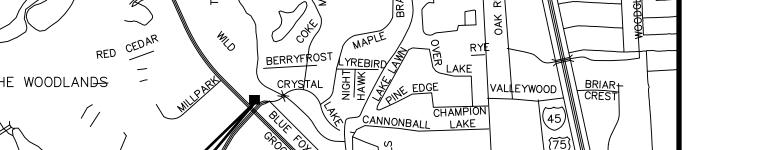
SAN JACINTO RIVER AUTHORITY WOODLANDS DIVISION LIFT STATION NO. 4 PAVING AND GRADING PLAN CSP NO. 17-015 **CONTRACT NO. 17-073**





THE WOODLANDS PROJECT _OCATION SAWDUST **LOCATION MAP**

> KEY MAP #251-V

DIRECTORS

LLOYD B. TISDALE **RONNIE ANDERSON** MARK MICHELETTI **KAAREN CAMBIO ED BOULWARE** JIM ALEXANDER **BRENDA COOPER**

PRESIDENT VICE PRESIDENT TREASURER SECRETARY ASSISTANT SECRETARY MEMBER MEMBER

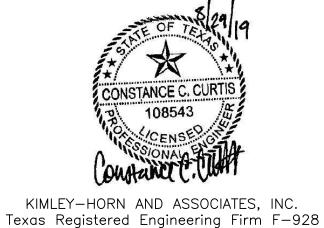
GENERAL MANAGER: JACE A. HOUSTON

CALL BEFORE YOU DIG!!! (713) 223-4567 (New Statewide Number Outside Houston) 1-800-545-6005

ONE-CALL NOTIFICATION SYSTEM

ISSUE DATE: AUGUST 2019

11700 Katy Freeway, Suite 800 Houston, TX 77079 281 597 9300



COVER

SHEET C1.1

GENERAL CONSTRUCTION NOTES

- 1. THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID SECTION OF THE CONTRACT DOCUMENTS. CONTRACTOR SHALL INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.
- 2. CONTRACTOR SHALL DIAL 811 TO CONTACT EITHER TEXAS811 OR LONESTAR811 ONE—CALL CENTERS TO PROCESS UTILITY LOCATION REQUESTS A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
- 3. FOR SJRA OR WJPA UTILITY LOCATION REQUESTS, CONTRACTOR SHALL CONTACT THE FOLLOWING:
 - 3.1. SJRA WOODLANDS DIVISION: DAVID GUYER OR JASON WILLIAMS AT (281) 367-9511
 - 3.2. SJRA GRP DIVISION: MATT CORLEY AT (936) 588-1662
 - 3.3. WJPA: MIKE MOONEY AT (855) 426-7283
- 4. CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND ALL REGULATIONS OF UTILITY COMPANIES CONCERNING SAFETY AND HEALTH PRACTICES.
- CONTRACTOR SHALL REMOVE ALL MUD, DIRT AND DEBRIS DEPOSITED OR DROPPED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY. MATERIAL THAT IS HAZARDOUS TO TRAFFIC SHALL BE REMOVED IMMEDIATELY.
- THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS, OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE SEAL OF THE LICENSED PROFESSIONAL ENGINEER(S) HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEMS THAT MAY NOW OR HEREAFTER BE INCORPORATED IN THESE PLANS. THE CONTRACTOR SHALL PREPARE OR OBTAIN THE APPROPRIATE SAFETY SYSTEM(S).
- 7. CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES OUTSIDE THE WORK AREA SHALL BE REMOVED WITHOUT PERMISSION OF OWNER.
- 3. CONTRACTOR SHALL GIVE NOTICE TO ALL AUTHORIZED INSPECTORS, SUPERINTENDENTS, OR PERSONS IN CHARGE OF PRIVATE AND PUBLIC UTILITIES OR RAILROADS AFFECTED BY HIS OPERATIONS PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL OBTAIN ALL CONSTRUCTION PERMITS PRIOR TO STARTING CONSTRUCTION.
- 9. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY REGULATION OF MONTGOMERY COUNTY, TEXAS FOR FLOOD PLAIN MANAGEMENT PRIOR TO STARTING CONSTRUCTION.
- 10. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED BY MONTGOMERY COUNTY, TEXAS PRIOR TO STARTING CONSTRUCTION OF UTILITIES AND/OR CULVERTS WITHIN COUNTY ROAD RIGHTS—OF—WAY, IF APPLICABLE.
- 11. MONTGOMERY COUNTY ENGINEERING DEPARTMENT SHALL BE NOTIFIED BY WRITTEN NOTIFICATION BY THE CONTRACTOR 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION, FOLLOWED BY TELEPHONE NOTIFICATION 24 HOURS IN ADVANCE OF STARTING CONSTRUCTION.
- 12. CONTRACTOR SHALL NOTIFY THE SAN JACINTO RIVER AUTHORITY CONSTRUCTION MANAGER IN WRITING, AND AT (936-588-3111) AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.
- 13. CONTRACTOR SHALL NOTIFY THE WOODLANDS TOWNSHIP IN WRITING AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION, AS APPLICABLE.
- 14. A COPY OF ALL WRITTEN NOTIFICATIONS SHALL BE SENT TO THE OWNER.
- 15. CONTRACTOR SHALL PROTECT AND/OR BRACE ALL UTILITY POLES AND OTHER STRUCTURES WITHIN AND ADJACENT TO THE WORK ZONE, AS NECESSARY TO COMPLETE THE WORK AT NO COST TO THE OWNER.
- 16. CONTRACTOR TO STAKE AND MARK TEMPORARY CONSTRUCTION EASEMENT PRIOR TO BEGINNING CONSTRUCTION AND PRIOR TO CLEARING AND GRUBBING.
- 17. DISTURBED GRASSY AREAS SHALL BE RE-ESTABLISHED VIA HYDROMULCHING AND SOD LINING AT PAVEMENT PER SPECIFICATION 32 92 13-HYDROMULCHING.
- 18. CONTRACTOR TO REMOVE, STORE AND PROTECT, AND RE-INSTALL FACILITY SIGNAGE IN LOCATIONS AS DIRECTED BY THE OWNER.

CONTRACTOR WORK ZONE NOTES

- RESIDENTIAL SECTIONS WILL MAINTAIN ONE LANE OPEN WITH ADEQUATE SIGNAGE AND FLAG MEN TO FACILITATE USE OF THE LANE, IF APPLICABLE.
- 2. DRIVEWAY ACCESS WILL BE MAINTAINED OPEN AFTER WORKING HOURS. A MINIMUM OF ONE DRIVEWAY ACCESS WILL BE MAINTAINED OPEN AT ALL TIMES TO COMMERCIAL, APARTMENTS, AND/OR NON-RESIDENTIAL DEVELOPMENTS.
- 3. SIGNALIZED INTERSECTIONS: LANES WILL NOT BE CLOSED AT A SIGNALIZED INTERSECTION, UNLESS APPROVED BY THE COUNTY ENGINEER. AN APPROPRIATE TRANSITION AS DEFINED IN THE APPROVED TRAFFIC CONTROL PLAN WILL BE PROVIDED AT SIGNALIZED INTERSECTIONS.
- 4. TEMPORARY PAVEMENT MARKERS: TEMPORARY EPOXY—GLUED BUTTONS OR "CONSTRUCTION GRADE" TAPE PAVEMENT MARKERS SHOULD BE USED ON PERMANENT PAVEMENT.
- 5. CONTRACTOR TO SUBMIT PLAN FOR APPROVAL TO ENSURE THAT PEDESTRIAN TRAFFIC CARE SHALL BE TAKEN TO PROVIDE FOR TEMPORARY PEDESTRIAN TRAFFIC AND CROSSING AT AREAS SUCH AS SCHOOLS, PARKS, AND SHOPPING AREAS.
- THE CONTRACTOR SHALL REVEGETATE UNPAVED AREAS DISTURBED BY CONSTRUCTION PRIOR TO ACCEPTANCE OF THE PROJECT. SEEDING SHALL BE APPLIED AS HYDROMULCH. THIS ITEM SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

SANITARY SEWER CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL SET RIM ELEVATIONS TO MATCH FINISHED GROUND ELEVATIONS. FINISHED GROUND ELEVATION IS A STRAIGHT LINE BETWEEN NATURAL GROUND AND/OR FINISHED GRADE AT PROPERTY LINE TO TOP OF CURB. MANHOLES WITHIN EASEMENTS, RIM ELEVATION SHALL BE SET 3—INCHES ABOVE NATURAL GROUND AND/OR FINISHED GRADE. REFER TO SITE GRADING SHEETS.

STORM SEWER CONSTRUCTION NOTES

1. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE OWNING AUTHORITY. ALL CONSTRUCTION STORM RUNOFF SHALL COMPLY WITH THE STORM WATER MANAGEMENT HANDBOOK FOR CONSTRUCTION ACTIVITIES AND SHALL BE IN COMPLIANCE WITH THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM (TPDES) REQUIREMENTS.

PAVING CONSTRUCTION NOTES

- 1. REPLACEMENT PAVEMENT TO BE CONSTRUCTED IN ACCORDANCE WITH RULES, REGULATIONS AND REQUIREMENTS OF THE APPROPRIATE JURISDICTION.
- 2. ALL ROAD WIDTHS, CURB RADII AND CURVE ALIGNMENT SHOWN INDICATES BACK OF CURB. T.C. INDICATES TOP OF CURB ELEVATION AND T.P. INDICATES TOP OF PAVEMENT ELEVATION.
- WHERE PROPOSED PAVEMENT IS TO MATCH EXISTING PAVEMENT, EXISTING REBARS OR DOWELS PROJECTING FROM EXISTING PAVEMENT TO BE CLEANED AND TIED INTO PROPOSED PAVEMENT. IF NO REINFORCING STEEL EXISTS, USE HORIZONTAL DOWELS. HORIZONTAL DOWELS SHALL BE #6 BARS, 24 INCHES LONG, DRILLED AND EMBEDDED 8 INCHES INTO THE CENTER OF THE EXISTING SLAB WITH "PO ROC EPOXY" OR EQUAL AT 18 INCHES CENTER TO CENTER.

UTILITY NOTES

ENTERGY (ELECTRICAL FACILITIES):

- 1. OVERHEAD LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT THE CONTRACTOR SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH AND SAFETY CODE FORBIDS ALL ACTIVITIES IN WHICH PERSONS OR THINGS MAY COME WITHIN SIX (6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES AND OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN (10) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.
- 2. CONTRACTOR SHALL COORDINATE WITH ENTERGY BEFORE WORKING WITHIN TEN (10) FEET OF OVERHEAD POWER LINES. CONTACT ENTERGY REPRESENTATIVE RICK GREENE AT (936) 525-2055, FOR POLES TO BE BRACED AND LINES TO BE DE-ENERGIZED AND/OR MOVED. CONTRACTOR SHALL BE RESPONSIBLE TO ENTERGY FOR ANY COSTS ASSOCIATED WITH BRACING OF POWER POLES OR DE-ENERGIZING AND/OR MOVING ANY CONFLICTING OVERHEAD POWER LINES.
- 3. TO STAKE ENTERGY UNDERGROUND FACILITIES, CONTRACTOR SHALL DIAL 811 TO CONTACT EITHER TEXAS811 OR LONESTAR811 ONE—CALL CENTERS TO PROCESS UTILITY LOCATION REQUESTS A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FILED LOCATED, BEFORE STARTING EXCAVATION.
- 4. PRIVATE UNDERGROUND ELECTRICAL FACILITIES MAY EXIST IN THE AREA AND THESE WILL NOT BE STAKED BY ENTERGY PERSONNEL. CONTRACTOR SHALL FIELD LOCATE EXISTING PRIVATE UNDERGROUND ELECTRICAL FACILITIES PRIOR TO BEGINNING CONSTRUCTION.

CENTERPOINT ENERGY (GAS FACILITIES):

- 1. LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT L ENERGY, INTRASTATE PIPELINE LLC.WHERE APPLICABLE) ARE SHOW IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION.IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. CONTRACTOR SHALL DIAL 811 TO CONTACT EITHER TEXAS811 OR LONESTAR811 ONE—CALL CENTERS TO PROCESS UTILITY LOCATION REQUESTS A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
- 2. WHEN CENTERPOINT ENERGY PIPE LINE MARKINGS ARE NOT VISIBLE, CALL (713)967-8037(7:00 AM TO 4:30 PM). FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- 3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- 4. WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- 5. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

AT&T TEXAS/SWBT FACILITIES:

- 1. THE LOCATIONS OF AT&T TEXAS/SWBT FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- 2. CONTRACTOR SHALL DIAL 811 TO CONTACT EITHER TEXAS811 OR LONESTAR811 ONE—CALL CENTERS TO PROCESS UTILITY LOCATION REQUESTS A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE UNDERGROUND LINES FIELD LOCATED.
- 3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF AT&T TEXAS/SWBT FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING, THE CONTRACTOR SHALL EXPOSE THE AT&T TEXAS/SWBT FACILITIES.
- 4. WHEN AT&T TEXAS/SWBT FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.
- 5. THE PRESENCE OR ABSENCE OF AT&T TEXAS/SWBT UNDERGROUND CONDUIT FACILITIES OR BURIED CABLE FACILITIES SHOWN ON THESE PLANS DOES NOT MEAN THAT THERE ARE NO DIRECT BURIED CABLES OR OTHER CABLES IN THE AREA.
- 6. PLEASE CONTACT THE AT&T TEXAS DAMAGE PREVENTION MANAGER MR. ROOSEVELT LEE JR. AT (713)567-4552 OR EMAIL HIM AT RL7259@ATT.COM, IF THERE ARE QUESTIONS ABOUT BORING OR EXCAVATING NEAR OUR AT&T TEXAS/SWBT FACILITIES.

COMMUNICATION CABLES:

- 1. THE LOCATION OF VARIOUS COMMUNICATION FACILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK. HE AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND UTILITIES.
- 2. CONTRACTOR SHALL DIAL 811 TO CONTACT EITHER TEXAS811 OR LONESTAR811 ONE—CALL CENTERS TO PROCESS UTILITY LOCATION REQUESTS A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN AND SERVICE LINES FIELD LOCATED.
- 3. WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18") OF THE INDICATED LOCATION OF COMMUNICATION FACILITIES, ALL EXCAVATIONS MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES. WHEN BORING THE CONTRACTOR SHALL EXPOSE THE COMMUNICATION FACILITIES.
- 4. WHEN COMMUNICATION FACILITIES ARE EXPOSED, THE CONTRACTOR WILL PROVIDE SUPPORT TO PREVENT DAMAGE TO THE CONDUIT DUCTS OR CABLES. WHEN EXCAVATING NEAR TELEPHONE POLES THE CONTRACTOR SHALL BRACE THE POLE FOR SUPPORT.

ABBREVIATIONS

AWWA ADF	ASPHALT AMERICAN WATER WORKS ASSOCIATION AVERAGE DAILY FLOW AIR RELEASE VALVE	MIN MH MJ NG	MINIMUM MANHOLE MECHANICAL JOINT NATURAL GROUND
CONC. C/L	CONCRETE CENTERLINE CENTER TO CENTER	<u>О</u> О.D. <u>Р</u>	OUTSIDE DIAMETER
<u>D</u> DIA.	DIAMETER	PVC	PROPOSED POLYVINYL CHLORIDE PIPE PAVEMENT PEAK DAILY FLOW
	EXISTING ELECTRICAL EASEMENT	RE	REFERENCE
<u>E</u> FL	FLOW LINE FLANGE	<u>S</u> SJRA STD.	SAN JACINTO RIVER AUTHORITY STANDARD
FF G	FINISH FLOOR	T TCE	TEMPORARY CONSTRUCTION EASMENT
GALV GPM	GALVANIZED GALLONS PER MINUTE	TYP. TDH	TYPICAL TOTAL DYNAMIC HEAD
<u>L</u> LF	LINEAR FOOT	W WW W WJPA	WASTEWATER WATER WOODLANDS JOINT POWERS AGENCY

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Texas Registered Engineering Firm F-928

SAN JACINTO RIVER AUTHORITY WOODLANDS DIVISION



SJRA LIFT STATION NO. 4 PAVING AND GRADING PLAN

ISSUE	DATE	DESCRIPTION			
SJRA PROJECT NO: WDPR0084.1016.2N001					

DRAWN BY: JJL
CHECKED BY: CCC

SCALE: AS NOTED

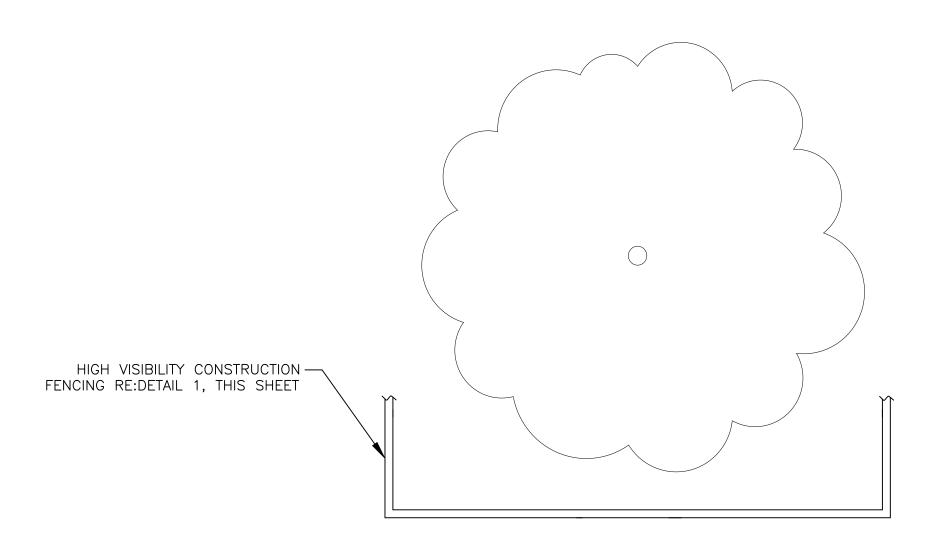
KH PROJECT NO: 064446211

GENERAL NOTES

SHEET

C1.2





2 TREE PROTECTION DETAIL

NOTES:

- 1. ALL TREES WITHIN THE PROPOSED TEMPORARY CONSTRUCTION EASEMENTS OR PERMANENT LIFT STATION EASEMENT OR LIFT STATION PROPERTY SHALL BE PROTECTED THROUGHOUT CONSTRUCTION WITH TREE PROTECTION.
- 2. TREE PROTECTION FENCING SHALL BE INSTALLED PRIOR TO MOBILIZATION.
- 3. FENCING SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES AND WILL BE LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIPLINE). WHEN THE DRIPLINE IS LOCATED ENTIRELY WITHIN THE PROJECT TEMPORARY CONSTRUCTION EASEMENT (TCE). WHEN THE DRIPLINE IS LOCATED PARTIALLY OUTSIDE THE TCE LIMITS, FENCING SHALL ONLY BE INSTALLED AT THOSE PORTIONS OF THE DRIPLINE LOCATED WITHIN THE TCE. NO FENCING SHALL BE ISTALLED OUTSIDE THE TCE. THE DRIPLINE DEFINES THE 'ROOT ZONE'. WITHIN THE LIMITS OF FENCING, THE CONTRACTOR SHALL PREVENT THE FOLLOWING FROM OCCURRING WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE OWNER'S REPRESENTATIVE:
 - A. SOIL COMPACTION IN THE ROOT ZONE AREA RESULTING FROM VEHICULAR TRAFFIC OR STORAGE OF EQUIPMENT OR MATERIALS.
 - B. ROOT ZONE DISTURBANCES DUE TO GRADE CHANGES (GREATER THAN 3" CUT OR FILL) OR TRENCHING NOT REVIEWED OR AUTHORIZED.
 - C. WOUNDS TO EXPOSED ROOTS, TRUNK, OR LIMBS BY MECHANICAL EQUIPMENT.
 - D. OTHER ACTIVITIES DETRIMENTAL TO TREES SUCH AS CHEMICAL STORAGE, CONCRETE TRUCK CLEANING, AND FIRES.
- 4. WHERE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TRUNK, PROTECT THE TRUNK WITH STRAPPED—ON PLANKING TO A HEIGHT OF 8' (OR TO THE LIMITS OF THE LOWER BRANCHING) AS INDICATED ON TREE PROTECTION DETAILS.
- 5. ALL GRADING WITHIN PROTECTED ROOT ZONE AREAS SHALL BE DONE BY HAND TO MINIMIZE ROOT DAMAGE AND SOIL COMPACTION. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2 FEET BEHIND THE GRADE CHANGE AREA. GRADE SHALL REMAIN UNCHANGED WHERE POSSIBLE.
- 6. ANY ROOT SEVERED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH GOOD QUALITY TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH ORGANIC MATERIAL IN A MANNER WHICH REDUCES SOIL TEMPERATURE AND MINIMIZES DRYING OF THE ROOT DUE TO EVAPORATION.
- 7. TREES IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE WATERED THOROUGHLY ONCE A WEEK DURING PERIODS OF HOT AND/OR DRY WEATHER. TREE CROWNS SHALL BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
- 8. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN 3" MAXIMUM SHALL BE PERMITTED WITHIN THE DRIPLINE OF TREES. NO PERMANENT SOIL OR MULCH IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
- 9. PRUNING SHALL BE PERFORMED BY THE CONTRACTOR TO PROVIDE CLEARANCE FOR STRUCTURES OR CONSTRUCTION ACTIVITIES. PRUNING SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS, ONLY WITH PRIOR APPROVAL FROM AUTHORITY'S ENGINEER. ALL PRUNING MUST BE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NAA PRUNING STANDARDS), AND BY AN EXPERIENCED AND QUALIFIED ARBORIST WHOSE PRIMARY BUSINESS IS TREE CARE.
- 10. PROVIDE CORRECTIVE PRUNING AT THE COMPLETION OF CONSTRUCTION TO REMOVE ANY BROKEN OR DAMAGED LIMBS, UNDER THE DIRECTION OF THE AUTHORITY'S ENGINEER.
- 11. IF REQUIRED, ROOT PRUNE BY TRENCHING A CLEAN 4" WIDE X 24" DEEP CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH IRRIGATION TRENCHER TO MINIMIZE DAMAGE TO REMAINING ROOTS. MARK AND REVIEW TRENCH LINE WITH AUTHORITY'S ENGINEER PRIOR TO TRENCHING
- 12. AS SOON AS 4" WIDE X 24" DEEP TRENCH IS CUT, EXPOSED ROOTS SHALL BE HAND CUT TO CREATE CLEAN ROOT CUTS. AS SOON AS HAND CUTS ARE COMPLETE, BACKFILL TRENCH WITH A SANDY LOAM TOPSOIL PLACED IN 6" LIFTS, AND COMPACTED AS REQUIRED BY SPECIFICATIONS.
- 13. IN AREAS WHERE LIME STABILIZATION ABUTS OR ENCROACHES UPON ROOT ZONES, AND WHERE ROOT PRUNING IS CALLED FOR, INSTALL 10-MIL. PLASTIC SHEETING TO FULL DEPTH OF ROOT PRUNING TRENCH AND 6" OVER TOP. CUT AND REMOVE EXPOSED PLASTIC AT COMPLETION OF WORK.



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SAN JACINTO RIVER AUTHORITY WOODLANDS DIVISION



SJRA LIFT STATION NO. 4 PAVING AND GRADING PLAN

ISSUE DATE DESCRIPTION

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KH PROJECT NO: 064446211

DRAWN BY: JJL

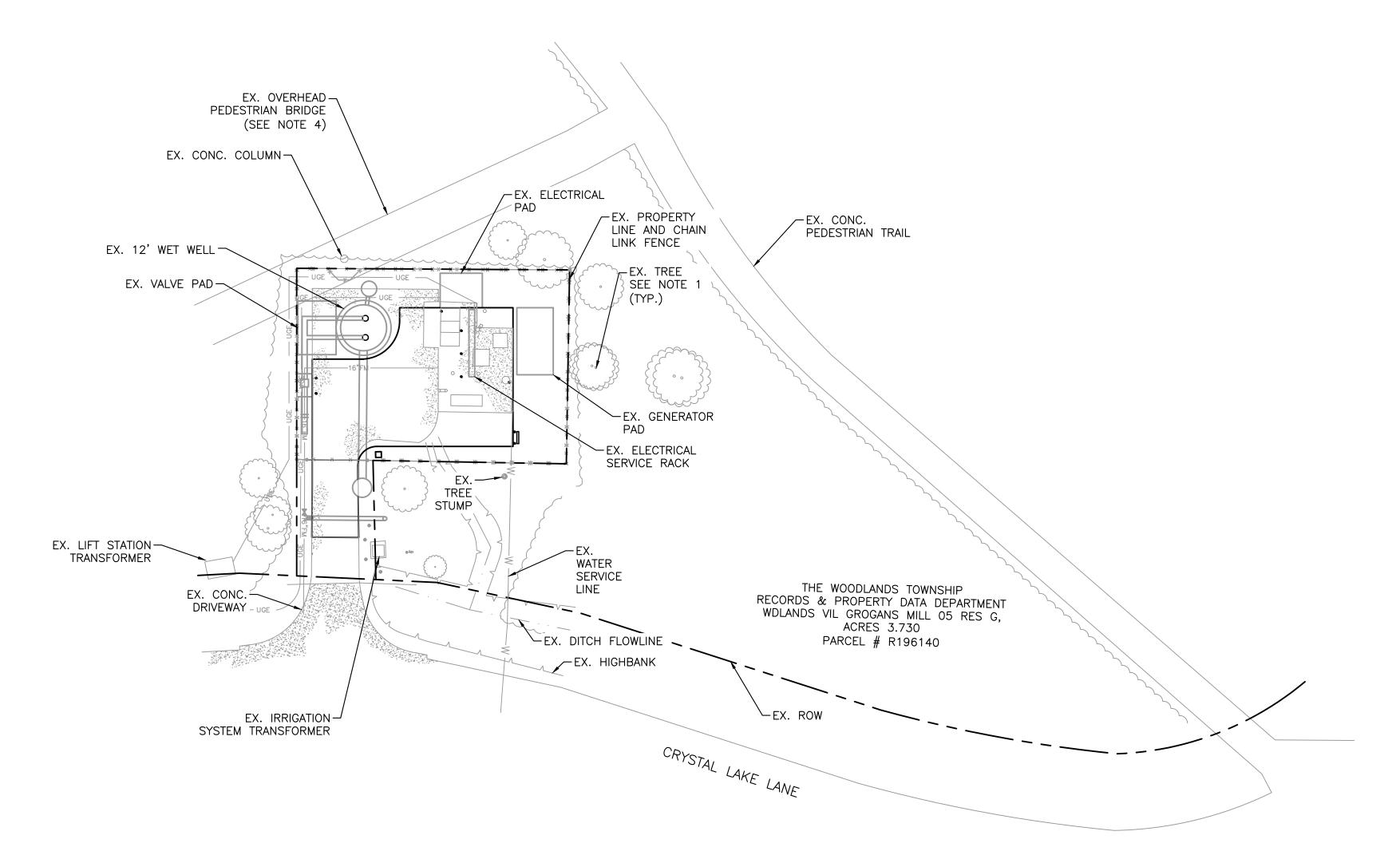
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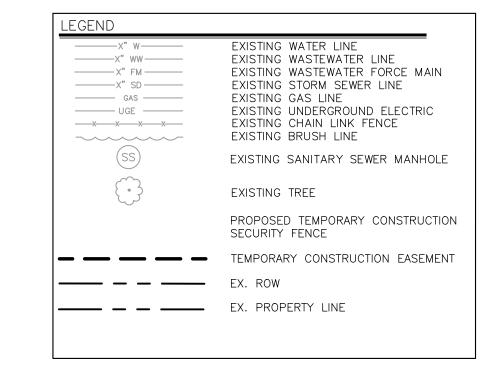
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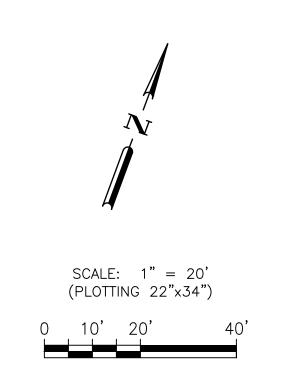
TREE PROTECTION DETAILS

SHEET

C1.3







NOTES

- 1. NO TREE SHALL BE REMOVED WITHOUT PRIOR APPROVAL FROM THE INSPECTOR AND SJRA. TREES SHALL BE PROTECTED ACCORDING TO THE TREE PROTECTION DETAILS ON SHEET C1.3.
- 2. IF EXISTING FENCING OR BARRIERS ARE BREACHED OR REMOVED FOR PURPOSES OF CONSTRUCTION, CONTRACTOR SHALL PROVIDE AND MAINTAIN TEMPORARY SECURITY FENCING EQUAL TO EXISTING THROUGHOUT CONSTRUCTION.
- 3. ANY DAMAGE TO EXISTING ROADS, SIDEWALKS, OVERHEAD PEDESTRIAN BRIDGE, OR TRAILS/WALKWAYS SHALL BE REPAIRED AND RESTORED, TO PRE-CONSTRUCTION CONDITIONS OR BETTER, BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE SJRA OR THE WOODLANDS TOWNSHIP.
- 4. EXISTING OVERHEAD PEDESTRIAN BRIDGE IS OWNED AND MAINTAINED BY THE WOODLANDS TOWNSHIP. CONTRACTOR SHALL NOTIFY THE WOODLANDS TOWNSHIP A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
- 5. EXISTING ELEVATION OF OVERHEAD PEDESTRIAN BRIDGE IN THE AREA OF THE PROPOSED TEMPORARY CONSTRUCTION EASEMENT: 6' MINIMUM EXISTING CLEARANCE FROM NATURAL GROUND TO BOTTOM OF OVERHEAD PEDESTRIAN BRIDGE.
- 6. CONTRACTOR MUST MAINTAIN FULL SITE ACCESS FOR SJRA PERSONNEL THROUGHOUT THE DURATION OF CONSTRUCTION.
- 7. EXISTING TRAILS/WALKWAYS CANNOT BE CANNOT BE BLOCKED DURING TYPICAL SCHOOL ZONE HOURS (7:15 AM 9:00 AM AND 2:45 PM 4:15 PM).
- 8. EXISTING TRAILS/WALKWAYS MAY ONLY
 BE BLOCKED OUTSIDE OF SCHOOL
 ZONE HOURS FOR SHORT PERIODS
 (LESS THAN AN HOUR) TO ALLOW FOR
 EQUIPMENT AND MATERIALS TO BE
 MOVED TO AND FROM THE SITE.
 WARNING SIGNS AND BARRICADES,
 ADVANCED NOTICE OF CLOSURE,
 MAINTENANCE OF ALTERNATE ROUTES,
 ETC. SHALL BE PLACED AND
 MAINTAINED PER TEXAS MUTCD, 2011
 EDITION, REVISION 2.

CAUTION!!

BY THE CONTRACTOR'S OPERATION.

THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA AND MAY NOT BE INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL & VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL UTILITIES CAUSED

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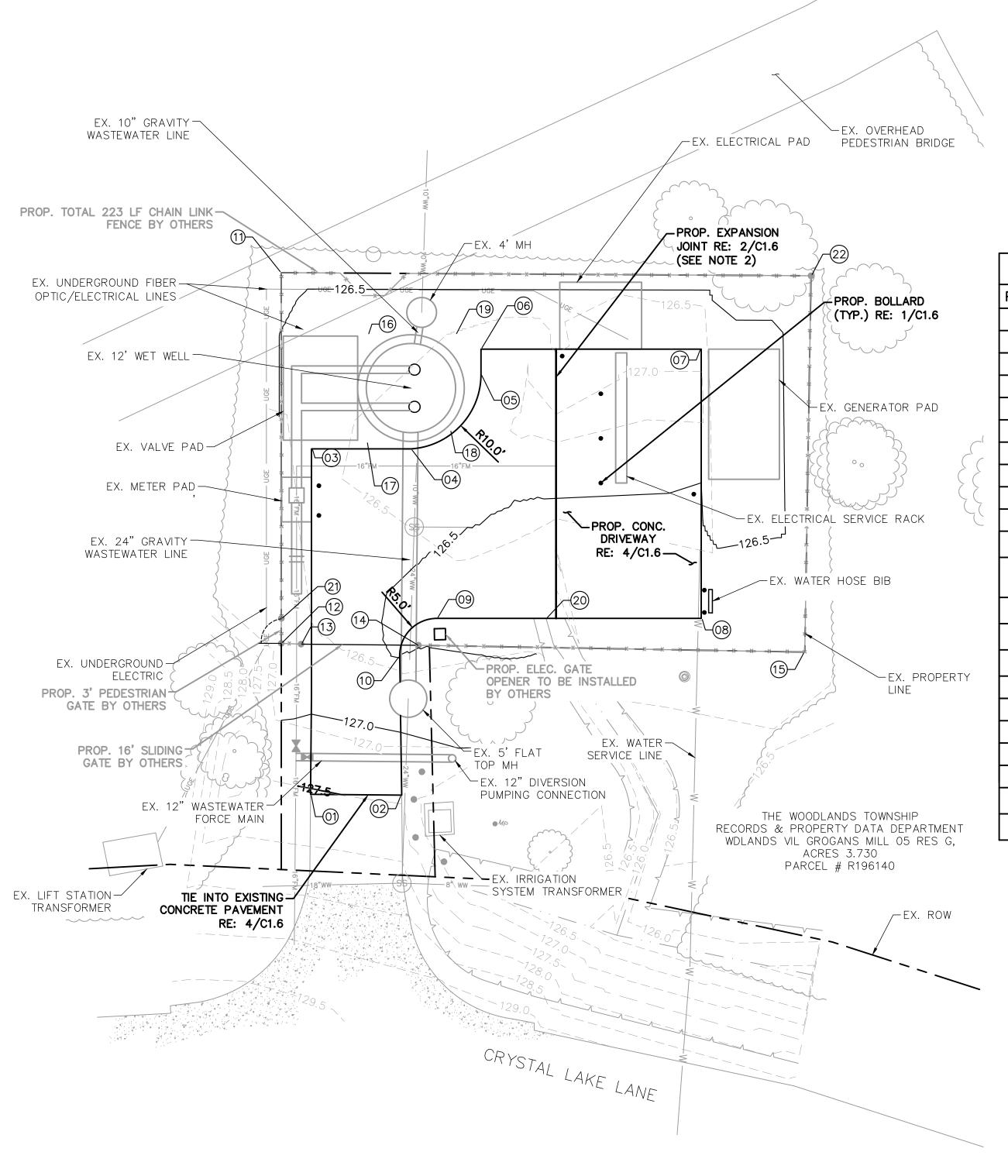
CHECKED BY: CCC

SCALE: AS NOTED

OVERALL SITE PLAN

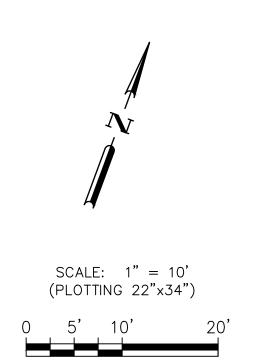
SHEET

C1.4



NOTES	LEGEND	
1. ELEVATIONS SHOWN AT PROPOSED NATURAL GROUND OR PROPOSED TOP OF PAVEMENT UNLESS OTHERWISE NOTED ON PLANS.		TEMPORARY CONSTRUCTION E.EX. ROWEX. PROPERTY LINEEXISTING WATER LINE
2. INSTALL PROPOSED EXPANSION JOINT WHERE THE PROPOSED CONCRETE PAVEMENT MEETS THE EDGE OF THE ABANDONED DRY PIT/WET PIT STRUCTURE.	X" WW	EXISTING WASTEWATER LINE EXISTING WASTEWATER FORCE EXISTING UNDERGROUND ELECTRISTING BRUSH LINE
3. FOR BENCHMARK INFORMATION, SEE SURVEY CONTROL MAP IN PROJECT MANUAL.	* * * *	PROPOSED CHAIN LINK FENCE EXISTING SANITARY SEWER MA

EASEMENT CE MAIN ECTRIC. MANHOLE EXISTING TREE PROPOSED VALVE --- XXX ---- EXISTING CONTOUR --- · · --- C/L OF EX. DITCH





11700 Katy Freeway, Suite 800 Houston, TX 77079 281 597 9300



KIMLEY-HORN AND ASSOCIATES, INC. Texas Registered Engineering Firm F-928

SAN JACINTO RIVER AUTHORITY WOODLANDS DIVISION



SJRA LIFT STATION NO. 4 PAVING AND GRADING PLAN

ISSUE | DATE | DESCRIPTION SJRA PROJECT NO: WDPR0084.1016.2N001

KH PROJECT NO: 064446211

DRAWN BY: JJL CHECKED BY: CCC

SCALE: AS NOTED

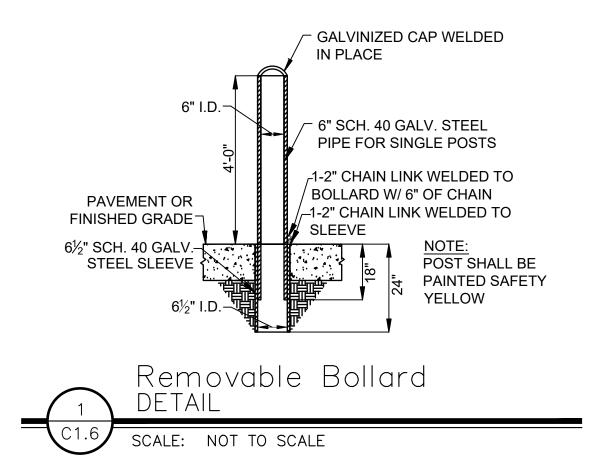
SITE AND GRADING PLAN

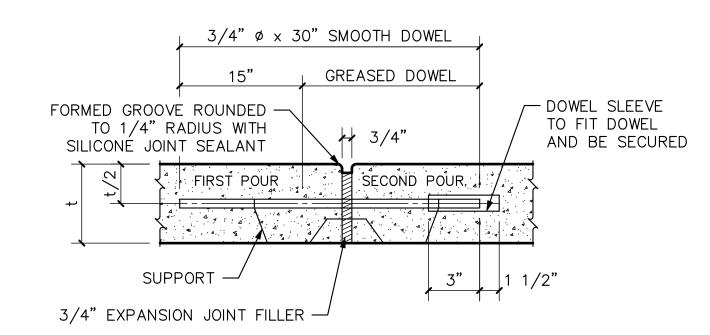
SHEET C1.5

POINTS TABLE NORTHING POINT **EASTING** ELEV. DESCRIPTION 10046628.0757 3835875.3107 | 127.5± PAVEMENT TIE-IN 10046632.2193 | 3835886.8406 | 127.4± PAVEMENT TIE-IN 3835859.3161 PAVEMENT CORNER 10046671.6814 126.68 10046676.3212 | 3835871.8637 | 126.63 PAVEMENT PC 10046688.9646 | 3835857.2226 | 126.67 05 PAVEMENT PT 10046692.1636 | 3835876.0397 | 126.68 PAVEMENT CORNER 10046702.4337 | 3835903.8131 | 126.67 PAVEMENT CORNER 10046668.4767 3835916.3698 126.33 PAVEMENT CORNER 10046656.1511 | 3835883.0377 | 126.41 PAVEMENT PT 10 10046649.6608 | 3835880.1074 | 126.49 PAVEMENT PC 10046692.4962 3835847.2883 | 126.13 FENCE CORNER POST (NG) FENCE CORNER POST/ 10046645.7443 | 3835864.5762 | 126.81 GATE POST (NG) GATE POST (NG) 3835867.1043 | 126.68 10046646.5711 10046651.9055 3835881.9659 | 126.48 GATE POST (NG) 10046669.0571 | 3835930.9957 | FENCE CORNER POST (NG) 15 126.31 10046688.6838 | 3835861.0724 | 126.69 NG 10046675.2031 | 3835865.9607 | 126.66 10046680.5427 | 3835875.9102 | 126.63 NG 10046692.7910 3835872.1706 126.68 NG 10046661.2427 | 3835896.8070 | 126.23 20 PAVEMENT LOW POINT 10046648.8340 | 3835863.4337 | 126.77 GATE POST (NG) 21 10046716.8070 3835914.2349 126.11 22 FENCE CORNER POST (NG)

CAUTION!!

THE UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND FOR INFORMATION ONLY. ADDITIONAL UTILITIES MAY EXIST WITHIN THE WORK AREA AND MAY NOT BE INDICATED ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE HORIZONTAL & VERTICAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ALL UTILITIES CAUSED BY THE CONTRACTOR'S OPERATION.

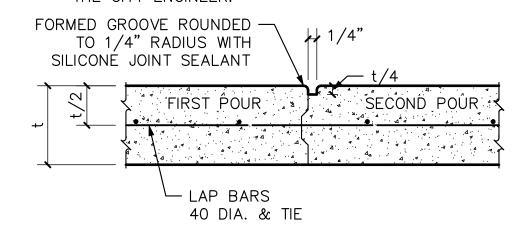




EXPANSION JOINT

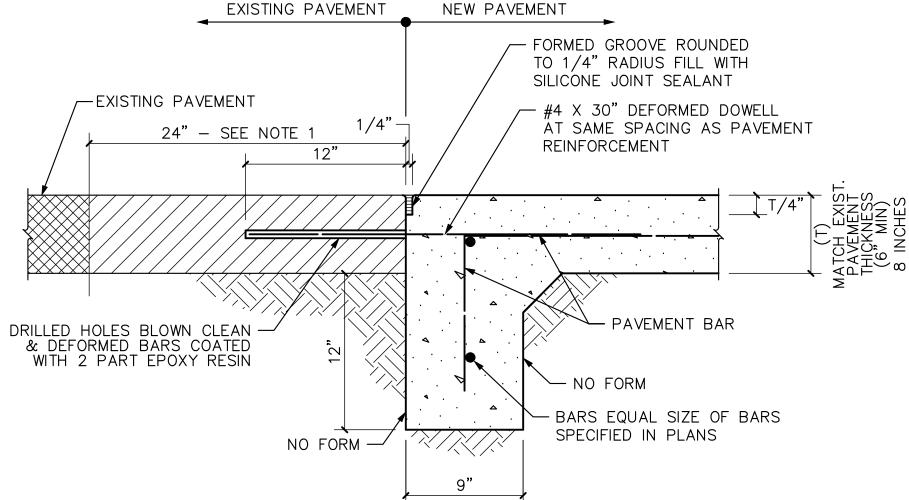
NOTES:

- ALL DOWEL BARS SHALL BE INSTALLED PERPENDICULAR TO JOINT @ 18" SPACING.
- 2. SILICONE JOINT SEALANT SHALL BE DOW CORNING 890 SL, OR APPROVED EQUAL.
- 3. HOT-POURED RUBBER MAY BE USED AS A SUBSTITUTE FOR SILICONE JOINT SEALANT WITH THE APPROVAL OF THE CITY ENGINEER.



CONSTRUCTION JOINT





NOTES:

- 1. WHERE EXISTING PAVEMENT SECTION IS ASPHALT OR FLEX BASE, CONTRACTOR SHALL SAW CUT PAVEMENT 24" BEFORE TRANSITION TO NEW PAVEMENT AND SHALL PLACE 5" THICK SECTION OF NEW HOT MIX ASPHALT PAVEMENT AT HEADER.
- 2. ELIMINATE DEFORMED DOWEL WHERE EXISTING PAVEMENT SECTION IS ASPHALT.
- 3. ALL SAWCUTS SHALL BE FULL DEPTH CUTS. CONTRACTOR SHALL MAKE EFFORTS TO PROTECT CONCRETE EDGES. ANY LARGE SPALLED OR BROKEN EDGES SHALL BE REMOVED BY SAWCUTTING PAVEMENT PRIOR TO REPLACEMENT. COST FOR SAWCUTS SHALL BE INCIDENTAL TO PAVEMENT REMOVAL.
- 4. COST FOR INSTALLATION OF ALL JOINTS SHALL BE INCIDENTAL TO CONCRETE PAVEMENT CONSTRUCTION. CONCRETE PAVING EXPANSION JOINTS SHALL BE CONSTRUCTED AT 400 FOOT INTERVALS. SAWN JOINT SPACING SHALL NOT EXCEED 20 FEET FOR CONCRETE VEHICLE PAVEMENT. JOINTS SHALL BE SAWN AS SOON AS PRACTICAL AFTER CONCRETE IS PLACED (COMPRESSIVE STRENGTH SHALL REACH APPROXIMATELY 1000 PSI), BUT NOT EXCEEDING 18 HOURS AFTER CONCRETE PLACEMENT. ALL CONCRETE VEHICLE PAVEMENT JOINTS SHALL BE SEALED IN ACCORDANCE WITH THE STANDARD DETAILS. CONTRACTOR SHALL MATCH NEW PAVEMENT JOINTS WITH EXISTING ADJOINING PAVEMENT WHERE APPLICABLE.



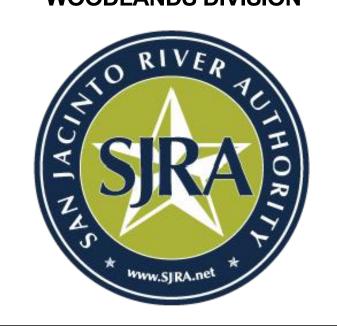


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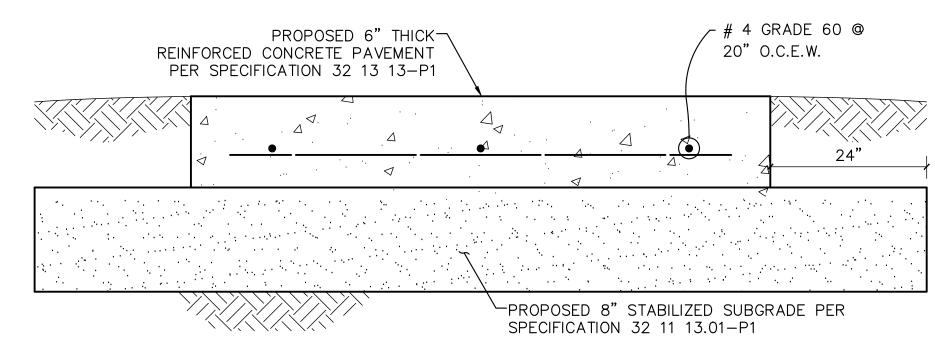
DRAWN BY: JJL

CHECKED BY: CCC

SCALE: AS NOTED

CONSTRUCTION DETAILS

SHEET C1.6



NOT

1. REFER TO REPORT #G107-17 TITLED "GEOTECHNICAL INVESTIGATION -SJRA LIFT STATION #4 REPLACEMENT CRYSTAL LAKE LANE AT GROGRAN'S MILL ROAD THE WOODLANDS, TEXAS" BY AVILES ENGINEERING CORPORATION DATED MAY 2017

