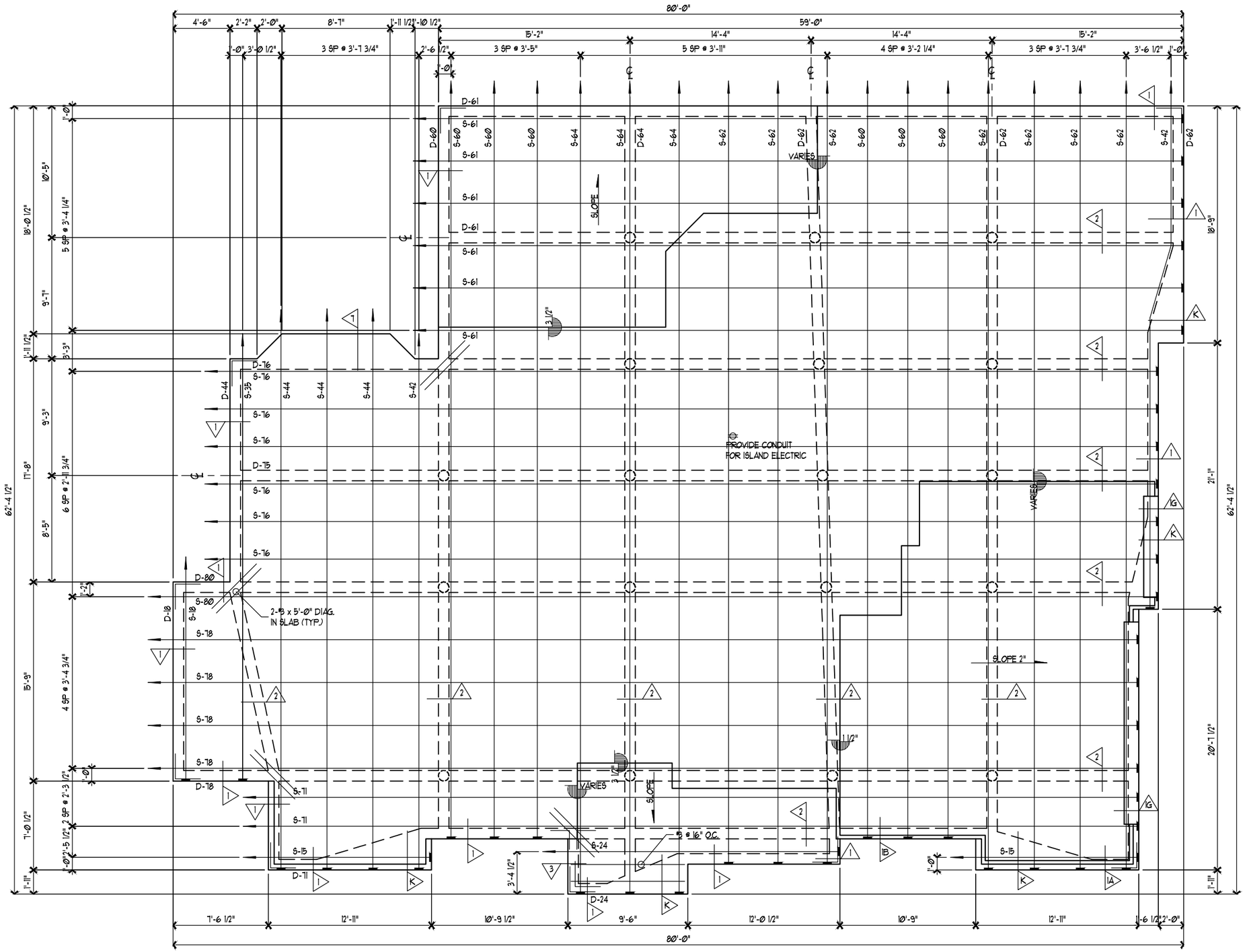


NOTE:
THIS IS A SCHEMATIC PLAN FOR THE PURPOSE OF LOCATING AND IDENTIFYING FOUNDATION REINFORCING ELEMENTS ONLY. VERIFY ALL DIMENSIONS, DROPS, OFFSETS AND FEATURES WITH THE ARCHITECTURAL PLANS BEFORE FORMING THE FOUNDATION. MLAW CANNOT BE HELD LIABLE FOR ANY CONTRACTOR OVERSIGHT IN THIS REGARD. DO NOT FORM FOUNDATION USING THESE PLANS. DIMENSIONAL CONTROL IS THE RESPONSIBILITY OF THE ARCHITECT. USE THESE PLANS FOR THE PLACEMENT OF THE GRADE BEAMS AND REINFORCEMENT

NOTE:
PENETRATE ALL PERIMETER GRADE BEAMS 6" MIN. INTO APPROVED MATERIAL U.N.O. AND ENSURE DESIGN DEPTH IS ACHIEVED - REF. SHEET 2.

6-5. HARD POINTS - If the depth of underslab clean fill at any beam intersection (total depth, not from beam bottom), exceeds 60 inches SANDY LOAM or 84 inches ROAD BASE, place hard points through the fill. Use of 12 inch diameter pre-formed or drilled, concrete piers. And all beams to have tendons or steel. (If hardpoint depth exceeds 6'-0" from top of slab reinforce w/ (4)-#4 vert. & #3 ties @ 24" O.C.) If total underslab fill exceeds 12 feet, contact Engineer.

M·L·A·W ENGINEERS
FIRM #002685
2804 LONGHORN BLVD.
AUSTIN, TEXAS 78758
(512) 835-7000
STRUCTURAL DESIGN
SOILS REPORTS
FORENSIC

STATE OF TEXAS
MICHAEL RAY LYNCH
64928
LICENSED
PROFESSIONAL ENGINEER

08-23-2016

FILL APPROVED ON THIS SITE ☐ FILL UNAPPROVED ON THIS SITE ☐

LEGEND

- TYPICAL SECTION (SEE DETAIL SHEET)
- NO DRAPED CABLE
- HARD POINT (SEE NOTE 6-5)

ESTIMATES

Slab Square Footage:	4149
Estimated Concrete Volume:	93
Linear Feet of Cable:	3563
No. of Beam Cables:	15
No. of Slab Cables:	45

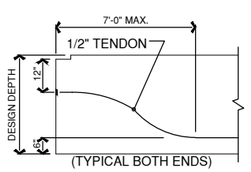
ASHTON WOODS HOMES

Job No: 1616016010.003B
311 LODESTONE LANE
ESTATES OF FLINTROCK
City: LAKEWAY
Section: Phase:
Lot: 14 Block: A
Plan #: 4097 CR
Date: 3-18-16 Drawn: JI
Revision: Check:
A 7-19-16 REVISED OPTIONS
B 08/18/16 - AG REV'D SLOPING SITE

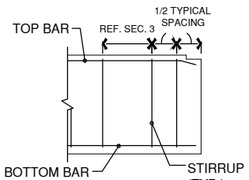
INSPECTIONS

INSPECTION	DATE	BY	P/F
FILL/BEAM			
PREPOUR			
REINSPECT			
REINSPECT			
CONCRETE			
CONCRETE			
STRESSING			
RESTRESS			

FOUNDATION PLAN
SCALE: 1/8" = 1'-0"
S1 OF 2

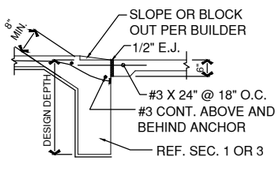


CABLE BEAM

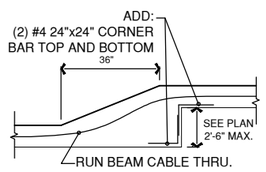


STEEL BEAM

TYPICAL BEAM (SIDE VIEW)

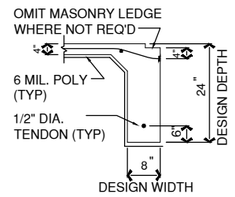


GARAGE APRON - (G)



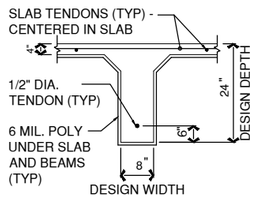
PLAN VIEW

SECTION - (K)

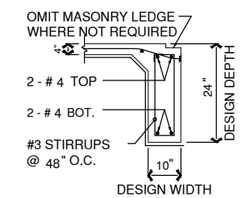


SECTION - (1)

FOR EXTERIOR BEAMS WITH EXTERIOR EXPOSURE ABOVE FINAL GRADE GREATER THAN 6'-0" SEE "DEEP BEAM DETAIL" FOR REINFORCEMENT AND PLACEMENT OF WEEPS.

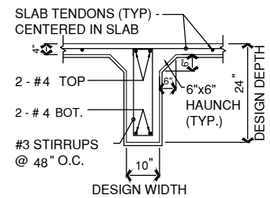


SECTION - (2)

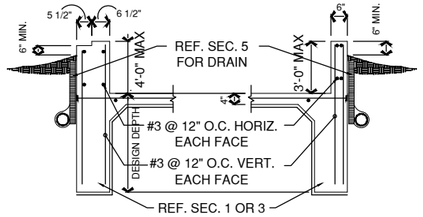


SECTION - (3)

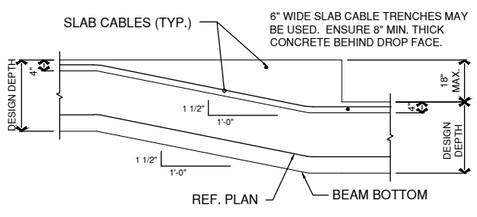
FOR EXTERIOR BEAMS WITH EXTERIOR EXPOSURE ABOVE FINAL GRADE GREATER THAN 6'-0" SEE "DEEP BEAM DETAIL" FOR REINFORCEMENT AND PLACEMENT OF WEEPS.



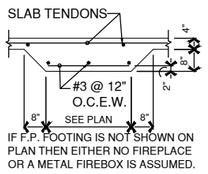
SECTION - (4)



(1C) - HEIGHTENED CURB - (1D)

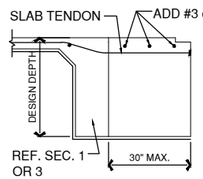


TYPICAL DROP IN SLAB TO 18 INCHES

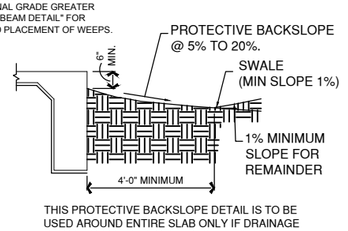


IF F.P. FOOTING IS NOT SHOWN ON PLAN THEN EITHER NO FIREPLACE OR A METAL FIREBOX IS ASSUMED.

INT. F.P. FTG. - (6)

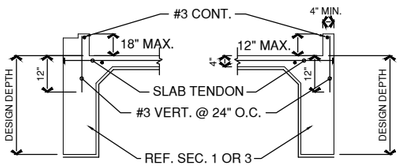


CANTILEVERED FTG. - (7)

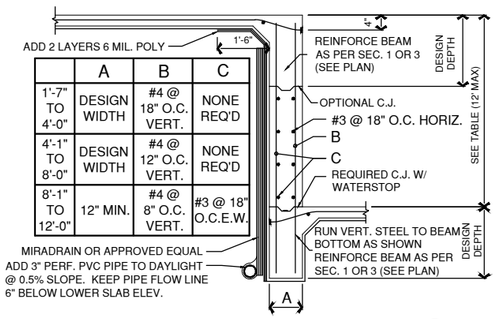


THIS PROTECTIVE BACKSLOPE DETAIL IS TO BE USED AROUND ENTIRE SLAB ONLY IF DRAINAGE DESIGN IS NOT PERFORMED BY A TEXAS REGISTERED PROFESSIONAL ENGINEER.

PROTECTIVE BACK SLOPES

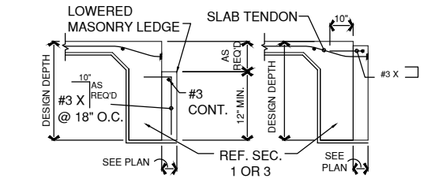


(1A) - STANDARD CURB - (1B)



	A	B	C
1'-7" TO 4'-0"	DESIGN WIDTH	#4 @ 18" O.C. VERT.	NONE REQ'D
4'-1" TO 8'-0"	DESIGN WIDTH	#4 @ 12" O.C. VERT.	NONE REQ'D
8'-1" TO 12'-0"	12" MIN.	#4 @ 8" O.C. VERT.	#3 @ 18" O.C.E.W.

DROP IN SLAB 19 INCHES TO 12 FEET - (5)



(E) - EXTENDED BRICK LEDGE - (F)

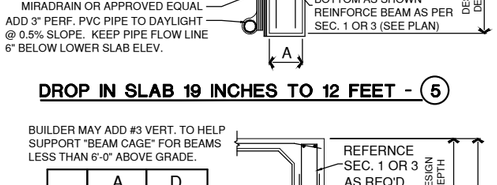
90 MPH - ANCHORS TO BE SPACED @ 5'-0" O.C.

100 - ANCHORS TO BE SPACED @ 5'-0" O.C.

110 - ANCHORS TO BE SPACED @ 4'-0" O.C.

120 - ANCHORS TO BE SPACED @ 3'-0" O.C.

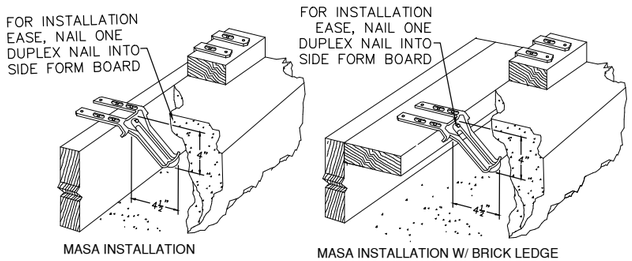
ADDITIONAL SPACING MAY BE CALLED OUT ON BOTTOM PLATE FOR THE LOWER LEVEL. IF NO ADDITIONAL SPACING IS CALLED OUT THEN DEFER TO THE SPACING ABOVE.



	A	D
6'-0" TO 12'-0"	#4 @ 12" O.C. VERT.	12" SOIL 2" ROCK
12'-1" TO 16'-0"	#6 @ 18" O.C. VERT.	16" SOIL 4" ROCK

DEEP BEAM 6 TO 16 FEET

DEEP BEAM AND SECTION 6 RECOMMENDATIONS (NOT REQUIRED):
1. FORMING FILL BEHIND DROP IN SLAB OR DEEP BEAM OVER 4 FEET HIGH TO BE RETAINED BY 16" WIDE FILL BAGS OF WOVEN PLASTIC AND FILLED WITH CRUSHED STONE OR WASHED GRAVEL. FOR HEIGHTS OVER 8 FEET, USE TWO ROWS OF BAGS FULL HEIGHT.
2. STIRRUPS MAY BE USED I.L.O. VERT. REINFORCING, SIZE AND SPACING PER "C" CATEGORY ON CHART.



USE THESE DETAILS FOR ACHORS AS PER LATERAL BRACING PLANS BY OTHERS.

MUDSILL ANCHORS

NOTES

1-0. GENERAL
1-1. Engineer's inspection required for:
- concrete pre-pour setup
- final stressing of tendons
engineer's inspection recommended (not required) for:
- concrete placement and material testing

1-2. Tendon lengths and count and concrete quantity estimate on plan are for estimating purposes only. Contractor should verify all tendon lengths and concrete quantity prior to installation. Concrete quantity must be adjusted for sloping site and forming irregularities. Concrete quantities are not exact. Draped tendons are not shown, U.N.O., for plan clarity.

1-3. Plan shows the location of structural reinforcement, beam depth and beam locations only. Architectural dimensions must be compared to the architectural plans prior to construction of forms. Report any discrepancies to the Engineer. The forms should be built using the architectural plans--not the Engineer's plan. Do not scale plan.

1-4. This design is in accordance with the Criteria for Selection and Design of Residential Slabs-on-Ground: BRAB No. 33, WRI/CRSI-81 Design of Slab-on-Ground Foundations or PTI Design of Post-Tensioned Slabs-on-Ground 3rd Edition, The 2003 and 2009 International Residential Code, and Standard Building Code and recognized Engineering practices.

1-5. These plans are copyright MLAW as of the year dated.

1-6. Vertical control joints should be used in exterior masonry to the full height spaced approximately 25 feet apart. A joint should be located directly above all slab control joints.

2-0. SITE PREPARATION
2-1. All site work shall be performed in accordance with FHA Data Sheet 79-G. Refer to notes concerning "approved" and "unapproved" fill.
2-2. All underslab "Forming Fill" shall have a P.I. less than 20 and be free of organics.

3-0. CONCRETE
3-1. Concrete shall have a minimum compressive strength of 3000 psi at 28 days. Concrete should be minimum 2000 psi at full tendon stressing. All concrete work shall meet A.C.I 318. Concrete shall be deposited in forms no later than two hours after water is mixed at the plant. One addition of water will be permitted at the job site to adjust the slump to a maximum of 6 inches.
3-2. Concrete shall be well consolidated using proper mechanical vibration, especially in the vicinity of the tendon anchorage.
3-3. If conduit in slab is required prior to concrete placement, location to be verified in field. Piping, vents or electrical cables shall be placed so as not to reduce slab thickness. Plumbing and/or conduits larger than 1" diameter must be trenched into underslab fill.
3-4. If unanticipated interruptions in concrete placement occur, and concrete hardens, temporary forms must be used for setting of construction joints or concrete must be chipped to form vertical joints prior to setting additional slab. Use #3 X 24" dowels at 12" O.C. epoxied into existing concrete to bond old to new concrete.
3-5. FLATWORK MAY BE PLACED ONLY AFTER STRESSING.

4-0. CONCRETE COVERAGE
4-1. SLAB TENDONS:
1-1/2 inches above sub-grade in 4" thick slab and ANCHORS to have 4 inches vertical coverage from center of anchor to top of concrete.
4-2. Slab Tendons may be moved 12" max. horizontally to allow for plumbing box-outs. Beam Tendons may be moved 3" downward and/or 2" upward vertically for plumbing/conduit pipes in beams.
4-3. BEAM AND WALL STEEL:
1-1/2 inches slab, 2 inches formed, and 3 inches exposed to earth.
4-4. PIPE PENETRATIONS:
2 inches for tendon and rebar.

5-0. REINFORCING
5-1. All reinforcing bars shall be ASTM A-615 Grade 60, except Grade 40 may be used for stirrups, corner bars and hairpins.
5-2. All tendons shall be 270k grade, 7 wire strand, 1/2 inch diameter, U.N.O., greased and sheathed with a continuous extruded plastic sheathing.
5-3. Anchorage system shall be a monostrand unbonded tendon anchorage utilizing a cast wedge plate and a two piece wedge as manufactured by a P.T.I. approved manufacturer.
5-4. All post-tensioned tendons and anchors shall conform to the requirements of the latest "P.T.I. Guide Specifications For Post-Tensioning Materials." Post-tensioned tendon supplier to be P.T.I. factory certified.
5-5. PARTIAL STRESS all tendons to 13.3 kips (or half of final jacking force) 24 to 48 hours after concrete placement.
5-6. FULL STRESSING of all tendons to 33 kips 7 to 10 days after concrete placement.
5-7. The first tendon in the slab shall be a maximum of 14 inches and a minimum of 6 inches from the outside form. Tendons not dimensioned on plan to be equally spaced.
5-8. (1) #3 x 24 inches x 24 inches corner bar required at all exterior corner's top for beams reinforced with cables OR 24"x24" corner bars equal to steel beam size and spacing if beam is steel reinforced. Deepened beams to have corner bars with diameter equal to horizontal steel at each horizontal bar.
5-9. At plumbing stacks, add #3 bars x size of opening plus 16 inches to be placed in concrete 2 inches beyond perimeter of opening (not req'd. if cables are partial stressed - see note 5-5).

6-0. PLAN VARIATIONS
6-1. All depth dimensions of beams are minimum unless intact rock is encountered at less depth. Inspector may approve beams continuously on rock to minimum beam depth of 12 inches. Deepen EXTERIOR beams where required by site conditions at least 6 inches into virgin soil, U.N.O. or unless deep beam detail applies.
6-2. When PI is 38 and greater and trees are within 15 feet of foundation, consult MLAW "Policies Concerning Trees" latest revision.
6-3. Should conditions arise that are not covered by details on this plan, contact Engineer at once for additional instructions.
6-4. In areas to receive tile, we recommend installing 6x6x1.4x1.4 WWF 1-1/2" below concrete surface and bedding the tile on a bond breaker to prevent shrinkage cracks from reflecting through the tile.
6-5. HARD POINTS - If the depth of underslab clean fill at any beam intersection (total depth, not from beam bottom), exceeds 60 inches SANDY LOAM or 84 inches ROAD BASE, place hard points through the fill. Use of 12 inch diameter pre-formed or drilled, concrete piers. And all beams to have tendons or steel. (If hardpoint depth exceeds 6'-0" from top of slab reinforce w/ (4)-#4 vert. & #3 ties @ 24" O.C.) If total underslab fill exceeds 12 feet, contact Engineer.

7-0. TREE POLICY- APPLIES TO P.I.'S = 38 AND GREATER
PRE-POUR
7-1. TREE WITHIN 5 FEET FROM FOUNDATION:
a. Add 20'-0" of section 3 steel - center on tree in exterior beam only, OR
b. Deepen beam 24" into existing soil for 20'-0" - exterior beam only.
7-2. TREE 5 TO 15 FEET FROM FOUNDATION:
a. Add 20'-0" of section 3 steel - center on tree in exterior beam only, OR
b. Deepen beam 12" into exsting soil for 20'-0" - exterior beam only.
POST-POUR
7-3. Add 6" wide trench 24" into existing grade 20'-0" long centered on tree and filled with un-reinforced concrete.

OPTIONAL PROVISIONS TO BE ENFORCED, IF CHECKED:

☐ FILL (UNAPPROVED). The fill material on this site is unsuitable to support a slab-on-ground foundation. The fill must be penetrated by all grade beams and extend a minimum of 6 inches into virgin soil. As an alternative, see HARD POINTS note. Based on the soils investigation, unapproved fill appears to be approximately deep.

☐ FILL (APPROVED). The fill material is acceptable to support a slab-on-ground foundation. Construct exterior grade beams 6 inches into approved fill. "Approved Fill" is fill that has been approved by MLAW, based on proper exploration, testing, or inspection by an agency acceptable to MLAW.

M·L·A·W ENGINEERS
FIRM #002685
2804 LONGHORN BLVD.
AUSTIN, TEXAS 78758
(512) 835-7000
STRUCTURAL DESIGN
SOILS REPORTS
FORENSIC

STATE OF TEXAS
MICHAEL RAY LYNCH
64928
LICENSED
PROFESSIONAL ENGINEER

08-23-2014

SOIL DATA

PTI SOIL PARAMETERS

	CENTER	EDGE
EM:	7.2	3.7
YM:	0.7	1.3

BEARING CAPACITY: 2000 PSF
SOURCE: MLA LABS
DATE: 01-2015
DESIGN P.I.: 28S

ASHTON WOODS HOMES

Job No: 1616016010.003B
311 LODESTONE LANE
ESTATES OF FLINTROCK
City: LAKEWAY
Section: Phase:
Lot: 14 Block: A
Plan #: 4097 CR
Date: 3-18-16 Drawn: JI
Revision: Check:
A 7-19-16 REVISED OPTIONS
B 08/18/16 - AG REV'D SLOPING SITE

STRESSING CHART

ELONGATION VALUES

CABLE LENGTH	ELONGATION	CABLE LENGTH	ELONGATION
15'-18'	1"	79'-84'	6 1/2"
19'-24'	1 1/2"	85'-90"	7"
25'-30'	2"	91'-96'	7 1/2"
31'-35'	2 1/2"	97'-103'	8"
36'-41'	3"	104'-109'	8 1/2"
42'-47'	3 1/2"	110'-115'	9"
48'-53'	4"	116'-122'	9 1/2"
54'-59'	4 1/2"	123'-128'	10"
60'-65'	5"	129'-135'	10 1/2"
66'-71'	5 1/2"	136'-142'	11"
72'-78'	6"	143'-148'	11 1/2"

FOUNDATION DETAILS
S2 OF 2