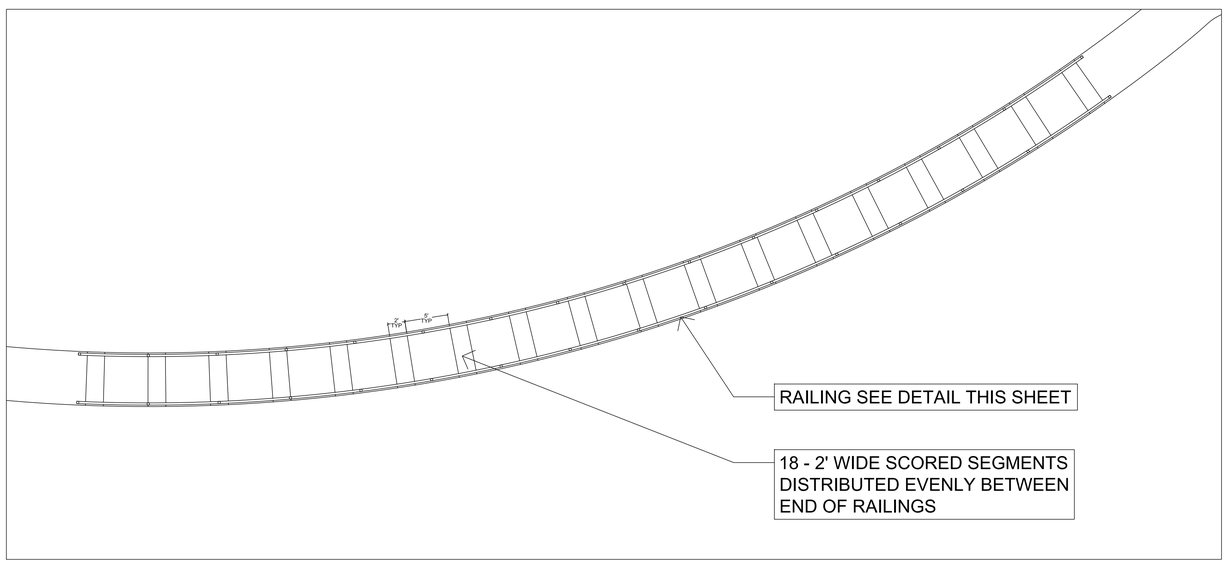


SECTION

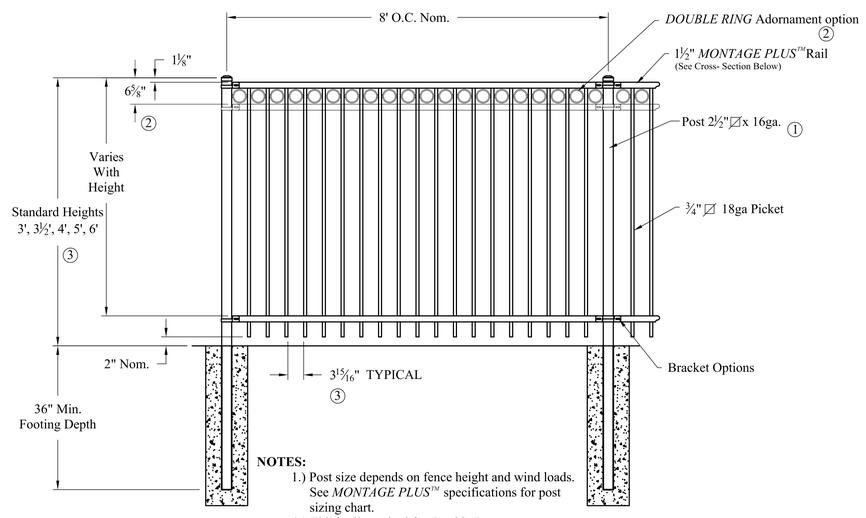
4 STONE VENEER COLUMN

1/2" = 1'-0"

P-TR-DOW-03



CONCRETE SCORING



NOTES:

1.) Post size depends on fence height and wind loads. See *MONTAGE PLUS™* specifications for post sizing chart.
2.) Third rail required for *Double Rings*.
3.) Available in 3" air space and/or Flush Bottom on most heights.

RAILING

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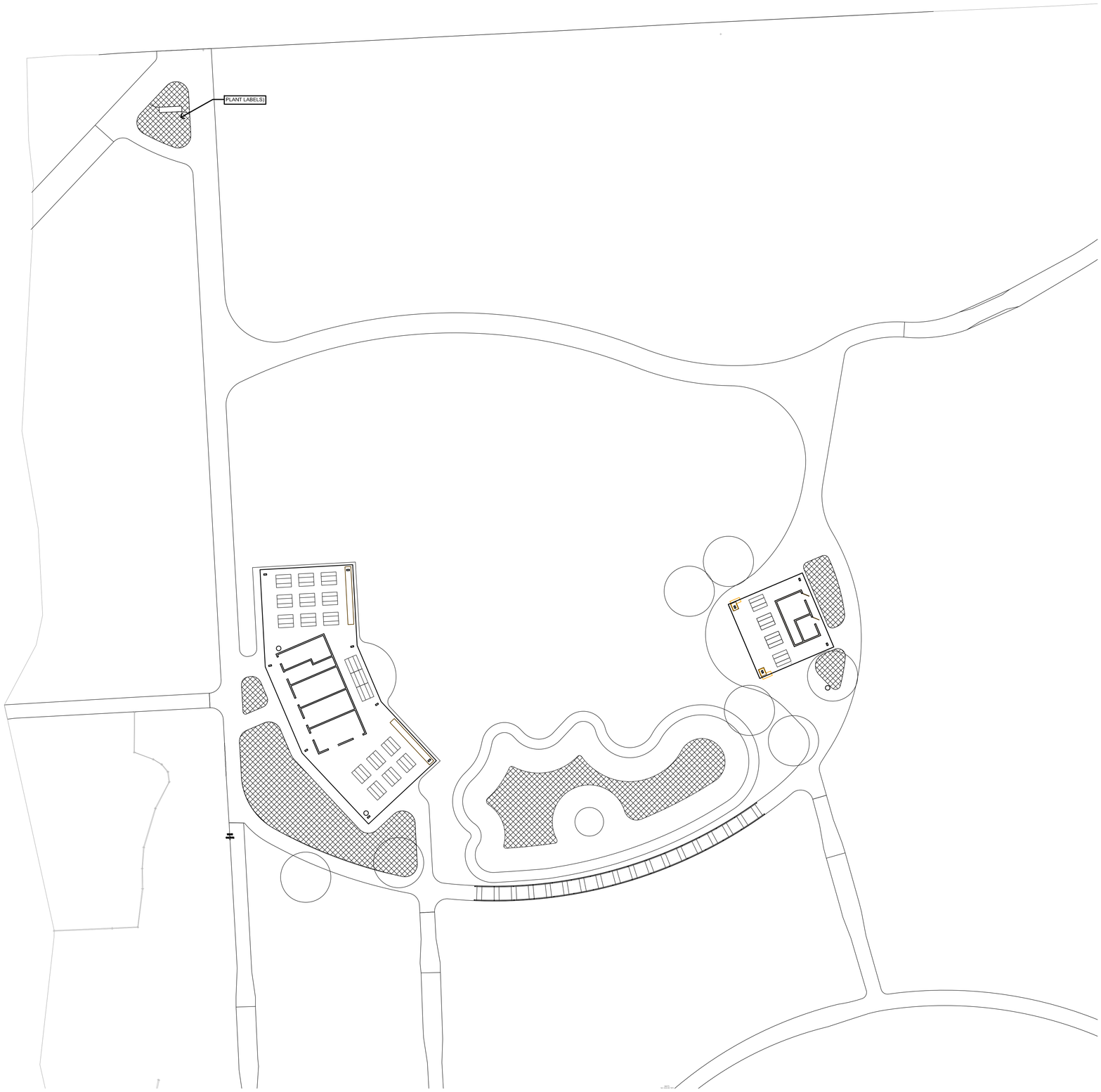
SITE.
DETAILS

L2.00



NORTH

0 10 25 50 100

SCALE: 1" = 20'

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LANDSCAPE PLAN

L3.00

LANDSCAPE NOTES:

1. LANDSCAPE CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL LANDSCAPE MATERIAL WITH RELATED IRRIGATION, SITE WORK, AND FINAL GRADING.

2. BY BIDDING, THE CONTRACTOR ACKNOWLEDGES THAT HE/SHE HAS SATISFIED HIMSELF/HERSELF AS TO THE NATURE AND LOCATION OF THE WORK AND TO THE QUALITY OF SURFACE AND SUBSURFACE MATERIALS OR OBSTACLES INSOFAR AS THE DATA IS REASONABLY ASCERTAINABLE FROM INSPECTION OF THE SITE. ANY FAILURE BY THE CONTRACTOR TO ACQUAINT HIMSELF/HERSELF WITH THE AVAILABLE INFORMATION WILL NOT RELIEVE HIM/HER FROM RESPONSIBILITY FOR ESTIMATING PROPERLY THE DIFFICULTY OR COST OF SUCCESSFULLY PERFORMING THE WORK AS DESCRIBED.

3. THE LANDSCAPE CONTRACTOR SHALL IDENTIFY AND REVIEW ALL UNDERGROUND UTILITY LOCATIONS PRIOR TO COMMENCING WORK AND SHALL EXERCISE EXTREME CAUTION WHEN WORKING CLOSE TO UTILITIES, AND SHALL NOTIFY THE OWNER OF APPARENT CONFLICTS WITH CONSTRUCTION AND UTILITIES SO THAT ADJUSTMENTS CAN BE PLANNED PRIOR TO INSTALLATION. CONTRACTOR MUST PROTECT ALL EXISTING LANDSCAPING AND HARDSCAPE ADJACENT TO PROPOSED LANDSCAPING IN THIS CONTRACT. LANDSCAPE CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DAMAGE AND SHALL REPLACE DAMAGED PLANT MATERIAL WITH PLANTS OF EQUAL SIZE AND QUALITY AND SHALL REPAIR ANY DAMAGE TO SIDEWALKS OR ADJACENT STRUCTURES.

4. ALL INVASIVE SPECIES SHALL BE REMOVED FROM THE PROPERTY PRIOR TO COMMENCING WITH IRRIGATION AND LANDSCAPE INSTALLATION.

5. IRRIGATION: ALL TREES, PLANTING BEDS AND SPECIFIED TURF AREAS SHALL BE IRRIGATED WITH AN UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. REFER IRRIGATION PERFORMANCE NOTES AND DETAILS FOR IRRIGATION REQUIREMENTS.

6. LAYOUT AND FINAL GRADING: LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ACCURATELY LAYING OUT THE PLANT BEDS AND TURF AREAS. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND FINAL GRADING OF ALL TURF AND BED AREAS. REVIEW WITH OWNER THE EXTENT OF CLEANUP AND GRADING OF AREA PRIOR TO COMMENCING WORK. TURF AND HYDROMULCH AREAS SHALL BE RAKED SMOOTH, REMOVING AND DISPOSING OF STONES OVER 1" DIAMETER AND FINE GRADED TO FEATHER INTO NATURAL GRADE. ALL AREAS SHALL BE FINE GRADED TO ACHIEVE POSITIVE DRAINAGE WITHOUT PUDDLES OR STANDING WATER.

7. TOPSOIL/TURF AREAS: ALL NEW TURF AREAS (SQUARE/ROLLED SOD) ARE REQUIRED TO HAVE A MINIMUM OF SIX INCHES (6") SOIL DEPTH FOR SPORTS FIELDS AND FOUR INCHES (4") SOIL DEPTH FOR ALL OTHER AREAS. TOPSOIL WILL CONSIST OF 75 PERCENT SOIL BLENDED WITH 25% COMPOST. CONTRACTOR SHALL PROVIDE SUBMITTAL FOR TOPSOIL MIX TO LANDSCAPE ARCHITECT FOR APPROVAL. ALL AREAS RECEIVING HYDROMULCH / BROADCAST SEEDING WHERE TOPSOIL IS NOT PROVIDED, SHALL BE SCARIFIED TO A DEPTH OF THREE INCHES (3") MINIMUM, RAKED AND CLUMPS OVER 1" DIAMETER BROKEN DOWN OR REMOVED PRIOR TO SEEDING OPERATIONS. TOPSOIL AND SCARIFICATION SHALL BE SUBSIDIARY TO SOD, HYRDOMULCH AND BROADCAST SEEDING UNIT PRICES.

8. PLANTS: ALL PLANTS SHALL BE NURSERY GROWN, GRADE 1 PLANTS MEETING AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS, TYPICAL IN SHAPE AND SIZE FOR SPECIES. PLANTS SHALL NOT BE ROOT-BOUND NOR LOOSE IN THEIR CONTAINERS. HANDLE ALL PLANTS WITH CARE IN TRANSPORTING, PLANTING AND MAINTENANCE UNTIL INSPECTION AND FINAL ACCEPTANCE. PLANTING PITS FOR 1, 3 AND 5 GALLONS SHRUBS SHALL BE AT LEAST 8" LARGER IN DIAMETER THAN THE CONTAINER SIZE. LARGER CONTAINER SIZES AND B&B PLANTS SHALL BE PLANTED IN PITS AT LEAST 18" LARGER IN DIAMETER THAN THE BALL SIZE. PLANTS SHALL BE INSTALLED TO PRESENT THEIR BEST SIDE FACING THE VIEWER. USE TOTAL QUANTITIES OF PLANTS INDICATED; OWNER'S REPRESENTATIVE SHALL HAVE FINAL APPROVAL OF PLANT MATERIAL LAYOUT. UNLESS SPECIFICALLY NOTED, INSTALL ALL MASSED PLANTING UTILIZING TRIANGULAR SPACING. NEW TREE CALIPER INCHES ARE MEASURED AT SIX INCHES (6") ABOVE SOIL LINE/BEGINNING OF ROOT FLARE.

9. PLANTING BED MIX: LIVING EARTH TECHNOLOGIES MIX OR APPROVED EQUAL IS TO BE USED FOR PLANTING BACKFILL MIXTURES FOR NEW BEDS. MINIMUM BED DEPTH SHALL BE EIGHT INCHES (8").

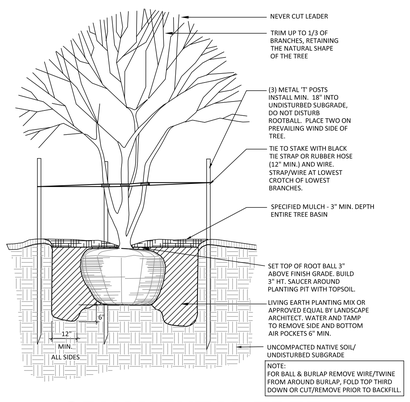
10. MULCH: FOLLOWING PLANTING, MULCH "FULLY-PREPARED" BEDS AND MULCHED WITH THREE INCHES (3") LAYER OF SHREDDED HARDWOOD MULCH AND FILL BASINS OF PIT-PLANTED SHRUBS WITH MULCH.

11. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES NOT SHOWN TO BE RE-VEGETATED SHALL BE RE-VEGETATED BY CONTRACTOR. COMPENSATION FOR SUCH SHALL BE DETERMINED BY THE OWNER/INSPECTOR.

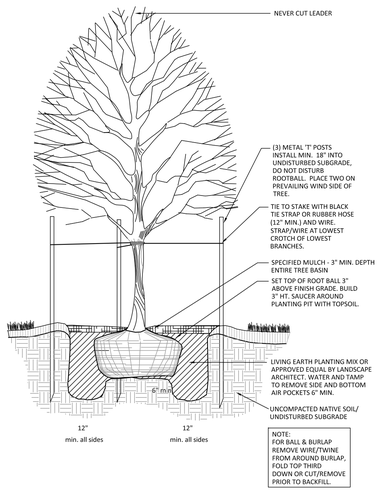
12. MAINTENANCE: REGULAR MAINTENANCE IS REQUIRED OF ALL LANDSCAPE AREAS AND PLANT MATERIALS IN A VIGOROUS AND HEALTHY CONDITION, FREE FROM DISEASES, PEST WEEDS, LITTER AND CONSTRUCTION DEBRIS. THIS MAINTENANCE SHALL INCLUDE WEEDING, WATERING, FERTILIZATION, PRUNING, MOWING, EDGING, MULCHING OR OTHER NEEDED MAINTENANCE, IN ACCORDANCE WITH GENERALLY ACCEPTED HORTICULTURAL PRACTICES UNTIL THE PROJECT HAS BEEN ACCEPTED BY THE OWNER AND PROJECT LANDSCAPE ARCHITECT.

13. WARRANTY: CONTRACTOR SHALL PROVIDE A ONE-YEAR REPLACEMENT WARRANTY FOR ALL PLANT MATERIALS. WARRANTY SHALL COVER PLANTS WHICH HAVE DIED OR PARTIALLY DIED (THEREBY RUINING THEIR NATURAL SHAPE), BUT SHALL NOT INCLUDE DAMAGE BY VANDALISM, BROWSING, HAIL, ABNORMAL FREEZES, DROUGHT OR NEGLIGENCE BY THE OWNER. THE WARRANTY IS INTENDED TO COVER CONTRACTOR NEGLIGENCE, INFESTATIONS, DISEASE AND DAMGE OR SHOCK TO PLANTS. PLANTS REPLACED UNDER WARRANTY WILL BE WARRANTED FOR ONE YEAR FOLLOWING REPLACEMENT.

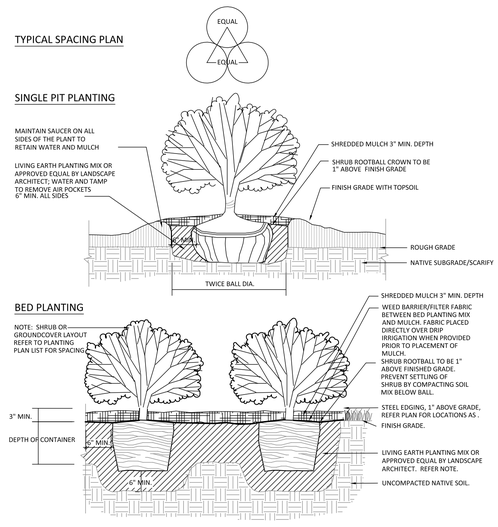
14. LANDSCAPE SPECIFICATIONS: WHEN WRITTEN TECHNICAL SPECIFICATION ARE PROVIDED AND CONFLICT WITH THESE PLANS SPECIFICATIONS, THE PLANS SPECIFICATIONS SHALL PREVAIL FOR THIS PROJECT.



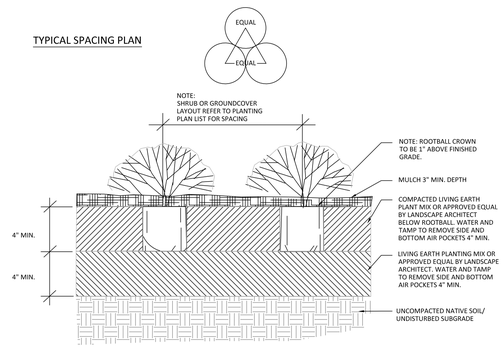
X ORNAMENTAL TREE PLANTING



X SHADE TREE PLANTING



X SHRUB PLANTING (SINGLE & BED PLANTING)



X GROUND COVER PLANTING

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LANDSCAPE NOTES

L3.01

IRRIGATION NOTES:

1. THE SYSTEM SHALL BE DESIGNED BY A STATE OF TEXAS LICENSED IRRIGATOR AND SHALL FOLLOW ALL TCEQ CODES AND REGULATIONS. CONTRACTOR SHALL PROVIDE DESIGN SHOP DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM INCLUDING PIPE SIZES AND LOCATIONS TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. DESIGN SHALL BE A 2 WIRE IRRIGATION SYSTEM.

2. ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.

3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.

4. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.

5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.

6. THE CONTRACTOR SHALL OBTAIN THE PERTINENT ENGINEERING SITE DEVELOPMENT AND/OR ARCHITECTURAL PLANS BEFORE BEGINNING WORK.

7. ALL IRRIGATION SYSTEM COMPONENTS SHOULD BE DESIGNED AND INSTALLED FOR POTABLE WATER APPLICATION. CONTRACTOR SHALL INSTALL IRRIGATION SYSTEM IN COMPLIANCE WITH ALL CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) STANDARDS AND REGULATIONS FOR POTABLE WATER USE.

8. INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS OR PER MANUFACTURER STANDARD SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH LOCAL CITY, COUNTY AND STATE REQUIREMENTS FOR BOTH EQUIPMENT AND INSTALLATION.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR ELECTRICAL CONNECTION TO CONTROLLER AND ALL OTHER ASSOCIATED TASKS NEEDED TO MAKE THE CONTROLLER OPERATIONAL. CONTROLLER TO BE EQUIPPED WITH RAIN AND FREEZE SENSOR SHUT-OFF DEVICE. THE CONTRACTOR SHALL USE PROPER GROUNDING TECHNIQUES FOR GROUNDING THE CONTROLLER AND RELATED EQUIPMENT PER MANUFACTURERS SPECIFICATIONS.

10. ALL VALVES, PIPE, BUBBLERS AND HEADS SHOWN IN THE LEGEND (OR APPROVED EQUALS) SHALL BE USED IN THE DESIGN OF THE IRRIGATION SYSTEM. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SIZE ALL PIPE TO ENSURE THAT THE SYSTEM, HEADS AND BUBBLERS USED IN THE SYSTEM ADHERE TO THE MANUFACTURER'S SPECIFICATIONS WITH REGARDS TO, BUT NOT LIMITED TO, FLOW AND PRESSURE.

11. CONTRACTOR TO BANK VALVES/BOXES, IN NEAT AND ORDERLY MANNER INSIDE LANDSCAPE PLANTING AREAS. FOR TURF AND SPORT FIELD VALVES, COORDINATE PREFERRED LOCATION WITH OWNER PRIOR TO DESIGN AND/OR INSTALLATION. NO VALVES/BOXES SHALL BE PERMITTED WITHIN PLAYING FIELDS.

12. SPRINKLER HEAD SPACING SHALL BE DESIGNED AND PROVIDE FOR "HEAD-TO-HEAD" COVERAGE AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL PROMOTE MINIMUM RUN-OFF AND MINIMUM OVERSPRAY ONTO NON-IRRIGATED AREAS (I.E.- PAVING, WALKWAYS, BUILDING). TURF, LANDSCAPE BEDS AND TREES SHALL BE ZONED SEPARATELY. ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON PLANS OR DETERMINED IN THE FIELD FOR HEAD-TO-HEAD COVERAGE. HEADS MUST HAVE MATCHED PRECIPITATION RATES WITHIN EACH CONTROL VALVE CIRCUIT.

13. ALL IRRIGATION LINES AND SLEEVES SHALL BE AT A DEPTH OF 18". DO NOT ROUTE PIPE DOWN THE CENTER OF THE TREE AND SHRUB BED AREAS; ALLOW FOR TREE AND SHRUB BED PLANTINGS. AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING, UTILITIES, AND ARCHITECTURAL FEATURES.

14. ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVING TWICE THE DIAMETER OF THE PIPE CARRIED. SEE LEGEND FOR TYPE. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MIN. DEPTH AS SHOWN ON THE SLEEVING DETAILS.

15. ON DRIP IRRIGATION SYSTEMS, ALL WATER LINES SHALL BE THOROUGHLY FLUSHED BEFORE INSTALLING DRIPLINE.

16. ALL TREE IRRIGATION LATERAL LINES SHALL BE A MINIMUM OF 1" SCH. 40 PVC PIPE.

17. TREE BUBBLERS SHALL BE INSTALLED IN A MANNER TO DISTRIBUTE WATER EVENLY TO ROOT BALL. WHERE TREE IS PLANTED ON A SLOPE, INSTALLED BUBBLER ON UPHILL SIDE OF ROOTBALL. BUBBLERS SHALL BE PINNED DOWN ONE FOOT (1') AWAY FROM TRUNK WITH LANDSCAPE/SOD STABLES.

18. CONTRACTOR SHALL EXERCISE EXTREME CARE WHEN EXCAVATING NEAR TREES. NO MECHANICAL TRENCHING SHALL BE PERMITTED BELOW THE DRIPLINE/CANOPY OF EXISTING TREES. CONTRACTOR SHALL ADJUST TRENCH PATH AND/OR EXCAVATE BY HAND TO AVOID DAMAGE TO EXISTING TREE ROOT SYSTEMS.

19. ALL MAINLINE AND LATERAL TRENCHES SHALL REMAIN OPEN UNTIL INSPECTED AND APPROVED BY OWNER AND/OR LANDSCAPE ARCHITECT.

20. COMPACTION OF THE PIPE TRENCHES SHALL BE SUFFICIENT TO LIMIT SHORT TERM SETTLING OF THE BACKFILL TO NO MORE THAN 1-INCH. THE CONTRACTOR SHALL CORRECT SETTLING GREATER THAN THIS WITHOUT ADDITIONAL COMPENSATION.

21. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS AND SPECIFICATIONS FOR IRRIGATION SYSTEM PRIOR TO PROJECT CLOSE-OUT. DELIVERABLE TO BE (1) HARD COPY SET, PDF DIGITAL COPY, AND AUTO CAD FILE.

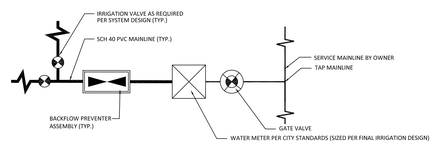
22. WARRANTY: CONTRACTOR SHALL PROVIDE A ONE-YEAR REPLACEMENT WARRANTY FOR ALL IRRIGATION MATERIALS INCLUDING INSTALLATION. WARRANTY SHALL NOT COVER DAMAGE RESULTING FROM IMPROPER OPERATION OR MAINTENANCE PRACTICES BY OWNER.

23. IRRIGATION SPECIFICATIONS: WHEN WRITTEN TECHNICAL SPECIFICATION ARE PROVIDED AND CONFLICT WITH THESE PLANS SPECIFICATIONS, THE PLANS SPECIFICATIONS SHALL PREVAIL FOR THIS PROJECT.

IRRIGATION LEGEND

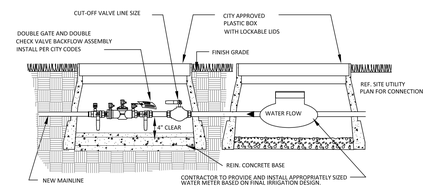
PRODUCT	LOCATION / NOTES
HUNTER MP 1000 ROTATORS (PROS04-PRS30)	TURF AREAS / PARKING AREAS
HUNTER I-25 POP-UP ROTARY HEAD	SPORTS FIELDS / LARGE TURF AREAS
RAINBIRD XF SERIES DRIPLINE, QF DRIPLINE HEADERS, (1) OPERATION INDICATOR PER ZONE, AND MISC. REQUIRED APPURTENANCES	DRIP FOR PLANTING BEDS
RAINBIRD: RWS (ROOT WATERING SYSTEM)	TREE IRRIGATION (2) PER SHADE TREE, (1) PER ORNAMENTAL TREE
RAIN BIRD PEB SCRUBBER SERIES VALVES	ZONE VALVES
RAIN BIRD 200-PEB MASTER VALVE	MASTER VALVE AT METER CONNECTION
NIBCO ISOLATION VALVE	MAINLINE ISOLATION/SHUT-OFF VALVE
FEBCO 860 BACKFLOW PREVENTER	BFP DEVICE
CONTROLLER: HUNTER ACC	MAIN IRRIGATION CONTROLLER
HUNTER RAIN-CLIK	RAIN SENSOR
SLEEVING SCH 40 PVC	ALL LOCATIONS
LATERAL LINES CLASS 200 PVC	TYPICAL OTHER THAN SPORTS FIELDS
MAINLINE SCH 40 PVC	ALL MAINLINES
LATERAL LINES SCH 40 PVC	WITHIN SPORTS FIELDS

NOTE:
REFERENCE TO MANUFACTURER'S TRADE NAME OR CATALOG NUMBER IS FOR THE PURPOSE OF IDENTIFICATION ONLY. CONTRACTOR SHALL BE PERMITTED TO FURNISH LIKE MATERIALS OF OTHER MANUFACTURERS PROVIDED THEY ARE OF EQUAL QUALITY AND COMPLY WITH THE SPECIFICATIONS FOR THIS PROJECT AND ARE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE. CONTRACTOR SHALL SUBMIT "EQUAL PRODUCTS" TO THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE NO LATER THAN (7) DAYS PRIOR TO BID OPENING DATE FOR REVIEW AND APPROVAL/DISAPPROVAL OF THE PROPOSED EQUAL. "EQUAL PRODUCTS" SUBMITTED AFTER AWARD OF CONTRACT MAY BE DENIED AND THE CONTRACTOR MUST USE THE SPECIFIED PRODUCT/MATERIAL WITHOUT ADDITIONAL COMPENSATION.



1 WATER CONNECTION (TYP.)

NOT TO SCALE



2 DOUBLE CHECK VALVE ASSEMBLY (TYP.)

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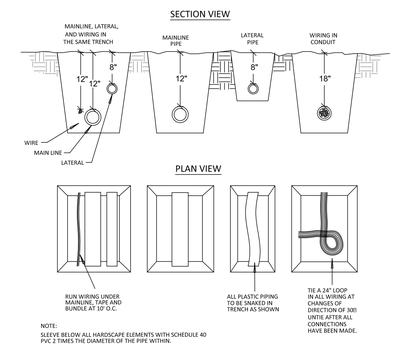

3 PIPE & WIRE TRENCHING (TYP.)

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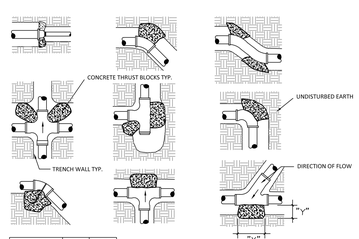


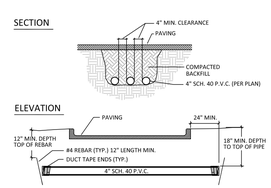
PIPE O.C.	"X"	"Y"
2" O.C.	"12"	"12"
3" O.C.	"12"	"12"
4" O.C.	"12"	"12"

NOTE:
ALL LINES 2" AND LARGER TO BE INSTALLED WITH THRUST BLOCKS AS SHOWN. TEST LINES PER SPECIFICATIONS. REF. TRENCH DETAIL FOR DEPTH AND MARKING.

1. ALL CONCRETE THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED TRENCH WALL.
2. MINIMUM DISTANCE FROM PIPE TO TRENCH WALL SHALL BE 12" AT THRUST BLOCK.
3. VERTICAL DIMENSION OF BEARING AREA AGAINST TRENCH WALL OF THRUST BLOCK SHALL BE EQUAL TO THE HORZ. DIMENSION "X"
4. ALL JOINTS SHALL BE TEMPORARILY JACKED WHEN THE THRUST BLOCKS ARE POURED.
5. ALL JOINTS OF PIPE SHALL BE FREE OF CONCRETE.
6. ALL CONCRETE THRUST BLOCKS SHALL CONSIST OF 1-2-6 OF CEMENT, SAND & GRAVEL AND SHALL BE CURED A MIN. OF 24 HOURS.

4 PIPE THRUST BLOCKING (TYP.)

NOT TO SCALE



NOTES:
1. ALL SLEEVES 4" SCH 40 PVC PIPE.
2. ALL JOINTS TO BE SOLVENT WELDED AND WATERTIGHT.
3. WHEN MORE THAN ONE SLEEVE, PROVIDED 4" CLEARANCE BETWEEN SLEEVES.
4. MECHANICALLY TAMP BACKFILL TO 95% PROCTOR.
5. THE ENDS OF SLEEVES SHALL BE SEALED WITH DUCT TAPE AND HAVE MIN. #4 REBAR PLACED AT THE ENDS OF THE SLEEVES TO ENABLE POSITIVE LOCATION WITH A PIN LOCATOR
6. THE CONTRACTOR IS TO PERMANENTLY 'MARK' THE LOCATION OF ALL SLEEVES ON THE SIDEWALK, CURB, TRAIL OR ADJACENT PAVEMENT. THE 'MARK' SHALL BE A STAMPED "S" THAT IS 2" IN HEIGHT AND WIDTH. THE 'MARK' SHALL ALSO BE PLACED DIRECTLY OVER THE CENTER OF OF THE SLEEVE, IF MORE THAN ONE SLEEVE IS PROVIDED 'MARK' THE MIDDLE SLEEVE.

5 IRRIGATION SLEEVING (TYP.)

NOT TO SCALE

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IRRIGATION NOTES and DETAILS

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