

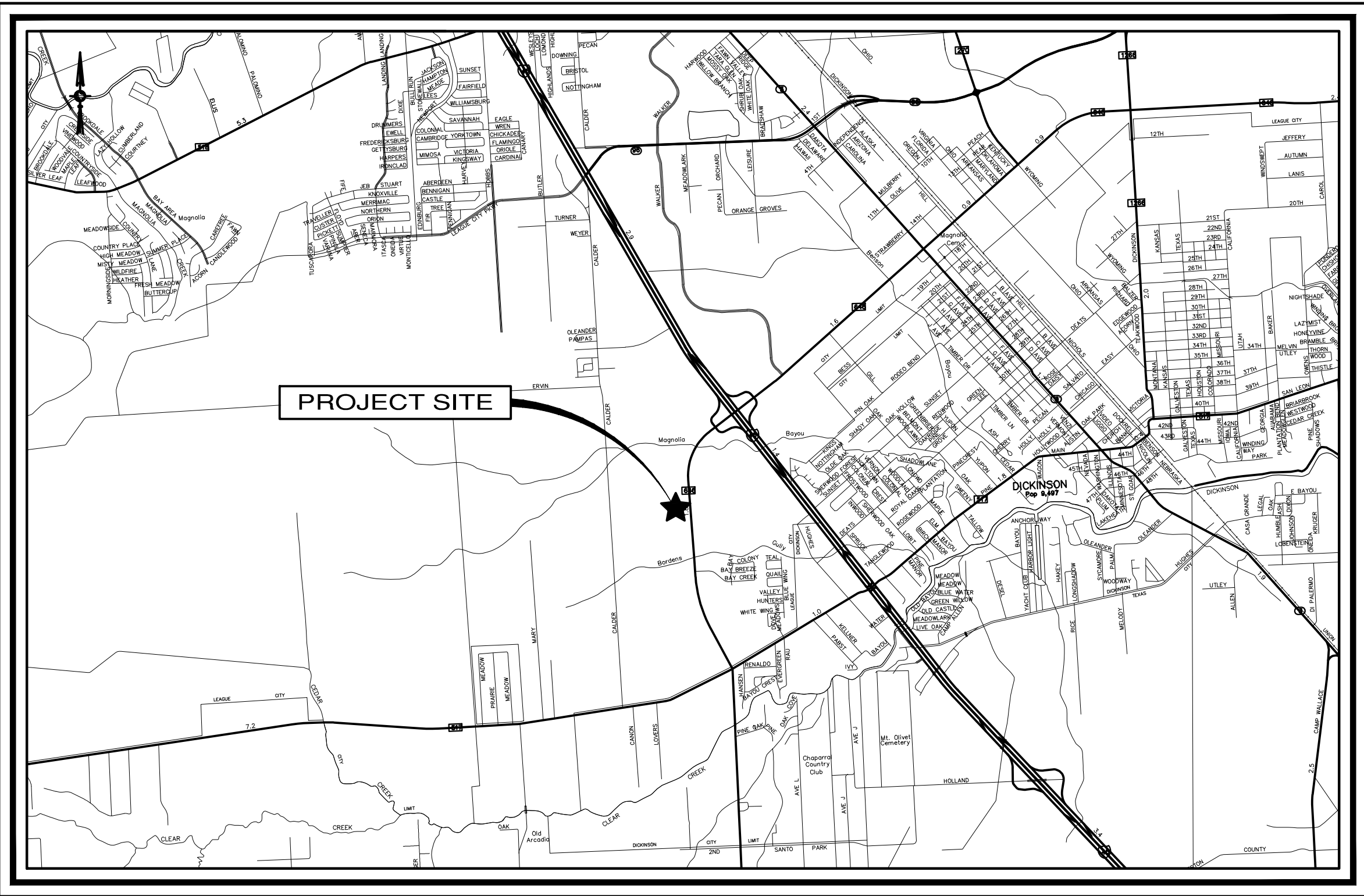
BAY COLONY LAKES DEVELOPMENT CO. L.L.C.
GALVESTON COUNTY M.U.D. NO. 14
CONSTRUCTION PLANS FOR
LAKES IN BAY COLONY SECTION 7
LEAGUE CITY, TEXAS 77573

SURVEYOR



DEVELOPER

BC LAKES, L.L.C
2510 DE FOUR TRACE
SEABROOK, TEXAS 77586



VICINITY MAP

A PRE-CONSTRUCTION MEETING WITH THE CITY OF LEAGUE CITY ENGINEERING DEPARTMENT IS REQUIRED AT LEAST 10 WORKING DAYS PRIOR TO ON SITE CONSTRUCTION ACTIVITIES. CALL 281-554-1440 FOR A MEETING DATE AND TIME. A PRE-CONSTRUCTION MEETING FOR THIS PROJECT MAY NOT BE SCHEDULED AND CONSTRUCTION OF THE PROJECT MAY NOT COMMENCE PRIOR TO APPROVAL OF THESE PLANS BY THE CITY ENGINEER AS EVIDENCED BY HIS SIGNATURE.

REVIEW SIGNATURES	
ENGINEERING:	DATE
TRAFFIC:	
FIRE MARSHAL:	
UTILITY LINE REPAIR:	
CONSTRUCTION MANAGEMENT:	

The review signatures above for this set of plans in no way implies approval or acceptance and is purely a reflection of the City's review process.

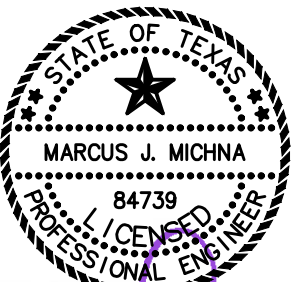
EARL SMITH, P.E., CFM DIRECTOR OF ENGINEERING CITY OF LEAGUE CITY	DATE
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The signer of this set of plans has no objection to the design of these plans. Through the review process these plans have been found to be in general compliance with League City's "General Design and Construction Standards" manual and Construction Details. It should be noted that all calculations, measurements and overall line work within these plans should be checked and verified. This approval is good for 1 (one) year from the date of signing as shown. The plans submitted have been prepared, signed and sealed by a professional engineer licensed to practice engineering in the state of Texas, which conveys the engineer's responsibility and accountability. Design Engineer assumes all responsibility for any inconsistencies or imperfections in these plans.



DRAWING INDEX

SHEET NO.	SHEET TITLE
C 0.00	COVER SHEET
C 0.01	LEGEND & ABBREVIATIONS
C 0.02	GENERAL NOTES
C 1.01	SANITARY & WATER PLAN
C 2.01	DRAINAGE PLAN
C 2.02	DRAINAGE CALCULATIONS
C 2.03	DRAINAGE CALCULATIONS
C 3.01	GRADING & PAVING PLAN
C 4.01	SIGNAGE & STRIPING PLAN
C 5.01	SWPP PLAN
P 2.01	CROSS COLONY DR. PLAN & PROFILE
P 2.02	CROSS COLONY DR. PLAN & PROFILE
P 2.03	CROSS COLONY DR. PLAN & PROFILE
P 2.04	DREAM CATCHER LN. PLAN & PROFILE
P 2.05	DREAM CATCHER LN. PLAN & PROFILE
P 2.06	WATERSWOOD LN, GABLE HOLLOW LN. & INDIGO LAKE CT. PLAN & PROFILE
P 2.07	DREAM CATCHER & STORM SEWER OUTFALL PLAN & PROFILE
P 2.08	QUIET BAY CT PLAN & PROFILE
D 3.01	SANITARY DETAILS
D 3.02	SANITARY DETAILS
D 3.03	SANITARY DETAILS
D 3.04	WATER DETAILS
D 3.05	WATER DETAILS
D 3.06	STORM DETAILS
D 3.07	PAVING DETAILS
D 3.08	PAVING DETAILS
D 3.09	PAVING DETAILS
D 3.10	STRIPING DETAILS
D 3.11	SIGNAGE DETAILS
D 3.12	RAMP DETAILS
D 3.13	SWPPP DETAILS
N/A	LAKES IN BAY COLONY SECTION 7 PLAT



DATE	REV	DESCRIPTION	BY
09/10/15	A	REVIEW	EAF
10/28/15	B	CITY COMMENTS	EAF
12/01/15	B	CITY COMMENTS	EAF
12/15/15	B	FINAL REVIEW	EAF
03/08/16	B	TCEQ COMMENTS	EAF
08/30/15	C	CITY PRECONST. COMMENTS	EAF
02/22/17	D	FIELD REVISIONS	EAF
04/24/17	E	AS BUILT	EAF

PROJ NO: 15-202

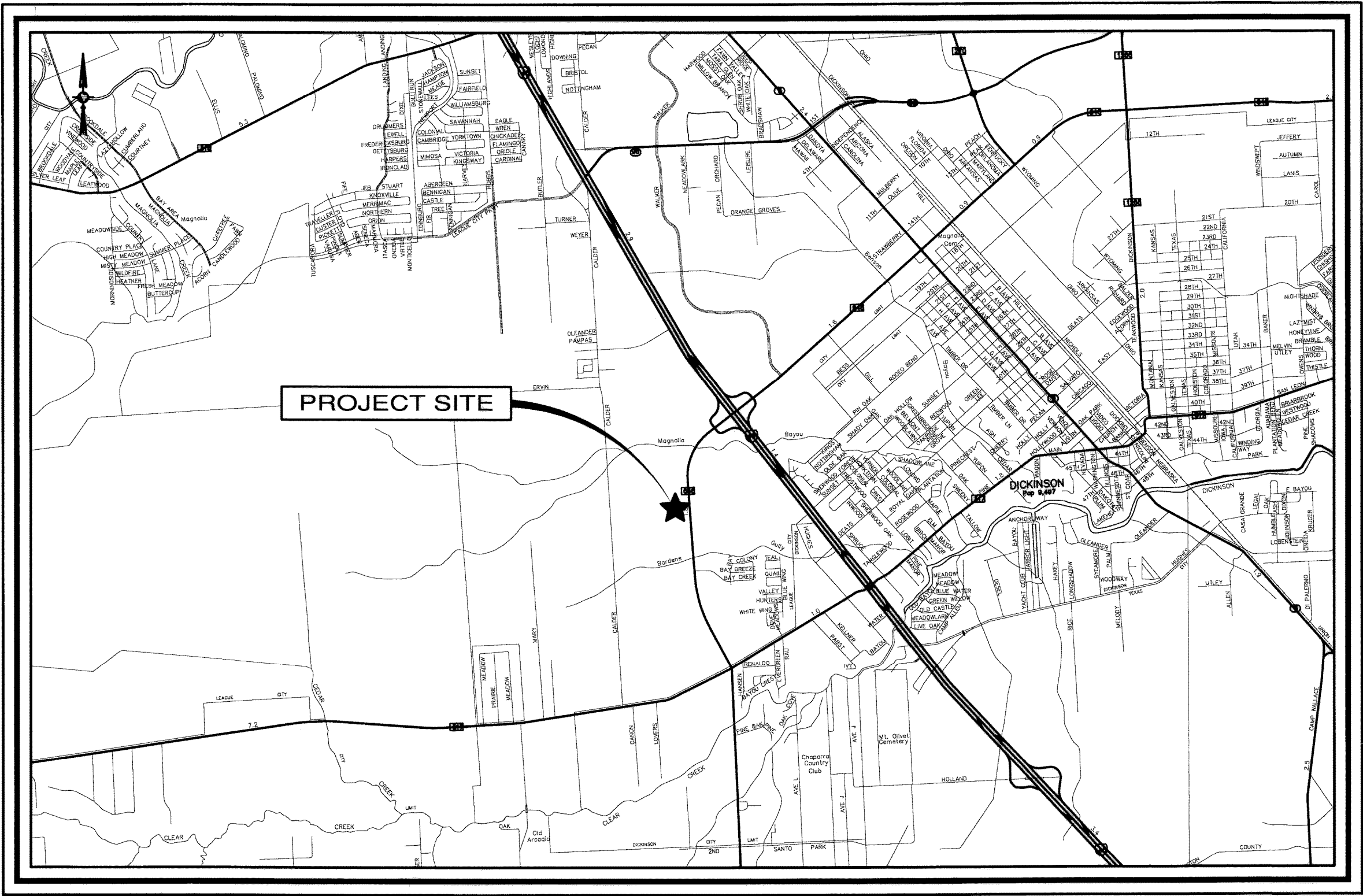
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GALVESTON COUNTY M.U.D. NO. 14
CONSTRUCTION PLANS FOR
LAKES IN BAY COLONY SECTION 7
LEAGUE CITY, TEXAS 77573

SURVEYOR

Dale L. Hardy
GeoSury
Registered Professional
Land Surveyors
200 Houston Ave # B, League City, Texas 77574
281-554-7739 409-765-6030 Fax: 281-554-6928

DEVELOPER

BC LAKES, L.L.C
2510 DE FOUR TRACE
SEABROOK, TEXAS 77586



VICINITY MAP

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N/A	LAKES IN BAY COLONY SECTION 7 PLAT

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REVIEW SIGNATURES	
ENGINEERING:	<i>[Signature]</i> DATE 12/17/15
TRAFFIC:	N/A
FIRE MARSHAL:	<i>[Signature]</i> 12/17/15
UTILITY LINE REPAIR:	<i>[Signature]</i> 12/18/15
CONSTRUCTION MANAGEMENT:	N/A

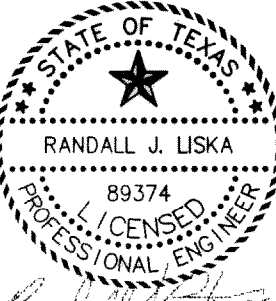
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[Signature] 12/17/2015
EARL SMITH, P.E., CFM
DIRECTOR OF ENGINEERING
CITY OF LEAGUE CITY

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SHELMARK
ENGINEERING, L.L.C.

CIVIL | MARINE | PLANNING | STRUCTURAL
921 FM 517 Road East | Dickinson, Texas 77539
TX Firm No. F-2115



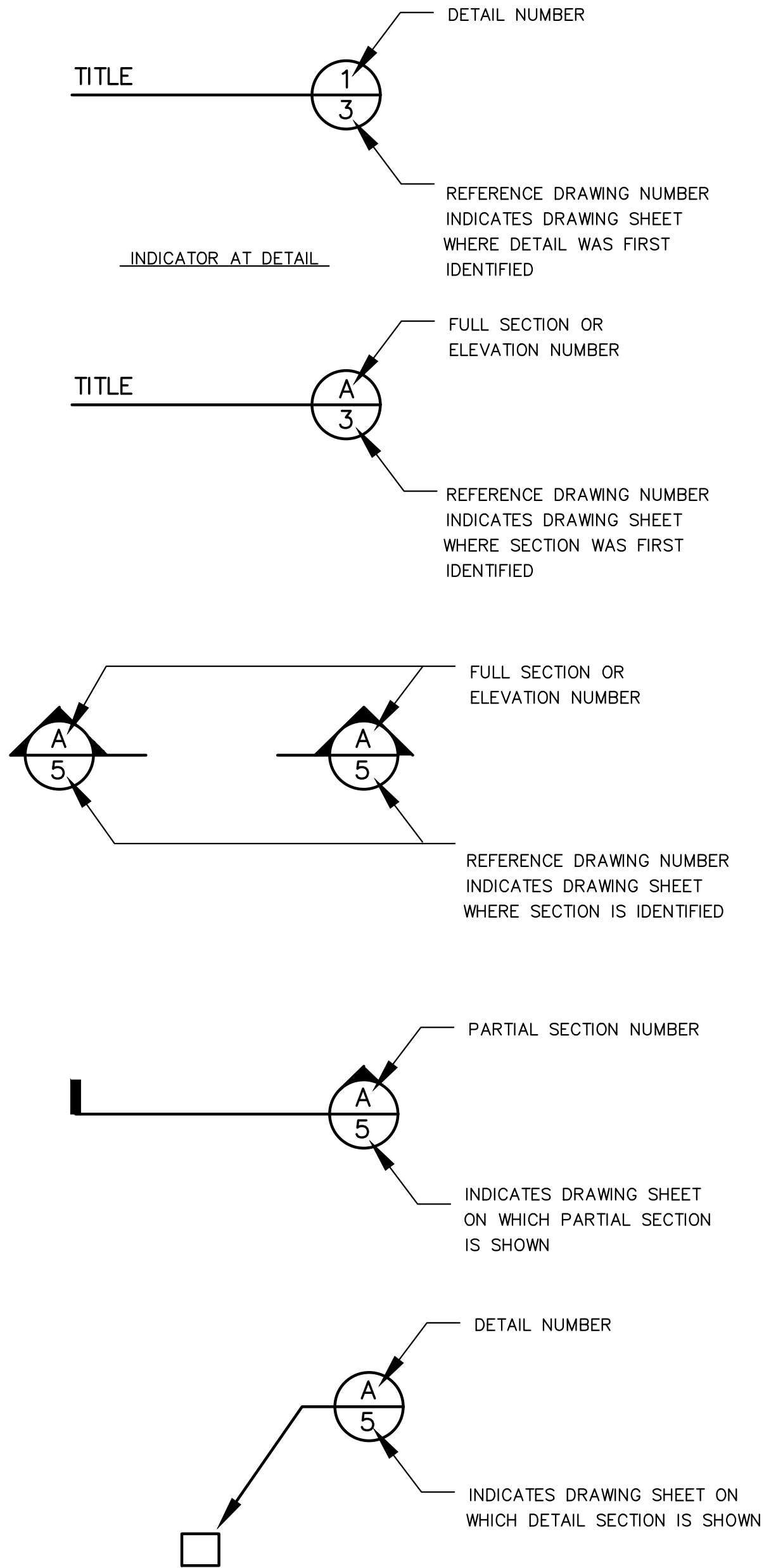
DATE	REV	DESCRIPTION	BY
09/01/15	A	REVIEW	EAF
09/26/15	B	CITY COMMENTS	EAF
12/01/15	B	CITY COMMENTS	EAF
12/15/15	B	FINAL REVIEW	EAF

INFORMATION AND DATA CONTAINED IN THIS DRAWING ARE STRICTLY CONFIDENTIAL AND ARE SUPPLIED ON THE UNDERSTANDING THAT THEY WILL BE HELD CONFIDENTIALLY AND NOT REPRODUCED, COPIED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF SHELMARK ENGINEERING, L.L.C.

ABBREVIATIONS

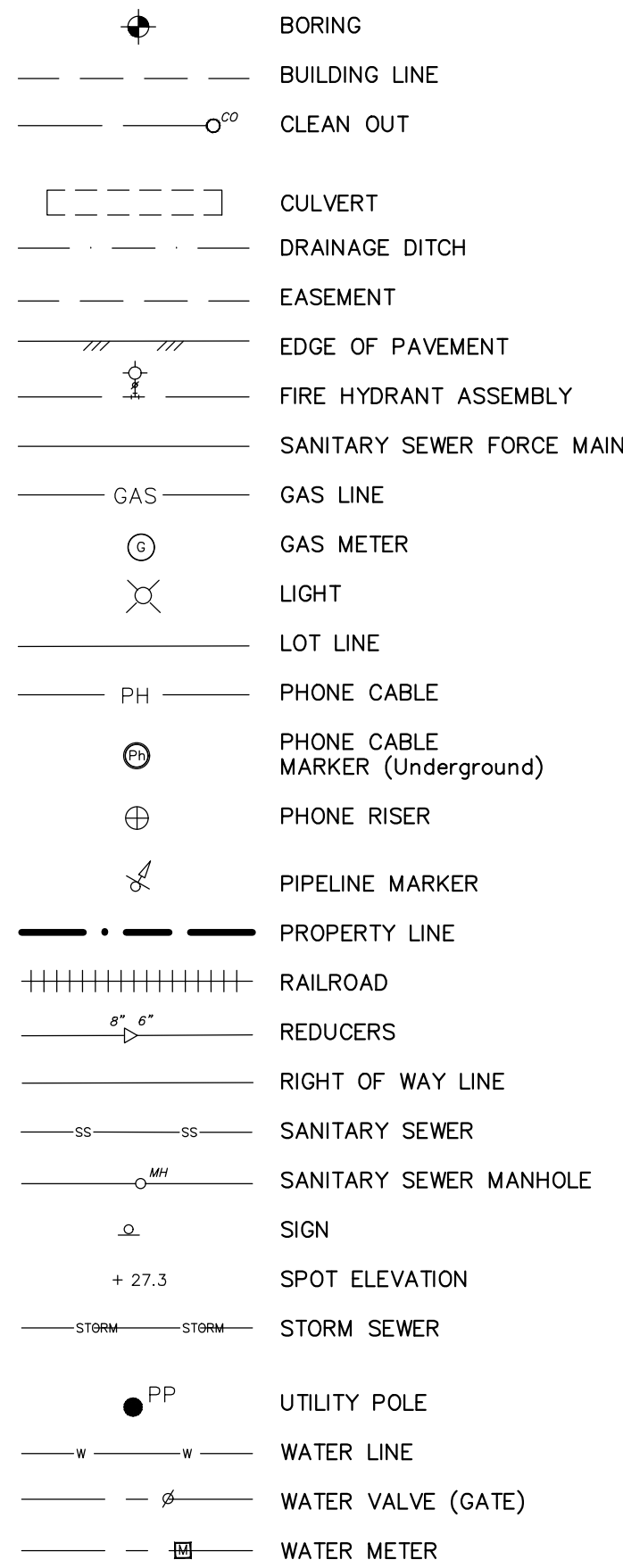
CL or CL	CENTER LINE	REV	REVISION
FL or FL	FLOW LINE	ROW	RIGHT OF WAY
L	STRUCTURAL ANGLE	R/R	RAILROAD
@	AT	RT	RIGHT
Ø or DIA	DIAMETER	S	SOUTH
# or No.	NUMBER	SAN	SANITARY
ADD'L	ADDITIONAL	SECT	SECTION
ADJ	ADJACENT	SEW	SEWER
ALT	ALTERNATE	SF	SQUARE FEET
APPROX	APPROXIMATE	SQ	SQUARE
AVE	AVENUE	STA	STATION
B	BORING	STD	STANDARD
BLDG	BUILDING	STIR	STIRRUP
BLVD	BOULEVARD	STL	STEEL
BOTT	BOTTOM	STRUCT	STRUCTURE
C	STRUCTURAL CHANNEL	SYM	SYMMETRIC
CC or OC	CENTER TO CENTER	TBL	TABLE
C.O.	CLEAN OUT	TBM	TEMPORARY BENCH MARK
CI	CAST IRON	TC	TOP OF CURB
CIP	CAST IRON PIPE	TEMP	TEMPORARY
CJ	CONSTRUCTION JOINT	THK	THICK
CLR	CLEAR	TG	TOP OF GRATE
CMP	CORRUGATED METAL PIPE	TOC	TOP OF CONCRETE
COL	COLUMN	TOP	TOP OF PIPE
CONC	CONCRETE	TYP	TYPICAL
CONST	CONSTRUCTION	V, VERT	VERTICAL
DET	DETAIL	VCP	VITRIFIED CLAY PIPE
DIP	DUCTILE IRON PIPE	VOL	VOLUME
DIST	DISTANCE	W	WEST or WIDE FLANGE
DWG	DRAWING	W/	WITH
DWL	DOWEL	WS	WATERSTOP
E	EAST	WWTP	WASTEWATER TREATMENT PLANT
EA	EACH		
EF	EACH FACE		
ELECT	ELECTRICAL		
ELEV or EL	ELEVATION		
EOP	EDGE OF PAVEMENT		
EW	EACH WAY		
EXIST	EXISTING		
EXP	EXPANSION		
EJ	EXPANSION JOINT		
FF	FAR FACE		
FH	FIRE HYDRANT		
FIG	FIGURE		
FIN	FINISH		
FLR	FLOOR		
FM	FORCE MAIN		
F.M.	FARM TO MARKET		
FT	FOOT or FEET		
GA	GAUGE		
GAL	GALLON		
GALV	GALVANIZED		
GR	GRADE		
HMAC	HOT MIX ASPHALT CONCRETE		
HL&P	HOUSTON LIGHTING & POWER		
HORZ	HORIZONTAL		
HWY	HIGHWAY		
ID	INSIDE DIAMETER		
IF	INSIDE FACE		
IN	INCHES		
IR	IRON ROD		
JT	JOINT		
LBS	POUNDS		
LF	LINEAL FEET		
MAX	MAXIMUM		
MH	MANHOLE		
MIN	MINIMUM		
N	NORTH		
NA	NOT APPLICABLE		
NG	NATURAL GROUND		
NF	NEAR FACE		
NS	NEAR SIDE		
NTS	NOT TO SCALE		
OD	OUTSIDE DIAMETER		
OF	OUTSIDE FACE		
OPNG	OPENING		
PI	POINT OF INTERSECTION		
PL	PLATE		
PROJ	PROJECT		
PROP	PROPOSED		
PP	POWER POLE		
PVC	POLYVINYL CHLORIDE		
PVMT	PAVEMENT		
QTY	QUANTITY		
R	RADIUS		
REBAR	DEFORMED REINFORCING BAR		
REINF	REINFORCEMENT		
REQ	REQUIRE		
RESTEEL	WIRE or PLAIN BARS USED FOR REINFORCING		

SYMBOLS

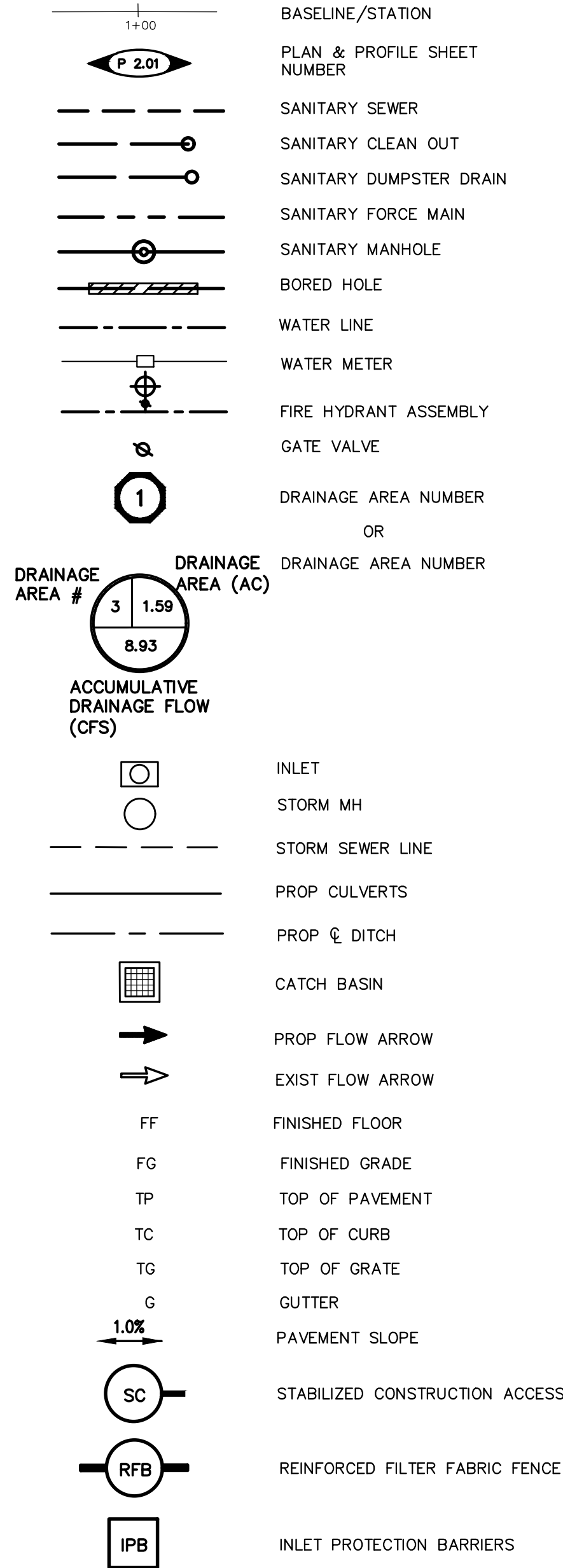


NOTE:
1. "A/" = DETAIL or SECTION IS FOUND ON SAME SHEET

LEGEND – EXISTING



LEGEND – PROPOSED



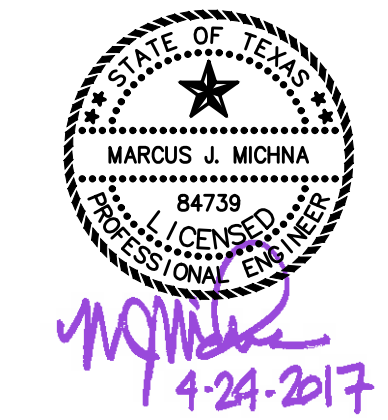
DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR	
REVIEW	9/10/15
CITY COMMENTS	10/26/15
CITY COMMENTS	12/01/15
FINAL APPROVAL	12/15/15
TCEQ COMMENTS	03/08/16
CITY PRECONSTRUCTION COMMENTS	08/30/16
FIELD REV TO SAN/STM AT LIFTSTATION	02/22/17
AS-BUILT	04/24/17



DWG NAME:
LEGEND &
ABBREVIATIONS

DWG:
C 0.01

JOB NO: 15-202
REV: E

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GENERAL NOTES:

1-2015

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED. CONTRACTOR SHALL OBTAIN (AND USE) COPY FROM THE CITY OF LEAGUE CITY.
- THERE WILL BE NO SEPARATE PAYMENT FOR WORK SHOWN ON THESE PLANS, UNLESS SPECIFICALLY ESTABLISHED IN THE BID PROPOSAL SECTION OF THE CONTRACT DOCUMENTS. INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.
- EXISTING UTILITY INFORMATION SHOWN IS NOT GUARANTEED TO BE ACCURATE AND ALL INCLUSIVE. ALL EXISTING UTILITY LOCATIONS ARE APPROXIMATE AND SHOULD BE VERIFIED BY THE CONTRACTOR IN ADVANCE OF HIS CONSTRUCTION. ANY CONFLICT OR DISCREPANCY DISCOVERED MUST IMMEDIATELY BE BROUGHT TO THE ENGINEER'S ATTENTION.
- ANY DAMAGE TO EXISTING PUBLIC UTILITIES MUST BE REPAIRED IMMEDIATELY. THE CONTRACTOR MUST NOTIFY THE APPROPRIATE UTILITY OWNER, WHO WILL MAKE THE REPAIRS AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR ON BEHALF OF THE OWNER, SHALL OBTAIN ALL CONSTRUCTION PERMITS PRIOR TO THE COMMENCEMENT OF WORK.
- THE WORK AREA SHALL BE BARRICADED AND ILLUMINATED DURING DARKNESS AND PERIODS OF INACTIVITY, WHEN IN AN AREA OF DIRECT PUBLIC ACCESS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STORAGE OF MATERIAL AND EQUIPMENT IN A SAFE AND WORKMAN LIKE MANNER TO PREVENT INJURIES, DURING AND AFTER WORKING HOURS UNTIL PROJECT COMPLETION. THERE SHALL BE NO PAYMENT MADE TO THE CONTRACTOR FOR STORED MATERIAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SHIPPING OF ALL MATERIALS. THE LOADING AND UNLOADING OF ALL PIPE, VALVES, HYDRANTS, MANHOLES AND OTHER ACCESSORIES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDED PRACTICES AND SHALL AT ALL TIMES BE PERFORMED WITH CARE TO AVOID ANY DAMAGE TO THE MATERIAL. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO EXAMINE SUCH MATERIAL AT THE POINT OF DELIVERY AND TO REJECT ALL DEFECTIVE MATERIAL. THE DEFECTIVE MATERIAL MUST BE REPLACED WITH SOUND MATERIAL.
- ALL PIPE AND REINFORCEMENT STEEL SHALL BE KEPT FREE OF DIRT AND OTHER DEBRIS. ANY DAMAGE TO THE COATING OF THE VARIOUS MATERIALS MUST BE REPAIRED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE AND POSITIVE DRAINAGE AT ALL TIMES DURING CONSTRUCTION OF PROPOSED FACILITIES. NATURAL GROUND ADJACENT TO UTILITY TRENCH EXCAVATION TO BE GRUBBED PRIOR TO PLACEMENT OF EXCESS TRENCH MATERIAL. (NO SEPARATE PAY).
- ACCESS TO ALL EXISTING STREETS AND DRIVEWAYS SHALL BE MAINTAINED AT ALL TIMES.
- THE CONTRACTOR IS REQUIRED TO FOLLOW ALL APPLICABLE OSHA RULES AND REGULATIONS. TRENCH SAFETY SHALL BE DONE IN ACCORDANCE WITH OSHA 29 CFR PART 1926, AS PUBLISHED IN THE FEDERAL REGISTER OCTOBER 31, 1989, AND EFFECTIVE JANUARY 2, 1990, AND AMENDMENTS THERETO.
- NO CONNECTIONS SHALL BE MADE TO THE EXISTING WATER LINES OR SANITARY SEWERS UNTIL ALL PROPOSED LINES OR SEWERS HAVE BEEN THOROUGHLY CLEANED, TESTED, AND APPROVED BY THE ENGINEER.
- ALL GEOTECHNICAL REPORTS (IF ANY) FOR THIS PROJECT ARE AVAILABLE AT THE OFFICE OF THE ENGINEER.
- SURFACE RESTORATION: AT THE END OF ALL CONSTRUCTION PROJECTS, THE CONTRACTOR SHALL RESTORE THE EXISTING FACILITIES, I.E., THE PROPERTY, INCLUDING DITCH, EQUAL TO OR BETTER THAN EXISTING SITE CONDITIONS PRIOR TO CONSTRUCTION. ALL DISTURBED AREA SHALL BE SEEDED PROPERLY.
- FINAL ACCEPTANCE OF THE UTILITIES WILL NOT BE GIVEN TO THE CONTRACTOR UNTIL THEY ARE INSPECTED AND APPROVED BY THE CITY OF LEAGUE CITY.
- ALL MANHOLES ARE TO BE CONSTRUCTED TO ALLOW FOR A MINIMUM OF 1 FOOT OF VERTICAL ADJUSTMENT.
- ALL TRENCH EXCAVATION, BEDDING AND BACKFILL SHALL BE IN CONFORMANCE WITH THE CITY OF LEAGUE CITY STANDARD DETAILS - EXCAVATION AND BACKFILL FOR UTILITIES AND UTILITY BACKFILL MATERIAL SPECS.
- ALL UTILITY TRENCHES UNDER OR WITHIN THREE FEET OF EXISTING, PROPOSED, AND/OR FUTURE PAVEMENT OR CURB SHALL BE BACKFILLED WITH NO LESS THAN 1-1/2 SACKS OF CEMENT PER TON OF CEMENT-STABILIZED SAND TO A POINT ONE FOOT BELOW PAVEMENT SUBGRADE. THE REMAINING BACKFILL SHALL BE MADE WITH COMPACTED SUITABLE MATERIAL.
- THE USE OF WELL POINT SYSTEMS, WHEN REQUIRED BY TRENCH CONDITIONS, SHALL BE REQUESTED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER.
- CONTRACTOR SHALL PROTECT ALL TREES ADJACENT TO WORK AREA. NO TREES SHALL BE REMOVED WITHOUT PERMISSION OF OWNER.
- CONTRACTOR SHALL PROVIDE MINIMUM CLEARANCES AT STORM SEWER, SANITARY SEWER AND WATER LINE CROSSINGS AS DESIGNED PER THE PLANS AND ACCORDING TO THE BEDDING AND BACKFILL DETAILS.
- ALL AREAS DISTURBED ALONG SIDE AND BACK-OF-LOT EASEMENTS OR OTHER UNNECESSARY DISTURBANCES AS A RESULT OF CONSTRUCTION WORK SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH SEEDING SPECIFICATIONS (NO SEPARATE PAY).
- EXCAVATE MUCK, ORGANIC MATERIAL AND UNSUITABLE SOIL PRIOR TO PLACING FILL. PLACE SUITABLE MATERIAL IN 8" MAXIMUM LOOSE LIFT AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
- ALL BACKFILL SHALL BE PLACED 8" LIFTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY AND BE TESTED BY AN APPROVED TESTING LAB.
- ALL TRENCH BACKFILL SHALL HAVE AT LEAST ONE DENSITY TESTING ON EACH LIFT. ONLY STANDARD BACKFILL PROCEDURES ARE ALLOWED. ANY DEVIATION TO THIS STANDARD MUST BE APPROVED BY THE CITY OF LEAGUE CITY.
- EXCEPT FOR WATER AND SANITARY SEWER FACILITIES, ALL PROPOSED FACILITIES MUST BE INSTALLED WITH A MINIMUM SEPARATION OF 4 FEET OUTSIDE TO OUTSIDE FROM ALL OTHER EXISTING OR PROPOSED FACILITIES.
- ALL TESTING PROCEDURES USED ON THIS PROJECT SHALL CONFORM TO THE CITY OF LEAGUE CITY STANDARDS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TESTS REQUIRED. IF ANY TEST RESULTS DO NOT MEET THE TESTING STANDARDS, SUCH MATERIAL SHALL BE REMOVED AND REPLACED SO THAT THE TESTING STANDARDS CAN BE MET. COST OF TEST AND LABORATORY SERVICES SHALL BE INCIDENTAL AND INCLUDED IN UNIT PRICE OF BID ITEM. A COPY OF THE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER AND THE CITY OF LEAGUE CITY.
- ALL UNSATISFACTORY AND OR WASTE MATERIALS INCLUDING VEGETATION, ROOTS, CONCRETE AND DEBRIS SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR, NO DIRECT PAYMENT WILL BE MADE, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE VARIOUS BID PROPOSAL ITEMS.
- UTILITY CONTRACTOR SHALL ADJUST RIM ELEVATIONS TO 0.3 FEET ABOVE THE FINISHED GRADE AT EACH MANHOLE LOCATION AFTER PAVEMENT CONTRACTOR HAS COMPLETED FINAL GRADING (NO SEPARATE PAY). SLOPED FILL SHALL BE ADDED FOR STORM WATER DRAINAGE AWAY FROM THE MANHOLE RIM.
- CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ADEQUATE FLAGMEN, SIGNING, STRIPING AND WARNING DEVICES, ETC., DURING CONSTRUCTION BOTH DAY AND NIGHT IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
- UTILITY CONTRACTOR SHALL AT COMPLETION OF HIS WORK FILL AND GRADE ALL UTILITY EASEMENTS (WET AND DRY) FOR POSITIVE DRAINAGE, AS DIRECTED BY THE OWNER. (NOT SEPARATE PAY)
- CITY OF LEAGUE CITY SIGNATURES ARE VALID FOR 1 (ONE) YEARS ONLY AFTER DATE & SIGNING OF PLANS.
- UTILITY CONTRACTOR SHALL PROVIDE TEMPORARY SILT BARRIER FENCE ON ALL NON-CURB INLETS WHICH WILL REMAIN IN PLACE AFTER UNDERGROUND CONTRACT IS COMPLETE.

35. CONTRACTOR SHALL CONTACT THE FOLLOWING A MINIMUM OF 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.

- A) CITY OF LEAGUE CITY PROJECT MANAGEMENT (281)-554-1439
B) CITY OF LEAGUE CITY FIRE MARSHALL (281)-554-1290
C) TEXAS ONE CALL SYSTEM 1-800-245-4545
D) LONE STAR NOTIFICATION CENTER 1-800-669-8344
E) TEXAS EXCAVATION SAFETY SYSTEM INC. 1-800-344-8377
F) EL PASO PIPELINE : MR. J.R. LOCAN (281)-331-4693
G) BP PIPELINE : MR. DARREL BARBO (409)-938-6995 (MOBIL) (281)-636-6747

36. CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES AND PAVEMENT BEFORE CONSTRUCTION. ANY VERIFICATIONS THAT ARE INCONSISTENT WITH THE PLANS NEED TO BE REPORTED TO THE ENGINEER BEFORE CONSTRUCTION BEGINS.

37. WITH CITY ENGINEERS APPROVAL, W. S. & D. SPOIL MAY BE SPREAD EVENLY IN THE STREET RIGHT-OF-WAY AFTER UTILITIES ARE IN PLACE.

38. THERE WILL BE NO ADDITIONAL COST FOR INSTALLING WATER LINES AND SEWERS UNDER EXISTING UTILITIES AND PIPELINE. INCLUDE COST OF THIS WORK IN THE CONTRACT UNIT PRICE FOR ITEMS OF WHICH THIS WORK IS A COMPONENT OR INCIDENTAL.

39. LAWS TO BE OBSERVED, THE DEVELOPER/CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH AND AT ALL TIMES SHALL OBSERVE AND COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS, ORDINANCES, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE CONDUCT OF THE WORK AND SHALL INDEMNIFY AND SAVE HARMLESS THE CITY AND ITS REPRESENTATIVES AGAINST ANY CLAIM ARISING FROM THE VIOLATION OF ANY SUCH LAW, ORDINANCE, OR REGULATIONS, WHETHER BY HIMSELF OR BY HIS EMPLOYEES.

40. CONTRACTOR SHALL REMOVE ALL MUD, DIRT, AND DEBRIS DEPOSITED ON EXISTING PAVEMENT DUE TO HIS CONSTRUCTION ACTIVITY DAILY.

41. CONTRACTOR SHALL CONTACT THE WATER UTILITY DEPARTMENT AT 281-554-1390 TO COORDINATE VALVE OPERATIONS FOR PROPOSED TIE-INS.

42. DISPOSAL OF EXCESS EXCAVATION MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. DISPOSAL OF EXCESS EXCAVATION MATERIAL WITHIN LEAGUE CITY SHALL COMPLY WITH ORDINANCE 2009-25 ARTICLE 2.

PAVING CONSTRUCTION NOTES: 1-2015

1. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.

2. ALL RETURNS HAVE 25' RADIUS AT BACK OF CURB UNLESS OTHERWISE NOTED.

3. WHEN THE TOP OF CURB ELEVATION OR BOTTOM OF PAVEMENT SLAB IS ABOVE NATURAL GROUND, THE PAVING CONTRACTOR SHALL BACKFILL FROM THE NATURAL GROUND TO TOP OF CURB IN LAYERS NOT EXCEEDING 8 INCHES IN DEPTH AND EACH LAYER COMPACTED TO NOT LESS THAN 95% STANDARD PROCTOR DENSITY AND SHALL FILL FROM CURB TO EDGE OF TREELINE. (NO SEPARATE PAY)

4. PAVING CONTRACTOR SHALL PROTECT WATER, SEWER, AND DRAINAGE FACILITIES; AND WILL REPLACE AT HIS EXPENSE ANY FACILITIES DAMAGED DURING PAVING OPERATIONS. ALL MANHOLES AND VALVES FALLING WITHIN PAVEMENT AREA SHALL BE ADJUSTED TO FINISHED GRADE BY PAVING CONTRACTOR WITHOUT THE USE OF BLOCKOUTS WHEN DIRECTED BY OWNER (WITH NO SEPARATE PAY).

5. PAVING SHALL BE IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED.

6. EXISTING PAVEMENTS, CURBS, SIDEWALKS, AND DRIVEWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE REPLACED TO CITY OF LEAGUE CITY STANDARDS.

7. CONDITION OF THE ROAD AND / OR RIGHT-OF-WAY, UPON COMPLETION OF JOB, SHALL BE AS GOOD AS OR BETTER THAN THE CONDITION PRIOR TO STARTING WORK.

8. ALL ROAD WIDTHS, CURB RADII, AND CURB ALIGNMENT SHOWN INDICATE BACK OF CURB. T.C. INDICATES TOP OF CURB. T.P. INDICATES TOP OF PAVEMENT ELEVATIONS.

9. DOUBLE REFLECTORIZED BLUE TRAFFIC MARKERS SHALL BE PLACED 1 FOOT OFFSET OF THE CENTERLINE AT ALL FIRE HYDRANT LOCATIONS BY THE PAVING CONTRACTOR. HYDRANTS LOCATED AT INTERSECTIONS SHALL HAVE A BUTTON PLACED ON EACH STREET. NO EXTRA PAY.

10. AREAS TO RECEIVE FILL SHALL BE STRIPPED 4 INCHES AND SCARIFIED PRIOR TO FILL PLACEMENT. PAVEMENT FILL SHALL BE COMPACTED TO A MINIMUM 95% MAXIMUM DENSITY PER ASTM D698 IN MAXIMUM 8" LOOSE LIFTS

11. TRANSVERSE EXPANSION JOINTS SHALL BE INSTALLED AT EACH CURB RETURN AND AT A MAXIMUM SPACING OF 80 FEET.

12. THE SUBGRADE IS TO BE SCARIFIED TO A DEPTH DETERMINED BY TEST LAB, WITH LIME OR CEMENT STABILIZE AS DETERMINED BY LAB RESULTS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM D698 OR ASTM D1557.

13. WHEN A 6 INCH THICK CONCRETE ROADWAY INTERSECTS WITH A 7 INCH THICK CONCRETE ROADWAY, 7 INCH THICK CONCRETE SHALL BE CONSTRUCTED FOR THE ENTIRE INTERSECTION TO THE ENDS OF ALL CURB RETURNS.

14. AREAS TO BE FILLED SHALL BE SCARIFIED AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY PER ASTM D-698, TO A DEPTH OF 8 INCHES PRIOR TO FILL PLACEMENT. FILL MATERIAL SHALL BE PLACED IN MAXIMUM 8 INCH THICK LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS PER ASTM D-698. MOISTURE CONTENT SHALL BE WITHIN 2% OF OPTIMUM UNLESS OTHERWISE DIRECTED BY OWNER'S TESTING LAB OR THE ENGINEER. FILL SHALL BE CLEAN EARTH, SAND, OR A COMBINATION, AND BE FREE FROM TRASH, VEGETATION AND LARGE STONES.

15. A CONTINUOUS LONGITUDINAL REINFORCING BAR SHALL BE USED IN THE CURBS.

16. STREET NAME SIGNS TO BE STANDARD CITY OF LEAGUE CITY SIGNS AND INSTALLED BY CONTRACTOR. CONTACT CITY OF LEAGUE CITY STREET DEPARTMENT FOR EXAMPLE. CONTRACTOR TO VERIFY STREET NAME WITH APPROVED PLAT.

17. ALL EXCESS SUITABLE SOILS FROM WS&D AND PAVING CONSTRUCTION SHALL BE EVENLY APPLIED TO LOT AREAS IN ACCORDANCE WITH ITEM 15 OF THIS PAVING CONSTRUCTION NOTES, AND BE INCIDENTAL TO THE LOT GRADING ITEM OF THIS CONTRACT.

18. CONTRACTOR SHALL GET A COPY OF THE APPROVED PLAT TO DETERMINE THE CORRECT NAMES OF THE STREETS BEFORE ORDERING AND PLACING STREET SIGN NAMES.

19. SIDEWALKS FALLING WITHIN OR ADJACENT TO RESERVES PARALLEL WITH ROAD RITH-OF-WAYS AND ALL CROSS WALK RAMPS SHALL BE PLACED BY THE OWNERS CONTRACTOR.

SANITARY SEWER CONSTRUCTION NOTES: 1-2015

1. ALL SANITARY SEWER BEDDING SHALL BE AS PER THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED UNLESS OTHERWISE INDICATED.

2. ALLOWABLE SANITARY SEWER PIPE MATERIAL FOR GRAVITY LINES SHALL BE POLYVINYL CHLORIDE (PVC) OR AS APPROVED BY CITY ENGINEER.
6-INCH TO 15-INCH: ASTM D-3034, SDR 26 (ALSO SEE SECTION 507.2 OF THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS MANUAL.)
B. ALL AUGURED CONSTRUCTION UNDER PAVEMENT SHALL BE CASED PER DETAIL AND ITEM 407.13.2 OF THE GENERAL DESIGN AND CONSTRUCTION STANDARDS MANUAL.

3. IN WET OR DRY STABLE TRENCH CONSTRUCTION FOR SANITARY SEWER, BEDDING AND BACKFILL SHALL BE PER CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED.

4. DEFLECTION TESTING OF THE GRAVITY SEWER LINE SHALL BE CONDUCTED AFTER THE FINAL BACKFILL HAS BEEN IN PLACE AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5.0%. THE DEFLECTION TEST SHALL BE CONDUCTED USING A RIGID MANHOLE HAVING AN OUTSIDE DIAMETER EQUAL TO 95% OF THE INSIDE DIAMETER OF THE PIPE. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES. I. & E. TEST FOR SANITARY SEWER SYSTEM WILL BE IN ACCORDANCE WITH CITY OF LEAGUE CITY REQUIREMENTS, FOR LOW PRESSURE AIR TEST AS PER TAC 317.2

5. CHEMICALLY WELDED SANITARY SEWER JOINTS ARE NOT ACCEPTABLE. USE RUBBER GASKETED BELL & SPIGOT SANITARY SEWER JOINTS.

6. ALL SANITARY SEWER ADAPTERS REQUIRED TO CONNECT TO EXISTING SANITARY SEWERS ARE INCIDENTAL TO THE BID ITEM FOR SANITARY SEWER PIPE.

7. MANHOLES (AS DESIGNATED ON PLAN & PROFILE) SHALL INCLUDE INFLOW PROTECTORS WHICH SHALL BE INCIDENTAL TO CONSTRUCTION OF MANHOLES. (NO SEPARATE PAY)

8. UNLESS APPROVED NO CAST IN PLACE MANHOLES SHALL BE USED. ALL SANITARY MANHOLES SHALL BE PRECAST REINFORCED CONCRETE 4' TO 8' DIAMETER MOOR-TEX MANHOLE OR EQUAL IN ACCORDANCE WITH CITY OF LEAGUE CITY STANDARDS.

9. UNIT PRICE FOR AUGER SECTION AND AUGER PIT INCLUDE DRY OR WET CONDITION. (NO EXTRA PAY)

10. THE TOTAL FOOTAGE OF LINE 36" AND SMALLER SHALL BE INSPECTED WITH TELEVISION EQUIPMENT IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AS CURRENTLY AMENDED.

11. CONTRACTOR SHALL TEST ALL SANITARY SEWER SYSTEMS IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AS CURRENTLY AMENDED.

12. CONTRACTOR SHALL AIR TEST ALL GRAVITY SANITARY SEWER LINES. FORCE MAIN LINES SHALL BE HYDROSTATICALLY TESTED AT 125 PSI.

13. WATER & SANITARY SEWER THAT ARE PARALLEL MUST BE INSTALLED IN SEPARATE TRENCHES WITH NO LESS THAN 9' (NINE FEET) MIN. HORIZONTAL CLEARANCE. SEE LEAGUE CITY DETAIL SANITARY SEWER INSTALLATION CROSSING OR PARALLEL TO WATER LINE.

STORM WATER POLLUTION PREVENTION: 1-2015

1. THE CONTRACTOR OR DEVELOPER SHALL BE RESPONSIBLE, AS THE ENTITY EXERCISING OPERATIONAL CONTROL, FOR ALL PERMITTING AS REQUIRED BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). THIS INCLUDES, BUT IS NOT LIMITED TO, PREPARATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), THE CONSTRUCTION SITE NOTICE (CSN), THE NOTICE OF INTENT (NOI), THE NOTICE OF TERMINATION (NOT) AND ANY NOTICE OF CHANGE (NOC) AND IS REQUIRED TO PAY ALL ASSOCIATED FEES.

2. EROSION CONTROL DEVICES AS SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBING ACTIVITIES.

3. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS, SPECIFICATIONS AND STORM WATER POLLUTION PLAN (SWPPP) FOR THE PROJECT. CHANGES ARE TO BE REVIEWED BY THE DESIGN ENGINEER AND CITY OF LEAGUE CITY PRIOR TO IMPLEMENTATION.

4. IF THE PROJECT'S EROSION CONTROL PLAN AND STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AS APPROVED CANNOT APPROPRIATELY CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT, THE EROSION CONTROL PLAN AND/OR THE SWPPP IS REQUIRED TO BE REVISED AND ANY CHANGES REPORTED TO THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), WHEN APPLICABLE.

5. ALL EROSION CONTROL DEVICES SHALL BE INSPECTED WEEKLY BY THE CONTRACTOR AND AFTER ALL MAJOR RAIN EVENTS OR MORE FREQUENTLY AS DICTATED IN THE PROJECT STORM WATER POLLUTION PREVENTION PLAN (SWPPP).

WATER CONSTRUCTION NOTES:

1-2015

1. WATER MAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF LEAGUE CITY GENERAL DESIGN AND CONSTRUCTION STANDARDS AND THE CITY OF LEAGUE CITY STANDARD DETAILS AS CURRENTLY AMENDED.

2. ALL WATERLINES ARE TO BE HYDROSTATICALLY TESTED BY THE CONTRACTOR IN ACCORDANCE WITH CITY OF LEAGUE CITY CRITERIA.

3. PIPE MATERIAL SHALL BE PVC WATER PIPE AWWA C900 (DR 18) FOR SIZES 6" THROUGH 12" OR C905 (DR 18) FOR SIZES 14" THRU 24", DUCTILE IRON PIPE FOR SIZES 6" THROUGH 36", STEEL CYLINDER CONCRETE PIPE (CLASS 150) FOR SIZES OVER 18" IN CONFORMANCE WITH MATERIAL SPECIFICATION OF THE CITY OF LEAGUE CITY. (ANY OTHER MATERIAL OR SIZES TO BE SUBMITTED FOR APPROVAL).

4. ALL WATER VALVES SHALL OPEN COUNTER CLOCKWISE. ALL WATER VALVES SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITION OF AWWA C-500 AND SHALL BE OF THE RESILIENT SEAT TYPE.

5. ALL FLANGES BELOW GRADE SHALL BE INSULATED.

6. ALL WATERLINES SHALL BE ENCASED IN BANK SAND TO AT LEAST 12" ABOVE THE PIPE. COST OF BANK SAND TO BE INCLUDED IN UNIT PRICE OF WATERLINE.

7. WATERLINE TRENCHES UNDER PAVEMENT OR WITHIN THREE (3) FOOT OF PROPOSED CURBS SHALL BE BACKFILLED WITH CEMENT STABILIZED SAND (NO LESS THAN 1-1/2 SACK/PER TON) UP TO WITHIN ONE FOOT OF PAVEMENT. COST OF BACKFILL SHALL NOT BE PAID DIRECTLY BUT SHALL BE INCLUDED IN THE UNIT PRICE OF WATERLINE.

8. ALL FLUSHING VALVES SHALL BE LOCATED A MIN. OF 3' BACK OF CURB, ON CURB AND GUTTER STREETS. ON STREETS HAVING NO CURB, THE FLUSHING VALVE SHALL BE LOCATED INSIDE THE RIGHT-OF-WAY OR ADJACENT EASEMENT.

9. WATERLINE SHALL BE CONSTRUCTED SUCH THAT ALL CROSSES AND TEES WILL NOT BE LOCATED UNDER PROPOSED OR FUTURE PAVING.

10. UTILITY CONTRACTOR TO TURN FLUSHING VALVES AND ALL FINAL ADJUSTMENTS AFTER COMPLETION OF PAVING. NO SEPARATE PAY.

11. SANITARY PRECAUTIONS MUST BE TAKEN DURING WATERLINE CONSTRUCTION, AS CALLED FOR BY AWWA STANDARDS. PRECAUTIONS INCLUDE KEEPING PIPE CLEAN AND CAPPING OR OTHERWISE EFFECTIVELY COVERING OPEN PIPE ENDS TO EXCLUDE INSECTS, ANIMALS OR OTHER SOURCES OF CONTAMINATION FROM UNFINISHED PIPE LINES AT TIMES WHEN CONSTRUCTION IS NOT IN PROGRESS.

12. ALL NEWLY INSTALLED PIPES, COATINGS AND RELATED PRODUCTS MUST CONFORM TO AMERICAN NATIONAL STANDARDS INSTITUTE/NATIONAL SANITATION FOUNDATION (ANSI/NSF) STANDARDS AND MUST BE CERTIFIED BY AN ORGANIZATION ACCREDITED BY ANSI.

13. ALL DUCTILE IRON PIPE WATERLINE SHALL HAVE BEDDING AND BACKFILL EMBEDMENT IN ACCORDANCE WITH THE CITY OF LEAGUE CITY DETAILS AND DESIGN AND SPECIFICATIONS AS CURRENTLY AMENDED.

14. WATER MAINS SHALL HAVE MINIMUM OF 4' COVER FROM TOP OF CURB. EXCEPT 16" AND LARGER WATER LINES SHALL HAVE MINIMUM OF 5' COVER FROM TOP OF CURB.

15. FLUSHING VALVE UNIT CONSISTS OF: MAIN LINE SIZE X 6" TEE, 6" PVC PIPE LEAD, 6" GATE VALVE WITH BOX, AND ONE FLUSHING VALVE WITH 4" MIN. BURY. ANY OTHER PIPE MATERIAL SHALL BE IN ACCORDANCE WITH THE CITY'S DESIGN AND CONSTRUCTION STANDARDS MANUAL.

16. WATER & SANITARY SEWER THAT ARE PARALLEL MUST BE INSTALLED IN SEPARATE TRENCHES WITH NO LESS THAN 9' (NINE FEET) MIN. HORIZONTAL CLEARANCE. SEE LEAGUE CITY DETAIL SANITARY SEWER INSTALLATION CROSSING OR PARALLEL TO WATER LINE.

17. UNLESS MANHOLES CAN BE MADE WATERTIGHT AND TESTED FOR NO LEAKAGE THEY MUST BE INSTALLED SO AS TO PROVIDE A MINIMUM OF NINE FEET OF HORIZONTAL CLEARANCE FROM AN EXISTING OR PROPOSED WATER LINE. IF THE NINE FOOT SEPARATION DISTANCE CANNOT BE ACHIEVED, THE WATERLINE MUST BE ENCASED IN A JOINT OF 150 PSI PRESSURE CLASS PIPE AT LEAST 18 FEET LONG AND TWO NOMINAL SIZES LARGER THAN THE WATERLINE. THE SPACE AROUND THE CARRIER PIPE SHALL BE SUPPORTED AT 5 FOOT INTERVALS WITH SPACERS OR BE FILLED TO THE SPRINGLINE WITH WASHED SAND. THE ENCASEMENT PIPE SHALL BE CENTERED ON THE CROSSING AND BOTH ENDS SEALED WITH CEMENT GROUT OR MANUFACTURED SEAL.

18. COMPLETED WATERLINES MUST BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C651, "DISINFECTING WATER MAINS."

19. IF CLEARANCE IS BETWEEN SIX (6) INCHES TO TWO (2) FEET ONE 20 FOOT JOINT OF C-900 PVC, 150 PSI WATERLINE SHALL BE CENTERED AT SANITARY CROSSING.

20. ALL STUB OUTS AND THEIR FITTINGS FOR FUTURE WATER MAIN AND LATERAL EXTENSIONS SHALL BE MECHANICALLY RESTRAINED WITH MEGA-LUG, UNI-FLANGE OR APPROVED EQUAL RESTRAINT DEVICES.

21. ALL WATER LINES ON PRIVATE PROPERTY AND/OR UNDER PAVEMENT SHALL BE RESTRAINED.

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

- △ REVIEW 9/10/15
△ CITY COMMENTS 10/26/15
△ CITY COMMENTS 12/01/15
△ FINAL APPROVAL 12/15/15
△ TCEQ COMMENTS 03/08/16
△ CITY PRECONSTRUCTION COMMENTS 08/30/16
△ FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
△ AS-BUILT 04/24/17



DWG NAME:
GENERAL NOTES

DWG:

C 0.02

JOB NO:

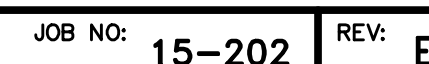
15-202

REV:

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— — — — — WATER LINE



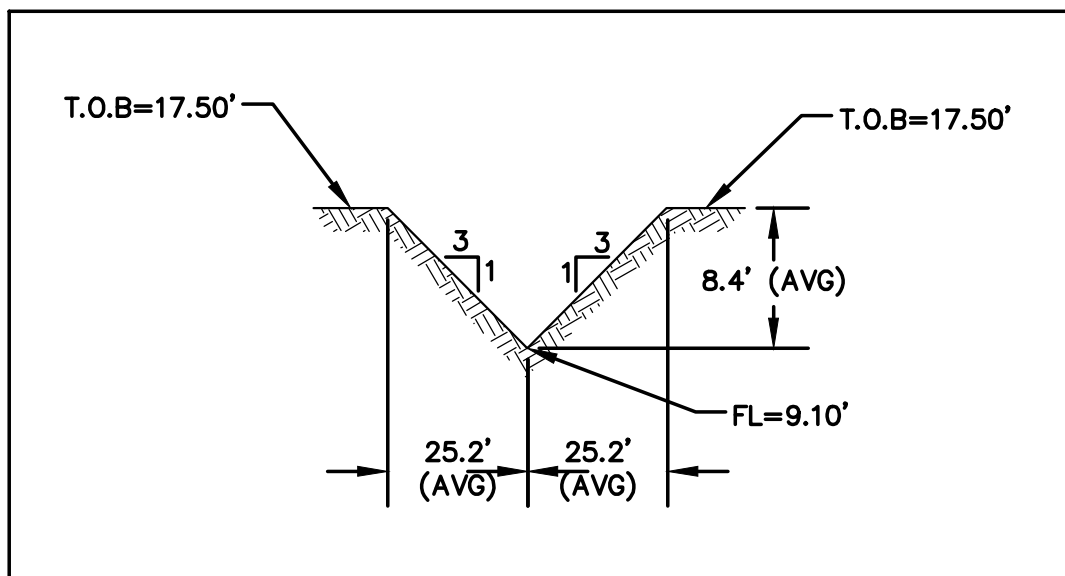
GENERAL NOTES:

- 1). REFERENCE LINES AND GRADES
A. THE OWNER SHALL PROVIDE REFERENCES FOR LINE AND GRADE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE REFERENCE POINTS AND REPLACE THEM IF LOST OR DAMAGED.
- 2). EXISTING UTILITIES
A. VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES.
B. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
C. NO EXCAVATING OR OTHER CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN THE IMMEDIATE VICINITY OF A PIPELINE IN THE ABSENCE OF A PIPELINE REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
D. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THEY HAVE NOT BEEN MARKED SINCE THEY ARE CLEARLY VISIBLE. THE CONTRACTOR SHALL 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 6 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS AND OWNERS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.
- 3). EXISTING CONDITIONS:
A. SPECIAL CARE SHALL BE TAKEN TO NOT DAMAGE ANY TREES OR DISTURB THE DRAINAGE.
B. EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR AS SPECIFIED ON THE DRAWINGS. SOIL SHALL NOT BE DEPOSITED GREATER THAN 4" DEEP WITHOUT PERMISSION FROM THE OWNER.
- 4). PERMITS:
A. OWNER TO OBTAIN ALL PERMITS REQUIRED BY CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION OF UTILITY AND/OR CULVERTS WITHIN ROAD RIGHT-OF-WAYS.
B. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE ISSUED TO CONTRACTOR SHALL BE OBTAINED AT HIS EXPENSE.
- 5). SAFETY:
A. OBSERVE ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS WHEN WORKING IN OR NEAR PUBLIC ROAD RIGHT-OF-WAYS.
B. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING, AND SHORING.
- 6). ALL EXISTING MANHOLE RIMS SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.
- 7). ALL EXISTING GATE VALVE BOXES SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.

SURVEYOR NOTES:

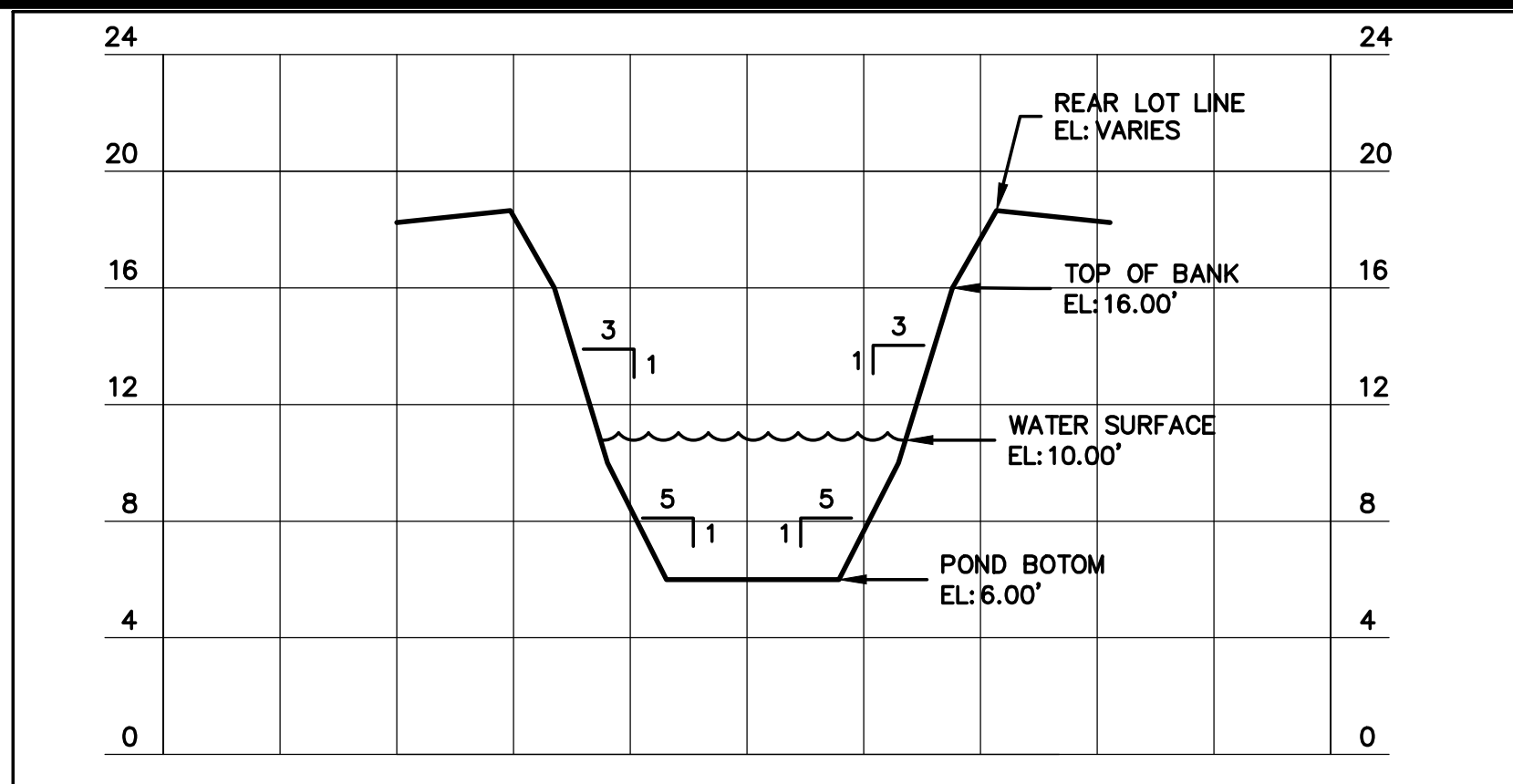
TBM - AN 80D NAIL IN POWER POLE AT THE END OF CROSS COLONY, ELEVATION 20.00'. ELEVATIONS ARE BASED ON LEAGUE CITY REFERENCE MARK LC-2005-128, ELEVATION 15.17', NAVD 88, 2002 ADJUSTMENT (CORS).

FLOOD ZONE - THIS PROPERTY LIES PARTIALLY IN ZONE X (UNSHADED), DEFINED BY FEMA AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN, AND PARTIALLY IN ZONE X (SHADED), DEFINED BY FEMA AS AREAS OF 0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE, AS SCALED FROM FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 485488 0030 E, MAP REVISED SEPTEMBER 22, 1999 AND FURTHER REVISED TO REFLECT LOMR EFFECTIVE DECEMBER 26, 2014.

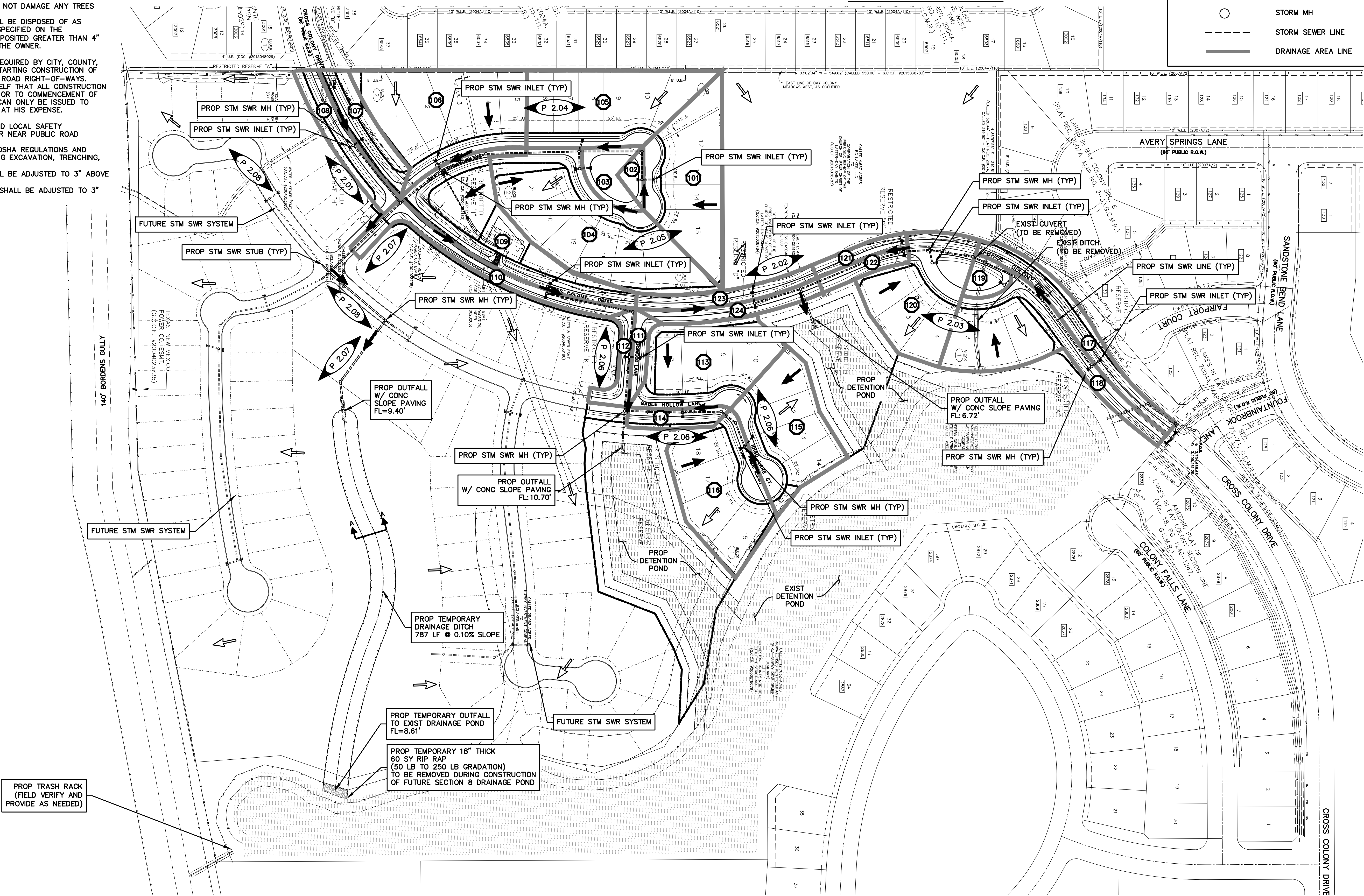
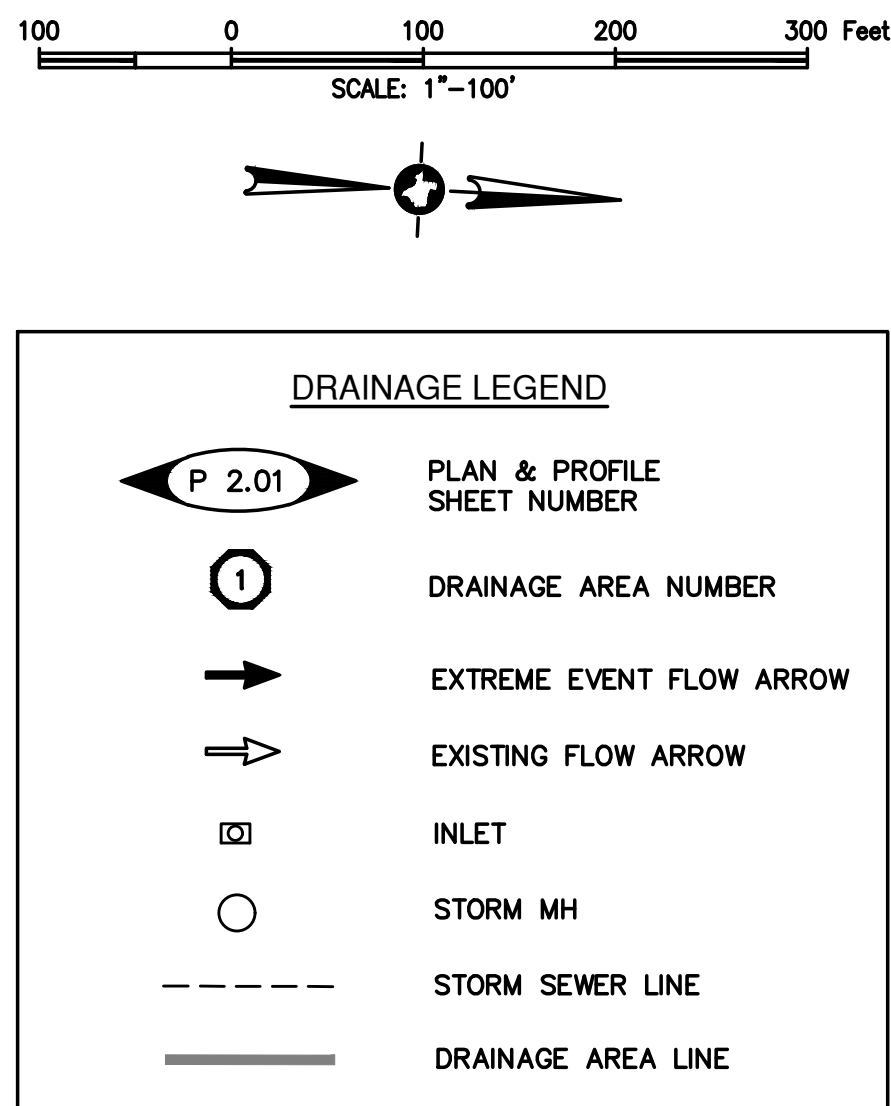


TEMPORARY DRAINAGE DITCH
CROSS SECTION A-A

NOTE:
1. ALL MANHOLES UNDER PAVEMENT SHALL HAVE
BLOCK OUT FRAMES VIA EXPANSION JOINT.



TYPICAL DETENTION POND SECTION



DATE:
7/16/15

SCALE:
1"=100'

DRAWN BY:
SLBK

CHECKED BY:
DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

- REVIEW 9/10/15
- CITY COMMENTS 10/26/15
- CITY COMMENTS 12/01/15
- FINAL APPROVAL 12/15/15
- TCEQ COMMENTS 03/08/16
- CITY PRECONSTRUCTION COMMENTS 08/30/16
- FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
- AS-BUILT 04/24/17



DWG NAME:
DRAINAGE PLAN

DWG:

C 2.01

JOB NO:

15-202

REV:

E

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Design Frequency: years

FROM JUNCTION	TO JUNCTION	TOTAL AREA	TC min	Intensity	C	CI	Additional Q	CUM Q(2 YR)	REACH ft	LINE/BOX			DESIGN	D.S.	OTHER	FLOWLINE		ACT'V	SLOPE	delta H	ELEV.	HYD.	GRAD.	TC	HIG DIST	
		ac					cfs	cfs		SIZE	WIDTH	HEIGHT	SLOPE	Q	V	FALL	LOSSES	fps	HYD.	ft	UP- STREAM	DOWN- STREAM	STREAM	BELOW TC		
										in	FT	FT	%	cfs	fps	(ft)	ft		GRAD. (%)		STREAM	STREAM	STREAM	ft		
SYSTEM I LINE 1																										
101	MH1	1.04	25.07	3.40	0.55	1.87	0.00	1.95	22	24			0.180	9.62	3.1	0.00		11.62	11.58	0.62	0.007	0.005	13.62	13.58	16.12	2.50
MH1	MH2	1.12	25.20	3.39	0.55	1.87	0.00	2.11	57	24			0.180	9.62	3.1	0.00		11.58	11.48	0.67	0.009	0.005	13.58	13.48	16.12	2.54
MH1	MH3	1.12	25.20	3.39	0.55	1.87	0.00	2.11	127	24			0.180	9.62	3.1	0.56		11.48	11.25	0.67	0.009	0.011	13.45	13.25	16.43	2.95
MH3	MH4	4.00	27.77	3.23	0.55	1.78	0.00	7.47	95	24			0.180	9.62	3.0	0.00		10.35	10.32	0.108	0.108	12.92	12.87	15.56	2.76	
MH5	MH6	4.00	27.77	3.23	0.55	1.78	0.00	7.47	96	24			0.180	9.62	3.1	0.33		10.35	10.18	0.108	0.104	12.92	12.82	15.90	2.98	
MH6	MH7	6.35	28.85	3.16	0.55	1.74	0.00	11.85	105	30			0.130	14.83	3.0	0.00		9.85	9.72	2.41	0.083	0.087	12.82	12.73	15.58	2.76
MH7	MH9	7.03	29.10	3.15	0.55	1.73	0.00	13.17	200	30			0.130	14.83	3.0	0.00		9.72	9.46	2.68	0.102	0.204	12.73	12.52	16.40	3.67
MH9	MH10	7.03	29.10	3.15	0.55	1.73	0.00	13.17	148	36			0.100	21.15	3.0	0.00		9.46	9.31	1.86	0.039	0.057	12.52	12.47	17.07	4.55
MH10	MH11	17.33	31.53	3.01	0.55	1.66	0.00	30.25	153	36			0.100	21.15	3.0	0.00		9.31	9.16	4.27	0.204	0.312	12.47	12.16	16.77	4.30
MH11	OUTFALL	17.33	31.53	3.01	0.55	1.66	0.00	30.25	60	36			0.100	21.15	3.0	END OF LINE		9.16	9.10	4.27	0.204	0.122	12.16	10.22	18.25	6.09

LINE 6																											
119	MH20	0.25	22.83	3.56	0.55	1.96	0.00	0.49	22	24				0.180	9.62	3.1	0.00		11.44	11.40	0.16	0.000	0.000	13.44	13.40	15.99	2.55

101	1.12	2.11
102	0.08	0.16
103	0.22	0.43
104	1.55	2.86
105	1.11	2.07
106	1.28	2.38
107	1.07	2.00
108	0.34	0.66
109	0.34	0.66
110	1.07	2.00
111	0.31	0.60
112	0.12	0.24
113	0.10	0.20
114	0.95	1.78
115	0.16	0.32
116	0.99	1.86
117	0.92	1.73
119	0.25	0.49
120	0.24	0.47
121	0.15	0.30
122	0.55	1.05
123	0.13	0.26
124	0.13	0.26
125	1.24	2.31
126	0.43	0.83

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS



SHELMARK
ENGINEERING, L.L.C.
CIVIL | MARINE | PLANNING | STRUCTURAL

921 FM 517 Road East | Dickinson, Texas 77559
TX Reg. No. F-2115

DWG:
C 2.02

JOB NO:	15-202	REV:	E
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Project: **Bay Colony Section 7**
 Job No. _____
 System: _____
 By: _____ Date: **11/25/15**
 Checked by: _____ Date: _____

Design Frequency: years

FROM	TO	TOTAL	TC	Intensity	C	CI	Additional Q	CUM	REACH	LINE/BOX			DESIGN	D. S.	OTHER	FLOWLINE		ACT.V	SLOPE	delta	ELEV.	HYD. GRAD.	TC	HG DIST		
JUNCTION	JUNCTION	AREA	min				cfs	Q(2 YR)	ft	SIZE	WIDTH	HEIGHT	Q	FALL	LOSSES	UP- STREAM	DOWN- STREAM	fps	HYD.	ft	UP- STREAM	DOWN- STREAM	UP- STREAM	BELOW TC		
		ac						cfs		in	FT	FT		%	cfs				GRAD. (%)					ft		
SYSTEM I																										
LINE 1																										
101	MH1	1.04	25.07	7.00	0.55	3.85	0.00	4.00	22	24			0.180	9.62	3.1	0.00		11.62	11.58	1.27	0.031	0.007	16.36	16.35	16.12	-0.24
MH1	MH2	1.12	25.20	6.99	0.55	3.84	0.00	4.33	57	24			0.180	9.62	3.1	0.00		11.58	11.48	1.38	0.036	0.021	16.35	16.33	16.12	-0.23
MH2	MH3	1.12	25.20	6.99	0.55	3.84	0.00	4.33	127	24			0.180	9.62	3.1	0.56		11.48	11.25	1.38	0.036	0.046	16.33	16.29	16.43	0.10
MH3	MH4	4.00	27.77	8.71	0.55	3.69	0.00	15.38	187	24			0.180	9.62	3.0	0.00		10.35	10.35	4.88	0.458	0.232	15.49	15.50	15.70	0.20
MH4	MH5	4.00	27.77	8.71	0.55	3.69	0.00	15.38	96	24			0.180	9.62	3.1	0.33		10.35	10.18	4.88	0.458	0.440	15.43	14.99	15.90	0.47
MH5	MH6	7.35	28.85	6.61	0.55	3.63	0.00	24.39	105	30			0.130	14.83	3.0	0.00		9.85	9.72	4.96	0.351	0.368	14.62	15.58	0.59	
MH7	MH9	7.03	29.10	6.58	0.55	3.62	0.00	27.09	200	30			0.130	14.83	3.0	0.00		9.72	9.46	5.51	0.433	0.865	14.62	13.76	16.40	1.78
MH9	MH10	7.03	29.10	6.58	0.55	3.62	0.00	27.09	148	36			0.100	21.15	3.0	0.00		9.46	9.31	3.83	0.164	0.242	13.76	13.51	17.07	3.31
MH10	MH11	17.33	31.53	6.35	0.55	3.50	0.00	63.09	153	36			0.100	21.15	3.0	0.00		9.31	9.16	8.91	0.887	1.358	13.51	12.16	16.77	3.26
MH11	OUTFALL	17.33	31.53	6.35	0.55	3.50	0.00	63.09	60	36			0.100	21.15	3.0	END OF LINE		9.16	9.10	8.91	0.887	0.532	12.16	10.22	18.25	6.09

LINE 3																											
103	MH4	0.22	22.66	7.28	0.55	4.01	0.00	0.88	22	24				0.180	9.62	3.1	0.00		10.79	10.75	0.28	0.002	0.000	16.32	16.32	15.41	-0.91
MH4	MH3	1.77	26.06	6.89	0.55	3.79	0.00	6.78	35	24				0.180	9.62	3.1	0.00		10.75	10.69	2.16	0.089	0.031	16.32	16.29	15.29	-1.03

[illegible][illegible]

LINE 8																											
108	MH8	0.34	23.27	7.21	0.55	3.97	0.00	1.35	23	24				0.180	9.62	3.1	0.00		10.98	10.94	0.43	0.004	0.001	14.64	14.64	15.59	0.95
	MH7	0.68	24.34	7.08	0.55	3.90	0.00	2.70	150	24				0.180	9.62	3.1	0.00		10.94	10.67	0.86	0.014	0.021	14.64	14.62	15.81	1.17

[illegible]

SYSTEM II																												
LINE 1																												
110	MH12	1.07	25.12	6.99	0.55	3.85	0.00	4.12	20	24				0.180	9.62	3.1	0.04			11.59	11.55	1.31	0.033	0.007	13.59	13.55	16.10	2.51
MH12	MH13	1.38	25.58	6.94	0.55	3.82	0.00	5.35	177	24				0.180	9.62	3.1	0.01			11.51	11.20	1.70	0.055	0.098	13.51	13.20	16.09	2.58
MH13	MH14	1.38	25.58	6.94	0.55	3.82	0.00	5.35	91	24				0.180	9.62	3.1	0.00			11.19	11.02	1.70	0.055	0.050	13.19	13.02	16.36	3.17
MH14	MH15	1.60	25.86	6.91	0.55	3.80	0.00	6.24	109	24				0.180	9.62	3.1	0.00			11.02	10.83	1.98	0.076	0.082	13.02	12.83	16.32	3.30
MH15	Outfall	4.62	28.09	6.68	0.55	3.67	0.00	17.93	47	24				0.180	9.62	3.1	END OF LINE			10.83	10.74	5.70	0.623	0.293	12.83	10.22	16.92	4.09

LINE 2																										
111	MH12	0.31	23.14	7.23	0.55	3.97	0.00	1.23	7	24			0.180	9.62	3.1	0.00		11.59	11.58	0.39	0.003	0.000	13.59	13.51	16.17	2.58

LINE 3																									
112	MH14	0.12	21.88	7.38	0.55	4.06	0.00	0.49	22	24		0.180	9.62	3.1	0.00		11.24	11.20	0.15	0.000	0.000	13.24	13.02	15.93	2.69

LINE 4																										
113	MH14	0.10	21.67	7.41	0.55	4.07	0.00	0.41	10	24			0.180	9.62	3.1	0.00		11.22	11.20	0.13	0.000	0.000	13.22	13.02	15.91	2.69

LINE 5																											
117	MH19	0.92	24.85	7.02	0.55	3.86	0.00	3.55	26	24				0.180	9.62	3.1	0.03		12.35	12.30	1.13	0.024	0.006	14.35	14.30	16.86	2.51
MH19	MH18	1.91	26.21	6.88	0.55	3.78	0.00	7.37	52	24				0.180	9.62	3.1	0.00		12.27	12.18	2.34	0.105	0.055	14.27	14.18	16.85	2.58
MH18	MH17	1.91	26.21	6.88	0.55	3.78	0.00	7.37	36	24				0.180	9.62	3.1	0.00		12.18	12.11	2.34	0.105	0.038	14.18	14.11	16.99	2.81
MH17	MH16	1.91	26.21	6.88	0.55	3.78	0.00	7.37	78	24				0.180	9.62	3.1	0.01		12.11	11.97	2.34	0.105	0.082	14.11	13.97	16.97	2.86
MH16	MH15	3.02	27.15	6.78	0.55	3.73	0.00	11.68	116	24				0.180	9.62	3.1	0.00		11.96	11.76	3.71	0.265	0.307	13.96	12.83	16.68	2.72

LINE 6																										
116	MH19	0.99	24.98	7.01	0.55	3.86	0.00	3.82	26	24			0.180	9.62	3.1	0.00		12.32	12.27	1.21	0.028	0.007	14.32	14.27	16.83	2.51

LINE 7																										
114	MH16	0.95	24.91	7.02	0.55	3.86	0.00	3.67	24	24			0.180	9.62	3.1	0.00		12.18	12.14	1.17	0.026	0.006	14.18	13.96	16.69	2.51

LINE 8																										
115	MH16	0.16	22.24	7.33	0.55	4.03	0.00	0.65	8	24			0.180	9.62	3.1	0.00		12.18	12.17	0.21	0.001	0.000	14.18	13.96	16.74	2.56

SYSTEM III																										
LINE 1																										
125	MH30	1.24	25.39	6.97	0.55	3.83	0.00	4.75	9	24			0.180	9.62	3.1	0.02		10.00	9.98	1.51	0.044	0.004	12.00	11.98	14.57	2.57
MH30	MH29	1.67	25.95	6.90	0.55	3.80	0.00	6.45	166	24			0.180	9.62	3.1	0.01		9.96	9.67	2.05	0.081	0.134	11.96	11.67	15.07	3.11
MH29	MH27	1.67	25.95	6.90	0.55	3.80	0.00	6.45	76	24			0.180	9.62	3.1	0.00		9.66	9.52	2.05	0.081	0.061	11.66	11.52	16.64	3.99
MH27	MH26	1.80	26.09	6.89	0.55	3.79	0.00	6.97	90	24			0.180	9.62	3.1	0.00		9.52	9.36	2.22	0.094	0.085	11.52	11.36	16.20	4.68
MH26	MH24	1.80	26.09	6.89	0.55	3.79	0.00	6.97	88	24			0.180	9.62	3.1	0.00		9.36	9.20	2.22	0.094	0.083	11.36	11.22	16.83	5.47
MH24	MH23	1.93	26.23	6.87	0.55	3.78	0.00	7.50	53	24			0.180	9.62	3.1	0.00		9.20	9.11	2.38	0.109	0.058	11.22	11.16	16.55	5.33
MH23	MH22	2.63	26.86	6.81	0.55	3.74	0.00	10.26	78	24			0.180	9.62	3.1	0.00		9.11	8.97	3.26	0.204	0.159	11.16	11.00	16.40	5.24
MH22	MH21	2.63	26.86	6.81	0.55	3.74	0.00	10.26	143	24			0.180	9.62	3.1	1.93		8.97	8.71	3.26	0.204	0.292	11.00	10.71	16.64	5.64
MH21	OUTFALL	7.72	29.33	6.56	0.85	5.57	0.00	37.84	56	36			0.100	21.15	3.0	END OF LINE		6.78	6.73	5.35	0.319	0.179	10.40	10.22	16.31	5.91

[illegible]

LINE 3																											
124	MH28	0.13	21.98	7.37	0.55	4.05	0.00	0.53	8	24				0.180	9.62	3.1	0.00		11.59	11.57	0.17	0.001	0.000	13.59	13.57	16.31	2.72
MH28	MH27	0.13	21.98	7.37	0.55	4.05	0.00	0.53	26	24				0.180	9.62	3.1	0.00		11.57	11.53	0.17	0.001	0.000	13.57	11.52	16.20	2.63

LINE 4																												
123	MH25	0.13	21.98	7.37	0.55	4.05	0.00	0.53	11	24				0.180	9.62	3.1	0.00			11.89	11.87	0.17	0.001	0.000	13.89	13.87	16.50	2.61
MH25	MH24	0.13	21.98	7.37	0.55	4.05	0.00	0.53	26	24				0.180	9.62	3.1	0.00			11.87	11.82	0.17	0.001	0.000	13.87	11.22	16.54	2.67

LINE 5																										
122	MH23	0.55	24.00	7.12	0.55	3.92	0.00	2.15	8	24			0.180	9.62	3.1	0.00		11.89	11.88	0.68	0.009	0.001	13.89	11.16	16.44	2.55

	LINE 6																											
	121	MH23	0.15	22.16	7.35	0.55	4.04	0.00	0.61	23	24			0.180	9.62	3.1	0.00			11.90	11.86	0.19	0.001	0.000	13.90	11.16	16.40	2.50

LINE 7																												
120	MH20	0.49	23.82	7.14	0.55	3.93	0.00	1.94	7	24				0.180	9.62	3.1	0.03			11.44	11.43	0.62	0.007	0.001	13.44	13.43	16.07	2.63
MH20	MH21	0.49	23.82	7.14	0.55	3.93	0.00	1.94	97	24				0.180	9.62	3.1	0.00			11.40	11.23	0.62	0.007	0.007	13.40	10.40	15.94	2.54

	LINE 6																									
119	MH20	0.25	22.83	7.26	0.55	3.99	0.00	1.00	22	24			0.180	9.62	3.1	0.00		11.44	11.40	0.32	0.002	0.000	13.44	13.40	15.99	2.55

Required Detention Storage Volume				
Particulars	Area	Units	Area	Units
Bay Colony Section 7	21.7736	Acres	348,458.98	Square Feet
Detention Storage Rate	0.55	Acres-feet per Acre	0.55	Cu Feet per Sq Feet
Total Detention Storage Required	11.9755	Acres-feet	521,652.44	Cubic Feet

Stormwater Detention Volume Determination				
Detention Pond A	Area	Units	Area	Units
Detention Pond A Top of Bank	0.9603	Acres	41,832.43	Square Feet
Detention Pond A Top of Bank	0.9003	Acres	39,215.41	Square Feet
Detention Pond A Average Surface Area	0.9303	Acres	40,523.92	Square Feet
Detention Pond A TOB Elevation	15.27	Feet	15.27	Feet
Detention Pond A TOE Elevation (Avg)	10.22	Feet	10.22	Feet
Detention Pond A Depth of Storage	5.05	Feet	5.05	Feet
Detention Pond A Storage Provided	4.6980	Acres-feet	204,645.79	Cubic Feet
Detention Pond B	Area	Units	Area	Units
Detention Pond B Top of Bank	1.5885	Acres	69,196.13	Square Feet
Detention Pond B Top of Bank	1.3697	Acres	59,663.71	Square Feet
Detention Pond B Average Surface Area	1.4791	Acres	64,429.92	Square Feet
Detention Pond B TOB Elevation	15.27	Feet	15.27	Feet
Detention Pond B TOE Elevation (Avg)	10.22	Feet	10.22	Feet
Detention Pond B Depth of Storage	5.05	Feet	5.05	Feet
Detention Pond B Storage Provided	7.4695	Acres-feet	325,371.09	Cubic Feet
Detention Pond A Storage Provided	4.6980	Acres-feet	204,645.79	Cubic Feet
Detention Pond B Storage Provided	7.4695	Acres-feet	325,371.09	Cubic Feet
Total Detention Volume Provided	12.1675	Acres-feet	530,016.89	Cubic Feet
Total Detention Volume Provided	12.1675	Acres-feet	530,016.89	Cubic Feet
Total Detention Volume Required	11.9755	Acres-feet	521,652.44	Cubic Feet
Additional Detention Volume Provided	0.1920	Acres-feet	8,364.45	Cubic Feet

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

A	REVIEW	9/10/15
B	CITY COMMENTS	10/26/15
B	CITY COMMENTS	12/01/15
B	FINAL APPROVAL	12/15/15
B	TCEQ COMMENTS	03/08/16
C	CITY RECONSTRUCTION COMMENTS	08/30/16
D	FIELD REV TO SAN/STM AT LIFTSTATION	02/22/17
E	AS-BUILT	04/24/17



DWG NAME: DRAINAGE CALCULATIONS

DWG: C 2.03

JOB NO:	15-202	REV:	E
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GENERAL NOTES:

- 1). REFERENCE LINES AND GRADES
A. THE OWNER SHALL PROVIDE REFERENCES FOR LINE AND GRADE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE REFERENCE POINTS AND REPLACE THEM IF LOST OR DAMAGED.
- 2). EXISTING UTILITIES
A. VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES.
B. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
C. NO EXCAVATING OR OTHER CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN THE IMMEDIATE VICINITY OF A PIPELINE IN THE ABSENCE OF A PIPELINE REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
D. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE HAVE NOT BEEN MARKED SINCE THEY ARE CLEARLY VISIBLE. THE CONTRACTOR SHALL 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 6 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS AND OWNERS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.

- 3). EXISTING CONDITIONS:
A. SPECIAL CARE SHALL BE TAKEN TO NOT DAMAGE ANY TREES OR DISTURB THE DRAINAGE.
B. EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR AS SPECIFIED ON THE DRAWINGS. SOIL SHALL NOT BE DEPOSITED GREATER THAN 4" DEEP WITHOUT PERMISSION FROM THE OWNER.
- 4). PERMITS:
A. OWNER TO OBTAIN ALL PERMITS REQUIRED BY CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION OF UTILITY AND/OR CULVERTS WITHIN ROAD RIGHT-OF-WAYS.
B. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE ISSUED TO CONTRACTOR SHALL BE OBTAINED AT HIS EXPENSE.
- 5). SAFETY:
OBSERVE ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS WHEN WORKING IN OR NEAR PUBLIC ROAD RIGHT-OF-WAYS.
A. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING, AND SHORING.
6). ALL EXISTING MANHOLE RIMS SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.
7). ALL EXISTING GATE VALVE BOXES SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.

SURVEYOR NOTES:

IBM - AN 800 NAIL IN POWER POLE AT THE END OF CROSS COLONY, ELEVATION 20.00'. ELEVATIONS ARE BASED ON LEAGUE CITY REFERENCE MARK LC-2005-128, ELEVATION 15.17', NAVD 88, 2002 ADJUSTMENT (CORS).

FLOOD ZONE - THIS PROPERTY LIES PARTIALLY IN ZONE X (UNSHADED), DEFINED BY FEMA AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN, AND PARTIALLY IN ZONE X (SHADED), DEFINED BY FEMA AS AREAS OF 0.2% ANNUAL CHANCE FLOOD HAZARD. AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE, AS SCALED FROM FLOOD INSURANCE RATE MAP COMMUNITY-PANEL NUMBER 485488 0030 E, MAP REVISED SEPTEMBER 22, 1999 AND FURTHER REVISED TO REFLECT LOMR EFFECTIVE DECEMBER 26, 2014.

FINISHED FLOOR ELEVATION NOTES:

ALL NEW CONSTRUCTION AND SUBSTANTIAL IMPROVEMENTS OF RESIDENTIAL STRUCTURES LOCATED WITHIN FLOOD ZONE AE SHALL HAVE THE LOWEST FLOOR, INCLUDING BASEMENT, ELEVATED A MINIMUM OF 18 INCHES ABOVE THE BASE FLOOD ELEVATION AS SHOWN ON THE COMMUNITY'S FLOOD INSURANCE RATE MAP, OR AT LEAST TWO FEET ABOVE THE HIGHEST ADJACENT NATURAL GRADE IF NO BASE FLOOD ELEVATION IS SPECIFIED.

ALL NEW CONSTRUCTION AND SUBSTANTIAL IMPROVEMENTS OF RESIDENTIAL STRUCTURES LOCATED WITHIN FLOOD ZONE SHADED X SHALL HAVE THE LOWEST FLOOR, INCLUDING BASEMENT, ELEVATED A MINIMUM OF 18 INCHES ABOVE THE NEAREST ADJACENT A ZONE BASE FLOOD ELEVATION AS SHOWN ON THE COMMUNITY'S FLOOD INSURANCE RATE MAP, AS DETERMINED BY THE FLOODPLAIN ADMINISTRATOR.

ALL NEW CONSTRUCTION AND SUBSTANTIAL IMPROVEMENTS OF RESIDENTIAL STRUCTURES LOCATED WITHIN FLOOD ZONE UNSHADED X SHALL HAVE THE LOWEST FLOOR AND ALL ATTENDANT UTILITIES ELEVATED (RESIDENTIAL) OR FLOOD PROOFED (NONRESIDENTIAL) A MINIMUM OF 18 INCHES ABOVE THE CROWN OF THE NEAREST STREET OR THE HIGHEST GRADE ADJACENT TO THE BUILDING.

- NOTE:
1. ALL MANHOLES UNDER PAVEMENT SHALL HAVE BLOCK OUT FRAMES VIA EXPANSION JOINT.
 2. DEVELOPER SHALL BE RESPONSIBLE FOR 6" SIDEWALKS ON CROSS COLONY DRIVE. BUILDER TO BE RESPONSIBLE FOR ALL RAMPS, LANDINGS AND ALL 4" SIDEWALKS.

PAVING LEGEND

FG FINISHED GRADE
TP TOP OF PAVEMENT

100 0 100 200 300 Feet
SCALE: 1"=100'



DATE: 7/16/15
SCALE: 1"=100'
DRAWN BY: SLBK
CHECKED BY: DR

LAKE IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR:

- REVIEW 9/10/15
- CITY COMMENTS 10/26/15
- CITY COMMENTS 12/01/15
- FINAL APPROVAL 12/15/15
- TCEQ COMMENTS 03/08/16
- CITY PRECONSTRUCTION COMMENTS 08/30/16
- FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
- AS-BUILT 04/24/17



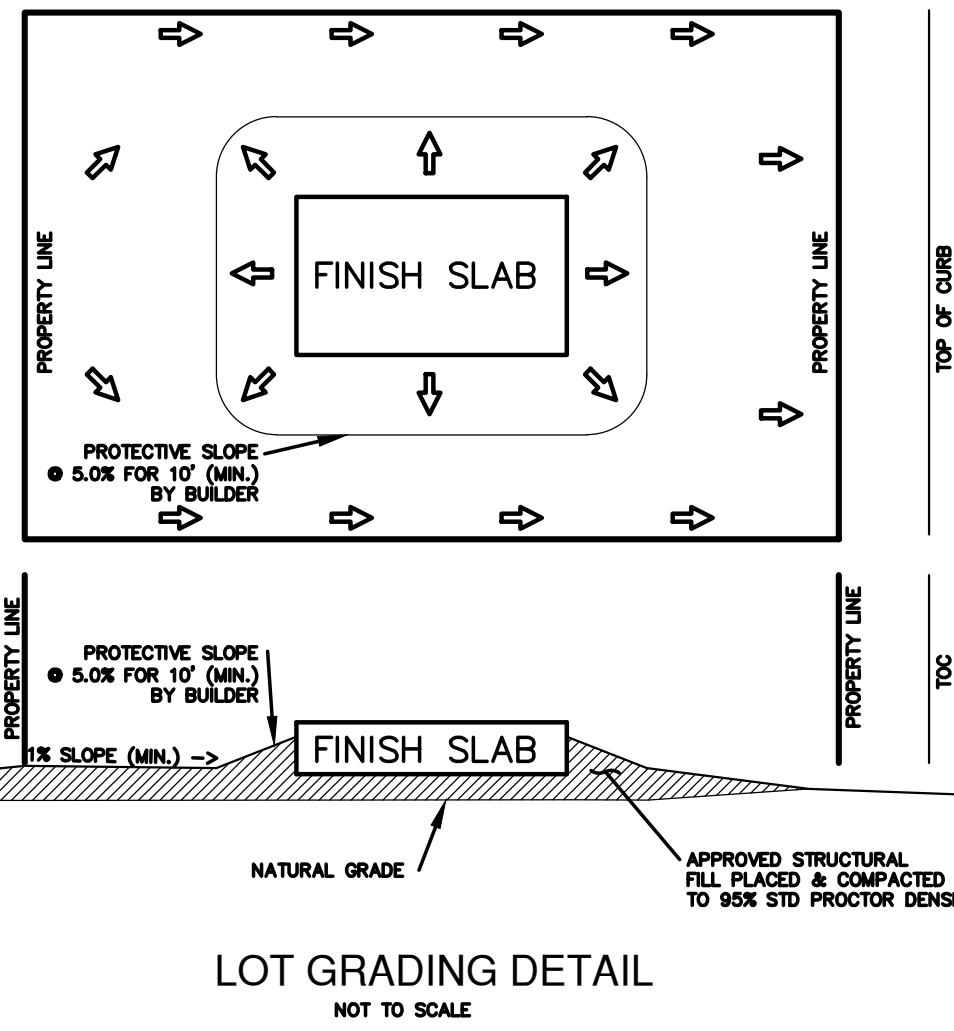
DWG NAME:
GRADING & PAVING
PLAN

DWG:

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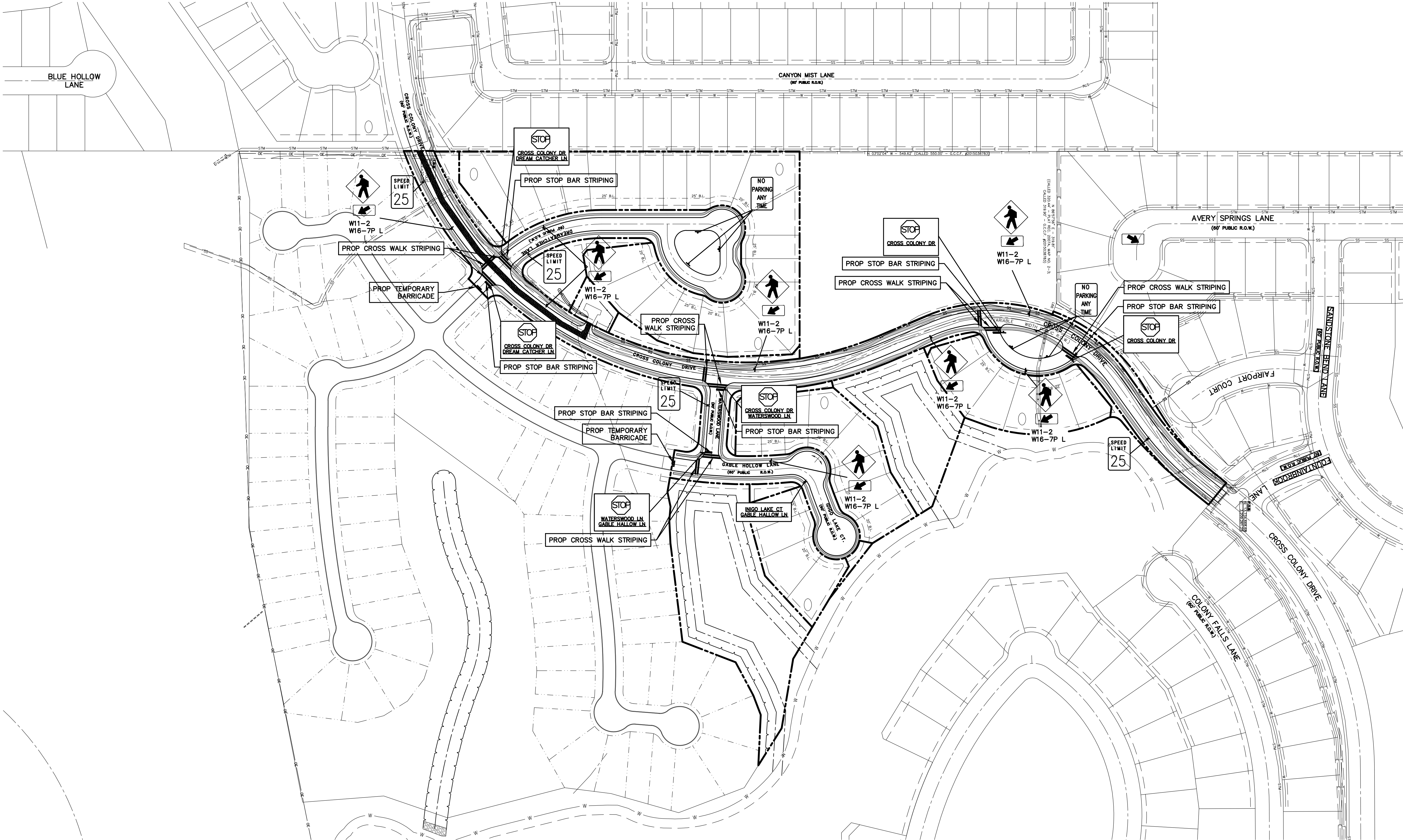
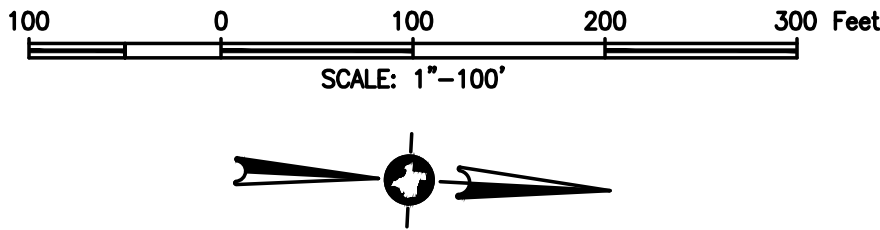
JOB NO: 15-202 REV: E

INFORMATION AND DATA CONTAINED IN THIS DRAWING ARE STRICTLY CONFIDENTIAL AND ARE SUPPLIED ON THE UNDERSTANDING THAT THEY WILL BE HELD CONFIDENTIALLY AND NOT REPRODUCED, COPIED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF SHELMARK ENGINEERING, L.L.C.



- GENERAL NOTES:
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 - C. NO EXCAVATING OR OTHER CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN THE IMMEDIATE VICINITY OF A PIPELINE IN THE ABSENCE OF A PIPELINE REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
 - D. OVERHEAD LINES MAY EXIST ON THE PROPERTY. THEY HAVE NOT BEEN MARKED SINCE THEY ARE CLEARLY VISIBLE. THE CONTRACTOR SHALL 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 6 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES. CONTRACTORS AND OWNERS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY.
 - 3). EXISTING CONDITIONS:
 - A. SPECIAL CARE SHALL BE TAKEN TO NOT DAMAGE ANY TREES OR DISTURB THE DRAINAGE.
 - B. EXCESS EXCAVATED MATERIAL SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER OR AS SPECIFIED ON THE DRAWINGS. SOIL SHALL NOT BE DEPOSITED GREATER THAN 4" DEEP WITHOUT PERMISSION FROM THE OWNER.
 - 4). PERMITS:
 - A. OWNER TO OBTAIN ALL PERMITS REQUIRED BY CITY, COUNTY, AND STATE AGENCIES PRIOR TO STARTING CONSTRUCTION OF UTILITY AND/OR CULVERTS WITHIN ROAD RIGHT-OF-WAYS.
 - B. CONTRACTOR SHALL ASSURE HIMSELF THAT ALL CONSTRUCTION PERMITS HAVE BEEN OBTAINED PRIOR TO COMMENCEMENT OF WORK. REQUIRED PERMITS THAT CAN ONLY BE ISSUED TO CONTRACTOR SHALL BE OBTAINED AT HIS EXPENSE.
 - 5). SAFETY:
 - A. OBSERVE ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS WHEN WORKING IN OR NEAR PUBLIC ROAD RIGHT-OF-WAYS.
 - B. CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAWS CONCERNING EXCAVATION, TRENCHING, AND SHORING.
 - 6). ALL EXISTING MANHOLE RIMS SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.
 - 7). ALL EXISTING GATE VALVE BOXES SHALL BE ADJUSTED TO 3" ABOVE FINISHED GRADE.

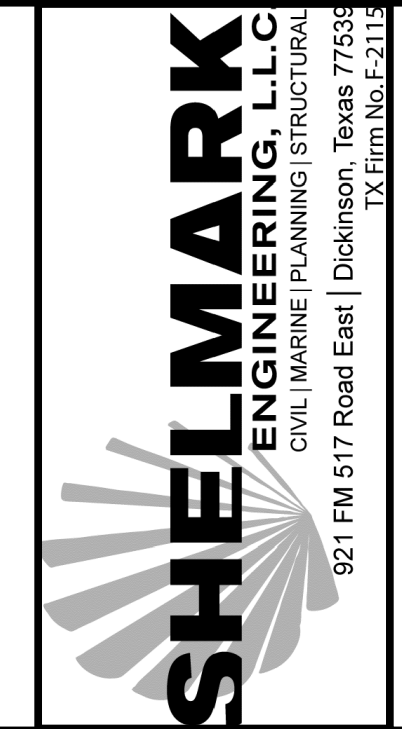
NOTE:
1. DEVELOPER SHALL BE RESPONSIBLE FOR 6' SIDEWALKS ON CROSS COLONY DRIVE. BUILDER TO BE RESPONSIBLE FOR ALL RAMPS, LANDINGS AND ALL 4' SIDEWALKS.



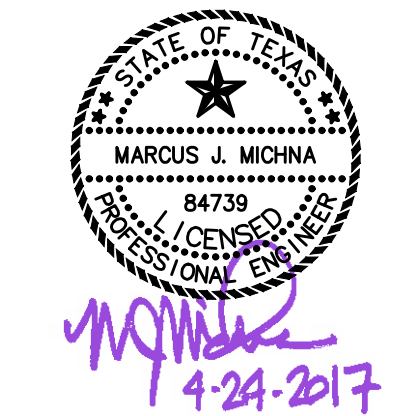
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CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR	REVIEW 9/10/15
	CITY COMMENTS 10/26/15
	CITY COMMENTS 12/01/15
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	TCEQ COMMENTS 03/08/16
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	FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
	AS-BUILT 04/24/17

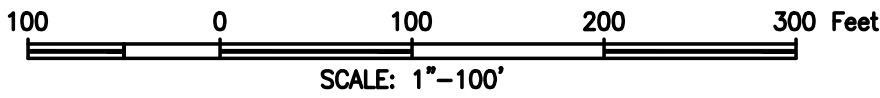


DWG NAME:
SIGNAGE & STRIPING
PLAN

DWG:
C 4.01

JOB NO: 15-202 REV: E

- GENERAL NOTES:
- 1). REFERENCE LINES AND GRADES
A. THE OWNER SHALL PROVIDE REFERENCES FOR LINE AND GRADE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE REFERENCE POINTS AND REPLACE THEM IF LOST OR DAMAGED.
 - 2). EXISTING UTILITIES
A. VERIFY LOCATION AND ELEVATION OF EXISTING FACILITIES PRIOR TO CONSTRUCTION OF PROPOSED FACILITIES.
B. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
C. NO EXCAVATING OR OTHER CONSTRUCTION ACTIVITY SHALL BE CONDUCTED IN THE IMMEDIATE VICINITY OF A PIPELINE IN THE ABSENCE OF A PIPELINE REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE COMMENCING WORK, AND SHALL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.
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SWPPP LEGEND

- REINFORCED FILTER FABRIC FENCE
- STABILIZED CONSTRUCTION ACCESS
- CONCRETE TRUCK WASH OUT AREA
- INLET PROTECTION BARRIERS



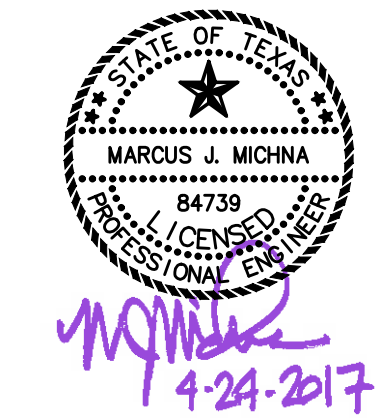
LAKES IN BAY COLONY
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DWG NAME:
SWPP PLAN

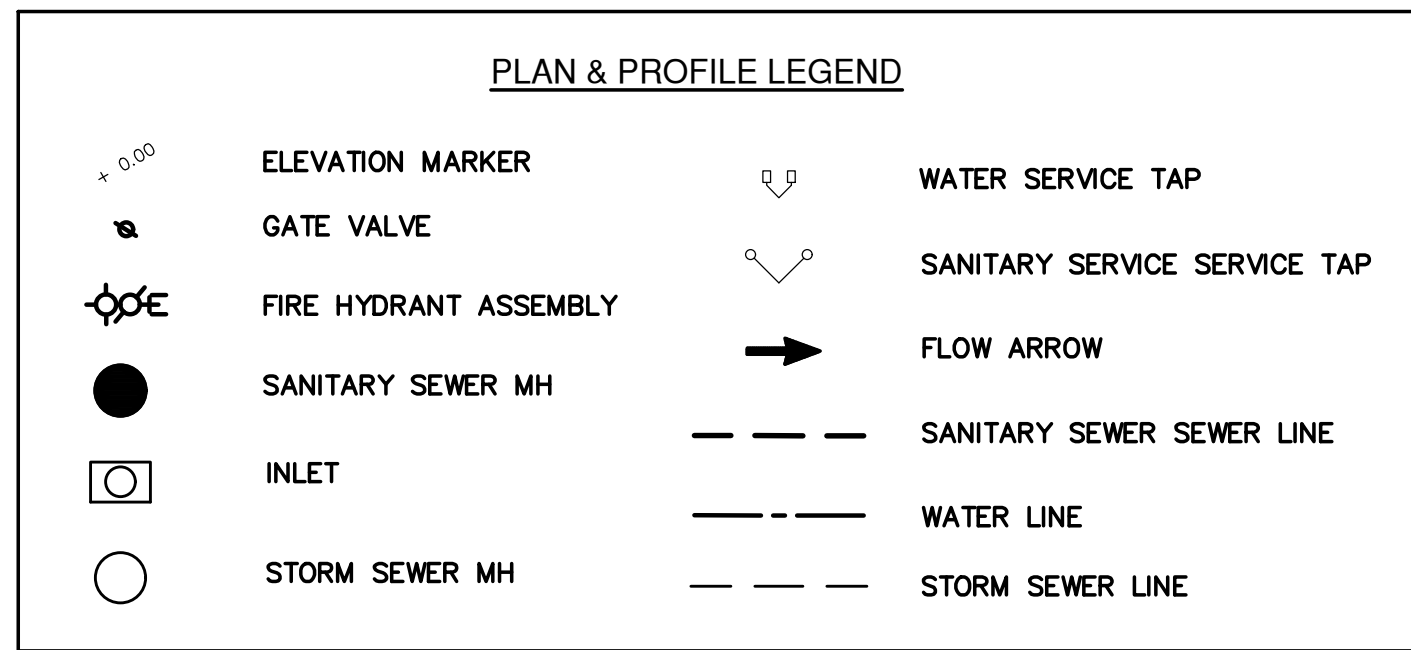
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C 5.01

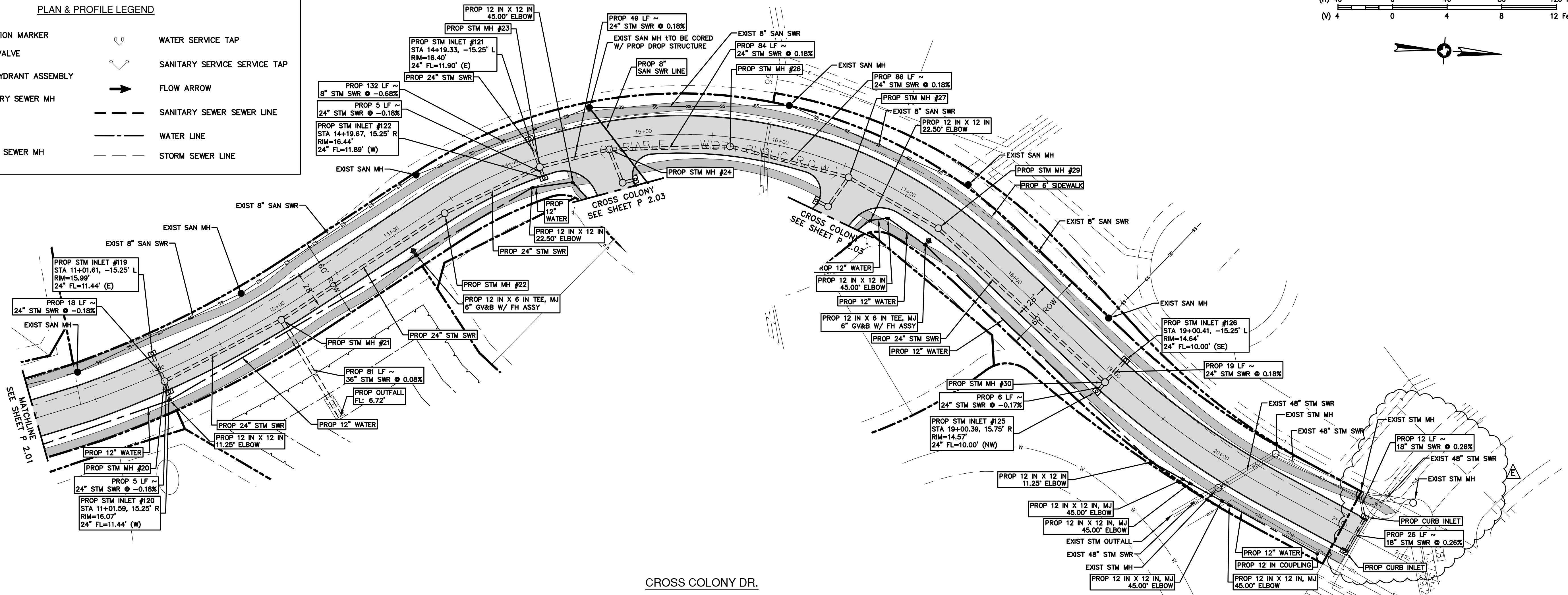
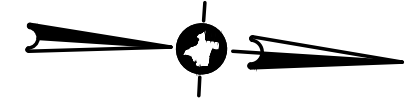
JOB NO: 15-202

REV: E

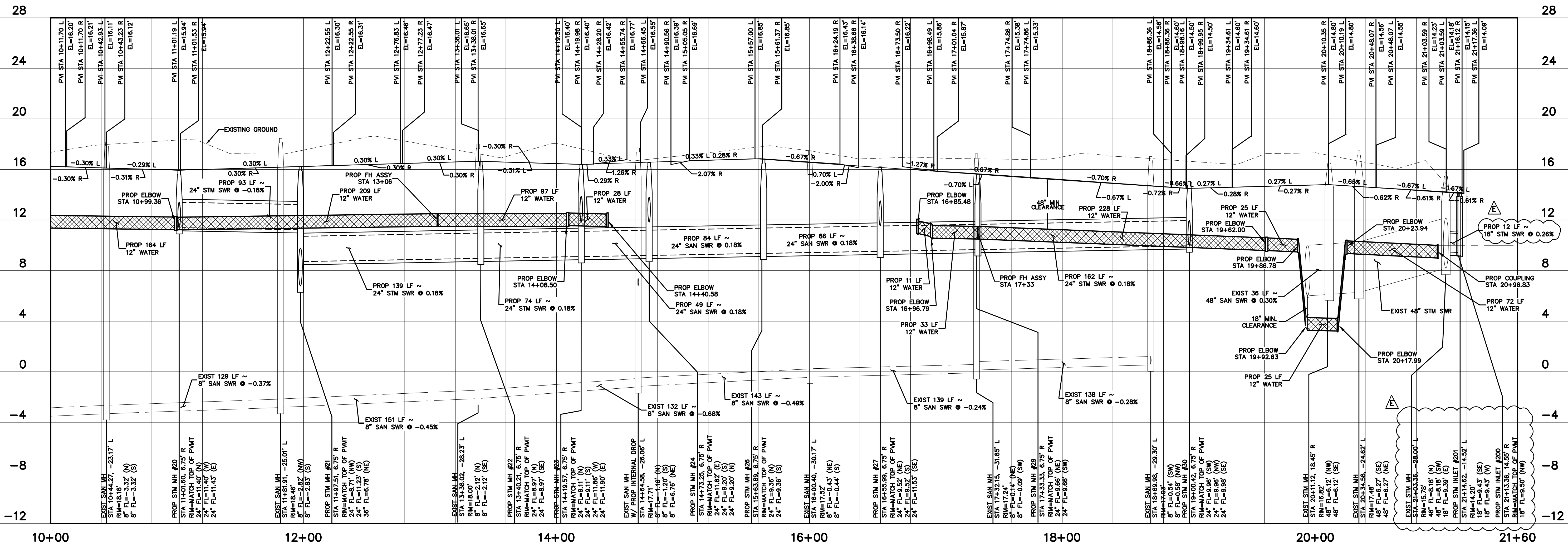
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(H) 40 0 40 80 120 Feet
(V) 4 0 4 8 12 Feet



CROSS COLONY DR.



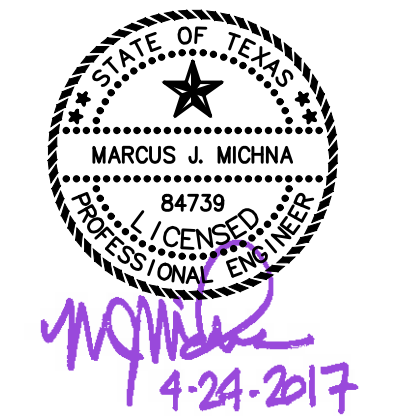
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LAKES IN BAY COLONY
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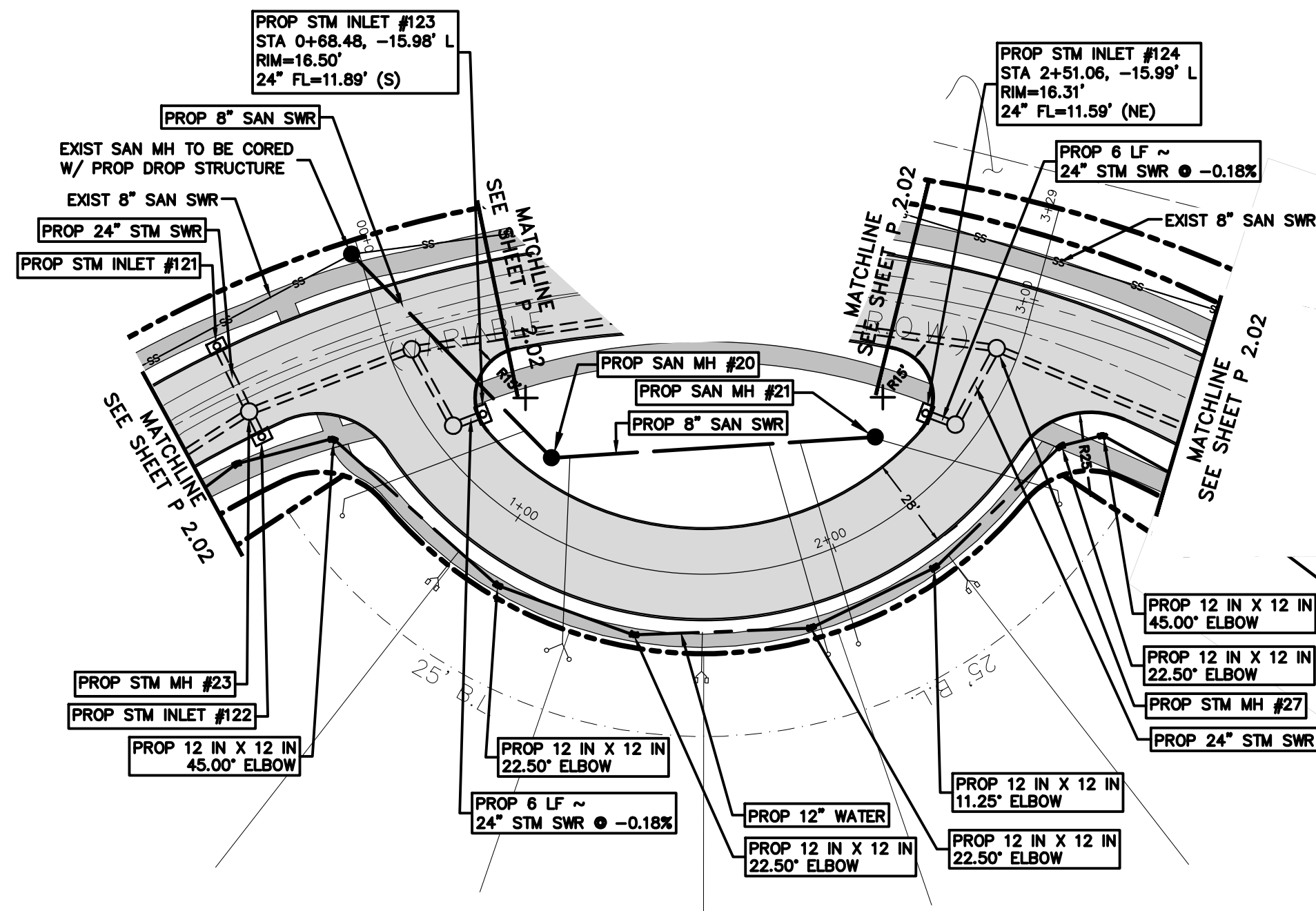
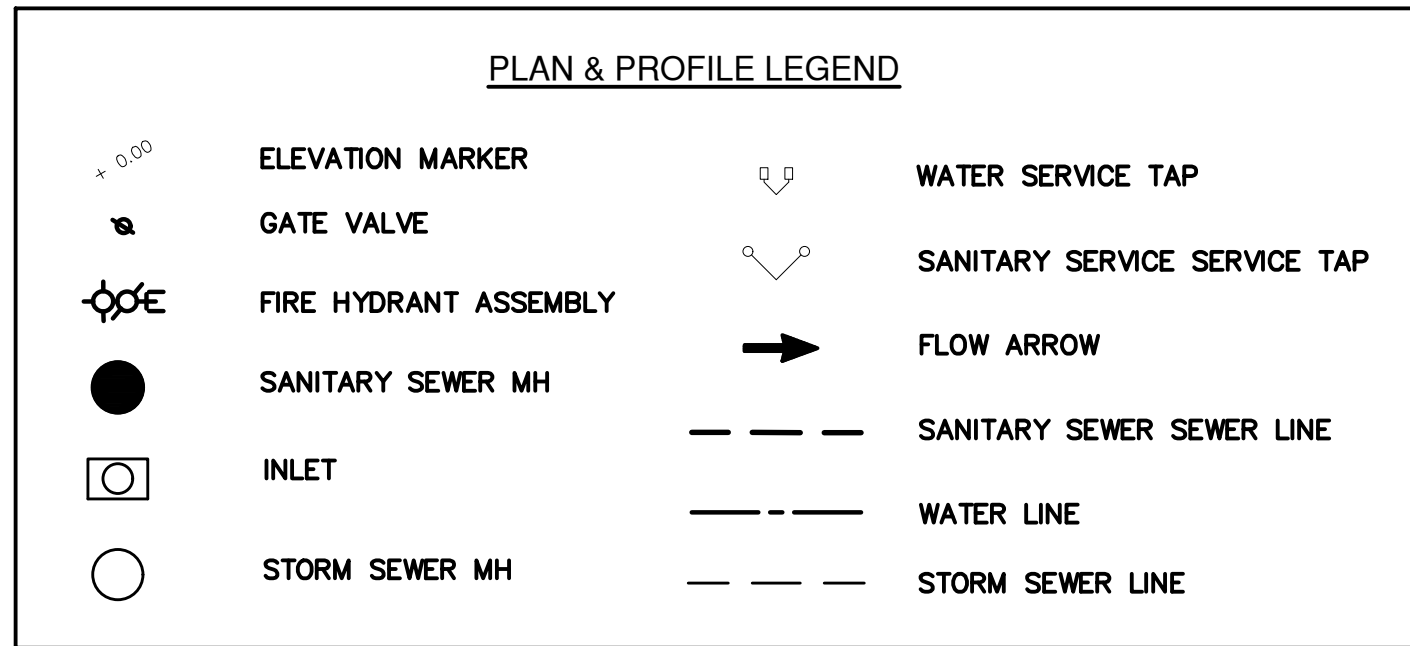
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CROSS COLONY DR.
PLAN & PROFILE

DWG:

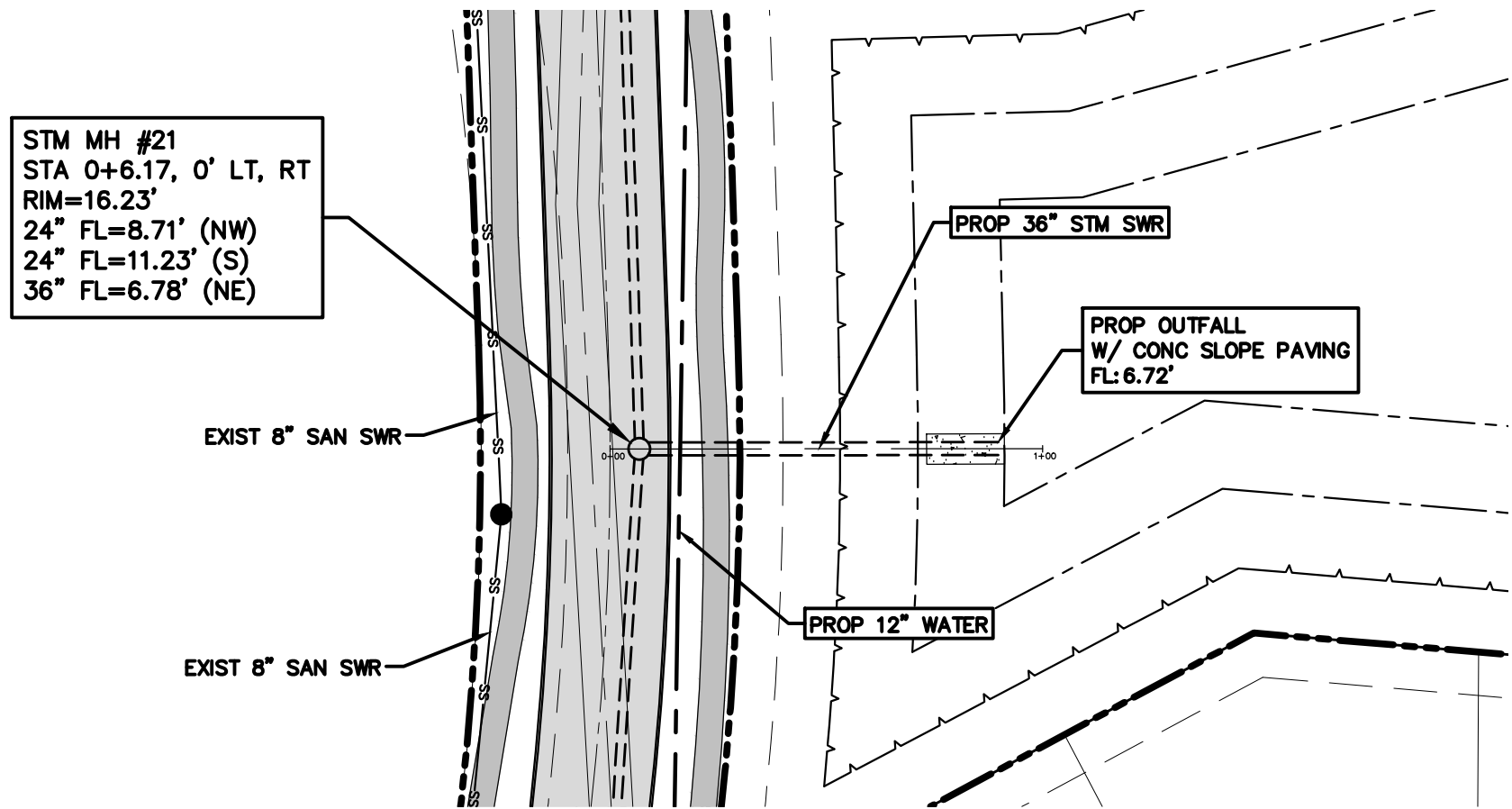
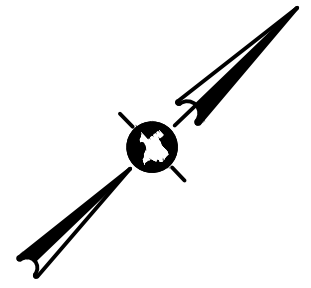
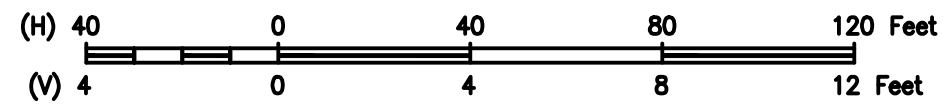
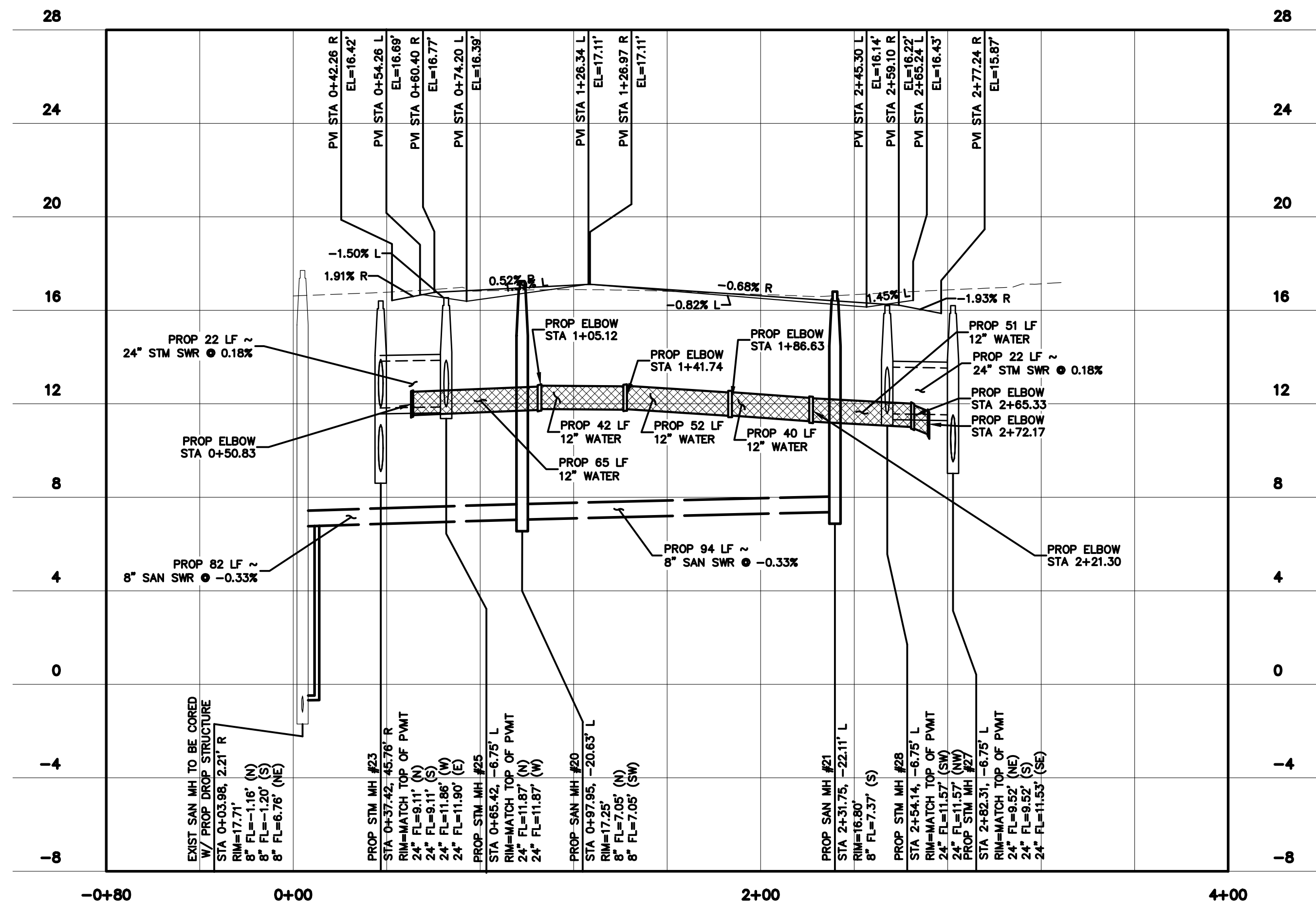
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JOB NO: 15-202 REV: E

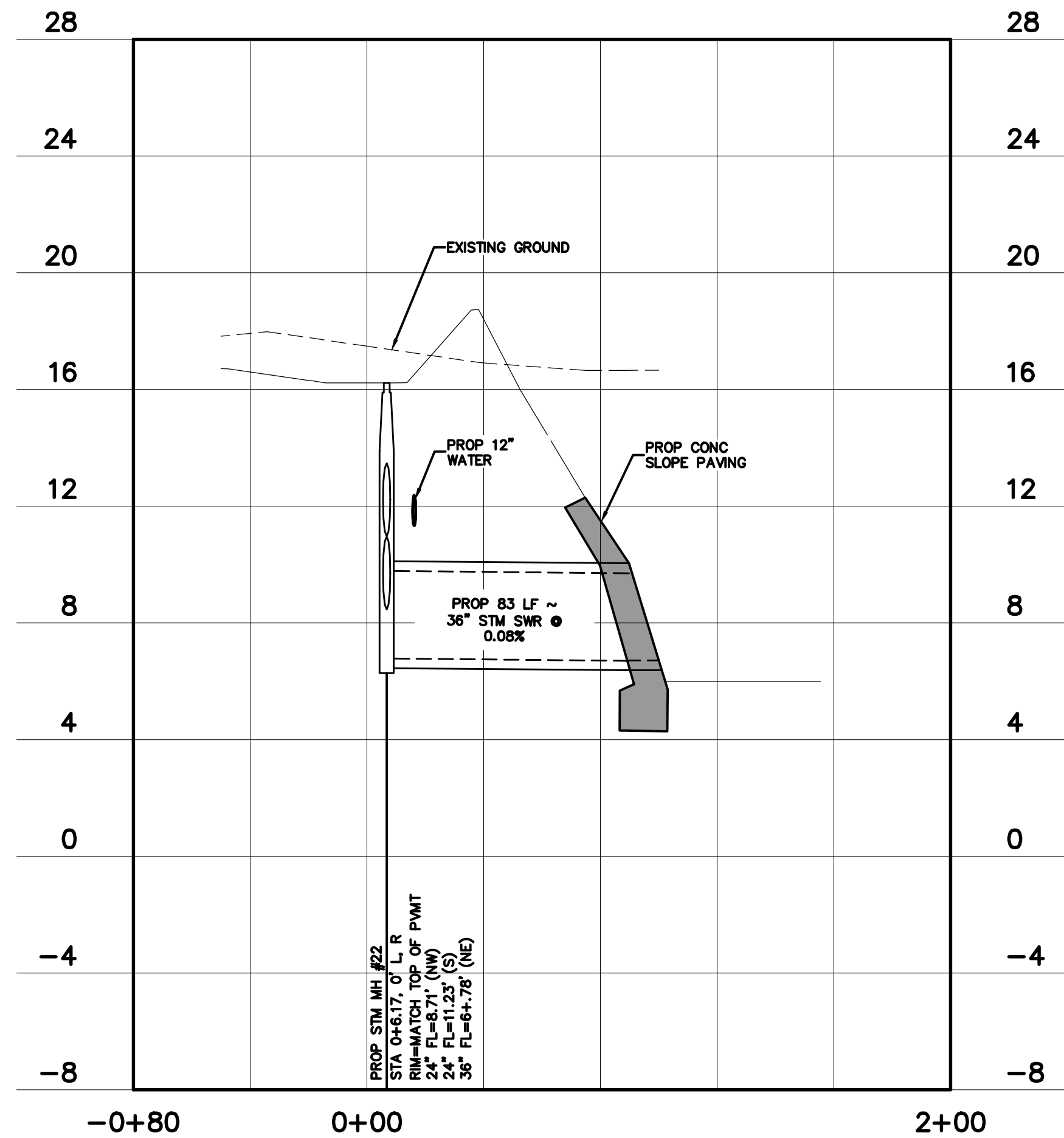
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CROSS COLONY DR.



STORM OUTFALL



DATE: 7/16/15
SCALE: (H)1:40 (V)1:4
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

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	AS-BUILT	04/24/17



DWG NAME:
CROSS COLONY DR. &
STORM SEWER OUTFALL
PLAN & PROFILE

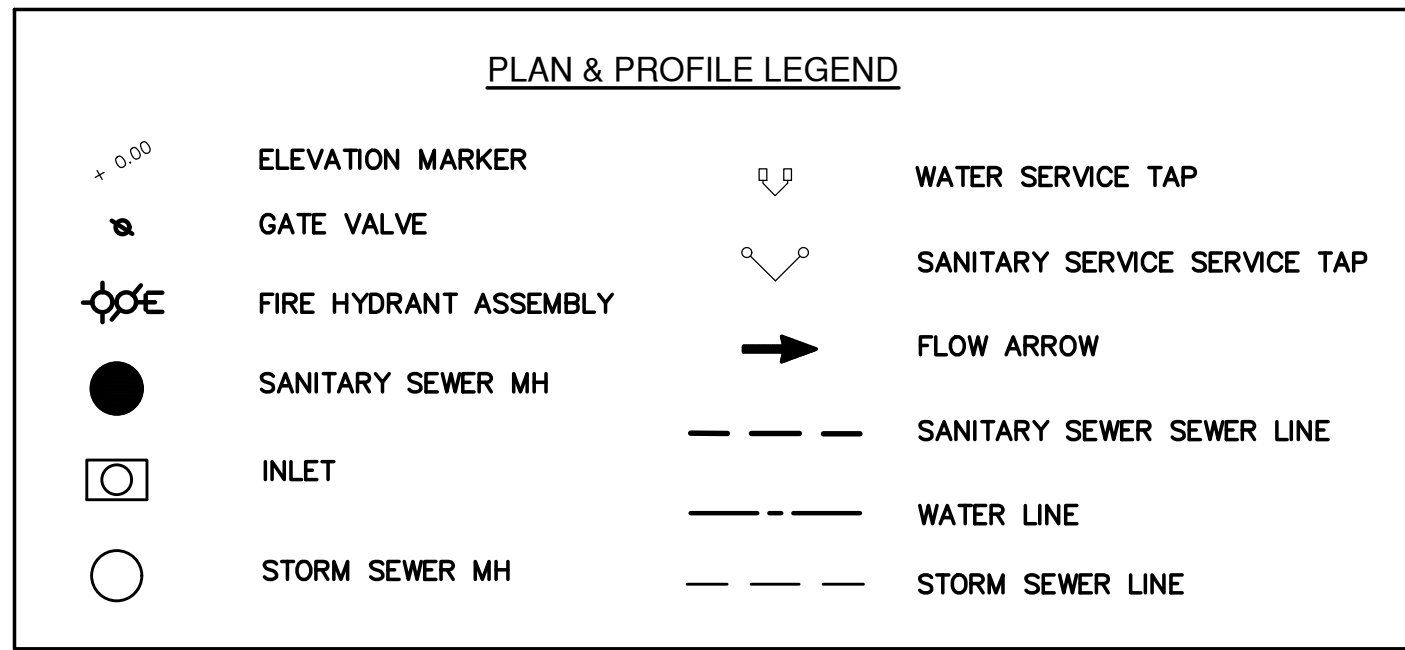
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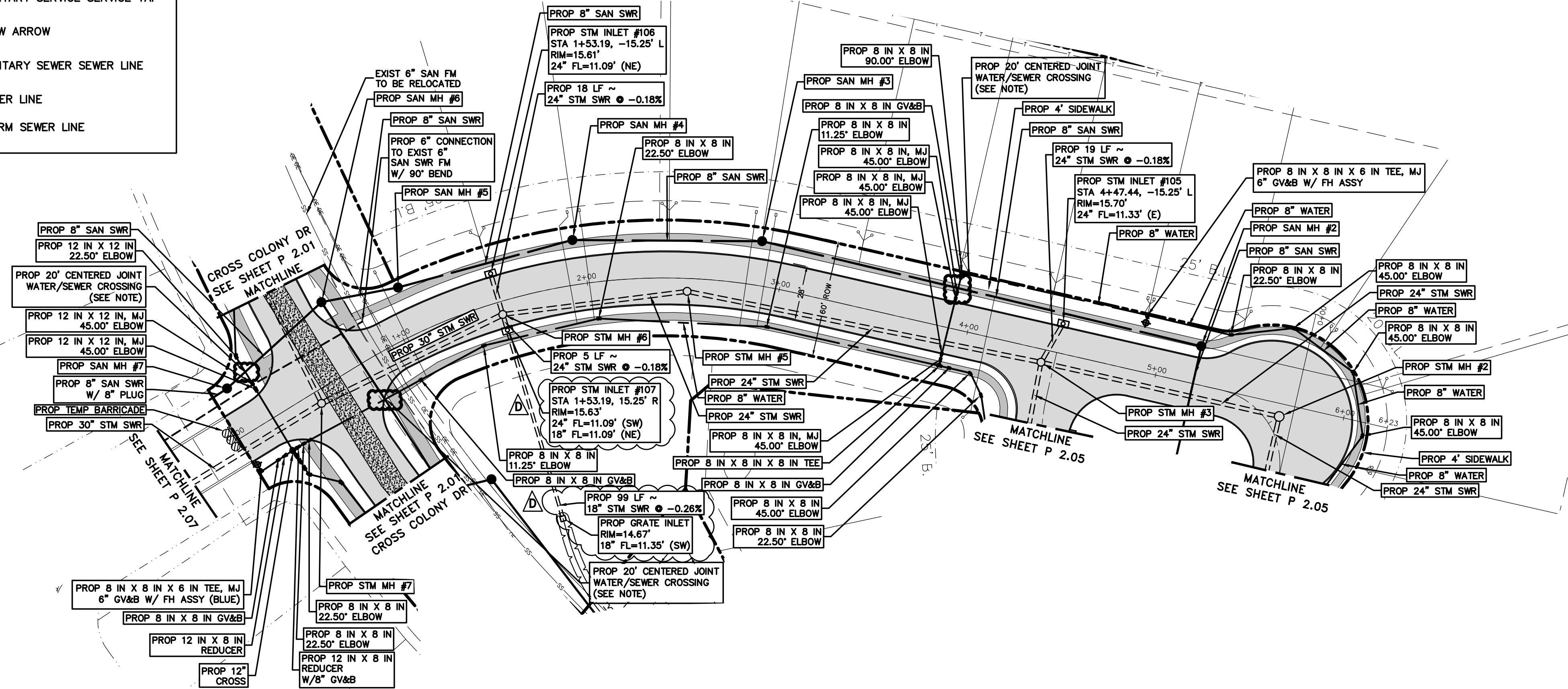
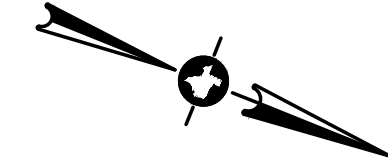
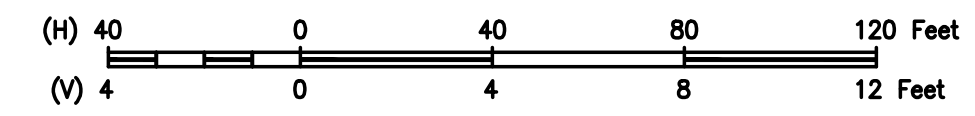
JOB NO: 15-202

REV: E

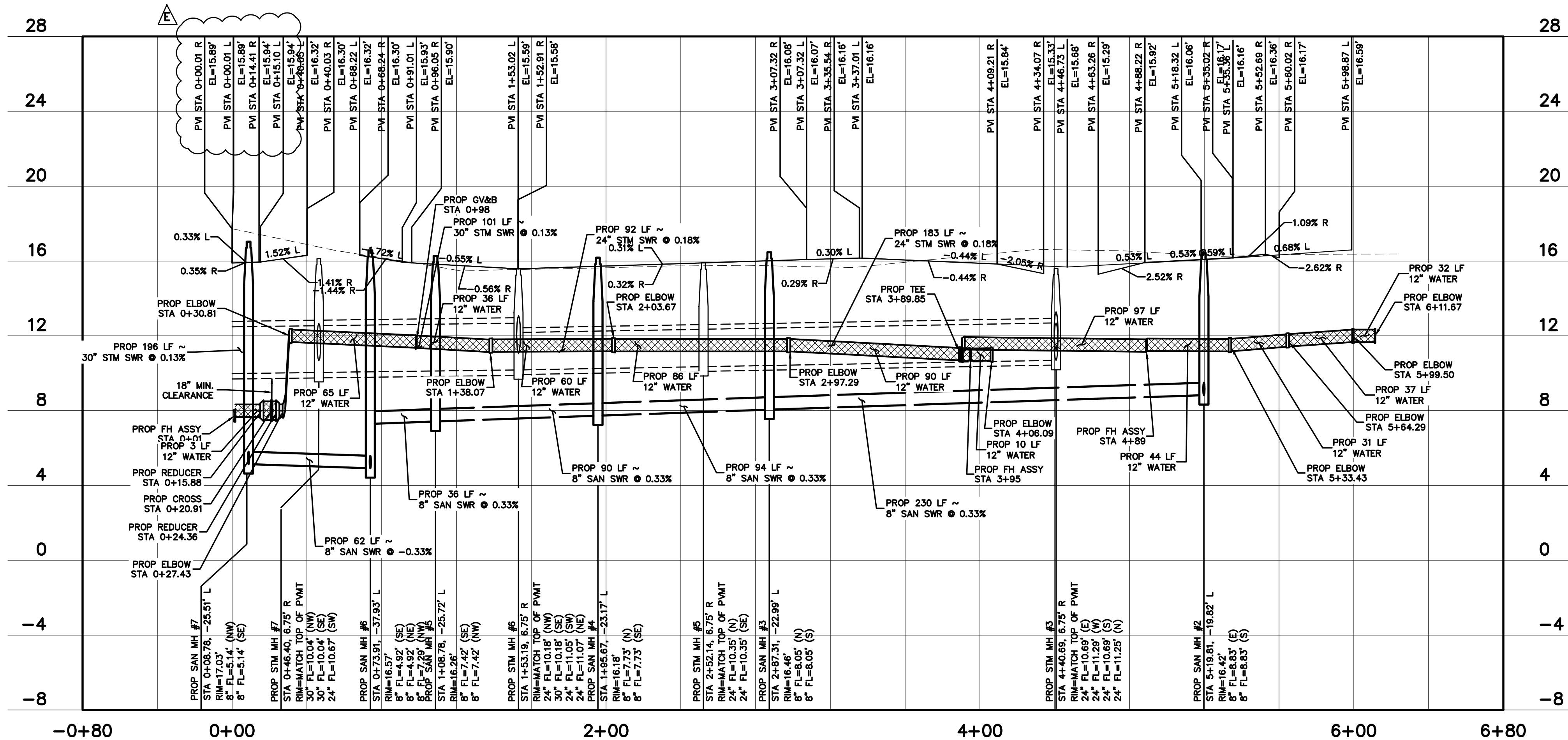
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NOTE: WHERE A SANITARY LINE CROSSES UNDER A WATERLINE AND THE SEWER IS CONSTRUCTED OF ABS TRUSS PIPE, SIMILAR SEMI-RIGID PLASTIC COMPOSITE PIPE, CLAY PIPE OR CONCRETE PIPE WITH GASKETED STABILIZED SAND (TWO OR MORE BAGS OF CEMENT PER CUBIC YARD OF SAND) FOR ALL SECTIONS OF SEWER WITHIN NINE FEET OF THE WATERLINE, THIS INITIAL BACKFILL SHALL BE FROM ONE QUARTER DIAMETER BELOW THE CENTERLINE OF THE PIPE TO ONE PIPE DIAMETER (BUT NOT LESS THAN 12 INCHES) ABOVE THE TOP OF THE PIPE.



DREAM CATCHER LN.



DATE: 7/16/15
SCALE: (H)1:40 (V)1:4
DRAWN BY: SLBK
CHECKED BY: DR

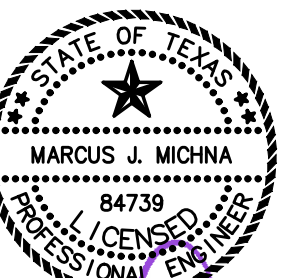
LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

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DWG NAME:
DREAM CATCHER LN.
PLAN & PROFILE

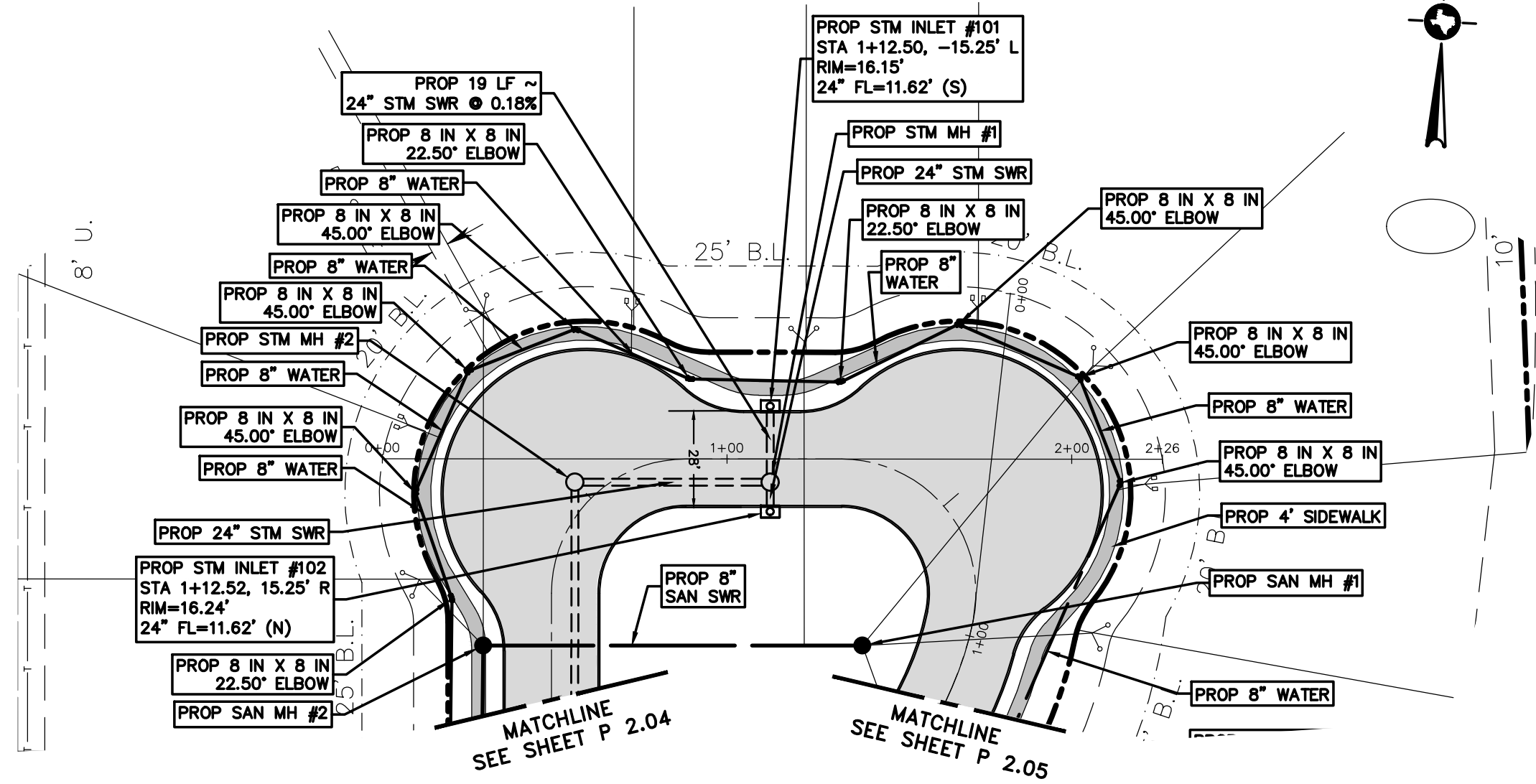
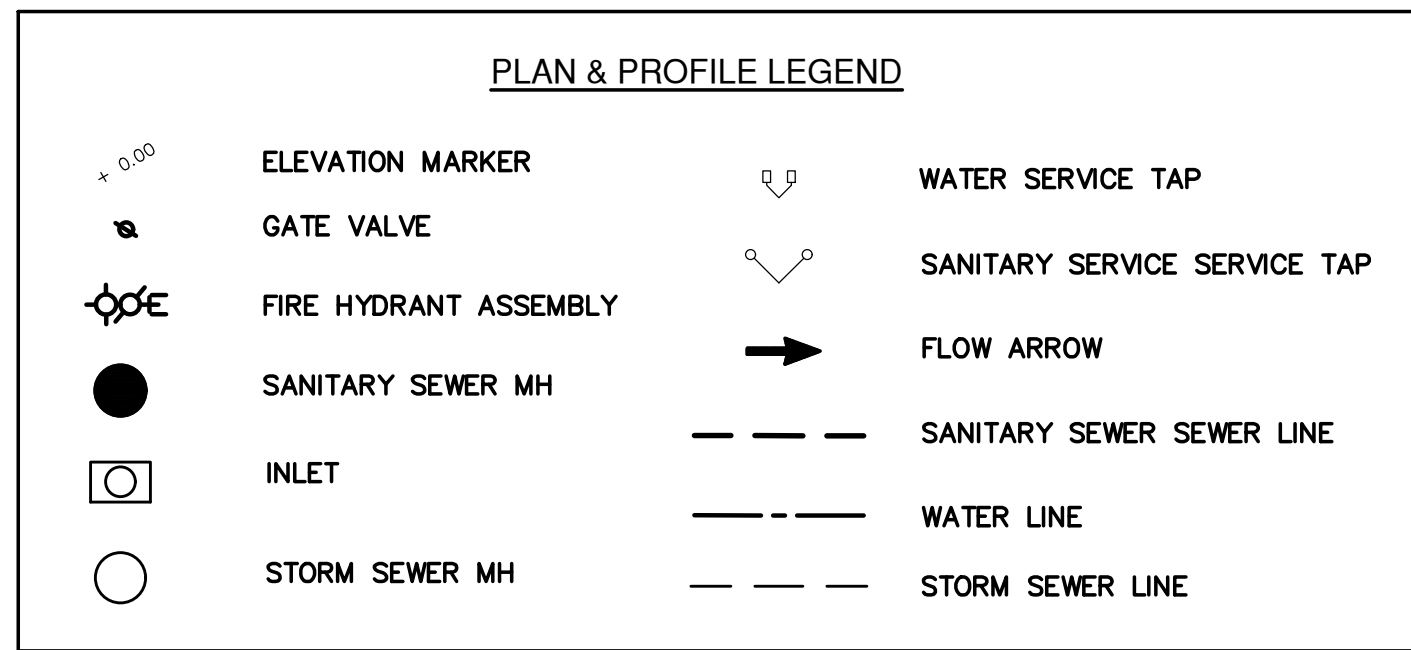
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P 2.04

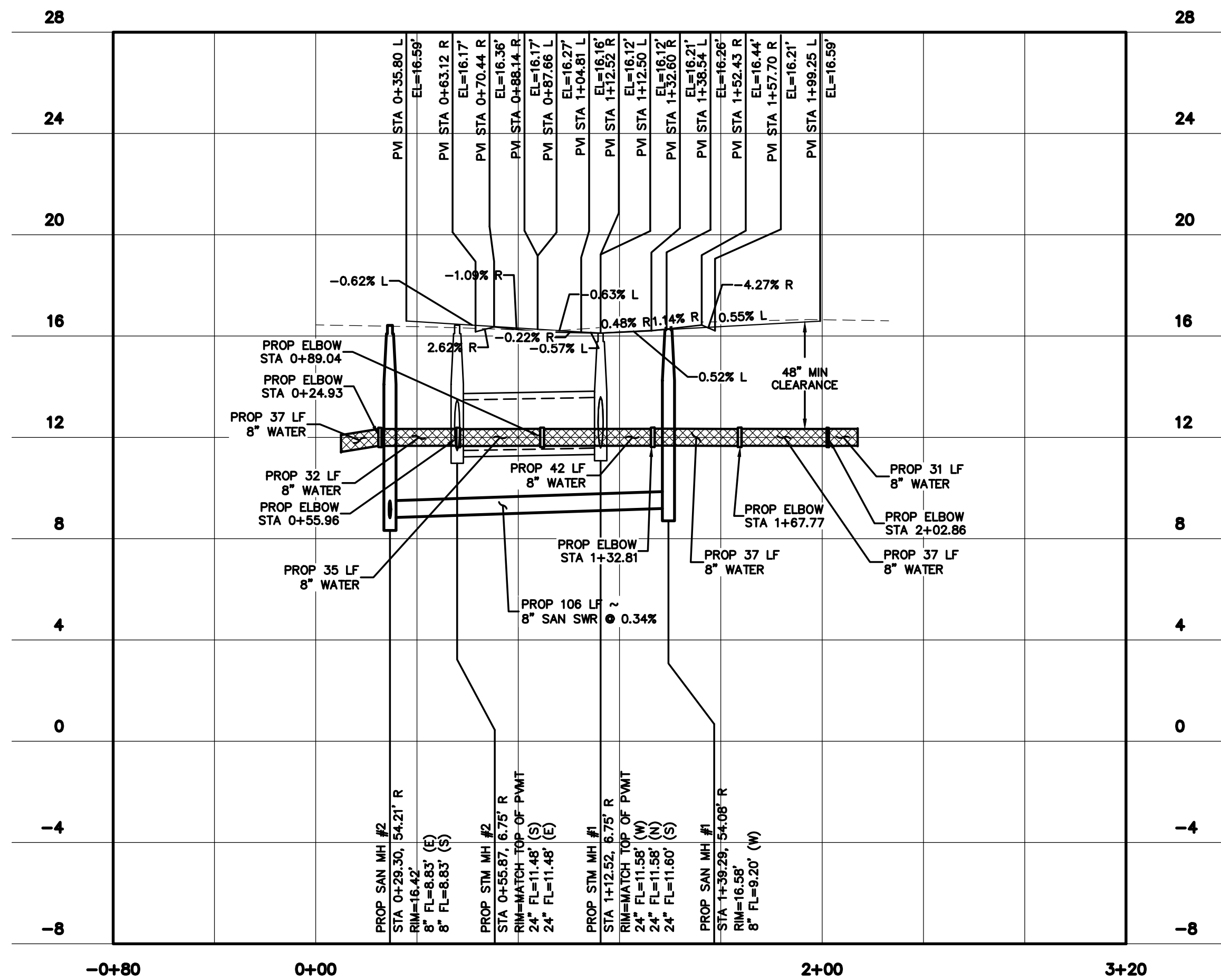
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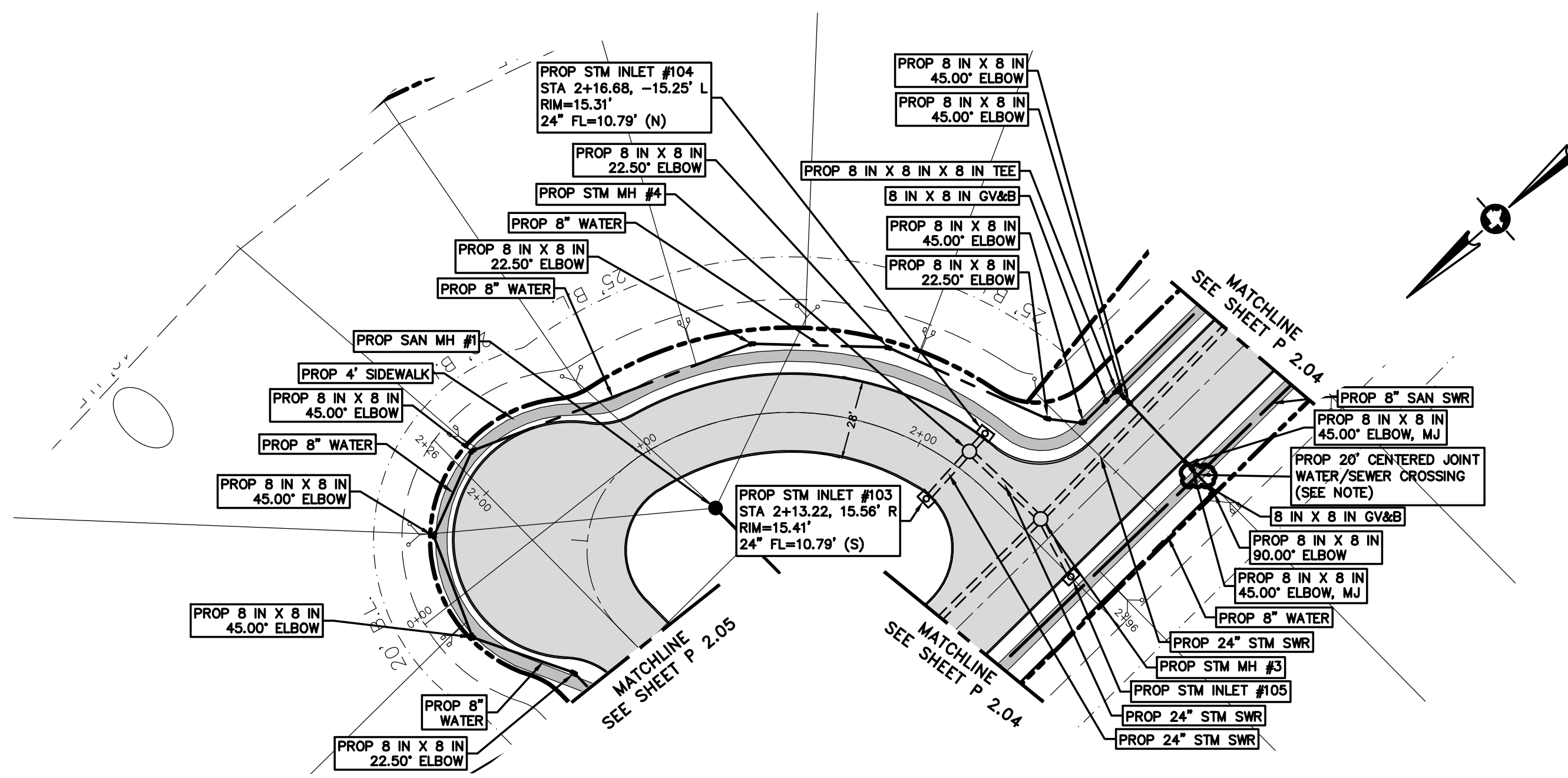
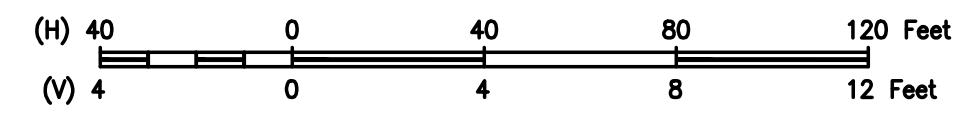
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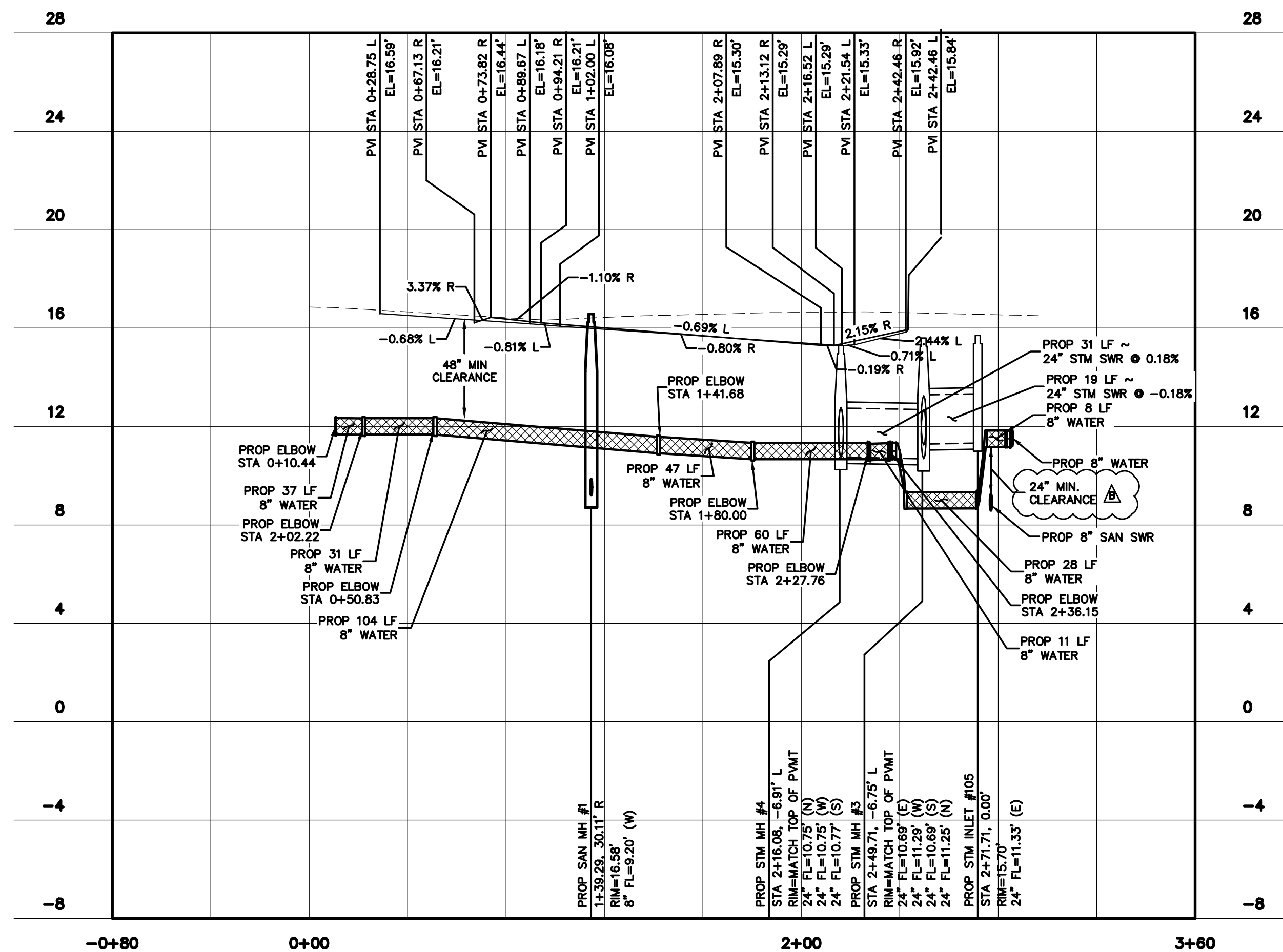
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DREAM CATCHER LN.



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LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

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AS-BUILT	04/24/17



DWG NAME:
DREAM CATCHER LN.
PLAN & PROFILE

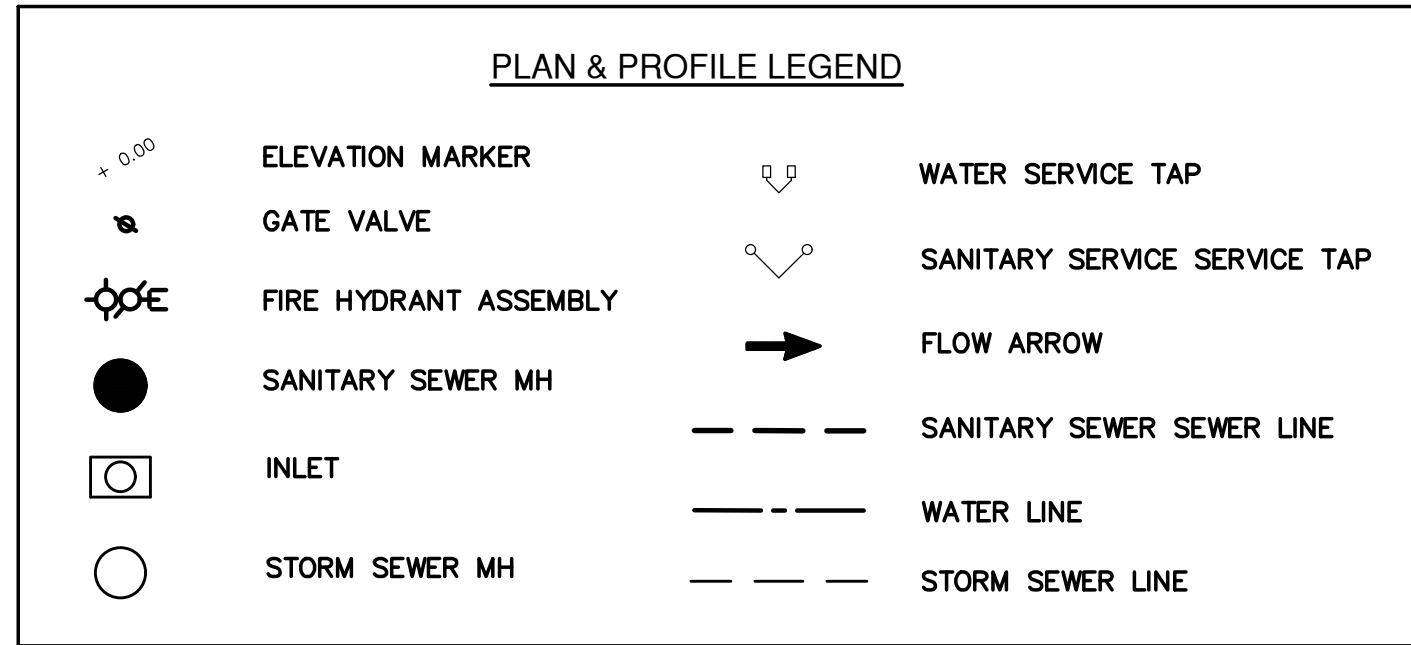
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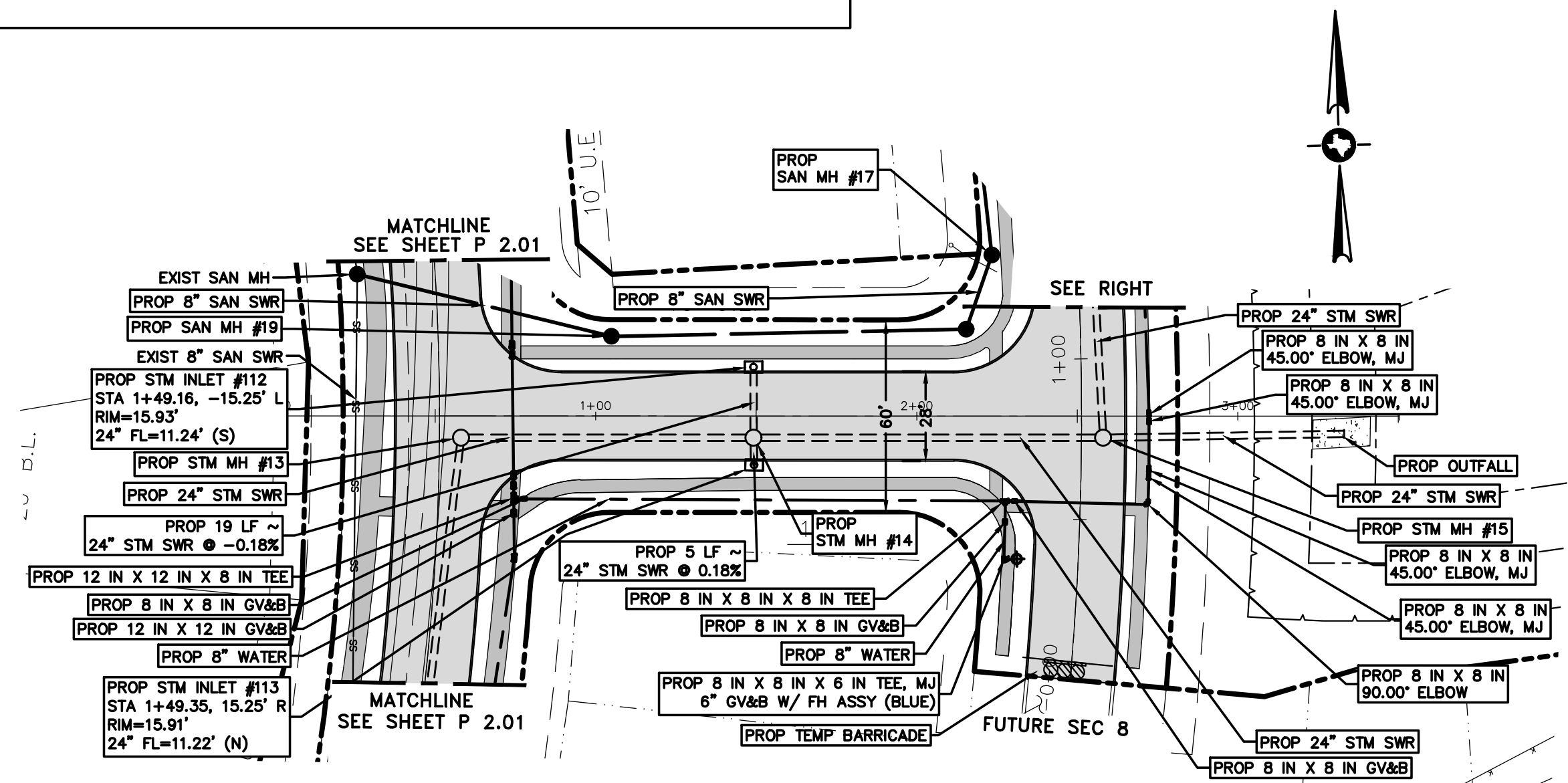
JOB NO: 15-202

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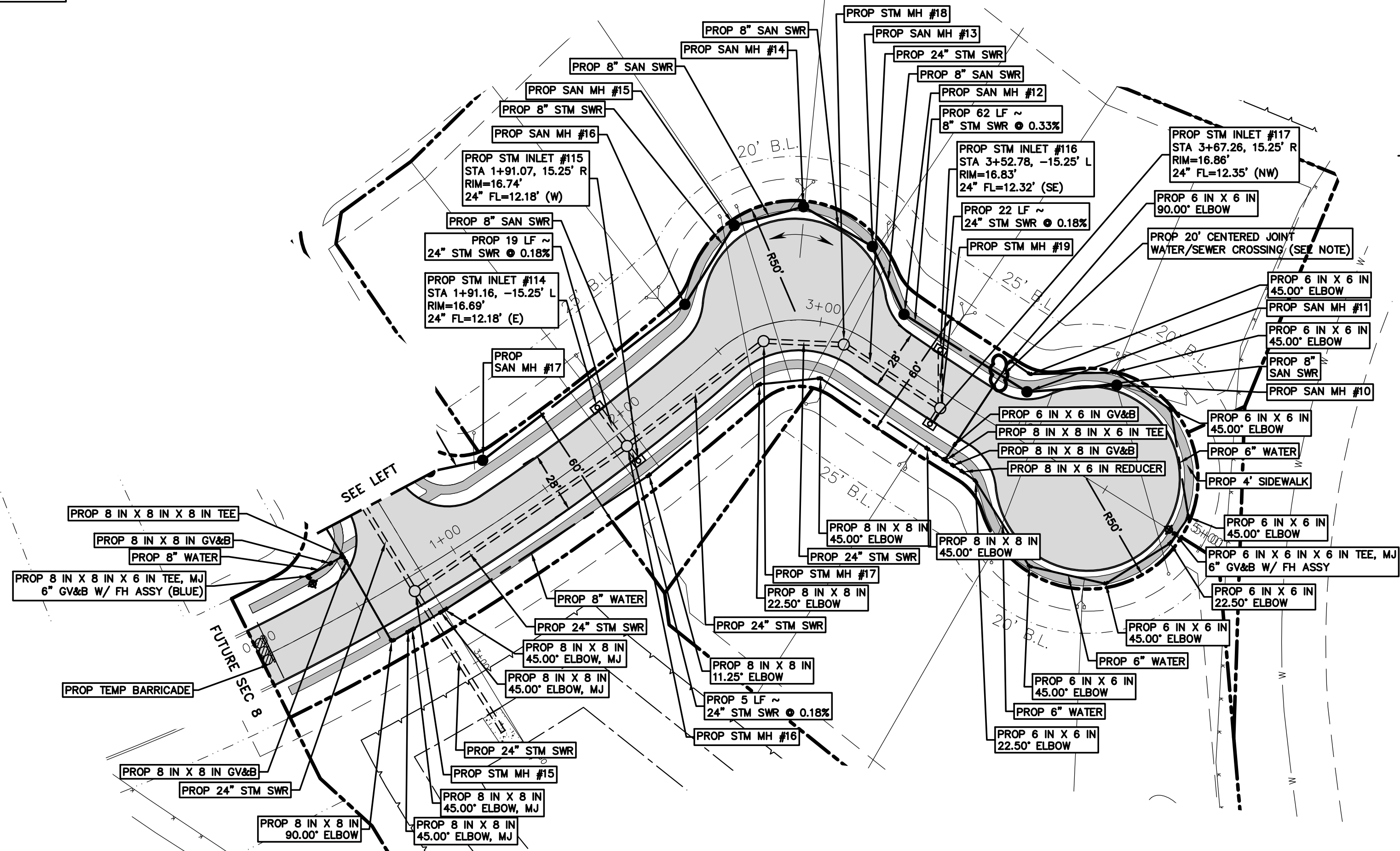
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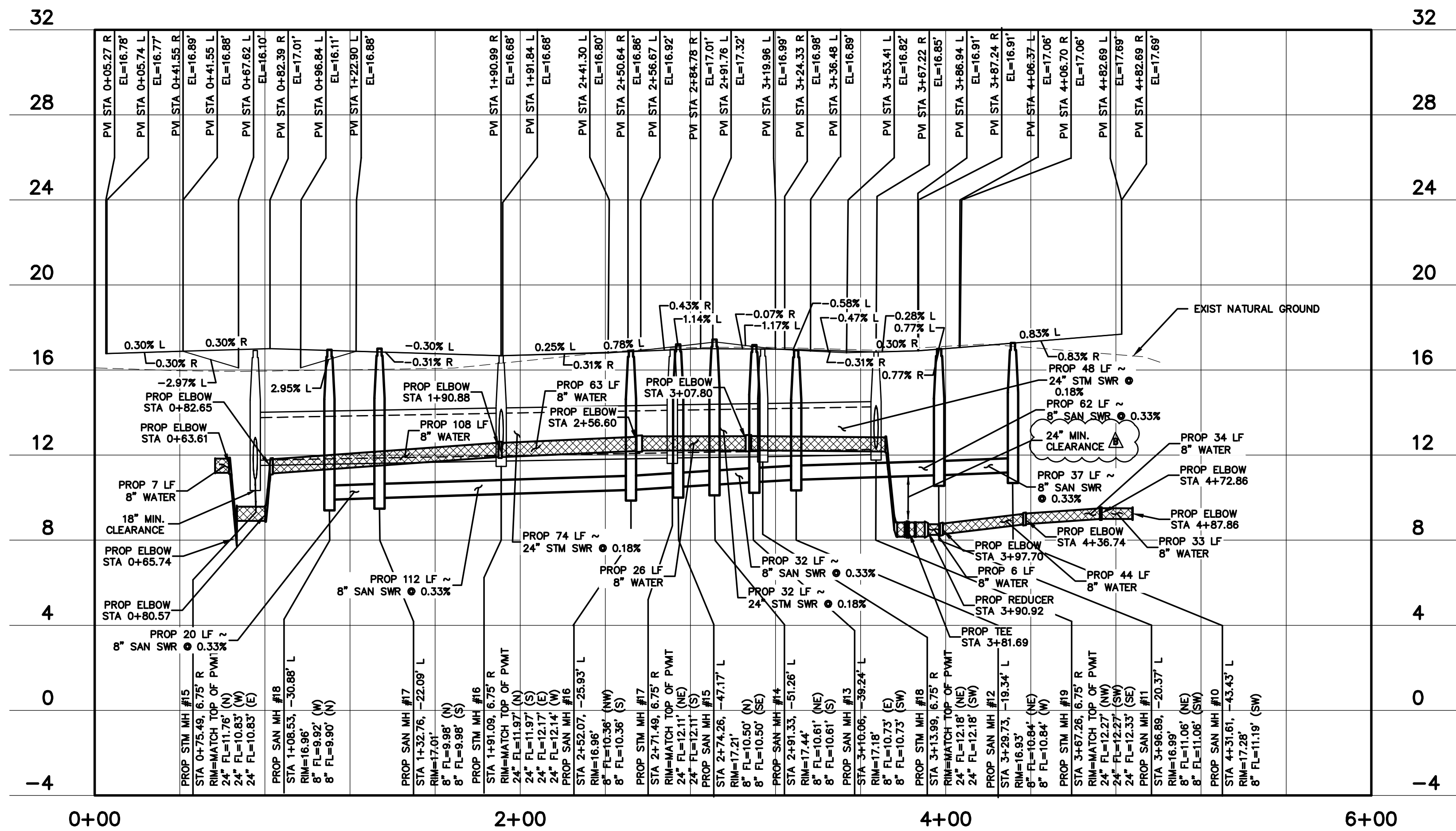
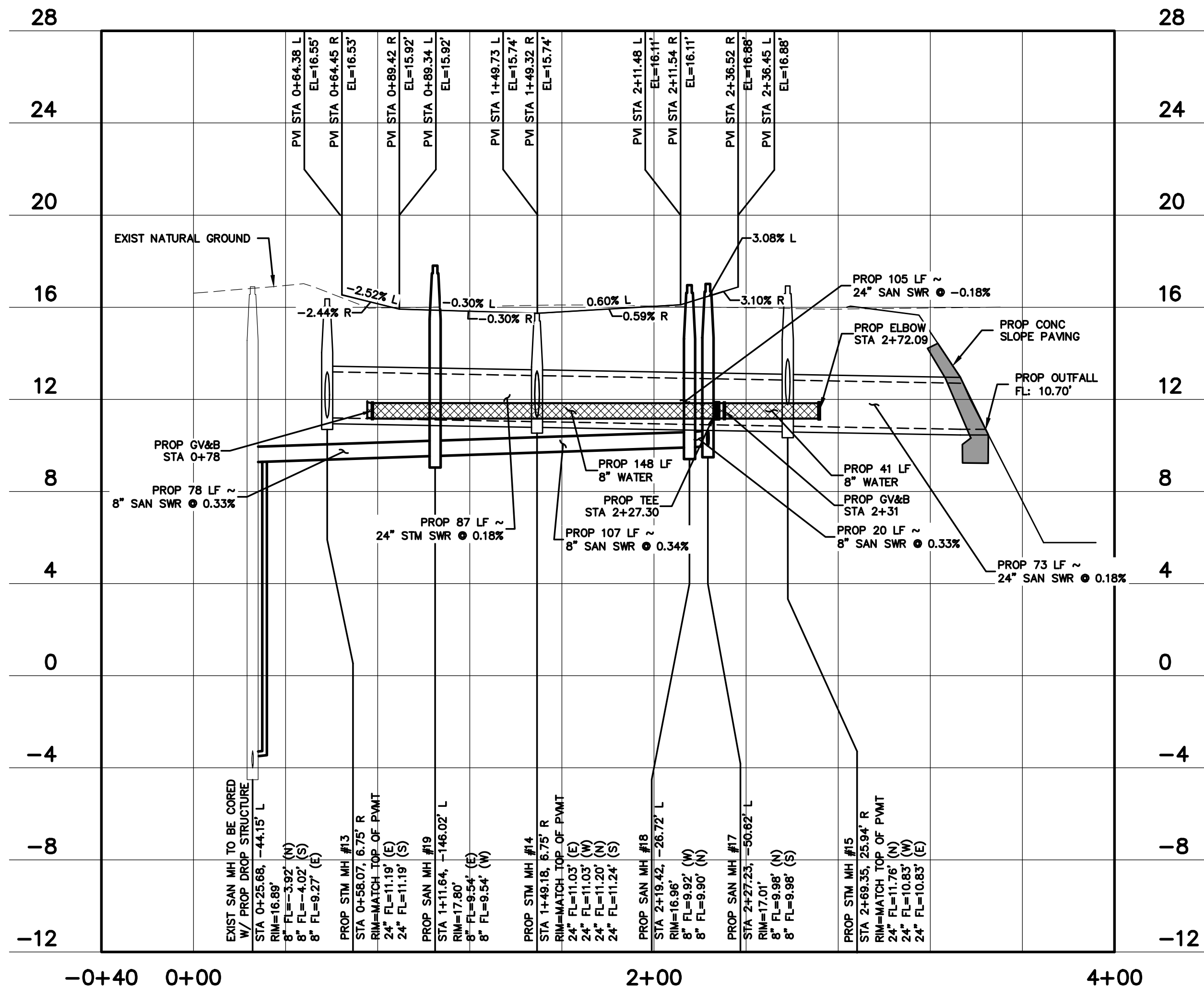
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WATERSWOOD LN.



GABLE HOLLOW LN.
& INDIGO LAKE CT.



(H) 40 0 40 80 120 Feet
(V) 4 0 4 8 12 Feet

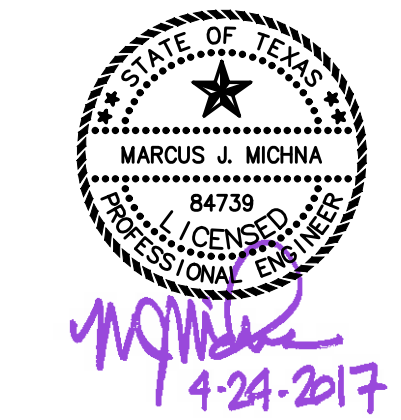
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△	CITY PRECONSTRUCTION COMMENTS	08/30/16
△	FIELD REV TO SAN/STM	AT LIFTSTATION 02/22/17
△	AS-BUILT	04/24/17



DWG NAME:
WATERSWOOD LN, GABLE
HOLLOW LN. & INDIGO
LAKE CT. PLAN & PROFILE

DWG:

P 2.06

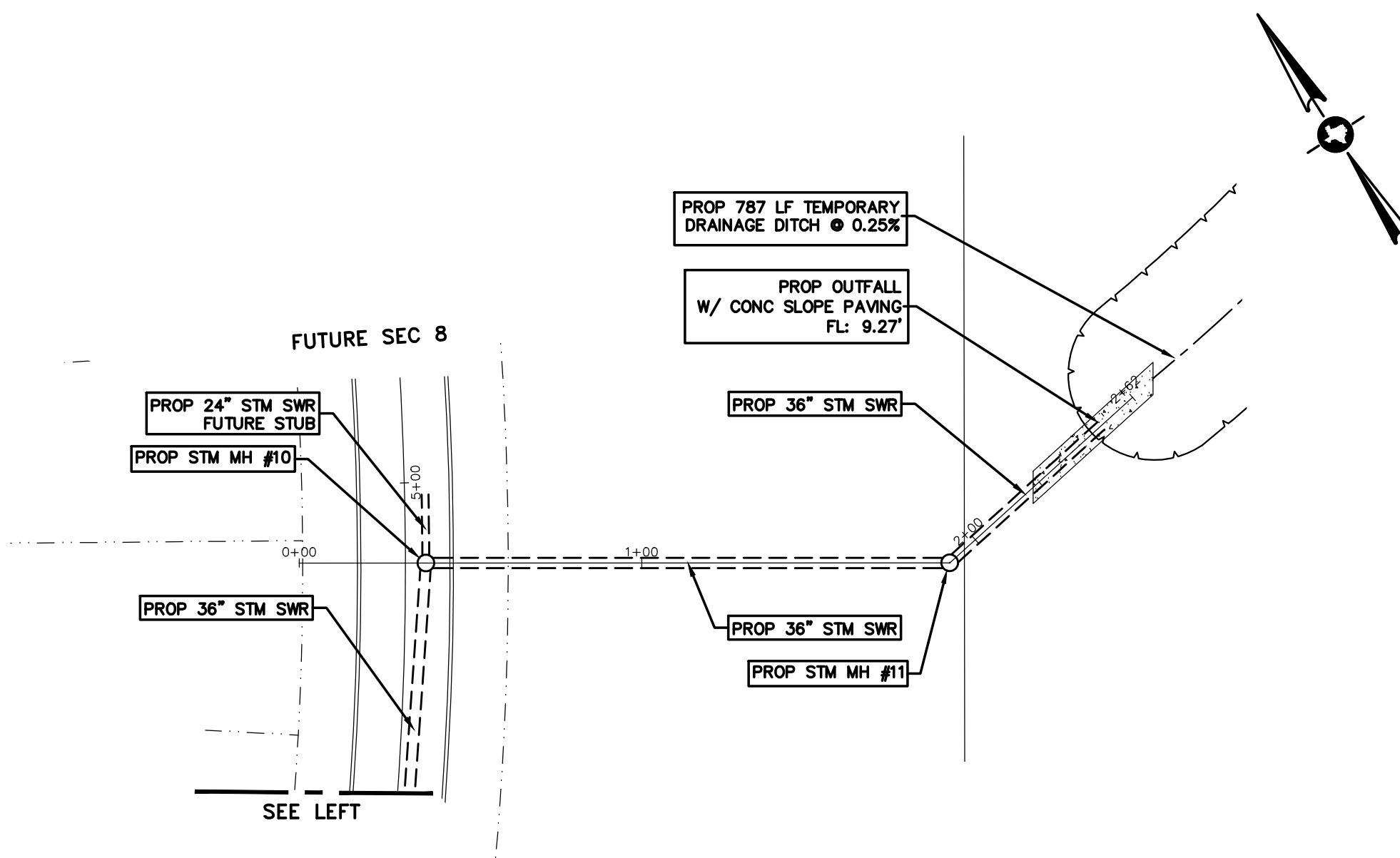
JOB NO: 15-202 REV: E

DATE: 7/16/15
SCALE: (H)1:40 (V)1:4
DRAWN BY: SLBK
CHECKED BY: DR

<u>PLAN & PROFILE LEGEND</u>			
	ELEVATION MARKER		WATER SERVICE TAP
	GATE VALVE		SANITARY SERVICE SERVICE TAP
	FIRE HYDRANT ASSEMBLY		FLOW ARROW
	SANITARY SEWER MH		SANITARY SEWER SEWER LINE
	INLET		WATER LINE
	STORM SEWER MH		STORM SEWER LINE

(H) 40 0 40 80 120 Feet

(V) 4 0 4 8 12 Feet



Sanitary Sewer Main Plan View

Stationing and Elevation Data:

- Station -8.00:**
 - Prop STM MH #7: STA 0+06.72, -6.75' L
 - RIM-MATCH TOP OF PMIT: STA 0+06.72, -6.75' L
 - 30" FL=10.04' (NW)
 - 24" FL=10.67' (SW)
- Station 0.00:**
 - Prop SAN MH #7: STA 0+44.34, 23.51' R
 - RIM-MATCH TOP OF PMIT: STA 0+44.34, 23.51' R
 - 30" FL=10.04' (NW)
 - 8" FL=51.14' (SE)
- Station 2.00:**
 - Prop STM MH #9: STA 2+06.45, -6.75' L
 - RIM-MATCH TOP OF PMIT: STA 2+06.45, -6.75' L
 - 30" FL=9.78' (NW)
 - 36" FL=9.78' (SE)
 - 36" FL=9.78' (NE)
 - 24" FL=10.19' (SW)

Proposed Pipe Segments and Fittings:

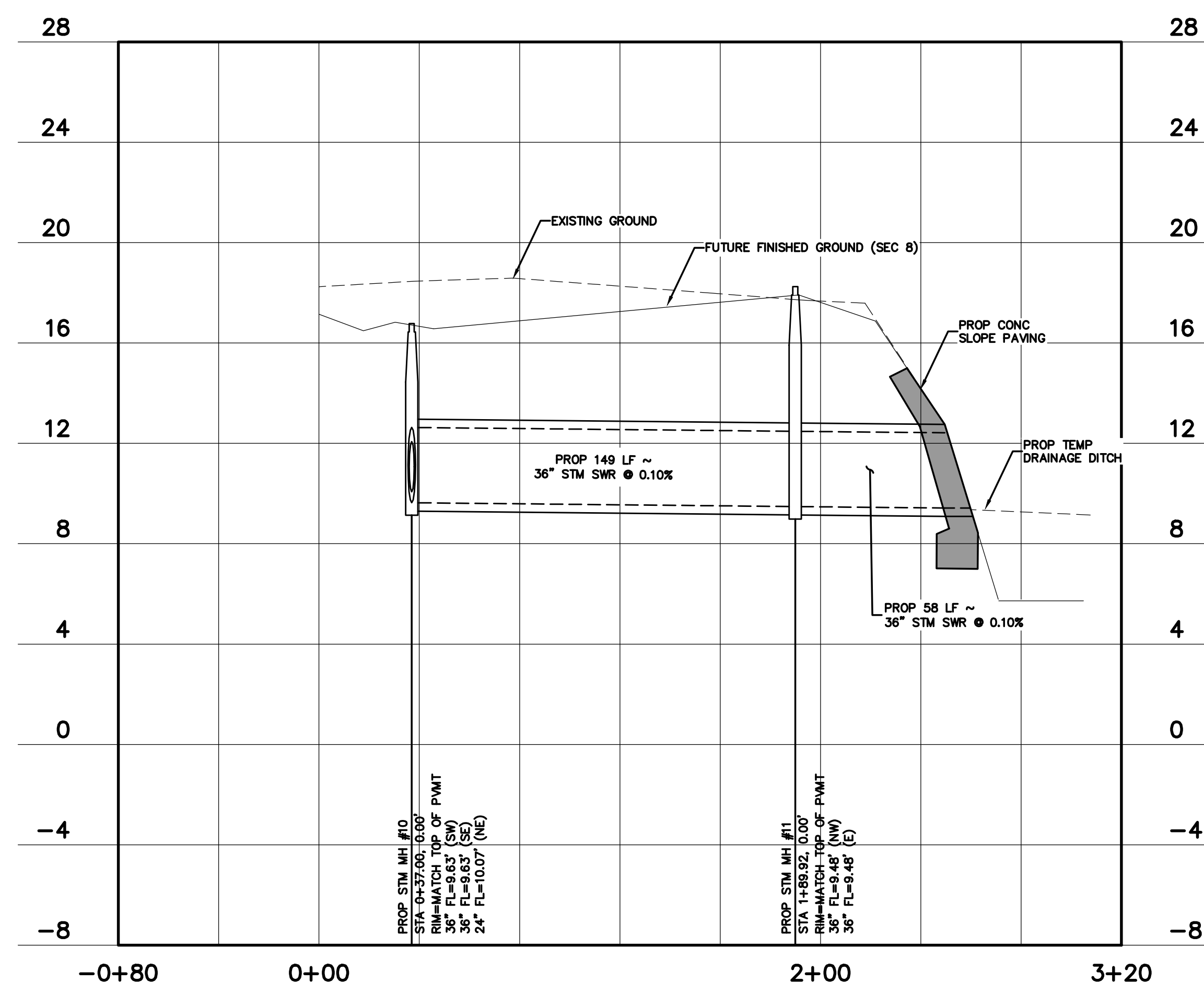
- Prop 62 LF ~ 8" SAN SWR @ -0.33%
- Prop Reducer STA 0+28.76
- Prop 2 LF 8" WATER
- Prop Elbow STA 0+25.69
- Prop Reducer STA 0+37.24
- Prop 3 LF 8" WATER
- Prop GV&B STA 0+41
- Prop Cross STA 0+32.21
- Prop 9 LF ~ 8" SAN SWR @ -0.33%
- Prop 17 LF ~ 24" STM SWR @ -0.10% W/ BRICK PLUG
- Prop FH Assy STA 0+52
- Prop 196 LF ~ 30" STM SWR @ 0.13%
- Prop 264 LF ~ 6" SAN SWR FM

Existing Features:

- EXIST 6" SAN SWR FM
- EXIST GROUND

Notes:

- 1.48% R
- 1.55% R
- 0.35% L
- 0.33% R
- 18" MIN. CLEARANCE



LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS



SHELMARK
ENGINEERING, L.L.C.
CIVIL MARINE PLANNING STRUCTURAL

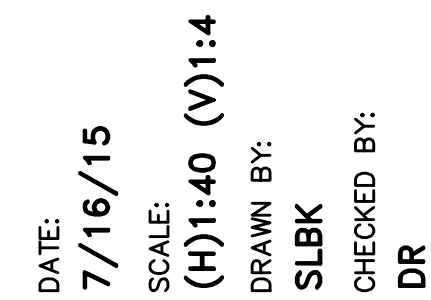
921 FM 517 Road East | Dickinson, Texas 77539
TX Firm No. F-2115

STATE OF TEXAS
MARCUS J. MICHNA
84739
LICENSED PROFESSIONAL ENGINEER
4-24-2017

DWG:
P 2.07

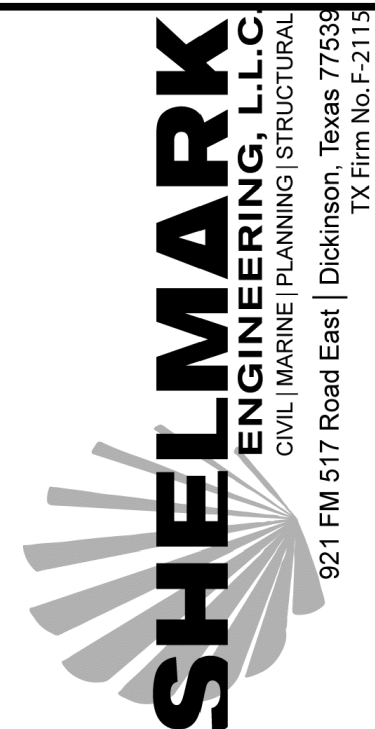
JOB NO:	15-202	REV:	E
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PLAN & PROFILE LEGEND		
	ELEVATION MARKER	 WATER SERVICE TAP
	GATE VALVE	 SANITARY SERVICE SERVICE TAP
	FIRE HYDRANT ASSEMBLY	 FLOW ARROW
	SANITARY SEWER MH	 SANITARY SEWER SEWER LINE
	INLET	 WATER LINE
	STORM SEWER MH	 STORM SEWER LINE



**LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS**

PROJECT:



ISSUED FOR

A	REVIEW	9/10/15
B	CITY COMMENTS	10/26/15
B	CITY COMMENTS	12/01/15
B	FINAL APPROVAL	12/15/15
B	TCEQ COMMENTS	03/08/16
C	CITY PRECONSTRUCTION COMMENTS	08/30/16
D	FIELD REV TO SAN/STM AT LIFTSTATION	02/22/17
E	AS-BUILT	04/24/17



DWG NAME:
**QUIET BAY CT PLAN
& PROFILE**

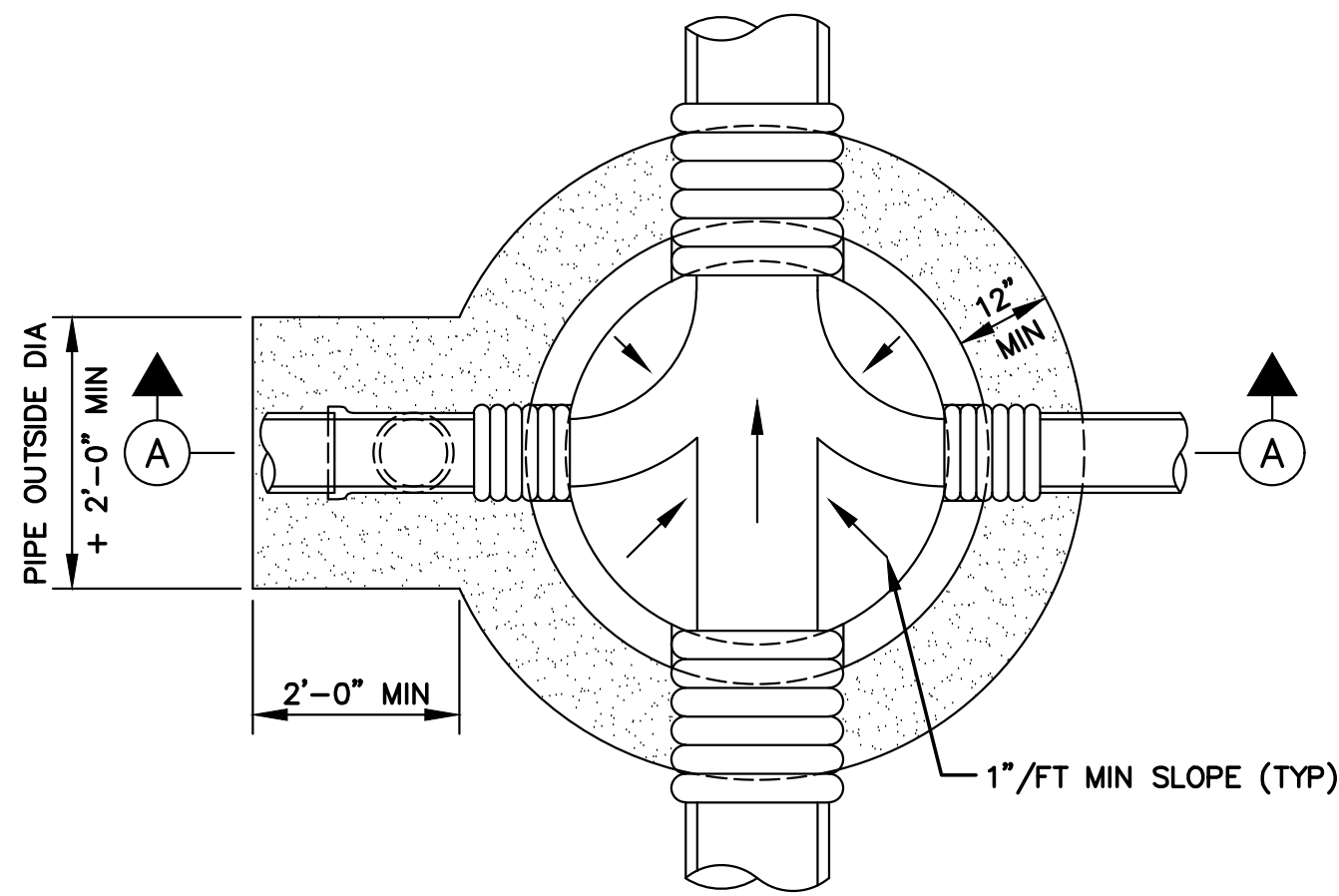
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P 2.08

JOB NO: 15-202

E

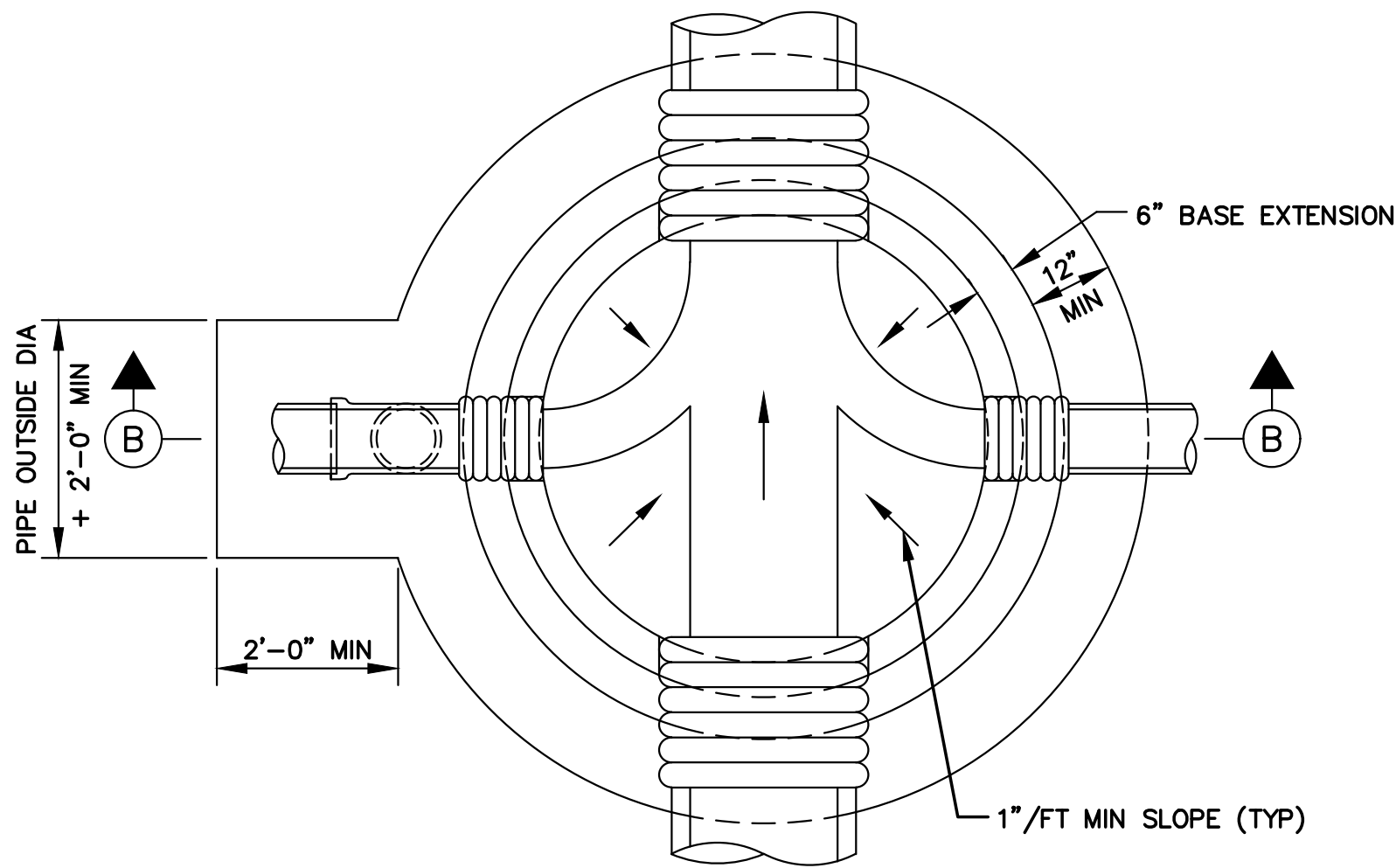
INFORMATION AND DATA CONTAINED IN THIS DRAWING ARE STRICTLY CONFIDENTIAL AND ARE SUPPLIED ON THE UNDERSTANDING THAT THEY WILL BE HELD CONFIDENTIALLY AND NOT REPRODUCED, COPIED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF SHELMARK ENGINEERING, LLC.



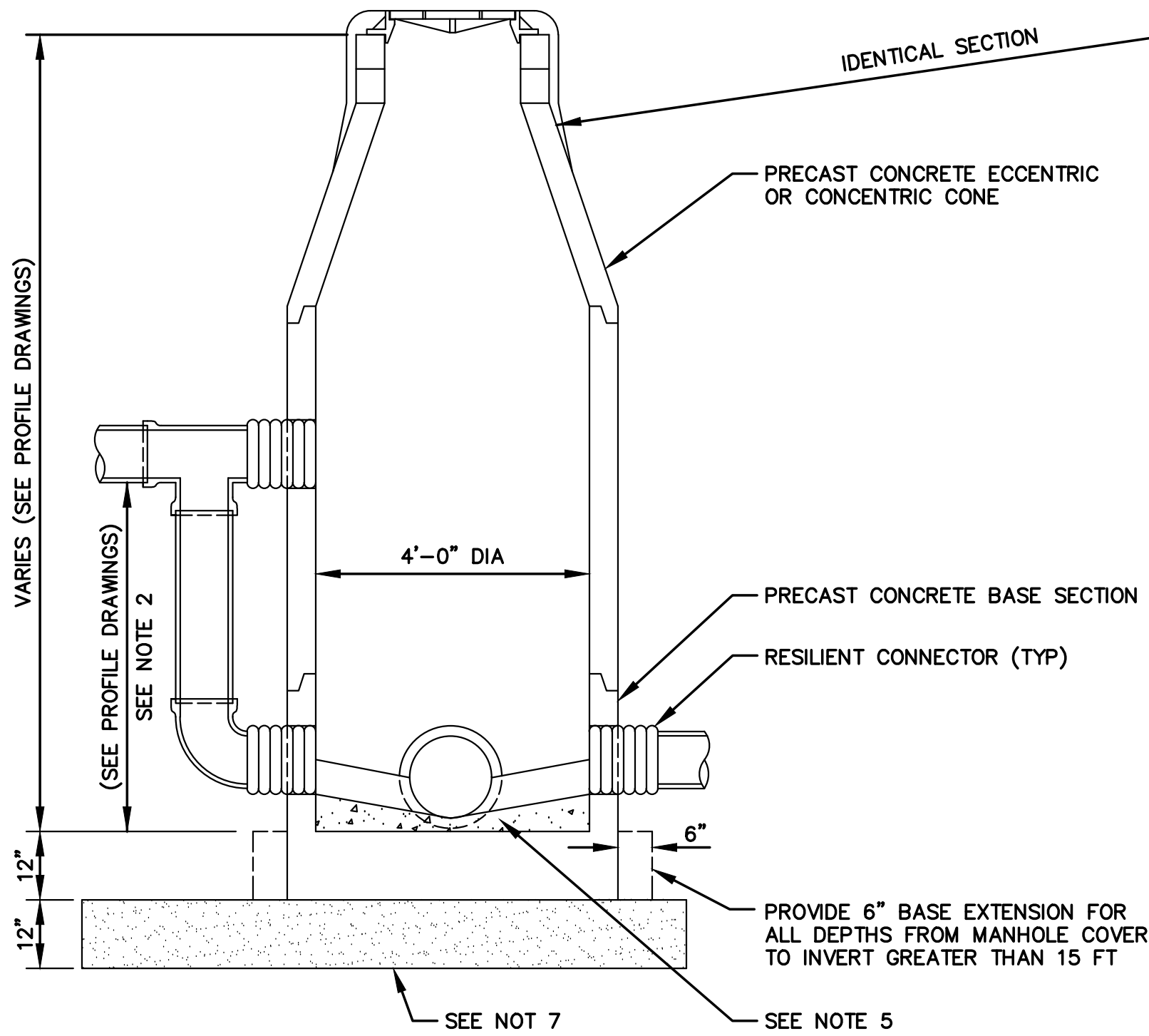
4'-0" DIAMETER MANHOLE FOUNDATION PLAN

NOTES

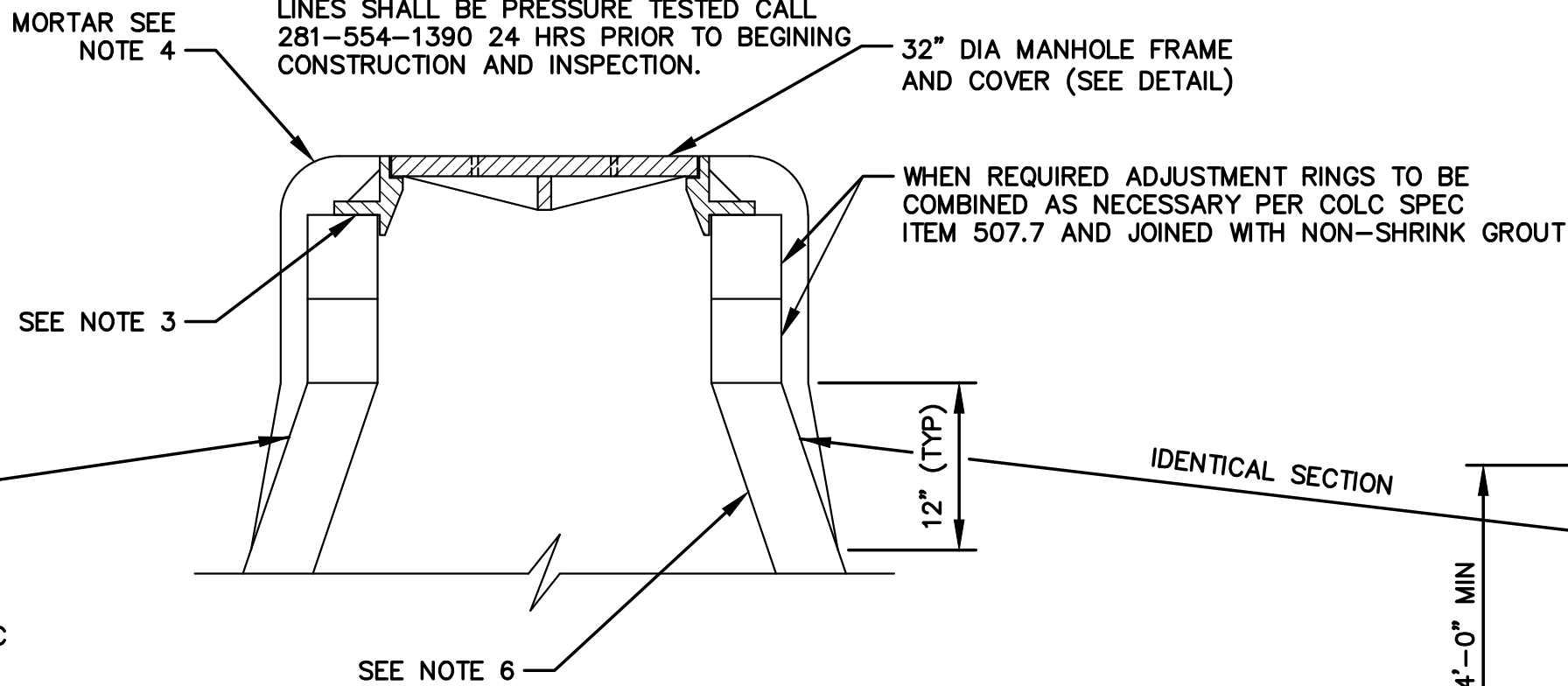
1. WHEN REQUIRED PROVIDE RIZER RINGS TO ADJUST MANHOLE RING AND LID, NOT TO EXCEED A MAX. OF 18", COLC SPEC ITEM 507.7
2. PROVIDE DROP ONLY WHEN CALLED FOR IN PLAN AND PROFILE DRAWINGS.
3. SEAT MANHOLE FRAME WITH 2 ROWS OF BITUMASTIC SEALANT.
4. NON-SHRINK GROUT AROUND MANHOLE RING AS SHOWN CONTINUED DOWN OVER RISER RINGS 12" DOWN ONTO MANHOLE CONE. OMIT MORTAR WHEN MANHOLE IS LOCATED IN PAVED AREAS.
5. USE A NON-SHRINK GROUT TO FORM CHANNELS AND DIRECT FLOW IN BOTTOM OF MANHOLE IN NOT ALREADY FORMED IN BASE.
6. MANHOLE INTERIOR TO BE COATED PER COLC SPEC ITEM 507.7 FROM BOTTOM OF RING TO BASE OF MANHOLE.
7. MANHOLE BASE TO BE SET ON 12" MIN COMPACTED CEMENT SABILIZED SAND FOR DRY STABLE TRENCH. SEE CRUSHED STONE MANHOLE SUPPORT OR MANHOLE PILE SUPPORT FOR WET AND UNSTABLE CONDITIONS.
8. MANHOLES CONSTRUCTED ON CITY MAINS FOR THE PURPOSE OF PROVIDING PRIVATE SERVICE SHALL BE BUILT TO COLC STANDARDS AND INSPECTED BY CITY WATER UTILITY DEPT. PUBLIC MANHOLES SHALL BE VACUUM TESTED; 8" AND LARGER PUBLIC SERVICE LINES SHALL BE PRESSURE TESTED CALL 281-554-1390 24 HRS PRIOR TO BEGINING CONSTRUCTION AND INSPECTION.



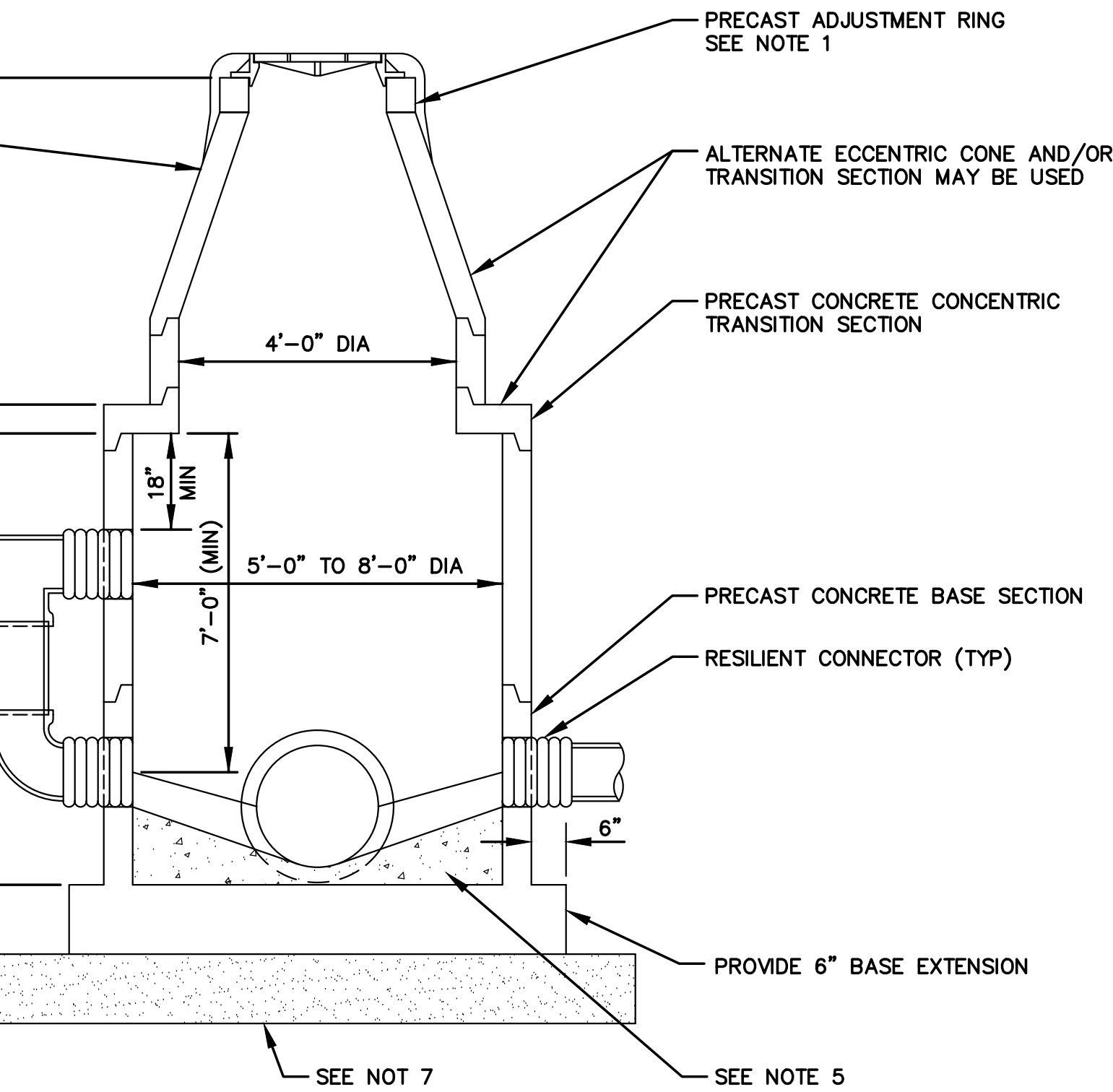
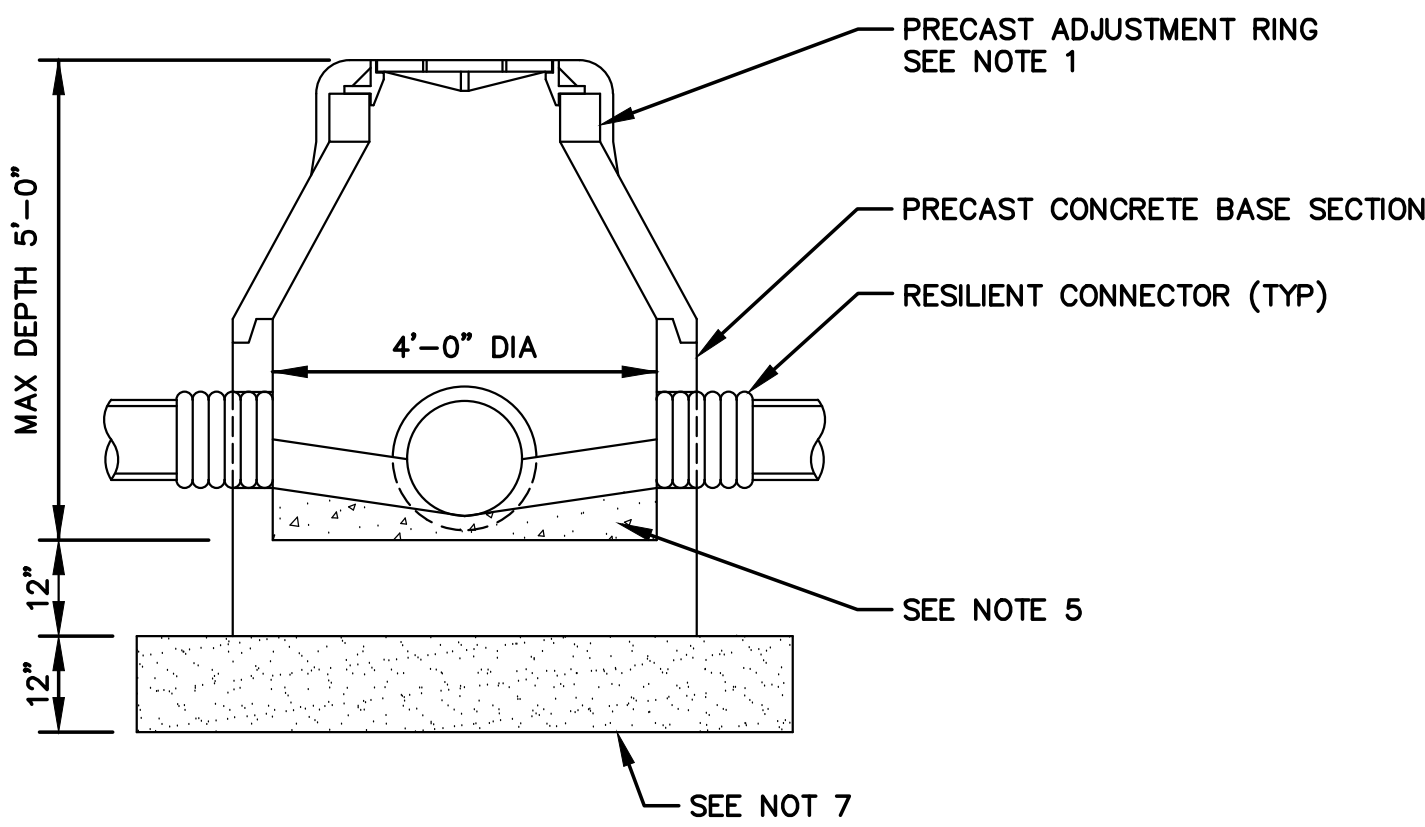
5'-0" TO 8'-0" DIAMETER MANHOLE FOUNDATION PLAN



4'-0" DIAMETER MANHOLE SECTION (A)



SHALLOW MANHOLE SECTION (A)



5'-0" TO 8'-0" DIAMETER MANHOLE SECTION (B)

PRECAST SANITARY SEWER MANHOLE
NTS 4-2012

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

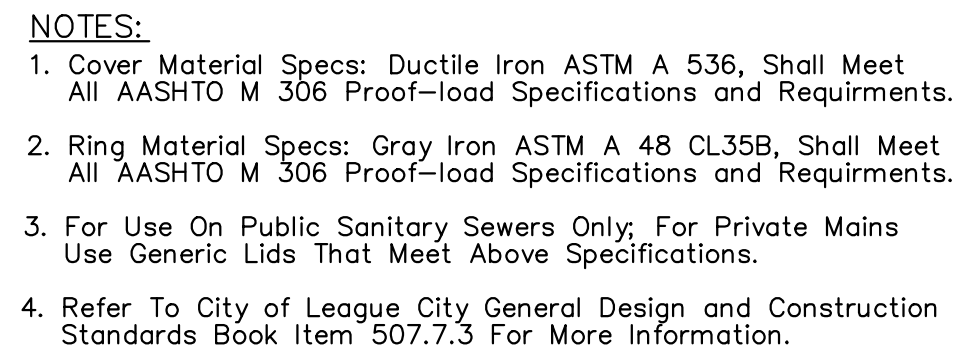
- REVIEW 9/10/15
- CITY COMMENTS 10/26/15
- CITY COMMENTS 12/01/15
- FINAL APPROVAL 12/15/15
- TCEQ COMMENTS 03/08/16
- CITY PRECONSTRUCTION COMMENTS 08/30/16
- FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
- AS-BUILT 04/24/17



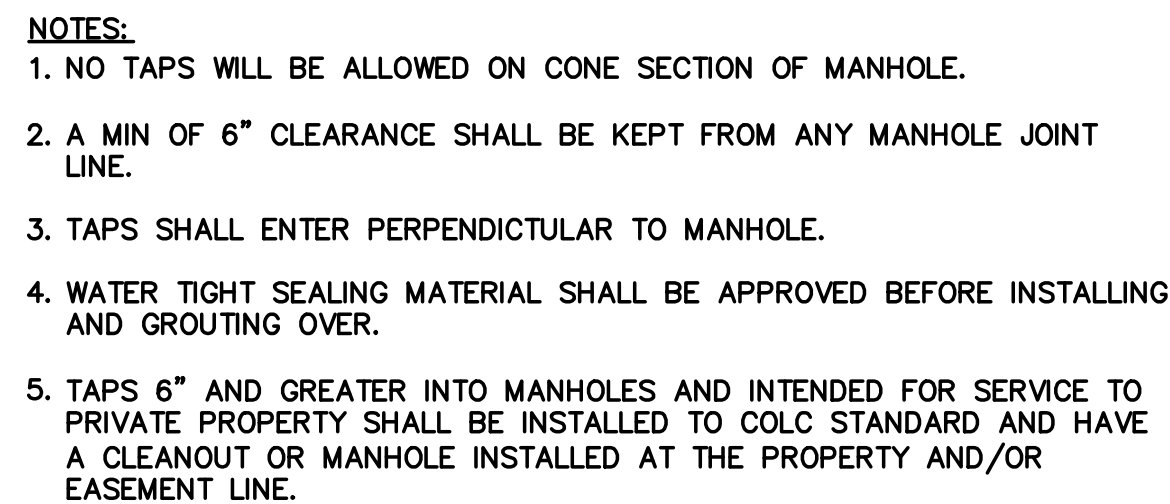
DWG NAME:
SANITARY DETAILS

DWG:
D 3.01

JOB NO: 15-202 REV: E



RING CROSS SECTION



1. NO TAPS WILL BE ALLOWED ON CONE SECTION OF MANHOLE.
2. A MIN OF 6" CLEARANCE SHALL BE KEPT FROM ANY MANHOLE JOINT LINE.
3. TAPS SHALL ENTER PERPENDICTULAR TO MANHOLE.
4. WATER TIGHT SEALING MATERIAL SHALL BE APPROVED BEFORE INSTALLING AND GROUTING OVER.
5. PRELIMINARY INSPECTION OF TAP TO OCCURE BEFORE GROUT PLACEMENT; FINAL INSPECTION OF TAP TO OCCURE AFTER GROUT PLACEMENT AND INTERIOR PROTECTIVE COATING.
6. IN CASES OF FIBERGLASS MANHOLES, TAPS SHALL BE MADE WITH AN "INSERTA-TEE" AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
7. CONTACT COLC LINE REPAIR DEPT. @ 281-554-1390 24 HRS IN ADVANCE OF MAKING TAP TO SCHEDULE INSPECTION.

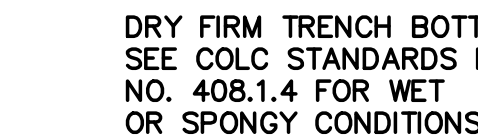
NTS 7-2014



MAX 24" ID MAIN PIPE ALLOWED FOR STRAIGHT THROUGH TO 45° DEFLECTION

INTERSECTING PIPE SIZE (INCHES)	MIN INTERSECTING ANGLE IN DEGREES FOR VARIOUS MAIN PIPE SIZES INCHES							
	6"	8"	10"	12"	15"	18"	21"	24"
6	55	58	60	65	70	75	80	85
8		60	63	68	73	77	82	87
10			66	71	75	80	85	90
12				75	80	85	90	—
15					85	90	—	—
18						—	—	—
21							—	—
24								—

1. "-" INDICATES THAT A SPECIAL DESIGN OR THE NEXT LARGER MANHOLE SIZE SHALL BE USED.
2. TABLE 1 IS BASED ON A MIN SEPARATION DISTANCE "S" OF 15.5" OR INTERSECTIN PIPE OD/2, WHICHEVER IS GREATER, BETWEEN MAIN AND INTERSECTING PIPES ALONG THE MANHOLE INSIDE WALL ARC.
3. PIPE WALL THICKNESS USED IN TABLE 1 ARE BASED ON RCP. THE DESIGN ENGINEER MAY CALCULATE TO SEE IF THINNER WALL PIPES CAN MEET THE SEPARATION CRITERIA FOR ANGLES SMALLER THAN THE TABLE ALLOWS.



NTS 4-2012

MATERIAL REQUIREMENTS

BACKFILL_ZONE

BACKFILL ZONE

1. IN PAVED AREAS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY, TO WITHIN 12" OF SUBGRADE.
2. IN UNPAVED AREAS, USE SOIL EXCAVATED FROM TRENCH, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

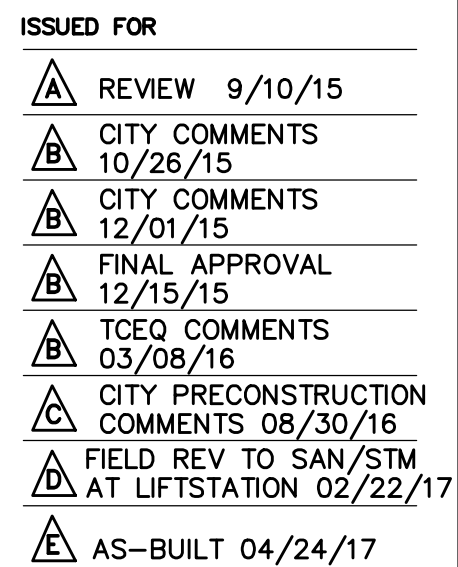
PIPE EMBEDMENT ZONE

1. FOR STORM AND SANITARY SEWERS, USE CEMENT STABILIZED SAND, PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.
2. FOR WATER LINES, USE SAND AS DESCRIBED IN THE COLC STANDARD, ITEM NO. 407.14.1. PLACE IN 6" LIFTS AND COMPACT TO 95% STANDARD PROCTOR DENSITY.

SPECIAL NOTE:
ANY EXCAVATION WITHIN 3' OR LESS OF HIGHWAY PAVEMENT EDGE OR CITY STREET SHALL REQUIRE 1-1/2 SACK CEMENT STABILIZED BACKFILL UP TO ROAD BASE. COMPACTED IN 8" LIFTS WITH VIBRATORY PLATE.

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



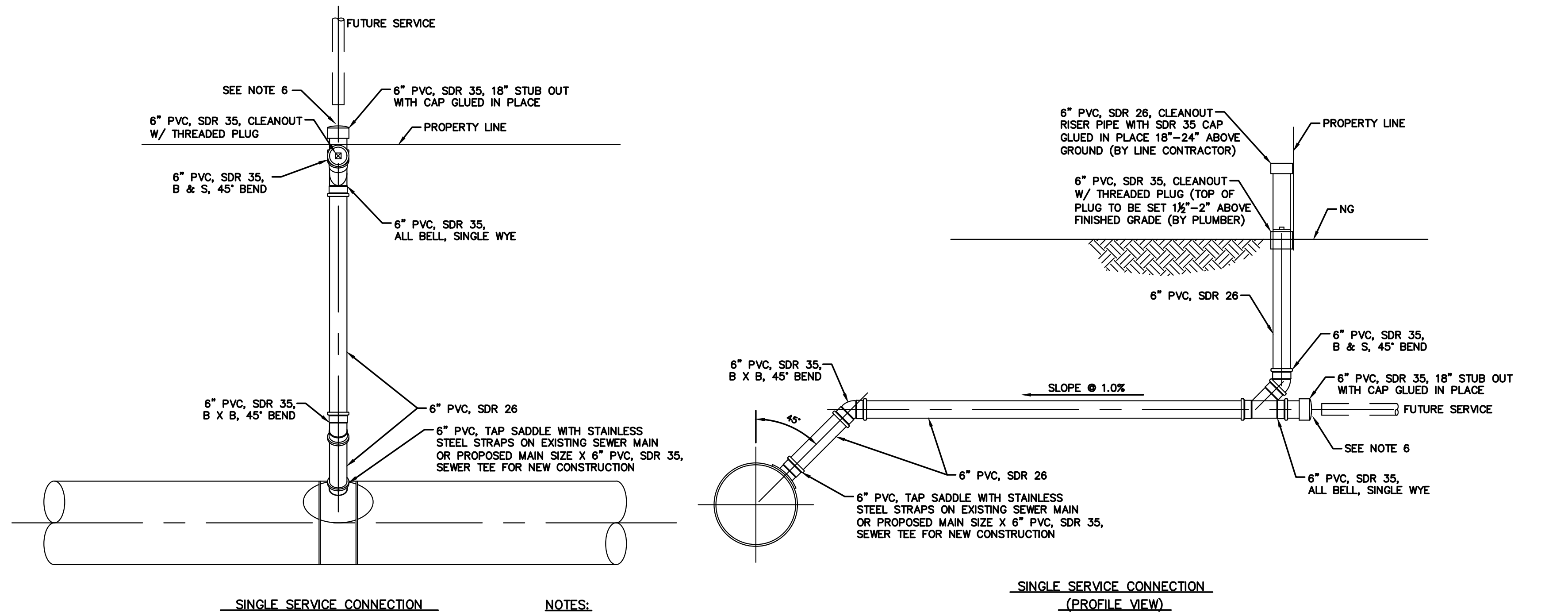
DWG NAME:
SANITARY DETAILS

DWG:

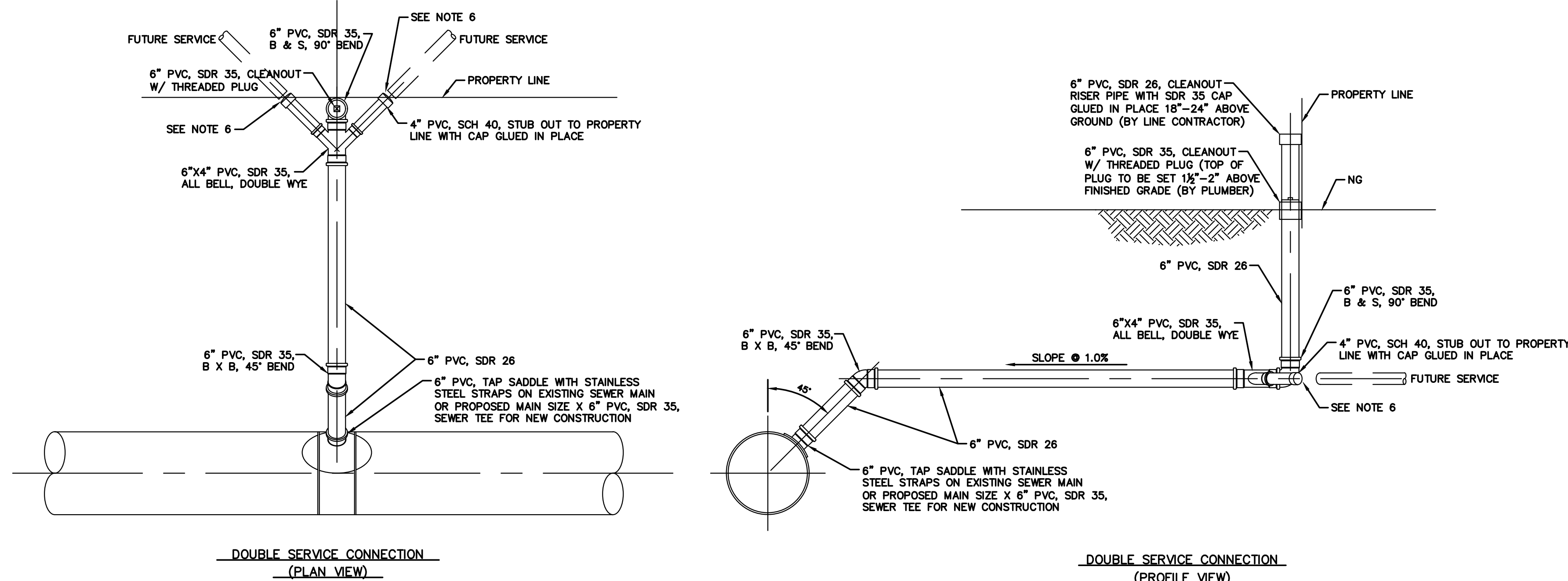
D 3.02

JOB NO:	15-202	REV:
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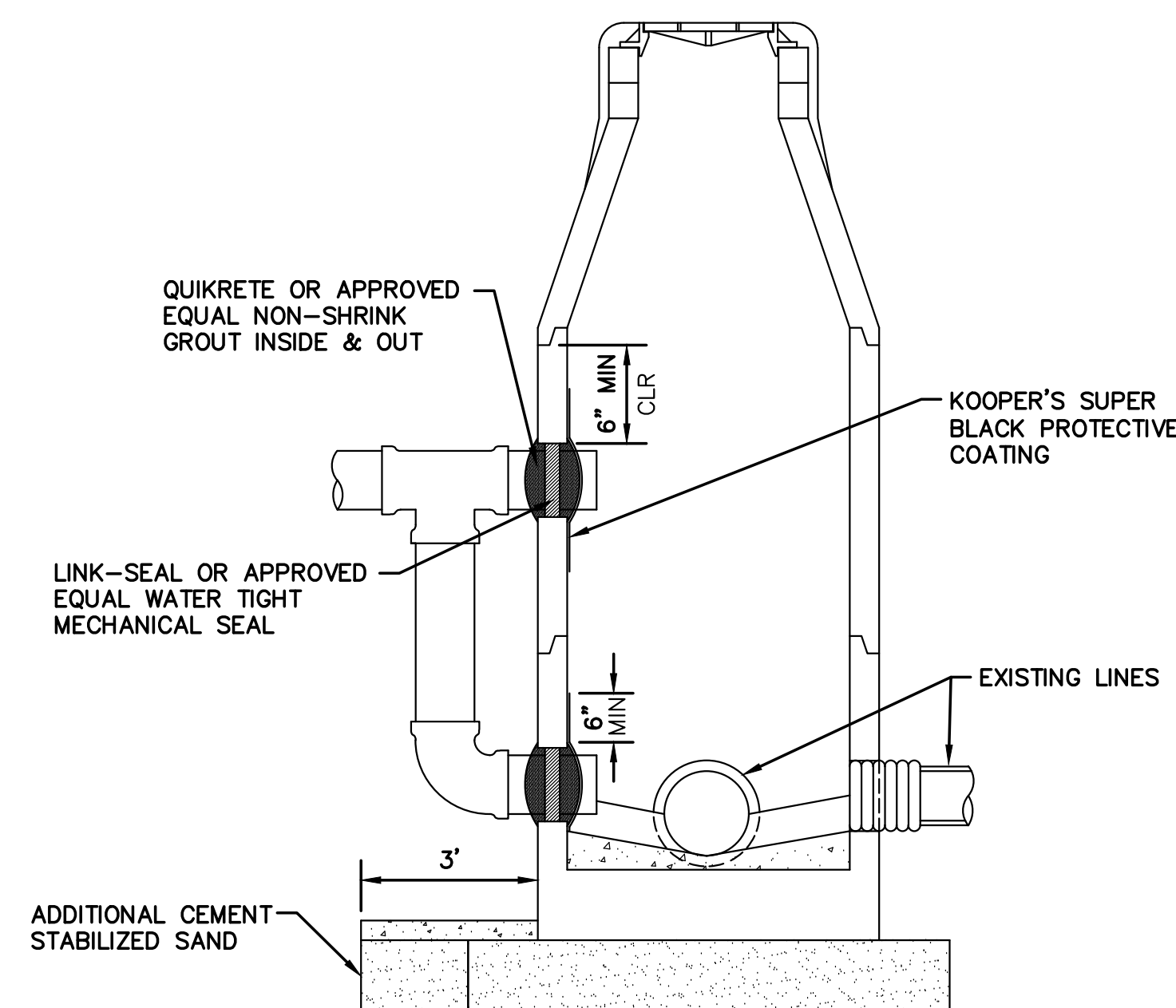
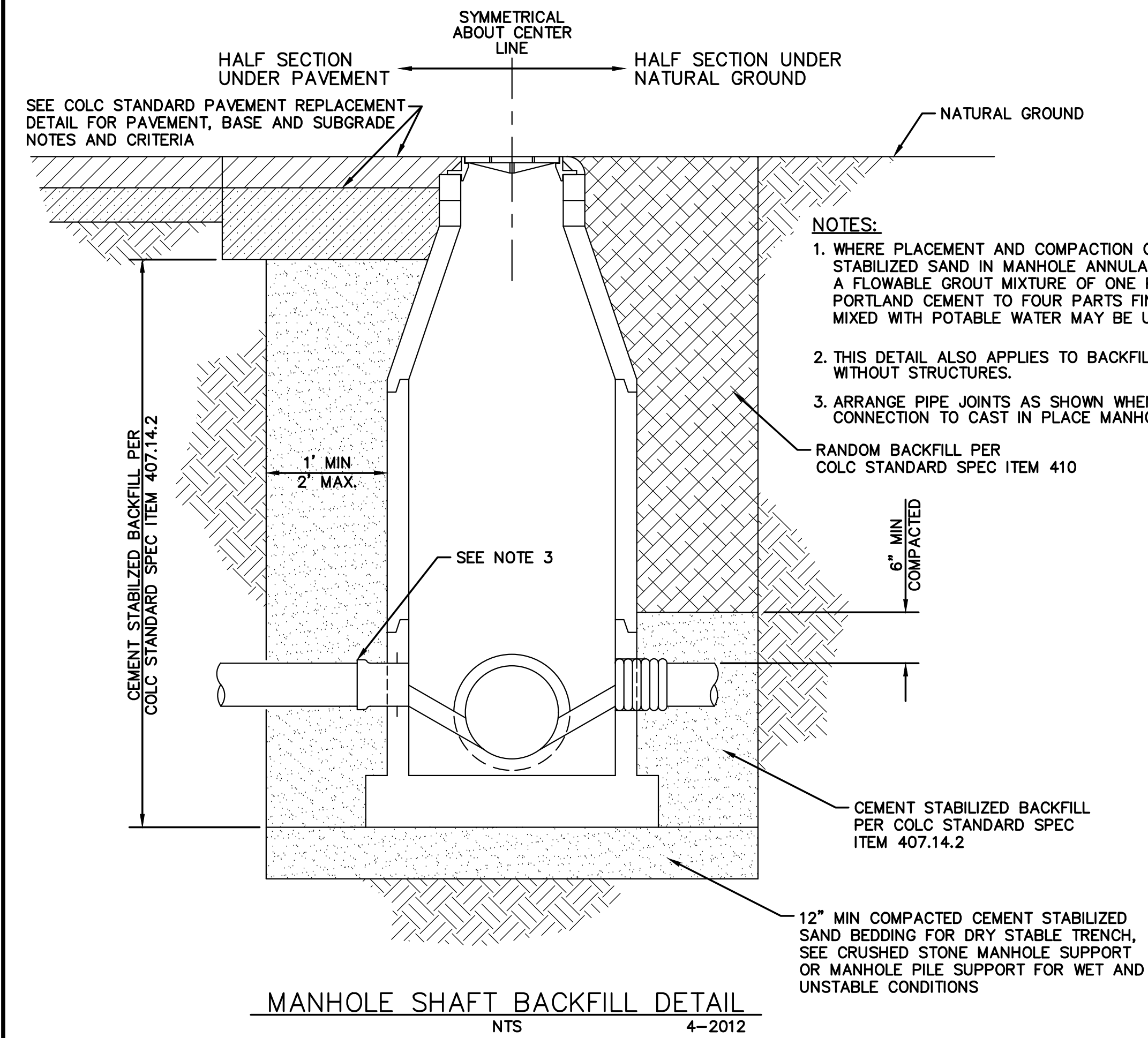
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- NOTES:**
1. CEMENT STABILIZED SAND TO BE PLACED AROUND TAPPING SADDLE OR SEWER TEE AT MAIN LINE.
 2. SEWER MAIN CONTRACTOR TO EXTEND 6" CLEAN OUT RISER PIPE 18" TO 24" ABOVE GRADE AT TIME OF CONSTRUCTION WITH CAP GLUED IN PLACE.
 3. PLUMBING CONTRACTOR TO SET TOP OF 6" THREADED ADAPTER CLEAN OUT WITH PLUG 1½" TO 2" ABOVE FINISHED GRADE.
 4. ALL FITTINGS AND PIPE TO BE GASKETED BELL AND SPIGOT EXCEPT WHERE NOTED ON DETAIL.
 5. SERVICE LEADS TO BE BEDDED AND COVERD PER PIPE BEDDING DETAILS.
 6. PLUMBING CONTRACTOR TO REMOVE SERVICE PLUG AND ATTACH LINE FROM HOUSE TO 6" BY APPROVED COLC PLUMBING CODE.



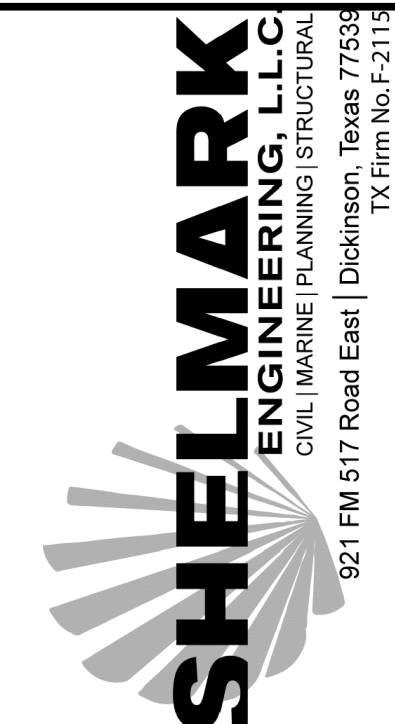
SERVICE TAP AND LEAD DETAIL
NTS 4-2012



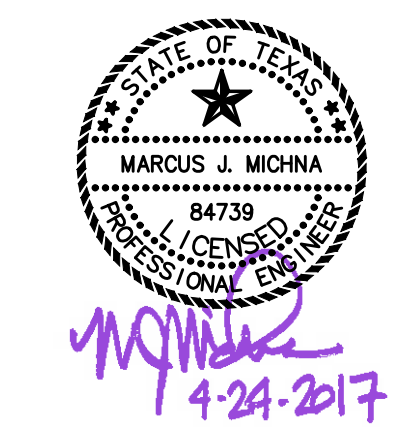
DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR	
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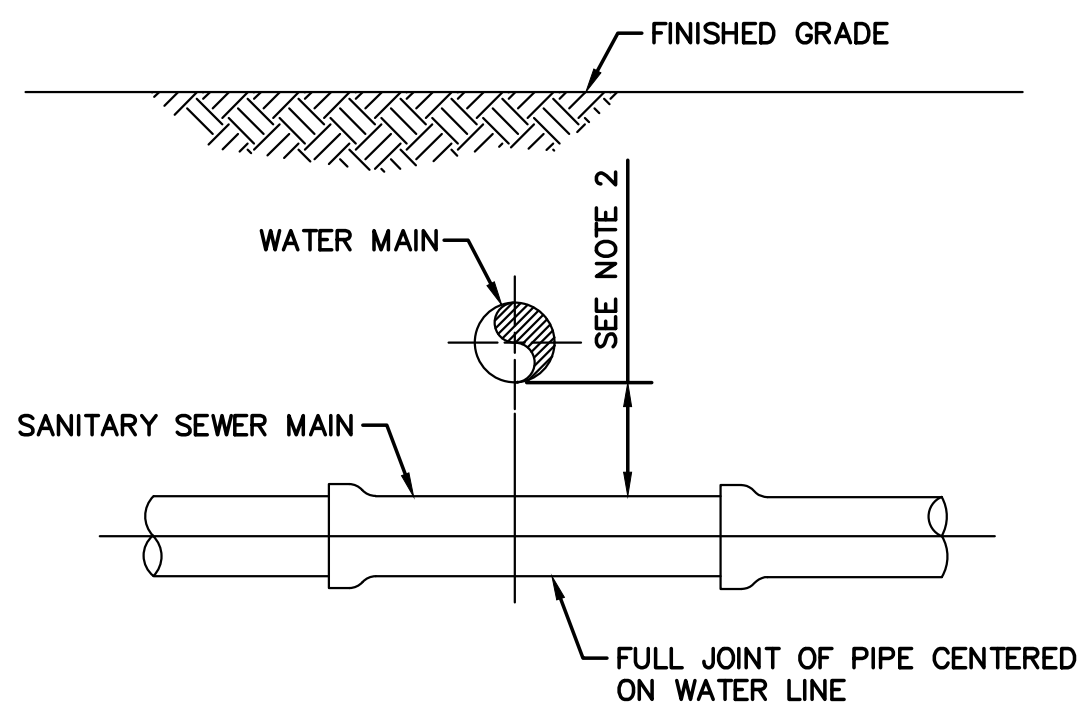


DWG NAME:
SANITARY DETAILS

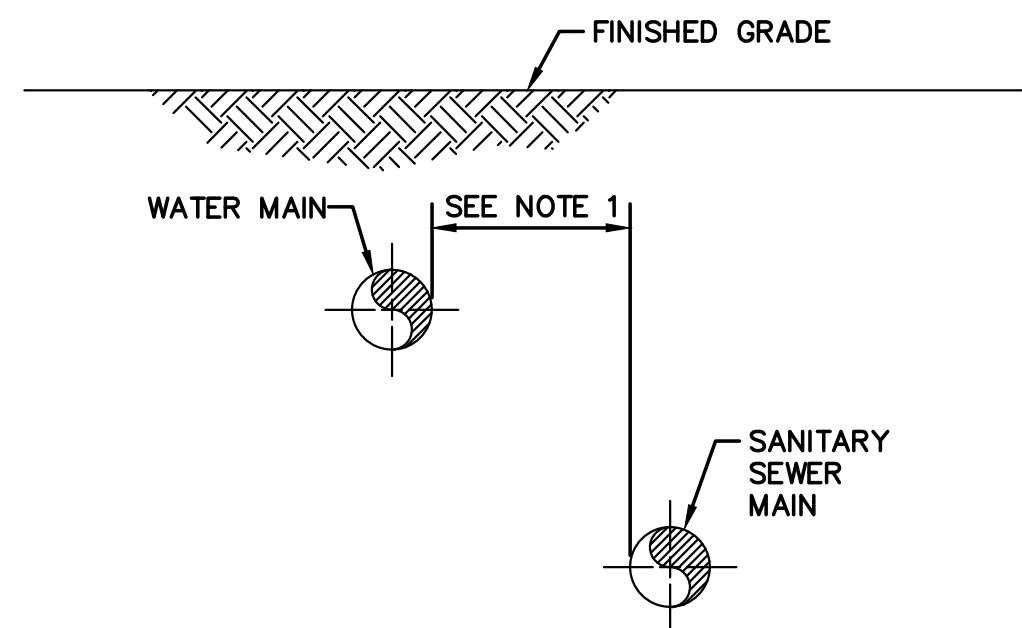
DWG:
D 3.03

JOB NO: 15-202
REV: E

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NEW SANITARY SEWER CROSSING EXISTING WATER LINE

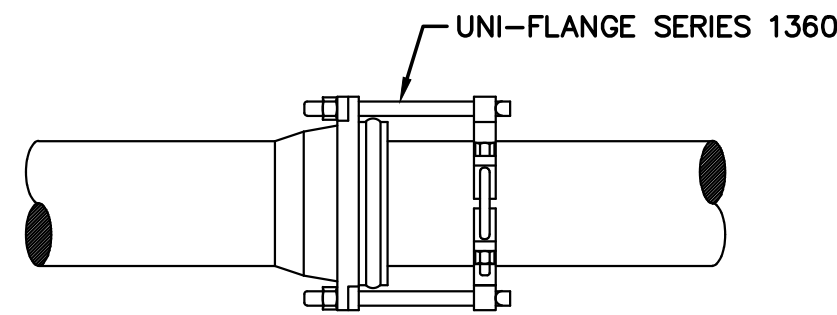


NEW SANITARY SEWER MAIN PARALLEL TO EXISTING WATER MAIN

SANITARY SEWER INSTALLATION
CROSSING OR PARALLEL TO WATER MAIN
NTS 9-2013

NOTES:

1. ALL WATER AND SEWER MAIN CONSTRUCTION RUNNING PARALLEL WITH EACH OTHER SHALL MAINTAIN A 9' HORIZONTAL SEPARATION, PIPE WALL TO PIPE WALL.
2. ALL SEWER AND WATER MAIN CROSSINGS SHALL COMPLY WITH THE TCEQ CHAPTER 290, PUBLIC DRINKING WATER SECTION 290.44 WATER DISTRIBUTION, SUB SECTION B, NEW WATERLINE INSTALLATION-CROSSIG LINES, PARAGRAPHS (I) THROUGH (VI) AND ALL SUB PARAGRAPHS THEREIN.



PVC BELL AND SPIGOT RESTRAINT

SPECIFICATIONS:

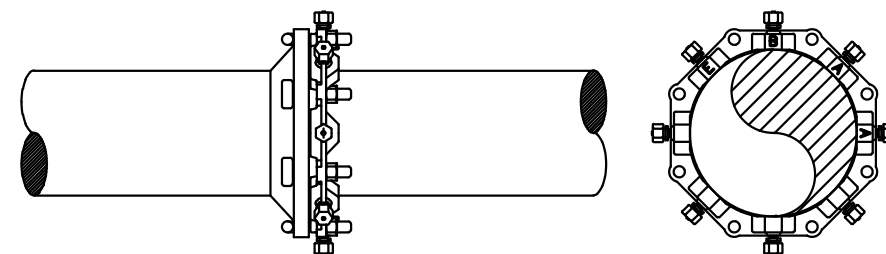
RESTRAINT DEVICES FOR P.V.C. (AWWA C-900) AND P.V.C. PRESSURE FITTINGS (AWWA C-907) SHALL CONSIST OF A SPLIT RING INSTALLED ON THE PIPE SPIGOT, CONNECTED TO A SPLIT BACK-UP RING SEATED BEHIND THE FITTING BELL.

THE SPLIT RESTRAINT RING SHALL INCORPORATE A SERIES OF MACHINED SERRATIONS (NOT "AS CAST") ON THE INSIDE DIAMETER TO PROVIDE POSITIVE RESTRAINT, EXACT FIT, AND 360° CONTACT AND SUPPORT OF THE PIPE WALL.

THE TWO HALVES OF THE SPLIT BACK UP RING SHALL INTER-LOCK WITHOUT THE NEED FOR ADDITIONAL BOLTS AND SHALL FORM A BEVELED LEADING EDGE TO ASSURE EXACT FIT BEHIND THE FITTING BELL.

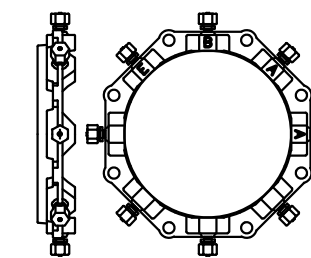
RESTRAINT DEVICES SHALL BE OF DUCTILE IRON, ASTM A536, GRADE 65-45-12 AND CONNECTING BOLTS SHALL BE OF HIGH STRENGTH, LOW ALLOY MATERIAL IN ACCORDANCE WITH ANSI/AWWA C111/21.11

RESTRAINT DEVICES SHALL BE UNI-FLANGE SERIES 1360 OR APPROVED EQUAL.

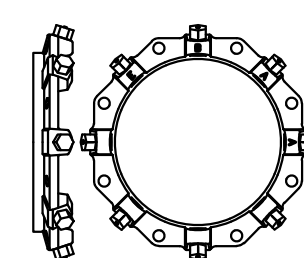


MECHANICAL JOINT RESTRAINT

PIPE RESTRAINT DETAIL
NTS 4-2012



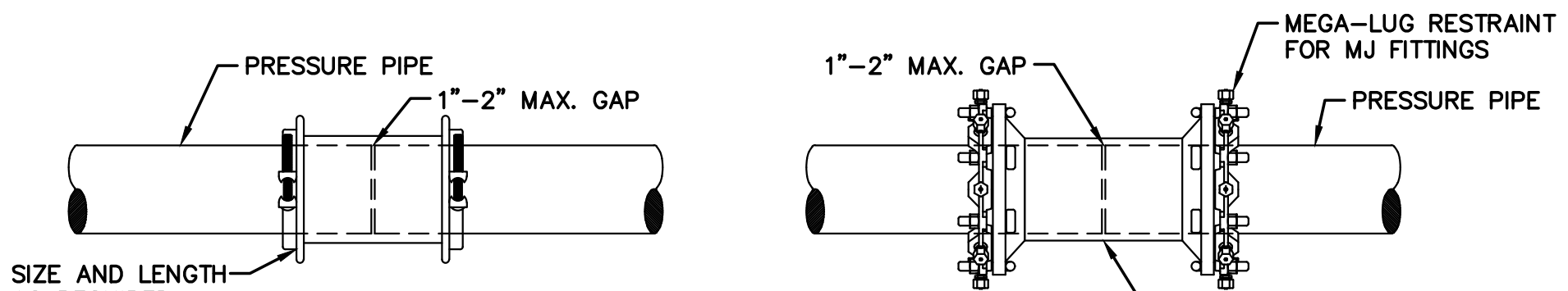
EBAA IRON
MEGA-LUG Series 2000
PRESSURE RATINGS FOR ORDINARY
WATER WORKS:
DR14 200 PSI
DR18 150 PSI
DR25 100 PSI



EBAA IRON
MEGA-LUG Series 1100
350 PSI RATING
UL <FM> RATED 175 PSI
FOR USE ON DUCTILE IRON PIPE
MADE IN THE USA

UL <FM> RATED 150 PSI ON DR18
EXCEEDS UNI-B-13 OF 92
FOR USE ON PVC PIPE
MADE IN THE USA

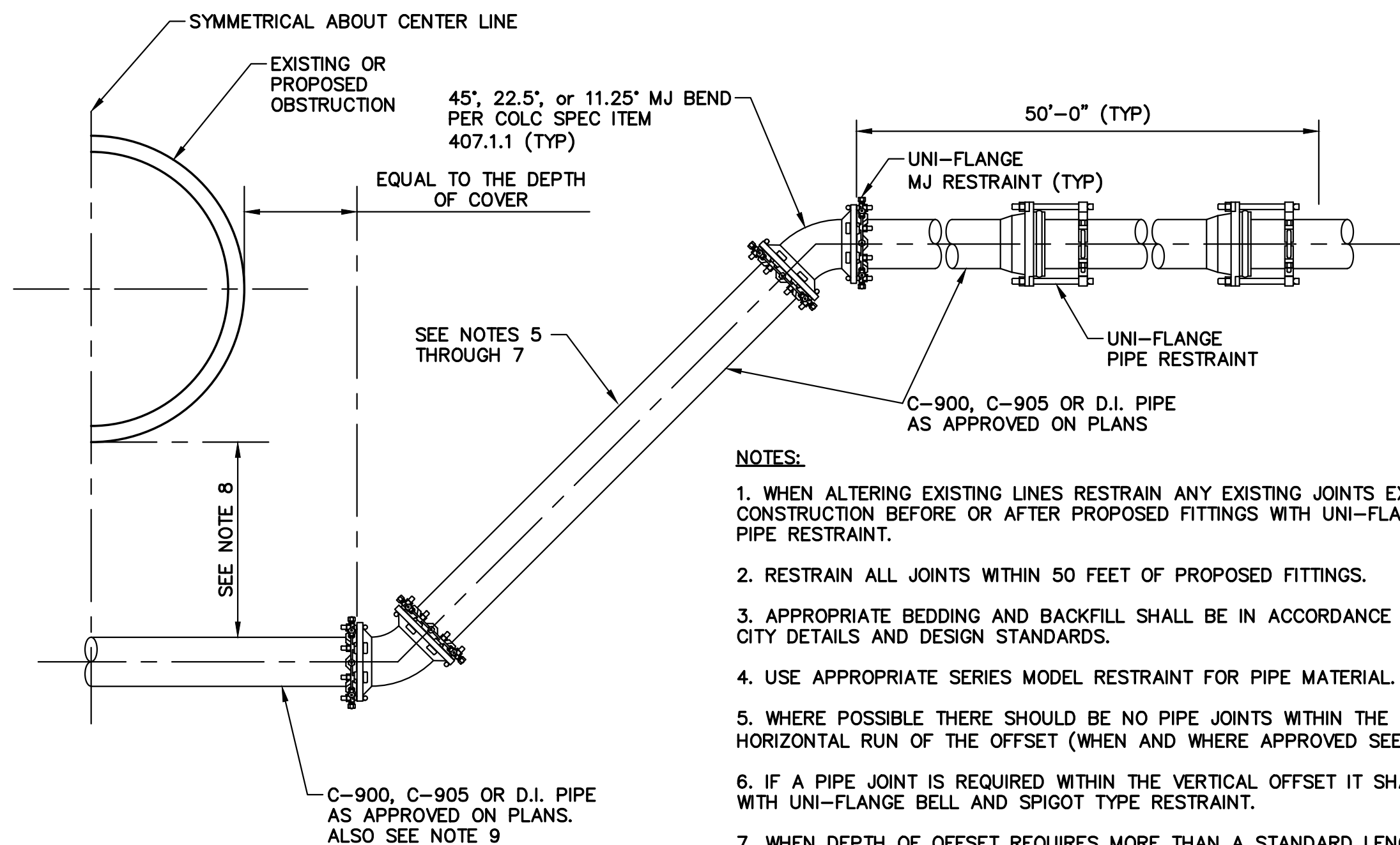
MEGALUG DETAILS
NTS 4-2012



Hymax COUPLING

RESTRAINED MECH. JOINT SOLID SLEEVE COUPLING

PIPE COUPLING DETAIL
NTS 8-2012



NOTES:

1. WHEN ALTERING EXISTING LINES RESTRAIN ANY EXISTING JOINTS EXPOSED BY CONSTRUCTION BEFORE OR AFTER PROPOSED FITTINGS WITH UNI-FLANGE BELL AND SPIGOT PIPE RESTRAINT.
2. RESTRAIN ALL JOINTS WITHIN 50 FEET OF PROPOSED FITTINGS.
3. APPROPRIATE BEDDING AND BACKFILL SHALL BE IN ACCORDANCE WITH CITY OF LEAGUE CITY DETAILS AND DESIGN STANDARDS.
4. USE APPROPRIATE SERIES MODEL RESTRAINT FOR PIPE MATERIAL.
5. WHERE POSSIBLE THERE SHOULD BE NO PIPE JOINTS WITHIN THE VERTICAL OR HORIZONTAL RUN OF THE OFFSET (WHEN AND WHERE APPROVED SEE NOTE 6 AND 7).
6. IF A PIPE JOINT IS REQUIRED WITHIN THE VERTICAL OFFSET IT SHALL BE RESTRAINED WITH UNI-FLANGE BELL AND SPIGOT TYPE RESTRAINT.
7. WHEN DEPTH OF OFFSET REQUIRES MORE THAN A STANDARD LENGTH OF PIPE NO SEGMENT SHALL BE LESS THAN 5' IN LENGTH.
8. THE MINIMUM CLEARANCE SHALL BE DETERMINED BY THE AMOUNT OF BEDDING AND BACKFILL REQUIRED BY THE PROSPECTIVE PIPE AND THEIR USAGE. SEE THE BEDDING AND BACKFILL DETAILS FOR DIMENSIONS.
9. A SOLID CONTINUOUS JOINT OF PIPE SHALL BE USED AT ALL TIMES FOR THE HORIZONTAL SECTION OF THE OFFSET. IF THE MINIMUM SIDE CLEARANCE DISTANCES PLUS THE DIMENSION OF THE OBSTRUCTION IS GREATER THAN A STANDARD JOINT OF PIPE AN APPROPRIATELY SIZED AND CONTINUOUS LENGTH OF HDPE SHALL BE USED WITH TRANSITION FITTING OR GASKETS AS SPECIFIED BY THE MANUFACTURER IF NEEDED.

RESTRAINED MECHANICAL JOINT VERTICAL OFFSET
NTS 9-2014

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR	
REVIEW	9/10/15
CITY COMMENTS	10/26/15
CITY COMMENTS	12/01/15
FINAL APPROVAL	12/15/15
TCEQ COMMENTS	03/08/16
CITY PRECONSTRUCTION COMMENTS	08/30/16
FIELD REV TO SAN/STM AT LIFTSTATION	02/22/17
AS-BUILT	04/24/17



DWG NAME:
WATER DETAILS

DWG:

D 3.05

JOB NO: 15-202 REV: E

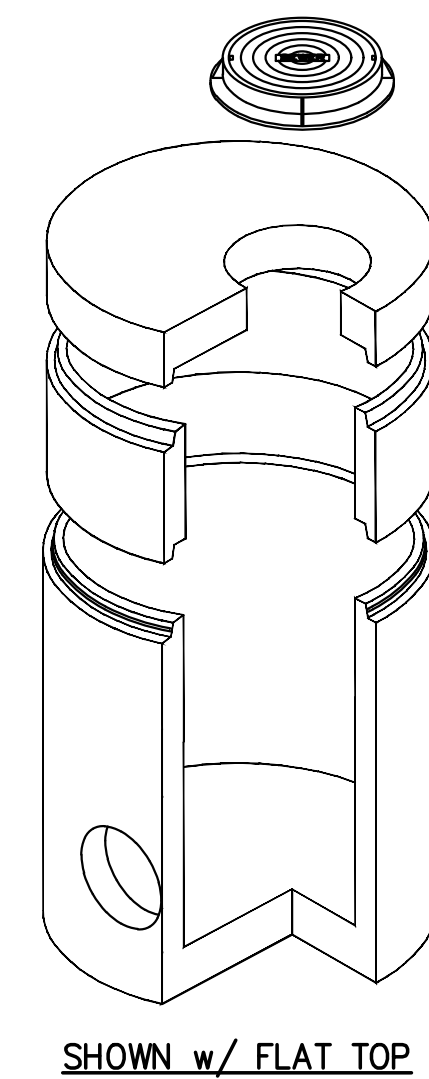
The drawing consists of three main views: Plan, Section, and Isometric.

- PLAN View:** Shows a square inlet with a circular sewer opening in the center. The overall width and depth are 6'-0". The opening is 5'-0" clear. The distance from the center of the sewer to the inner edge of the frame is 3'-0" (2'-6" minimum), and to the outer edge is 4'-0" (3'-6" minimum). The frame has a 6" thick outer wall.
- SECTION View:** Shows a cross-section of the inlet. The top section is 10" high. The center section is 4" or 6" high, or it can vary. The bottom section is 6" high. The total depth is 10" + 4" or 6" + 6" = 20" or 22". The frame has a 6" thick outer wall. The gutter line is shown at the top. The sewer opening is 3'-0" (2'-6" minimum) wide. The bottom section is 6" high. The frame has a 6" thick outer wall. The gutter line is shown at the top. The sewer opening is 3'-0" (2'-6" minimum) wide. The bottom section is 6" high. The frame has a 6" thick outer wall.
- ISOMETRIC View:** Shows the 3D structure of the inlet. It includes the top section, center section, and bottom section. The frame is made of cast iron. The sewer opening is in the center. The frame has a 6" thick outer wall. The gutter line is shown at the top. The sewer opening is 3'-0" (2'-6" minimum) wide. The bottom section is 6" high. The frame has a 6" thick outer wall.

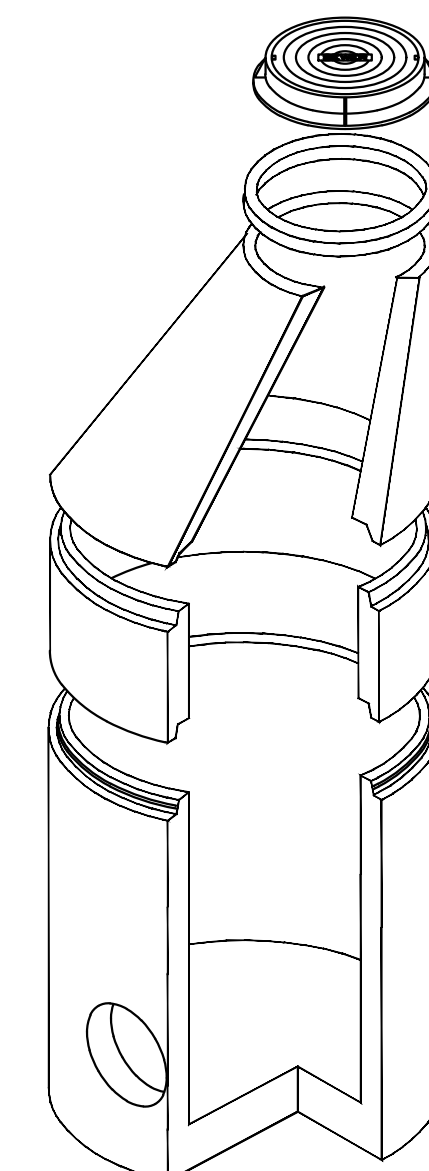
NOTES:

- SOME INLETS MAY USE COMBINATION OF TOP SECTION ONLY/TOP + CENTER SECTION/OR TOP + CENTER BOTTOM SECTION, DEPENDING ON INLET DEPTH.
- CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION.

1. SOME INLETS MAY USE COMBINATION OF TOP SECTION ONLY/TOP + CENTER SECTION/ OR TOP + CENTER + BOTTOM SECTION, DEPENDING ON INLET DEPTH.
2. CLEAN WATER CURB MARKER TO BE PLACED BY CONTRACTOR PER DETAIL AND SPECIFICATIONS AFTER INLET INSTALLATION.



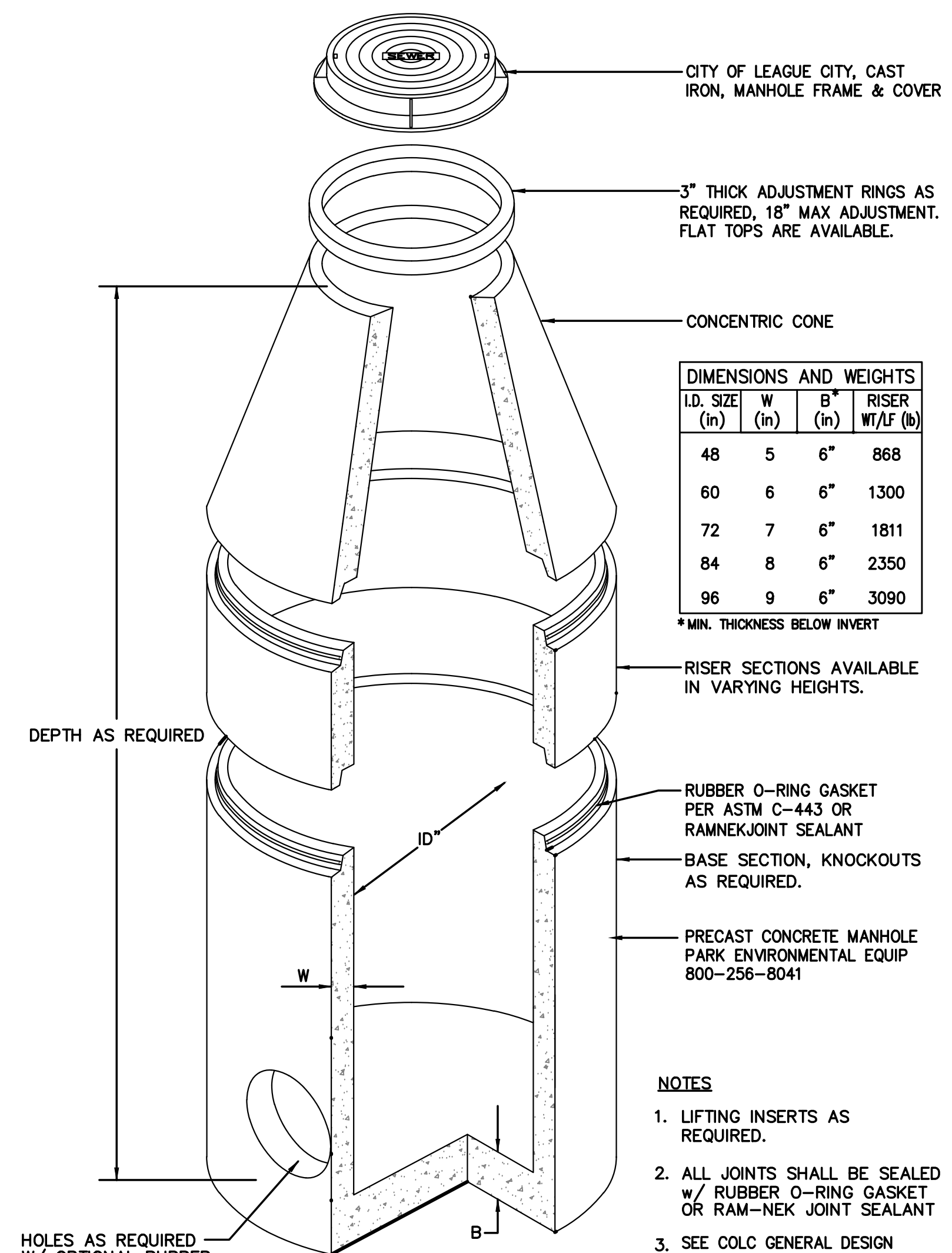
SHOWN w/ FLAT TOP



SHOWN w/ ECCENTRIC CONE

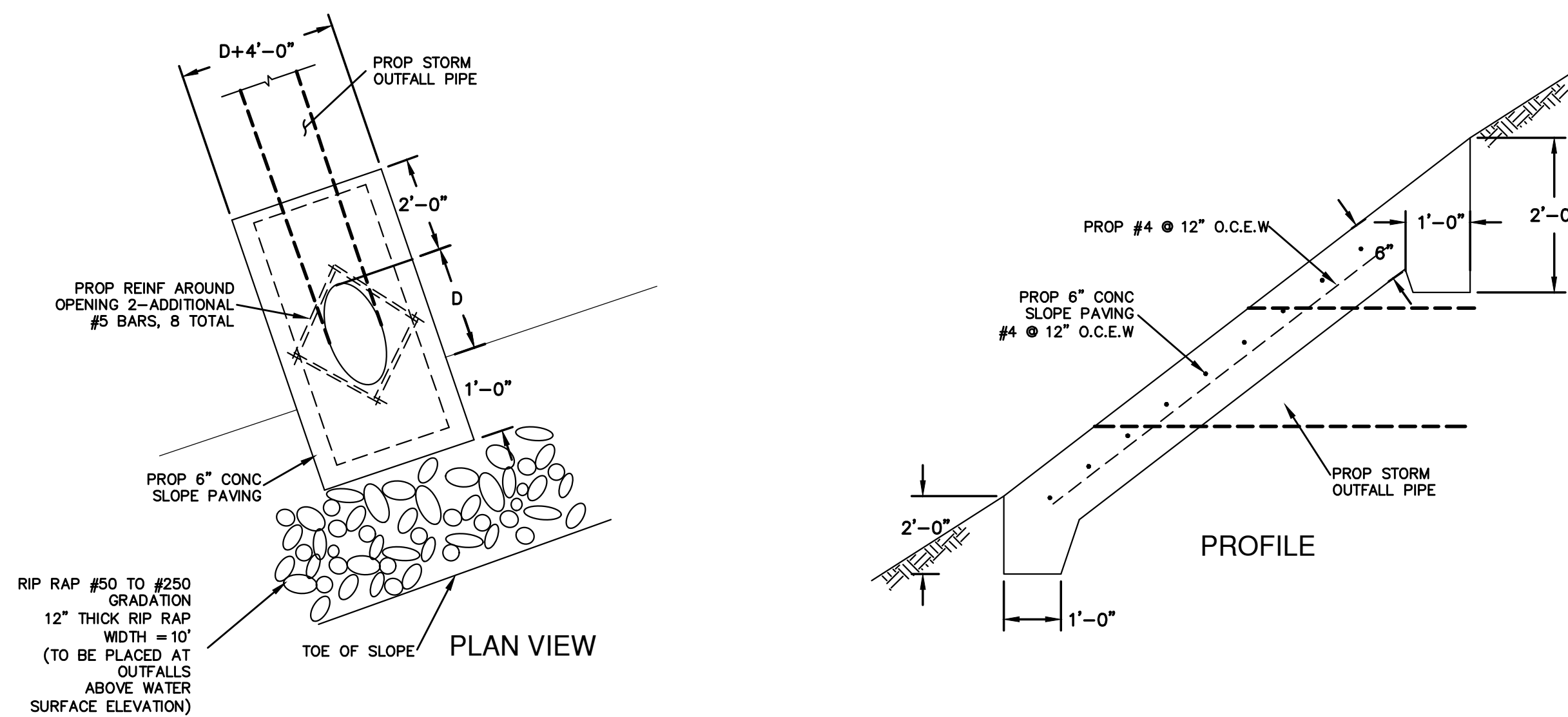
OPTIONS

- * EXTENDED LIP BASE
- * COATINGS
- * PIPE BOOTS
- * BOTTOM
- * INVERTS

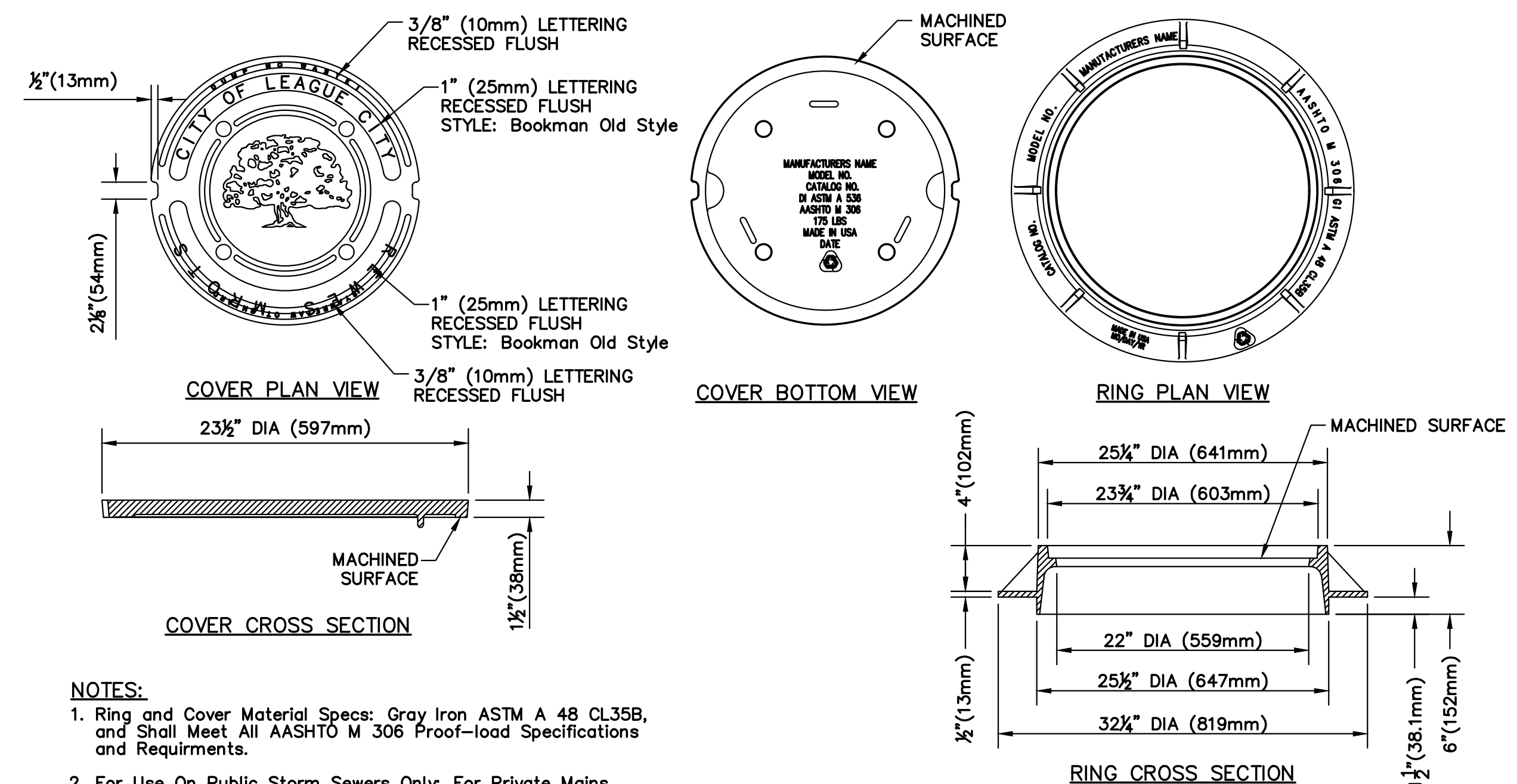


SHOWN w/ CONCENTRIC CONE

1. LIFTING INSERTS AS REQUIRED.
2. ALL JOINTS SHALL BE SEALED w/ RUBBER O-RING GASKET OR RAM-NEK JOINT SEALANT
3. SEE COLC GENERAL DESIGN AND CONSTRUCTION STANDARDS ITEM 704.5



STORM SEWER OUTFALL
NTS



1. Ring and Cover Material Specs: Gray Iron ASTM A 48 CL35B, and Shall Meet All AASHTO M 306 Proof-load Specifications and Requirements.
2. For Use On Public Storm Sewers Only; For Private Mains Use Generic Coves That Meet Above Specification.
3. Refer To City of League City General Design and Construction Standards Book Item 704.5.3 For More Information.

HEAVY DUTY STORM SEWER 23-1/2"
MANHOLE RING AND COVER DETAIL
NTS 4-2012

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

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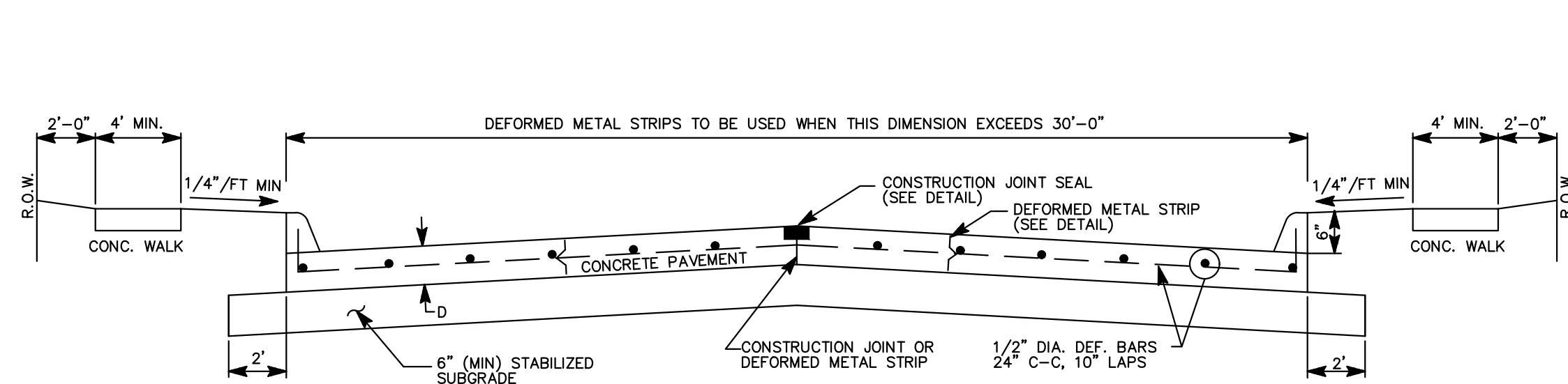
DWG NAME:
STORM DETAILS

DWG:

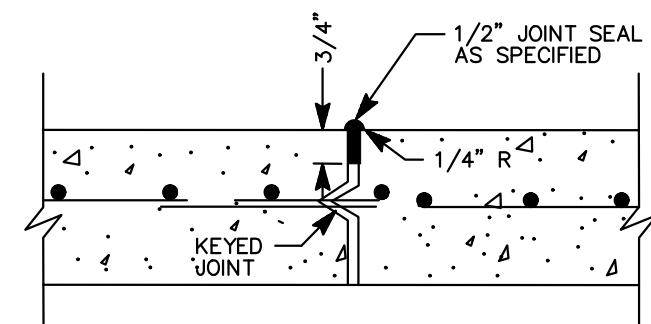
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JOB NO: 15-202

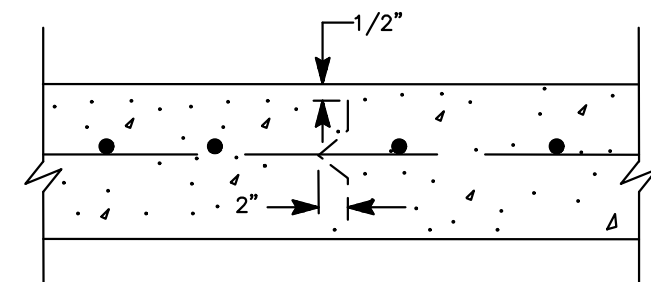
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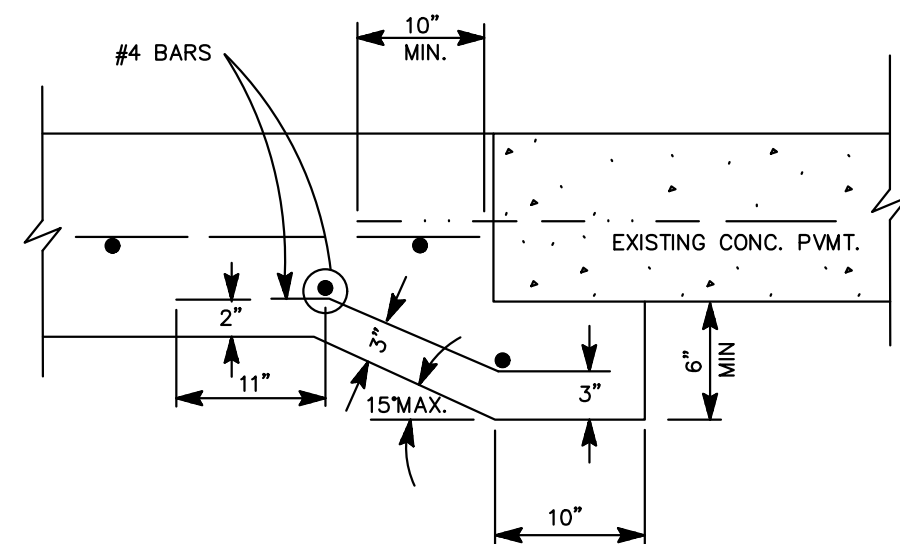
TYPICAL SINGLE ROADWAY SECTION FOR CONCRETE PAVEMENT WITH CURBS



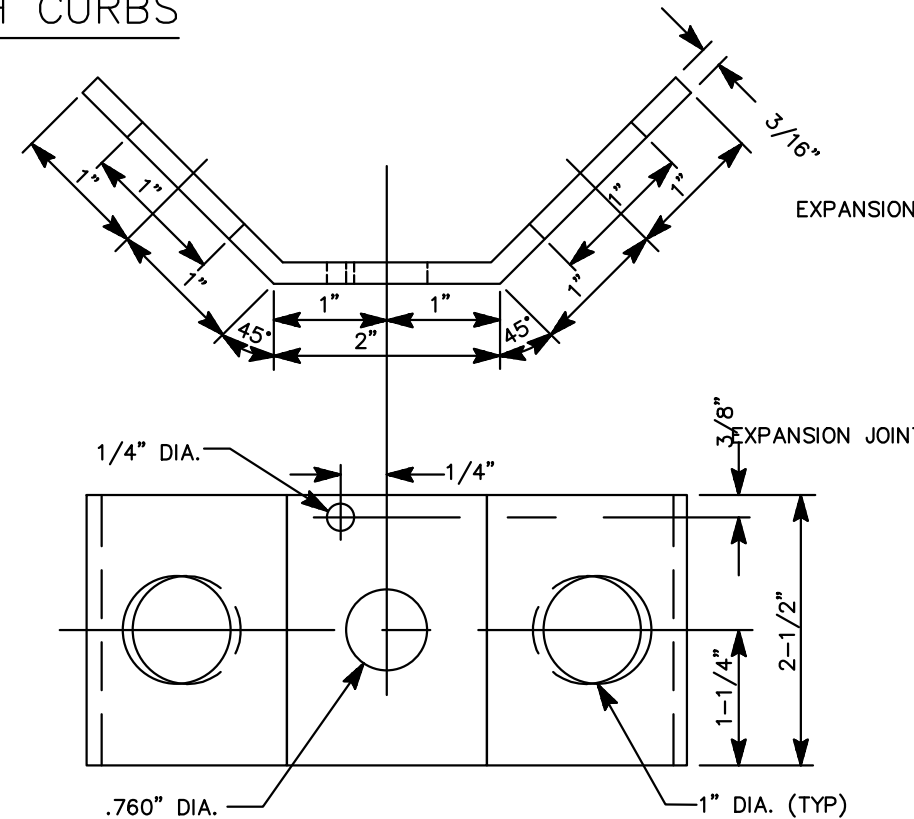
CONSTRUCTION JOINT SEAL



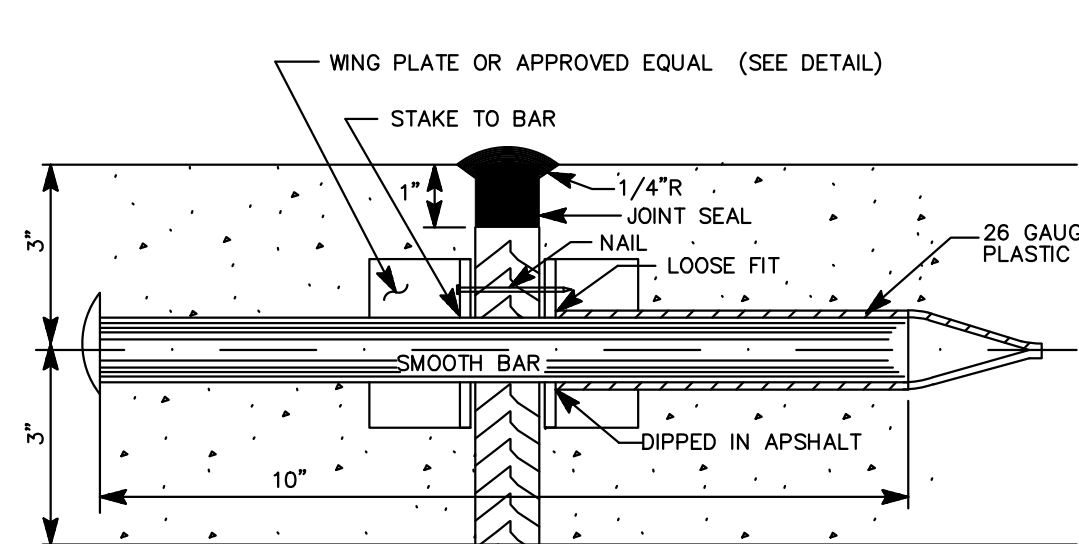
DEFORMED METAL STRIP



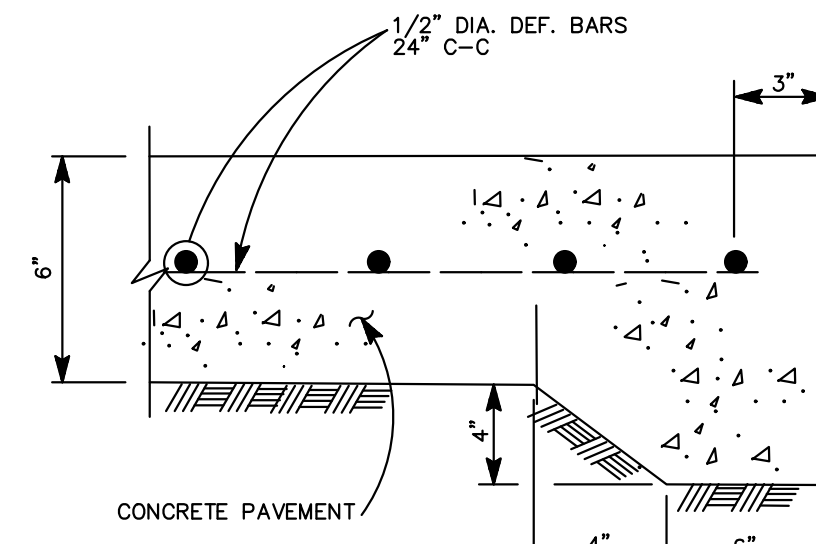
UNDERCUT DETAIL



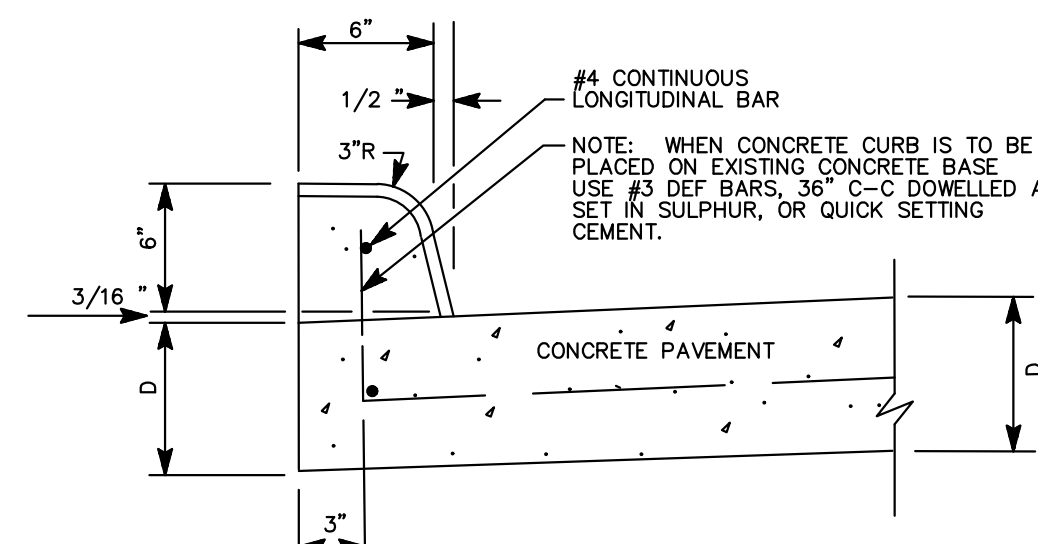
WING PLATE



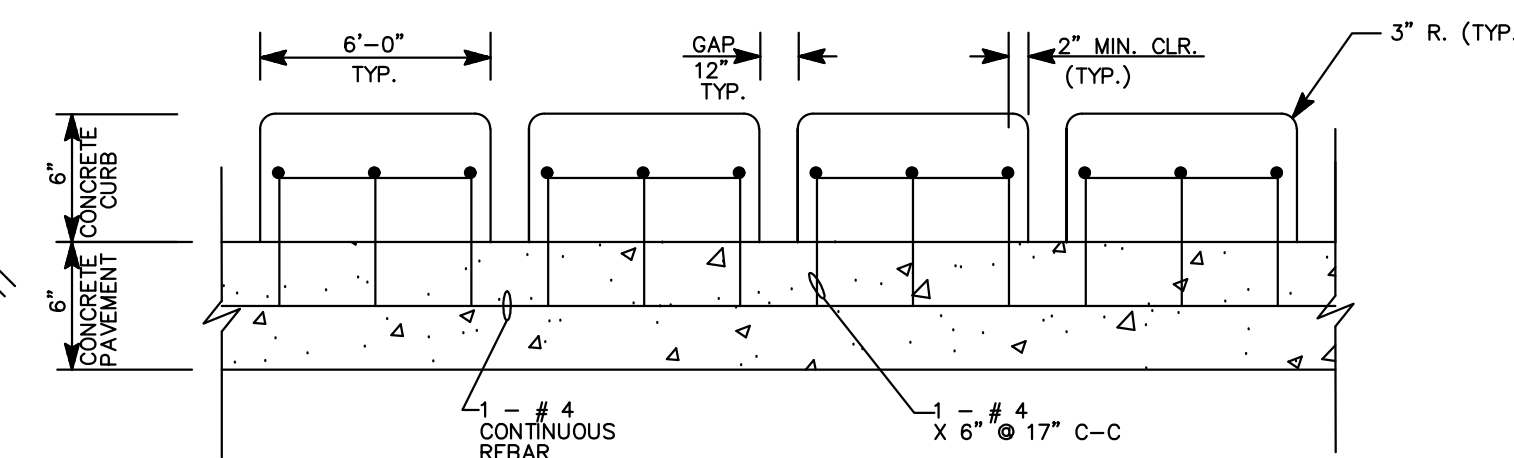
DOWEL TYPE EXPANSION JOINT



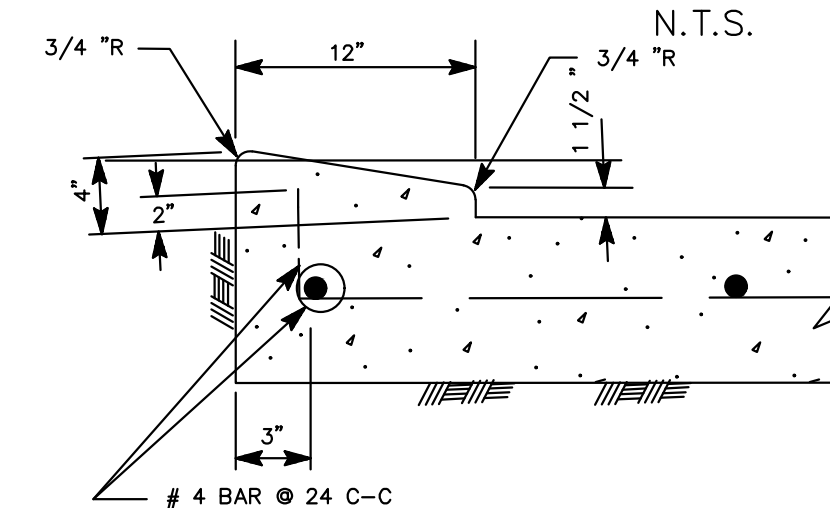
CONCRETE PAVING HEADER



CONCRETE CURB



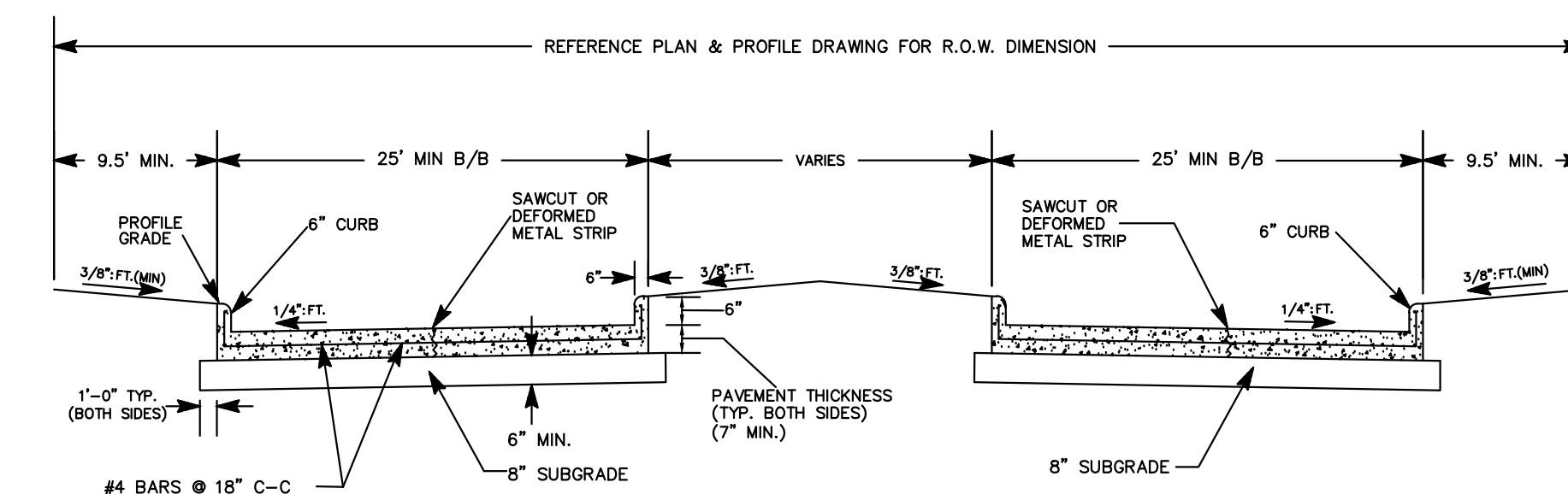
SLOTTED CURB DETAIL



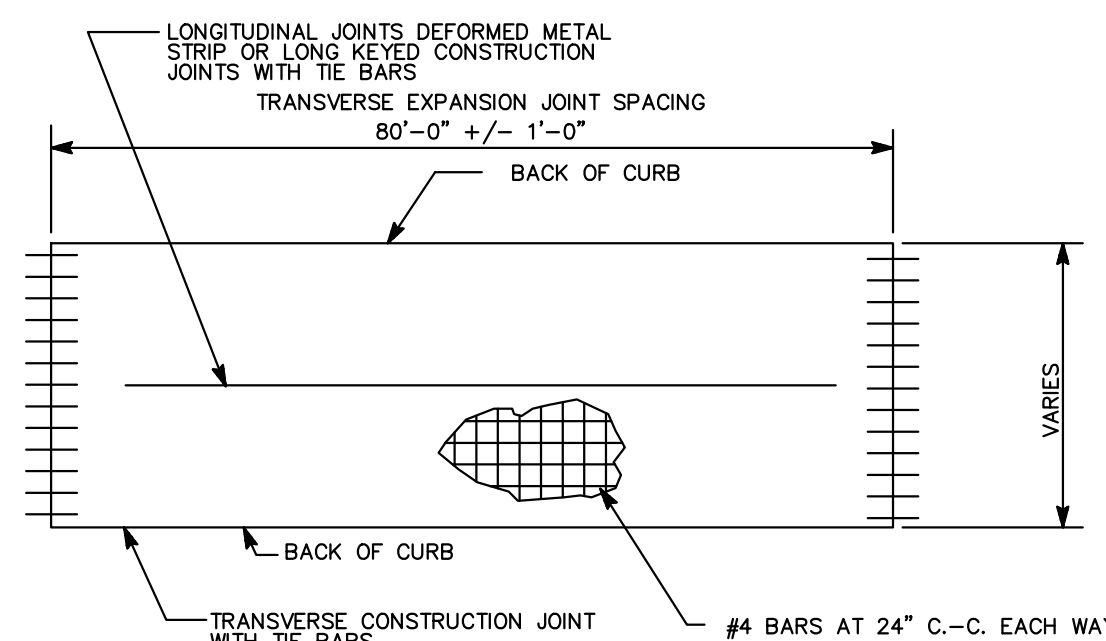
4-INCH x 12-INCH MONOLITHIC CURB
(Only With Approved)

4" X 12" MONOLITHIC AND TRANSITION CURB NOTES:
1. 6-INCH CONCRETE CURB TO BE CONSTRUCTED ON ALL ESPLANADES, ISLANDS AND NON-RESIDENTIAL STREETS. RESIDENTIAL STREETS MAY BE CONSTRUCTED WITH EITHER 6-INCH CONCRETE CURB OR 4-INCH X 12-INCH CONCRETE CURB AS NOTED ON PLANS.
2. ALL 4-INCH X 12-INCH CONCRETE CURBS TO BE POURED MONOLITHICLY WITH PROPOSED CONCRETE PAVEMENT.
3. TRANSITIONS FROM 6-INCH CONCRETE CURB TO 4-INCH CONCRETE CURB TO BE ACCOMPLISHED WITHIN 10 FEET, UNLESS OTHERWISE SHOWN. IF THIS 10-FOOT TRANSITION CURB IS NOT POURED MONOLITHICLY WITH THE PAVEMENT THEN REINFORCING STEEL AS SHOWN IN TYPICAL DETAIL 4-INCH X 12-INCH TRANSITION CURB IS TO BE INSTALLED.

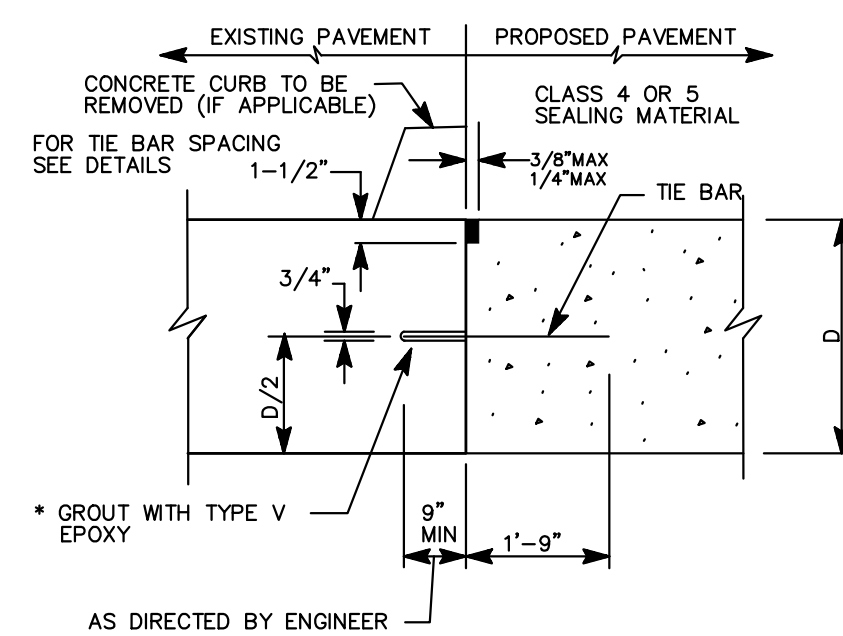
FOR DETAILS NOT SHOWN SEE DOWEL TYPE EXPANSION JOINT DETAILS ELSEWHERE IN PLANS.
DETAIL "B" - DOWEL ASSEMBLY AT EXPANSION JOINT



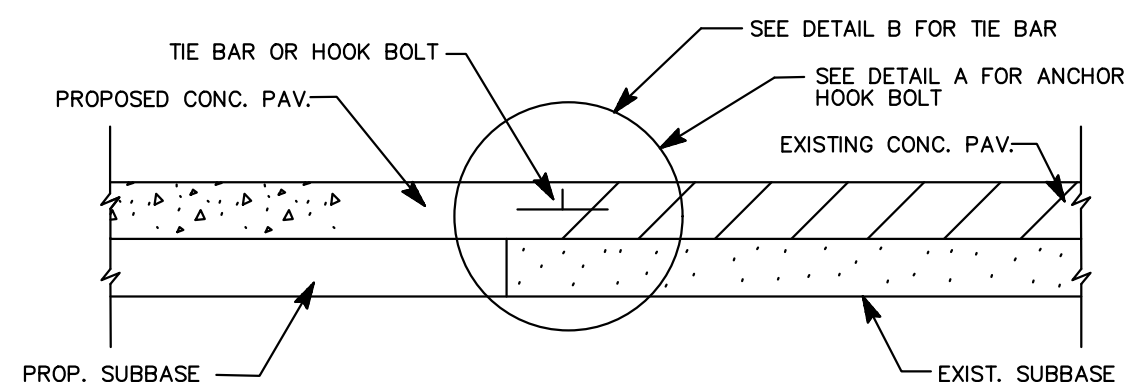
TYPICAL SECTION FOR COMBINATION CURB AND DIVIDED RESIDENTIAL STREETS
N.T.S.



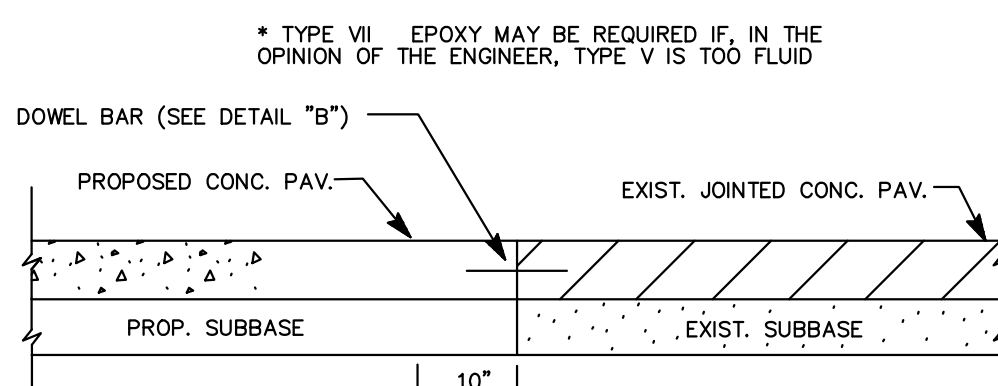
PAVING PANEL FOR 6" & 7" PAVEMENT



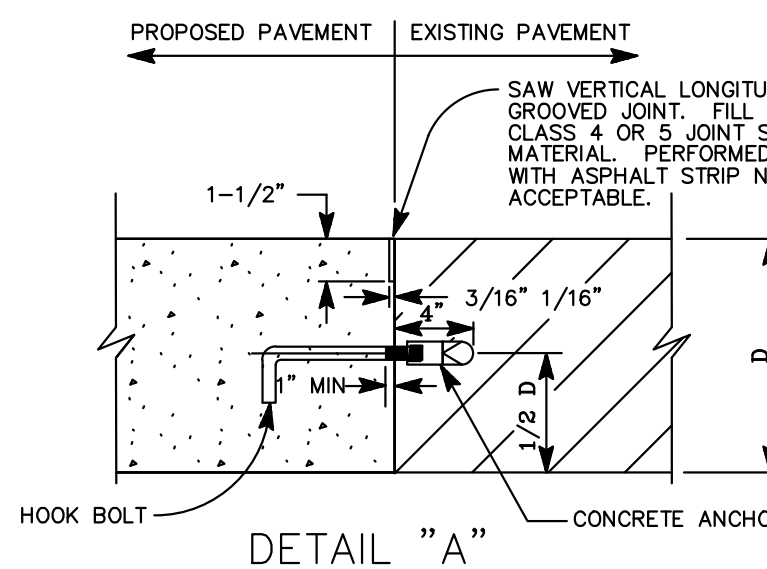
JUNCTURE D - TYPICAL CONNECTION TO EXISTING CONCRETE



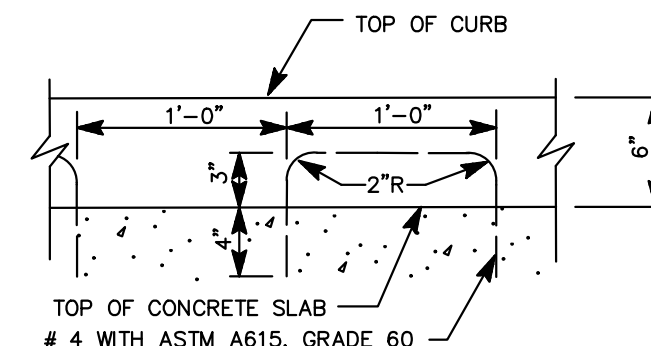
JUNCTURE C - UNIFORM DEPTH CONCRETE



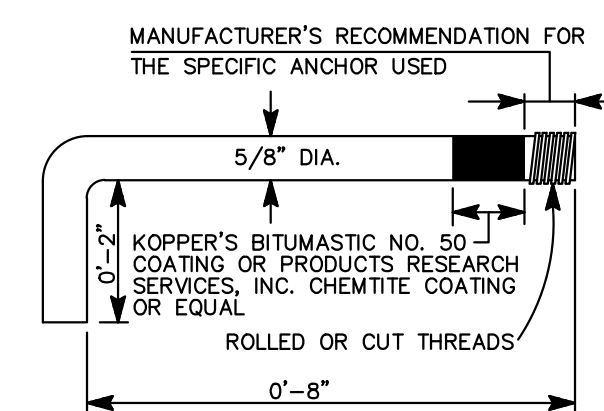
JUNCTURE D - VARIABLE DEPTH CONCRETE



DETAIL "A"



TYPICAL CONCRETE CURB REINFORCING



EXPANSION HOOK BOLT

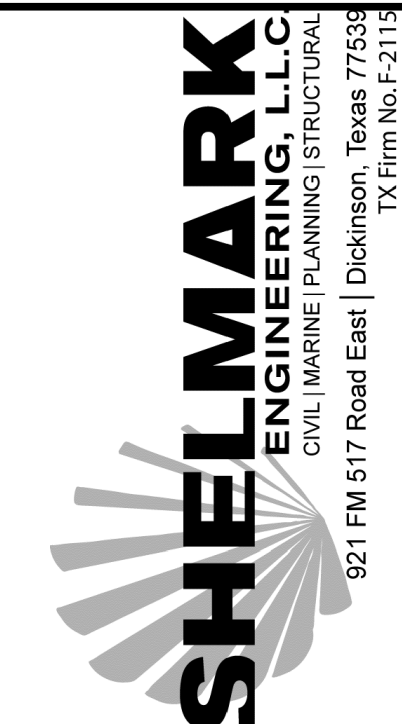
DOWEL BAR DATA					
SLAB THICKNESS	6"	7"	8"	9"	10" THRU 15"
DOWEL SIZE	3/4"	1"	1-1/8"	1-1/4"	1-1/2"
DOWEL LENGTH	18"	18"	18"	20"	22"
DOWEL BAR SPACING	12"	12"	12"	12"	12"

TABLE A - DOWEL BAR DATA

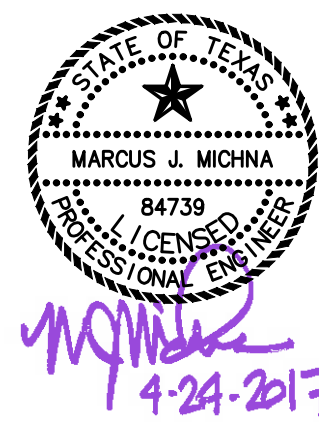
DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR
REVIEW 9/10/15
CITY COMMENTS 10/26/15
CITY COMMENTS 12/01/15
FINAL APPROVAL 12/15/15
TCEQ COMMENTS 03/08/16
CITY PRECONSTRUCTION COMMENTS 08/30/16
FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
AS-BUILT 04/24/17

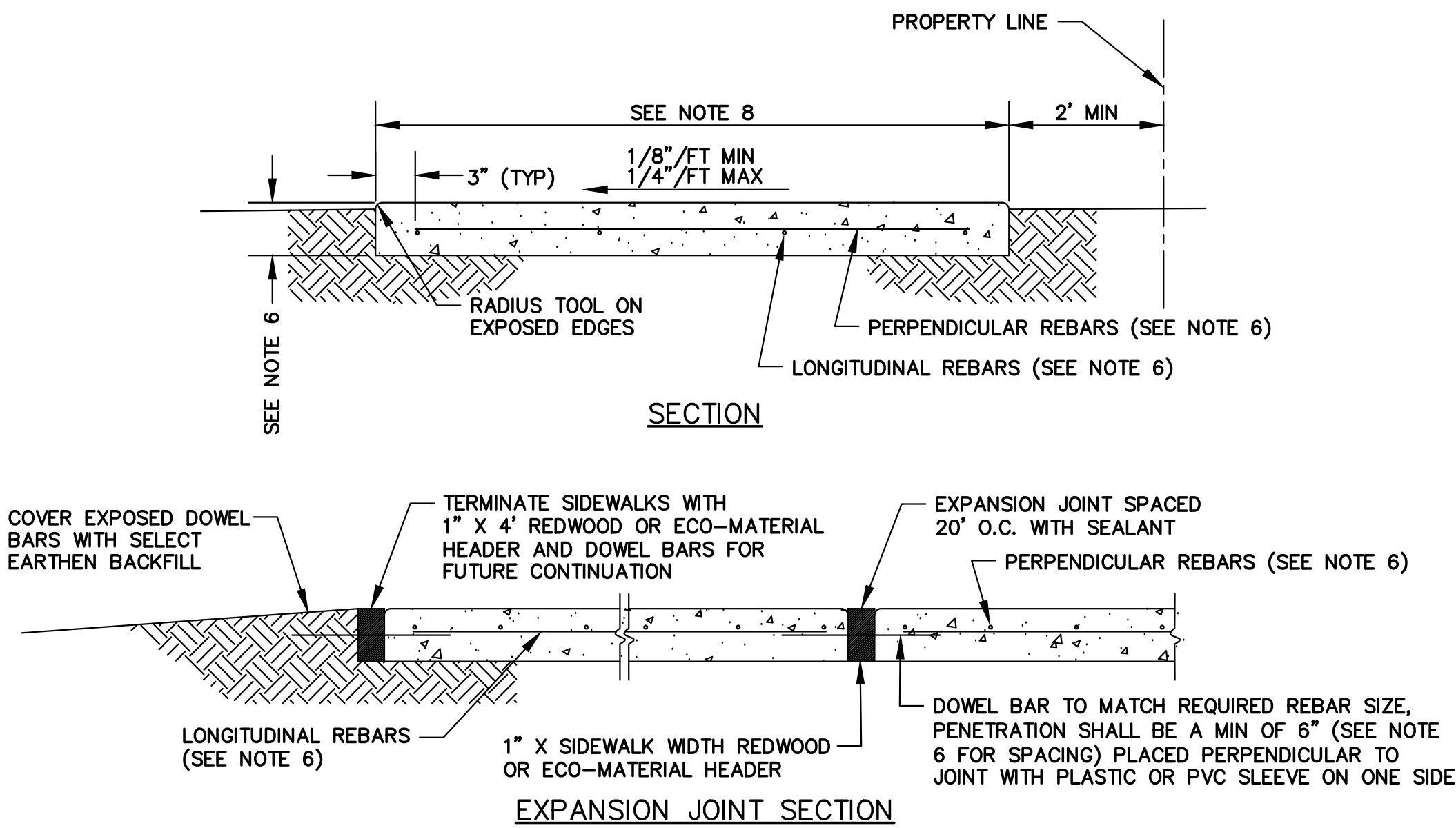


DWG NAME:
PAVING DETAILS

DWG:
D 3.07

JOB NO: 15-202 REV: E

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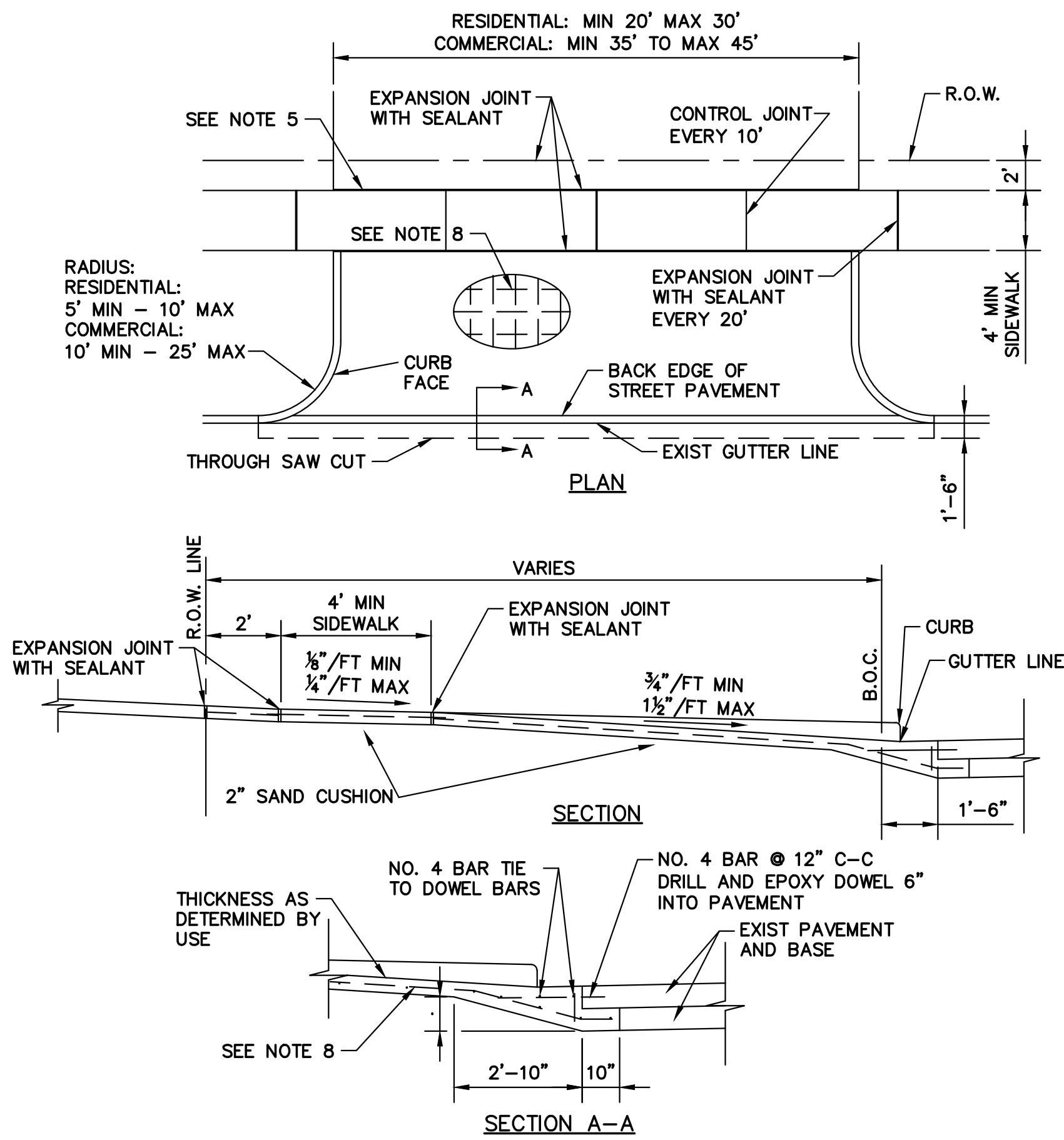
NOTES:

1. EXPANSION JOINTS TO BE PLACED EVERY 20' AND CONTROL BREAK JOINT EVERY 10'.
2. EXPANSION JOINTS SHALL BE PLACED WHERE NEW WALKS MEET EXISTING CONCRETE STRUCTURES, FIRE HYDRANTS AND UTILITY POLES.
3. CONSTRUCT SIDEWALKS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUIV.
5. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
6. SIDEWALK THICKNESS IN RESIDENTIAL DRIVEWAYS TO BE A MIN OF 4" WITH #3 REBAR REINFORCING ON 14" CENTERS LONGITUDINAL AND 18" CENTERS PERPENDICULAR; COMMERCIAL DRIVEWAYS SHALL HAVE A MIN THICKNESS OF 6" WITH #4 REBAR ON 18" CENTERS EACH WAY.
7. SIDEWALKS SHALL MAINTAIN A ONE FOOT CLEARANCE FROM OUTER EDGE OF SIDEWALK TO OUTER EDGE OF ALL UTILITY STRUCTURES (i.e., VALVE BOXES, FIRE HYDRANT, MANHOLE, ETC.)
8. SIDEWALKS IN RESIDENTIAL AREAS SHALL BE A MIN WIDTH OF 4 FT.; SIDEWALKS ALONG A COLLECTOR, MAJOR OR MINOR ARTERIAL STREET SHALL BE A MIN WIDTH OF 5 FT. EXCEPT FOR WHEN AN 8 FT OR LARGER SIDEWALK IS REQUIRED OR CALLED FOR PER PLANNING AND ZONING OR TRAILS MASTER PLAN REQUIREMENTS. SEE 8 FT AND LARGER SIDEWALK DETAIL.

4 & 5 FT SIDEWALK SECTION AND EXPANSION JOINT DETAIL

NTS

9-2014



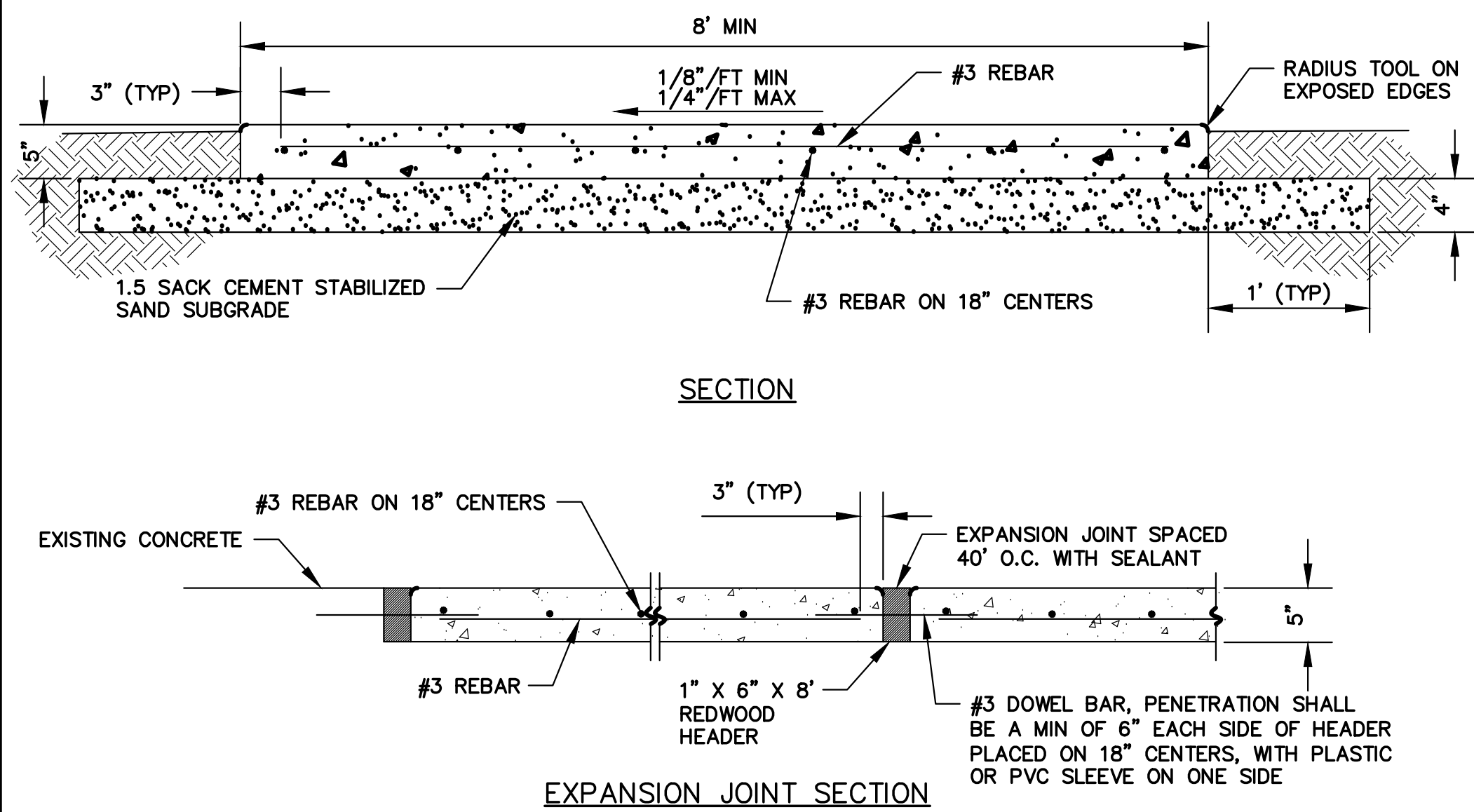
NOTES:

1. ON PRIVATE SIDE: DRIVEWAYS SHALL INCLUDE DOWELED EXPANSION JOINTS AT 20' SPACING AND CONTROL BREAK JOINTS AT 10' SPACING. REINFORCING TO BE EITHER 6X6, 6 GA WELDED WIRE MESH OR #3 REBAR ON 18" CENTERS E.W. FOR RESIDENTIAL; SEE ENGINEERED SITE DRAWINGS FOR COMMERCIAL PAVING REQUIREMENTS.
2. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
3. CONSTRUCT DRIVEWAYS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUIV.
5. PROVIDE EXPANSION JOINT WITH SEALANT WHEN CONNECTING TO EXIST DRIVE.
6. SIDEWALKS SHALL MATCH THICKNESS OF DRIVEWAYS IN THE CONFINES OF DRIVEWAY WIDTH.
7. DRIVEWAY THICKNESS TO BE A MIN OF 4" FOR RESIDENTIAL AND 6" MIN FOR COMMERCIAL OR AS CALLED OUT ON APPROVED ENGINEERED PLANS.
8. ON PUBLIC SIDE, WITHIN ROW: DRIVEWAY REINFORCING FOR RESIDENTIAL SHALL BE #3 REBAR ON 18" CENTERS E.W.; FOR COMMERCIAL MIN. REINFORCING SHALL BE #4 REBAR ON 24" CENTERS E.W.

CONCRETE DRIVEWAY DETAIL

REVISED: 1-2015

NTS



NOTES:

1. 1" EXPANSION JOINTS TO BE PLACED EVERY 40' AND SAWED CONTROL JOINT EVERY 8'.
2. EXPANSION JOINTS SHALL BE PLACED WHERE NEW WALKS MEET EXISTING CONCRETE STRUCTURES, FIRE HYDRANTS AND UTILITY POLES.
3. CONSTRUCT SIDEWALKS WITH 5 1/2 SACK PORTLAND CEMENT.
4. ALL EXPANSION/CONSTRUCTION JOINT TO BE SEALED WITH HOT POURED ELASTIC TYPE SEALER MEETING ASTM D1190 OR APPROVED EQUIV.
5. PROVIDE A MIN OF 10" OVERLAP ON REINFORCING.
6. SIDEWALKS SHALL MAINTAIN A ONE FOOT CLEARANCE FROM OUTER EDGE OF SIDEWALK TO OUTER EDGE OF ALL UTILITY STRUCTURES (i.e., VALVE BOXES, FIRE HYDRANT, MANHOLE, ETC.)

8 FT & LARGER SIDEWALK SECTION AND EXPANSION JOINT DETAIL

NTS

9-2014

DATE: 7/16/15
SCALE:
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

- | | |
|-------------------------------------|----------|
| REVIEW | 9/10/15 |
| CITY COMMENTS | 10/26/15 |
| CITY COMMENTS | 12/01/15 |
| FINAL APPROVAL | 12/15/15 |
| TCEQ COMMENTS | 03/08/16 |
| CITY PRECONSTRUCTION COMMENTS | 08/30/16 |
| FIELD REV TO SAN/STM AT LIFTSTATION | 02/22/17 |
| AS-BUILT | 04/24/17 |



DWG NAME:
PAVING DETAILS

DWG:

D 3.08

JOB NO: 15-202

REV: E

REFLECTORIZATION

WARNING LIGHTS

Type B High Intensity Flashing Warning Lights are normally used at approaching extremely hazardous site conditions within the construction area. They may be mounted on barricades, signs or other supports. As these lights are effective in daylight as well as dark, they are designed to operate 24 hours per day. Their use should be specified elsewhere in the plans or a directed by the Engineer. Flashing warning lights shall not be used in a series.

Contractors shall furnish a copy of a certification from the manufacturer of the lights that the warning lights meet the requirements of the ITE Standard For Flashing and Steady Burn Warning Lights as contained in the latest edition of the "Texas Manual on Uniform Traffic Control Devices for Streets and Highways."

DELINEATORS

Delineators are normally used to indicate roadway alignment where improved nighttime visibility is needed but other roadway features are sufficient for daytime alignment. They should generally be used on high fills and horizontal and vertical curves where only nighttime delineation is needed. Delineators, when required for temporary use to control traffic through construction areas, will be considered subsidiary to the item BARRICADES, SIGNS AND TRAFFIC HANDLING. Delineators shall meet the material requirements of the project specifications. When used, delineators on the right side of the roadway facing traffic shall be white. The color of delineators used along the left edge of divided streets and highways and one-way roadways shall be yellow.

SPACING OF DELINEATORS

RADIUS OF CURVE (FEET)	50	150	200	250	300	400	500	600	700	800	900	1000
APPROX. SPACING ON CURVE (FEET)	20	30	35	40	50	55	65	70	75	80	85	90

Barricades shall be furnished and maintained with Type A—low intensity warning lights.

Barricades should normally be placed perpendicular to the traffic flow. Other channelizing devices, such as drums, vertical panels of portable barriers, should be used where needed to separate traffic from the work area. In all cases, the barricades should be so located as to most advantageously warn and direct traffic.

Barricades may be designed and constructed from wood, PVC pipe or any other suitable material in a manner approved by the Engineer. The construction details shown hereon are typical and are suggested details for wood and PVC pipe support systems for barricades. The details of rail width and striping, number and spacing of rails, minimum length and height (above pavement) of rails must be adhered to when alternate designs are used.

Barricades are to be constructed in a first-class workmanship manner of clean sound material. All surfaces above ground, which are not striped, shall be white except the unpainted galvanized metal or aluminum components may be used. Components made of lumber shall be painted with a minimum of two coats of an approved brand of white paint to secure thorough coverage and a uniform white color.

4'-0" MIN, 12'-0" USUAL, MAXIMUM IS VARIABLE

2"

1/2" HOLES

1'-8"

2 1/2"

2"x4"

1"x8"

1"x8"

5"

1'-8"

4'-0"

1'-8"

5"

2"x4"

SEE STRIPING NOTES

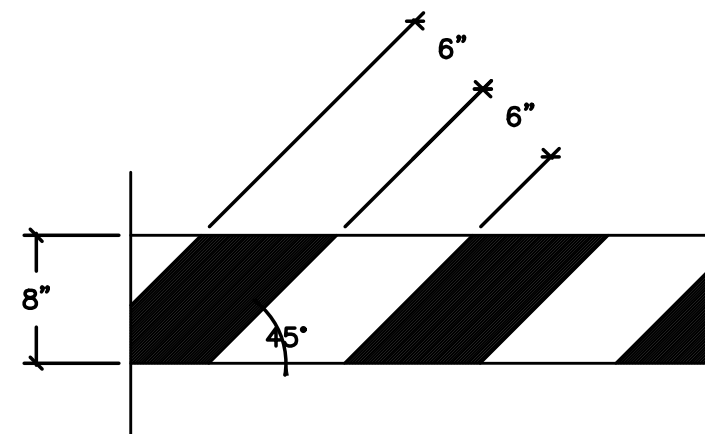
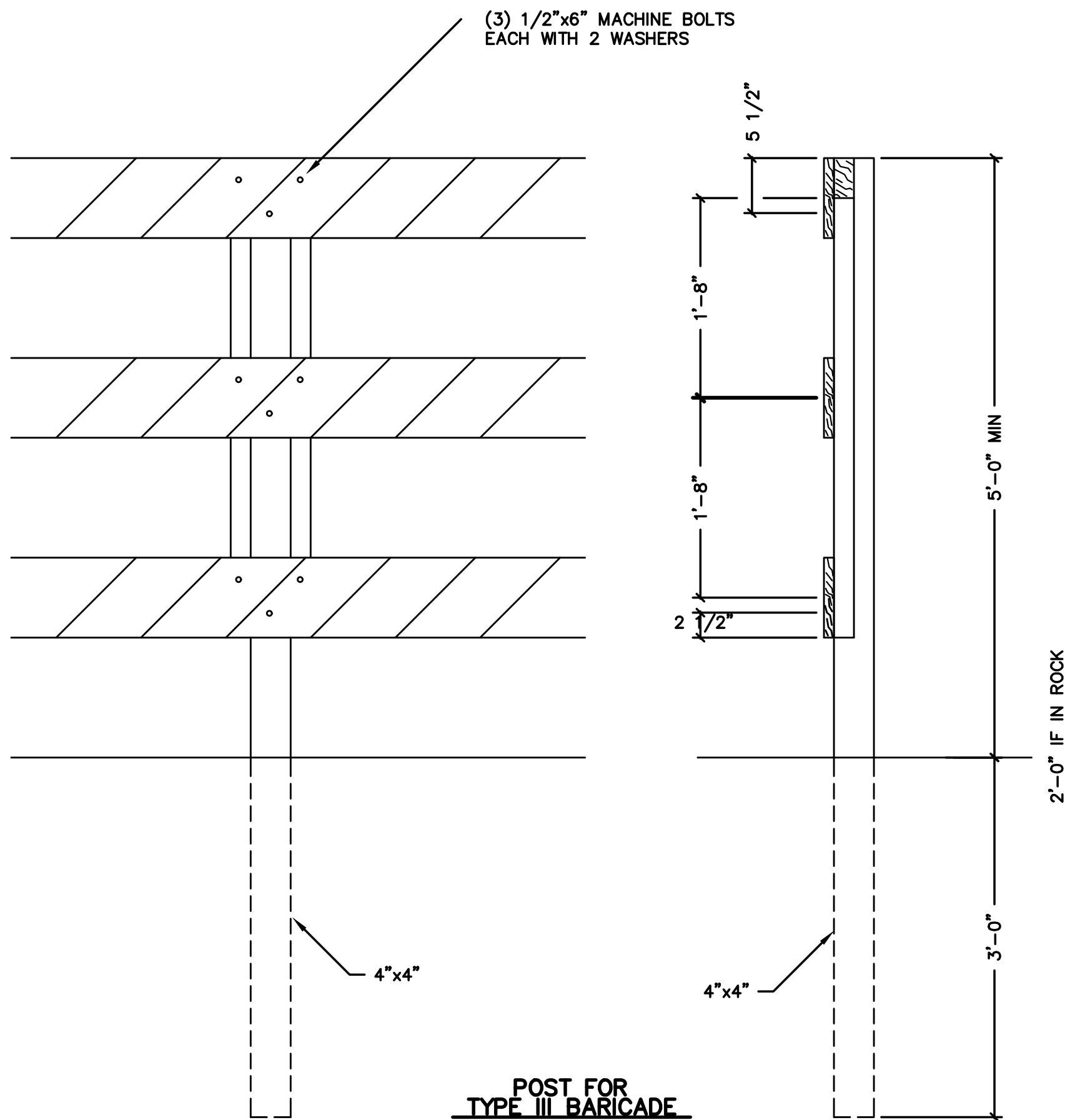
2 1/2"

1'-8"

WHEN WOOD BARRICADES ARE USED AND WHEN ORANGE AND WHITE STRIPES ARE REQUIRED ON THE BACKSIDE, A 2"x8" RAIL MAY BE USED IN LIEU OF THE 1"x8" RAIL AND 2"x4" STIFFENER. OTHERWISE THE RAIL SHOULD BE FABRICATED AS DETAILED.

TYPE III BARRICADE

FOR TYPE III BARRICADES, THE THREE (3) RAILS SHALL BE REFLECTIVE ORANGE AND REFLECTIVE STRIPES ON ONE SIDE IF IT IS FACING TRAFFIC IN ONE DIRECTION ONLY, AND ON BOTH SIDES IF IT SERVES TRAFFIC IN TWO DIRECTIONS.



STRIPPING FOR BARCADE

WHERE A BARRICADE EXTENDS ENTIRELY ACROSS A ROADWAY, IT IS DESIRABLE THAT THE STRIPES SLOPE DOWNWARD IN THE DIRECTION TOWARD WHICH TRAFFIC MUST TURN IN DETOURING. WHEN BOTH RIGHT AND LEFT TURNS ARE PROVIDED FOR, THE CHEVRON STRIPING MAY SLOPE DOWNWARD IN BOTH DIRECTIONS FROM THE CENTER OF THE BARRICADE.

STRIPING SHOULD COVER THE FULL WIDTH OF THE RAIL. STRIPING OF RAILS, PANELS AND GATES FOR THE RIGHT SIDE OF THE ROADWAY, IS SHOWN ABOVE. FOR THE LEFT SIDE OF JTHE ROADWAY, STRIPING SHOULD SLOPE DOWNWARD TO THE RIGHT.

FOR ALL TYPES OF BARRICADES WITH RAILS LESS THAN 3'-0" LONG STRIPES 4" WIDE SHALL BE USED.

THE 8" RAIL WIDTH IS A NOMINAL DIMENSION FOR RAILS MADE OF LUMBER.

IDENTIFICATION MARKINGS MAY BE SHOWN ONLY ON BACK SIDE
OF BARRICADE RAILS.

DATE: 7/16/15
SCALE:
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

A REVIEW 9/10/15

△ B CITY COMM
10 /26 /15

CITY COMMENTS
12/21/15

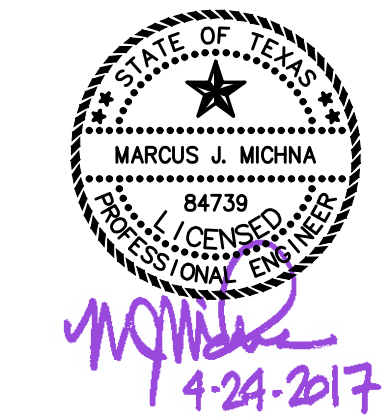
FINAL APP

Δ TCEQ COMMENTS

Δ CITY PRECONSTRUCTION

A FIELD REV TO SAN/ST

AT LIFT STATION 02/22/1

AS-BUILT 04/24/17

DWG NAME:
PAVING DETAILS

DWG

D 3.09

JOB NO: 15-202

REV:

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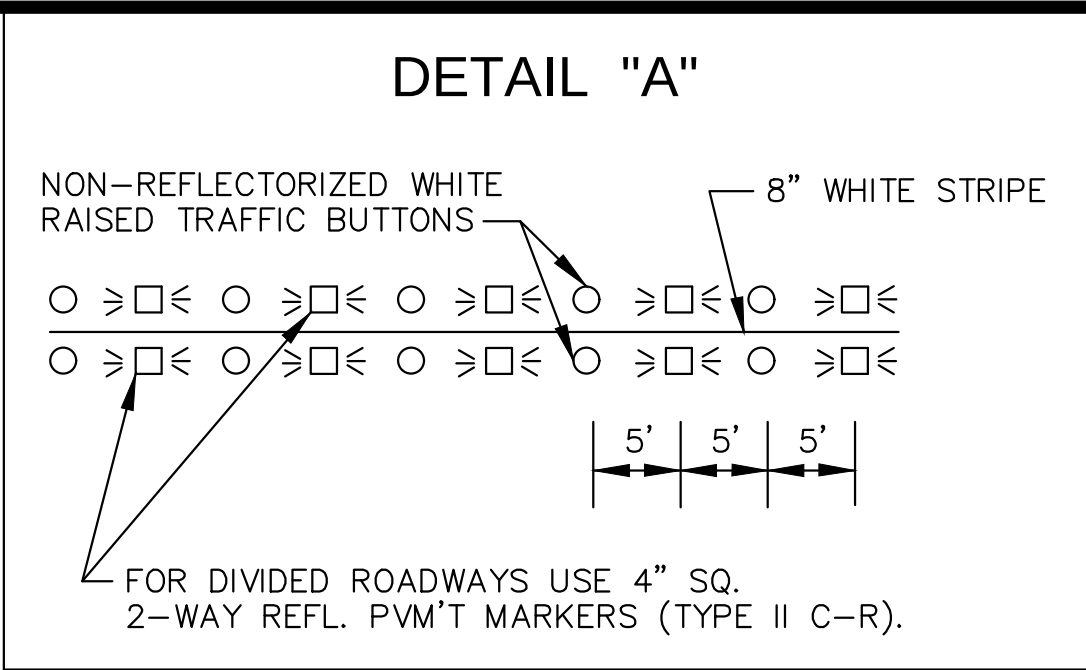
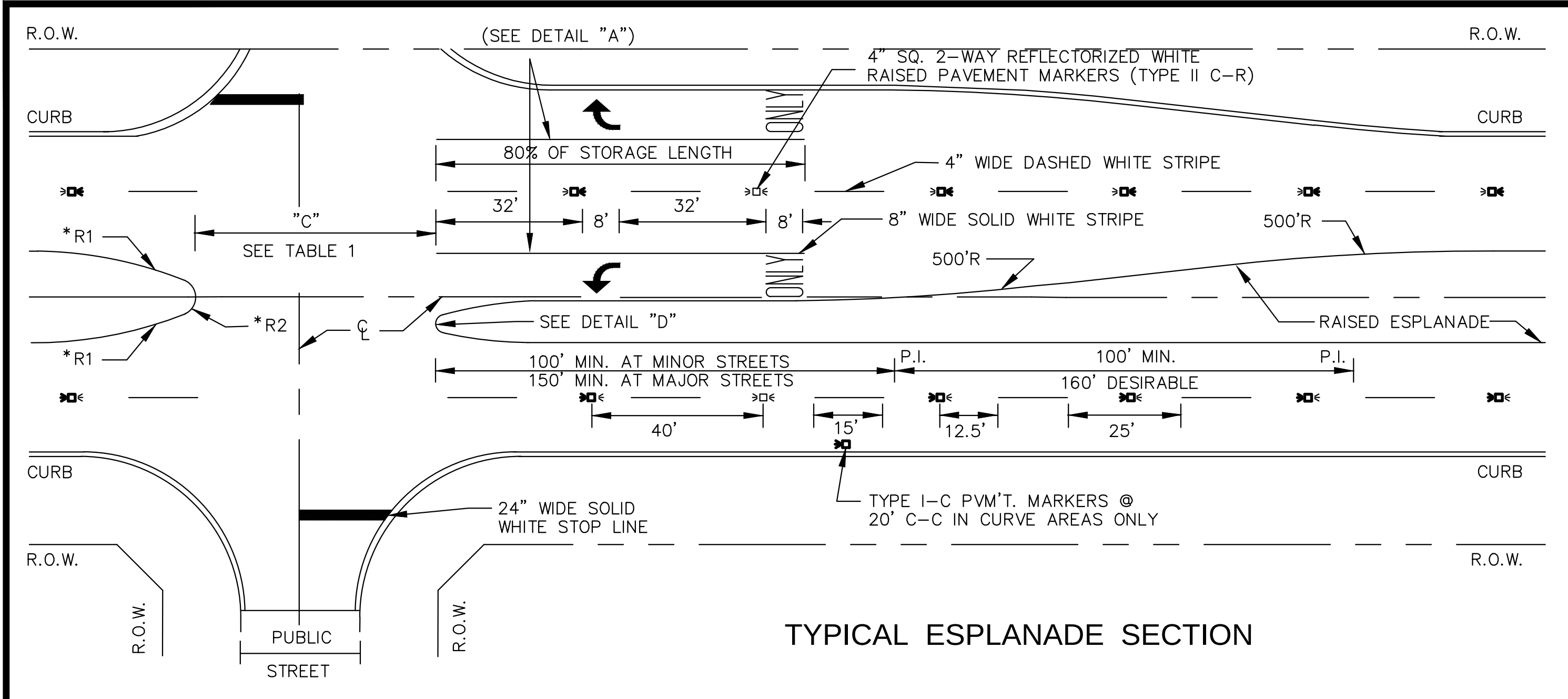
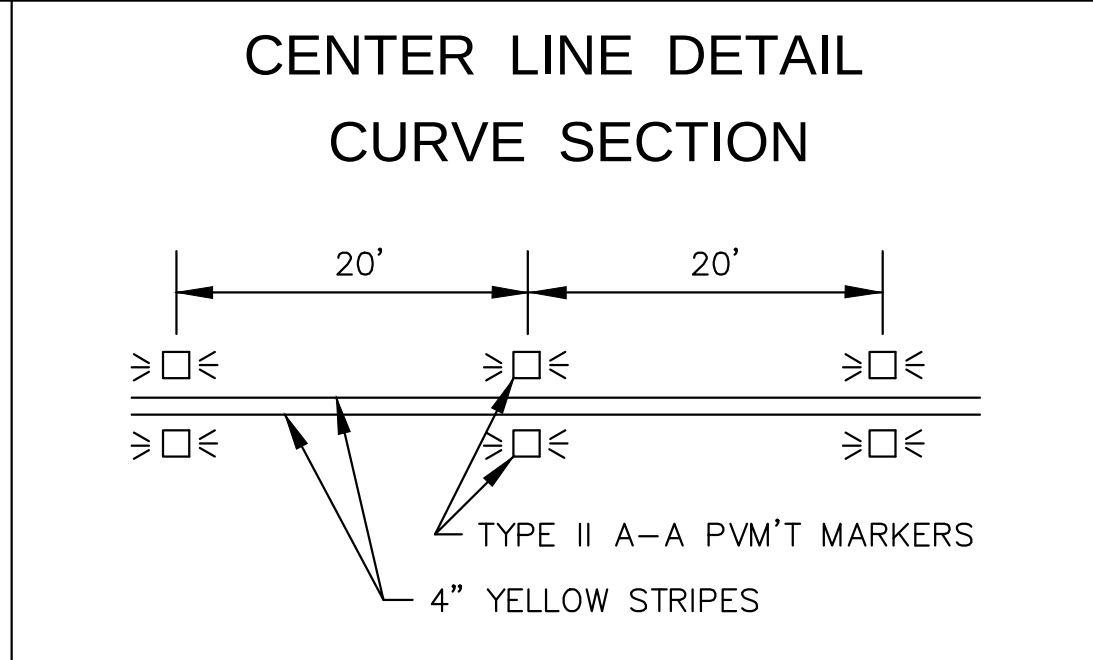
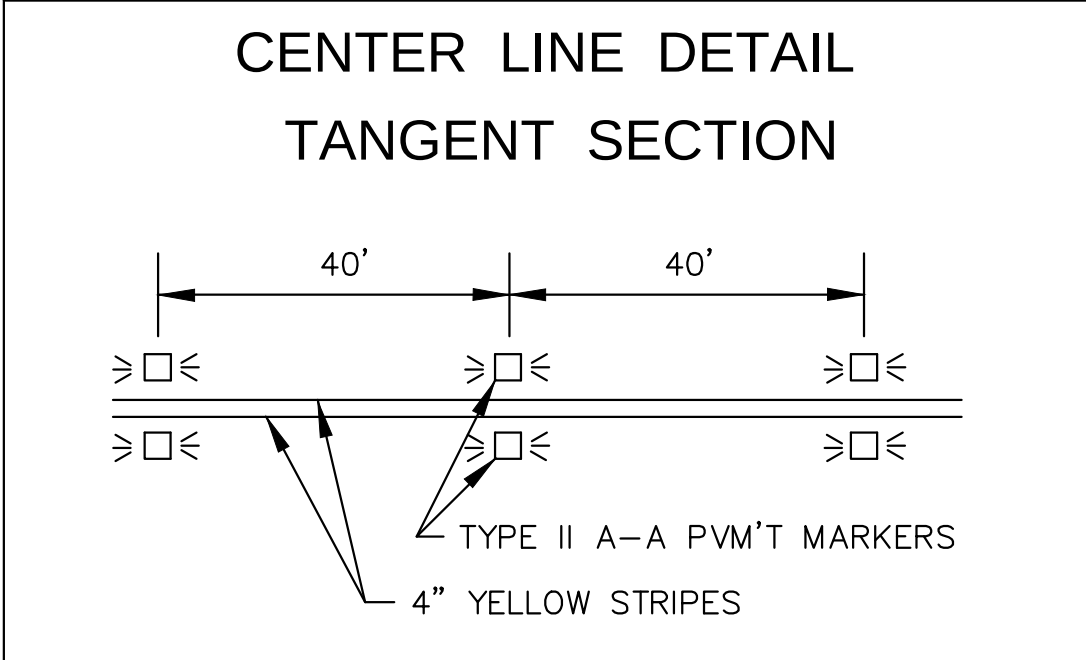


TABLE 1			
TYPICAL LENGTH OF ESPLANADE OPENING "C" FOR PUBLIC STREET			
ESPLANADE INTERRUPTION	(1) NO LTB	(1) 1 LTB	(1) 2LTB
UNDIVIDED STREET < 40' 44'	45' 50'	52.5' (2) 55' (2)	60' 60'
DIVIDED STREET	D+10'	D+10'	D+10'

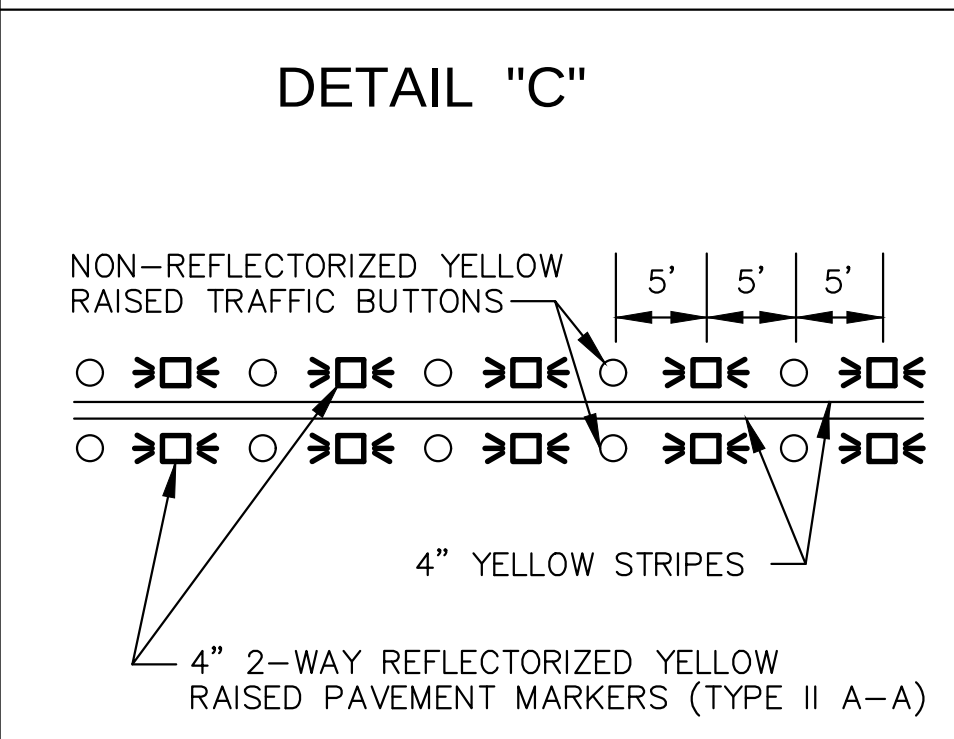
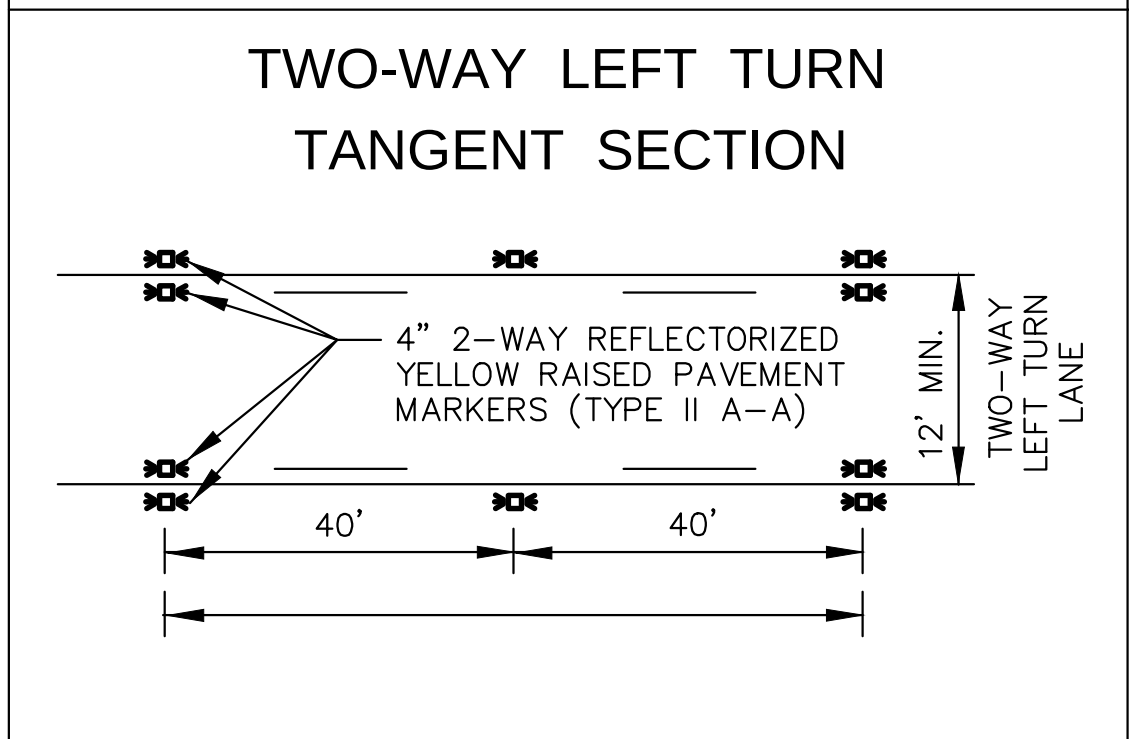
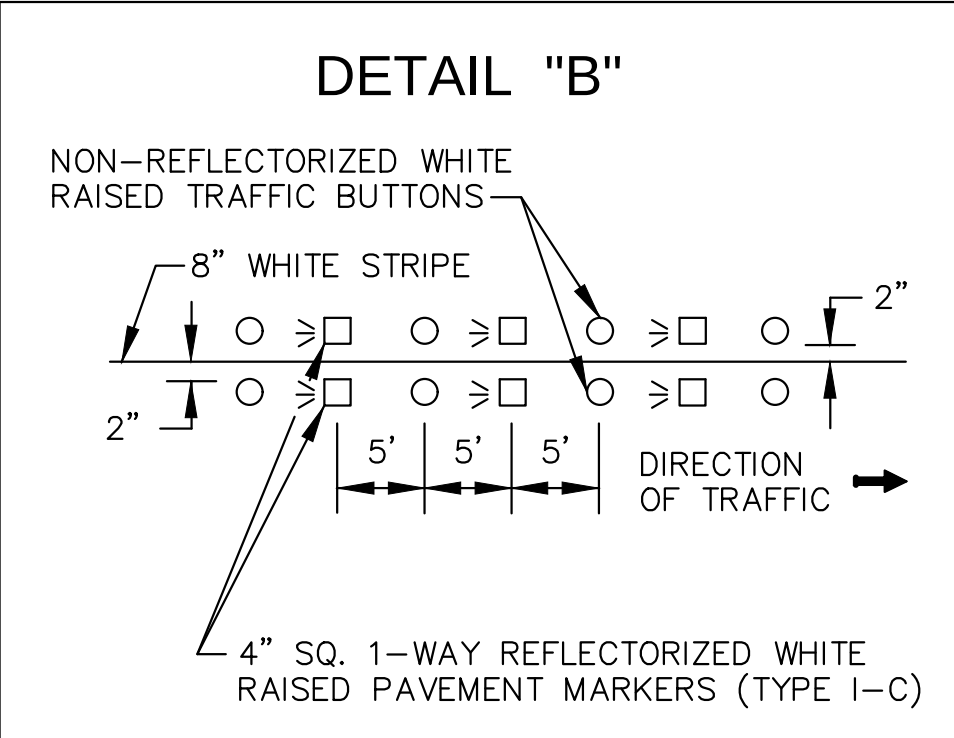
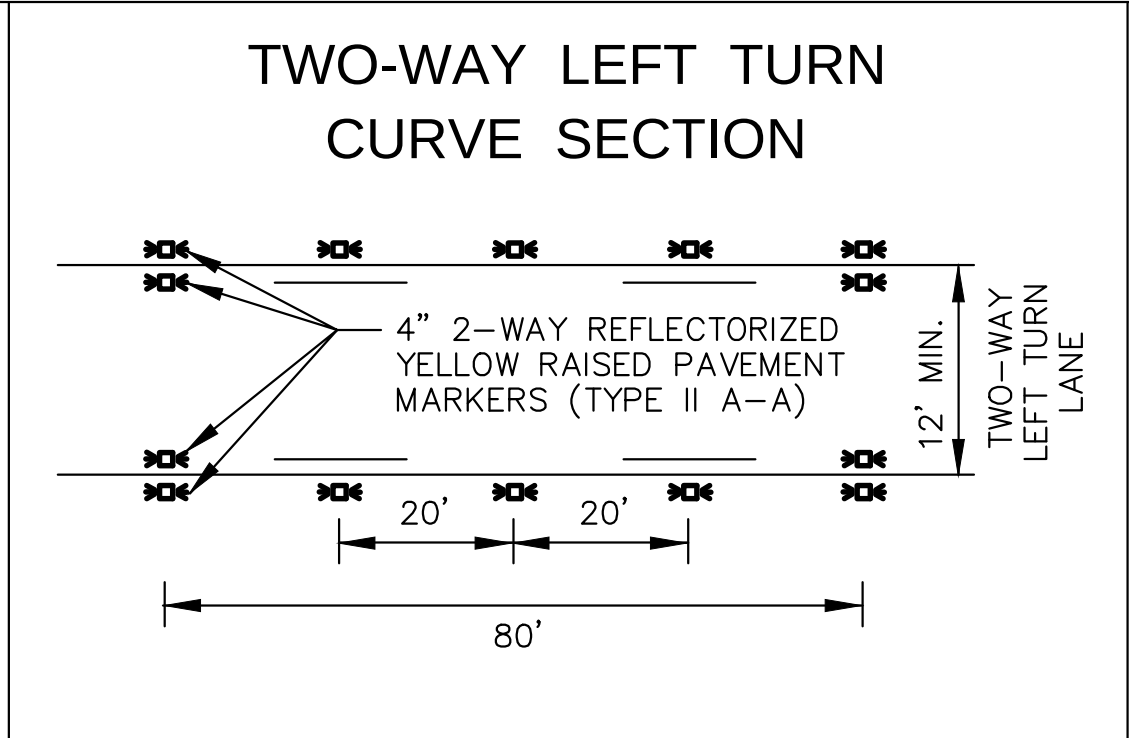
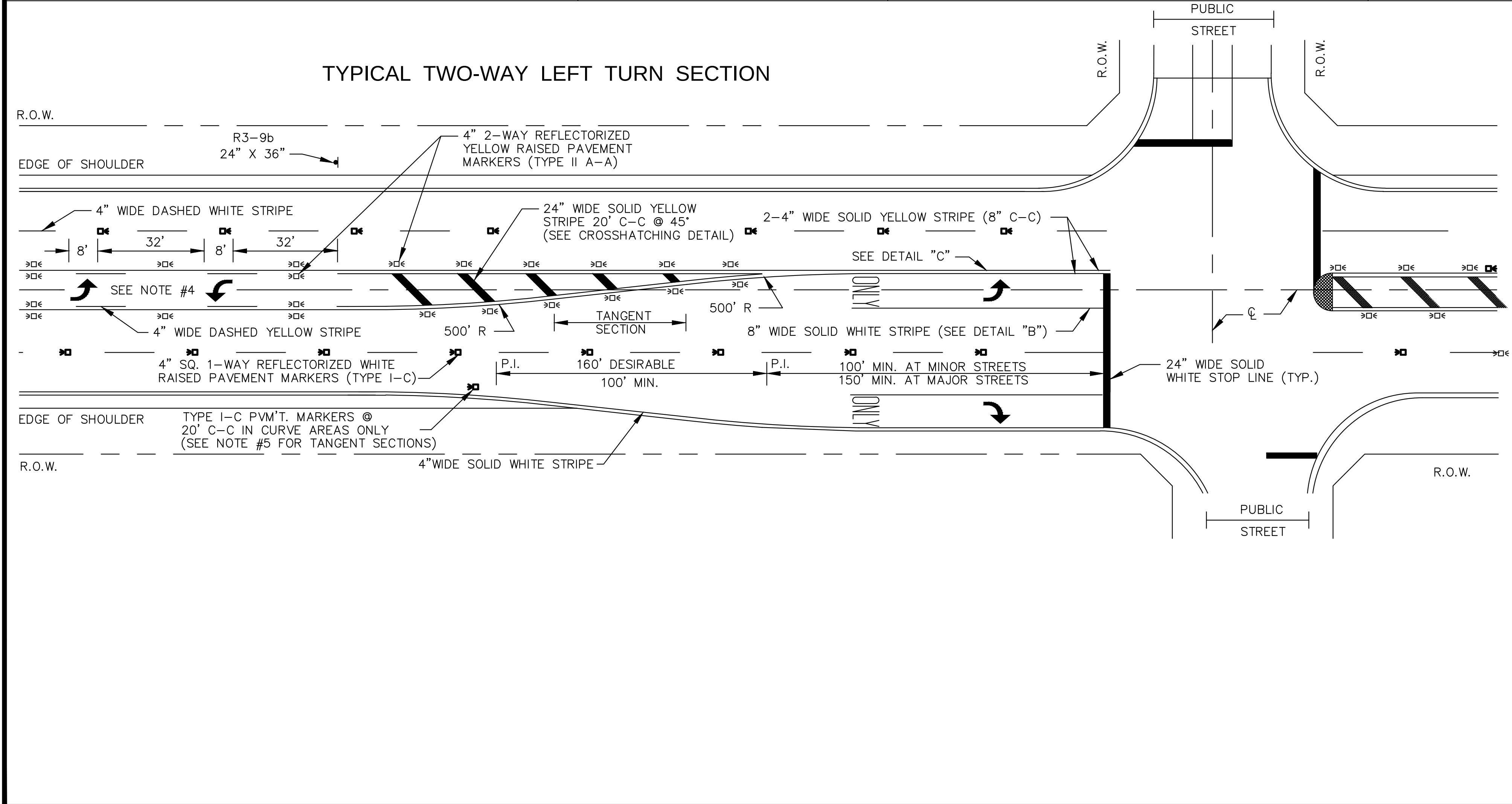
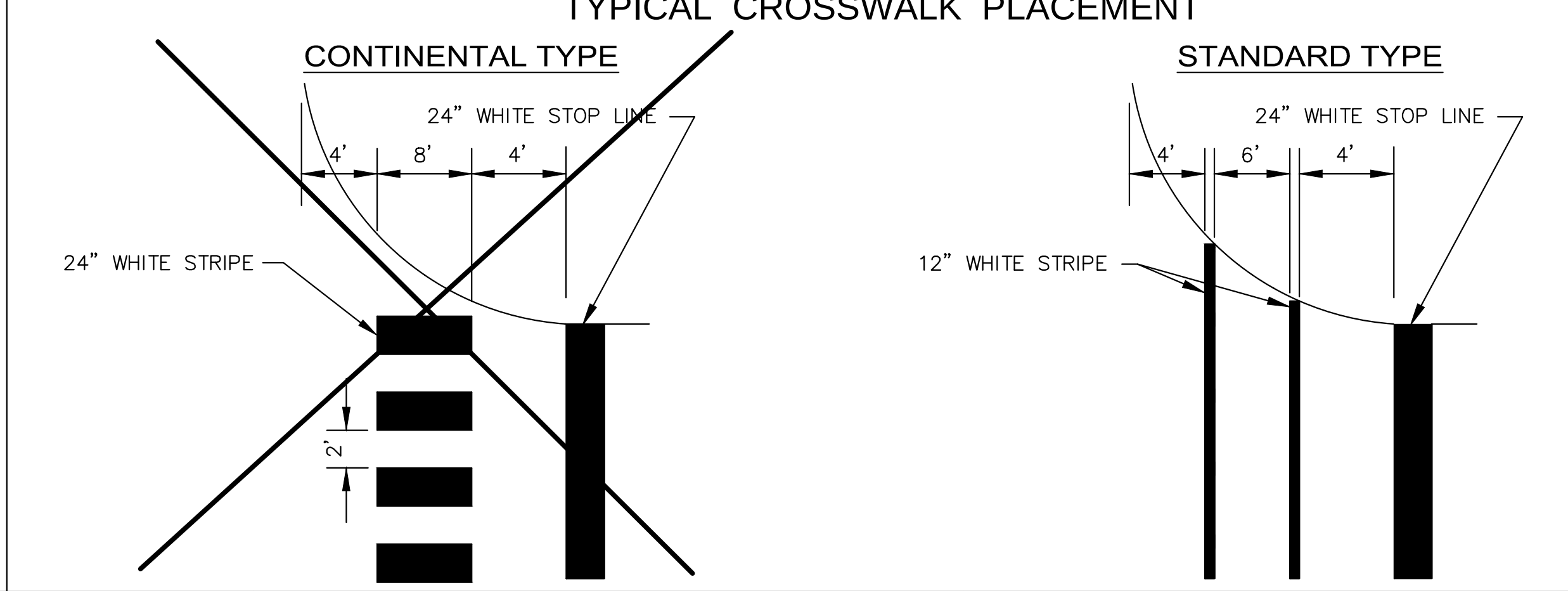
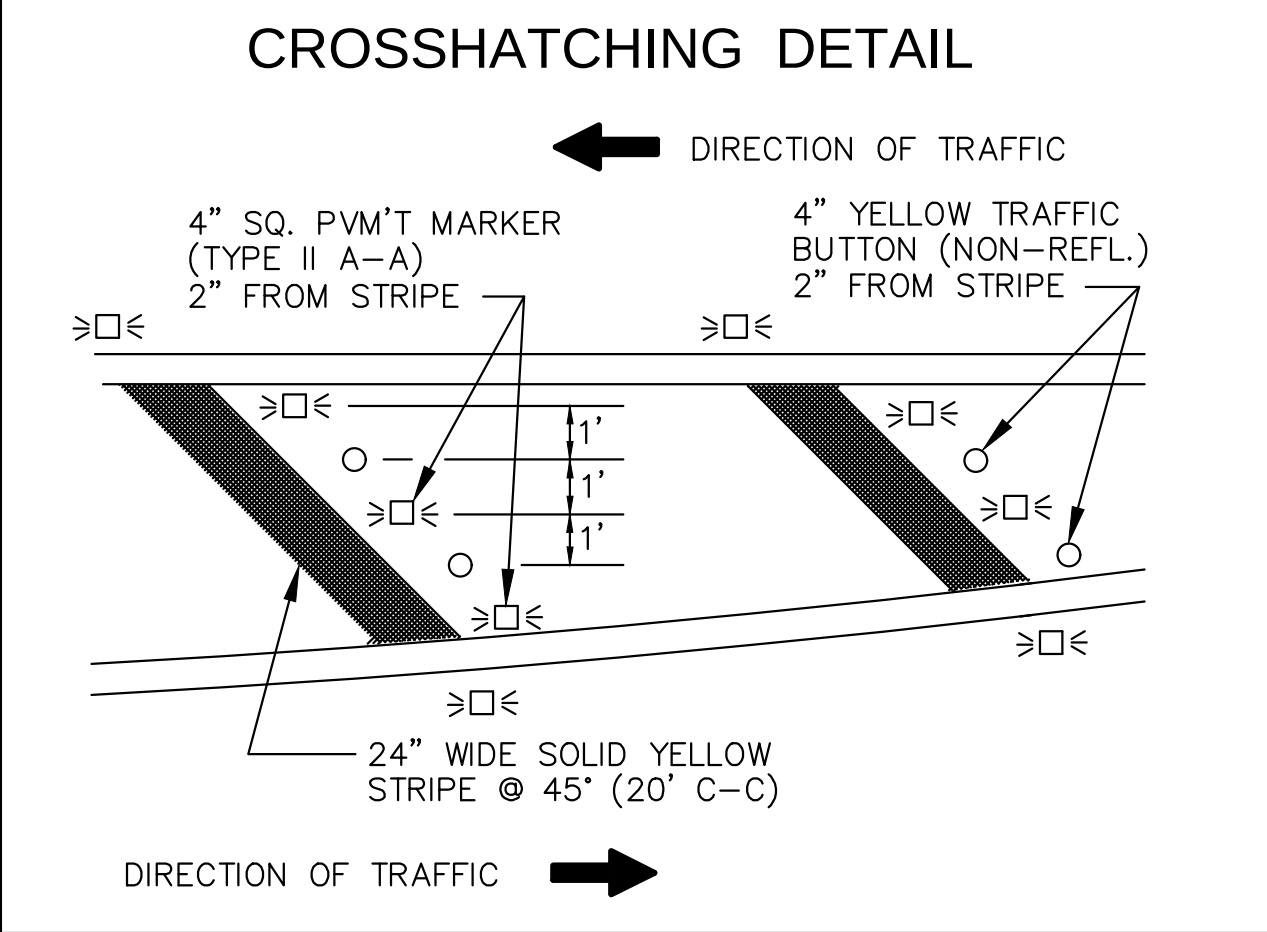
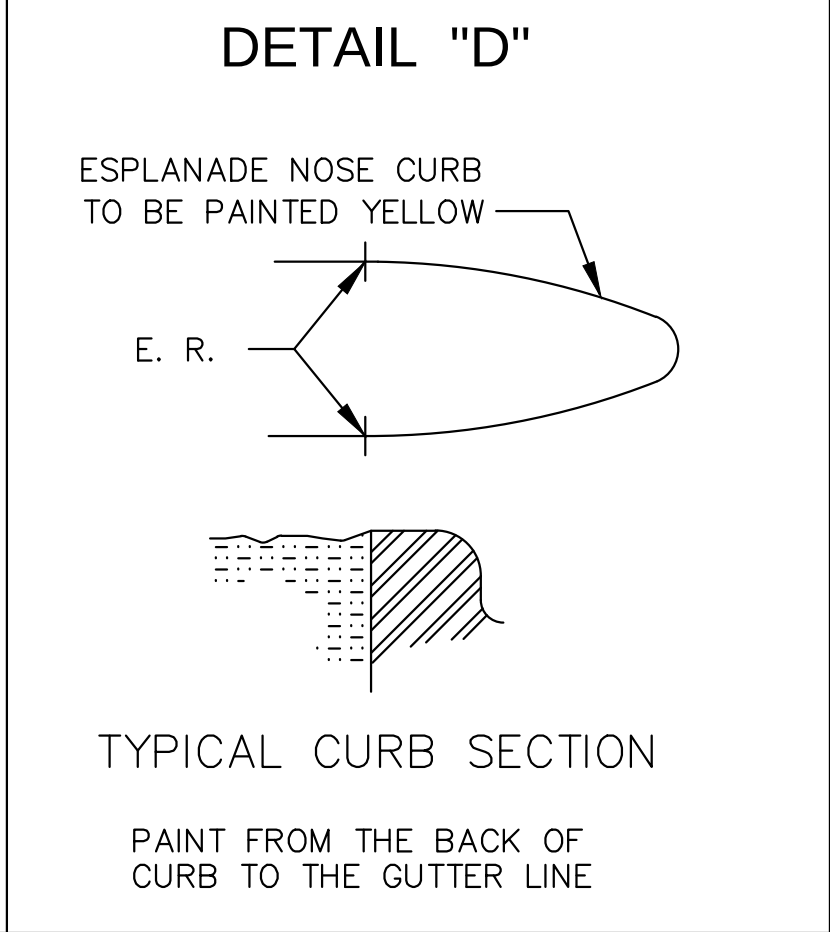
RADIUS DIMENSIONS			
ESPLANADE	*R1	*R2	LS
<8'	N/A	LS	W/2
8' - 38'	90'	W/5	
>38'	N/A	15'	

NOTES:
(1) LEFT TURN BAY
(2) DISTANCE FROM CENTERLINE OF OPENING TO ESPLANADE NOSE WITH LEFT TURN LANE MUST BE 30'



PAVEMENT MARKER LEGEND	
SYMBOL	DESCRIPTION
➤◻◻◻	TWO SIDED REFLECTORIZED RAISED PAVEMENT MARKER
◻◻◻	ONEE SIDED REFLECTORIZED PAVEMENT MARKER
○	NON-REFLECTIVE 4" DIA. RAISED TRAFFIC BUTTON

- NOTES:
- ALL STRIPING & MARKERS SHALL CONFORM WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
 - ALL TRAFFIC BUTTONS AND MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES (APPROX. 2").
 - LEFT TURN STORAGE BAYS SHALL BE A MIN. OF 100' AT MINOR STREETS AND A MIN. OF 150' AT MAJOR STREETS.
 - REPEAT ARROWS AT APPROX. 1000' INTERVALS WITHIN TWO-WAY LEFT TURN SECTION.
 - WITHIN A TANGENT SECTION THE TYPE I-C PAVEMENT MARKERS CAN BE PLACED AT 40' C-C ON ROADWAYS WITHOUT CURB AND GUTTERS.



LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

DATE: 7/16/15
SCALE:
DRAWN BY: SLBK
CHECKED BY: DR

PROJECT:
SHELMARK ENGINEERING, L.L.C.
CIVIL / MARINE / PLANNING / STRUCTURAL
921 FM 517 Road East | Dickinson, Texas 77539
TX Firm No F-2115

ISSUED FOR:
REVIEW 9/10/15
CITY COMMENTS 10/26/15
CITY COMMENTS 12/01/15
FINAL APPROVAL 12/15/15
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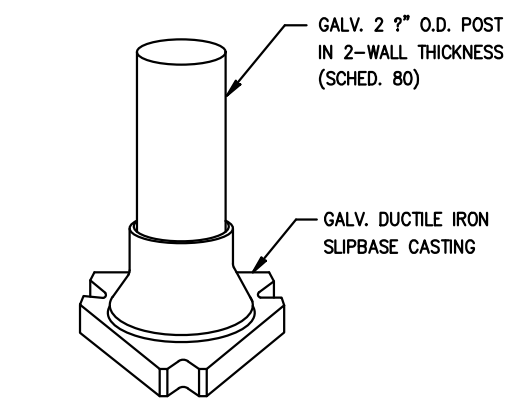
STATE OF TEXAS
MARCOUS J. MICHNA
84739
LICENSED PROFESSIONAL ENGINEER
4-24-2017

DWG NAME:
STRIPING DETAILS

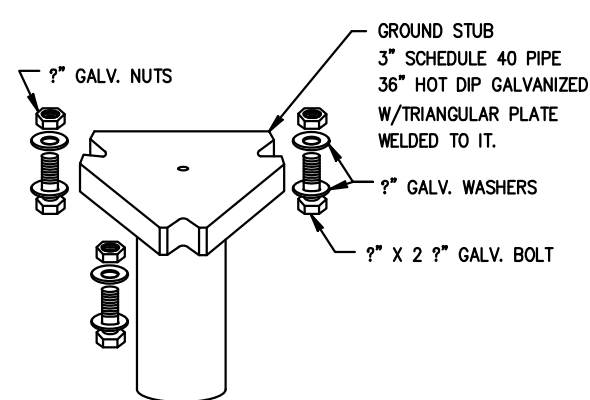
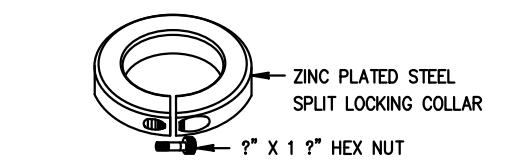
DWG:
D 3.10

JOB NO: 15-202
REV: E

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TRIANGULAR SLIPBASE INSTALLATION GENERAL REQUIREMENTS



POZ-LOCK SLIPBASE SYSTEM

NTS

ASSEMBLY PROCEDURE

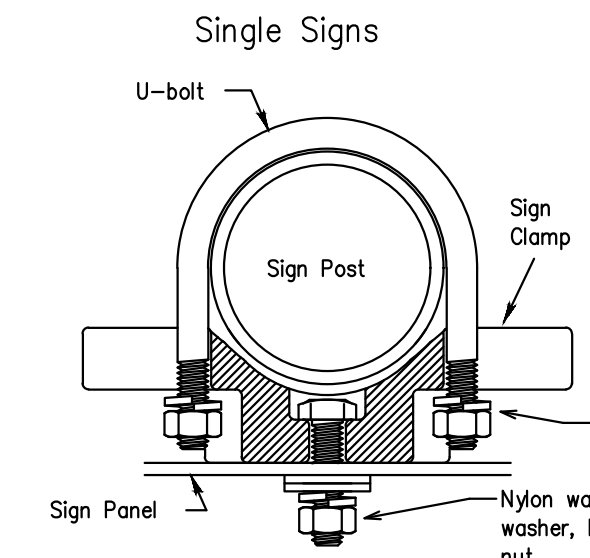
Foundation

1. Prepare 12-inch diameter by 42-inch deep hole. If solid rock is encountered, the depth of the foundation may be reduced such that it is embedded a minimum of 18 inches into the solid rock.
2. The Engineer may permit batches of concrete less than 2 cubic yards to be mixed with a portable, motor-driven concrete mixer. For small placements less than 0.5 cubic yards, hand mixing in a suitable container may be allowed by Engineer. Concrete shall be Class A.
3. Push the pipe end of the slip base stub into the center of the concrete. Rotate the stub back and forth while pushing it down into the concrete to assure good contact between the concrete and stub. Continue to work the stub into the concrete until it is between 2 to 4 inches above the ground.
4. Plumb the stub. Allow a minimum of 4 days to set, unless otherwise directed by the Engineer.
5. The triangular slipbase system is multidirectional and is designed to release when struck from any direction.

Support

1. Cut support so that the bottom of the sign will be 7 to 7.5 feet above the edge of the travelway (i.e., edge of the closest lane) when slip plate is below the edge of pavement or 7 to 7.5 feet above slip plate when the slip plate is above the edge of the travelway. The cut shall be plumb and straight.
2. Attach sign to support using connections shown. When multiple signs are installed on the same support, ensure the minimum clearance between each sign is maintained. clearances based on sign types.

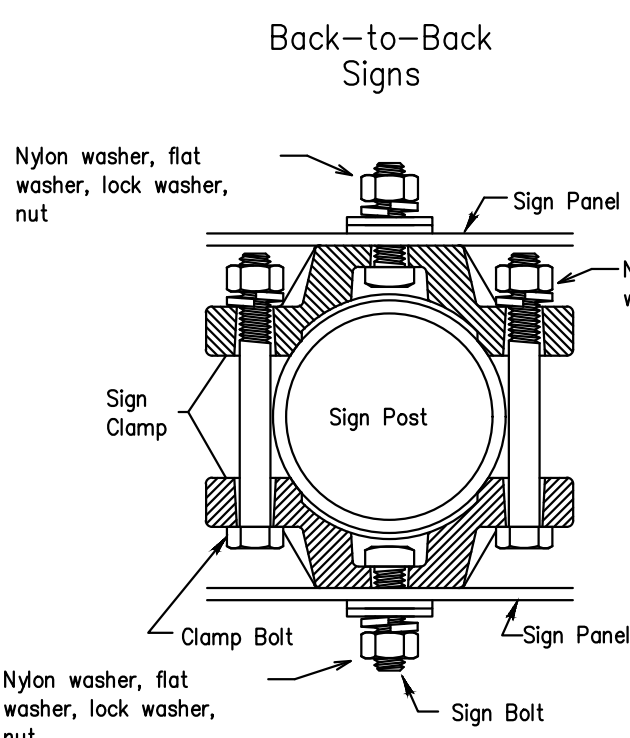
TYPICAL SIGN ATTACHMENT DETAIL



Bolts used to mount sign panels to the clamp are 5/16-18 UNC galvanized square head with nut, nylon washer, flat washer and lock washer. The bolt length is 1 inch for aluminum.

When two sign clamps are used to mount signs back-to-back, use a 5/16-18 UNC galvanized hex head per ASTM A307 with nut and helical-spring lock washer. The approximate bolt lengths for various post sizes and sign clamp types are given in the table at right. The bolt length may need to be adjusted depending upon field conditions.

Sign clamps may be either the specific size clamp or the universal clamp.

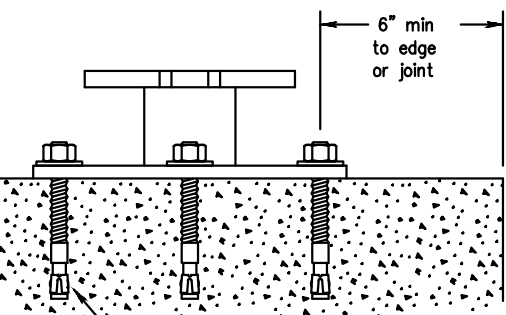


Pipe Diameter	Approximate Bolt Length	
	Specific Clamp	Universal Clamp
2" nominal	3"	3 or 3 1/2"
2 1/2" nominal	3 or 3 1/2"	3 1/2 or 4"
3" nominal	3 1/2 or 4"	4 1/2"

NOTE

There are various devices approved for the Triangular Slipbase System. Please reference the Material Producer List for approved slip base systems. http://www.txdot.gov/business/producer_list.htm. The devices shall be installed per manufacturers' recommendations. Installation procedures shall be provided to the Engineer by Contractor.

CONCRETE ANCHOR



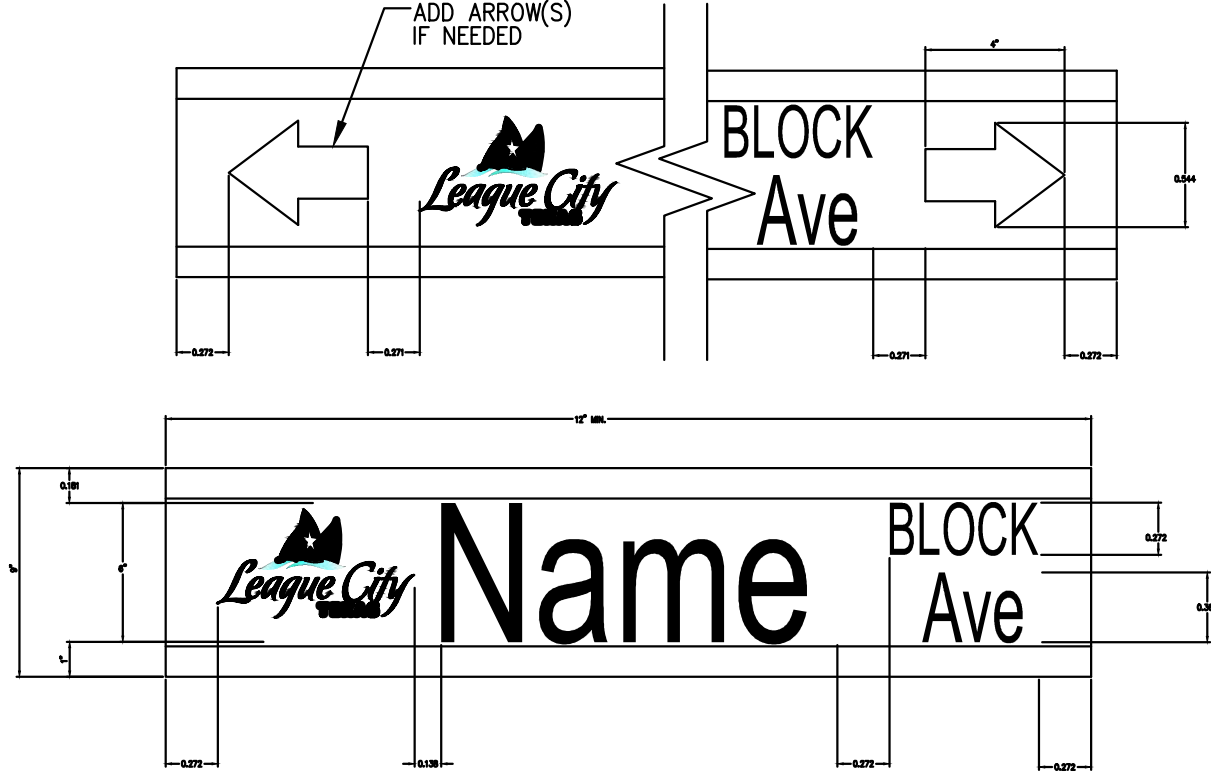
Concrete anchor consists of 5/8" diameter stud bolt with UNC series bolt threads on the upper end. Heavy hex nut per ASTM A563, and hardened washer per ASTM F436. The stud bolt shall have a minimum yield and ultimate tensile strength of 50 and 75 KSI, respectively. Nuts, bolts and washers shall be galvanized per Item 445, "Galvanizing." Adhesive type anchors shall have stud bolts installed with Type III epoxy per DMS-6100, "Epoxyes and Adhesives." Adhesive anchors may be loaded after adequate epoxy cure time per the manufacturer's recommendations. Top of bolt shall extend at least flush with top of the nut when installed. The anchor, when installed in 4000 psi normal-weight concrete with a 5 1/2" minimum embedment, shall have a minimum allowable tension and shear of 3900 and 3100 psi, respectively.

GENERAL NOTES:

1. Slip base shall be permanently marked to indicate manufacturer. Method, design, and location of marking are subject to approval of the City Engineer.
2. Material used as post with this system shall conform to the following specifications:
 - 10 BWG Tubing (2.875" outside diameter)
 - 0.134" nominal wall thickness
 - Seamless or electric-resistance welded steel tubing or pipe
 - Steel shall be HSLAS Gr 55 per ASTM A1011 or ASTM A1008
 - Other steels may be used if they meet the following:
 - 55,000 PSI minimum yield strength
 - 70,000 PSI minimum tensile strength
 - 20% minimum elongation in 2"
 - Wall thickness (uncoated) shall be within the range of 0.122" to 0.138"
 - Outside diameter (uncoated) shall be within the range of 2.867" to 2.883"
 - Galvanization per ASTM A123 or ASTM A653 G210. For precoated steel tubing (ASTM A653), recoat tube outside diameter weld seam by metallizing with zinc wire per ASTM B833.
- Schedule 80 Pipe (2.875" outside diameter)
- 0.276" nominal wall thickness
- Steel tubing per ASTM A500 Gr C
- Other seamless or electric-resistance welded steel tubing or pipe with equivalent outside diameter and wall thickness may be used if they meet the following:
 - 46,000 PSI minimum yield strength
 - 62,000 PSI minimum tensile strength
 - 21% minimum elongation in 2"
- Wall thickness (uncoated) shall be within the range of 0.248" to 0.304"
- Outside diameter (uncoated) shall be within the range of 2.855" to 2.895"
- Galvanization per ASTM A123
3. Sign supports shall not be spliced .

STANDARD STREET NAME SIGN

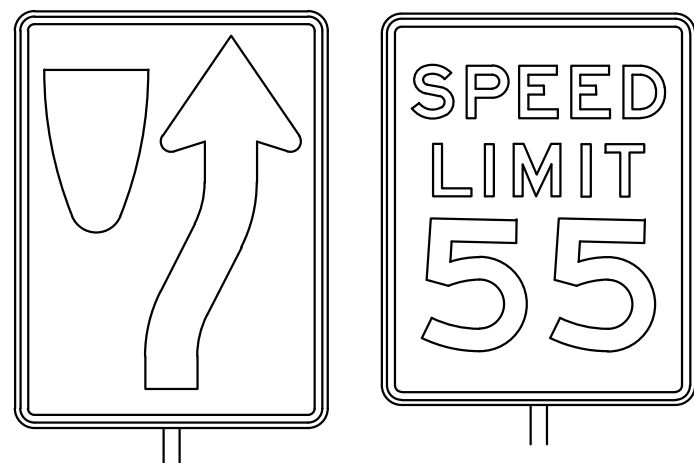
NOTE: FOR MORE STREET NAME SIGN DETAILS, REFER TO TX SIGN DESIGN MANUAL, SECTION 2D-43 (STREET NAME SIGNS (D3-1 OR D3-1a))



NTS

REQUIREMENTS FOR REGULATORY SIGNS

TYPICAL EXAMPLES



MATERIAL SPECIFICATIONS

ALUMINUM SIGN BLANKS

Square Ft.	Min. Thickness
Less than 7.5	0.080
7.5 to 15	0.100
Greater than 15	0.125

SIGN FACE MATERIALS

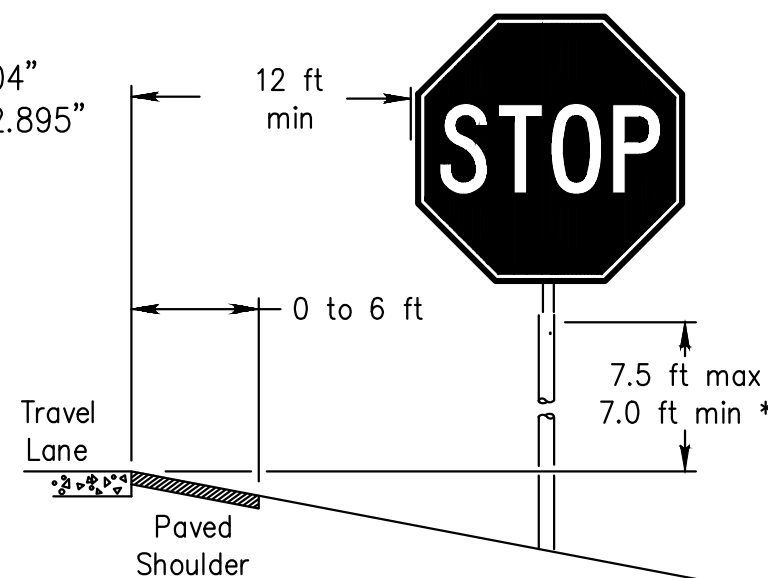
USAGE	COLOR	SIGN FACE MATERIAL
BACKGROUND	ALL	TYPE C SHEETING
LEGEND & BORDERS	WHITE	TYPE C SHEETING
LEGEND & BORDERS	BLACK	ACRYLIC NON-REFLECTIVE FILM

GENERAL NOTES:

1. Signs to be furnished shall be as detailed elsewhere in the plans and/or as shown on sign tabulation sheet. Standard sign designs and arrow dimensions can be found in the "Standard Highway Sign Designs for Texas" (SHSD).
2. Regulatory sign legend shall use the Federal Highway Administration (FHWA) Standard Highway Alphabets (B, C, D, E, Emod or F).
3. Lateral spacing between letters and numerals shall conform with the SHSD, and any approved changes thereto. Lateral spacing of legend shall provide a balanced appearance when spacing is not shown.
4. Black legend and borders shall be applied by screening process or cut-out acrylic non-reflective black film to white background sheeting, or combination thereof.
5. White legend and borders shall be applied by screening process with transparent colored ink, transparent colored overlay film to white background sheeting or cut-out white sheeting to colored background sheeting, or combination thereof.
6. Colored legend shall be applied by screening process with transparent colored ink, transparent colored overlay film or colored sheeting to background sheeting, or combination thereof.
7. Sign substrate shall be any material that meets the Specification requirements above.
8. Mounting details for roadside mounted signs are as shown in this Standard Plan Sheets.

SIGN LOCATION

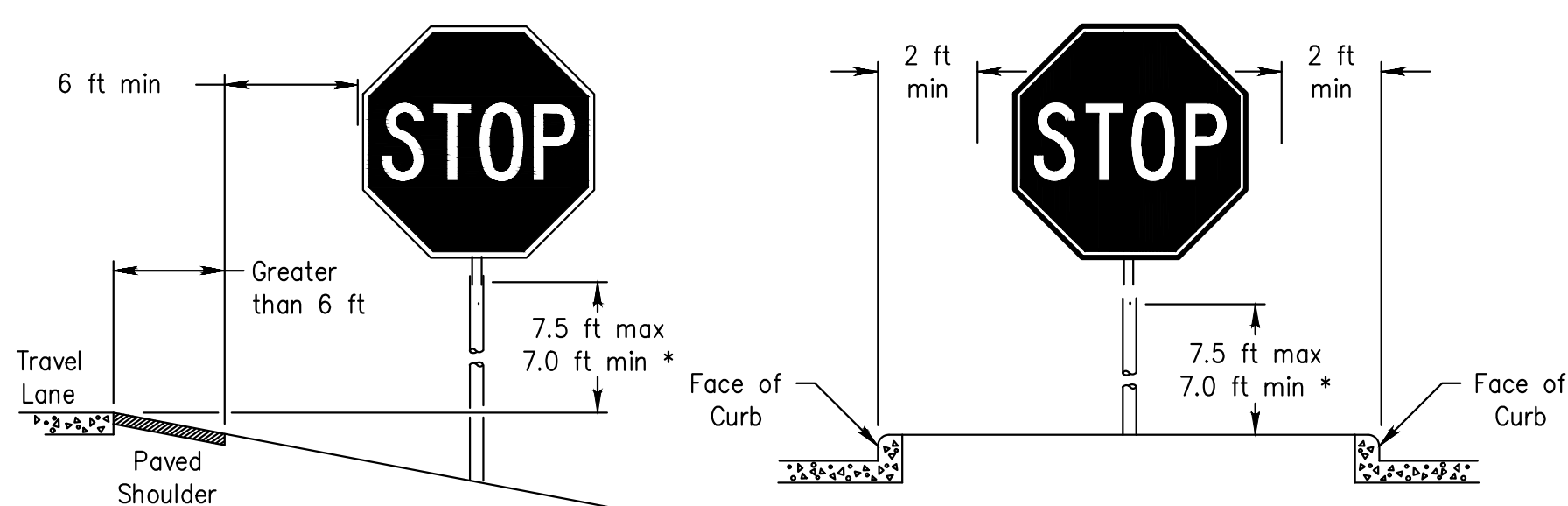
PAVED SHOULDERS



LESS THAN 6 FT. WIDE

When the shoulder is 6 ft. or less in width, the sign must be placed at least 12 ft. from the edge of the travel lane.

CURB & GUTTER OR RAISED ISLAND

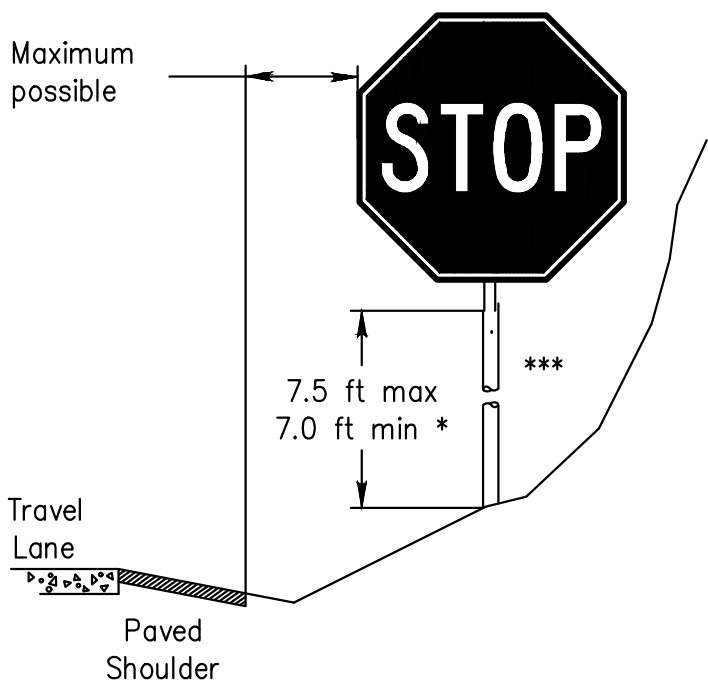


GREATER THAN 6 FT. WIDE

When the shoulder is greater than 6 ft in width, the sign must be placed at least 6 ft. from the edge of the shoulder.

RESTRICTED RIGHT-OF-WAY

(When 6 ft min. is not possible.)



Right-of-way restrictions may be created by rocks, water, vegetation, forest, buildings, a narrow island, or other factors.

In situations where a lateral restriction prevents the minimum horizontal clearance from the edge of the travel lane, signs should be placed as far from the travel lane as practical.

*** Post may be shorter if protected by guardrail or if Engineer determines the post could not be hit due to extreme slope.

NOTES:

WARNING:
UNDERGROUND UTILITIES CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING UNDERGROUND UTILITIES THAT MAY BE AFFECTED BY THIS PROJECT.GIVE UTILITY COMPANIES THE OPPORTUNITY TO LOCATE THEIR LINES BEFORE DIGGING. CALL LOCAL UTILITY COORDINATING COMMITTEE OR AGENCY TO HAVE UTILITY LOCATIONS MARKED.

WARNING:
OVERHEAD ELECTRICAL LINESOVERHEAD ELECTRICAL LINES MAY EXIST ON THE PROPERTY. WE HAVE NOT ATTEMPTED TO MARK THOSE LINES SINCE THEY ARE CLEARLY VISIBLE, BUT SHOULD BE LOCATED 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. PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS, ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED CALL 1-800-344-8377 FOR UTILITY LOCATES. CONTRACTOR SHALL CALL: LONESTAR-CALL BEFORE YOU DIG AT: 1-800-669-8344 CITY WATER & SANITARY SEWER AT: 409-797-3945 CITY STORM SEWER AT: 409-797-3630 CITY TRAFFIC AT: 409-797-3940 DIG TEST AT: 1-800-344-8377

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

- △ REVIEW 9/10/15
- △ CITY COMMENTS 10/26/15
- △ CITY COMMENTS 12/01/15
- △ FINAL APPROVAL 12/15/15
- △ TCEQ COMMENTS 03/08/16
- △ CITY PRECONSTRUCTION COMMENTS 08/30/16
- △ FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
- △ AS-BUILT 04/24/17



DWG NAME:
SIGNAGE DETAILS

DWG:

D 3.11

JOB NO:

15-202

REV:

E

INFORMATION AND DATA CONTAINED IN THIS DRAWING ARE STRICTLY CONFIDENTIAL AND ARE SUPPLIED ON THE UNDERSTANDING THAT THEY WILL BE HELD CONFIDENTIALLY AND NOT REPRODUCED, COPIED OR DISCLOSED TO THIRD PARTIES WITHOUT THE PRIOR WRITTEN CONSENT OF SHELMARK ENGINEERING, LLC.

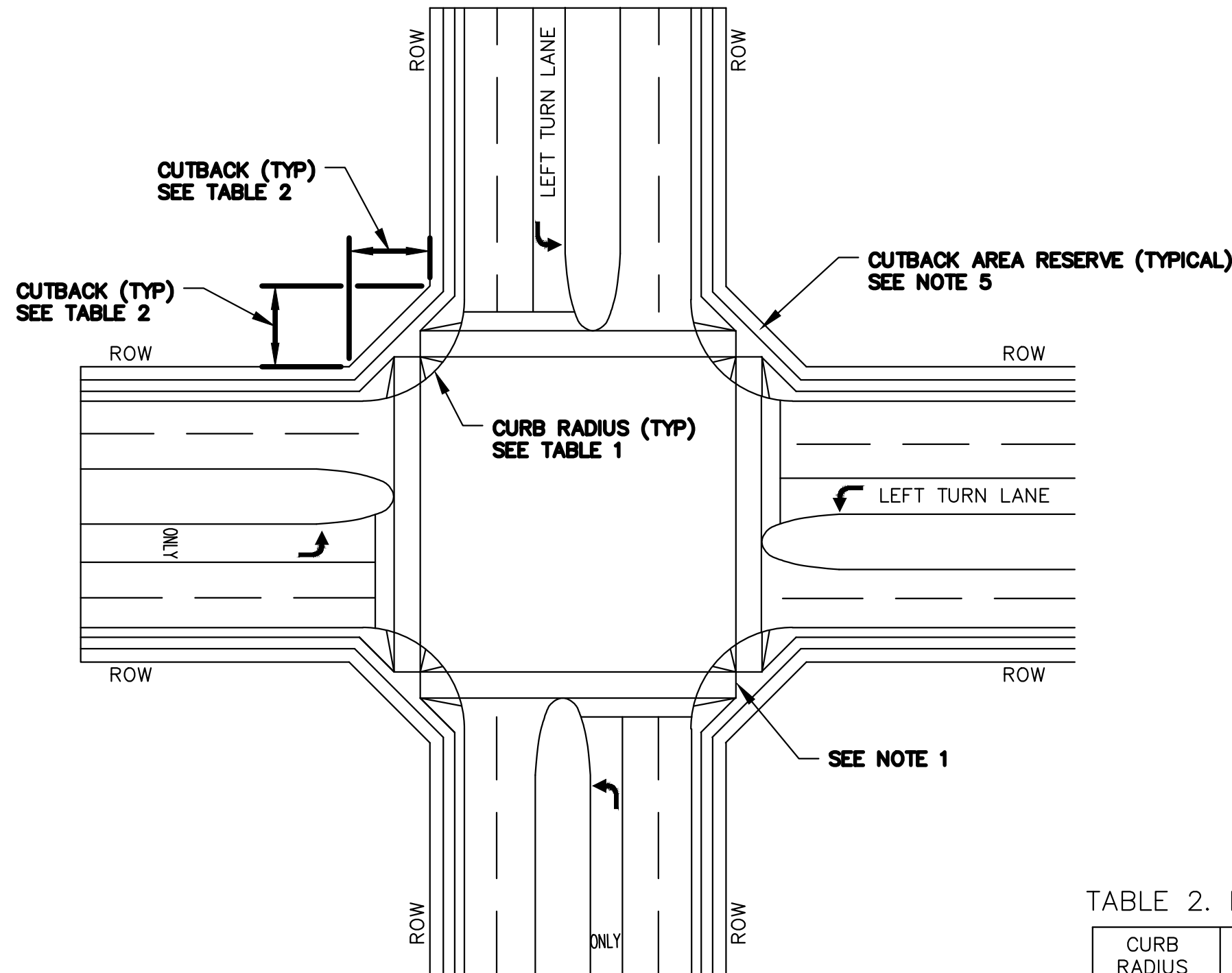


TABLE 1. INTERSECTION CURB RADIUS REQUIREMENTS

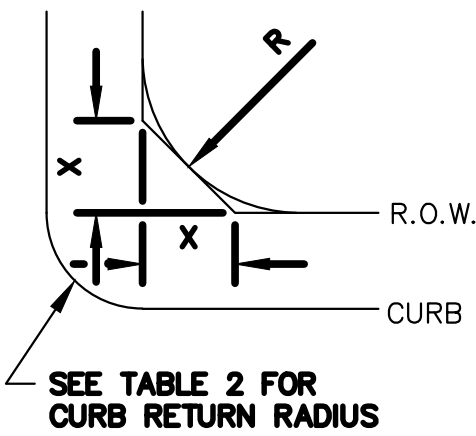
INTERSECTION TYPE	MINIMUM CURB RADIUS BY INTERSECTION ANGLE		
	90 DEG.	85–90 DEG.	80–85 DEG.
LOCAL – LOCAL	25 FT	30 FT	30 FT
COLLECTOR – LOCAL	25 FT	30 FT	30 FT
COLLECTOR – COLLECTOR		30 FT	35 FT
THOROUGHFARE – COLLECTOR	30 FT	35 FT	35 FT
THOROUGHFARE – THOROUGHFARE	35 FT	35 FT	40 FT
PRINCIPAL THOROUGHFARE – THOROUGHFARE	35 FT	35 FT	40 FT
PRIN. THOROUGHFARE – PRIN. THOROUGHFARE	35 FT	35 FT	40 FT

TABLE 2. ROW CUTBACK REQUIREMENTS

CURB RADIUS	MINIMUM ROW CUTBACK "X"	ROW RADIUS R(1)
25 FT	15 FT X 15 FT	25 FT
30 FT	20 FT X 20 FT	30 FT
35 FT	25 FT X 25 FT	35 FT
40 FT	30 FT X 30 FT	40 FT
45 FT	35 FT X 35 FT	45 FT

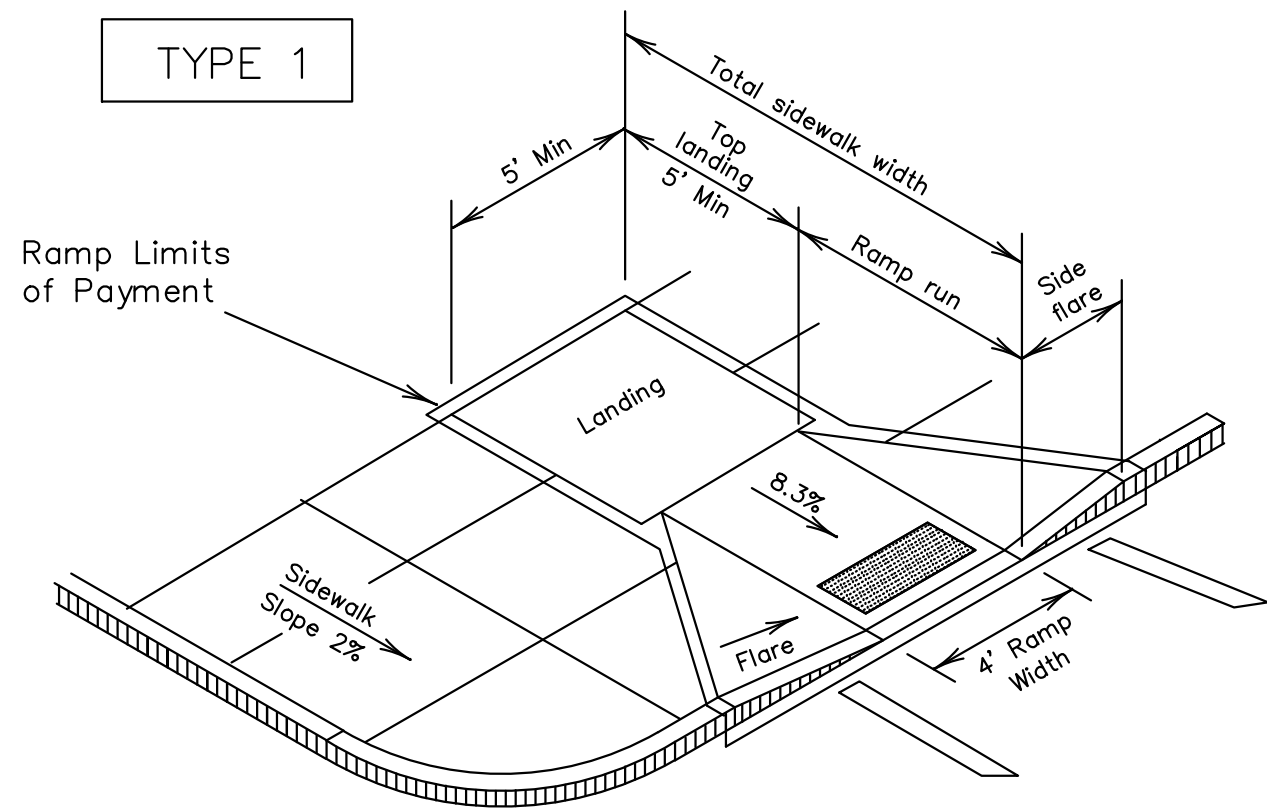
1. BASED ON RIGHT ANGLE INTERSECTION (*)
2. FOR ACUTE ANGLE USE 25 FOOT RADIUS (MIN)
3. FOR OBTUSE ANGLE, USE ROW RADIUS R (*)

(*) SKETCH SHOWS ACCEPTABLE PROPERTY CUTBACK DISTANCE X AS SUBSTITUTE FOR ROW RADIUS R.



NOTES:

1. ALL RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH COLC STANDARD DETAILS, AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) REQUIREMENTS.
2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH COLC STANDARD DETAILS AND THE TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
3. CURB RADII SHALL BE DESIGNED TO ACCOMMODATE THE TYPE OF VEHICLES ANTICIPATED TO USE THE FACILITY, (IE.. BUSES, TRUCKS, ETC.) IN ACCORDANCE WITH AASHTO CRITERIA FOR TURNING VEHICLES.
4. WHERE ALTERNATIVE MINIMUM CURB RADII IS REQUIRED TO SERVE MOBILITY, PEDESTRIAN, OR OTHER SPECIAL NEEDS. SUBMIT DESIGN LAYOUT AND SUPPORTING CALCULATION TO COLC ENGINEER FOR REVIEW AND APPROVAL.
5. THE CORNER CUT AREA IS RESERVED FOR TRAFFIC SIGNAL EQUIPMENT AND SHALL BE KEPT FREE OF SIGNS POLES, PRIVATE UTILITY CONTROL CABINETS AND ALL SURFACE ENCROACHMENTS WHICH COULD PREVENT THE FUTURE INSTALLATION OF SUCH EQUIPMENT WITHIN THE AREA.
6. WHERE A NEW ROADWAY OR DRIVEWAY IS CONNECTING TO AN EXISTING SIGNALIZED INTERSECTION, THE APPLICANT SHALL BE RESPONSIBLE FOR DESIGNING AND CONSTRUCTION THE NECESSARY MODIFICATIONS TO THE EXISTING SIGNAL SYSTEM AS REQUIRED BY COLC ENGINEER.



PERPENDICULAR CURB RAMP

DATE: 7/16/15
SCALE:
DRAWN BY: SLBK
CHECKED BY: DR

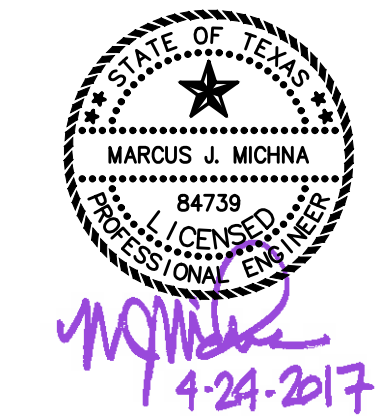
LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR

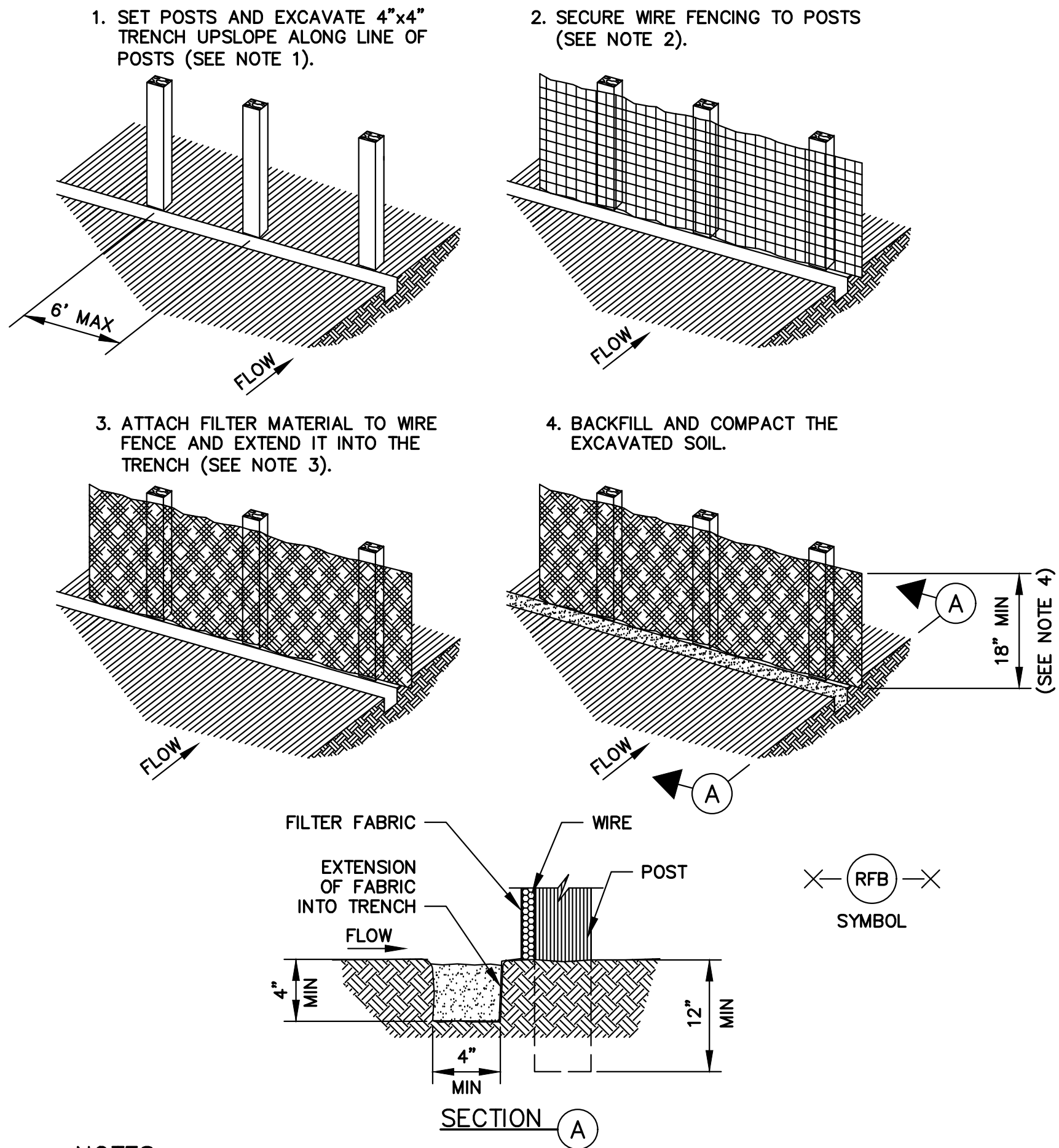
- REVIEW 9/10/15
- CITY COMMENTS 10/26/15
- CITY COMMENTS 12/01/15
- FINAL APPROVAL 12/15/15
- TCEQ COMMENTS 03/08/16
- CITY PRECONSTRUCTION COMMENTS 08/30/16
- FIELD REV TO SAN/STM AT LIFTSTATION 02/22/17
- AS-BUILT 04/24/17



DWG NAME:
RAMP DETAILS

DWG:
D 3.12
JOB NO: 15-202
REV: E

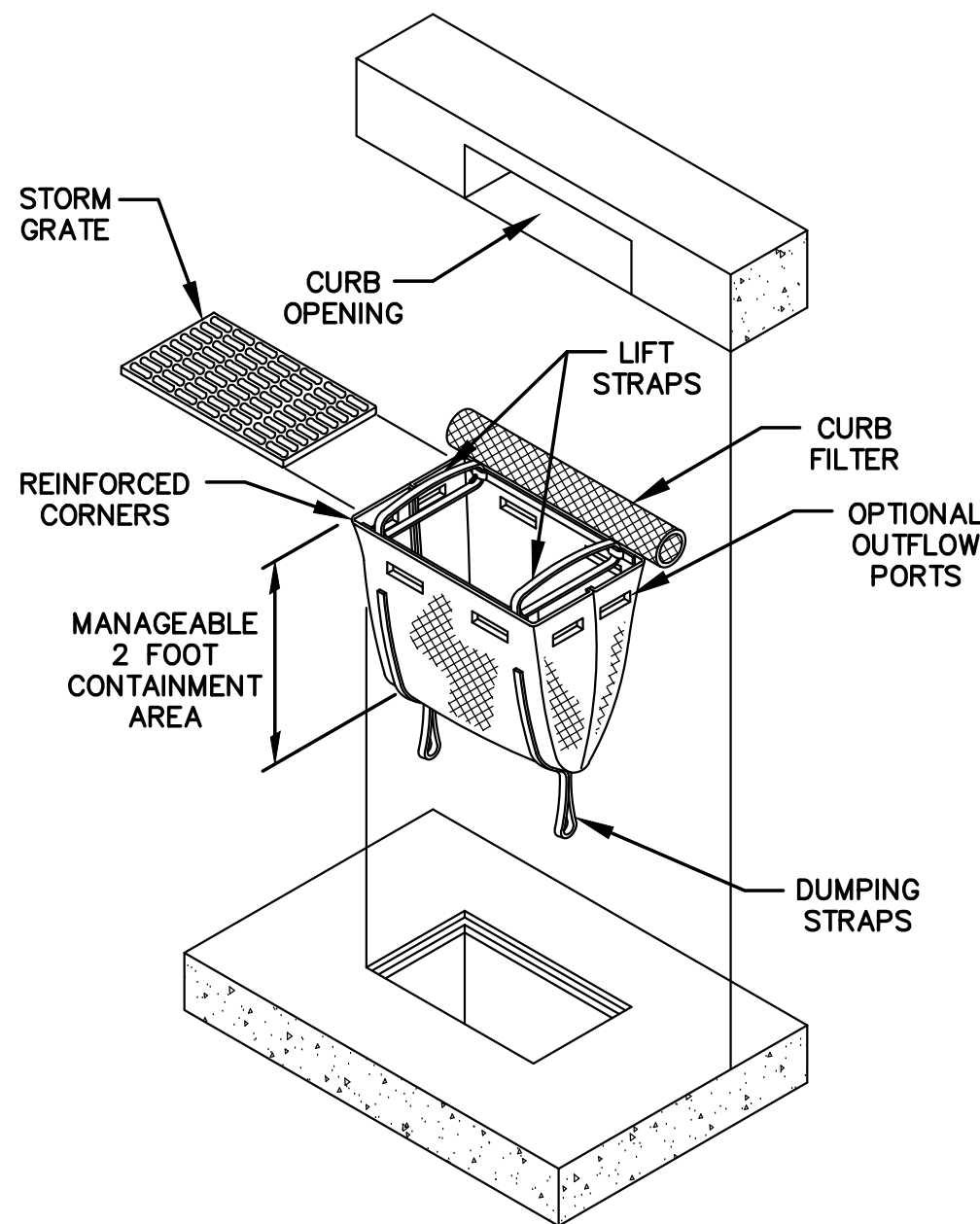
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NOTES:

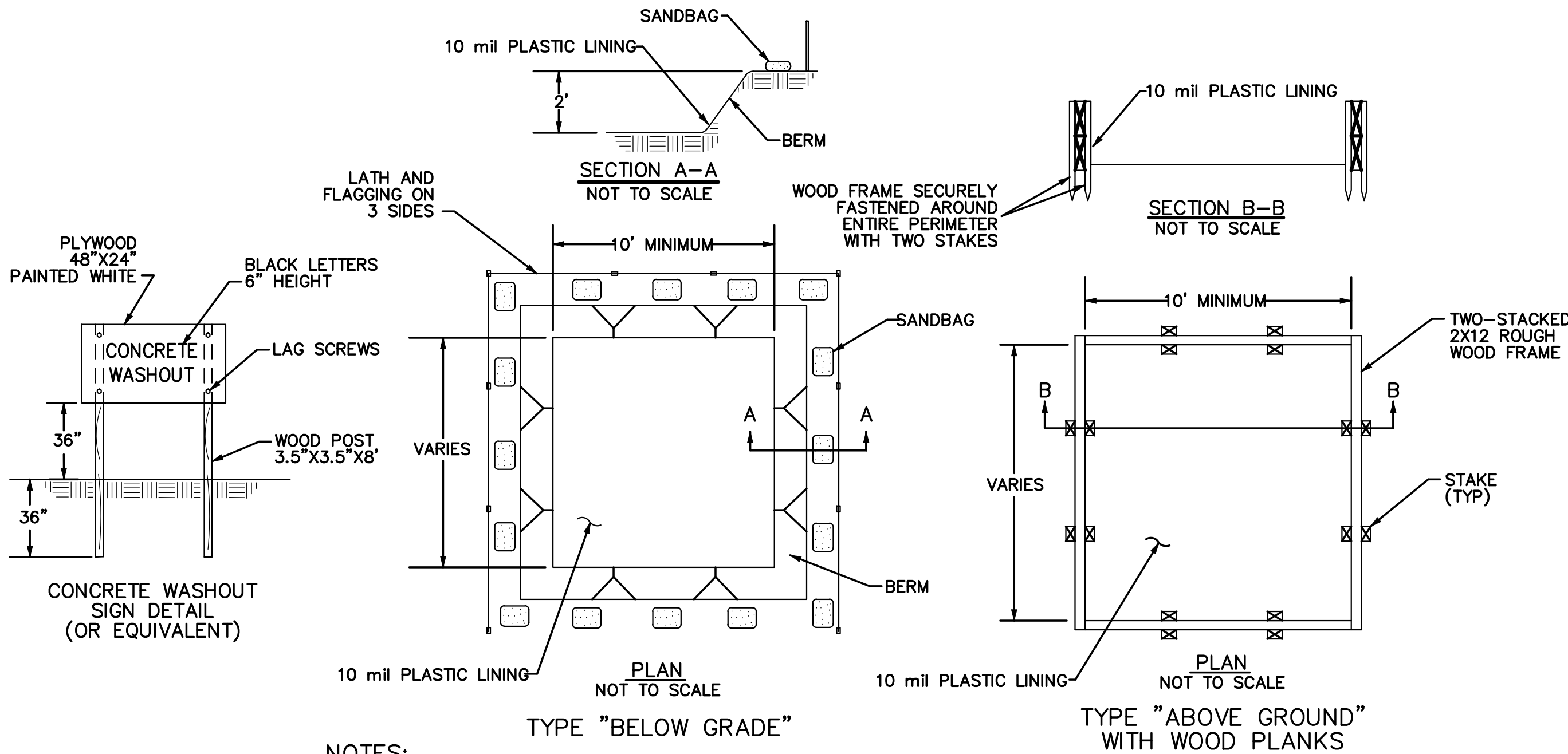
1. SET 2 INCH BY 2 INCH WOODEN STAKES SPACE A MAX OF 6 FEET APART AND EMBEDDED A MIN OF 12 INCHES.
2. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE, WITH TIES SPACED EVERY 24 INCHES AT TOP AND MIDSECTION.
4. MINIMUM HEIGHT OF FILTER CLOTH SHOULD BE 18 INCHES AND A MAXIMUM OF 36 INCHES ABOVE NATURAL GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED 6 INCHES AT THE POSTS AND FOLDED.

REINFORCED FILTER FABRIC BARRIER
NTS



NOTES:

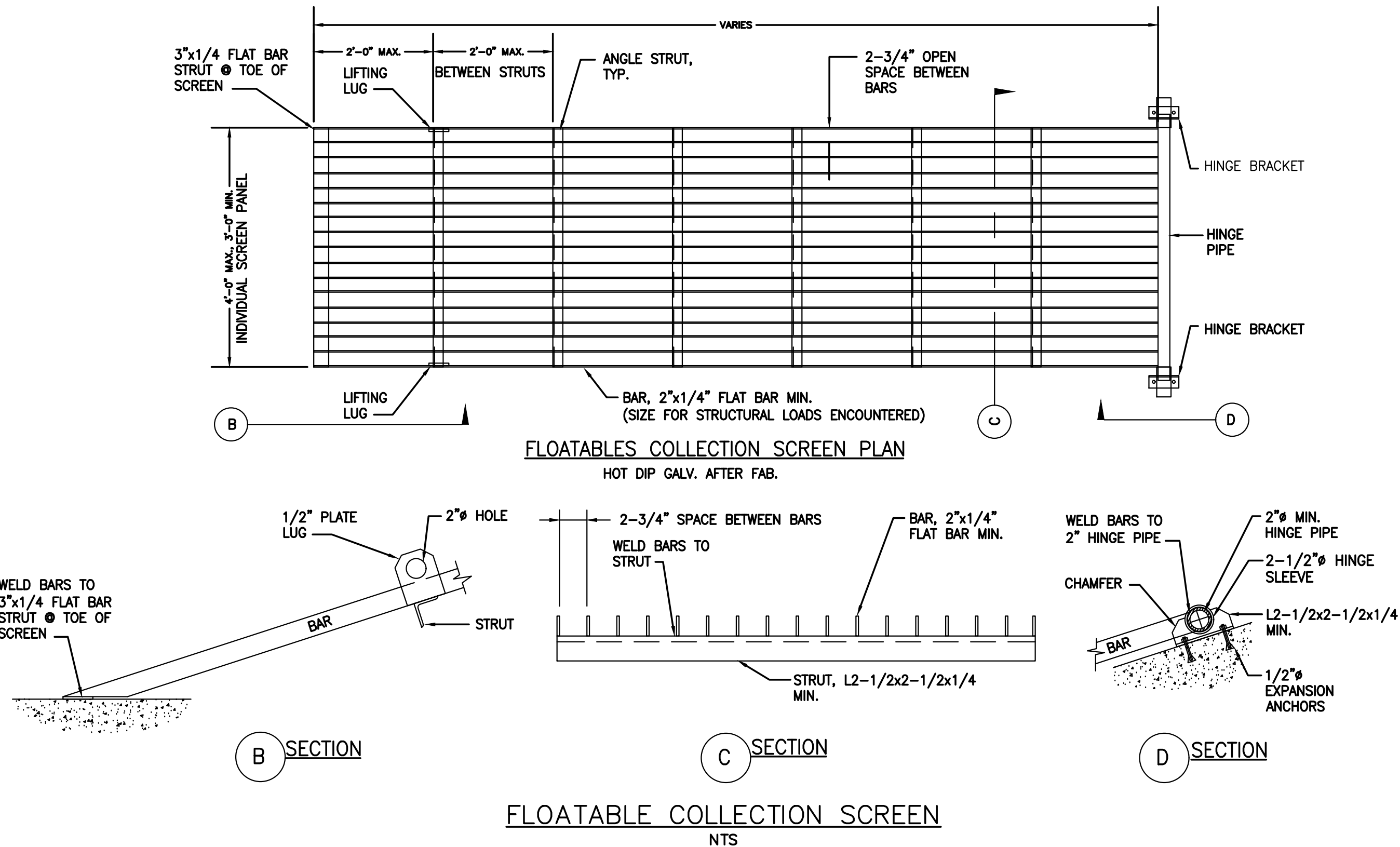
1. REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FOR THE VICINITY OF THE UNIT AFTER EACH STORM EVENT.
2. AFTER EACH STORM EVENT AND AT REGULAR INTERVALS, LOOK INTO THE UNIT. IF UNIT IS MORE THAN 1/3 FULL OF ACCUMULATED SEDIMENT, THE UNIT MUST BE EMPTIED.
3. EMPTY THE UNIT IN A LOCATION WHERE IT WILL NOT ENTER THE STORM SEWER SYSTEM.
4. INLET PROTECTION SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.



NOTES:

1. CONCRETE WASHOUT FACILITIES ARE TO BE LOCATED AT LEAST 50' FROM STORM DRAIN INLETS, OPEN DRAINAGE FACILITIES, OR WATER BODIES.
2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE CONCRETE WASHOUT FACILITY.
3. ONCE 75% OF THE ORIGINAL VOLUME OF THE WASHOUT PIT IS FILLED OR IF THE LINER IS TORN, THE MATERIAL MUST BE REMOVED AND PROPERLY DISPOSED OF ONCE IT IS COMPLETELY HARDENED. ONCE THE HARDENED CONCRETE IS REMOVED, THE LINER MUST BE REPLACED (IF TORN). A NEW PIT MUST BE CONSTRUCTED IF THE ORIGINAL STRUCTURE IS NO LONGER SUITABLE.
4. ONCE THE PIT IS NO LONGER NEEDED, ENSURE ALL WASHOUT MATERIAL HAS COMPLETELY HARDENED, THEN REMOVE AND PROPERLY DISPOSE OF ALL MATERIALS.

CONCRETE TRUCK WASHOUT
NTS



FLOATABLES COLLECTION SCREEN PLAN
HOT DIP GALV. AFTER FAB.

FLOATABLE COLLECTION SCREEN
NTS

File: Z:\Local Government\League City, City of\NEW CAD C
Missing for invalid reference

DATE: 7/16/15
SCALE: N.T.S.
DRAWN BY: SLBK
CHECKED BY: DR

LAKES IN BAY COLONY
SECTION 7
LEAGUE CITY, TEXAS

PROJECT:



ISSUED FOR	
REVIEW	9/10/15
CITY COMMENTS	10/26/15
CITY COMMENTS	12/01/15
FINAL APPROVAL	12/15/15
TCEQ COMMENTS	03/08/16
CITY PRECONSTRUCTION COMMENTS	08/30/16
FIELD REV TO SAN/STM AT LIFTSTATION	02/22/17
AS-BUILT	04/24/17



DWG NAME:
SWPPP AND SWQMP
DETAILS

DWG:

D 3.13

JOB NO: 15-202 REV: E

THE STATE OF TEXAS •
COUNTY OF GALVESTON • KNOW ALL MEN BY THESE PRESENTS

THAT BCLakes, LLC, a Texas Limited Liability Company, J. Mark Caldwell, Manager, owner of the properties subdivided in the above and foregoing plat of **LAKES IN BAY COLONY, SECTION SEVEN**, a Subdivision in the City of League City, Galveston County, Texas, being located and situated in the PERRY AND AUSTIN UPPER LEAGUE, Abstract Number 19, Galveston County, Texas, do hereby make and establish said Subdivision according to the streets, reserves, notations and easements thereon shown and designate said Subdivision as **LAKES IN BAY COLONY, SECTION SEVEN**, and do hereby dedicate to the use of the public all streets, drives, lanes, courts and easements; do hereby reserve, save, except and hold privately all parks, water courses, drains, and common areas as shown hereon forever; do hereby waive any claims for damages occasioned by the grades approved for the streets, or occasioned by the alteration of the surface of any portion of the streets to conform to such grades, and; do hereby bind ourselves, our successors, and assigns to warrant and forever defend the title to the land so dedicated.

FURTHER, BCLakes, LLC, a Texas Limited Liability Company, except as shown hereon, is the current owner of all properties immediately adjacent to the Southerly and Easterly boundaries of the above and foregoing **LAKES IN BAY COLONY, SECTION SEVEN**, and that BCLakes, LLC does hereby make and establish those certain EASEMENTS as shown hereon and to be established outside the boundaries of the above and foregoing plat.

FURTHER, BCLakes, LLC, a Texas Limited Liability Company, J. Mark Caldwell, Manager, owner of the properties Subdivided in the above and foregoing plat of **LAKES IN BAY COLONY, SECTION SEVEN**, have complied with, or will comply with, the existing regulations heretofore on file and adopted by the City of League City, Galveston County, Texas.

WITNESS my hand in the City of League City, Galveston County, Texas, this ____ day of _____, 2017.

BCLakes, LLC,
a Texas Limited Liability Company

J. Mark Caldwell
Manager

THE STATE OF TEXAS •
COUNTY OF GALVESTON •

BEFORE ME, the undersigned authority, on this day personally appeared J. Mark Caldwell, Manager, of BCLakes, LLC, known to me to be the person whose name is subscribed to the above and foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein expressed stated and in the capacity therein and herein set forth.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ____ day of _____, 2017.

Notary Public in and for the
State of Texas
My Commission Expires: ____

THE STATE OF TEXAS •
COUNTY OF GALVESTON •

This is to certify that Texas Funding Corporation, J. Glenn Lee, President, is the owner and holder of a lien on the property described herein as **LAKES IN BAY COLONY, SECTION SEVEN**, as evidenced by that certain Deed of Trust recorded under Clerk's File Number 2016054826 of the Official Records of Galveston County, Texas, and that said Texas Funding Corporation, does hereby and in all things subordinate said lien to said **LAKES IN BAY COLONY, SECTION SEVEN**, and further confirms that said Texas Funding Corporation, is the present owner of said lien and has not assigned the same nor any part thereof.

WITNESS MY HAND this ____ day of _____, 2017.

J. Glenn Lee
President
Texas Funding Corporation
P.O. Box 19562
Houston, TX 77224

THE STATE OF TEXAS •
COUNTY OF GALVESTON •

BEFORE ME, the undersigned authority, on this day personally appeared J. Glenn Lee, President, Texas Funding Corporation, known to me to be the person whose name is subscribed to the above and foregoing instrument, and acknowledged to me that he executed the same for the purposes and consideration therein expressed and in the capacity therein and herein set forth.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this ____ day of _____, 2017.

Notary Public for the
State of Texas
My Commission Expires: ____

Dale L. Hardy
Registered Professional
Land Surveyor 4847

This is to certify that the City Planning and Zoning Commission of the City of League City, Galveston County, Texas, has approved this Plat of the **LAKES IN BAY COLONY, SECTION SEVEN**, as shown hereon in accordance with the laws of the State of Texas and the Ordinances of the City of League City as heretofore adopted and on file with the City of League City, and has authorized the recording of said Plat this ____ day of _____, 2017.

Douglas W. Turner — Chairman
Planning & Zoning Commission
City of League City

Kris Carpenter
Planning Manager
City of League City

FINAL PLAT

LAKES IN BAY COLONY, SECTION SEVEN

BEING 17.16 ACRES

SITUATED IN THE

PERRY AND AUSTIN UPPER LEAGUE,
ABSTRACT NO. 19

CITY OF LEAGUE CITY
GALVESTON COUNTY, TEXAS

39 LOTS 2 BLOCKS,
16 RESERVES



VICINITY MAP

SCALE : N.T.S.

DEVELOPER:
BCLakes, LLC
2510 De Four Trace
Seabrook, TX 77586

SURVEYOR:
GeoSurv, LLC
P.O. Box 246
League City, Texas 77574

ENGINEER:
Shelmark Engineering LLC.
921 FM 517 Road East
Dickinson, Tx 77539

THE STATE OF TEXAS •
COUNTY OF GALVESTON •

I, Dwight Sullivan, County Clerk, Galveston County, Texas, do hereby certify that this written instrument was filed for record in my office on _____, 2017, at ____ o'clock, ____m., and duly recorded on _____, 2017, at ____ o'clock, ____m., in DOCUMENT NUMBER _____, Galveston County Map Records.

WITNESS MY HAND AND SEAL OF OFFICE at Galveston, Texas, the day and date last above written.

Dwight Sullivan
County Clerk
Galveston County, Texas

By: _____ Deputy



P.O. Box 246, League City, Texas 77574
281-554-7739 409-765-6030 Fax: 281-554-6928

PROPERTY DESCRIPTION

All of that certain 17.16 acres (747,504 square feet) tract or parcel being situated in the **PERRY AND AUSTIN UPPER LEAGUE, Abstract No. 19**, Galveston County, Texas, and being out of and a part of a called 21,802 acres tract described in that certain Special Warranty Deed with Vendor's Lien from Nuway Investment Company to BCLakes, LLC recorded in Clerk's File Number 2014011565 of the Official Public Records of Galveston County, Texas, said 17.16 acres tract being more particularly described by metes and bounds as follows:

NOTE: ALL BEARINGS ARE LAMBERT GRID BEARINGS AND ALL COORDINATES REFER TO THE TEXAS STATE PLANE COORDINATE SYSTEM, SOUTH CENTRAL ZONE, AS DEFINED BY ARTICLE 21.071 OF THE NATURAL RESOURCES CODE OF THE STATE OF TEXAS, 1983 DATUM 1993 ADJUSTMENT). COORDINATES LISTED ARE GRID COORDINATES AND DISTANCES SHOWN HEREON ARE SURFACE DISTANCES. ALL DISTANCES SHOWN HEREON MAY BE CONVERTED TO GRID BY MULTIPLYING BY A SCALE FACTOR OF 0.999865013.

BEGINNING at an iron rod with cap stamped "Dannenbaum" found for the most Northerly corner of said 21,802 acres tract, said point also being a reentrant corner in the South line of the LAKES IN BAY COLONY SEC. 4, a Subdivision in Galveston County, Texas, according to the map or plat thereof recorded under Plat Record 2004A, Map Numbers 73-74 in the Office of the County Clerk of Galveston County, Texas; being the Westerly terminus of the Northerly line of Cross Colony Drive, a 60.00 feet wide public roadway right-of-way, as set forth in the plat of said LAKES IN BAY COLONY SEC. 4; and having Texas State Plane Coordinate Values of Y = 13,734,668.68 and X = 3,209,261.25;
THENCE, S 54°11'20" E, along the most Northerly Northeast line of said 21,802 acres tract, a distance of 60.00 feet to a 5/8 inch iron rod found for corner, said point being the Westerly terminus of the Southerly line of said Cross Colony Drive, as set forth in the plat of said LAKES IN BAY COLONY SEC. 4; being the most Northerly corner of a called 12,7032 acres tract described in that certain Special Warranty Deed from Nuway Investment Company to Galveston County Municipal Utility District No. 14 recorded in Clerk's File Number 2000018679 of the Official Public Records of Real Property of Galveston County, Texas; and being the most Westerly corner of Reserve "A" of the AMENDING PLAT OF LAKES IN BAY COLONY SECTION ONE, a Subdivision in Galveston County, Texas, according to the map or plat thereof recorded under Volume 18, Pages 1246-1247 in the Office of the County Clerk of Galveston County, Texas;
THENCE, in a general Southeasterly direction, along the Northeasterly line of said 21,802 acres tract and the Southwesterly line of said 12,7032 acres tract, the following courses and distances:

S 35°48'40" W, a distance of 55.04 feet to an iron rod with cap stamped "Dannenbaum" found for point of curvature of a tangent curve to the right, said curve having a radius of 930.00 feet and a central angle of 12°29'30";

Southwesterly, along the arc of said tangent curve to the right, a distance of 202.76 feet, the chord of which bears S 42°03'25" W, 202.36 feet, to a point of reverse curvature, from which point an iron rod with cap stamped "Dannenbaum" found bears N 61°28' W, 0.37 feet;

Southwesterly, along the arc of said reverse curve, said curve having a radius of 25.00 feet and a central angle of 77°48'46", a distance of 33.95 feet, the chord of which bears S 09°23'47" W, 31.40 feet, to an iron rod with cap stamped "Dannenbaum" found for point of reverse curvature, said curve having a radius of 330.00 feet and a central angle of 46°31'17";

Southeasterly, along the arc of said reverse curve, a distance of 267.94 feet, the chord of which bears S 06°14'57" E, 260.64 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of tangency;

S 17°00'42" W, a distance of 47.00 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a corner;

S 72°59'17" E, a distance of 201.84 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

S 34°41'02" E, a distance of 149.80 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 55°12'00" E, a distance of 150.00 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 61°57'10" E, a distance of 150.00 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 83°38'47" E, a distance of 150.00 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

and S 60°52'13" E, a distance of 93.75 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking the most Easterly corner of both the herein described tract and of said 21,802 acres tract;
THENCE, Southwesterly, along the Southeasterly line of said 21,802 acres tract, the following courses and distances:

S 89°46'03" W, a distance of 108.05 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 65°52'24" W, a distance of 44.35 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 58°56'41" W, a distance of 80.27 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 18°01'03" W, a distance of 121.72 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

S 80°02'32" W, a distance of 212.27 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

S 84°00'02" W, a distance of 47.63 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

N 88°14'10" W, a distance of 30.40 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the left;

S 75°17'58" W, a distance of 31.82 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking an angle point to the right;

N 83°21'12" W, a distance of 90.73 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a corner, said point being at the beginning of a non-tangent curve to the left, said curve having a radius of 920.00 feet and a central angle of 01°26'09";

Northeasterly, along the arc of said non-tangent curve to the left, a distance of 23.05 feet, the chord of which bears N 05°52'58" E, 23.05 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of compound curvature, said curve having a radius of 25.00 feet and a central angle of 93°28'30";

Northwesterly, along the arc of said compound curve, a distance of 40.79 feet, the chord of which bears N 41°34'22" W, 36.41 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of tangency;

N 88°18'36" W, a distance of 90.18 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of curvature of a tangent curve to the left, said curve having a radius of 25.00 feet and a central angle of 86°08'10";

Southwesterly, along the arc of said tangent curve to the left, a distance of 37.58 feet, the chord of which bears S 48°37'19" W, 34.14 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of reverse curvature, said curve having a radius of 780.00 feet and a central angle of 33°00'48";

and Southwesterly, along the arc of said reverse curve, a distance of 449.43 feet, the chord of which bears S 22°03'38" W, 443.24 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of reverse curvature, said curve having a radius of 25.00 feet and a central angle of 86°06'43";

THENCE, Southeasterly, along the arc of said reverse curve, a distance of 37.57 feet, the chord of which bears S 04°29'20" E, 34.14 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a corner;

THENCE, S 42°30'34" W, a distance of 60.00 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a corner, said point being at the beginning of a non-tangent curve to the left, said curve having a radius of 25.00 feet and a central angle of 86°03'09";

THENCE, Southwesterly, along the arc of said non-tangent curve to the left, a distance of 37.55 feet, the chord of which bears S 88°25'43" W, 34.12 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of reverse curvature, said curve having a radius of 780.00 feet and a central angle of 20°25'51";

THENCE, Southwesterly, along the arc of said reverse curve, a distance of 278.14 feet, the chord of which bears S 56°37'04" W, 276.67 feet, to an iron rod with cap stamped "GeoSurv" found marking the most Southerly corner of both the herein described tract and of said 21,802 acres tract, said point being the Easterly terminus of the Southerly line of said Cross Colony Drive, as set forth in the plat of BAY COLONY MEADOWS WEST SEC. 2, a Subdivision in Galveston County, Texas, according to the map or plat thereof recorded under Plat Record 2004A, Map Numbers 110-111, in the Office of the County Clerk of Galveston County, Texas, and being the Northeast corner of Restricted Reserve "A" of BAY COLONY POINT WEST, SECTION TEN, a Subdivision in Galveston County, Texas, according to the map or plat thereof recorded under Document Number 2015048029, in the Office of the County Clerk of Galveston County, Texas;

THENCE, N 03°02'04" W, along the West line of said 21,802 acres tract, a distance of 64.27 feet to an iron rod with cap stamped "Dannenbaum" found for corner, said point being at the Easterly terminus of the Northerly line of said Cross Colony Drive, as set forth in the plat of said BAY COLONY MEADOWS WEST SEC. 2, said point being at a non-tangent curve to the left, said curve having a radius of 720.00 feet and a central angle of 00°05'50";

THENCE, Northeasterly, along an Easterly projection of the Northerly line of said Cross Colony Drive and the arc of said non-tangent curve to the left, a distance of 1.22 feet, the chord of which bears N 65°01'27" E, 1.22 feet, to a point for the Southeast corner of said BAY COLONY MEADOWS WEST SEC. 2, as occupied;

THENCE, N 03°02'04" W, along the East line of said BAY COLONY MEADOWS WEST SEC. 2, as occupied, a distance of 780.54 feet to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a corner, said point being the Southwesterly corner of a called 4.637 acres tract described in that certain Special Warranty Deed from BCLakes, LLC to the Corporation of the Presiding Bishop of the Church of Jesus Christ of Latter-Day Saints recorded under Instrument Number of 2015036783 of the Official Public Records of Galveston County, Texas;

THENCE, in a general Northeasterly direction, along the South and East lines of said 4.637 acres tract, the following courses and distances:

N 86°57'55" E, a distance of 442.16 feet (called 442.62 feet) to an iron rod with cap stamped "Baseline" found for the Southeast corner of said 4.637 acres tract, said point being at the beginning of a non-tangent curve to the left, said curve having a radius of 720.00 feet and a central angle of 13°41'57";

Northwesterly, along the arc of said non-tangent curve to the left, a distance of 172.15 feet, the chord of which bears N 18°54'47" W, 171.74 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of tangency;

N 25°45'45" W, a distance of 115.46 feet to an iron rod with cap stamped "Baseline" found for point of curvature of a tangent curve to the right, said curve having a radius of 355.00 feet and a central angle of 44°19'37" (called 44°18'33");

Northwesterly, along the arc of said tangent curve to the right, a distance of 274.65 feet (called 274.54 feet), the chord of which bears N 03°35'56" W, 267.85 feet, to an iron rod with cap stamped "Baseline" found for corner;

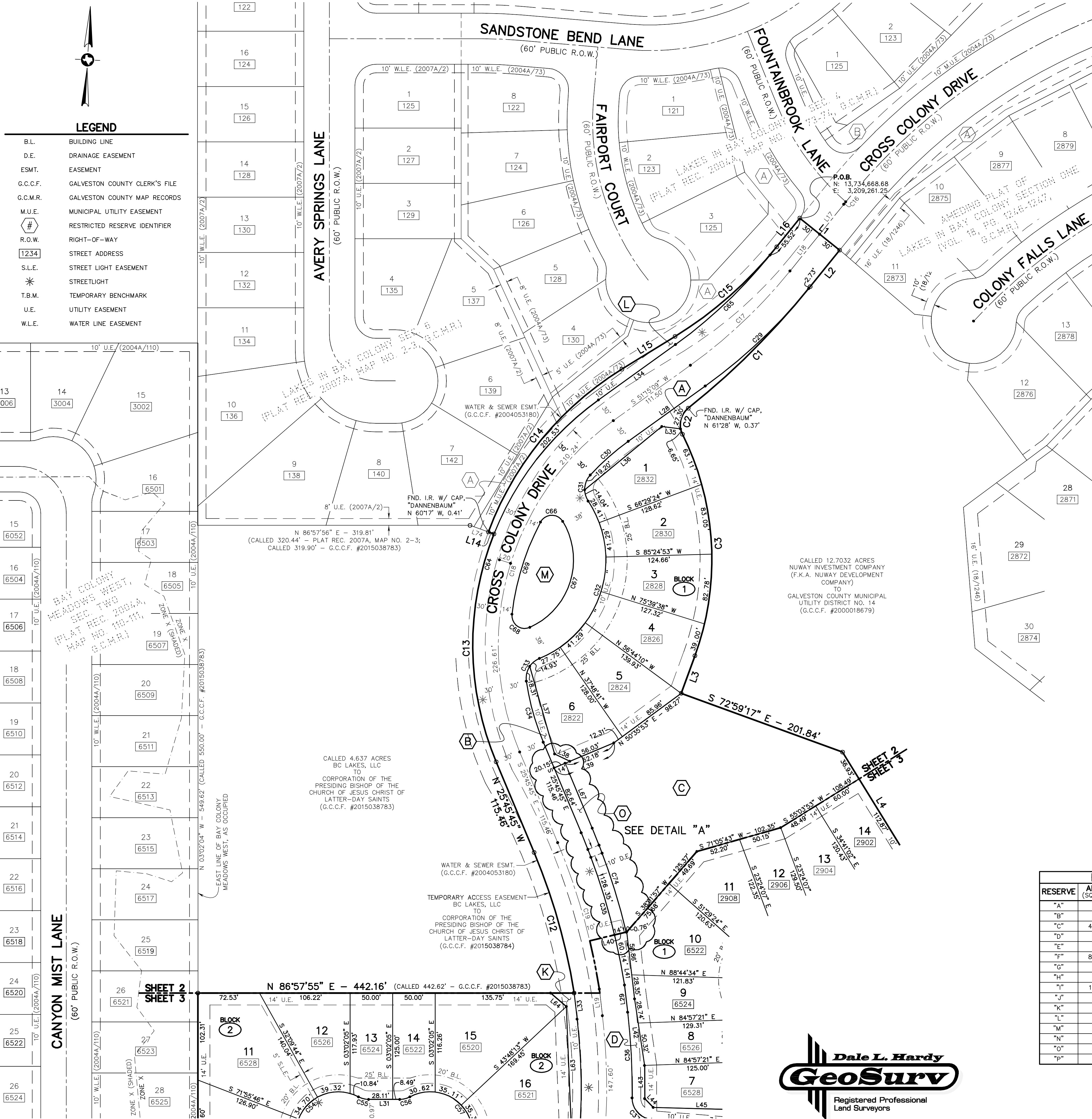
and N 73°15'52" W, a distance of 6.95 feet to a point for corner, said point being the most Southerly corner of Reserve "A" of LAKES IN BAY COLONY SEC. 6, a Subdivision in Galveston County, Texas, according to the map or plat thereof recorded under Plat Record 2007A, Map Numbers 2-3 in the Office of the County Clerk of Galveston County, Texas, and from which an iron rod with cap stamped "Dannenbaum" bears N 60°17' W, 0.41 feet;
THENCE, Northeasterly, along the arc of a non-tangent curve to the right, said curve having a radius of 380.00 feet and a central angle of 37°59'22"; at 161.09 feet passing the most Westerly corner of said Reserve "A" of LAKES IN BAY COLONY SEC. 6, said point being the most Southerly corner of Reserve "A" of the aforementioned LAKES IN BAY COLONY SEC. 4, and continuing for a total distance of distance of 251.96 feet, the chord of which bears N 36°19'08" E, 247.37 feet, to an iron rod with cap stamped "Dannenbaum" found for point of tangency;

THENCE, Northeasterly, along the Southeast line of said Reserve "A" of LAKES IN BAY COLONY SEC. 4, the following courses and distances:

N 55°18'50" E, a distance of 73.45 feet to an iron rod with cap stamped "Dannenbaum" found marking the point of curvature of a tangent curve to the left, said curve having a radius of 470.00 feet and a central angle of 19°30'10";

Northeasterly, a distance of 159.98 feet, the chord of which bears N 45°33'45" E, 159.21 feet, to a 5/8 inch iron rod with cap stamped "GeoSurv" set marking a point of tangency;

and N 35°48'40" E, a distance of 43.30 feet to the **POINT OF BEGINNING** and containing within said boundaries a calculated area of 17.16 acres (747,504 square feet) of land.



LINE TABLE					
LINE	DISTANCE	BEARING	LINE	DISTANCE	BEARING
L1	60.00'	S 54°11'20" E	L21	13.72'	N 75°48'43" W
L2	55.04'	S 35°48'40" W	L22	4.12'	N 59°11'29" W
L3	47.00'	S 17°00'42" W	L23	74.26'	N 47°32'42" W
L4	149.80'	S 34°41'02" E	L24	45.11'	N 86°57'55" E
L5	44.35'	S 65°52'24" W	L25	24.36'	S 86°57'56" W
L6	80.27'	S 58°56'41" W	L26	1.96'	N 48°02'10" W
L7	47.63'	S 84°00'02" W	L27	5.63'	N 46°22'13" E
L8	30.40'	N 88°14'10" W	L28	111.50'	S 51°15'09" W
L9	31.82'	S 75°17'58" W	L29	32.15'	S 09°41'26" E
L10	90.73'	N 83°21'12" W	L30	90.19'	S 88°18'36" E
L11	90.18'	N 88°18'36" W	L31	36.60'	N 86°57'55" E
L12	60.00'	S 42°30'34" W	L32	88.18'	S 03°02'04" E
L13	64.27'	N 03°02'04" W	L33	30.89'	N 09°35'35" W
L14	6.95'	N 73°15'52" W	L34	111.50'	N 51°15'09" E
L15	73.45'	N 55°18'50" E	L35	22.31'	N 85°40'00" W
L16	43.30'	N 35°48'40" E	L36	117.32'	S 47°33'56" W
L17	45.15'	S 35°48'40" W	L37	107.05'	S 18°53'12" E
L18	55.52'	S 35°48'40" W	L38	19.90'	S 67°19'24" E
L19	31.53'	S 09°38'36" E	L39	78.18'	S 73°31'08" W
L20	200.00'	S 88°18'36" E	L40	14.76'	S 73°31'08" W
L41	79.21'	S 09°41'52" E	L42	79.06'	S 11°31'09" E
L43	39.05'	S 03°16'35" E	L44	14.36'	S 47°23'33" E
L45	114.29'	N 88°29'29" E	L46	28.29'	N 08°11'54" E
L47	80.37'	N 61°57'10" W	L48	20.00'	S 64°55'13" W
L49	40.15'	N 86°36'44" E	L50	14.48'	S 64°51'11" E
L51	114.57'	S 21°14'34" E	L52	66.17'	N 86°58'08" E
L53	163.64'	N 48°56'10" E	L54	139.76'	S 09°34'21" E
L55	13.77'	S 56°04'20" E	L56	45.61'	N 77°25'41" E
L57	84.80'	S 66°18'09" E	L58	102.91'	N 45°41'53" E
L59	48.40'	S 66°17'51" E	L60	101.73'	N 32°54'35" E
L61	81.21'	N 16°17'28" E	L62	74.14'	N 03°17'55" E
L63	138.15'	N 05°18'47" W	L64	24.38'	N 52°37'12" W
L65	45.11'	N 86°57'56" W	L66	46.80'	N 03°02'04" W
L67	82.64'	S 25°45'45" E	L68	14.00'	N 66°09'10" E
L69	14.00'	N 87°59'26" W	L70	14.00'	N 87°59'26" W
L71	14.00'	N 87°59'26" W	L72	98.99'	S 57°43'01" W
L73	99.05'	N 57°43'01" W	L74	22.93'	S 73°15'52" E

CURVE TABLE									
CURVE	RADIUS	DELTA	ARC	BEARING	CHORD	CURVE	RADIUS	DELTA	ARC
C1	930.00'	12°29'30"	202.76'	S 42°03'25" W	202.36'	C40	25.00'	31°06'11"	13.57'
C2	25.00'	77°48'46"	33.95'	S 09°23'47" W	31.40'	C41	50.00'	140°32'45"	122.65'
C3	330.00'	46°31'17"	267.94'	S 06°14'57" E	260.64'	C42	25.00'	33°01'58"	14.41'
C4	920.00'	01°26'09"	23.05'	N 05°52'58" E	23.05'	C43	970.00'	03°22'48"	57.22'
C5	25.00'	93°28'30"	40.79'	N 41°34'22" W	36.41'	C44	25.00'	44°21'27"	19.35'
C6	25.00'	86°08'10"	37.58'	S 48°37'19" W	34.14'	C45	50.00'	265°37'36"	231.80'
C7	780.00'	33°00'48"	449.43'	S 22°03'38" W	443.24'	C46	25.00'	41°25'49"	18.08'
C8	25.00'	86°08'43"	37.57'	S 04°29'20" E	34.14'	C47	1030.00'	03°49'19"	68.71'
C9	25.00'	86°03'09"	37.55'	S 89°25'43" W	34.12'	C48	25.00'	76°46'03"	33.50'
C10	780.00'	20°25'51"	278.14'	S 56°37'04" W	276.67'	C49	980.00'	15°07'05"	258.58'
C11	720.00'	00°05'50"	1.22'	N 65°01'27" E	1.22'	C50	720.00'	18°11'42"	228.65'
C12	720.00'	13°41'57"	172.15'	N 18°54'47" W	171.74'	C51	25.00'	88°36'51"	38.67'
C13	355.00'	44°19'37"	274.65'	N 03°35'56" W	267.85'	C52	330.00'	38°42'07"	222.91'
C14	380.00'	37°59'22"	251.96'	N 36°19'08" E	247.37'	C53	25.00'	29°52'17"	13.03'
C15	470.00'	19°30'10"	159.98'	N 45°33'45" E	159.21'	C54	50.00'	148°13'06"	129.34'
C16	725.00'	00°17'18"	3.65'	S 35°57'19" W	3.65'	C55	25.00'	28°20'50"	12.37'
C17	600.00'	15°26'29"	161.70'	S 43°31'54" W	161.21'	C56	25.00'	28°28'23"	12.42'
C18	325.00'	77°00'54"	436.85'	S 12°44'42" W	404.70'	C57	50.00'	157°22'51"	137.34'
C19	750.00'	13°41'57"	179.32'	S 18°54'47" E	178.89'	C58	25.00'	27°33'52"	12.03'
C20	750.00'	75°38'03"	990.05'	S 28°10'26" W	919.71'	C59	130.00'	67°15'59"	152.62'
C21	750.00'	15°22'47"	201.32'	S 73°40'51" W	200.72'	C60	25.00'	78°36'35"	34.30'
C22	950.00'	15°07'00"	250.64'	N 00°57'23" W	249.92'	C61	270.00'	36°00'30"	169.68'
C23	55.00'	76°46'03"	73.69'	N 29°52'09" E	68.30'	C62	25.00'	103°13'46"	45.04'
C24	1000.00'	06°40'00"	116.36'	N 64°55'10" E	116.29'	C63	720.00'	47°19'16"	594.65'
C25	300.00'	44°30'37"	233.06'	N 25°17'23" W	227.24'	C64	355.00'	77°00'54"	477.18'
C26	39.00'	89°59'59"	61.26'	N 41°57'55" E	55.15'	C65	570.00'	15°26'29"	153.62'
C27	39.00'	101°45'02"	69.26'	S 42°09'34" E	60.51'	C66	15.00'	120°58'11"	31.67'
C28	100.00'	78°14'58"	136.57'	S 47°50'26" W	126.20'	C67	87.00'	97°03'28"	147.38'
C29	630.00'	15°14'14"	167.54'	S 43°38'02" W	167.05'	C68	15.00'	120°58'11"	31.67'
C30	295.00'	11°35'40"	59.70'	S 45°27'19" W	59.59'	C69	311.00'	21°00'10"	114.00'
C31	25.00'	76°11'27"	33.24'	S 01°33'45" W	30.85'	C70	25.00'	89°59'59"	39.27'
C32	125.00'	101°26'30"	221.31'	S 14°11'17" W	193.52'	C71	25.00'	101°45'02"	44.40'
C33	25.00'	76°11'27"	33.24'	S 26°48'48" W	30.85'	C72	86.00'	64°23'27"	96.65'
C34	295.00'	14°28'49"	74.56'	S 18°31'20" E	74.36'	C73	25.00'	103°51'32"	45.32'
C35	780.00'	13°41'57"	186.49'	S 18°54'47" E	186.05'	C74	794.00'	09°16'53"	128.62'
C36	780.00'	07°24'33"	100.86'	S 05°59'10" E	100.79'	C75	994.00'	09°59'31"	173.35'
C37	25.00'	86°01'43"	37.54'	S 45°17'45" E	34.11'	C76	105.00'	19°12'37"	35.20'
C38	25.00'	93°34'17"	40.83'	N 44°54'15" E	36.44'	C77	95.00'	17°35'40"	29.17'
C39	920.00'	06°33'23"	105.28'	N 05°09'35" W	105.22'				

LOT AREA TABLE								
LOT	AREA (SQ. FT.)	AREA (Acres)	LOT	AREA (SQ. FT.)	AREA (Acres)	LOT	AREA (SQ. FT.)	AREA (Acres)
BLOCK 1			BLOCK 2 (CONT.)			BLOCK 2 (CONT.)		
1	8,293	0.19	11	8,632	0.20	2	10,791	0.25
2	7,831	0.18	12	6,438	0.15	3	8,736	0.20
3	7,777	0.18	13	7,896	0.18	4	7,658	0.18
4	8,329	0.19	14	7,407	0.17	5	7,054	0.16
5	8,289	0.19	15	9,833	0.23	6	6,500	0.15
6	7,734	0.18	16	8,979	0.21	7	6,250	0.14
7	6,575	0.15	17	7,510	0.17	8	6,250	0.14
8	6,369	0.15	18	7,262	0.17	9	6,237	0.14
9	6,554	0.15	BLOCK 2			10	7,714	0.18
10	9,899	0.23	1	12,587	0.29	11	13,595	0.31
						21	9,911	0.23

RESTRICTED RESERVE TABLE		
RESERVE	AREA (SQ. FT.)	USE
"A"	2,450	LANDSCAPE/OPEN SPACE/AMENITY
"B"	1,199	LANDSCAPE/OPEN SPACE/AMENITY
"C"	46,090	LANDSCAPE/OPEN SPACE/LAKE/DRAINAGE
"D"	4,661	LANDSCAPE/OPEN SPACE/AMENITY
"E"	1,762	LANDSCAPE/OPEN SPACE/AMENITY
"F"	88,378	LANDSCAPE/OPEN SPACE/LAKE/DRAINAGE
"G"	2,611	LANDSCAPE/OPEN SPACE/AMENITY
"H"	7,089	LANDSCAPE/OPEN SPACE/AMENITY
"I"	15,643	LANDSCAPE/OPEN SPACE/AMENITY
"J"	6,455	LIFT STATION/LANDSCAPE/OPEN SPACE
"K"	7,888	LANDSCAPE/OPEN SPACE/AMENITY
"L"	3,948	LANDSCAPE/OPEN SPACE/AMENITY
"M"	6,340	LANDSCAPE/OPEN SPACE/UTILITIES
"N"	7,444	LANDSCAPE/OPEN SPACE/UTILITIES
"O"	2,942	LANDSCAPE/OPEN SPACE/UTILITIES
"P"	2,410	LANDSCAPE/OPEN SPACE/UTILITIES

FINAL PLAT
LAKE IN BAY COLONY, SECTION SEVEN
BEING 17.16 ACRES
SITUATED IN THE
PERRY AND AUSTIN UPPER LEAGUE,
ABSTRACT NO. 19
CITY OF LEAGUE CITY
GALVESTON COUNTY, TEXAS
39 LOTS 2 BLOCKS,
16 RESERVES

DEVELOPER:
BCLakes, LLC
2510 De Four Trace
Seabrook, TX 77586

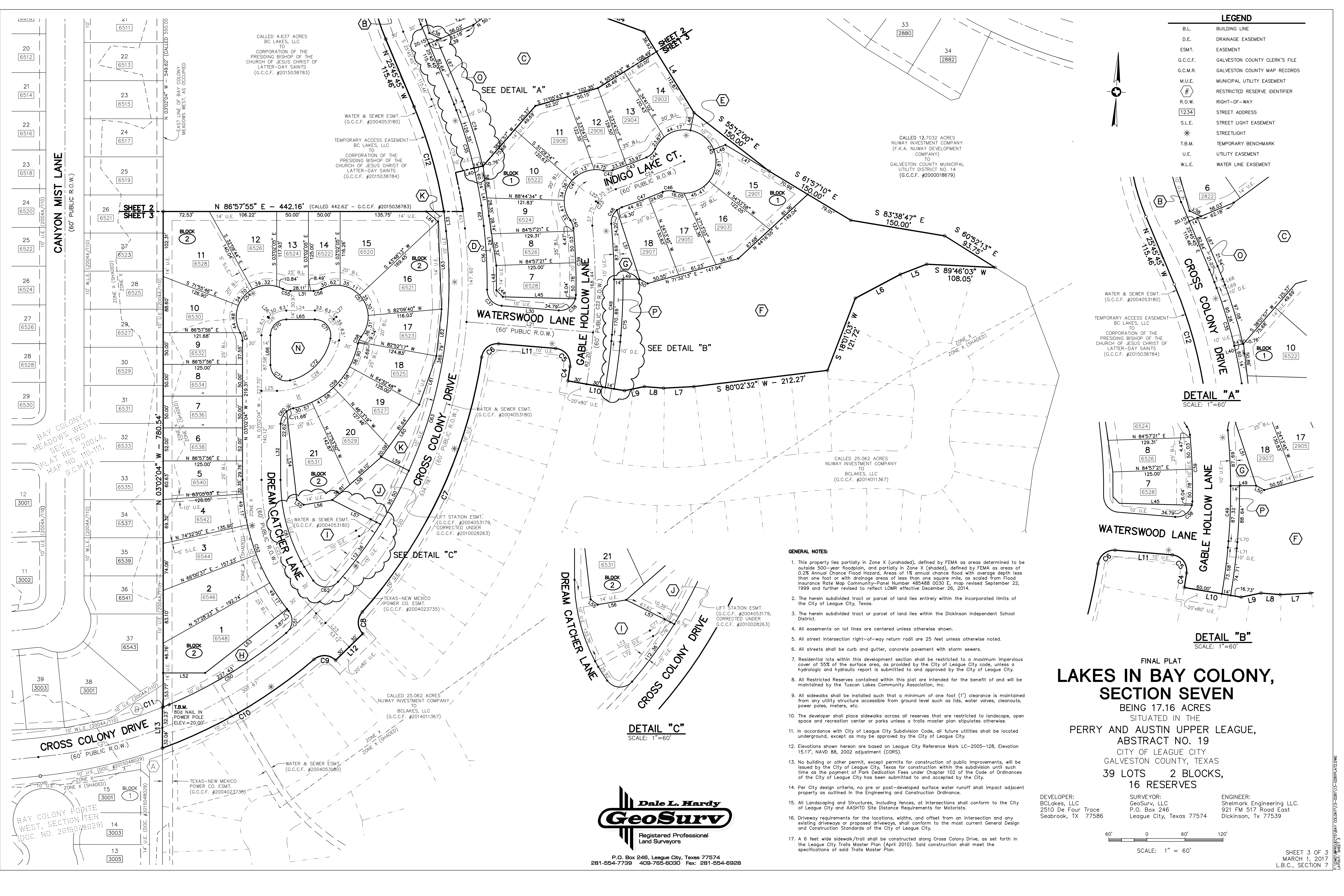
SURVEYOR:
GeoSurv, LLC
P.O. Box 246
League City, Texas 77574

ENGINEER:
Shelmark Engineering LLC
921 FM 517 Road East
Dickinson, Tx 77539

SCALE: 1" = 60'



P.O. Box 246, League City, Texas 77574
281-554-7739 409-765-6030 Fax: 281-554-6928



LEGEND	
B.L.	BUILDING LINE
D.E.	DRAINAGE EASEMENT
ESMT.	EASEMENT
G.C.C.F.	GALVESTON COUNTY CLERK'S FILE
G.C.M.R.	GALVESTON COUNTY MAP RECORDS
M.U.E.	MUNICIPAL UTILITY EASEMENT
#	RESTRICTED RESERVE IDENTIFIER
R.O.W.	RIGHT-OF-WAY
1234	STREET ADDRESS
S.L.E.	STREET LIGHT EASEMENT
*	STREETLIGHT
T.B.M.	TEMPORARY BENCHMARK
U.E.	UTILITY EASEMENT
W.L.E.	WATER LINE EASEMENT

